UST CASE CLOSURE SUMMARY

Agency Information

Agency Name: County of San Diego Department of Environmental Health (County)	Address: P.O. Box 129261 San Diego, CA 92112-9261
Agency Caseworker: Mr. Tony Sawyer	Case No.: H20190-001

Case Information

USTCF Claim No.: 9909	Global ID: T0607301000
Site Name: Gene Townsend Enterprises	Site Address: 609 S. Marshall Avenue, El Cajon, CA 92020 (Site)
Petitioner: Mr. Gene Townsend	Address: 609 S. Marshall Avenue, El Cajon, CA 92020
USTCF Expenditures to Date: $175,553	Number of Years Case Open: 21

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607301000

Summary

The Low-Threat Underground Storage Tank Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Low-Threat Policy. This Case meets all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the Case has been made is described in **Attachment 2: Summary of Basic Site Information.** Highlights of the Conceptual Site Model of the Case are as follows:

The release at the Site was discovered when an underground storage tank (UST) was removed in April 1992. No USTs are currently on-Site. During the 1992 UST removal, approximately 55 tons of soil was excavated and stockpiled at the site. Two monitoring wells MW-1 and MW-2 were destroyed during 2001 to minimize the potential for petroleum hydrocarbons to migrate between the two water-bearing zones. The plume is stable and decreasing.

There is an active UST case and two closed UST cases within 500 feet of the Site. Residual contaminants from one or more of these cases have contributed to a contaminant plume downgradient of the Petitioner's Site.

The petroleum release is limited to the shallow soil and groundwater within 100 feet of the Site boundary. The nearest surface water is Mount Helix Reservoir located approximately 6,500 feet southwest of the Site. The nearest public supply well regulated by the California Department of Public Health is located over 8,000 feet northwest of the Site. Public water is supplied by Helix Water District.

The affected groundwater beneath the Site is not currently being used as a source of drinking water or for any other designated beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for any other beneficial use in the foreseeable future. Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. Remaining petroleum constituents are limited, stable and declining. Corrective actions have been implemented and further remediation is not necessary. Additional assessment/monitoring will not likely change the conceptual model. Any remaining petroleum constituents do not pose significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- General Criteria – Site **MEETS ALL EIGHT GENERAL CRITERIA** under the Policy.

  Groundwater Media-Specific Criteria – Site meets the criterion in **CLASS 2**. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 3,000 micrograms per liter (µg/L), and the dissolved concentration of MTBE is less than 1,000 µg/L.

- Petroleum Vapor Intrusion to Indoor Air – Site meets the **CRITERIA (2) b**. A site-specific risk assessment for the vapor intrusion pathway was conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency.

  The Human Health Risk Assessment (HHRA) performed during 2008 indicated that the potential human health risk associated with inhalation is insignificant to occupants at the only enclosed commercial building on-Site.

- Direct Contact and Outdoor Air Exposure – Site meets **CRITERIA (2) b**. A site-specific risk assessment from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting the human health.

  The HHRA performed in 2008 for on-Site risks from exposure to petroleum contaminants indicated that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Objections to Closure

County staff objected to UST case closure because:

1. Risk assessment has not been completed. Based on benzene levels in groundwater and that groundwater is shallow, soil vapor samples should be collected near MW-8 adjacent to the apartment building and a vapor risk assessment should be completed using samples.
   RESPONSE: Between 2001 and 2011, benzene concentrations in groundwater at off-Site well MW-8 never exceeded 85 µg/L. The bioattenuation zone near MW-8 is at least 6 vertical feet. Contaminants in upgradient wells MW-3 through MW-7 have been low to non-detectable since 2009 and TPHg in soil was 140 milligrams per kilogram (mg/kg) at 7 feet bgs during 2001. Contaminants from the on-Site release pose no significant risk to residential buildings east of the Site.

2. Downgradient delineation has not been completed. The plume has migrated off property in an eastward direction and the downgradient extent of soil and groundwater contamination at the site has not been assessed.
   RESPONSE: Contaminants in on-Site wells MW-3 through MW-7 have been low to non-detectable since 2009. The plume is stable and decreasing and it is delineated to the east and northeast by wells MW-3 MW-5, MW-6, and MW-8. Additional assessment will not likely change conceptual model.

Recommendation for Closure

The corrective action performed at this Site ensures the protection of human health, safety, the environment and is consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations, applicable state policies for water quality control and the applicable water quality control plan, and case closure is recommended.

Prepared By: _____ 7/3/13
Charlow Arzadon — Date
Water Resource Control Engineer

Reviewed By: _____ 7/3/2013
Benjamin Heningburg, PG No. 8130 — Date
Senior Engineering Geologist

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

The Site complies with State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that Sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the Site do not pose significant risk to human health, safety, or the environment.

The Site complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.[1]

Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST case closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this Site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this Site?	☐ Yes ☒ No
If so, was the corrective action performed consistent with any order?	☐ Yes ☐ No ☒ NA
General Criteria General criteria that must be satisfied by all candidate sites:	
Is the unauthorized release located within the service area of a public water system?	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☒ Yes ☐ No ☐ NA
Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No

[1] Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.

Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code, Section 25296.15?	☒ Yes ☐ No
Does nuisance as defined by Water Code, section 13050 exist at the Site?	☐ Yes ☒ No
Are there unique Site attributes or Site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
Media-Specific Criteria Candidate sites must satisfy all three of these media-specific criteria: **1. Groundwater:** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:	
Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?	☒ Yes ☐ No ☐ NA
Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites? If YES, check applicable class: ☐ **1** ☒ **2** ☐ **3** ☐ **4** ☐ **5**	☒ Yes ☐ No ☐ NA
For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?	☐ Yes ☐ No ☒ NA
2. Petroleum Vapor Intrusion to Indoor Air: The Site is considered low-threat for vapor intrusion to indoor air if Site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.	
Is the Site an active commercial petroleum fueling facility? Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.	☐ Yes ☒ No
a. Do Site-specific conditions at the release Site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☐ **4**	☐Yes ☐ No ☒ NA
b. Has a Site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?	☒ Yes ☐ No ☐ NA

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
3. Direct Contact and Outdoor Air Exposure: The Site is considered low-threat for direct contact and outdoor air exposure if Site-specific conditions satisfy one of the three classes of sites (a through c).	
a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?	☐ Yes ☐ No ☒ NA
b. Are maximum concentrations of petroleum constituents in soil less than levels that a Site-specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	☒ Yes ☐ No ☐ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA

ATTACHMENT 2: SUMMARY OF BASIC INFORMATION (Conceptual Site Model)

Site Location/ History

- The Site is located in an industrial park near the intersection of S. Marshall Avenue and El Cajon Boulevard in El Cajon. The Site is an operating auto body shop.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Primary Source of Release: UST system
- Discovery Date: 1992
- Release Type: Petroleum[2]
- Eight monitoring wells have been installed. Two of the monitoring wells were destroyed.
- Free Product: None reported.

Table A. USTs:

Tank No.	Size	Contents	Status	Date
1	550 gallon	Gasoline	Removed	1992

Receptors

- Groundwater Basin: El Cajon Valley (9-16)
- Groundwater Beneficial Uses: Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); and aquaculture (AQUA).
- Designated Land Use: General commercial (GC)
- Public Water System: Helix Water District
- Distance to Nearest Surface Waters: Mount Helix Reservoir is greater than 1,000 feet east.
- Distance to Nearest Supply Wells: Supply well is greater than 1,000 feet northwest.

Geology/ Hydrogeology

- Average Groundwater Depth: ~8 feet bgs (shallow water-bearing zone); ~11 feet bgs(deep water-bearing zone)
- Minimum Groundwater Depth: ~3.5 feet bgs (shallow water-bearing zone); ~6.5 feet bgs (deep water-bearing zone
- Groundwater Flow Direction: Northeast
- Geology: The Site is underlain by terrace deposits generally consisting of clayey sand were observed above 13 feet bgs. Friars formation below 13 feet bgs was observed to a total depth of 25 feet and consist clayey sandstone.
- Hydrogeology: Two water bearing zones have been identified. The shallow water bearing zone is reported to occur within the terrace deposits and the deeper water-bearing zone is reported to occur within Friars formation. Distance to nearest surface water (Mount Helix Reservoir) is located greater than 3,000 feet southwest of the Site.

[2] "Petroleum" means crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means at 60 degrees Fahrenheit and 14.7 pounds per square inch absolute. (Health & Saf. Code, § 25299.2.)

Corrective Actions

- One UST was removed in April 1992.
- During the April 1992 UST removal, approximately 55 tons of soil was excavated and stockpiled at the Site.

Table B. Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs (mg/kg)	Maximum 5-10 feet bgs (mg/kg)
Benzene	<0.005	Not Analyzed
Ethylbenzene	Not Analyzed	1.519
Naphthalene	Not Analyzed	Not Analyzed
PAHs*	Not Analyzed	Not Analyzed

*Poly-aromatic hydrocarbons as benzo(a)pyrene toxicity equivalent

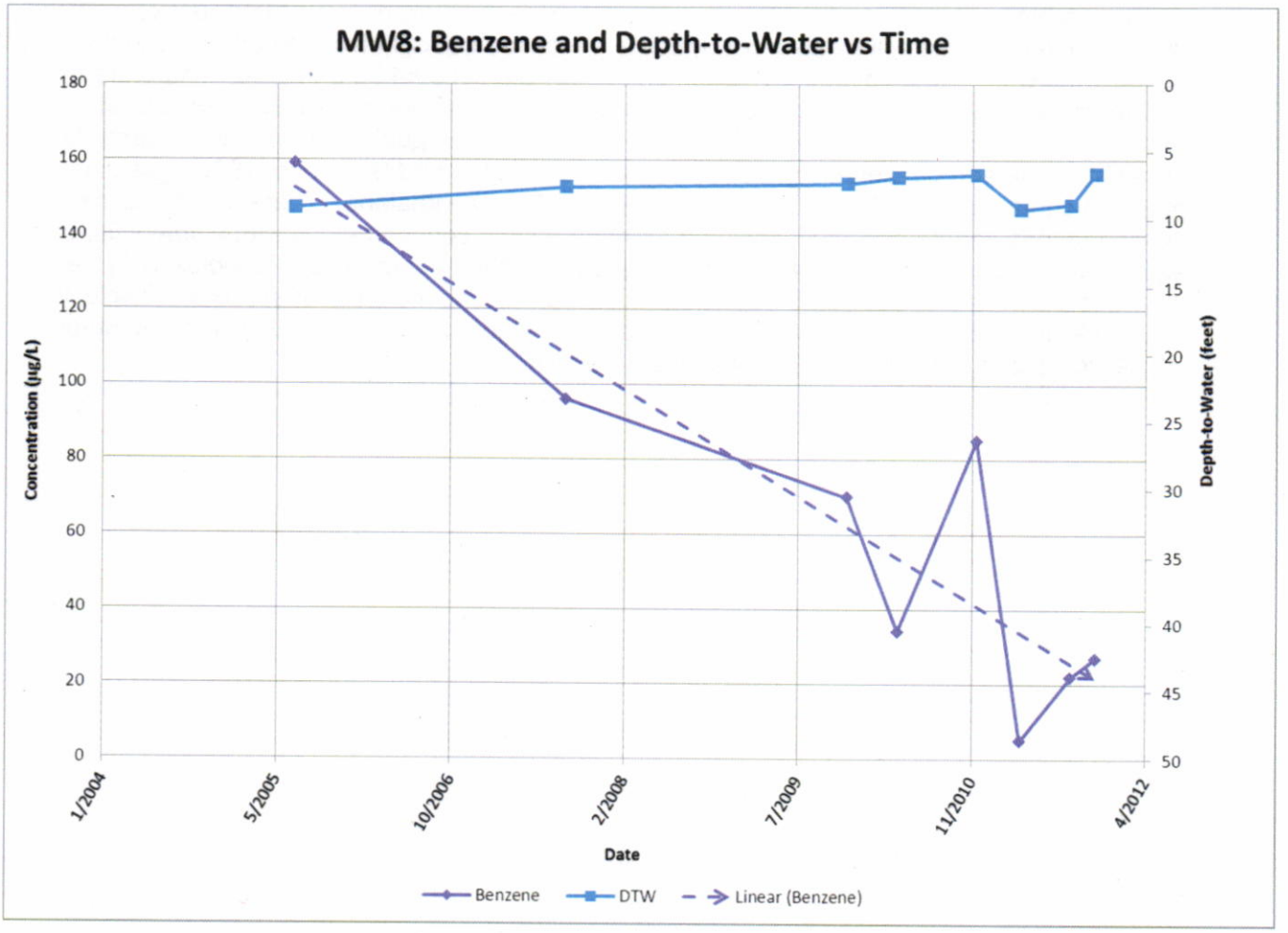
Table C. Concentrations of Petroleum Constituents in Groundwater (June 2012)

Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1 (destroyed in 2001)	7/15/1999	2400	**470**	NS	NS	NS	NA	NS
MW-2 (destroyed in 2001)	7/15/1999	ND	ND	NS	NS	NS	ND	NS
MW-3	11/7/2011	490	<1	<1	3	<2	5	**670**
MW-4	11/7/2011	200	**12**	<1	12	8	3	**160**
MW-5	11/7/2011	<100	<1	<1	<1	<2	<1	<10
MW-6	11/7/2011	<100	<1	<1	<1	<2	<1	<10
MW-7	11/7/2011	<100	<1	<1	<1	<2	**8**	<10
MW-8	11/7/2011	2300	**27**	131	95	585	<1	**37**
WQOs	-	-	**1**	**150**	**300**	**1750**	**5**	**12***

WQOs - Water Quality Objectives
* - Notification Level
Bold = above WQOs
NS – Not Sampled
NA – Not Analyzed
µg/L – micrograms per liter
TPHg – Total Petroleum Hydrocarbons quantified as gasoline
TPHd – Total Petroleum Hydrocarbons quantified as diesel
MTBE – methyl tert-Butyl ether
< - less than the indicated reporting limit

Groundwater Trends

Benzene concentrations indicate a decline in well MW-8, since 2005.

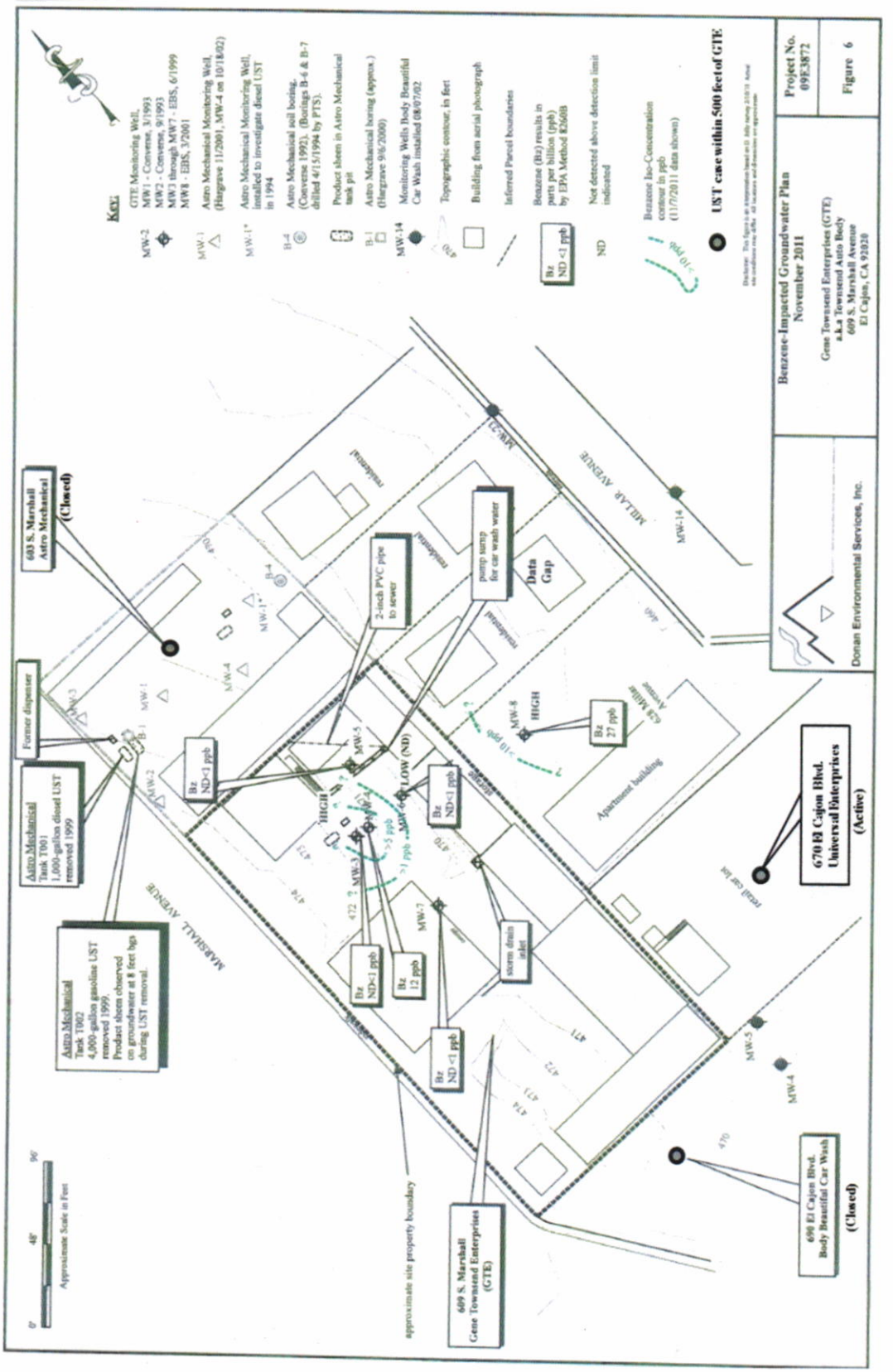


Evaluation of Risk Criteria

- Maximum Petroleum Constituent Plume Length above WQOs: The groundwater plume is approximately 160 feet in length.
- Petroleum Constituent Plume Determined Stable or Decreasing: Yes
- Soil/Groundwater Sampled for MTBE: Yes, see Table C above
- Residual Petroleum Constituents Pose Significant Risk to the Environment: No
- Residual Petroleum Constituents Pose Significant Vapor Intrusion Risk to Human Health: No – Petroleum constituents most likely to pose a threat for vapor intrusion were removed during soil excavation and over-excavation. Site conditions demonstrate that the residual petroleum constituents in soil and groundwater are protective of human health.
- Residual Petroleum Constituents Pose a Nuisance[3] at the Site: No
- Residual Petroleum Constituents in Soil Pose Significant Risk of Adversely Affecting Human Health: No.

[3] Nuisance as defined in California Water Code, section 13050, subdivision (m).

- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No – The HHRA conducted in 2008 states that contact with soil or groundwater at the Site is judged to be highly unlikely since the contaminated soil occurs at depths in excess of 5 feet bgs. Furthermore, the contaminated soil is covered by the Site building with slab-on grade concrete. Therefore, dermal exposure and outdoor air exposure is highly unlikely unless construction results in soil excavation. If this is the case, appropriately trained personnel should conduct the work and a community health and safety plan should be prepared. There are no soil samples results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2% benzene and 0.25% naphthalene. Therefore, benzene concentrations can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Table 1 of the Policy. Therefore, estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.


Benzene-Impacted Groundwater Plan
November 2011
Gene Townsend Enterprises (GTE)
a.k.a Townsend Auto Body
609 S. Marshall Avenue
El Cajon, CA 92020
Project No.
699.3872
Figure 6
Donan Environmental Services, Inc.
Key:
GTE Monitoring Well, MW1 - Converse, 3/1993
MW2 - Converse, 9/1993
MW3 through MW7 - EBS, 6/1999
MW8 - EBS, 3/2001
Astro Mechanical Monitoring Well, (Hargrave 11/2001, MW-4 on 10/18/02)
Astro Mechanical Monitoring Well, installed to investigate diesel UST in 1994
Astro Mechanical soil boring, (Converse 1992). (Borings B-4 & B-7 drilled 4/15/1994 by PTS).
Product sheen in Astro Mechanical tank pit
Astro Mechanical boring (approx.) (Hargrave 9/6/2000)
Monitoring Wells Body Beautiful Car Wash installed 08/07/02
Topographic contour, in feet
Building from aerial photograph
Inferred Parcel boundaries
Benzene (Bz) results in parts per billion (ppb) by EPA Method 8260B
Not detected above detection limit indicated
Benzene Iso-Concentration contour in ppb (11/7/2011 data shown)
UST case within 500 feet of GTE
Disclaimer: The layout is approximate based on site survey 2/2/11. Actual site conditions may differ. All locations and dimensions are approximate.
609 S. Marshall Astro Mechanical (Closed)
Former dispenser
Astro Mechanical Tank T001 1,000-gallon diesel UST removed 1999
Astro Mechanical Tank T002 4,000-gallon gasoline UST removed 1999. Product sheen observed on groundwater at 8 feet bgs during UST removal.
670 El Cajon Blvd. Universal Enterprises (Active)
690 El Cajon Blvd. Body Beautiful Car Wash (Closed)
609 S. Marshall Gene Townsend Enterprises (GTE)
approximate site property boundary
MARSHALL AVENUE
MILLAR AVENUE
residential
2-inch PVC pipe to sewer
pump sump for car wash water
Data Gap
HIGH
LOW (ND)
Bz ND<1 ppb
Bz 27 ppb
Bz 12 ppb
storm drain inlet
Apartment building
retail car lot
Approximate Scale in Feet