Site Characterization Report

Airport/Former Teledyne Ryan Aeronautical Site
2701 North Harbor Drive
San Diego, California

WDID No. 937I004452
(Former TRA Facility)

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CERTIFICATION

I certify under penalty of perjury that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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12-19-05
Date

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EXECUTIVE SUMMARY

On October 4, 2004, the San Diego Regional Water Quality Control Board (RWQCB) issued Cleanup and Abatement Order #R9-2004-0258 (CAO-04-0258) for alleged discharges of waste from 2701 North Harbor Drive in San Diego, California. CAO 04-0258, which was revised on May 17, 2005 and amended on July 22, 2005, requires TDY Industries, Incorporated, TDY Holdings, LLC, and Teledyne Ryan Aeronautical Company to: (1) cleanup and abate discharges, (2) perform site investigation and characterization, (3) perform interim remedial actions, (4) perform a remedial investigation and feasibility study, (5) prepare a remedial action plan, and (6) cleanup and verify abatement completion. This report is being submitted in fulfillment of the Site Investigation and Characterization Report requirement contained in CAO 04-0258. Included in this report are the following:

- A description of field methodologies used for drilling, soil sampling, groundwater sampling, storm water conveyance system (SWCS) sampling, well, and piezometer construction, geophysical surveys, and video surveys;
- A description of activities related to the characterization of the SWCS for both onsite and upgradient properties;
- Presentation of the hydrogeologic characterization of the Site developed for this report, including the geology, hydrogeologic conditions, direction of local groundwater flow, and potential preferential pathways;
- Identification of all potential sources through a review of historical documents, site operations, and records, as well as more recent site investigations and analytical results;
- Refinement of the Conceptual Site Model (CSM) based on data collected during the course of site characterization;
- Characterization of the lateral and vertical extent of impacts to sediment, soil, and groundwater for identified Constituents of Potential Concern (COPCs), and development of a list of Areas of Potential Concern (AOPCs) which will be further evaluated in the Remedial Investigation/Feasibility Study (RI/FS); and
- Evaluation of the potential for PCBs to travel into and through the SWCS and accumulate on the sand cap installed in Convair Lagoon.

During 2005, an extensive investigation of the Site was performed. This investigation consisted of: evaluating soil and groundwater quality data to identify data gaps; performing a statistical analysis of analytical data to calculate background concentrations of metals and cyanide; identifying constituents of potential concern based on historical site use and the prevalence of constituents detected in soil and groundwater. Based on this analysis of existing data, soil, sediment, and groundwater sampling were performed to complete the characterization of the nature and extent of residual constituents at the Site and surrounding properties.

The following is a summary of findings based on the investigations and studies performed in 2005.

Hydrogeologic Conditions

The 44-acre site is constructed upon dredged bay-fill material, placed between 1936 and 1939 during redevelopment of the tidelands on the northern edge of San Diego Bay. Fill material currently ranges from approximately 5-8 feet thick, underlain by bay mud deposits. These bay muds have a gradational contact with the Bay Point formation, approximately 20-30 feet bgs.

Hydraulic gradients at the Site are relatively flat, and vary from approximately 0.001 to 0.008 ft/ft, with steeper gradients in close proximity to the Convair Lagoon and in the immediate vicinity of some storm drains. It appears that the engineered backfill surrounding the storm drains may provide a preferential pathway for groundwater transport, inducing an artificial groundwater gradient in the immediate vicinity of certain storm drains. Groundwater velocity is estimated to range from approximately 1 to 28 feet per year, based on variations in hydraulic conductivity and gradient. More refined velocities will be calculated for area-specific remediation estimates based on data collected during the RI/FS process.

Results of Soil and Groundwater Sampling

Soil and groundwater sampling were conducted to complete the site characterization prior to beginning the RI/FS work. These data more clearly defined impacts in the following areas:

- **Building 180**: Confirmed and defined the extent of a potential Volatile Organic Compounds (VOCs) and metals source area in the vicinity of the loading dock;
- **Northeast of Building 161**: Confirmed and defined the extent of a potential tetrachloroethene source area in former outdoor maintenance yard;
- **North of former solvent AST near Building 166**: Defined the northern extent of VOC and Semi-VOC (SVOC) impacts;
- **Building 120**: Confirmed and defined the southern extent of VOC impacts;
- **Building 158**: Confirmed the extent of chromium impacts to groundwater; and
- **Building 131/242 Area**: Confirmed and defined the lateral extent of VOC and SVOC impacts to soil and groundwater.

Results of Storm Water Conveyance System Investigation

Onsite and offsite impacts to the storm water conveyance system each were assessed. Based on results collected in existing, run-in, and in-line sediment samples from catch basins contributing to the Convair Lagoon, polychlorinated biphenyls (PCBs) were identified in sediment originating both onsite and offsite. Further data will be collected during the 2005-2006 rainy season and reported in the April 2006 addendum to this Site Characterization Report.

During the 2005 Site Characterization, SWCS sampling activities determined which branches of the SWCS contained PCBs at concentrations above 1.0 mg/Kg. Impacts were detected in the SWCS on General Dynamics - Lindbergh Field, the Airport, and on Site.

SWCS sampling activities in 2005 also identified PCBs in run-in and in-line samples collected in the following SWCS locations:

- 60-inch line: GD Lindbergh Field, Airport, and on-site;
- 54-inch line: Airport and on-site;
- 30-inch east: on-site and
- 30-inch to San Diego Bay: on-site.

The video logging performed in 2005 was used to assess the condition and integrity of the SWCS.

Resolution of Data Gaps

Specific data gaps in soil and groundwater were identified by the Site Characterization Work Plan. Data gaps in soil and groundwater were addressed by specific sampling conducted during the 2005 site characterization. Sufficient data has been gathered to move forward with the RI/FS process.

Areas of Potential Concern

Fourteen Areas of Potential Concern, were identified for further evaluation in the risk assessment and remedial investigation/feasibility study programs. These areas and the associated constituents are as follows:

- Building 180 loading dock area (metals, VOCs, TPH);
- Outside maintenance yard/tool racks near Building 161 (VOCs);
- Above ground solvent tank near Building 166 (VOCs, SVOCs);
- Building 120 (metals, VOCs, SVOCs, TPH, PCBs);
- South of Building 121 (PCBs);
- Building 222/228 (metals, VOCs, SVOCs, TPH, PCBs, perchlorate);
- Southeast of Building 146 (VOCs);
- Building 158 (metals, VOCs, TPH);
- Test Cell #4/Area D (TPH, VOCs, SVOCs);
- Building 142 Area (VOCs);
- Building 131/242 Area (VOCs, SVOCs, TPH);
- Building 156 (metals, VOCs, TPH, PCBs);
- Explosives Area (PCBs); and
- SWCS (PCBs).

1. INTRODUCTION

The scope of work for this investigation is described in the January 28, 2005 Site Characterization Work Plan (Work Plan) prepared by S.S. Papadopulos and Associates (SSPA) and GeoSyntec Consultants (GeoSyntec) and subsequent amendments dated May 20, July 8, and July 19, 2005 (SSPA, 2005; GeoSyntec and SSPA, 2005a/2005b/2005c). This report presents the results of the site characterization investigation conducted at and in the vicinity of the Airport/Former Teledyne Ryan Aeronautical site located at 2701 North Harbor Drive, San Diego, California (the Site). This report was prepared by GeoSyntec Consultants (GeoSyntec) for TDY Industries, Inc. in response to Cleanup and Abatement Order #R9-2004-0258 (CAO 04-0258). This report was prepared by Mr. Brian Hitchens, P.G., C.Hg., and Mr. Chris Lieder and has been reviewed by Mr. Sam Williams, P.G., C.Hg., in accordance with the peer review policy of the firm.

1.1 Background

On October 4, 2004, the San Diego Regional Water Quality Control Board (RWQCB) issued CAO 04-0258 (RWQCB, 2004) for alleged discharges of waste from the Site. CAO 04-0258 was amended on July 22, 2005 and requires TDY Industries, Inc., TDY Holdings, LLC, and Teledyne Ryan Aeronautical Company to: (1) cleanup and abate discharges, (2) perform site investigation and characterization, (3) perform interim remedial actions, (4) perform a remedial investigation and feasibility study, (5) prepare a remedial action plan, and (6) cleanup and verify abatement completion. This report is being submitted in fulfillment of the Site Investigation and Characterization Report requirement contained in CAO 04-0258. Based on discussions between TDY and the RWQCB, CAO 04-0258 was revised on May 17, 2005 (RWQCB, 2005a) to, among other things, address waste discharge and ownership issues, storm water compliance issues, and electronic reporting requirements. Addendum No. 1 to CAO 04-0258 was issued on July 22, 2005 (RWQCB, 2005b), which established a time schedule for submitting the Site Characterization Report and modified certain findings in the CAO based on TDY’s June 13,2005 petition to the State Water Resources Control Board.

1.2 Objectives

The objective of this report is to present the findings of the site characterization investigation performed in accordance with the Site Characterization Work Plan, as amended, and in compliance with requirements established by CAO 04-0258. This includes:

- Field methodologies used for drilling, soil sampling, groundwater sampling, storm water conveyance system (SWCS) sampling, well, and piezometer construction, geophysical surveys, and video surveys;
- A description of activities related to the characterization of the SWCS for both onsite and upgradient investigations;

- Presentation of the hydrogeologic characterization of the Site developed for this report, including the geology, hydrogeologic conditions, direction of local groundwater flow, and potential preferential pathways;
- Identification of all potential sources through a review of historical documents, site operations, and records, as well as more recent site investigations and analytical results;
- Refinement of the existing Conceptual Site Model (CSM) based on data collected during the course of site characterization;
- Characterization of the lateral and vertical extent of impacts to sediment, soil, and groundwater for identified Constituents of Potential Concern (COPCs), and development of a list of Areas of Potential Concern (AOPCs) which will be further evaluated in the Remedial Investigation/Feasibility Study (RI/FS); and
- Evaluate the potential for polychlorinated biphenyls (PCBs) to travel into and through the SWCS and accumulate on the sand cap installed in Convair Lagoon.

1.3 Regulatory Setting

This site characterization report was performed in response to CAO 04-0258 under the oversight of the RWQCB. The California Department of Toxic Substance Control (DTSC) retains jurisdiction over the closure of two waste management units adjacent to Building 130. The San Diego County Department of Environmental Health (DEH) remains the lead agency for the closure of the "Test Cell #4/Area D" underground storage tank (UST).

In May 1998, the RWQCB adopted Waste Discharge Requirements Order 98-21 for the long-term maintenance and monitoring of the sand cap in Convair Lagoon. The monitoring requirements of Order 98-21 include sampling and analysis of sediment from the sand cap and SWCS.

On August 28, 2003, TDY requested termination of their requirements under the Industrial Storm Water General Permit Order No. 97-03-DWQ. TDY made this request because they no longer operate the facility subject to the permit, are no longer a tenant, and do not have access to the Site. The RWQCB denied this request on September 2, 2003 based on "the presence of PCBs in the Site SWCS and the apparent continuing discharges of PCB contaminated sediment to Convair Lagoon and San Diego Bay."

1.4 Site History

The Site is a 44-acre parcel located at 2701 North Harbor Drive in San Diego, California (Figure 1-1). The Site is owned by the San Diego Unified Port District ("Port") and is reportedly occupied at the current time by the Airport. The Site, building numbers, catch basin locations, and surrounding features of interest such as the storm drains that are part of the SWCS are presented in Figure 1-2. The Site is located adjacent to and south of the Airport runway. The Site was originally tidelands of the San Diego Harbor but was filled with materials dredged from San Diego Harbor from 1936 to 1939 during the creation of Lindberg Field and the U.S. Coast Guard Station. The Site was initially owned by the City of San Diego as part of its airport operations. The Site was leased to the Ryan Aeronautical Company ("Ryan Aeronautical") commencing on or around 1939, and was later leased toTeledyne Industries, Inc., acting by and through its Teledyne Ryan Aeronautical Division ("TRA") commencing in 1984. The westernmost portion of the Site was reportedly used by the City of San Diego for its operations during the early 1940s. The Port subsequently received title for the property from the City of San Diego in the early 1960s. Ryan Aeronautical and TRA manufactured aircraft and military planes for the U.S. Government from 1939 to 1999. The business and the majority of the assets of Ryan Aeronautical were sold in 1999 to Northrop Grumman. Operations at the Site ceased in 1999 and the Port terminated TDY's lease was terminated on November 1, 2002.

A detailed site use history was developed by PES Environmental (PES, 2001). The activities described in the PES report are consistent with large scale manufacturing of aircraft and aeronautical equipment. As such, various chemicals of interest were utilized onsite, including polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and metals.

1.4.1 Convair Lagoon History

Initial concerns regarding PCBs in Convair Lagoon were raised in the late 1970s and early 1980s, particularly as part of the State Mussel Watch Program. The RWQCB became involved in investigating potential sources of PCBs loading to Convair Lagoon, and in 1986 issued a staff testimony report [RWQCB, 1986a]. As a result, Cleanup and Abatement Order 86-92 was issued to TRA and sampling and cleaning of storm drains and catch basins was undertaken. CAO 86-92 was amended in Addendums Nos. 1 through 10, each requiring additional sampling, cleanouts or investigations of conditions relating to Convair Lagoon. While data collected over the years indicated that additional parties had contributed to PCBs in Convair Lagoon, including the Port and General Dynamics, only TRA was required by administrative order to investigate its Site and to cap and monitor Convair Lagoon (GeoSyntec, 2002a).

In response to Addendum No. 4 to CAO 86-92 (RWQCB, 1991), TRA designed, constructed and monitors a sand cap to "isolate the contamination in Convair Lagoon from the environment" (RWQCB, 1998). The cap covers approximately 7 acres in Convair Lagoon and covers areas where sediments are present with PCB concentrations equal to or exceeding 4.6 mg/Kg. The cap is approximately 3 feet thick and transitions between the outer berm, the main cap and the shoreline (GeoSyntec, 2002a).

1.4.2 SWCS History

Onsite, portions of the 54-inch storm drain system were cleaned three times between

1986 and 1991 in response to RWQCB requirements relating to CAO 86-92. Sediment was removed from catchbasins by shoveling, followed by vacuuming, power brushing, and cleansing with an alkaline surfactant (GeoSyntec, 2002a). Portions of the 60-inch storm drain has been cleaned out in 1986 (WESTEC, 1986), 1987 (RWQCB, 1987a), and twice in 1989 (ERC, 1989, TRA 1989). Commencing in 1989, the on-site portion of the 30-inch east stormdrain was removed and replaced after detecting high concentrations of PCBs along the line.

On November 18, 1994, Environmental Remediation Management Company completed cleanout of most of the catch basins at the GD Lindbergh Field parcel by both shoveling and then by high pressure steam cleaning (Carpenter, 1994).

On March 6, 1997, just prior to the cap construction in Convair Lagoon, but following TRA's cleanouts of the lines beneath the Site, PCBs were detected above 4.6 mg/Kg by TRA in the storm drains upstream of TRA during a joint inspection by General Dynamics and the Port of the SWCS beneath the GD Lindbergh Field site (Hicks, 1997).

The Port then required General Dynamics, as a tenant at the GD Lindbergh Field site, to undertake clean out work. Records from General Dynamics contractor, Brown & Caldwell, reflect that the 60-inch main storm water line beneath the GD Lindbergh Field Site was cleaned out by Environmental Remediation Management of San Diego in June and July 1997. The storm drain cleaning was reportedly done by wet vacuuming. An inflatable bladder was used at the downstream end of the storm water pipe to hold out tidal flow. After daily evacuation of infiltrated water, sediment was vacuumed out and stockpiled (Brown and Caldwell, 1997).

Additional sampling of sediments in July 1997 by General Dynamics in portions of their SWCS that flow southeasterly and not into Convair Lagoon also detected PCBs and metals at hazardous waste concentrations. These metals included antimony and zinc in addition to the cadmium, chromium, and lead noted in the Convair Lagoon SWCS (Brown and Caldwell, 1997).

TRA cleaned the entire onsite portion of the 60-inch storm drain in 1997 by flushing and jetting the sediment into Convair Lagoon prior to the installation of the sand cap, as described by Don Ostrand of Ocean Blue Environmental (personal communication, October, 2005).

When the Port undertook further sampling of the 60-inch line in 2000, PCBs were again detected above 4.6 mg/Kg in sediments upstream of the Site on the Airport property. [Brown and Caldwell, 2002].

General Dynamics again initiated SWCS sampling and cleanout activities in 2003 that resulted in a removal action which was implemented from October 2004 to January 7, 2005 (Brown and Caldwell, 2005). Materials removed from the SWCS were categorized as hazardous waste for PCBs and heavy metals.

1.5 Site Vicinity

The Site was one of several aircraft manufacturing facilities historically located in the area along with other industrial, municipal, and/or defense related facilities. The SWCS serving the Site and surrounding areas is also discussed in this characterization report. Figure 1-3 identifies some of the facilities in the surrounding area that are of interest, as described in the following paragraphs.

General Dynamics manufactured aircraft and weapon systems in two nearby sites referred to as the former General Dynamics Harbor Drive Plant ("GD Harbor Drive") and the former General Dynamics Lindbergh Field Plant ("GD Lindbergh Field"). Operations at these sites date back to the 1940s. In addition, there is existing information in agency files concerning chemical usage and releases at these facilities (Brown and Caldwell, 1994). GD Lindbergh Field is located upgradient of the Site on the 60-inch storm drain which flows to Convair Lagoon. GD Harbor Drive is located southwest of the Site. Storm water from the Harbor Drive site discharges into the East Basin, and subsequently flows past the mouth of Convair Lagoon.

Similarly, a portion of former Convair Plant 2, located to the north of the San Diego Airport, is drained by a SWCS that flows south to Convair Lagoon. This facility's operations were related to the military aerospace industry. Convair Plant 2 was also known as Air Force Plant 19 suggesting that at one time the Department of Defense operated the site. Reportedly at one time the Convair facility was also owned and operated by General Dynamics. It is currently owned and operated by Lockheed Martin as the Lockheed Martin SPAWAR facility. A 1987 letter in agency files from a concerned citizen noted the history of PCB usage and spills at this facility as the issue of PCBs in Convair Lagoon sediments was first being regulated by the Regional Board (Sallaz, 1987).

The area immediately west of the Site now houses the San Diego Airport Commuter Terminal, small aircraft parking, maintenance and service areas, a fuel dispensing terminal for aircraft fuel trucks, and large aircraft washing facilities, along with flight operations centers and food production facilities for passenger aircraft. Some of this area is drained by a tributary to the 54-inch SWCS line to Convair Lagoon and some is drained by a tributary to a 48-inch SWCS line that drains to the west of Convair Lagoon into the East Basin. Historical aerial photos from the 1940s suggest that this area may have been initially used as military barracks or some other form of high density housing unrelated to the Site. This area sits within the saline waters of the reclaimed shoreline, and formerly housed large USTs for jet fuel. The jet fuel operation caused large fuel releases over time, and these releases have impacted the area adjacent to the 48-inch storm drain that connects to the East Harbor Island Basin (East Basin) (AMEC, 2002).

The San Diego Airport runway is located immediately north of the Site. The air traffic control tower was moved to the area northwest of the airfield along the 54-inch storm drain in the 1980s. In 1995 to 1996 the aircraft fuel storage was moved to an above ground storage facility in this location with a buried fuel supply pipeline running to a distribution facility near the Commuter Terminal. Investigations of theses areas adjacent to the 54-inch line and its tributaries have found VOC contamination (Leighton and Associates, 1994). The Port has not tested these areas for PCBs nor documented their activities in the areas tributary to the 54-inch line (Brown and Caldwell, 2002).

1.6 Report Organization

The remainder of the report is organized as follows:

- Section 2, “Previous Investigations” describes potential source areas identified through previous investigations, historical site data, and historical research;
- Section 3, “Scope of 2005 Site Characterization” presents COPC and background analysis, identified data gaps, and field procedures and methods employed during the execution of site investigation activities;
- Section 4, “Hydrogeologic Characterization” presents the subsurface geology, hydrogeologic characteristics, and potential preferential pathways present at the site;
- Section 5, “Summary of 2005 Soil and Groundwater Sampling” presents the data gathered during the 2005 site characterization and an analysis of how this data fills the data gaps from previous studies identified in Section 3.
- Section 6, “Storm Water Conveyance System Characterization” describes the physical extent, and disposition of the storm water conveyance system on and upgradient to the Site;
- Section 7, “Extent of Waste Constituent Characterization” presents a summary of COPCs, an analysis of the comparability of 2003 – 2005 data sets, the extent of impacts of each class of COPCs as applied to soil, groundwater, sediment, and the extent of possible Non-Aqueous Phase Liquids (NAPL);
- Section 8, “Areas of Potential Concern” presents a summary of areas with constituents of potential concern which have been identified above background levels.
- Section 9, “Updated Conceptual Site Model” presents a site model which identifies sources, pathways, and receptors for potential migration of constituents of potential concern (COPCs);
- Section 10, “Summary” presents data gathered through the site investigation and the resulting identified Areas of Potential Concern;
- Section 11, “References” presents a list of the citations referenced in this report.

All supporting data and documentation generated during the Site Characterization are contained in Appendices A through I.

2. PREVIOUS INVESTIGATIONS

A number of environmental investigations of potential sources of waste constituent discharges to the soil and groundwater at the Site have been conducted over the years. Those conducted through 2000 are summarized in the PES Report (PES, 2001). The PES Report was based on reviews of available site historical information, site environmental documents, regulatory agency files, site reconnaissance, and an interview of a former employee. A comprehensive summary of building use, historical activities, and potential sources is presented in Table 2-1. All potential sources for VOCs, SVOCs, metals, and PCBs have been identified on Figures 2-1 through 2-4, respectively. Figure 2-4 also includes potential source information contained in the GeoSyntec PCB Report (GeoSyntec, 2002a). A combined map showing all classes of waste constituents is included as Figure 2-5.

2.1 UST Closure and No Further Action Determinations

The following areas have been previously investigated and remedial actions have been taken, resulting in no further action letters from the San Diego County Department of Environment Health (DEH).

Building 142

A 2,000 gallon UST used for storage of gasoline was removed from the southeast corner of Building 142 in 1990. Thirteen wells were installed to characterize the extent of impacts to groundwater. Of these 13 wells, 10 were proposed for abandonment and a no-further action letter was granted by the DEH on October 23, 2000 (PES, 2001). These ten wells are among those which have been proposed for abandonment, which is discussed in more detail in Section 4.6.

Area A

Area A is located on the northern property boundary east of Building 115 and North of Building 140. Three USTs containing aviation fuel were located in this area, until their removal in 1986 (GTI, 1992a). The DEH issued a “no further action” letter for Area A in January 1993 (PES, 2001).

Area B

Area B is located south of Building 149. Two USTs containing diesel fuel were located in this area until their removal in 1986 (GTI, 1992b). The DEH issued a “no further action” letter for Area B in September 1992 (PES, 2001).

Area C

Area C is located west of Building 157 in the northwest corner of the Site. Two USTs containing kerosene were located in this area until their removal in 1986 (GTI, 1992c).

The DEH issued a “no further action letter” for Area C in November 1992 (PES, 2001).

UST No. 19

UST No. 19 contained diesel fuel and was located on the south side of Building 156, approximately 100 feet from the west end. On August 29, 1994, San Diego DEH wrote a letter confirming the completion of site investigation and remedial action, noting that approximately 260 pounds of diesel fuel remained in the soil (PES, 2001).

UST No. 7

UST No. 7 contained diesel fuel and was located south of Building 149 until it was removed in 1992 (IT, 1992). The DEH issued a “no further action” letter on September 18, 1992 (PES, 2001).

Chemical Mill Masking Tank Near Building 125

One UST storing chemical mill masking fluid (PCE, toluene, 1,1,2,2-tetrachloroethane, xylenes) was located next to Building 125. The tank was filled with concrete and inspected by the DEH. No further action was required (PES, 2001).

Tank #10

Tank #10 located in Building 102 was removed by the Port’s consultant, Haley and Aldrich (H&A) in June 2003 (H&A, 2004). Tank #10 previously contained diesel fuel until it was emptied in 1989. The DEH reportedly closed the matter by letter on August 11, 2004 (SSPA, 2005).

2.2 PES Report

In January 2001, PES Environmental prepared an environmental assessment report (PES, 2001) which documented environmental conditions at the Site through a review of agency files, Site-related environmental documents, historical records, previously prepared and environmental documents. PES also performed site reconnaissance and conducted an employee interview with Mr. Wayne Hopkins, a former TRA employee. From this research, a detailed building-by-building site history was developed which combined site and agency records of historic use, anecdotal evidence of operational practices, and observation of site conditions. This report was included as Volume 3 of the Site Characterization Work Plan (SSPA, 2005).

2.3 GeoSyntec 2002 Site Investigation

A letter from the Regional Board dated November 8, 2001 required TDY to perform a site assessment of “chromic acid contamination in the vicinity of Building 158” and “chlorinated hydrocarbon contamination in the vicinity of Building 120”. GeoSyntec Consultants prepared a work plan, performed site assessment activities and prepared their *Report of Site Assessment*

Activities (GeoSyntec 2002b). The report, prepared for TDY, documented the results of the site assessment activities and recommended additional delineation activities, pending concurrence from the Regional Board.

2.4 GeoSyntec 2002 PCB Investigation

A letter from the Regional Board dated November 7, 2001 required TDY to provide current and historical information related to PCBs at the Site. GeoSyntec Consultants prepared a work plan, performed site assessment activities, and prepare a PCB Investigation Technical Report (GeoSyntec 2002a). The report, prepared for TDY, document the results of historical research concerning the use, storage and disposal of PCBs at the Site, sampling and analysis of storm drains, and a tidal influence investigation to determine whether sediments contained in the storm drain system beneath the Site could be transported upgradient and beyond the Site property boundary due to tidal action.

2.5 Haley & Aldrich 2003 Site Assessment

After TDY’s lease was terminated by the Port, the Port retained H&A to conduct an additional site characterization, including former employee interviews and a site-wide soil, soil gas, and groundwater investigation in 2003 (H&A, 2004).

2.6 Ongoing Investigations

Shaw Environmental prepared a report entitled *Site Evaluation and Request for Closure, Area D* (Shaw, 2003). In a letter dated May 12, 2004, the DEH requested additional information. TDY is currently working with the DEH to close this area.

3. SCOPE OF 2005 SITE CHARACTERIZATION

During 2005, an extensive investigation of the Site was performed. This investigation consisted of: evaluating soil and groundwater quality data to identify data gaps; performing a statistical analysis of analytical data to calculate background concentrations of metals and cyanide; identifying constituents of potential concern based on historical site use and the prevalence of constituents detected in soil and groundwater. Based on this analysis of existing data, GeoSyntec performed soil, sediment, and groundwater sampling to complete the characterization of the nature and extent of residual constituents at the Site and surrounding properties.

3.1 Identification of Data Gaps

SSPA and GeoSyntec prepared the Site Characterization Work Plan wherein the data needed to complete the site characterization and delineation of potential sources (e.g. data gaps) were identified. Based on comments received from the RWQCB and subsequent amendments to the Site Characterization Work Plan, the following data gaps in regards to the chemical quality of soil and groundwater at the Site were identified:

- The downgradient extent of VOCs associated with historical operations in Building 120;
- The upgradient extent of VOCs associated with the former above ground solvent storage tank located west of Building 166;
- The confirmation and extent of an anomalous detection of PCE to the northeast of Building 161;
- The confirmation and extent of an anomalous detection of vinyl chloride detected in groundwater to the south of Building 181;
- The extent of VOCs detected in soil and groundwater to the vicinity of Buildings 131 and 242; and
- The current hydrogeologic conditions and chemical quality of groundwater at the Site.

Soil and groundwater sampling was performed at each of these locations as described herein to fill the respective data gaps listed above.

In regards to the SWCS that services the Site and surrounding properties, the following data gaps were identified:

- Determine which branches of the SWCS contribute PCBs to the SWCS and Convair Lagoon;

- The source of PCBs being contributed to each impacted branch of the SWCS; and
- The condition and integrity of the SWCS.

Run-in, existing, and in-line sampling of sediment was conducted on the SWCS in an effort to fill these data gaps. Video logging of the SWCS was also performed to document the current condition and integrity of the SWCS. Because of access restrictions during the rainy season, not all of the data described in the Work Plan was collected in time to be included in this report. As discussed and agreed upon with the RWQCB, the remaining data will be included in a subsequent report, which will be submitted in April 2006.

3.2 Constituents of Potential Concern

This section summarizes the constituents of potential concern (COPCs) for the Port/TRA property. COPCs are defined as constituents detected onsite more than once at concentrations in excess of the detection limit or site background, as appropriate. The COPCs identified will be evaluated in the Remedial Investigation/Feasibility Study (RI/FS).

To identify the COPCs, all soil and groundwater analytical data generated during the following investigations were compiled into a site-specific database:

- GeoSyntec PCB Investigation Technical Report (GeoSyntec, 2002a);
- GeoSyntec Site Assessment Activities report (GeoSyntec 2002b);
- H&A Site-Wide Investigation (H&A, 2004 (Appendix H)); and
- Soil and groundwater samples collected by GeoSyntec during the 2005 site investigation and summarized herein.

GeoSyntec evaluated all constituents listed in the database which contained results for 1,289 soil samples and 267 groundwater samples. It was noted that numerous constituents were detected only once. In the identification of COPCs, constituents detected only once were eliminated because of their lack of prevalence. Further, metals that were not detected at concentrations exceeding their respective background concentration (Section 3.3) were also eliminated.

For each COPC in soil and groundwater, information regarding the number of analyses, number of detections, and maximum concentration is presented in Table 3-1. The identified COPCs consisted of 55 volatile organic compounds (VOCs), 25 semi-VOCs (SVOCs), 21 metals and cyanides, 6 polychlorinated biphenyls (PCBs), perchlorate, and total petroleum hydrocarbons (TPH) (Table 3-1).

To plot the analysis of the nature and extent of COPCs in soil and groundwater at the

Site, a subset of the metals, VOCs and SVOCs was selected to represent trends in areas where COPCs have been detected. The remaining volatile and semi-volatile COPCs not individually plotted are captured in the total VOCs, total SVOCs, or TPH illustrations.

3.3 Background Concentrations of Metals and Cyanide in Soil

This section provides a summary of the analysis of background concentrations of metals and cyanide in soil and groundwater at the Site. Because metals and cyanide occur naturally in the environment, an evaluation of background concentrations is necessary to determine and delineate the nature and extent of potential metals impacts due to historical use.

3.3.1 Methodology for Background Analysis

SSPA performed a statistical analysis of the metals and cyanide data using guidance as specified by the California Department of Toxic Substances Control (DTSC, 1997). This analysis was used to develop site-specific background levels for metals and cyanide in soil and groundwater. The database used in this analysis was generated by H&A and provided to TDY Industries, Inc. The database reportedly includes the data collected by H&A during their assessment of the Site which is summarized in their May 2004 report (H&A, 2004). No independent confirmation of the accuracy or completeness of the H&A database was performed in the course of the background metals analysis.

For each constituent in each of the two media, the evaluation methodology consisted of examining the type of data distribution (e.g. normal, log-normal, or indeterminate) and determining the presence of outliers, calculating summary statistics, and plotting cumulative probability diagrams (Appendix A). Using the data distribution diagrams, each constituent plot was evaluated as a normal and a log-normal population to determine which distribution best fit the data. The diagrams were then used to determine if the dataset for that constituent represented a single population or whether two or more populations were evident.

For single population datasets, the entire dataset for that constituent was considered to be representative of background. In these instances, the maximum observed concentration was taken to be the maximum background concentration. For multiple population datasets, the population nearest the origin was taken as the background concentration. The maximum background concentration was estimated from the point at the break in slope on the cumulative probability plot. For these constituents, an arrow has been added to the point determined to represent the maximum background concentration.

3.3.2 Results of Background Analysis

Based on the background analysis, the maximum background concentration for each metal and cyanide, where possible, in soil and groundwater was calculated (Table 3-2). For soil analytical data, the entire dataset for arsenic, barium, and vanadium was within the maximum background concentration. Further, beryllium, silver, thallium, and cyanide, were not detected in enough samples to make a statistical determination as to the background concentrations of these constituents in soil.

For groundwater analytical data, the entire dataset for barium was within the maximum background concentration. Further, antimony, arsenic, beryllium, cadmium, copper, lead, mercury, silver, thallium, and cyanide were not detected in enough samples to statistically calculate the background concentrations of these constituents in groundwater.

Calculated maximum background concentrations in soil were compared to literature values for background concentration of metals in California and the Western United States (Table 3-3). Site–specific maximum background concentrations for arsenic, barium, chromium, cobalt, copper, lead, molybdenum, nickel, vanadium, and zinc are less than literature values. In contrast, site-specific background concentration of antimony, cadmium, and selenium are greater than literature values.

3.4 Final Work Plan Scope and Field Methodologies

The following section describes the field activities and methods employed during the site characterization. The sampling methods and procedures used during field activities are described in detail in the Site Characterization Work Plan (SSPA and GeoSyntec, 2005b), as amended, and were performed in general accordance with the Department of Environmental Health Site Assessment and Mitigation (SAM) Manual. All investigative derived wastes generated during the course of site characterization activities were properly characterized and disposed of under waste manifests. Copies of the waste manifests are included as Appendix B.

3.4.1 Monitor Well Installation

The necessary permits were obtained from the DEH prior to commencing field activities. Nine groundwater monitor wells (B120-MW-4, B120-MW-5, B120-MW-6, B131-MW-1, B131-MW-2, B131-MW-3, B131-MW-4, B131-MW-5, and B180-MW-1) were installed to evaluate potential groundwater impacts from historical operations at the Site. Each monitor well was installed within an 8-inch diameter soil boring advanced to approximately 15 feet below ground surface (bgs) using hollow stem auger (HSA) drilling methods. The wells were constructed using 2-inch, schedule 40 PVC well casing with 10 feet of 0.010-inch factory-slotted well screen. A filter pack consisting of #3 Monterey sand was installed from the bottom of the boring to approximately 1 foot above the top of the screen in each well. A transition seal consisting of approximately 1 foot of bentonite chips was placed above the filter pack. Distilled water was added and the bentonite chips were allowed to hydrate for approximately 20 minutes. A concrete surface seal was placed in the upper 3 feet of annular space in each well and finished with flush-mounted 12-inch well vault set in a 3-foot diameter concrete pad. Well construction details are summarized in Table 3-4 and presented on the boring logs in Appendix C.

3.4.1.1 Well Development

The new monitor wells were developed by surging each well with a surge block for 20 minutes followed by purging with a WaTerra® Footvalve to remove sediment that had accumulated at bottom of the well during surging. A 2-inch pump was then set 1 foot above the bottom of casing. The well was purged of 3 borehole volumes plus the volume of any water that was added during well installation. Field parameters (pH, temperature, turbidity, and conductivity) were monitored during development to verify stabilization of water quality parameters. Well development logs are included in Appendix D. Well locations are shown on Figure 3-2.

3.4.2 Hydropunch Sampling

Forty-one direct-push borings were advanced at the Site. Permits were obtained from the DEH prior to commencing field activities. Groundwater samples were collected from each boring at approximately 2-3 feet below the groundwater table. Groundwater samples were collected from temporary PVC casing using either disposable bailers (for VOCs, and TPH) or a peristaltic pump (SVOCs and metals) with disposable tubing. Prior to sampling, depth to groundwater was measured. The locations and the constituents that were sampled at each location are presented in Table 3-5 and Figure 3-1. The procedures and sampling methods for hydropunch sampling are described in detail in the work plan. Hydropunch locations are shown on Figure 3-2.

3.4.3 Soil Sampling

Fifty soil borings were advanced and field screened with Sudan Red and a photo ionization detector (PID). Soil samples were collected from the same borings as described in Sections 1.2 and 2.2. Samples were then collected from acetate sleeved cores (direct-push borings) or a split spoon sampler (hollow stem auger drilling). The samples were collected from the capillary fringe approximately 6-8 feet below ground surface. The locations and constituents that were sampled at each location are presented in Table 3-5 and Figure 3-1.

3.4.4 Groundwater Sampling

Groundwater samples were collected from 9 newly installed monitor wells and additional 21 existing monitor wells at the Site (Figure 3-1) Water level was measured in all existing wells prior to sampling using an interface probe to assess the presence of non-aqueous phase liquid (NAPL) (Table 3-6). Groundwater samples were collected using low flow sampling procedure with a bladder pump set in the middle of the water column. The well was then purged at a low rate to minimize draw-down within the well. During purging, the water level, pumping rate, cumulative withdrawal, and field indicator parameters (i.e., DO, turbidity, Eh (ORP), specific conductance, pH, and temperature) were measured and recorded. If excessive drawdown was observed, wells were then sampled using the slow recharging well procedure. Samples were collected when field indicator parameters had stabilized. The names of the wells and the constituents that were analyzed at each location are presented in Table 3-5 and Figure 3-2.

3.4.5 Storm Water Conveyance System Sampling

Existing sediment, run-in sediment, and in-line sediment samples were collected from the SWCS. Results of this sampling are discussed in Section 7.2.

3.4.5.1 Existing Sediment Sampling

Existing sediment refers to sediment that is present within the catch basin or directly within the storm drain. Samples were collected using a lab-cleaned polyurethane bottle or stainless steel spoon which was attached to a section of PVC pipe to eliminate the need for confined space entry. The sediment was then transferred to a stainless steel bowl and homogenized. The sample then was placed into an 8oz glass sample jar with a stainless steel spoon. The locations and constituents analyzed are presented in Table 3-5 and Figure 3-3.

3.4.5.2 Run-In Sediment Sampling

Run-in sediment consists of sediment trapped on filter fabric or in the immediate vicinity of a storm drain inlet, such that it is characteristic of sediment flowing to a specific catch basin. Filter fabric existed in many onsite catch basins. These devices trap suspended sediment that would enter the catch basin during a rain event. The filter fabric was removed and the sediment retained on the filter fabric was transferred from the fabric into a stainless steel bowl using a stainless steel spoon. The sample was then placed into an 8-oz glass sample jar with a Teflon liner. At locations where insufficient sample was present on the filter fabric or where no fabric was installed, samples were collected from sediment which had accumulated around the edge of the grate. The locations of the catch basins and constituents sampled are presented in Table 3-5 and Figure 3-3.

3.4.5.3 In-Line Sediment Sampling

In-line sediment consists of sediment that is suspended in water flowing through the SWCS. In-line sediment samples were collected using a 50-micron mesh filter socks mounted in 3-foot sections of slotted 4-inch PVC, which were in turn installed in select offsite storm drains. The in-line sampling devices were removed from the storm drains and the sediment transferred from the filter sock using a stainless steel spoon into a stainless steel bowl. The sample was homogenized and placed into an 8-oz glass sample jar with a Teflon liner. Sample locations and the constituents that were analyzed are presented in Table 3-5 and Figure 3-3.

3.4.5.4 Video-Assisted Sediment Sampling

A rover-mounted video camera was used to survey selected lines across each of the parcels that contribute flow to the SWCS or indirectly to Convair Lagoon. This survey identified areas of significant sediment accumulation, locations of tributary connections, the condition of the line, and prospective subsequent sampling locations of interest. Remote sampling was performed, when possible, by a sampling cup attached to the camera rover. Specialized equipment, including hoist, ropes, and cables were provided by the subcontractor to lower the rover into the SWCS and subsequently remove it. Sample locations and the constituents that were analyzed are presented in Table 3-5 and Figure 3-3.

3.4.5.5 Invert Elevation Survey Methods

Invert elevations of the influent and effluent points inside select catch basins were surveyed using a Trimble RTK GPS and an Optical Station with a survey rod and prism in the following manner. The catch basin covers were removed and a telescoping survey rod was used to measure the invert to a point at ground surface. Then the point at ground surface was surveyed with a survey rod and prism and an Optical Station. The locations where the Optical Station was set were then surveyed with a Trimble RTK GPS unit to sub-centimeter accuracy.

3.4.6 Geophysical Surveys

Underground Service Alert (USA) was notified at least 48-hours prior to initiation of subsurface activities. Geophysical surveys were performed in the areas to be investigated at the Site to identify the presence of previously unidentified buried utilities or other obstructions. Utilities or other obstructions discovered during geophysical surveys were marked out on the ground surface with spray paint. Geophysical survey reports are included in Appendix E.

3.4.7 Monitor Well and Hydropunch Location Surveys

Monitor well and hydropunch locations were surveyed using a Trimble RTK GPS Unit with sub-inch accuracy and an optical station with a survey rod and prism. The survey coordinate system used was State Plane 1983 Zone 6, North American Datum 1983 (Conus). Coordinates and elevations were recorded in US survey feet. Survey results are included in Appendix E.

3.4.8 Convair Lagoon Sediment Sampling

Bottom sediments were collected on 11 August 2005 from the surface of the sand cap located in Convair Lagoon. The samples were collected by a field crew in SCUBA gear. The samples were collected and placed in 8-oz sample jars with a Teflon liner.

3.4.9 Tidal Influx Sampling

Water samples were collected during incoming tides to evaluate potential contributions to the SCWS from San Diego Harbor. Samples were collected in 1 liter polyurethane bottles using a peristaltic pump with the intake set approximately 1 foot above the base of the inlet. The samples were then analyzed for Total Suspended Solids (TSS) to evaluate the potential of the incoming tides to transport sediment into the SWCS.

3.4.10 Laboratory Analytical Methods

All analyses were performed by Colombia Analytical, using EPA-approved methods or other recognized standard methods. Method references for laboratory analyses that were performed were provided in the Site Characterization Work Plan (SSPA, 2005) and are documented here in Table 3-7. Soil samples were analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbon (TPH), grain size, and total organic carbon (TOC). Groundwater samples were analyzed for VOCs, semi-volatile organic compounds (SVOCs), TPH, Title-22 metals, and hexavalent chromium. Sediment samples were analyzed for SVOCs, metals, and PCBs.

3.4.11 Geotracker Reporting

The groundwater monitoring data, laboratory data, and a final copy of this Site Characterization Report will be electronically submitted to and confirmed by the State Water Board’s internet-accessible database system, Geotracker. This information will be submitted to the Geotracker database in accordance with Chapter 30, Division 3, Titles 23 & 27 of the California Code of Regulations.

4. HYDROGEOLOGIC CHARACTERIZATION

4.1 Subsurface Geology

The Site was originally tidelands of the San Diego Harbor. The area was filled with material dredged from San Diego Harbor from 1936 to 1939 during the creation of Lindbergh Field and the U.S. Coast Guard Station. Field investigations indicate the upper 8-10 feet of soil at the Site consists of bay fill, primarily composed of mixed silty sand and clay with interbedded shell hash. Below the fill material is fine sands, silts, and interbedded clays of the shallow marine Bay Point Formation. Over 300 soil borings have been advanced at the site ranging in depth from 6 to 60 feet. The transition from bay mud to the Bay Point Formation is gradational beginning at approximately 30 feet bgs (H&A, 2004). Cross sections of the Site are depicted in Figure 4-1 and Figure 4-2.

4.2 Hydrogeologic Conditions

The Site is located within the coastal plain section of San Diego Drainage Province, approximately 250 feet north of Convair Lagoon and the San Diego Bay. The San Diego Basin Plan (RWQCB, 1994) identifies the site location as a portion of the Lindbergh Hydrologic Sub Area (8.21) of the San Diego Mesa Hydrologic Area within the Pueblo San Diego Hydrologic Unit. Groundwater in the Lindbergh Hydrologic Sub Area is designated as non-beneficial use and has been exempted from municipal drinking water designation by the RWQCB. Groundwater at the Site occurs at approximately 5 to 8 feet bgs. Groundwater elevations fluctuate diurnally with tidal variations in the San Diego Bay.

The surface water of the San Diego Bay has been designated for many beneficial uses including industrial service supply, navigation, contact and non-contact recreation, fishing, and wildlife habitat. Presently, surface runoff from the Site is directed through the SWCS discussed in detail in Section 6.

Physical properties of the Site soils were characterized during 2003 (H&A, 2004). Samples were collected from 3 to 55 feet below grade with effective porosity ranging from 18% and 48% with an average of approximately 32% effective porosity. Saturated hydraulic conductivity data was not available in the Port's 2003 investigation due to sidewall leakages and sample disturbance. A range of 3×10^{-4} to 3×10^{-2} cm/sec has been estimated for the purposes of the site characterization study based on average published values of hydraulic conductivity for silty sand, as observed in onsite borings (Heath, 1983).

4.3 Existing Monitor Well Distribution

A total of 50 currently existing monitor wells have been installed at the Site during the course of numerous investigations (Figure 3-2). Many of these wells are associated with tank closures or other area investigations which have been resolved by the lead agencies.

Approximately 40 of these wells are located in the western portion of the site, clustered around Area D, Building 142, Building 158, and Building 242. The remaining 10 wells are located in the vicinity of Buildings 102, 120, 121, and 180. Wells generally range in depth between 5 and 18 feet, with the exception of a deep well adjacent to TC4WNC which extends to 35 feet bgs.

4.4 Potential Preferential Pathways

The primary pathway for groundwater migration on-site is through coarser-grained soils towards the San Diego Bay. Engineered fill placed around storm drains, sanitary sewers, and utility corridors that intercept the groundwater table may serve as localized preferential migration pathways. These preferential pathways could influence the pattern of groundwater flow, with groundwater on a large scale migrating from north to south towards the bay, but on a small scale migrating toward nearby storm drain and utility corridors.

4.5 Groundwater Flow Characterization

Two rounds of groundwater elevation data were collected across the Site on July 27, 2005 to evaluate groundwater gradient and flow direction and, potential tidal influence. Groundwater elevations were collected by two teams and all elevations were recorded within 3.25 hours during a period of both a high and low tide. Variations in groundwater elevations between the two events ranged from 0 to 3.04 feet. Generally wells located closer to the bay and near utility/storm drain corridors experienced the greatest influence from tidal variations. However, only wells BLD120-MW4 and BLD120-MW5 had variations of greater than 1 foot. This anomalously high water fluctuation has not yet been confirmed. All other wells showed less than 0.25 foot diurnal fluctuation with an average fluctuation of 0.06 feet.

Groundwater generally flows from north to south at a gradient of between 0.001 and 0.008 ft/ft. The gradient appears to increase adjacent to storm drains and the Convair Lagoon (Figure 4-3). In the Building 142 area, groundwater appears to preferentially flow towards storm drain, sewer, and local utility corridors. Groundwater velocity onsite is estimated to range between 1 and 28 feet per year based on a possible range of hydraulic conductivity between 3.0 x 10^{-4} to 3.0 x 10^{-2} cm/sec, a gradient ranging between 0.001 ft/ft and 0.008 ft/ft, and an estimated effective porosity of 32%. Groundwater velocities may vary in the immediate vicinity of utility corridors due to variances in the hydraulic conductivity and porosity of the engineered fill surrounding the utility lines.

4.6 Proposed Monitor Well Abandonment Plan

Of the 50 monitor wells presently at the Site, 18 are recommended for abandonment. Most of these wells are associated with former underground storage tanks or other area investigations for which the associated cases have been closed. These wells are also in poor repair and are no longer useful for the purposes of characterizing or monitoring groundwater conditions at the Site. Because these wells are no longer useful, and equivalent groundwater data can be collected from other groundwater monitor wells in equal or better condition, a monitor well abandonment plan has been developed (Table 4-1).

5. SUMMARY OF 2005 SOIL AND GROUNDWATER SAMPLING

Data gaps identified in the Site Characterization Work Plan (SSPA and GeoSyntec, 2005b), as amended and as outlined in Section 3, were addressed by the soil and groundwater sampling conducted in 2005.

5.1 VOCs Downgradient of Building 120

Monitor wells B120-MW4, B120-MW5, and B120-MW6 were installed downgradient of Building 120. Groundwater samples collected from these wells confirmed earlier grab samples collected in 2003, and indicate that VOC impacts are mitigated to near non-detect levels at the southern property boundary. Soil screening indicates no NAPL in this area and soils laboratory analysis from these borings also had no detectable TPH impacts. Data from these monitor wells address this previous data gap and aid in defining the extent of VOCs downgradient of Building 120.

5.2 Upgradient Extent of VOCs Associated with AST West of Building 166

A groundwater grab sample was collected immediately north of the property boundary on the north side of the AST west of Building 166. The results show low concentrations of chlorinated VOCs (less than 10 ug/L) and SVOCs. Soil screening indicates no NAPL in this area. Data from these monitor wells address this previous data gap and aid in defining the extent of VOCs northwest of Building 166.

5.3 PCE Northeast of Building 161

A temporary groundwater sample collected to the northeast of Building 161 in 2003 indicated elevated PCE concentrations in groundwater. Five groundwater grab samples collected in 2005 confirmed the previous detection of elevated VOCs in this vicinity. A soil sample from the capillary fringe contained chlorinated VOCs (PCE, TCE, and cis-1,2-DCE), but no detectable TPH impacts. Soil screening indicates no NAPL in this area. A sixth groundwater grab sample was collected along the property boundary northeast of the VOC detection. This grab sample confirmed that VOC concentrations are decreasing at the property boundary and bound area of impacted groundwater at Building 120 to the northeast. Data from these monitor wells address this previous data gap and aid in defining the extent of VOCs northeast of Building 161.

5.4 Extent of Anomalous Vinyl Chloride and Metals Detected South of Building 180

In 2003, elevated concentrations of vinyl chloride and metals were detected in a grab sample collected from the loading dock area south of Building 180. In 2005, elevated VOCs were confirmed; however, concentrations were lower than the 2003 sample. A monitor well (B180-MW1) was installed downgradient of this area. Groundwater samples collected from

B180-MW1 contained no VOCs above laboratory reporting limits and no metals above site-specific background concentrations. Soil screening indicates no NAPL in this area. Data from these monitor wells address this previous data gap and aid in defining the extent of VOCs downgradient of Building 180.

5.5 Extent of VOCs in the Building 131/242 Area

Twenty-five groundwater grab samples were collected and five monitor wells were installed in this area to define and delineate the extent of impacts to groundwater and soil in this vicinity. Soil screening indicates no NAPL within the capillary fringe of the locations sampled; however, groundwater concentrations indicate the potential for DNAPL at some locations. Soils and groundwater data collected from the most downgradient sample points serve to define the extent of impacts. Data from these monitor wells address this previous data gap and aid in defining the extent of VOCs downgradient of the Building 131/242 Area; however, additional vertical definition may be required for evaluation of RI/FS alternatives.

5.6 Current Hydrogeologic Conditions and Chemical Quality of Groundwater

Water levels were collected from all existing groundwater wells during a period of both high and low tide. The low tide data were used to create a map of groundwater elevations and flow direction (Figure 4-3). A subset of the existing monitor wells was sampled to confirm the current chemical quality of groundwater. These current data correlate well with historic site conditions and previous grab groundwater samples, described in more detail in Section 7. Data from these monitor wells address this previous data gap and aid in defining the chemical quality of groundwater across the Site.

6. STORM WATER CONVEYANCE SYSTEM CHARACTERIZATION

6.1 Description of SWCS Beneath the Site and Into Convair Lagoon

Six storm water outfalls discharge into Convair Lagoon (Figure 6-1). Two of the outfalls are from lines associated with the former GD Harbor Drive facility. The GD Harbor Drive facility reportedly used PCBs in its operations. Of the remaining four outfalls, two are from storm drains that originate from other sites and transect the Site, and two are from storm drains that originate on the Site.

Moving from west to east around Convair Lagoon the six storm drains and associated outfalls are:

- **15-inch Storm Drain:** This storm drain collects runoff from what is now a parking area. Historically this storm drain drained a portion of the former GD Harbor Drive site.
- **18-inch Storm Drain**: This storm drain collects runoff from what is now a parking area. Historically this storm drain drained a portion of the former GD Harbor Drive site.
- **54-inch Storm Drain:** This storm drain is a continuation of a storm drain from the San Diego Airport Lindbergh Field facility. The storm drain has two branches that enter the Site from the north and west. The two branches traverse the western portion of the Site, and connect into a single line onsite that ultimately discharges to Convair Lagoon. This line receives runoff from the western portions of the Site, as well as from Lindbergh Field and from Harbor Drive.
- **30-inch West. Storm Drain:** This storm drain is located on the southwest portion of the Site, between the 54-inch and 60-inch storm drain. The storm drain originates onsite and receives runoff from the SanPark parking area operated by the Airport, as well as runoff from Harbor Drive.
- **60-inch Storm Drain:** This storm drain crosses under the center of the Site, traversing from north to south. The 60-inch storm drain is a continuation of a major storm water conveyance for properties to the north of the Site. The storm drain starts north of Pacific Coast Highway near former Convair Plant 2, then passes by the U.S. Marine Corps Recruiting Depot, the former GD Lindbergh Field property, the San Diego Airport Lindbergh Field, and under the Site and finally under Harbor Drive before discharging to Convair Lagoon. Along the route, numerous branch lines connect with the main line.
- **30-inch East. Storm Drain:** This storm drain is located east of the 60-inch storm drain in the central-eastern portion of the Site. This storm drain is sometimes referred to as the 15/30 or 18/30 storm drain. The storm drain receives runoff from the Site only and is not connected to any other storm drain system.

6.2 Description of SWCS Beneath Site Not Draining to Convair Lagoon

Two additional storm drains in the eastern portion of the Site drain into San Diego Bay and do not contribute to Convair Lagoon (Figure 6-1).

- **18-inch Storm Drain Beneath U.S. Coast Guard Station:** This storm drain originates on the Site and receives runoff from the eastern portion of the Site. This storm drain discharges to San Diego Bay.
- **36-inch Storm Drain:** This storm drain originates at Lindbergh Airfield and collects drainage from the northeastern portion of the Site and discharges to San Diego Bay.

6.3 Description of Other Potentially Relevant SWCS

In addition to the SWCS that drain directly to Convair Lagoon, there are many storm drains that flow into the East Harbor Island Basin (East Basin) that carry storm water flow from industrial areas like the airport and the former GD Harbor Drive site.

- **HD-7**: This storm drain, which originates on the GD Harbor Drive site, was reported to be contaminated with PCBs (>13,000 milligrams per kilogram (mg/Kg) in soil) when tested in 1987. The storm drain was subsequently removed in late 1988 (Brown and Caldwell, 1994). The storm drain outfall discharged to the East Basin.
- **GD-Harbor Drive Storm Drains:** Eleven storm drains originate on the GD Harbor Drive and discharge into the East Basin. These storm drains generally have very short runs (mostly less than 500 feet) and currently drain three rental car facilities.
- **48-inch Airport East Basin Drain:** This storm drain collects the vast majority of runoff for the industrial portions of the airport where commuter and larger aircraft are serviced. This storm drain discharges to the East Basin.

6.4 Tidal Influence on the SWCS

Three tidal surveys were previously conducted, two by TDY in 2002 and 2003 and one by the Port in 2004 (GeoSyntec, 2002a; Shaw Environmental, 2003; H&A, 2004). These studies indicate that during periods of high tide, sea water flows past the northern boundary of the Site in the 60-inch and 54-inch storm drains. Invert elevations of selected catch basins and manhole access points were measured during this investigation to further refine the extent of tidal impacts both onsite and upgradient (Appendix E).

6.4.1 SWCS Invert Survey

Invert elevations were measured at selected catch basins and manhole access points along the following storm water conveyance systems:

- The eastern 30-inch storm drain (onsite);
- The 60-inch storm drain (General Dynamics, Airport, and onsite);
- The 54-inch storm drain (Airport and onsite); and
- The 18-inch western branch to the 54-inch storm drain (Airport and onsite).

Data indicate that the mean higher high water (MHHW) (2.78 feet MSL) does not reach the southern property boundary within the eastern 30-inch storm drain (Figure 6-2). Tidal influence along the 60-inch storm drain during the MHHW extends more than 3,000-feet north of the Site boundary, on to the GD Lindbergh Field property. The MHHW also extends approximately 1,300 feet north of the Site boundary along the 54-inch storm drain, and approximately 600 feet west of the Site boundary along the 18-inch western tributary to the 54-inch storm drain.

The mean lower low water (MLLW) (-2.94 feet MSL) in the 60-inch storm drain reaches approximately 1,700 feet north of the Site boundary into the southern portion of the GD Lindbergh Field property (Figure 3-2). The MLLW within the 54-inch storm drain extends to approximately the southern Site boundary. As such the 54-inch storm drain becomes dry beneath the Site during low tides.

6.4.2 Flow Analysis

The flow velocity of water in the 60-inch storm drain system during both rising and receding tides was measured at catch basins A-131 (north of Building 126) and A-133 (south of Building 120) on April 9, 2002. Ten measurements were taken over an eight hour period, five in each catch basin. The water velocity ranged from 0.09 to 0.47 feet per second (ft/s). The maximum measured velocity during incoming tide was 0.3 ft/s, measured at 7:00 am in A-133 approximately 1.5 hours before high tide. The maximum measured velocity during the receding tide was 0.47 ft/s measured at 12:40 PM in A-131, approximately 2 hours before low tide (GeoSyntec, 2002a).

Published literature states that the typical water velocity required to mobilize sediments ranging in size from 0.001 to 100 millimeters is a minimum of 0.7 to 2.9 ft/sec (Schwab and Prothero, 1996; Julian 1998), approximately two to ten times higher than the maximum incoming tidal flow velocity measured in the 60-inch storm drain system on April 9, 2002 (GeoSyntec, 2002a). Grain size data collected from samples along the 60-inch line indicate that approximately 45 percent of sediment is sand-sized or larger, 50 percent is fine sand, and 5 percent is silt or finer. While fine sediment suspended in the water column may be transported under low-velocity conditions, it appears unlikely that significant volumes of sediment could be re-mobilized and transported upgradient of the Site based on observed site conditions.

6.5 Tidal Influx Sampling Evaluation

Grab samples of tidal influent were collected at the outfall to the 60-inch and 54-inch storm drains. The incoming seawater was sampled using tubing which was suspended approximately 1 foot above the base of the storm drain, connected to a peristaltic pump. Approximately 1 liter of water was collected from each location and analyzed for Total Suspended Solids. Results from these analyses indicated that 7 to 18 milligrams per liter (mg/L) of total suspended sediment were present in the tidal influx 1 foot above the base of the storm drains. These samples were collected during a non-storm event at high tide. At these concentrations sediment would be deposited at relatively low rates in the SWCS. However, during storm events, scouring may occur of bottom sediments in Convair Lagoon. Such storm events would increase the suspended sediment load coming into the SWCS at the Site.

6.6 On-Site SWCS Video Survey

A submersible, track-mounted camera was deployed in the 30-inch west tributary to the 54-inch storm drain, the 54-inch storm drain, the 60-inch storm drain, and the east 30-inch storm drain to record the amount of sediment within the storm drain, condition of the pipe, and evidence of potential for Site impacts to leak into the SWCS. A brief summary of findings associated with these inspections is presented below. The full video and Survey reports are included in Appendix G.

National Plant Services was retained to perform on-site storm drain inspections. On September 30, 2005, the following storm drains were inspected:

Storm Drain System	Access Point	Direction	Total Distance (ft)	DVD
East branch of 54”	A-20	West	365	6
East branch of 54”	A-20	East to A-63	490	6
54”	A-63	North	558	6
54”	A-63	Southeast to lagoon	551	7

The following storm drains were inspected on October 3, 2005:

Storm Drain System	Access Point	Direction	Total Distance (ft)	DVD
60”	A-133	South	161	8
60”	A-133	North	606	8
30” East	A-154	North to A-152	115	8
30” East	A-154	Southeast to A-155	40	8
30” East	A-155	Southeast to A-201	41	8
30” East	A-161	West to A-201	105	8
30” East	A-201	Southwest to lagoon	60	8

Most of the storm drains were constructed with concrete, except for pipes connecting to A-154 and A-155 which were apparently constructed with PVC. The overall condition of the concrete or PVC in each pipe appeared to be sound. There were no obvious structural failures for the sections of storm drain which were inspected. However, visibility was generally limited due to floating organic matter in the tidally influenced sections of drain along the 54-inch and 60-inch SWCS.

For concrete pipes, pipe seams generally occurred every 5 to 8 feet. Pipe seams generally occurred every 20 feet in the PVC pipes associated with the 30-inch east storm drain. Overall, the pipe seams appeared to be in good condition. One crack was observed in the abandoned section of storm drain connecting into the east branch of the 54-inch storm drain towards abandoned catch basin A-21, bearing south. The crack was at the base of the pipe intruding into the storm drain approximately 146 feet east of catch basin A-20. Approximately 25 feet east of this connection, another abandoned storm drain line, which serviced A-22 before it was abandoned, connects into the 30-inch tributary to the 54-inch storm drain. This abandoned storm drain has apparently old sediment caked to its walls.

Sediment has collected in all of the inspected storm drains except for the storm drain leading from manhole A-201 to the Convair Lagoon which only had trace amounts of sediment. The other pipes contained accumulated sediment and debris as much as 12 to 15 inches wide and several inches deep. In general, the 54-inch and 60-inch storm drain network had greater sediment build up than the 30-inch storm drain network.

6.7 Off-Site SWCS Video Survey

A submersible, track-mounted camera was deployed in the following off-site storm drains to inspect the general condition of the storm drain, note sediment accumulation, and collect discreet sediment samples, where possible.

Storm Drain System	Access Point	Direction	Total Distance (ft)	DVD
16” east branch of 54”	B-24	East	487	9*
18” east branch of 54”	B-22	North	498	9*
54”	catch basin northeast of B-2	Southwest	106	9*
54”	B-2	North	229	10*
54”	B-2	Southeast	576	10*
54”	B-3	South	408	10*
60”	D-12	Northwest	223	10*
18” east branch of 54”	C-2	East to B-24	198	1
54”	B-3-MH200	South	718	2
60”	B-8	South	0.6	2
16” east branch of 54”	B-23-15N	North to B-20	417	3
16” east branch of 54”	B-23-242N	South	70	3
60”	B-11	North to B-8	67	4
60”	D-7	East to D-8	11	5
60”	D-13-MH842	North to D-8	132	5
60”	D-13-MH842	South	160	5

*Performed by Everest VIT in March/2005

All inspected storm drains were constructed with concrete. Seams generally occurred every 5 to 8 feet. Overall, the seams appeared to be in fair condition, with some erosion and minor chipping. The condition of the concrete could not be determined in the inspections from manholes B-11 and D-13-MH842. Flooded conditions in these lines severely limited visibility due to floating organic matter and debris. The inspection at B-8 and D-7 were terminated a short distance from the entrance point due to obstruction of the storm drain by debris and cemented sediment. Large pieces of debris were visible in the pipe leading from B-8.

The 16-inch north-south tributary to the 54-inch storm drain was in the worst condition of the inspected storm drains. Cracks were visible on both sides of the pipe for the majority of the inspected length, and the top of the storm drain had collapsed leaving the rebar exposed 315 feet north of catch basin B-22. Cracks also occurred approximately 267 to 271 feet north of manhole B-23-15N in the 16-inch tributary to the 54-inch storm drain network. Overall, the concrete in the remaining storm drains appeared to be in fair condition with a few thin cracks. A hole in the concrete was found approximately 85 feet east of C-2 on the north side of the storm drain and had a diameter of approximately 8 inches. Due to the angle of the camera, it was not determined if the hole was sealed off or connected to an intruding pipe. A large hole was discovered in the base of the 60-inch storm drain approximately 67 feet north of manhole B-1. The hole in the storm drain prevented further access to the north. Due to the poor visibility underwater, the full extent of the hole was not able to be determined.

Intruding pipes were found in the investigations leading from manholes B-24 and B-3-MH200. The seals around the intruding pipes did not appear to be in good condition, and may represent abandoned storm drain lines.

Small amounts of sediment were found in the northern portion of the 54-inch storm drain, and the small 16-inch tributary to 54-inch storm drain that runs north/south in front of the commuter terminal. Thick layers of sediment were present in 12 to 36 inch strips along the base of the 18-inch tributary to the 50-inch storm drain running east/west in front of the commuter terminal and throughout the 60-inch storm drain. The rover was used to collect sediment samples in a cup from the north/south and east/west tributaries to the 54-inch storm drain in front of the commuter terminal.

The portion of the 60-inch storm drain leading from catch basin D-7 had the largest amount of observed sediment which had collected in the base of the storm drain which appeared to be several inches thick and approximately 30 inches wide with piles of cemented sediment several feet long and 15 inches high. The rover was only able to investigate 11 feet into the storm drain due to these obstructions.

7. EXTENT OF WASTE CONSTITUENT CHARACTERIZATION

7.1 Comparability of Data

Data collected during site characterization activities has been compared to the earlier data collected by the Port of San Diego in 2003 (H&A, 2004) and TRA in 2002 (GeoSyntec, 2002a,b). Site conditions are stable, given the low groundwater gradient and velocity at the Site, and the maturity of the historical site impacts. Analytical results from grab samples collected in 2005 and permanent monitor wells re-sampled in 2005 show concentrations which are consistent with the 2002/2003 site characterization data. For example, Tetrachlroethene in Groundwater (Figure 7G-12) shows many locations in the Building 120, Building 131/242 area, and the area northeast of Building 161 where PCE data from 2002 through 2005 are presented. These data sets agree and complement each other, with the 2005 data adding definition to, and not conflicting with, values collected during the 2002 and 2003 sampling events.

Groundwater velocity calculations indicate that groundwater is unlikely to have migrated more than 60 feet, and probably far less in the two years between the two sampling events. While it is acknowledged that temporary sample locations are generally designed to give a “snapshot” of site conditions, due to the maturity of site impacts and the low groundwater velocity onsite, the 2002 to 2005 data can be used as one data set for the purpose of site characterization. Data from the 2005 site characterization defines the downgradient extent of impacts.

7.2 Extent of Sediment Impacts

Run-in, existing, and in-line sediment samples were collected during the 2005 site characterization.

- **Run-in samples** were collected from either A) sediment which had been trapped on filter-fabric or in silt-sacks installed in a catch basin, B) sediment trapped in the groove around the catch basin grate, or C) sediment in the base of a catch basin (only if there was insufficient sediment of type A or B, the catch basin was the most upgradient catch basin on the drain line, and there was no tidal influence on the catch basin). This sample type is intended to represent sediment in the immediate vicinity of the catch basin from which it was collected.
- **Existing samples** were collected from the base of a catch basin or directly from the storm drain itself. These samples represent cumulative the storm drain from all upgradient contributions.
- **In-line samples** were collected from a fine-mesh filter sock supported by a 4-inch slotted PVC pipe. The filter sock is placed into the center of the storm drain and is used to collect a representative sample of suspended sediment from flowing

water within the SWCS. These samples represent the mobile sediment entrained within the SWCS discharge.

Due to restricted access to the Site during the 2004-2005 rainy season, in-line sediment samples from onsite locations were not able to be collected for inclusion in this report. These samples are scheduled to be collected during the 2005-2006 rainy season, and these results will be included in an amendment to the site characterization report, which is scheduled to be submitted in April 2006. This approach has been approved by the RWQCB based on discussions during our monthly meetings. Full lab reports from the 2005 site characterization activities, are included electronically as Appendix H.

7.2.1.1 Upgradient PCB Impacts

Sediment was sampled along the 60-inch and 54-inch lines, and their tributaries during site characterization field activities in 2005. Data collected from the 2005 onsite and offsite SWCS characterization study is presented in Tables 7-1 through 7-3. Storm drain sample data collected during the 2005 site characterization field activities on properties contributing storm water to the Convair Lagoon is presented in Figures 7-1 through 7-6.

7.2.1.2 PCBs on the San Diego International Airport

Sediment samples were collected and analyzed for PCBs in four principal drainage areas on the Airport property (Figure 7-1).

- Catch basins leading to the 48-inch East Basin Drain;
- Catch basins leading to the western 30-inch tributary to the 54-inch storm drain;
- Catch basins leading to the 54-inch storm drain; and
- Catch basins leading to the 60-inch storm drain.

48-inch East Basin Storm Drain

Three existing sediment samples and one in-line sample were collected from the 48-inch East Basin drain line. No PCBs were detected in these samples.

30-inch West Tributary of 54-inch Storm Drain

Five existing, two in-line, and one run-in samples were collected on the 30-inch tributary to the 54-inch storm drain. No PCBs were detected above 1.0 mg/Kg the five existing sediment samples collected. The highest concentrations were found in semi-lithified sediment shelves clinging to the walls of the storm drains which were sampled remotely with the use of a video survey device equipped with a sampling cup. No PCBs were detected above 1.0 mg/Kg in either of the in-line sediment samples. No PCBs were detected in the one run-in sample collected from this segment of storm drain.

54-inch Storm Drain

Five existing and eight run-in samples were collected from the 54-inch storm drain and its tributaries. PCBs were detected above 1.0 mg/Kg in one of the five existing sediment samples with a concentration of 1.6 mg/Kg. The sample was collected from existing sediment in the north/south running 18-inch storm drain north of the commuter terminal which is a secondary tributary to the 54-inch storm drain. No PCBs were detected above 1.0 mg/Kg in any of the run-in samples from catch basins contributing to the 54-inch storm drain.

60-inch Storm Drain

Seven run-in, two existing, and one in-line sample were collected from storm drains contributing the 60-inch storm drain. PCBs were found above 1.0 mg/Kg in one of the five catch basins sampled which contribute to the 60-inch storm drain. PCBs were detected in the one in-line sample collected at a concentration of 7.98 mg/Kg. No PCBs were detected above 1.0 mg/Kg in the existing or run-in samples contributing to the 60-inch storm drain.

7.2.1.3 PCB Impacts on the Former General Dynamics-Lindbergh Field Facility

Three run-in and 16 existing sediment samples were collected from catch basins contributing to the 60-inch storm drain. PCBs were detected above 1.0 mg/Kg in two run-in samples and seven existing sediment samples from tributaries which contribute to the 60-inch storm drain on the former General Dynamics Facility (Figure 7-2).

7.2.1.4 PCB Impacts Upgradient of General Dynamics-Lindbergh Field Facility

Five existing, one run-in and four in-line samples were collected in 7 catch basins upgradient of the Former General Dynamics Facility which eventually contribute to the 60-inch storm drain. No PCBs were detected above 1.0 mg/Kg (Figure 7-3).

7.2.1.5 PCB Impacts on the former Sky Chefs Facility

Two existing sediment samples were collected from storm drains on the former Sky Chefs Facility, adjacent to the western Site boundary. PCBs were not detected above 1.0 mg/Kg. These storm drains contribute to the 48-inch storm drain to the East Basin (Figure7-4).

7.2.1.6 PCB Impacts on the Former General Dynamics Harbor Drive Plant

Five existing and five run-in sediment samples were collected from storm drains on the former General Dynamics Harbor Drive site. In addition to SWCS lines that drain directly to Convair Lagoon, there are many local storm drain that discharge into the East Harbor Island Basin (East Basin) that carry storm water flow from industrial areas like the airport and the former GD Harbor Drive (Figure 7-5). Some of these storm drains that contained PCBs historically as described below.

- **<u>HD-7</u>:** This storm drain, which originates on the GD Harbor Drive site, was reported to be contaminated with PCBs (>13,000 mg/Kg in soil) when tested in 1987. The storm drain was subsequently removed in late 1988 (Brown and Caldwell, 1994). The storm drain discharged into the East Basin and would have contributed PCB contaminated material to the mouth of and into Convair Lagoon. Other testing in 1986 and 1987 showed consistent PCB contamination of catch basin sediment along the line from 33 mg/Kg to 130 mg/Kg with an increasing trend over three sampling events (Brown and Caldwell, 1992).
- **<u>GD-Harbor Drive Storm Drains</u>:** These lines all originate on the GD Harbor Drive and discharge into East Basin. Any PCB discharges from these lines would enter the East Basin on the southern edge of the GD Harbor Drive facility, and discharge into the mouth of Convair Lagoon. All of the sediment samples collected from the lines during 1986 and 1987 contained PCBs at concentrations up to 6.6 mg/Kg. Sediment sampled during the 2005 site characterization did not contain PCBs in sediment above 1.0 mg/Kg total PCBs.
- **<u>48-inch Airport East Basin Drain</u>**: This line drains the vast majority of the industrial portions of the airport where commuter and larger aircrafts are serviced. Documented VOC contamination exists in these areas which may mobilize PCBs into the SWCS as described in Section 5. Given the position of the outfall location, PCB contaminated material from the East Basin would travel to the mouth of and into Convair Lagoon. Sediment sampled during the 2005 site characterization did not contain PCBs in sediment above 1.0 mg/Kg total PCBs.

7.2.2 Onsite PCB Impacts

WDR 98-21 specifies that if PCBs are detected in sediment on the sand cap at concentrations exceeding 4.6 mg/Kg, the nearest upgradient catch basin must be cleaned out. The RWQCB subsequently required delineation to 1.0 mg/Kg. The 1.0 mg/Kg criterion for PCBs is used as a screening criterion herein to evaluate potential sources of PCBs on-site.

The PCB data collected for the Site over the past 18 years is extensive and comprehensive. In summary, a total of 15 PCB usage areas were identified at the Site (Figure 5-4). All PCB containing materials at these locations were removed by 1990 (GeoSyntec, 2002). No known PCB source areas remain on the Site; however, areas with elevated concentrations of PCBs in surface sediment are indicated by recent sampling.

Results from the 2005 site characterization have been compiled on Table 7-1. The full lab reports from the 2005 site characterization activities are included electronically in Appendix H.

Site-wide characterization of sediment in or immediately adjacent to the SWCS during 2005 indicated PCBs were detected above 1.0 mg/Kg in six existing sediment samples collected from within the SWCS and in twelve run-in sediment samples collected in or around onsite catch basin inlets as described below (Figure 7-6).

- **54- Inch Storm Drain and Tributaries** - Five locations along tributaries to the 54-inch storm drain contained PCBs in sediment above 1.0 mg/Kg (60 mg/Kg at A-200, 5.3 mg/Kg at A-47, 1.87 mg/Kg at A-45, 1.8 mg/Kg at A-48, and 2.8 mg/Kg at A-55). All of these samples were run-in samples in the vicinity of the engine test cell Building 157, with the exception of A-55, which was an existing sediment sample just north of Building 158 (Figure 7-6). No PCBs were detected in the western tributary to the 54-inch storm drain that enters the property near the former Sky Chefs Building. Three samples of existing and run-in sediment from the 54-inch storm drain and eastern tributaries all contained PCB concentrations less than 1.0 mg/Kg.
- **60-Inch Storm Drain and Tributaries -** PCBs were detected in existing sediment within the 60-inch storm drain at concentrations of up to 25.4 mg/Kg (A-134) (Figure 7-6), and run-in sediment at concentrations of up to 380 mg/Kg (A-132). Seven additional run-in samples and two existing sediment sample were collected from the eastern and western tributaries to the 60-inch storm drain. Of these samples, five run-in and one existing sediment samples contained concentrations of PCBs above 1.0 mg/Kg (A-124, A-123, A-131, A-99, A-91, and A-102).
- **30-Inch East Storm Drain -** PCBs were detected above 1.0 mg/Kg in three existing sediment samples within the east 30-inch storm drain at concentrations of 52 mg/Kg (A-201) and 15.7 mg/Kg (A-145). PCBs were also detected in one run-in sample east of Building 120 at a concentration of 14.9 mg/Kg (A-144) (Figure 7-6)).
- **18-Inch Storm Drain to San Diego Bay -** PCBs were not detected above 1.0 mg/Kg in the 18-inch storm drain to San Diego Bay.
- **30-Inch Storm Drain to San Diego Bay -** PCBs were detected above 1.0 mg/Kg in two existing sediment samples within the 30-inch storm drain to San Diego Bay at concentrations of 21.7 mg/Kg (A-172) and 5.2 mg/Kg (A-173). PCBs were also detected in one run-in sample northeast of Building 161 at a concentration of 2.89 mg/Kg (Figure 7-6).

7.2.3 PCB Impacts in Convair Lagoon

Six sediment samples (L-1 through L-6) were collected within Convair Lagoon and analyzed for PCBs (Table 7-1 and Figure 7-6). PCBs were detected above 1.0 mg/Kg in two Convair Lagoon sediment samples. Samples L-5 and L-1 contained total PCB concentrations of 11.07 mg/Kg and 23.6 mg/Kg, respectively. These samples were collected from the area in front of the discharge from the 60-inch storm drain (Figure 7-6). No PCBs were detected at the outfall to the eastern 30-inch storm drain. A sediment sample collected in the vicinity of the 54-inch and western 30-inch outfall contained low, but detectable concentrations of PCBs (0.612 mg/Kg) (Table 7-2).

7.2.4 Upgradient Metals in Sediment

Metals were analyzed in sediment from the most upgradient catch basin to the 60-inch storm drain on the GD Lindbergh Field site, location D-7 (Table 7-4, Figure 7-7). Results were compared to shallow soil Environmental Screening Levels (ESLs) (Region 2 RWQCB, 2005) for industrial and commercial properties without beneficial groundwater use. No metals were found to be elevated compared to these ESLs.

7.2.5 Onsite Metals in Sediment

Metals were analyzed in sediment from onsite storm drain catch basins and from the run-in sediment surrounding the basins (Table 7-4 and Figure 7-7). Arsenic, barium, chromium, cobalt, copper, lead, nickel, and zinc were found to be elevated relative to non-beneficial use groundwater commercial/industrial ESLs. .

7.3 Extent of Soil Impacts

Soil impacts at the Site are presented in Figures 7S-1 through 7S-37, and summarized below. The full lab reports from the 2005 site characterization activities are included electronically in Appendix H. Soil data from the 0 to 5-foot below ground surface (bgs) interval represents the vadose zone. Five soil samples had concentrations of greater than 1.0 mg/Kg. Soil data from the 5- to 10- foot bgs interval represents the capillary fringe and upper saturated zone. No samples had PCB concentrations over 1.0 mg/Kg.

7.3.1 VOCs

GeoSyntec performed a preliminary site assessment in 2002, collecting 21 soil samples in the vicinity of Building 120. During the Port's investigation (H&A, 2004) 686 soil samples were collected and analyzed for VOCs. During the 2005 site characterization investigation, 51 additional soil samples from the capillary fringe were screened in the field with Sudan-Red and a photoionization detector (PID) for indications of elevated VOCs. None of the samples had a positive reaction to the Sudan-Red field screening test, which indicates that NAPL was not present in any of the soil samples. Seven of these soil samples were further analyzed for VOCs and TPH (Table 7-5). In summary, a total of 18 locations were identified with elevated VOCs in soil (>1 mg/Kg) from 0-5 feet bgs (Figure 7S-16). Select individual VOC impacts to soil are presented in Figures 7S-18 to 7S-27. These samples were collected from the following areas:

- Building 120;

- Building 102;
- Above ground solvent tank near Building 166;
- Maintenance yard northeast of Building 161;
- Building 131/242 area; and
- Building 156.

Samples were collected from five locations with elevated VOCs in soil (>1 mg/Kg) from 5-10 feet bgs (Figure 7S-17). These samples were collected from the following areas:

- Building 131/242 area; and
- Building 158.

Historical data indicate potential releases on the Airport property north of Area D; however, based on data collected from borings surrounding these areas, the extent of VOCs in on-site soil has been adequately defined.

7.3.1.1 Discussion of Rationale for Contouring

As described above, VOC concentrations in soil across the Site are consistent with groundwater and soil gas data. The justification for closing contours of soil impacts where no soils data is available surrounding an impact is based on soil gas and groundwater quality data for the same constituents. For example, in the northern region of the area of impacted groundwater at Building 120, the low concentrations of VOCs in groundwater at grab location T-43 and negative field screening for NAPL or VOCs indicate that it is unlikely that elevated VOC concentrations are present in soil north of the Site property boundary. For this reason, contour lines in this area can be closed (Figure 7-16).

7.3.2 TPH

Eleven soil samples collected from the capillary fringe were sampled for TPH during the 2005 site characterization activities (Table 7-4). Of the eleven samples, one sample (T-31-6S-T) contained detectable TPH (12 mg/Kg TPH in the C23-C36 carbon range). This was reported as an approximate concentration, between the laboratory reporting limit and detection limit. During the 2003 assessment (H&A, 2004), 780 samples were analyzed for TPH, collected from depths ranging from 1 to 55 feet bgs. Sample results range from non-detect to 8,184 mg/Kg (excluding one sample collected from Building 158 noted to have free product and having a result of approximately 123% TPH). TPH in soil are presented in Figures 7S-28 and 7S-29. In summary, 16 samples from 0-5 feet bgs contained TPH at concentrations above 500 mg/Kg (Figure 7S-28). These samples were collected from the following areas:

- Building 156;
- The vicinity of Building 158;
- Building 120;

- Former Building 222/228 Area;
- Building 161 Area; and
- Building 180.

Samples were collected from ten locations with elevated TPH in soil (>500 mg/Kg) from 5-10 feet bgs (Figure 7S-29). These samples were collected from the following areas:

- The vicinity of Building 158;
- Building 156 Area (Former UST #19);
- Building 157 (Area C);
- East of Building 146; and
- Building 102.

Historical data indicate potential releases on the Airport property north of Area D; however, based on data collected from borings surrounding these areas, the extent of VOCs in on-site soil has been adequately defined.

7.3.3 SVOCs

A total of 157 soil samples were collected and analyzed for SVOCs (including 1,4-dioxane) during the 2003 site assessment performed by the Port (H&A, 2004). Twenty-three samples contained at least one SVOC. The majority of SVOCs detected are PAHs, including benzo(b)fluoranthene, benzo(a)anthracene, benzo(a)pyrene, phenanthrene, and pyrene. SVOC impacts to soil are presented in Figures 7S-29 through 7S-32. In summary 11 samples from 0-5 feet bgs contained SVOC concentrations above 1 mg/Kg (Figure 7S-30). These samples were collected from the following areas:

- Test Cell #4/Area D;
- Building 157 (Area C);
- West of Building 105;
- Northeast of Building 140 (Area A);
- Building 120;
- Maintenance yard northeast of Building 161;
- Former Building 222/228 Area; and
- Above ground solvent tank near Building 166.

No elevated SVOCs were detected from 5-10 feet bgs. Based on these data and data collected from borings surrounding these areas, the extent of SVOCs in soil has been adequately defined.

7.3.4 PCBs

PCBs were sampled in soil during the 2003 site assessment performed by the Port

(H&A, 2004). Of the 250 locations sampled, 47 contained detectable concentrations of PCBs. The most commonly detected PCB was Aroclor 1260, followed by Aroclor 1254 and Aroclor 1248. These results are presented on Figures 7S-33 and 7S-34. In summary, PCBs were detected in soil at concentrations above 1 mg/Kg in the following areas:

- Explosives area;
- Building 156;
- Building 120;
- Building 222/228 Area; and
- South of Building 121.

Based on data collected from borings surrounding these areas, the extent of PCBs in soil has been adequately defined.

7.3.5 Perchlorate

Perchlorate was detected in four of the 54 soil samples analyzed during the 2003 site assessment, up to a maximum concentration of 3.6 mg/Kg. The extent of perchlorate in soil is shown on Figure (7S-35). In summary, perchlorate was detected in soil from 0-5 feet bgs in only the former Building 222/228 area.

No perchlorate was detected from 5-10 feet bgs. Based on these data the extent of perchlorate in soil has been adequately defined.

7.3.6 Metals

Chromium and hexavalent chromium were analyzed in nine soil samples in the vicinity of Building 158 during the 2002 site assessment (GeoSyntec, 2002b). Title 22 metals and hexavalent chromium were analyzed in up to 331 samples during the Port 2003 site assessment (H&A, 2004). Thirteen metals were detected above their respective statistically determined site-specific background concentrations. These metals were antimony (>1% of samples exceeding background), cadmium (>1%), chromium (6%), hexavalent chromium (>1%), cobalt (1%), copper (>1%), lead (5%), mercury (3%), molybdenum (>1%), nickel (4%), selenium(>1%), thallium(>1%), and zinc(4%). These results are presented in Figures 7S-1 through 7S-15. In summary, locations where metals significantly exceed background include the following:

- Building 158;
- Former Building 222/228 Area; and
- Building 180.

Based on data collected from borings surrounding these areas, the extent of metals in soil has been adequately defined.

7.4 Extent of Impacts to Groundwater

The extent of groundwater impacts at the Site are presented graphically in Figures 7G-1 through 7G-22, and summarized below. The full lab reports from the 2005 site characterization activities, are included electronically in Appendix H. Delineation contours have been drawn which show an interpretation of the extent of impacts as defined by existing site data. In some cases, there is insufficient data to explicitly close contours. Nevertheless, the contours have been interpreted as closed based on observed trends, historical site use, groundwater flow directions, an understanding of apparent preferential pathways, and professional judgment. Details regarding these interpretations are included on the respective figures, as applicable.

7.4.1 VOCs

At least one VOC was detected in 180 of 230 groundwater samples collected at the Site during the 2002, 2003, and 2005 sample events (Figures 7G-7 through 7G-15). Data from the 2005 investigation is presented in Table 7-5. The most commonly detected constituents were PCE (67% of samples), TCE (51% of samples), cis-1,2-DCE (51% of samples), vinyl chloride (41% of samples), trans-1,2-dichloroethene (40% of samples), acetone (29% of samples), benzene (27% of samples), 1,1-dichloroethene (24% of samples), 1,1-dichloroethane (27% of samples). In summary, 81 locations contained VOCs significantly exceeding background concentrations in samples collected from the following areas:

- Building 131/242 Area;
- Former Building 222/228 Area;
- Building 156;
- Building 142 Area;
- Building 158;
- Test Cell #4/Area D;
- Southeast of Building 146/Building 102 Area;
- Building 180 – Loading Dock;
- East Building 120 Area; and
- Northeast of Building 161.

Based on these data the extent of VOCs in groundwater have been adequately defined horizontally; however, elevated concentrations of chlorinated hydrocarbons in groundwater indicate that further vertical delineation may be required in the Building 131/242 area.

7.4.1.1 Discussion of Rationale for Contouring

In terms of the upgradient extent of impacts north of Building 120, the groundwater sample collected from boring T-43 contained low concentrations of TCE, PCE, and cis-1,2-DCE and no detectable 1,1,1-trichloroethane (1,1,1-TCA). These data demonstrate the attenuation of the area of impacted groundwater at Building 120 to the north. Similarly, boring T-11 establishes a declining trend in PCE and helps to bound the eastern extent of the area of impacted groundwater at Building 120. VOCs to the south of Building 180 are bounded by non-detectable concentrations in B180-MW1 to the south. Based on current groundwater sample distribution alone, it is not immediately clear whether the area of impacted groundwater at Building 120 may be connected to the impacts observed south of Building 180; however, when the soil gas data collected in this area is taken into account, it becomes apparent that these impacts are not associated. Based on this evidence, the contour has been closed. Historical data indicate potential releases on the Airport property within the commuter terminal area could migrate eastward along the 30-inch tributary to the 54-inch storm drain. Consequently the extent of cis-1,2-dichloroethene has been dashed to the west in this area. The Building 131/242 plume has been constrained to the south by groundwater samples collected at locations T-7, T-8, T-9 and B131-MW4. Based on data collected from borings and monitor wells surrounding these areas, the extent of on-site impacts has been adequately defined.

7.4.2 Total Petroleum Hydrocarbons

TPH has been detected in 249 groundwater samples collected from the Site since 2003, including three samples from the 2005 site investigation (Table 7-5). The majority of these samples were collected during the 2003 site assessment (H&A, 2004). The majority of TPH impacts reflect samples collected in the vicinity of UST sites. These results have been presented in Figure 7G-16. In summary, 17 locations contained TPH significantly exceeding background concentrations (>1 mg/L), in samples collected from the following areas:

- Building 131/242 Area;
- Building 120 Area;
- Test Cell #4/Area D; and
- Building 158.

Historical data indicate potential releases on the Airport property north of Area D; however, based on data collected from borings and monitor wells surrounding these areas, the extent of VOCs in groundwater has been adequately defined.

7.4.3 SVOCs

SVOCs have been detected above laboratory reporting limits in 34 of 134 groundwater samples collected at the Site during the 2003 and 2005 sampling events. The most commonly detected constituents were 1,4-dioxane (detected in 34 samples) and bis(2-ethylhexyl)phthalate (detected in 20 samples). Groundwater data for SVOCs is presented in Table 7-6 and in Figures 7G-17 through 7G-19. In summary, 9 locations contained SVOCs significantly exceeding background concentrations, in samples collected from the following areas:

- Building 131/242 Area;
- Building 120;
- Former Building 222/228 Area; and
- Above ground solvent tank near Building 166.

Based on data collected from borings and monitor wells surrounding these areas, the extent of SVOCs in groundwater has been adequately defined, with the exception of 1,4-dioxane in the Building 131/242 area and benzo(a)pyrene north of Area D. The lateral extent of 1,4-dioxane is not defined to the southwest of Building 131/242. Existing sample data in the Building 131/242 area will be evaluated during the RI/FS to determine if further delineation of 1,4-dioxane is required. Historical data indicate potential releases on the Airport property north of Area D, however the extent of on-site impacts has been adequately defined.

7.4.4 Metals

Metals analyses of groundwater samples collected during the 2003 sampling event by the Port were for total metals, which include unfiltered sediment collected with the groundwater sample (H&A, 2004). As a result, these data cannot be used to screen water quality data for metals against regulatory criteria (which are expressed as dissolved criteria) because total metals are always higher than dissolved metals. However, this data can be used to identify areas where elevated total metals are present. In contrast, the samples collected during the 2002 and 2005 investigations were analyzed for dissolved metals. During the 2003 event, 12 different metals were detected above site-specific background concentrations. During the 2002 and 2005 sampling event, only chromium, barium and molybdenum exceeded site-specific background concentrations (Figures 7G-1 through 7G-6). Data from the 2005 investigation is presented in Table 7-7. In summary, locations where metals significantly exceed background in groundwater include the following:

- Building 158;
- Building 180 – Loading Dock;
- Building 156;
- Former Building 222/228 Area; and
- Building 120.

Based on data collected from borings and monitor wells surrounding these areas, the extent of metals in groundwater has been adequately defined; however, additional samples may be collected in the Building 158 Area to refine remedial options.

7.5 Extent of PCBs in Groundwater

During the 2003 site assessment, the Port analyzed 43 groundwater samples for PCBs. These samples were analyzed as total PCB concentrations which were unfiltered and included any PCBs which may have been attached to suspended particulate matter. Two of these samples contained detectable PCBs at concentrations of 0.0011 and 0.0019 mg/L, respectively (Figure 7G-20). Both samples were collected at a location immediately south of Building 120. Because these samples were unfiltered, they are not clearly indicative of PCB impacts to groundwater and have not been added as a separate AOPC.

7.6 Extent of Apparent Non Aqueous Phase Liquid (NAPL)

During 2005 site characterization activities, all onsite monitor wells were gauged for water levels and for the presence of non-aqueous phase liquids using an interface probe. Dense non-aqueous phase liquid (DNAPL) was not observed in any monitor well. One monitor well (TC4WNC) contained approximately 0.08 feet of light non-aqueous phase liquid (LNAPL). This well is located in the center of the Test Cell #4 UST area (Area D) and based on historical investigations in this area, the LNAPL is likely comprised of jet fuel. In addition, a hydrocarbon sheen was observed in monitor well 142NC, which is located to the southeast of Building 142. During the 2003 site assessment, one boring reportedly contained 0.1 feet of LNAPL (H&A, 2004). This boring was advanced in Building 158. Samples from this location indicated that the NAPL was comprised primarily of naphthalene.

Soil from the capillary fringe zone within 52 boreholes was screened in the field for the presence of NAPL with Sudan Red during the 2005 site characterization. None of these samples indicated the presence of NAPL.

Based on known concentrations of VOCs and TPH in soil and groundwater, the presence of NAPL can be theoretically calculated using phase partitioning equations. A summary of these calculations are presented below, and areas where NAPL theoretically may be present are illustrated in Figures 7S-36, 7S-37, 7G-21, and 7G-22.

7.6.1 Light Non-Aqueous Phase Liquids (LNAPL)

LNAPLs include fuel hydrocarbons such as gasoline, diesel, and jet fuel. Fuel additives such as benzene, toluene, ethylbenzene, xylenes, and naphthalene in their pure form can also be LNAPLs. Because these constituents are less dense than water, they tend to float on the water table.

Using the partitioning equation, the concentrations of these constituents that would be indicative of residual LNAPL in soil were calculated (Table 7-8). The apparent LNAPL concentrations in soil were then compared to soil analytical data for the Site. Based on this analysis combined with where LNAPL was observed during the site characterization, areas where LNAPL is or may be present in soil at the Site were identified (Figure 7S-36). The extent of potential LNAPL in soil at each location is adequately defined and is relatively localized.

The locations where LNAPL has been physically observed is much less than where theoretical partitioning calculations indicate NAPL may be present. It is common for NAPL to be adhered to soil in disconnected pores. In this state, the NAPL can continue to serve as a potential source of groundwater impacts. However, in areas where the groundwater is of no beneficial use, it is more important to identify where the soil contains hydrocarbons at concentrations high enough for the NAPL to be mobile. The residual saturation for soil with respect to diesel/jet fuel was calculated for the Site. Based on the average values for the soil physical properties, the residual saturation for TPH as diesel range organics is approximately 5,400 mg/Kg (Figure 7S-36).

To evaluate the extent of potential LNAPL in groundwater, the “1 percent rule” was applied. The 1 percent rule is recognized as being conservative in that apparent LNAPL is suggested if a constituent is detected at a concentration exceeding 1 percent of its solubility in water (EPA, 1992). Based on an evaluation of groundwater quality data for the Site using the 1 percent rule, locations where apparent LNAPL may be present at the Site were identified (Figure 7G-21). At these locations, LNAPL may be present in the capillary fringe or floating on the water table. The extent of potential LNAPL in groundwater at each location is adequately defined.

The locations where LNAPL was physically observed is much smaller than where LNAPL is theoretically located based on partitioning calculations or the 1 percent rule. These data underscore the conservative nature of theoretical calculations. Regardless, groundwater quality data for samples collected nearest to Convair Lagoon did not exceed the LNAPL screening criteria (Figure 7G-20).

7.6.2 Dense Non-Aqueous Phase Liquids (DNAPL)

DNAPLs include chlorinated solvents such as PCE and TCE. Because these constituents are denser than water they tend to sink below the water table if they were released in sufficient quantities. However, downward DNAPL transport can be hindered at the water table due to capillary forces.

Using the partitioning equation, the concentrations of chlorinated hydrocarbons that would be indicative of residual DNAPL in soil were calculated (Table 7-8). The apparent DNAPL concentrations in soil were then compared to soil analytical data for the Site. PCE was the only chlorinated hydrocarbon detected in soil at a concentration indicative of apparent DNAPL. Two locations were identified where DNAPL may be present in soil at the Site. These locations are in the vicinity of Building 131/242 and in Building 120 at the location of a former degreaser (Figure 7S-37). The extent of DNAPL in these areas is localized and bounded by soil samples collected from nearby borings that had PCE concentrations much lower than the apparent DNAPL concentration.

To evaluate the extent of DNAPL in groundwater, the “1 percent rule” was applied. As stated above, the 1 percent rule is recognized as being conservative. Based on an evaluation of groundwater quality data for the Site using the 1 percent rule, the locations where apparent DNAPL may be present were identified (Figure 7G-22). These locations are larger but correspond to the same areas where apparent DNAPL was suggested in soil. The lateral extent of apparent DNAPL at each of these locations is adequately defined.

In Building 120, groundwater samples were collected in a vertical profile to depths up to 55 feet bls. Based on groundwater samples collected from these borings (borings 0120-GW-56, 0120-GW-57, 0120-GW-58, and 0120-GW-61), the vertical extent of potential DNAPL appears to be confined to the shallow groundwater. Groundwater quality data from these borings also indicates that the chlorinated hydrocarbon concentrations attenuate substantially with depth to near non-detect levels at 30 feet bls. In the Building 131/242 area, the vertical extent of apparent DNAPL and groundwater impacts has not been defined.

7.7 Soil Gas Results

A soil gas survey was performed at the Site by the Port in 2003. Results of this investigation are presented on Figure 7-8. The soil gas survey can be used to identify potential source areas and refine areas of impacts identified by soil and groundwater sampling. The 2003 soil gas data confirms the results previously discussed for VOCs in soil and groundwater (Sections 7.3.1 and 7.4.1). Three primary source areas for VOCs were identified:

- Building 131/242;
- Building 120; and
- the AST east of Building 166.

The soil gas survey data are currently being evaluated to determine if they are suitable for use in the risk assessment. The soil gas data may be used to evaluate the potential risk to hypothetical receptors from the inhalation of vapors emanating from residual VOCs in soil and groundwater.

8. AREAS OF POTENTIAL CONCERN

Based on existing site data, areas of potential concern (AOPCs) have been identified for further evaluation in the risk assessment and remedial investigation/feasibility study programs (Figure 8-1). Each AOPC represents a specific area where identified COPCs have been detected above site specific background values. Each area is described and evaluated for potential sources based on a review of previous reports and analytical data collected during the site characterization process (Table 2-1). The AOPCs and associated COPCs are:

- Building 180 loading dock area (metals, VOCs, TPH);
- Outside maintenance yard/tool racks near Building 161 (VOCs);
- Above ground solvent tank near Building 166 (VOCs, SVOCs);
- Building 120 (metals, VOCs, SVOCs, TPH, PCBs);
- South of Building 121 (PCBs);
- Building 222/228 (metals, VOCs, SVOCs, TPH, PCBs, perchlorate);
- Southeast of Building 146 (VOCs);
- Building 158 (metals, VOCs, TPH);
- Test Cell #4/Area D (TPH, VOCs, SVOCs);
- Building 142 Area (VOCs);
- Building 131/242 Area (VOCs, SVOCs, TPH);
- Building 156 (metals, VOCs, TPH);
- Explosives Area (PCBs); and
- Portions of the Storm Water Conveyance System (PCBs).

Each of these areas will be further evaluated during the RI/FS process to determine whether remedial activities are warranted. If remedial activities are recommended, a thorough screening of viable remedial alternatives will be presented for each area.

8.1 Building 180

Building 180 is a concrete-floored, wooden hangar building, located on the eastern corner of the Site. This building served as an aircraft hangar, as well as shipping and receiving. On the north (runway) side of the building are large, sliding hangar doors. Maps of site operations indicate that the northern portion of the hanger served as flight operations, and the southern portion was used for shipping and receiving (PES, 2001). VOCs have been detected in groundwater in the vicinity of the loading dock immediately south of Building 180. Mercury, cobalt, zinc, lead, and mercury were identified above background in shallow soils to the southeast of Building 180 during 2003 (H&A, 2004).

8.2 Outside Maintenance Yard Near Building 161

An outside maintenance yard was formerly located northeast of Building 161. Historical aerial photographs indicate the presence of tool racks in the area. Currently the area is an open lot paved with asphalt and concrete. Groundwater samples in the area indicate elevated PCE concentrations which appear to be a separate source of PCE in this area. This area of impacted groundwater is co-mingled with impacted groundwater from the Building 120 AOPC.

8.3 Above Ground Solvent Tank Near Building 166

An empty 5,207-gallon above ground storage tank (AST) is located near the fence along the northern border of the property, between Buildings 130 and 166. According to permit information, this tank has been present at the Site since at least 1976. The tank is mounted horizontally on concrete tank cradles and is surrounded by a concrete containment vault. The containment vault was reportedly installed in approximately 1993. According to labeling on the tank, as well as tank permits, the tank was used to store various chlorinated solvents including “trichloroethylene, S.C. 1.465”, “perchloroethylene”, and “chloroethene SM solvent, inhibited 1,1,1-trichloroethane”. This later solvent contained 1,1,1-trichloroethane with 1,4-dioxane and 1,2-butylene. A permit from 1976 indicates that a 200-gallon portable AST was associated with this larger tank (PES, 2001).

Groundwater samples collected in the vicinity contained chlorinated solvents and 1,4-dioxane which co-mingle with impacted groundwater from the Building 120 AOPC (Figure 7G-7).

8.4 Building 120

Building 120 is located in the central portion of the Site and was the original manufacturing building for the former TRA facility. Building 120 was constructed in 1939. The main portion of the building is a large, open manufacturing room which contained various pieces of equipment. The western portion of Building 120 contained a machine shop and fabrication operations. The eastern portion of Building 120 housed the former sheet metal fabrication workshop. Permits and site facility maps indicate up to four degreasers operated within Building 120, in at least 3 known locations. Two of these former degreaser locations are in the eastern portion of Building 120. Operational permits indicate that the degreasers initially used TCE, but were converted to PCE by early 1973.

An 18- by 30-foot maintenance access pit that was five feet deep was located in the center of the eastern portion of Building 120, in the former sheet metal fabrication area. During closure of the maintenance pit in 1989, soil samples were collected which contained high concentrations of PCE and TCE (GSI, 1992). In 1990, a portion of the concrete floor was removed from the southern end of the access pit and about a foot of soil was excavated. In 1993, during subsequent closure activities, an additional 5 yards of contaminated soil was removed from the southern end of the access pit (PES, 2001). Soil samples collected at the bottom or just below the base of the excavation indicated high concentrations of PCE, TCE and DCE remained in saturated soil beneath the excavation (IT, 1993). The maintenance pit excavation was subsequently backfilled.

Groundwater samples collected during 2005 site characterization activities from well BLD-120-MW1, just outside the maintenance access pit, and downgradient wells BLD-120-MW2, -MW3, -MW4, -MW5, and –MW6 are presented in the table below.

	Concentration (ug/L)					
Location	PCE	TCE	Total DCE	VC	1,4-Dioxane	
BLD-120-MW1	3,400	2,900	2,890	ND	490	Source
BLD-120-MW2	120	440	916	ND	1.6	200 Feet Downgradient
BLD-120-MW3	86	57	3900	ND	ND	
BLD-120-MW6	68	120	4900	ND	18	
BLD-120-MW4	6.6	0.96	3.29	ND	ND	350 Feet Downgradient
BLD-120-MW5	0.82	0.25	0.69	ND	ND	

These results appear to demonstrate a trend of dechlorination of the source PCE and TCE, to nearly non-detect levels at the downgradient wells BLD-120-MW4 and BLD-120-MW5.

8.5 South of Building 121

Building 121 is a long, single-story concrete building along the southeastern side of the facility. The building contains a small office and restrooms, with one other main room. Building 121 was reportedly used for raw storage. A railroad spur runs along the southern side of the building, and a concrete loading ramp is also present on the south side of Building 121. During the 2001 site inspection, a gantry crane was still present inside the building, as well as fork lifts, and plant service carts (PES, 2001).

Groundwater results indicate elevated VOCs in groundwater south of Building 121. PCBs have also been detected at concentrations above 1.0 mg/Kg in shallow soil in the vicinity of Manhole 201 during the 2003 Port investigation (H&A, 2004).

8.6 Building 222/228

The area to the northwest of Buildings 125/126 (former Building 228) was historically used as a chemical mill masking tank (PES, 2001) (Table 2-1). An historical facility map indicates former Building 228 housed a chemical mill facility in 1966 or earlier, to at least 1974. A 1972 description indicated the process was a chemical aluminum milling operation, where stamped aluminum parts were dip-masked with a corrosion resistant coating. The coating was then stripped from those portions of the parts which were to be milled, and the parts were then dipped in a sodium hydroxide/sodium sulfide solution, followed by a water rinse, a dip in an aluminum deoxidizer solution, and a final water rinse. The aluminum de-oxidizer reportedly contained sodium dichromate, nitric acid and sodium fluoroborate.

Based on facility maps, Building 222 was previously located between buildings 126 and 125. A chemical milling operation occupied this former structure. Metal parts were dipped into tanks and coated or “masked” in plastic. An approximately 800-gallon UST/dip tank and associated 800-gallon overflow sump were located on the western side of Building 125, where Building 222 was formerly located. The dip tank consisted of an inner concrete tank with an outer concrete containment. The two tanks were filled with concrete and covered with a concrete slab.

Soil samples collected west of former Building 228 contained identified chromium, cobalt, lead, mercury, nickel, and zinc above calculated site-specific background concentrations (Figures 7S-1 through 7S-4, 7S-6, through 7S-11, 7S-14, and 7S-15).

8.7 Building 146

Building 146 is a two-story, corrugated metal building constructed in 1945. The building is divided by interior walls into a northern and a southern half. The southern half of this building is a warehouse-type area which apparently housed offices and some manufacturing and assembly operations. One historic facility map indicates that the southern portion of Building 146 was used for “engineering model shop and advanced systems/avionics lab/stores/training”. Another facility map indicates that the southern and western portions of the building housed manufacturing, assembly, painting and testing. A paint spray booth is present in the western portion of the building. An operational permit indicated aerospace hardware was painted in the spray booth, and then oven dried. A hydraulic elevator is present in the center of the building. Building 146A is an annex that was constructed in 1956.

Groundwater samples collected during the 2005 site characterization activities indicate an area of elevated vinyl chloride concentrations in groundwater southeast of Building 149.

8.8 Building 158

Building 158 is a corrugated metal, two-story shed which is attached to the western side of Building 140. “Metal finishing operations” and “metal parts processing” were conducted in Building 158 (PES, 2001; GTI, 1992d). A process line consisting of a series of dip tanks used in alodining and anodizing processes, including a chromic acid dip tank, were located in the building.

Operational permits from between 1972 and 1979 indicated that the chromic acid dip tank had a capacity of 1,737 gallons, and that 50 pounds of chromic acid were added to the tank every two months (PES, 2001). The chromic acid tank was situated above ground within a concrete berm and a drainline connected the tank to a sump in the building floor (GTI, 1992d). A 1970 site plan showing the Building 158 layout indicated 24 tanks were used for coating, dipping, rinsing, dyeing and plating. A later 1987 permit indicated there were nine tanks in Building 158, utilizing anodine solution and chromic acid (PES, 2001). A 1987 note in the DEH file for the site also indicated that an overflow sump and collection pit are located in the building (PES, 2001).

A 1976 description of the processes in Building 158, which was included in a permit application, indicated that magnesium parts were dipped into an alkaline cleaning tank, then into a magnesium anodizing tank. Chemicals listed as being used in this processes included sodium dichromate, phosphoric acid and ammonium bifluoride (PES, 2001). The chromic acid dip tank was removed in 1992 and soil sampling confirmed the presence of chromium-impacted soils beneath the former dip tank location.

Chromium impacted soil and groundwater have been detected in the vicinity of the former chromium plating tank within Building 158 (Figures 7S-1, 7S-2, and 7G-1). LNAPL consisting primarily of naphthalene was detected in one temporary sample location advanced near the center of the building (Figure 7G-11) during the 2003 assessment (H&A, 2004).

8.9 Test Cell #4/Area D

Test Cell #4 is a steel walled and roofed building with a concrete floor, located on the east side of Building 157. The building was used for the testing of aircraft engines. Building 144 is located just east of Test Cell #4, and was used as Test Cell #1.

An airframe washdown station was located on the east side of Test Cell #2. According to SDAPCD permits, solvent from a 55-gallon drum was sprayed onto the areas of the airframe requiring cleaning. The waste solvent runoff was directed to a floor drain with a holding tank. This tank consisted of a 550-gallon UST located just outside of former Test Cell #2, about 30 feet east of Test Cell #4. The air frame washing operations were apparently conducted from at least 1967 through 1993. Solvents reportedly used in the airframe washing operation included “active solvent #5221-66, Isopar M and Tolisol 10”. Solvent #5221-66 reportedly consisted of 50% aeromatic naphtha, 20% ethyl acetate, 20% MEK, and 10% isopropanol. The solvent “Isopar M” reportedly contained paraffins and naphtha. The solvent “Tolusol 10” reportedly contained a “blend of oxygenated and petroleum thinners and solvents” (PES, 2001).

Two USTs used to supply jet fuel (JP-4 and JP-5) to the test cells were located to the east of Test Cell #4. The two tanks were located east of Test Cell #4, near the airport fence. The UST containing JP-5 was reportedly located adjacent to the northern property boundary, and the JP-4 tank was situated just south of the JP-5 tank. The JP-4 tank was in service by 1972. The jet fuel tanks and the underground waste solvent tank were installed between 1956 and 1970, and were removed in 1986 (PES, 2001). The area around Test Cell #4, including the waste solvent UST and the jet fuel USTs have been collectively referred to as “Area D”

Area D investigations have shown soil and groundwater impacts by mixed fuel hydrocarbons (aviation fuel, gasoline) and chlorinated solvents (Fluor Daniel, GTI, 1998). Shaw Environmental prepared a report entitled *Site Evaluation and Request for Closure, Area D* (Shaw, 2003). By letter dated May 12, 2004, DEH requested additional information. TDY is currently working with DEH to close this area.

8.10 Building 142

Building 142 is an open-bay structure which served as a vehicle cleaning and service facility. The bay on the southern end of the building was utilized for vehicle steam cleaning, and the two northern bays were used for vehicle repair. A small office and tool crib area is located on the northern end of the building, adjacent to the vehicle repair bays. Two subsurface hydraulic lifts are located in the southern repair bays. During the 2001 inspection, a parts washer and floor drain were noted in the southern portion of the repair bays. An equipment permit from 1976 indicated that a solvent still which processed TCE was present on the west side of Building 142, but that it had not been used for many years. A 2,000 gallon UST used for storage of gasoline was removed from the southeast corner of Building 142 in 1990, and a no further action determination was granted by DEH in October 2000.

The only VOC that was detected significantly above background in the vicinity of Building 142 is PCE in groundwater. The chlorinated VOCs were primarily detected in two areas, one to the north and one south of Building 142.

8.11 Building 131/242

Building 131 is a concrete floored, warehouse-type building with large roll-up bay doors on the east and west sides. The building was reportedly used for “tool fabrication” and “machining operations” and was known as the “tooling area”. A paint booth was also reportedly located in an enclosed area in the northeastern corner of the building. During inspection of the building for the 2001 Phase 1 report (PES, 2001), no equipment remained in the building although numerous equipment foundations were apparent on the building floor. Site records indicated that an oven was located in the eastern portion of the building and was used in the manufacture of plastic tooling parts utilized in the production of aircraft drones. A second oven was also used to prepare plaster molds and fiberglass. This second oven was reportedly located in the northeast portion of Building 131. A note in the San Diego County Department of Environmental Health file indicated that cutting oils used in the building were collected by a “sump system”, and that drums containing “spent solvents” were stored within the building (PES, 2001).

Building 242 is a small, open-sided storage shed located just west of Building 131. During the 2001 site inspection, crates of various tools and materials were located in and around the shed, however no equipment was present in the area. No information on possible chemical use or storage was located in facility files or agency records (PES, 2001).

VOCs detected in soil and groundwater samples collected from monitor wells and hydropunch borings near Buildings 131 and 242 indicate an apparent source between the buildings (Figures 7G-6 through 7G-14). An apparent release to the backfill for the storm drain or sanitary sewer system in this area is suggested by the VOC distribution pattern.

8.12 Building 156

Building 156 is a manufacturing and assembly building with a 30-foot high ceiling and adjoins the southern wall of Building 152, the drone assembly area. Building 156 was reportedly used for the manufacture of composite and bonded structures. During the 2001 site inspection, the building was empty with the exception of two hydraulic lifts contained in a large, water-filled pit in the northwest corner of the building. Several steel plated floor trenches and vaults were also observed, in addition to several areas where apparent former pits and trenches had been filled with concrete. Some areas of the floor also appeared to contain equipment foundations (PES, 2001).

Operational permits indicated a paint spray booth used to “clean core material prior to bond lay up” was located in the south-central portion of Building 156 from at least 1973 until it was discontinued in 1982. In 1973, the primary solvents reported as being used in the spray booth were MEK and naphtha. A walk-in oven which utilized rollers and brushes for cleaning with TCA was listed on a permit for an abrasives blast cabinet which was used from at least 1981 through at least 1993. The blast cabinet was located on the western wall inside Building 156. A permit for a fiberglass finishing system for the building also included cleaning with brush application of 1,1,1-TCA. A 1987 note to the DEH file indicated that a “spent solvents drum” was also located somewhere within Building 156 and was referred to as “collection station #3” (PES, 2001).

Groundwater and soil gas samples collected during the 2003 assessment indicate the presence of a potential source of VOCs in the northeast portion of Building 156 (Figures 7-7 and 7G-6) (H&A, 2004).

8.13 Explosives Area

The former explosives area was a 30-by 60-foot fenced, gated enclosure which was located in the northwest corner of the Site, adjacent to the airport runway. An historical facility map identified this as an explosives area, however; there were no other records or information on the use of this area. One sample from the 2003 Port investigation contained a PCB concentration in shallow soil at a concentration of 1.5 mg/Kg (H&A, 2004). No explosives were detected in this area.

8.14 Portions of the Storm Water Conveyance System (SWCS)

PCBs have been detected both onsite and in upgradient areas which contribute to the SWCS servicing the Site. There are many potential sources for PCBs in the commercial and industrial facilities surrounding the Site. PCBs were sampled in sediment from catch basins, filter fabrics, and in-line sample collectors across the Site, and in many offsite locations contributing to the ultimate discharge of storm water to Convair Lagoon. Onsite, elevated PCB concentrations above the 4.6 mg/Kg screening level were detected in the 60-inch storm drain, the east 30-inch storm drain, and tributaries to the 54-inch storm drain at concentrations ranging from non-detect to 380 mg/Kg. Offsite, elevated PCB concentrations above the 4.6 mg/Kg screening level were detected in catch basins contributing to the 60-inch storm drain at concentrations ranging from non-detect to 7.98 mg/Kg.

No known PCB source areas remain at the Site; however, areas with elevated concentrations of PCBs in surface sediment still remain. Additional investigation is planned to further delineate residual PCBs remaining onsite and on upgradient contributing properties (Figures 7-1 through 7-6). These areas include:

- The former General Dynamics Lindbergh Field site – Contributions to the 60-inch line and several tributaries, specifically catch basins D-7, D-13, D-20, D-23, D-24, D-30, and D-13-MH-842;
- The San Diego International Airport Facility – Contributions to the 54-inch and 60-inch line, specifically catch basins B-18 and B-11; and
- The Airport/TRA Facility – Contributions to the 54-inch, 60-inch, 30-inch – East to Convair Lagoon, and 30-inch – East to San Diego Bay – specifically catch basins A-200, A-45, A-48, A-47, A-55, A-134, A-102, A-99 A-132, A-91, A-131, A-124, A-123, A-201, A-145, A-144, A-168, A-172, and A-173.

9. UPDATED CONCEPTUAL SITE MODEL

The Updated Conceptual Site Model (CSM) identifies potential chemical sources, release mechanisms, transport media, routes of chemical migration through the environment, exposure media, and potential receptors, while taking into account the anticipated future Site use. A Conceptual Site Model (CSM) has been prepared for the Site in accordance with CERCLA Guidance for Site Investigation and Remediation (EPA, 1992) and CAO 04-0258. The general CSM was constructed based on a review of the available site information regarding the environmental setting and chemical distribution in environmental media. The general CSM, represents the current understanding of the sources of COPCs, the means by which they are released and transported within and among media, and the exposure pathways and routes by which they may contact human receptors (Figure 9-1). The major components of the CSM are discussed below.

9.1 Constituent Characteristics and Potential Exposure Routes

Potential exposure routes to be considered include both direct and indirect exposure routes. Contact with soil and groundwater constitute potential direct exposure routes. If volatile chemicals are detected in soil, indirect exposures from vapors migrating from the subsurface may occur. Such indirect exposures from vapors are irrelevant for metals, PCBs, or semi-volatile organic compounds (SVOCs). For those chemicals the direct contact routes of exposure, such as incidental ingestion or dermal contact, are the most potentially relevant.

The primary chemicals detected at the Site are PCBs, SVOCs, heavy metals, and volatile organic compounds (VOCs). As a result, both indirect and direct exposure routes will be considered.

9.2 Selection of Receptors

The current land use is industrial, but the proposed future land use for the Site is light industrial/commercial. Therefore, the future onsite receptors of concern that will be evaluated in the risk assessment consist of: (1) an industrial/commercial worker, (2) a landscaper, (3) a construction worker, and (4) a recreational fisher in Convair Lagoon/San Diego Bay. The receptors and exposure pathways selected for evaluation in the risk assessment were based on these considerations and are discussed in more detail below.

9.2.1 Receptors – During Redevelopment Activities

Onsite Construction Worker

Construction workers will likely be involved in site grading and excavation for footings and utility lines when the Site is redeveloped. Due to the depth of typical footings and utilities, it is assumed that construction workers can be exposed to chemicals in the top 10 feet of soil. Additionally, because groundwater at the Site is relatively shallow, it is assumed that the construction worker may be exposed to impacted groundwater. Although these exposures will be evaluated in the risk assessment, it is anticipated that potential exposure to construction workers would be minimized by adherence to Health and Safety plans required for work on the Site during redevelopment.

9.2.2 Receptors - After Site Redevelopment

Onsite Industrial/Commercial Worker

Potential use of the Site under a commercial designation may include offices, hotels, retail, warehouse, and light manufacturing. It is anticipated that the majority of the Site will be covered by pavement and buildings if the Site is redeveloped for commercial use, which reduces the potential for direct exposure to soils. The potential exists for vapor migration into indoor air from chemicals detected in soil, soil gas and groundwater beneath the Site.

Onsite Landscaper

It is anticipated that the majority of the Site will be covered by pavement and buildings if the Site is redeveloped for commercial land use, which reduces the potential for exposures to soils. However, potential exposures may occur to a future landscaper working at the Site during landscaping activities.

Offsite Fisher

PCBs have the potential to bio-accumulate in fish and other biota within San Diego Bay. Although Convair Lagoon is posted with signs warning against fishing in the area, a potential pathway exists for PCB impacted fish to be ingested by recreational fishers in San Diego Bay.

9.3 Selection of Exposure Pathways

An exposure pathway describes a specific environmental pathway by which an individual (receptor) can be exposed to COPCs present at or originating from a source. The following five elements comprise a complete exposure pathway:

- A source of chemical;
- A mechanism of chemical release to the environment;
- An environmental transport medium (e.g., soil or air);
- A point of potential human contact with the medium; and
- A means of entry (i.e., intake route) into the body (e.g., ingestion).

A complete exposure pathway must exist from the source of chemicals in the environment (i.e., from soil, air, or groundwater) to human receptors in order for chemical intake to occur. If all exposure pathways are incomplete for human receptors, no chemical intake occurs and hence, no human health effects are associated with site-related COPCs. Potentially complete exposure pathways at the Site include:

- Incidental ingestion of COPCs in soil;
- Contact with soil or groundwater and absorption of COPCs through the skin;
- Inhalation of dust generated from soil;
- Inhalation of vapors emanating from soil or soil gas, or groundwater, into outdoor air;
- Inhalation of vapors emanating from soil, soil gas, or groundwater into indoor air;
- Ingestion of impacted biota.

Given the characteristics of the COPCs and the Site conditions, several exposure pathways may be potentially complete. The CSM considers potential exposure pathways at the Site and a determination as to their completeness (Figure 9-1). Potentially complete exposure pathways are described in more detail below.

Incomplete exposure pathways are those pathways in which constituent intakes are considered to be relatively insignificant or nonexistent in comparison to other exposure pathways. Potential exposure pathways that are significant are indicated as being complete and potential exposure pathways that may occur under certain site conditions are indicated as being potentially complete.

Potential exposures exist for soil, soil gas, groundwater, and biota. Because no public groundwater supply wells are located within one mile of the Site, ingestion of impacted groundwater from beneath the Site is unlikely. However, potential indirect exposures, via inhalation of indoor air vapors emanating from groundwater, represent a potential exposure pathway.

9.3.1 Direct Exposure to COPCs in Soil

Future onsite landscapers can potentially come into contact with chemicals in onsite soils via dermal absorption and incidental ingestion after redevelopment. During redevelopment, onsite construction workers can also come in contact with chemicals in onsite soils via these pathways. It is assumed for future onsite commercial workers that direct contact exposures to soil would not occur due to hardscape and landscaping at the Site, but that indirect exposures via the indoor air pathway may occur.

9.3.2 Direct Exposure to COPCs in Groundwater

Onsite construction workers can potentially come into contact with chemicals in shallow groundwater via dermal absorption and incidental ingestion for a short exposure period during excavation activities.

9.3.3 Inhalation of COPCs in Airborne Dust

COPCs, such as SVOCs and metals, can adhere to soil particles; thus, exposure to these COPCs may occur via inhalation of fugitive dust. After redevelopment, much of the land surface is likely to be covered with buildings, asphalt or landscaping thus, minimizing any generation of fugitive dust. However, potential exposures to fugitive dust by a future landscaper working at the Site may occur during landscaping activities. During redevelopment, the onsite construction worker has the greater potential for becoming exposed to dust generated during Site redevelopment activities. For future onsite commercial workers, it is assumed that this pathway is incomplete (due to the presence of hardscape).

9.3.4 Inhalation of Vapors in Indoor and Outdoor Air

VOCs were detected in soil, soil gas and groundwater samples collected at the Site. Because these compounds are volatile, humans could potentially be exposed to vapors migrating through the soil to the surface. During redevelopment, construction workers may also be exposed to outdoor air vapors emanating from the subsurface. However, potential exposure to outdoor air vapors is considered potentially incomplete due to the large amount of ambient air dilution that likely occurs. After redevelopment, future onsite industrial/commercial workers may come in contact with vapors migrating from soil and groundwater to indoor air. Similar to the construction worker, the landscaper is not expected to be exposure to significant amounts of soil vapor due to ambient air dilution.

9.3.5 Ingestion of PCB Impacted Biota

PCBs have been detected in benthic organisms within Convair Lagoon and have the potential to bio-accumulate in fish and other biota within San Diego Bay. However, PCBs were not detected in biota samples collected in 2005 (JNE, 2005). The potential for exposure to PCB impacted material in Convair Lagoon was greatly reduced by the installation of the sand cap in 1998, although recent sampling has indicated that PCB impacted sediment has continued to accumulate in this area. This pathway is considered potentially incomplete due to signs posted in the vicinity of Convair Lagoon warning against fishing in the area and the reduction in PCB impacted sediment available to biota after the installation of the sand cap. However, the potential pathway exists for PCB impacted fish to be ingested by recreational fishers in San Diego Bay.

9.3.6 Summary of Selected Exposure Pathways

The following table summarizes the potential receptor groups, exposure medium and exposure pathways for the CSM.

Receptor Population	**Exposure Medium**	**Potentially Complete Exposure Pathway**
Construction Worker	**Shallow Soil**	• **Incidental Ingestion** • **Dermal Contact** • **Fugitive Dust** • **Vapor Inhalation in Outdoor Air**
	Groundwater	• **Dermal Contact** • **Vapor Inhalation in Outdoor Air**
Future Onsite Industrial/Commercial Worker	**Shallow Soil**	• **Vapor Inhalation in Indoor Air**
	Groundwater	• **Vapor Inhalation in Indoor Air** • **Vapor Inhalation in Outdoor Air (risk likely** • **negligible)**
Future Onsite Landscaper	**Shallow Soil**	• **Incidental Ingestion** • **Dermal Contact** • **Fugitive Dust** • **Vapor Inhalation in Outdoor Air**
	Groundwater	• **Vapor Inhalation in Outdoor Air (risk likely negligible)**
Offsite Recreational Fisher	**Biota**	• **Ingestion of PCB impacted biota (risk likely** • **negligible)**

10. SUMMARY

During 2005, an extensive investigation of the Site was performed. This investigation consisted of: evaluating soil and groundwater quality data to identify data gaps; performing a statistical analysis of analytical data to calculate background concentrations of metals and cyanide; identifying constituents of potential concern based on historical site use and the prevalence of constituents detected in soil and groundwater. Based on this analysis of existing data, soil, sediment, and groundwater sampling were performed to complete the characterization of the nature and extent of residual constituents at the Site and surrounding properties.

The following is a summary of findings based on the investigations and studies performed in 2005.

Hydrogeologic Conditions

The 44-acre site is constructed upon dredged bay-fill material, placed between 1936 and 1939 during redevelopment of the tidelands on the northern edge of San Diego Bay. Fill material currently ranges from approximately 5-8 feet thick, underlain by bay mud deposits. These bay muds have a gradational contact with the Bay Point formation, approximately 20-30 feet bgs.

Hydraulic gradients at the Site are relatively flat, and vary from approximately 0.001 to 0.008 ft/ft, with steeper gradients in close proximity to the Convair Lagoon and in the immediate vicinity of some storm drains. It appears that the engineered backfill surrounding the storm drains may provide a preferential pathway for groundwater transport, inducing an artificial groundwater gradient in the immediate vicinity of certain storm drains. Groundwater velocity is estimated to range from approximately 1 to 28 feet per year, based on variations in hydraulic conductivity and gradient. More refined velocities will be calculated for area-specific remediation estimates based on data collected during the RI/FS process.

Results of Soil and Groundwater Sampling

Soil and groundwater sampling were conducted to complete the site characterization prior to beginning the RI/FS work. These data more clearly defined impacts in the following areas:

- **Building 180**: Confirmed and defined the extent of a potential VOC and metals source area in the vicinity of the loading dock;
- **Northeast of Building 161**: Confirmed and defined the extent of a potential PCE source area in former outdoor maintenance yard;
- **North of former solvent AST near Building 166**: Defined the northern extent of VOC/SVOC impacts;
- **Building 120**: Confirmed and defined the southern extent of VOC impacts;

- **Building 158**: Confirmed the extent of chromium impacts to groundwater; and
- **Building 131/242 Area**: Confirmed and defined the lateral extent of VOC and SVOC impacts to soil and groundwater.

Results of Storm Water Conveyance System Investigation

Onsite and offsite impacts to the storm water conveyance system each were assessed. Based on results collected in existing, run-in, and in-line sediment samples from catch basins contributing to the Convair Lagoon, PCBs were identified in sediment originating both onsite and offsite. Further data will be collected during the 2005-2006 rainy season and reported in the April 2006 addendum to this Site Characterization Report.

During the 2005 Site Characterization, SWCS sampling activities determined in which branches of the SWCS PCBs at concentrations above 1.0 mg/Kg were present. These are:

General Dynamics – Lindbergh Field

- PCBs above 1.0 mg/Kg were detected in all branches of the SWCS contributing to the 60-inch storm drain;

Airport

- Existing sediment in the 60-inch SWCS contained PCBs at concentrations above 1.0 mg/Kg; and
- Existing sediment at one catch basin (B-18) on a tributary to the 54-inch SWCS contained PCBs above 1.0 mg/Kg.

Site

- Existing sediment within the 60-inch SWCS and in all contributing branches sampled contained PCBs above 1.0 mg/Kg;
- Existing sediment in the A-58 catch basin (tributary to the 54-inch storm drain) and all run in samples contributing to the 54-inch storm drain from the Building 157/Test Cell #4 area contained PCBs above 1.0 mg/Kg;
- Existing and run-in sediment contributing to the 30-inch east storm drain contained PCBs above 1.0 mg/Kg; and
- Existing and run-in sediment contributing to the 30-inch storm drain to San Diego Bay contained PCBs above 1.0 mg/Kg.

SWCS sampling activities in 2005 also identified the sources of PCBs in run-in and in-line samples collected in the following SWCS locations:

- 60-inch line: GD Lindbergh Field, Airport, and on-site;
- 54-inch line: Airport and on-site;
- 30-inch east: on-site; and

- 30-inch to San Diego Bay: on-site.

The video logging assessed the condition and integrity of the SWCS. Based on video logging, the following were observed:

GD Lindbergh Field:

- Due to limited visibility, the physical condition of the 60-inch storm drain could not be fully assessed; however, a large volume of sediment was observed to be built-up within line.

Airport:

- The 54-inch storm drain is in excellent physical condition. There was little to no sediment built-up in the northern reaches of the 54- inch storm drain; however, moderate sediment accumulation was observed in the southern, tidally influenced portion of the line. The SWCS in commuter terminal area (tributaries to 54-inch storm drain) were observed to be in poor condition. Cracks have formed along significant portions of the cement lines, and the roof of the storm drain has collapsed in some sections. Significant sediment build-up was documented in these lines. Due to limited visibility, the physical condition of the 60-inch storm drain could not be fully assessed; however, a large volume of sediment was observed to be built-up within line. A hole was observed in bottom of storm drain approximately 70-feet north of Site boundary, it is estimated to be several feet across.

Site:

- Due to limited visibility, the physical condition of the 60-inch and 54-inch storm drains could not be fully assessed; however, a large volume of sediment was observed to be built-up within lines. The eastern tributary to the 54-inch storm drain appeared to be in good physical condition. Significant sediment was also observed this storm drain. The 30-inch east storm drain was in observed to be in excellent physical condition and contained less overall sediment than other storm drains on-site. No significant cracks or breaks in the integrity of the on-site storm drains were identified through the video reconnaissance

Resolution of Data Gaps

Specific data gaps in soil and groundwater were identified by the Site Characterization Work Plan, as discussed in Section 5. Each of the six data gaps in soil and groundwater were addressed by specific sampling conducted during the 2005 site characterization. Sufficient data has been gathered to move forward with the RI/FS process.

Three data gaps were identified in the Site Characterization Work Plan (SSPA and GeoSyntec, 2005) for the SWCS. Each of the three data gaps were addressed by specific sampling conducted during the 2005 site characterization, and will be augmented by data to be presented in the April 2006 addendum to this Site Characterization Report; however, sufficient data has been gathered to move forward with the RI/FS process.

Areas of Potential Concern

Fourteen Areas of Potential Concern, were identified for further evaluation in the risk assessment and remedial investigation/feasibility study programs. These areas and the associated constituents are as follows:

- Building 180 loading dock area (metals, VOCs, TPH);
- Outside maintenance yard/tool racks near Building 161 (VOCs);
- Above ground solvent tank near Building 166 (VOCs, SVOCs);
- Building 120 (metals, VOCs, SVOCs, TPH, PCBs);
- South of Building 121 (PCBs);
- Building 222/228 (metals, VOCs, SVOCs, TPH, PCBs, perchlorate);
- Southeast of Building 146 (VOCs);
- Building 158 (metals, VOCs, TPH);
- Test Cell #4/Area D (TPH, VOCs, SVOCs);
- Building 142 Area (VOCs);
- Building 131/242 Area (VOCs, SVOCs, TPH);
- Building 156 (metals, VOCs, TPH);
- Explosives Area (PCBs); and
- SWCS (PCBs).

11. REFERENCES

AMEC Earth & Environmental, Inc. 2002. *Historical Review of Lindbergh Field San Diego International Airport.* Prepared for the Port of San Diego, June 2002.

Brown and Caldwell Consultants. 1994. *Phase I Baseline Assessment, Parts I and II General Dynamics Convair*. November, 1994.

Brown and Caldwell Consultants. 1997. *Site Assessment Report, Chlorinated Hydrocarbons, Lindbergh Field Plant Building No. 3 Area, General Dynamics Convair Divisio*n. November 1997.

Brown and Caldwell Consultants. 2002. *Convair Lagoon PCB Technical Report*. January 2002.

Brown and Caldwell, February 18, 2005, *"Storm Sewer Maintenance at "Middletown" Site"*, Prepared for San Diego County Regional Airport Authority (on behalf of General Dynamics Corporation), Project 123218-005.

California Department of Toxic Substances Control (DTSC), 1997. *Selecting Inorganic Constituents as Chemicals of Potential Concern for Risk Assessment at Hazardous Waste Sites and Permitted Facilities.* February 1997.

EPA, 1992. *Estimating Potential for Occurrence of DNAPL at Superfund Sites*, OSWER Publication 9355.4-07FS, January 1992

ERC Environmental and Energy Services Company. 1989. *15/30 Storm Drain Removal and Replacement, Volume I*, Technical Report. April.

Fluor, Daniel, GTI. 1998. *Groundwater Monitoring and Sampling Report, Teledyne Ryan Aeronautical, 2701 Harbor Drive, San Diego, California, Unauthorized Releases #H00419-001 (Area D), H00419-002 and H00419-003.* September 21 1998.

GeoSyntec Consultants. 2002a. *PCB Investigation Technical Report, Former Teledyne Ryan Aeronautical Facility, 2701 North Harbor Drive, San Diego, California*. April, 2002.

GeoSyntec Consultants. 2002b. *Report of Site Assessment Activities, Former Teledyne Ryan Aeronautical Facility, 2701 North Harbor Drive, San Diego, California*. September, 2002.

GeoSyntec Consultants and S.S. Papadopulos and Associates. 2005a. *Addendum to Site Characterization Work Plan, Revised Appendix A, Volume 5, and Volume 6* May 2005.

GeoSyntec Consultants and S.S. Papadopulos and Associates. 2005b. *Addendum to Site Characterization Work Plan, Revised Appendix A, Volume 5, and Volume 6* July 2005.

GeoSyntec Consultants and S.S. Papadopulos and Associates. 2005. *Resolution of Comments on Revised Site Characterization Work Plan Port/TRA Site 2701 North Harbor Drive, San Diego, California, Cleanup and Abatement Order No. R9-2005-0258.* 19 July 2005.

GSI Associates. 1992. *Summary Report of Subsurface Investigation, Building 120 Maintenance Access Pit Area, Teledyne Ryan Aeronautical, 2701 Harbor Drive, San Diego, California 92101*. March 3 1992.

GTI, 1992a. *Site Assessment Report, Area A, Teledyne Ryan Aeronautical, 2701 Harbor Drive, San Diego, California, HMMD #t000065/H00419-001.* April 27

GTI, 1992b. *Site Assessment Report, Area B, Teledyne Ryan Aeronautical, 2701 Harbor Drive, San Diego, California, HMMD #t000065/H00419-001.* April 27

GTI, 1992c. *Site Assessment Report, Area C, Teledyne Ryan Aeronautical, 2701 Harbor Drive, San Diego, California, HMMD #t000065/H00419-001.* April 27

GTI, 1992d. *Workplan for Area D Assessment, Teledyne Ryan Aeronautical, 2701 Harbor Drive, San Diego, California, HMMD #t000065/H00419-001.* June 4.

GTI, 1995. Historical Data Compilation, Teledyne Ryan Aeronautical, Areas D and Tank 142, 2701 Harbor Drive, San Diego, California. August 4.

Haley & Aldrich. 2004. *Baseline Site-Wide Investigation at 2701 N. Harbor Drive*, Volumes I - V. May 2004.

Hicks, Ralph T., 1997. *Removal and Disposal of PCB Containing Storm Drain Sediment*. Letter to Port of San Diego. May 15.

IT Corporation, 1992. *Contamination Assessment Report, Teledyne Ryan Aeronautical, Underground Storage Tanks Nos. 7 and 19, 2701 Harbor Drive, San Diego California.* May 21.

IT Corporation, 1993. Closure Assessment, Building 120 Maintenance Access Pit. May.

JNE & Associates, Inc. 2005. *Convair Lagoon Monitoring 2005 Monitoring and Reporting Program 98-21.* October, 2005.

Julien, Pierre Y. 1998. *Erosion and Sediment*, pp. 188-119. Cambridge University Press, Cambridge.

Leighton & Associates. 1994. *DRAFT Baseline Phase II Environmental Site Assessment at the Proposed Above-Ground Fuel Facility, Fuel Transfer Pipeline and Remote Fueling Area, San Diego International Airport, Lindbergh Field, San Diego, California.* Report No. 4930816-03. June 9, 1994.

Papadopulos and Associates and GeoSyntec Consultants. 2005. *Site Characterization Work Plan, Revised Appendix A, Volume 5, and Volume 6*, May 2005.

PES Environmental, Inc. 2001. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, 2701 North Harbor Drive, San Diego, California. Prepared for TDY Industries, Inc. January 2001.

S.S. Papadopulos and Associates, 2005. *Site Characterization Work Plan Port/TRA Site 2701 North Harbor Drive, Volumes 1 through 5*. January 28, 2005.

PES Environmental Inc. 2001. *Environmental Assessment Former Teledyne Ryan Aeronautical Site, 2701 N. Harbor Drive, San Diego, California, Volumes 1 and 2*. January 2001.

Regional Water Quality Control Board (RWQCB), San Diego Region. 1986a. *Investigation of Polychlorinated Biphenyls (PCBs) in the Convair Lagoon Portion of San Diego Bay – Staff Testimony*. July 1986.

RWQCB, San Diego Region. 1986b. *Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 17 October *revised* 20 October 1986.

RWQCB, San Diego Region. 1987a. *Addendum No. 1 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 2 July.

RWQCB, San Diego Region. 1987b. *Addendum No. 2 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 7 December.

RWQCB, San Diego Region. 1988. *Addendum No. 3 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 16 September.

RWQCB, San Diego Region. 1991a. *Addendum No. 4 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 9 December.

RWQCB, San Diego Region. 1991b. *Revised Addendum No. 4 to Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 13 December.

RWQCB, San Diego Region. 1992. *Addendum No. 5 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 4 September.

RWQCB, San Diego Region. 1993a. *Addendum No. 6 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 4 March.

RWQCB, San Diego Region. 1993b. *Addendum No. 7 To Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 30 September.

RWQCB, San Diego Region. 1994. *Water Quality Control Plan for the San Diego Basin (9)*. September 8.

RWQCB, San Diego Region. 1995a. *Addendum No. 8 to Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 9 February.

RWQCB, San Diego Region. 1995b. *Addendum No. 9 to Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 30 August.

RWQCB, San Diego Region. 1996. *Addendum No. 10 to Cleanout and Abatement Order No. 86-92 For Teledyne Ryan Aeronautical Near Lindbergh Field, San Diego County*. 24 January.

RWQCB, San Diego Region. 1998. Order No. 98-21, *Waste Discharge Requirements for Teledyne Ryan Aeronautical*. 13 May.

RWQCB, San Diego Region. 2004. *Cleanup and Abatement Order #R9-2004-0258*. October, 2004.

RWQCB, San Diego Region. 2005a. *Revised Cleanup and Abatement Order No. R9-2004-0258*. May 2005.

RWQCB, San Diego Region. 2005b. *Amendment No.1 to Cleanup and Abatement Order No. R9-2004-0258*. July 2005.

RWQCB, San Francisco Bay Region. 2005. Screening *For Environmental Concerns at Sites With Contaminated Soil and Groundwater (4th edition)*. February 2005.

Sallaz, L. 1987. Letter from Lana Sallaz, concerned citizen, to Ladin Delaney, Regional Water Quality Control Board, Region 9, regarding Convair Plant Releases. April 3, 1987.

Schwab, Fred, and Prothero, Donald R. 1996. *Sedimentary Geology: An Introduction to Sedimentary Rocks and Stratigraphy*, P. 33. W. H. Freeman and Company. New York.

Shaw Environmental Inc. 2003. *Site Evaluation and Request for Case Closure: Area D, Former Teledyne Ryan Aeronautical Facility, 2701 Harbor Drive, San Diego, California*. Report No. SDCDEH Case No. H00419-001. August 27, 2003.

Teledyne Ryan Aeronautical. 1989. Daily log *Remediation – 12/15 Storm Drain*.

WESTEC Services. 1986. *Final Report: Storm Drain Sediment Removal and Catch Basin Sediment Sampling Activities at Teledyne Ryan Aeronautical*. November.

TABLES

Table 2-1
Summary of Building Use and Potential Source Areas
2701 North Harbor Drive
San Diego, California

Building Number & Use	**Description**	**TPH**	**Metals**	**VOCs**	**SVOCs**	**PCBs**
183: Special Programs and Offices	Building 183 is a stucco and steel-walled building located on the eastern edge of the site. The building was reportedly built in 1951, although an annex connected to Building 183 appears more recent in construction. Site facility maps indicate Building 183 was used for Special Programs. A paint spray booth and oven were located on the exterior of the northern side of the building on a concrete pad. An operational permit indicated the paint spray booth operation included downdraft benches, and was used in the fabrication and coating of fiberglass and graphite-reinforced plastic tools and molds. The southern portion of the building was used as office space. The northern portion of the building contains a former clean room in the interior, northeast corner, and an epoxy-coated floor.	○	○	●	○	○
180: Flight Ops/Shipping & Receiving	Building 180 is a concrete-floored, wooden hangar building, located on the eastern corner of the facility. This building served as an aircraft hangar, as well as shipping and receiving. On the north (runway) side of the building are large, sliding hangar doors. Maps of site operations (PES, 2001) indicate that the northern portion of the hanger served as flight operations, and the southern portion was used for shipping and receiving. An electrical transformer containing PCBs was located in the southern portion of the building. All PCB materials were removed in December 1998 (GeoSyntec, 2002a).	○	○	○	○	●
• 182	Building 182 is located on the northeast corner of Building 180 and is a wood and steel-walled building. Building 182 was reportedly used for storage.	○	○	○	○	○
• Loading Dock	A loading dock which would have served the shipping and receiving area is situated on the exterior of Building 180, between the south side of the building and the railroad spur (Figure 1-2). Two hydraulic lifts are also present on the western side of the exterior loading dock.	○	🟨●	🟨●	○	○
• 221	Receiving Storage area	○	○	○	○	○
• 236	QA Calibration Lab/Dry Storage	○	○	○	○	○
181: Tool Stores/Raw Material	Building 181 is a stucco and steel walled building located east of Building 121. Historical facility maps indicate this building was used for the storage of tools and raw materials.	○	○	○	○	○
Outside maintenance	An outside maintenance yard was located to the northeast of Building 161. Area is currently open, with paved asphalt and concrete.	○	○	🟨●	○	○
160: Tool Fabrication/Tool Stores & former lead furnace	Building 160 is a corrugated metal building with a wooden "Quonset-style" roof, adjacent to Building 168. Historical facility maps indicated Building 160 contained tool storage and/or tool fabrication. A lead smelting furnace was also reportedly contained in Building 160. A 1970s operational permit referred to Building 160 as the "foundry".	○	●	○	○	○
• 168	Building 168 is a corrugated metal outbuilding on the east side of Building 160. It was reportedly used for material storage.	○	○	○	○	○
• 161	Building 161 is a corrugated metal building, located north of Building 168. Building 161 housed a wood shop and a paint spray booth. An equipment list for the facility indicated that Building 161 was a "carpenter shop".	○	○	●	○	○
• 169	Building 169 is a corrugated metal building located just south of Building 167. Building 169 formerly housed two curing ovens and air compressors. During a 2001 site inspection, a drum of synthetic compressor lubricant and coolant was noted. A notation on a 1976 operational permit indicated that a 980-gallon solvent AST and solvent still were located in or around Building 169, but were not in use.	●	○	●	○	○
• 167	Building 167 is an open-sided, corrugated metal awning located just north of Building 169. This outside area was used for machine tool cutting and storage.	○	●	○	○	○
166: Special Programs	Building 166 is a corrugated steel building located in the northeast corner of the site. Facility maps indicate this building was used for "special programs" and storage of government property. Two covered vaults are located outside, between the northern side of Building 166 and the airport runway fence.	○	○	○	○	○
Outside aboveground solvent tank, former	An empty 5,207-gallon aboveground storage tank is located outside, near the fence along the northern border of the property, between Buildings 130 and 166. According to permit information, this tank has been present at the site since at least 1976. The tank is mounted horizontally on concrete tank cradles and is surrounded by a concrete containment vault. The containment vault was reportedly installed in approximately 1993. According to labeling on the tank, as well as tank permits, the tank was used to store various chlorinated solvents including "*trichloroethylene, S.C. 1.465*", "*perchloroethylene*", and "*chloroethene SM solvent, inhibited 1,1,1-trichloroethane*". This later solvent contained 1,1,1-trichloroethane with 1,4-dioxane and 1,2-butylene. A permit from 1976 indicates that a 200-gallon portable AST was associated with this larger tank.	○	○	🟨●	🟨●	○
121	Building 121 is a long, single-story concrete building along the southeastern side of the facility. The building contains a small office and restrooms, with one other main room. Building 121 was reportedly used for raw material storage. A railroad spur runs along the southern side of the building, and a concrete loading ramp is also present on the south side of Building 121. During the 2001 site inspection, a gantry crane was still present inside the building, as well as fork lifts, and plant service carts.	○	○	🟨●	○	○
100	Building 100 is a long, two-story office building located south of Building 120.	○	○	○	○	○
120: Sheet Metal Fabrication & Machine Shop	Building 120 is located in the central portion of the site and is the original manufacturing building at the facility). Building 120 was constructed in 1939. The main portion of the building is a large, open manufacturing room which contained various pieces of equipment. The western portion of Building 120 contained a machine shop and fabrication operations. The eastern portion of Building 120 housed the former sheet metal fabrication workshop. Permits and site facility maps indicate up to four degreasers operated within Building 120, in at least 3 known locations. Two of these former degreaser locations are in the eastern portion of Building 120. Operational permits indicate that the degreasers initially used TCE, but were converted to PCE by early 1973. An 18- by 30-foot maintenance access pit that was five feet deep was located in the center of the eastern portion of Building 120, in the former sheet metal fabrication area. During closure of the maintenance pit in 1989, soil samples were collected which contained high concentrations of PCE and TCE (GIS, 1992). In 1990, a portion of the concrete floor was removed from the southern end of the access pit and about a foot of soil was excavated. In 1993, during subsequent closure activities, an additional 5 yards of contaminated soil was removed from the southern end of the access pit (PES, 2001). Soil samples collected at the bottom or just below the base of the excavation indicated high concentrations of PCE, TCE and DCE remained in saturated soil beneath the excavation (IT, 1993). The maintenance pit excavation was subsequently backfilled.	○	🟨●	🟨●	○	●

Note:

🟨●	Yellow fill: Site data indicates impacts
●	Solid dot: Historical use indicates potential for impacts. Constituents were sampled for but not detected.
○	Hollow dot: No potential for impacts based on historic site use

Table 2-1
Summary of Building Use and Potential Source Areas
2701 North Harbor Drive
San Diego, California

Building Number & Use	Description	TPH	Metals	VOCs	SVOCs	PCBs
• 170	Building 170 is a corrugated metal outbuilding located on the east side of Building 120, adjacent to Building 110. This building opens into Building 120. An operational permit indicates that a vapor degreaser (#11) was located in building 170. Other operational permits indicate this is the same degreaser that also was located in the south central portion of Building 120.	○	○	●	○	○
• 110	Building 110 is a corrugated metal outbuilding located on the east side of Building 120, between Buildings 112 and 170. The building reportedly contained a lead smelter and four drop hammers. There are four large equipment foundations inside the building, apparently where the drop hammers were located. An operational permit indicated that molten lead from the smelter was poured around the lower half of the drop hammer dies to hold them in place.	○	●	○	○	○
• 112	Building 112 is a corrugated metal outbuilding located on the east side of Building 120, adjacent to Building 110. Building 112 housed router equipment. Equipment bays were present inside the building, and during the 2001 site inspection, metal shavings and oil stains were noted on the concrete floor near former equipment locations.	●	●	○	○	○
• 128	Building 128 is a corrugated metal building located on the eastern side of Building 120, adjacent to Building 111. This building reportedly most recently housed a router operation and may have also housed some chemical processing operations and/or a paint booth. An operating permit indicates that a paint booth which was located in the northern portion of Building 128 was taken out of service in 1976. The permit indicated the spray booth was used to clean "honeycomb" material using spray and compressed air.	○	○	●	○	○
• 111	Building 111 is a corrugated metal outbuilding on the north side of Building 120, near the northeast corner, adjacent to Building 128. This building housed welding operations.	○	●	●	○	○
• 127	Building 127 is a two-story, corrugated metal building on the western side of Building 120, at the southwest corner. Building 127 housed offices and an image processing laboratory. A hydraulic elevator is present in the western portion of the building. An operational permit from 1972 indicated a spray booth was present in the southeast corner of the building. This spray booth was used to apply light sensitive emulsion to sheet metal plates.	●	○	●	○	○
130: Factory Supplies	Building 130 is just east of Building 129 and was used to store factory supplies. Historical site maps also indicate acids and compressed gases were stored in Building 130. A 2001 site inspection indicated gas cylinder storage racks were present in the southeastern portion of the building. According to an historical site map, acids were stored in the northeastern portion of the building. A grated sump or drain was also noted in the concrete floor in the northeastern portion of the building. A covered, fenced chemical storage area surrounded by a concrete berm is located at the southeastern corner of Building 130. Signs indicate that corrosives were stored in this outdoor enclosure.	○	●	●	○	○
• 129	Building 129 is a wood-framed, concrete floored building located on the western side of Building 130 which reportedly contained factory supplies. A 2001 site inspection noted that markings and stains on the floor suggested some type of equipment had been used in the building. One historical facility map noted that chemicals were formerly stored in the building.	○	●	●	○	○
• 123	Building 123 is a small concrete block structure which housed a diesel pump for emergency fire water. This structure is located on the south side of the large water tank which is adjacent to the northern boundary fence. An aboveground diesel tank of less than 50-gallon capacity was adjacent to the diesel pump.	●	○	○	○	○
• 125	Building 125 is located just east of Building 126 and is a corrugated steel building partitioned into three rooms. A 2001 site inspection indicated that some painting may have been done in the northern room. An undated facility map indicates solvents may have been stored just north of the building or possibly in the northern room of Building 125. A 1987 note in the agency file indicated crushed metal drums, cut-up poly drums, waste oil and coolant, and nitric acid were stored on the south side of the building.	●	○	●	○	○
222 (demolished): Chemical Milling Area	Based on facility maps, a building designated "222" was previously located between buildings 126 and 125. Reportedly, a chemical milling operation occupied this former structure. Metal parts were dipped into tanks and coated or "masked" in plastic. An approximately 800-gallon dip tank and associated 800-gallon overflow sump were located on the western side of Building 125, where Building 222 was formerly located. The dip tank consisted of an inner concrete tank with an outer concrete containment. The dip tank was connected to the overflow sump by a 4-inch pipe. This dip tank system was reportedly last used in the 1970s. The tanks were closed between 1990 and 1991. The connecting pipe was removed, and a sample of the masking fluid sludge in the dip tank was found to contain PCE (22,000 mg/kg), toluene (4,000 mg/kg), 1,1,2-2-tetrachloroethylene (750 mg/kg) and xylenes (1,700 mg/kg). Neither the connecting pipe nor the overflow tank reportedly contained any masking fluid. The two tanks were filled with concrete and covered with a concrete slab.	○	🟨●	🟨●	○	○
126: Rework Facility & Electronic Assembly	Building 126 is a brick building with insulated wooden roof which is located just south of Building 115. Reportedly Building 126 was used for tool storage, as a rework facility, electronic facility and possibly a paint shop. At the time of the 2001 inspection, the building was partitioned into various cubicles or workstations.	○	○	●	○	○
(no #): Coolant/Oil Recovery	This un-numbered building is a corrugated steel shed located just north of Building 125. An undated facility map indicates a metal finishing operation and pickling line were formerly present at this location. More recently, the current structure was known as the Coolant/Oil Recovery building and was used for storage of waste coolant and oil.	●	●	●	○	○
228 (demolished): Chemical Milling area	An historical facility map indicates former Building 228 housed a chemical mill facility in 1966 or earlier, to at least 1974. A 1972 description indicated the process was a chemical aluminum milling operation, where stamped aluminum parts were dip-masked with a corrosion resistant coating. The coating was then stripped from those portions of the parts which were to be milled, and the parts were then dipped in a sodium hydroxide/sodium sulfide solution, followed by a water rinse, a dip in an aluminum deoxidizer solution, and a final water rinse. The aluminum de-oxidizer reportedly contained sodium dichromate, nitric acid and sodium fluoroborate.	○	🟨●	🟨●	○	○
115: Flight Simulation Lab	Building 115 is a two-story cinderblock building located northeast of Building 140. The western side of the building has roll-up doors. Site facility maps indicate this building was used as a flight simulation lab. A compressor was housed in a small shed on the exterior, south side of Building 115. Floor staining and worn linoleum, as well as operational permits, indicate that a cold solvent degreaser was located in the southern portion of the building. Operational permits indicate that the degreaser used 1,1,1-TCA, and was in operation by 1985.	○	○	●	○	○
Building 102	Building 102 is a long, 2-story building located along the south-central property boundary. This building was used for various offices including engineering and executive offices.	○	○	○	○	○
• Café Ryan	In the eastern portion of Building 102 is "Café Ryan" which served as the cafeteria for the facility.	○	○	○	○	○
• Former Diesel UST	A 1000-gallon diesel UST was located within the eastern portion of Building 102, adjacent to the eastern side of Café Ryan. The tank was installed in 1942, and was reportedly emptied in 1989.	●	○	●	○	○

Note:

🟨●	Yellow fill: Site data indicates impacts
●	Solid dot: Historical use indicates potential for impacts. Constituents were sampled for but not detected.
○	Hollow dot: No potential for impacts based on historic site use

Table 2-1
Summary of Building Use and Potential Source Areas
2701 North Harbor Drive
San Diego, California

Building Number & Use	**Description**	**TPH**	**Metals**	**VOCs**	**SVOCs**	**PCBs**
104: Offices	Building 104 is a two-story office building located off the western end of Building 102, along the southern edge of the facility.	○	○	○	○	○
105: Laboratory	Building 105 is a two-story building located just south of Building 102. The first floor of Building 105 was utilized as a laboratory, with offices occupying the second floor. The first floor has tile or linoleum covered floors, sinks, sumps, ovens, floor drains and trenches. A concrete lined pit was observed during the 2001 inspection. It was covered with a metal plate which had a cutout, presumably to fit some sort of equipment. A 1987 inspection report indicated that a clarifying sump for the laboratory was located in the western portion of the first floor of Building 105. The sump was used to neutralize waste or waste water which was then discharged to the sewer.	○	○	●	○	○
146/146A: Helicopter Sub-Assembly	Building 146 is a two-story, corrugated metal building constructed in 1945. The building is divided by interior walls into a northern and a southern half. The southern half of this building is a warehouse-type area which apparently housed offices and some manufacturing and assembly operations. One historic facility map indicates that the southern portion of Building 146 was used for "engr model shop + advanced systems/avionics lab/stores/training". Another facility map indicates that the southern and western portions of the building housed manufacturing, assembly, painting and testing. A paint spray booth is present in the western portion of the building. An operational permit indicated aerospace hardware were painted in the spray booth, then oven dried. A hydraulic elevator is present in the center of the building. Building 146A is an annex that was constructed in 1956. Eight spot-welders used in Building 146 used PCB containing capacitors. All capacitors were removed by December 1982 (GeoSyntec, 2002a).	○	○	●	○	●
• 149	Building 149 is adjacent to the southeast corner of Building 140 and was apparently used for office space.	○	○	○	○	○
• 148	Building 148 is adjacent to the southeast corner of Building 140 and is a 3-story, stuccoed building. Building 148 was apparently used for offices, and possibly laboratory or medical examination areas.	○	○	○	○	○
• 147: Storage	Building 147 is a 2-story, concrete walled building located on the northeast corner of Building 146. Building 147 housed a gas fired boiler for hot water supply and was also used for storage of miscellaneous materials such as fluorescent bulbs. An electric cart and forklift were also stored in Building 147. An operational permit indicated that a "Winnin" multi-chambered incinerator was present in Building 147 from at least 1969 to about 1970.	○	○	○	○	○
• 536	Building 536 is a small building located on the southeast corner of Building 147.	○	○	○	○	○
• 150: Electrical Vault & Compressor	Building 150 is a single-story, wood and plaster structure, located in the corner bordered by Buildings 146A, 146, 140 and 153. This structure has two rooms. The northern room houses a large compressor and air tank, and the southern room reportedly contains an electrical vault ("#7"). A cooling tower is present on the western side of the building.	○	○	○	○	●
• 153	Building 153 is a single-story, wood-sided structure located in a small, outdoor courtyard on the west end of the southern wall of Building 140. It housed a spray booth and curing oven.	○	○	●	○	○
• Downdraft Spray Booth	On the west side of Building 153, located on the south wall of Building 140, is an un-numbered, two-story, bolted steel structure. This building has a concrete foundation with a large, sub-grade floor sump and was used as a coating spray booth. A 2001 site inspection noted that the entire floor, sump and portions of the walls of this structure were stained yellowish-green. An operational permit described this operation as being a "downdraft spray booth, water wash exhaust" with two gas-fired furnaces and a blower which was located in the adjacent Building 153. During the 2001 site inspection, a posted permit indicated that an airframe wash down station was also in this building, and may have utilized solvents.	○	○	●	○	○
140: Helicopter Final Assembly	Building 140 was constructed in 1943, and used as an assembly building. According to facility maps, operations conducted in Building 140 included helicopter final assembly, engineering static testing, firebolt assembly, and fabrication, paint and processing. One facility map indicates a paint shop was located in the western portion of the building. Operational permits indicate that a spray paint conveyor system was moved from another portion of the site and installed in this building in 1966. A process description indicates that parts were moved through the spray booth and then through drying stations using this system. Excess paint spray was collected in a wash down system. This conveyor system may have operated as late as 1994.	○	○	●	○	○
• 159: Manufactured Parts Stores/Plant	Building 159 is a long, metal sided shed with a concrete floor and soundproofing or insulation in the roof. It is situated along the north side of Building 140. Building 159 was reportedly used to store manufactured parts for plant engineering and maintenance.	○	○	○	○	○
158: Anodizing & Anodizing dip tanks (chromic acid)	Building 158 is a corrugated metal, two-story shed which is attached to the western side of Building 140. "Metal finishing operations" and "metal parts processing" were conducted in Building 158 (PES, 2001; GTI, 1992). A process line consisting of a series of dip tanks used in alodining and anodizing processes, including a chromic acid dip tank, were located in the building. Operational permits from between 1972 and 1979 indicated that the chromic acid dip tank had a capacity of 1,737 gallons, and that 50 pounds of chromic acid were added to the tank every two months (PES, 2001). The chromic acid tank was situated above ground within a concrete berm and a drainline connected the tank to a sump in the building floor (GTI, 1992). A 1970 site plan showing the Building 158 layout indicated there were 24 tanks used for coating, dipping, rinsing, dyeing and plating. A later 1987 permit indicated there were nine tanks in Building 158, utilizing anodine solution and chromic acid (PES, 2001). A 1987 note in the SDCDEH file for the site also indicated that an overflow sump and collection pit was located in the building (PES, 2001). A 1976 description of the processes in Building 158, which was included in a permit application, indicated that magnesium partswere dipped into an alkaline cleaning tank, then into a magnesium anodizing tank. Chemicals listed as being used in this processes included sodium dichromate, phosphoric acid and ammonium bifluoride (PES, 2001). The chromic acid dip tank was removed in 1992 and soil sampling confirmed the presence of chromium-impacted soils beneath for former dip tank location.	🟨●	🟨●	🟨●	○	○
Auxiliary Diesel Tank		●	○	○	○	○

Note:

🟨● Yellow fill: Site data indicates impacts

● Solid dot: Historical use indicates potential for impacts. Constituents were sampled for but not detected.

○ Hollow dot: No potential for impacts based on historic site use

Table 2-1
Summary of Building Use and Potential Source Areas
2701 North Harbor Drive
San Diego, California

Building Number & Use	Description	TPH	Metals	VOCs	SVOCs	PCBs
131: Tool Fabrication	Building 131 is a concrete floored, warehouse-type building with large roll-up bay doors on the east and west sides. The building was reportedly used for "tool fabrication" and "machining operations" and was known as the "tooling area". A paint booth was also reportedly located in an enclosed area in the northeastern corner of the building. During inspection of the building for the 2001 Phase 1 report, no equipment remained in the building although numerous equipment foundations were apparent on the building floor. Site records indicated that an oven was located in the eastern portion of the building and was used in the manufacture of plastic tooling parts utilized in the production of aircraft drones. A second oven was also used to prepare plaster molds and fiberglass. This second oven was reportedly located in the northeast portion of Building 131. A note in the San Diego County Department of Environmental Health file indicated that cutting oils used in the building were collected by a "sump system", and that drums containing "spent solvents" were stored within the building.	○	●	🟨●	🟨●	○
• 242: Open shed	Building 242 is a small, open-sided storage shed located just west of Building 131. During the 2001 site inspection, crates of various tools and materials were located in and around the shed, however no equipment was present in the area. No information on possible chemical use or storage was located in facility files or agency records.	○	○	○	○	○
142: Garage & Vehicle Maintenance	Building 142 is an open-bay structure which served as a vehicle cleaning and service facility. The bay on the southern end of the building was utilized for vehicle steam cleaning, and the two northern bays were used for vehicle repair. A small office and tool crib area is located on the northern end of the building, adjacent to the vehicle repair bays. Two subsurface hydraulic lifts are located in the southern repair bays. During the 2001 inspection, a parts washer and floor drain were noted in the southern portion of the repair bays. An equipment permit from 1976 indicated that a solvent still which processed TCE was present on the west side of Building 142, but that it had not been used for many years .	○	○	🟨●	○	○
• Garage Gasoline UST	In 1976, a single 2000-gallon UST containing gasoline was installed just off the southeast corner of Building 142. When the tank was removed in 1990, fuel-impacted soils were observed and removed (Fluor Daniel GTI, 1998). At least thirteen groundwater monitoring wells were installed to evaluate the extent of the release to groundwater. Based on the results of the groundwater investigation, the San Diego County Department of Environmental Health issued a no-further-action in October of 2000.	🟨●	○	🟨●	○	○
156: Composites & Bonded Structures	Building 156 is a manufacturing and assembly building with a 30-foot high ceiling and adjoins the southern wall of Building 152, the drone assembly area (Figure 1-2). Building 156 was reportedly used for the manufacture of composite and bonded structures. During the 2001 site inspection, the building was empty with the exception of two hydraulic lifts contained in a large, water-filled pit in the northwest corner of the building. Several steel plated floor trenches and vaults were also observed, in addition to several areas where apparent former pits and trenches had been filled with concrete. Some areas of the floor also appeared to contain equipment foundations. Operational permits indicated a paint spray booth used to "clean core material prior to bond lay up" was located in the south-central portion of Building 156 from at least 1973 until it was discontinued in 1982. In 1973, the primary solvents reported as being used in the spray booth were MEK and naphtha. A walk-in oven which utilized rollers and brushes for cleaning with TCA was listed on a permit for an abrasives blast cabinet which was used from at least 1981 through at least 1993. The blast cabinet was located on the western wall inside Building 156. A permit for a fiberglass finishing system for the building also included cleaning with brush application of TCA. A 1987 note to the SDCDEH file indicated that a "spent solvents drum" was also located somewhere within Building 156 and was referred to as "collection station #3".	○	○	🟨●	○	○
• Former Diesel UST#19	A 20,000-gallon diesel UST designated as UST#19 was located just south of Building 156. The tank was installed in 1974 to supply an emergency generator and was removed in 1992. During the tank removal, diesel-impacted soil was observed and removed. Additional soil and groundwater investigations were conducted (GTI, 1993; IT Corp 1992), and the SDCDEH issued a letter in 1994 indicating that no further investigation or remedial action was required unless the planned land use changed	●	○	●	○	○
• 518	Building 518 is a corrugated metal shed is located on the outer wall of the western side of Building 156. One historical facility map also shows this building being numbered "513". A former 20,000 gallon diesel UST was located just outside the southern wall of Building 156. This tank was designated UST#19 and is discussed in Section 4.2.	●	○	●	○	○
• 245	Building 245 is a corrugated metal shed located on the outer wall of the eastern side of Building 156.	○	○	○	○	○
152: Q2C & Northrop Assembly	Building 152 is situated on the north side of Building 156 (Figure 1-2). The building is concrete floored with 30-foot high ceilings. The building was supposedly constructed in 1952 and known as the "drone assembly building" (PES, 2001). Signage on the building during the 2001 inspection identified it as "Target Assembly". In 1999, onsite records indicated that the building was used for production of the "Firebee", a Vietnam-era retrievable reconnaissance and target drone used in photographic missions. Site maps from unspecified time frames also indicate that the northern half of the building was used for "Northrop Assembly", the southern portion for "Q2C Assembly", and a small central portion of the building was used for 'Cruise Missile". The Q2C was the earlier designation for the Firebee indicating that the principal use of this building did not apparently change during it's use. At the time of the 2001 inspection, over five apparent sumps or floor drains were observed, in addition to numerous machine footprints visible on the concrete floor. Other subfloor features and trenches were present which appeared to have been filled with concrete. On the eastern side of the building, a 20- by 50-foot area was identified by red paint on the floor, and appeared to coincide with the location of a paint booth , identified in early TDY site maps. According to facility permits, the paint booth was present in the building prior to 1972, and was used to paint drone assemblies. Chemicals reported as used in the paint booth in 1974 included "thinners", specifically toluene and xylene; and "clean-up solvents", specifically methyl ethyl ketone (MEK), toluene, naphtha, and "cleaner active solvent 522 1-66". According to operating permits, a 4- by 8-foot, 4-foot deep degreaser was present in Building 152 prior to 1973 through at least 1985. According to operationing permits and records, TCE was used in the degreaser prior to 1973. Subsequently, PCE was used. Information from 1972 indicated about 8 gallons of solvent was used on a daily basis. Electrical transformer #9 is located on the northwest corner of Building 158. All PCB containing materials were removed in July 1987 (GeoSyntec, 2002a).	○	○	●	○	●
• 152A: Shed	Building 152A is a small concrete floored shed attached to the northwest side of Building 152. At the time of the 2001 inspection, the concrete floor had an apparent epoxy coating.	○	○	○	○	○

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Table 2-1
Summary of Building Use and Potential Source Areas
2701 North Harbor Drive
San Diego, California

Building Number & Use	Description	TPH	Metals	VOCs	SVOCs	PCBs
• 154: X-ray	Similar to Building 230, Building 154 was also located on the side of the drone assembly Building 152. This small attached building housed an x-ray lab, including a former x-ray machine and a wet lab for the development of x-ray films. The southern part of the building included a small winch, and was apparently where the x-ray maching was located. The northeastern corner of the building was apparently the development lab, with black walls, steel sinks, and a metal-lined pass-through cabinet, which connected to the x-ray room itself. A note in the in the SDCDEH file from 1987 indicated that the x-ray laboratory generated waste photographic fixer containing silver. According to the SDCDEH note, approximately 40-gallons of fixer was discharged to the sewer annually.	○	●	○	○	○
• 230: Foam room	Building 230 is located on the northwestern edge of Building 152. Building 230 has four rooms which housed a restroom and air compressor room in the eastern half of the building, and another air compressor room and a "foam room" in the western half. The air compressors apparently were used to supply compressed air to the operations conducted in the adjoining Building 152. An approximately 100-gallon AST was present in the western air compressor room during the 2001 inspection, however it's usage and contents is not known. The "foam room" was apprently where polyeurathane foams were mixed. In addition, an operational permit indicated that one or more industrial ovens used to process aircraft parts were located in Building 230 from at least 1972 to as late as 1981.	○	○	○	○	○
Test Cell #4 ("Area D")	Test Cell #4 is a steel walled and roofed building with a concrete floor, located on the east side of Buidling 157. The building was used for the testing of aircraft engines.	●	○	●	○	●
• 144	Building 144 is located just east of Test Cell #4, and was used as Test Cell #1.	●	○	●	○	○
• 145		●	○	●	○	○
• Former Solvent UST	An airframe washdown station was located on the east side of Test Cell #2. According to SDAPCD permits, solvent from a 55-gallon drum was sprayed onto the areas of the airframe requiring cleaning. The waste solvent runoff was directed to a floor drain with a holding tank. This tank consisted of a 550-gallon underground storage tank located just outside of former Test Cell #2, about 30 feet east of Test Cell #4. The air frame washing operation apparently operated from at least 1967 through 1993. Solvents reportedly used in the airframe washing operation indluced "active solvent #5221-66, Isopar M and Tolisol 10". Solvent #5221-66 reportedly consisted of 50% aeromatic naphtha, 20% ethyl acetate, 20% MEK, and 10% isopropanal. The solvent "Isopar M" reportedly contained paraffins and naphtha. The solvent "Tolusol 10" reportedly contained a "blend of oxygenated and petroleum thinners and solvents".	○	○	●	○	○
• Former JP4 AST		●	○	●	○	○
• Former JP4 UST	Two underground storage tanks used to supply jet fuel (JP-4 and JP-5) to the test cells were located to the east of Test Cell #4. The two tanks were located east of Test Cell #4, near the airport fence. The UST containing JP-5 was reportedly located adjacent to the northern property boundary, and the JP-4 tank was situated just south of the JP-5 tank. The JP-4 tank was in service by 1972. The jet fuel tanks and the underground waste solvent tank were installed between 1956 and 1970, and were removed in 1986.	●	○	●	○	○
• Former JP5 UST		●	○	●	○	○
157: Test Cells	Buildng 157 is a former test cell building and was apparently used for testing of jet engines which included remotely piloted vehicles (PES, 2001). Operational permits indicated methyl isobutyl ketone (MIBK) was used in Building 157. Two former 10,000-gallon kerosene tanks were located just west of Buildng 157. There tanks were referred to as tanks #17 and #18 and the area has been referred to as "Area C". The tanks were installed in 1954 and removed in 1986. At the time of removal, impacted soil and groundwater were observed. Impacted soils were removed and subsequently, groundwater monitoring wells installed and additional soil samples were collected. Based on the results of soil and groundwater sampling (GTI, 1992), the SDCDEH issued a "no further action" letter	●	○	●	○	○
Explosives Area	The former explosives area was a 30-by 60-foot fenced, gated enclosure which was located in the northwest corner of the facility, adjacent to the airport runway. An historical facility map identified this as an explosives area, however, there were no other records or information on the use of this area.	○	●	●	○	○

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Table 3-1
Identified Constituents of Potential Concern
2701 North Harbor Drive
San Diego, California

METALS & CYANIDE	**VOLATILE ORGANIC COMPOUNDS**
ANTIMONY	1,1,1,2-TETRACHLOROETHANE
ARSENIC	1,1,1-TRICHLOROETHANE
BARIUM	1,1,2-TRICHLOROETHANE
BERYLLIUM	1,1-DICHLOROETHANE
CADMIUM	1,1-DICHLOROETHYLENE
CHROMIUM	1,1-DICHLOROPROPENE
CHROMIUM (HEXAVALENT)	1,2,4-TRIMETHYLBENZENE
COBALT	1,2,4-TRICHLOROBENZENE
COPPER	1,2-DIBROMO-3-CHLOROPROPANE
CYANIDE (AMENABLE)	1,2-BENZPHENANTHRACENE
CYANIDE (TOTAL)	1,2-DICHLOROBENZENE
LEAD	1,2-DICHLOROETHANE
MAGNESIUM	1,3,5-TRIMETHYLBENZENE
MERCURY	1,3-DICHLOROBENZENE
MOLYBDENUM	1,3-DICHLOROPROPANE
NICKEL	1,4-DICHLOROBENZENE
SELENIUM	2-BUTANONE (MEK)
SILVER	2-CHLOROTOLUENE
THALLIUM	ACETONE
VANADIUM	BENZENE
ZINC	BROMOCHLOROMETHANE
SEMI-VOLATILE ORGANIC COMPOUNDS	BROMOMETHANE
1,3-DICHLOROBENZENE	CARBON DISULFIDE
1,4-DICHLOROBENZENE	CHLORINATED FLUOROCARBON (FREON 11)
1,4,-DIOXANE	CHLORINATED FLUOROCARBON (FREON 113)
2-METHYLYNAPHTHALENE	CHLOROBENZENE
2-PHENYLBUTANE	CHLOROETHANE
4-CHLORO-3-METHYLPHENOL	CHLOROFORM
ACENAPHTHENE	CHLOROMETHANE
ANILINE	CIS-1,2-DICHLOROETHENE
BENZO(A)ANTHRACENE	CYMENE
BENZO(A)PYRENE	DIBROMOCHLOROMETHANE
BENZO(B)FLUORANTHENE	DIBROMOMETHANE
BENZO(G,H,I)PERYLENE	DICHLOROBROMOMETHANE
BENZO(K)FLUORANTHENE	DICHLOROMETHANE
BIS(2-ETHYLHEXYL)PHTHALATE	ETHYLBENZENE
BUTYLBENZYLPHTHALATE	ETHYL-TERT-BUTYL ETHER
CHRYSENE	HEXACHLORO-1,3-BUTADIENE
DIBENZA(A,H)ANTHRACENE	ISOPROPYLBENZENE
DIETHYLPHTHALATE	M-DICHLOROBENZENE
DIMETHYLPHTHALATE	METHYL TERT BUTYL ETHER (MTBE)
DI-N-BUTYPHTHALATE	METHYLBENZENE
FLUORANTHENE	NAPHTHALENE
FLUORENE	N-BUTYLBENZENE
INDENO(1,2,3-CD)PYRENE	N-PROPYLBENZENE
PHENANTHRENE	O-XYLENE
PYRENE	P/M-XYLENE
POLYCHLORINATED BIPHENYLS	TERT-BUTYL ALCOHOL
AROCLOR 1016	TERT-BUTYLBENZENE
AROCLOR 1242	TETRACHLOROETHENE
AROCLOR 1248	TRANS-1,2-DICHLOROETHENE
AROCLOR 1254	TRICHLOROETHENE
AROCLOR 1260	TRICHLOROETHYLENE
AROCLOR 1262	VINYL CHLORIDE
PERCHLORATE	XYLENES (TOTAL)
PERCHLORATE	
TOTAL PETROLEUM HYDROCARBONS	
TOTAL PETROLEUM HYDROCARBONS	

Table 3-2
Calculated Background Concentrations for Metals and Cyanide in Soil and Groundwater
2701 North Harbor Drive
San Diego, California

	Soil				
	Max Background (mg/kg)	**Min Detected (mg/kg)**	**Max Detected (mg/kg)**	**No. Samples**	**% Detection Above Background**
Antimony	3.9	0.3	8.5	408	0.7%
Arsenic	23[a]	0.4	23	408	0.0%
Barium	440[a]	1	440	408	0.0%
Beryllium	b	ND	ND	408	b
Cadmium	3.6	0.06	6.8	408	0.7%
Chromium	47	1.8	2200	431	6.0%
Cobalt	23	0.5	100	408	1.5%
Copper	55	0.2	200	408	0.7%
Lead	13.4	0.6	150	408	5.9%
Mercury	0.065	0.03	0.38	409	2.7%
Molybdenum	2.3	0.1	10	408	1.0%
Nickel	14.3	0.7	170	408	3.7%
Selenium	23.7	0.3	30	408	0.5%
Silver	b	0.5	2.5	408	b
Thallium	b	2.2	2.2	408	b
Vanadium	70[a]	0.8	70	408	0.0%
Zinc	53	2	710	408	5.4%
Cyanide (total)	b	0.08	1.7	161	b
Cyanide (amenable)	b	0.08	1	159	b

	Groundwater				
	Max Background (mg/L)	**Min Detected (mg/L)**	**Max Detected (mg/L)**	**No. Samples**	**% Detection Above Background**
Antimony	b	0.03	3	121	b
Arsenic	b	ND	ND	121	b
Barium	0.49[a]	0.0099	0.49	121	0.0%
Beryllium	b	0.0003	0.01	121	b
Cadmium	b	0.0031	0.01	121	b
Chromium	0.03	0.002	250	121	1.7%
Cobalt	0.04	0.0008	0.09	121	0.8%
Copper	b	0.002	0.019	121	b
Lead	b	ND	ND	121	b
Mercury	b	ND	ND	127	b
Molybdenum	0.046	0.004	0.29	121	26.4%
Nickel	0.1	0.003	0.45	121	4.1%
Selenium	0.63	0.025	1.3	121	4.1%
Silver	b	ND	ND	121	b
Thallium	b	ND	ND	121	b
Vanadium	0.076	0.0006	0.13	121	1.7%
Zinc	0.069	0.006	1.3	121	5.0%
Cyanide (total)	b	0.005	0.01	19	b
Cyanide (amenable)	b	ND	ND	19	b

Notes:
a - Entire dataset within background
b - Insufficient detections to determine background
mg/kg - milligram per kilogram
mg/L - milligram per liter

Table 3-3
Comparison of Maximum Background Soil Concentrations With Published Values
2701 North Harbor Drive
San Diego, California

	Site-Specific Maximum Background (mg/kg)	Literature Maximum Values	
		California[1,2] (mg/kg)	Western US[3] (mg/kg)
Antimony	3.9	1.95	2.6
Arsenic	23	31.2	97
Barium	440	1400	5000
Beryllium	-	2.7	15
Cadmium	3.6	1.7	-
Chromium	47	1579	2000
Cobalt	23	46.9	50
Copper	55	96.4	300
Lead	13.4	97.1	700
Mercury	0.065	0.9	4.6
Molybdenum	2.3	9.6	7
Nickel	14.3	509	700
Selenium	23.7	1.3	4.3
Silver	(2.5)b	8.3	-
Thallium	(2.2)b	1.1	31
Vanadium	70	288	500
Zinc	53	236	2100

Notes:
1. University of California, Riverside and DTSC. 1996. Background Concentrations of Trace and Major Elements in California Soils. Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources.
2. Bradford, G. R., R. J. Arkley, P. F. Pratt and F. L. Bair. 1967. Total content of nine mineral elements in 50 selected benchmark soil profiles of California. Hilgardia 38:541-556.
3. Shacklette, H.T. and J.G. Boerngen. 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. U.S. Geological Survey Professional Paper 1270. U.S. Gov. Printing Office, Washington D.C. 105 p. (Westen US data only)
(2.5)b - Insufficient detections to determine site specific background, maximum detection presented
- no data for the constituent
mg/kg - milligram per kilogram

Table 3-4
Groundwater Monitor Well Construction Details
2701 North Harbor Drive
San Diego, California

Well ID	Date Installed	Northing	Easting	Drilling Method	Borehole Depth (msl)	Top of Casing (msl)	Well Depth (ft bgs)	Well Depth (msl)	Screen Length (ft)	Screen Slot Size	Sand Pack Type	Completion
B-120-MW4	20-Jul-05	1846188.138	6274477.135	Hollow-Stem Auger	-8.429	7.071	15	-7.929	10	0.010"	#3 quartz sand	Flush Mount
B-120-MW5	20-Jul-05	1846210.514	6274393.927	Hollow-Stem Auger	-7.471	8.029	15	-6.971	10	0.010"	#3 quartz sand	Flush Mount
B-120-MW6	21-Jul-05	1846283.91	6274713.157	Hollow-Stem Auger	-6.772	8.728	15	-6.272	10	0.010"	#3 quartz sand	Flush Mount
B-131-MW1	18-Jul-05	1846823.902	6272827.732	Hollow-Stem Auger	-6.505	8.995	15	-6.005	10	0.010"	#3 quartz sand	Flush Mount
B-131-MW2	19-Jul-05	1846789.935	6272935.156	Hollow-Stem Auger	-6.04	9.46	15	-5.54	10	0.010"	#3 quartz sand	Flush Mount
B-131-MW3	19-Jul-05	1846653.118	6272916.366	Hollow-Stem Auger	-6.304	9.196	15	-5.804	10	0.010"	#3 quartz sand	Flush Mount
B-131-MW4	18-Jul-05	1846477.935	6272916.55	Hollow-Stem Auger	-6.584	8.916	15	-6.084	10	0.010"	#3 quartz sand	Flush Mount
B-131-MW5	21-Jul-05	1846602.39	6272782.342	Hollow-Stem Auger	-5.384	10.116	15	-4.884	10	0.010"	#3 quartz sand	Flush Mount
B-180-MW1	23-Sep-05	1845956.529	6275067.431	Hollow-Stem Auger	-9.613	7.887	15	-7.113	10	0.010"	#3 quartz sand	Flush Mount

Notes:
ft bgs - feet below ground surface
msl - mean sea level

Table 3-5
Soil, Sediment, and Groundwater Sample Matrix
2701 North Harbor Drive
San Diego, California

Sample Area	Sample Location	Sample Type	Sample Matrix	Date Sampled	PCB	Metals	Cr6	VOCs	SVOCs	Perchlorate	TPH	Grain
A	A-145	Existing	Sediment	8/15/2005	X							
A	A-153	Existing	Sediment	8/15/2005	X							
A	A-172	Existing	Sediment	8/15/2005	X	X						
A	A-173	Existing	Sediment	8/15/2005	X							
A	A-181	Existing	Sediment	8/15/2005	X							
A	A-91	Existing	Sediment	8/15/2005	X							
A	A-55	Existing	Sediment	8/17/2005	X							
A	A-201	Existing	Sediment	8/17/2005	X	X						
A	A-58	Existing	Sediment	8/17/2005		X						
A	A-169	Existing	Sediment	8/19/2005		X			X			
A	A-187	Existing	Sediment	8/19/2005		X			X			
A	A-22	Existing	Sediment	8/19/2005	X							
A	A-134	Existing	Sediment	9/7/2005	X	X						
A	A-68	Existing	Sediment	9/7/2005	X	X						
A	T-13-GW	Hydropunch	Groundwater	6/30/2005				X	X			
A	T-14-GW	Hydropunch	Groundwater	6/30/2005				X	X		X	
A	T-15-GW	Hydropunch	Groundwater	6/30/2005				X	X			
A	T-16-GW	Hydropunch	Groundwater	6/30/2005				X	X			
A	T-17B-GW	Hydropunch	Groundwater	6/30/2005				X				
A	T-17-GW	Hydropunch	Groundwater	6/30/2005				X	X		X	
A	T-18-GW	Hydropunch	Groundwater	6/30/2005				X	X			
A	T-19-GW	Hydropunch	Groundwater	6/30/2005				X	X		X	
A	T-20-GW	Hydropunch	Groundwater	6/30/2005				X	X			
A	T-29-GW	Hydropunch	Groundwater	6/30/2005		X		X				
A	T-30-GW	Hydropunch	Groundwater	6/30/2005		X		X				
A	T-31-GW	Hydropunch	Groundwater	6/30/2005		X		X				
A	T-33-GW	Hydropunch	Groundwater	6/30/2005		X		X				
A	T-19-S-6.5-T	Hydropunch	Soil	6/30/2005				X			X	
A	T-31-S-6T	Hydropunch	Soil	6/30/2005				X			X	
A	T-14-S-6B	Hydropunch	Soil	6/30/2005				X			X	
A	T-1-GW	Hydropunch	Groundwater	7/5/2005				X				
A	T2-GW	Hydropunch	Groundwater	7/5/2005				X				
A	T-32-GW	Hydropunch	Groundwater	7/5/2005		X		X				
A	T3-GW	Hydropunch	Groundwater	7/5/2005				X				
A	T4-GW	Hydropunch	Groundwater	7/5/2005				X				
A	T5-GW	Hydropunch	Groundwater	7/5/2005				X				

<u>Note:</u>

Table 3-5
Soil, Sediment, and Groundwater Sample Matrix
2701 North Harbor Drive
San Diego, California

Sample Area	Sample Location	Sample Type	Sample Matrix	Date Sampled	PCB	Metals	Cr6	VOCs	SVOCs	Perchlorate	TPH	Grain
X - Constituent Analyzed												
A	T6-GW	Hydropunch	Groundwater	7/5/2005				X				
A	T-21B-GW	Hydropunch	Groundwater	7/6/2005				X	X			
A	T-22-GW	Hydropunch	Groundwater	7/6/2005				X	X			
A	T-23-GW	Hydropunch	Groundwater	7/6/2005				X	X			
A	T-24-GW	Hydropunch	Groundwater	7/6/2005				X	X			
A	T-25-GW	Hydropunch	Groundwater	7/13/2005				X	X			
A	T-26-GW	Hydropunch	Groundwater	7/13/2005				X	X		X	
A	T-27-GW	Hydropunch	Groundwater	7/13/2005				X	X			
A	T-27-GW-B	Hydropunch	Groundwater	7/13/2005				X	X			
A	T-28-GW	Hydropunch	Groundwater	7/13/2005				X	X			
A	T-40-GW	Hydropunch	Groundwater	7/13/2005				X				
A	T-42-GW	Hydropunch	Groundwater	7/13/2005				X				
A	T-26-S-6.5-B	Hydropunch	Soil	7/13/2005				X			X	
A	T-39-S-6.5B	Hydropunch	Soil	7/13/2005				X			X	
A	T-40-S-6.5-T	Hydropunch	Soil	7/13/2005				X			X	
A	T-34-GW	Hydropunch	Groundwater	7/14/2005				X	X		X	
A	T-36-GW	Hydropunch	Groundwater	7/14/2005				X	X			
A	T-37-GW	Hydropunch	Groundwater	7/14/2005				X	X		X	
A	T-38-GW	Hydropunch	Groundwater	7/14/2005				X	X			
A	T-41-GW	Hydropunch	Groundwater	7/14/2005				X				
A	T-41-GW-B	Hydropunch	Groundwater	7/14/2005				X				
A	T-34-S-7-T	Hydropunch	Soil	7/14/2005				X				
A	T-10B	Hydropunch	Groundwater	9/22/2005				X	X			
A	T-10GW	Hydropunch	Groundwater	9/22/2005				X	X			
A	T-11GW	Hydropunch	Groundwater	9/22/2005		X		X			X	
A	T-7-GW	Hydropunch	Groundwater	9/22/2005				X	X			
A	T-8-GW	Hydropunch	Groundwater	9/22/2005				X	X			
A	T-9-GW	Hydropunch	Groundwater	9/22/2005				X	X			
A	T-43-GW	Hydropunch	Groundwater	11/18/2005				X	X			
A	B120-MW4-6.5-B	Monitor Well	Soil	7/20/2005							X	
A	B120-MW5-6.5	Monitor Well	Soil	7/20/2005							X	
A	B120-MW6-6-B	Monitor Well	Soil	7/20/2005							X	
A	B131-MW5-7-T	Monitor Well	Soil	7/20/2005							X	
A	BLD102-MW3	Monitor Well	Groundwater	7/28/2005				X				
A	BLD102-MW4	Monitor Well	Groundwater	7/28/2005				X			X	

<u>Note:</u>

Table 3-5
Soil, Sediment, and Groundwater Sample Matrix
2701 North Harbor Drive
San Diego, California

X - Constituent Analyzed

Sample Area	Sample Location	Sample Type	Sample Matrix	Date Sampled	PCB	Metals	Cr6	VOCs	SVOCs	Perchlorate	TPH	Grain
A	BLD120-MW3	Monitor Well	Groundwater	7/29/2005				X	X	X		
A	BLD156-MW1	Monitor Well	Groundwater	7/29/2005				X				
A	B120-MW6	Monitor Well	Groundwater	8/1/2005				X	X		X	
A	BLD120-MW-1	Monitor Well	Groundwater	8/1/2005				X	X	X		
A	BLD120-MW-2	Monitor Well	Groundwater	8/1/2005				X	X	X		
A	B156-MW3	Monitor Well	Groundwater	8/2/2005			X	X				
A	B120-MW4	Monitor Well	Groundwater	8/2/2005				X	X		X	
A	B120-MW5	Monitor Well	Groundwater	8/2/2005				X	X		X	
A	GT-4	Monitor Well	Groundwater	8/2/2005			X	X				
A	SDE	Monitor Well	Groundwater	8/3/2005		X	X	X	X			
A	TC4-EHP	Monitor Well	Groundwater	8/3/2005		X	X	X	X			
A	B131-MW1	Monitor Well	Groundwater	8/4/2005				X	X			
A	B131-MW2	Monitor Well	Groundwater	8/4/2005				X	X			
A	B131-MW3	Monitor Well	Groundwater	8/4/2005				X	X			
A	B131-MW4	Monitor Well	Groundwater	8/5/2005				X	X		X	
A	B131-MW5	Monitor Well	Groundwater	8/5/2005				X	X		X	
A	BLD-102-MW-5	Monitor Well	Groundwater	8/5/2005				X				
A	P1	Monitor Well	Groundwater	8/5/2005				X	X	X		
A	142WDP	Monitor Well	Groundwater	8/8/2005		X		X	X			
A	142WEP	Monitor Well	Groundwater	8/8/2005		X	X	X	X			
A	142WGP	Monitor Well	Groundwater	8/8/2005		X		X	X			
A	GT4	Monitor Well	Groundwater	8/9/2005		X						
A	P2	Monitor Well	Groundwater	8/9/2005		X	X	X	X			
A	TC4EEP	Monitor Well	Groundwater	8/9/2005				X	X			
A	TC4EGP	Monitor Well	Groundwater	8/9/2005				X	X	X		
A	BLD156-MW3	Monitor Well	Groundwater	8/10/2005		X						
A	B180-MW-1	Monitor Well	Groundwater	10/4/2005		X		X				
A	A-102	Run-In	Sediment	8/15/2005	X							
A	A-104	Run-In	Sediment	8/15/2005	X							
A	A-144	Run-In	Sediment	8/15/2005	X							
A	A-168	Run-In	Sediment	8/15/2005	X							
A	A-124	Run-In	Sediment	8/17/2005	X							
A	A-123	Run-In	Sediment	8/17/2005	X							
A	A-131	Run-In	Sediment	8/17/2005	X							
A	A-103	Run-In	Sediment	8/17/2005	X							

Note:

Table 3-5
Soil, Sediment, and Groundwater Sample Matrix
2701 North Harbor Drive
San Diego, California

Sample Area	Sample Location	Sample Type	Sample Matrix	Date Sampled	PCB	Metals	Cr6	VOCs	SVOCs	Perchlorate	TPH	Grain
X - Constituent Analyzed												
A	A-45	Run-In	Sediment	8/17/2005	X							
A	A-200	Run-In	Sediment	8/19/2005	X							
A	A-47	Run-In	Sediment	8/19/2005	X							
A	A-48	Run-In	Sediment	8/19/2005	X							
A	A-64	Run-In	Sediment	8/19/2005	X							
A	A-99	Run-In	Sediment	8/19/2005	X							
A	A-132	Run-In	Sediment	9/7/2005	X	X		X				
B	B1 BOTTOM	Existing	Sediment	3/18/2005	X							
B	B13	Existing	Sediment	3/18/2005	X							
B	B14	Existing	Sediment	3/18/2005	X							
B	B18	Existing	Sediment	3/18/2005	X							
B	B19	Existing	Sediment	3/18/2005	X							
B	B20	Existing	Sediment	3/18/2005	X							
B	B24	Existing	Sediment	3/18/2005	X							
B	B25	Existing	Sediment	3/18/2005	X							
B	B26	Existing	Sediment	3/18/2005	X							
B	B28	Existing	Sediment	3/18/2005	X							
B	B6 BOTTOM	Existing	Sediment	3/18/2005	X							
B	B9 BOTTOM	Existing	Sediment	3/18/2005	X							
B	B-4	Existing	Sediment	9/7/2005	X							
B	B-11	In-Line	Sediment	8/29/2005	X							
B	B-21	In-Line	Sediment	8/29/2005	X							
B	B-23	In-Line	Sediment	9/7/2005	X							
B	B-27	In-Line	Sediment	9/9/2005	X							
B	TC4-WIP	Monitor Well	Groundwater	9/19/2005				X	X			
B	B1 TOP	Run-In	Sediment	3/18/2005	X							
B	B10 TOP	Run-In	Sediment	3/18/2005	X							
B	B11 TOP	Run-In	Sediment	3/18/2005	X							
B	B2 TOP	Run-In	Sediment	3/18/2005	X							
B	B3 TOP	Run-In	Sediment	3/18/2005	X							
B	B6 TOP	Run-In	Sediment	3/18/2005	X							
B	B8 TOP	Run-In	Sediment	3/18/2005	X							
B	B9 TOP	Run-In	Sediment	3/18/2005	X							
B	B8	Run-In	Sediment	4/29/2005	X							
B	B-1	Run-In	Sediment	8/29/2005	X							

Note:

Table 3-5
Soil, Sediment, and Groundwater Sample Matrix
2701 North Harbor Drive
San Diego, California

X - Constituent Analyzed

Sample Area	Sample Location	Sample Type	Sample Matrix	Date Sampled	PCB	Metals	Cr6	VOCs	SVOCs	Perchlorate	TPH	Grain
B	B-11	Run-In	Sediment	8/29/2005	X							
B	B-14	Run-In	Sediment	8/29/2005	X							
B	B-2	Run-In	Sediment	8/29/2005	X							
B	B-21	Run-In	Sediment	8/29/2005	X							
B	B-18	Run-In	Sediment	9/7/2005	X							
C	C-1	Existing	Sediment	8/23/2005	X							
C	C-2	Existing	Sediment	8/23/2005	X							
D	D12	Existing	Sediment	3/23/2005	X							
D	D13	Existing	Sediment	3/23/2005	X							
D	D15	Existing	Sediment	3/23/2005	X							
D	D-21	Existing	Sediment	4/22/2005	X							
D	D-22	Existing	Sediment	4/22/2005	X							
D	D-23 BOTTOM	Existing	Sediment	4/22/2005	X							
D	D-24 BOTTOM	Existing	Sediment	4/22/2005	X							
D	D-25	Existing	Sediment	4/22/2005	X							
D	D-26	Existing	Sediment	4/22/2005	X							
D	D-13MH-842	Existing	Sediment	9/9/2005	X							X
D	D-20	Existing	Sediment	9/9/2005	X							
D	D-27	Existing	Sediment	9/9/2005	X							X
D	D-28	Existing	Sediment	9/9/2005	X							
D	D-29	Existing	Sediment	9/9/2005	X							X
D	D-30	Existing	Sediment	9/9/2005	X							
D	D-7	Existing	Sediment	9/28/2005	X	X						X
D	D-23 TOP	Run-In	Sediment	4/22/2005	X							
D	D-24 TOP	Run-In	Sediment	4/22/2005	X							
D	D-28	Run-In	Sediment	9/9/2005	X							
D	C-2/B-24-119VID	Video	Sediment	9/8/2005	X							
D	MH-B23-242N-70S	Video	Sediment	9/28/2005	X							
D	MH-B23-242N-0	Video	Sediment	9/28/2005	X							
E	E-1	Existing	Sediment	8/22/2005	X							
E	E-2	Existing	Sediment	8/22/2005	X							
E	E-10	Existing	Sediment	8/23/2005	X							
E	E-13	Existing	Sediment	8/23/2005	X							
E	E-14	Existing	Sediment	8/23/2005	X							
E	E-17	Existing	Sediment	8/23/2005	X							

Note:

Table 3-5
Soil, Sediment, and Groundwater Sample Matrix
2701 North Harbor Drive
San Diego, California

Sample Area	Sample Location	Sample Type	Sample Matrix	Date Sampled	PCB	Metals	Cr6	VOCs	SVOCs	Perchlorate	TPH	Grain
X - Constituent Analyzed												
E	E-18	Existing	Sediment	8/23/2005	X							
E	E-22	Existing	Sediment	8/23/2005	X							
E	E-7	Run-In	Sediment	8/22/2005	X							
E	E-21	Run-In	Sediment	8/23/2005	X							
E	E-25	Run-In	Sediment	8/23/2005	X							
G	G1	Existing	Sediment	3/9/2005	X							
G	G3	Existing	Sediment	3/9/2005	X							
G	G1	In-Line	Sediment	9/12/2005	X							
G	G2	In-Line	Sediment	9/12/2005	X							
G	G3	In-Line	Sediment	9/12/2005	X							
H	H5	Existing	Sediment	3/23/2005	X							
H	H-5	In-Line	Sediment	9/14/2005	X							
I	I1	Existing	Sediment	3/9/2005	X							
I	I2	Existing	Sediment	3/9/2005	X							
I	I1	Run-In	Sediment	4/29/2005	X							
L	L-1	Lagoon	Sediment	8/11/2005	X							
L	L-2	Lagoon	Sediment	8/11/2005	X							
L	L-3	Lagoon	Sediment	8/11/2005	X							
L	L-4	Lagoon	Sediment	8/11/2005	X							
L	L-5	Lagoon	Sediment	8/11/2005	X							
L	L-6	Lagoon	Sediment	8/11/2005	X							

Note:
X - Constituent Analyzed

Table 3-6
Groundwater Elevations on 7/27/05
2701 North Harbor Drive
San Diego, California

LOCATION	Time (AM)	Time (PM)	LNAPL (ft bgs)	DTW (AM) (ft bgs)	DTW (PM) (ft bgs)	DNAPL (ft bgs)	TD (ft bgs)
142EAP	10:20	15:42	ND	7.11	7.04	ND	9.83
142NC	10:27	15:49	6.99	6.99	7.00	ND	9.68
142SC	10:37	15:52	ND	6.97	6.99	ND	9.65
142WEP	09:58	15:07	ND	6.64	6.50	ND	9.83
142WDP	10:44	15:58	ND	6.81	6.84	ND	9.85
142WFP	10:35	16:02	ND	6.46	6.44	ND	9.80
142WGP	10:48	16:10	ND	6.34	6.22	ND	9.81
142WCP	10:30	16:00	ND	6.89	6.66	ND	9.85
142EBP	10:45	15:57	ND	6.32	6.28	ND	9.84
BLD102-MW-3	08:23	15:51	ND	7.21	7.21	ND	17.10
BLD102-MW-4	08:59	16:31	ND	6.55	6.51	ND	17.80
BLD102-MW-5	11:00	16:18	ND	7.02	7.02	ND	15.20
BLD120-MW-1	07:59	14:53	ND	5.94	5.90	ND	14.80
BLD120-MW-2	07:48	14:58	ND	6.19	6.16	ND	14.60
BLD120-MW-3	08:02	14:46	ND	6.22	6.21	ND	14.35
B120-MW4	08:38	15:38	ND	7.85	4.81	ND	13.80
B120-MW5	08:45	15:44	ND	6.72	5.69	ND	13.50
B120-MW6	09:54	15:05	ND	6.08	6.07	ND	14.70
B131-MW1	10:22	15:17	ND	6.29	6.21	ND	12.10
B131-MW2	10:16	15:22	ND	6.70	6.69	ND	12.60
B131-MW3	10:04	15:27	ND	6.54	6.51	ND	14.50
B131-MW4	09:12	15:18	ND	6.20	6.18	ND	13.90
B131-MW5	09:25	15:25	ND	7.51	7.50	ND	13.55
BLD156-MW1	10:10	15:32	ND	6.49	6.51	ND	15.55
BLD156-MW2	10:12	15:35	ND	6.85	6.85	ND	15.22
BLD156-MW3	10:05	15:37	ND	6.30	6.32	ND	15.30
GT1	10:35	15:50	ND	7.11	7.06	ND	15.63
GT2	10:40	15:55	ND	6.81	6.74	ND	14.54
GT3	10:25	15:47	ND	6.98	6.90	ND	15.38
GT4	10:22	15:44	ND	7.03	6.95	ND	15.70
P1	07:42	14:10	ND	7.95	7.92	ND	15.34
P2	09:45	15:02	ND	6.25	6.24	ND	14.83
P3	09:42	15:00	ND	6.48	6.45	ND	15.34
SDE	09:32	14:55	ND	6.80	6.79	ND	9.20
SDW	09:35	14:57	ND	6.80	6.82	ND	9.37
TC4ECP	08:40	14:29	ND	8.15	8.10	ND	15.15
TC4EDP	09:20	14:23	ND	7.20	7.20	ND	15.03

Table 3-6
Groundwater Elevations on 7/27/05
2701 North Harbor Drive
San Diego, California

LOCATION	Time (AM)	Time (PM)	LNAPL (ft bgs)	DTW (AM) (ft bgs)	DTW (PM) (ft bgs)	DNAPL (ft bgs)	TD (ft bgs)
TC4EEP	08:27	14:20	ND	7.51	7.49	ND	9.80
TC4EGP	08:05	14:15	ND	7.45	7.38	ND	9.95
TC4EHP	08:17	14:18	ND	6.95	6.93	ND	15.35
TC4WCP	08:45	14:32	ND	7.98	7.96	ND	15.45
TC4WDP	08:50	14:35	ND	8.12	8.10	ND	15.31
TC4WEP	07:50		ND	DRY	DRY	ND	5.6
TC4WHP	08:55	14:37	ND	8.43	8.30	ND	9.90
TC4ENC	08:36	14:36	ND	7.51	7.52	ND	14.87
TC4WNC	09:00	14:42	8.01	8.09	8.05	ND	11.15
? Near TC4WNC	09:10	14:45	ND	8.74	8.74	ND	34.81
TC4WSC	09:05	14:50	ND	8.00	8.04	ND	10.89

Notes:
DNAPL - Dense non-aqueous phase liquid
DTW - Depth to water
ft bgs - feet below ground surface
LNAPL - Light non-aqueous phase liquid
TD - Total Depth

Table 3-7
Laboratory Analytical Methods
2701 North Harbor Drive
San Diego, California

Analyte	EPA Method	Matrix	Container	Preservation	Maximum Hold Time
Chromium VI	7199	Water	500 mL HDPE	Cool, 4 ºC	24 hours
	7196A	Soil	8 oz glass	Cool, 4 ºC	24 hours
Metals	6010	Water	500 mL HDPE	HNO_3, pH<2	180 days
	6010	Soil	8 oz glass	Cool, 4 ºC	180 days
PCB	8082	Water	1 L amber glass	Cool, 4 ºC	5 days
	8082	Soil	4 oz glass	Cool, 4 ºC	5 days
VOC	8260	Water	3-40 mL vial	HCl, pH<2, Cool, 4ºC	14 days
	8260	Soil	Variable	Cool, 4 ºC	48 hours
SVOC	8270	Water	1 L amber glass	Cool, 4 ºC	7 days
	8270	Soil	4 oz glass	Cool, 4 ºC	14 days

Notes:
EPA - United States Environmental Protection Agency
HDPE - High density polyethylene
PCB - Polychlorinated biphenyls
SVOC - Semi-volatile organic compound
VOC - Volatile organic compound

Table 4-1
Groundwater Monitoring and Monitoring Well Abandonment Plan
2701 North Harbor Drive
San Diego, California

Location	Depth (ft bgs)	Status	Recommendation	Rationale	Diameter
142EAP	9.66	active	abandon	close well spacing, 1 inch, poor condition, cracked bentonite	1
142NC	9.45	active	retain	necessary for monitoring	4
142SC	9.36	active	abandon	close well spacing	4
142WEP	9.65	active	abandon	close well spacing, 1 inch, poor condition, cracked bentonite	1
142WDP	9.6	active	abandon	close well spacing, 1 inch, poor condition, cracked bentonite	1
142WFP	9.6	active	abandon	close well spacing, 1 inch, poor condition, cracked bentonite	1
142WGP	9.5	active	abandon	close well spacing, 1 inch, poor condition	1
142WCP	9.56	active	abandon	close well spacing, 1 inch, poor condition, cracked bentonite	1
142EBP	9.65	active	abandon	close well spacing, 1 inch, poor condition, cracked bentonite	1
BLD102-MW-3	16.8	active	retain	necessary for monitoring	4
BLD102-MW-4	17.8	active	retain	necessary for monitoring	4
BLD120-MW-1	14.54	active	retain	necessary for monitoring	4
BLD120-MW-2	13.3	active	retain	necessary for monitoring	4
BLD120-MW-3	14.1	active	retain	necessary for monitoring	4
B120-MW4	15	active	retain	necessary for monitoring	2
B120-MW5	15	active	retain	necessary for monitoring	2
B120-MW6	15	active	retain	necessary for monitoring	2
B131-MW1	15	active	retain	necessary for monitoring	2
B131-MW2	15	active	retain	necessary for monitoring	2
B131-MW3	15	active	retain	necessary for monitoring	2
B131-MW4	15	active	retain	necessary for monitoring	2
B131-MW5	15	active	retain	necessary for monitoring	2
B180-MW1	15	active	retain	necessary for monitoring	2

Table 4-1
Groundwater Monitoring and Monitoring Well Abandonment Plan
2701 North Harbor Drive
San Diego, California

Location	Depth (ft bgs)	Status	Recommendation	Rationale	Diameter
BLD156-MW1	15.15	active	repair and retain	necessary for monitoring, loose seal	4
BLD156-MW2	15	active	retain	necessary for monitoring	4
BLD156-MW3	15.05	active	retain	necessary for monitoring	4
GT1	15.4	active	abandon	close well spacing	4
GT2	14.45	active	abandon	close well spacing	4
GT3	15.08	active	abandon	close well spacing	4
GT4	15.4	active	retain	groundwater control	4
P1	15.1	active	repair and retain	groundwater control, no seal	4
P2	14.56	active	retain	necessary for monitoring	4
P3	15.1	active	abandon	close well spacing	4
SDE	9.02	active	abandon	screened to surface, possible pathway	2
SDW	9.15	active	abandon	screened to surface, possible pathway	2
TC4ECP	14.95	active	retain	groundwater control	4
TC4EDP	14.72	active	retain	groundwater control	4
TC4EEP	9.7	active	repair and retain	necessary for monitoring, cracked bentonite	1
TC4EGP	9.7	active	repair and retain	necessary for monitoring, cracked bentonite	1
TC4EHP	15.1	active	repair and retain	groundwater control, compromised seal	4
TC4EJP	-	on airport property	abandon	close well spacing	-
TC4WCP	15.05	active	repair and retain	active UST investigation	4
TC4WDP	15.05	active	repair and retain	active UST investigation	4
TC4WEP	5.6	dry/blocked with bentonite	abandon	groundwater control/ monitoring, cracked bentonite	1
TC4WHP	9.6	active	abandon	close well spacing, 1 inch, cracked/destroyed	1

Table 4-1
Groundwater Monitoring and Monitoring Well Abandonment Plan
2701 North Harbor Drive
San Diego, California

Location	Depth (ft bgs)	Status	Recommendation	Rationale	Diameter
TC4WIP	15.22	on airport Property/active	retain	necessary for monitoring	4
TC4ENC	14.6	active	abandon	groundwater control, no seal	4
TC4WNC	10.95	active	repair and retain	NAPL, non-functioning seal	4
TC4WNC Deep	34.5	active	repair and retain	active UST investigation, poor seal	4
TC4WSC	10.62	active	repair and retain	active UST investigation, no seal	4

Note:
ft bgs - feet below ground surface
NAPL - Non-aqueous phase liquid
UST - Underground storage tank
- unknown

Table 7-1
Concentrations of Polychlorinated Biphenyls Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

Sample ID	Date Sampled	Units	Aroclor						
			1016	1221	1232	1242	1248	1254	1260
Airport/TRA Site									
A-102R	8/15/2005	mg/kg	ND<1.7	ND<3.5	ND<1.7	ND<1.7	ND<1.7	**1.20 J,D**	**2.20 D**
A-103E	8/17/2005	mg/kg	ND<0.59	ND<1.2	ND<0.59	ND<0.59	ND<0.59	ND<0.59	ND<0.59
A-103R	8/17/2005	mg/kg	ND<0.067	ND<0.14	ND<0.067	ND<0.067	ND<0.067	**0.10 D**	ND<0.067
A-104R	8/15/2005	mg/kg	ND<0.034	ND<0.069	ND<0.034	ND<0.034	ND<0.034	**0.094**	**0.1**
A-123R	8/17/2005	mg/kg	ND<0.81	ND<1.7	ND<0.81	ND<0.81	ND<0.81	**1 D**	ND<0.81
A-124R	8/17/2005	mg/kg	ND<3.4	ND<6.8	ND<3.4	ND<3.4	**5.20 D**	**3.5 D**	ND<3.4
A-131R	8/17/2005	mg/kg	ND<1.7	ND<3.4	ND<1.7	ND<1.7	**2.80 D**	**3.2 D**	**2.90 D,Y**
A-132R	9/7/2005	mg/kg	ND<69	ND<140	ND<69	ND<69	ND<69	ND<69	**380.0 D,X**
A-134E	9/7/2005	mg/kg	ND<0.83	ND<1.7	ND<0.83	**24 D,Z**	ND<0.83	ND<0.83	**1.40 D**
A-144R	8/15/2005	mg/kg	ND<1.7	ND<3.5	ND<1.7	ND<1.7	ND<1.70 X	**11 D**	**3.90 D**
A-145E	8/15/2005	mg/kg	ND<1.7	ND<3.5	ND<1.7	ND<1.7	**7.30 D,Z**	**5.7 D**	**2.30 D**
A-153E	8/15/2005	mg/kg	ND<0.13	ND<0.26	ND<0.13	ND<0.13	ND<0.13 X	**0.35**	**0.21**
A-168R	8/15/2005	mg/kg	ND<0.17	ND<0.34	ND<0.17	ND<0.17	**1.20 D,Z**	**0.810 D**	**0.880 D**
A-172E	8/15/2005	mg/kg	ND<2.2	ND<4.3	ND<2.2	ND<2.2	ND<2.20 X	**13.0 D**	**8.70 D**
A-173E	8/15/2005	mg/kg	ND<0.48	ND<0.97	ND<0.48	ND<0.48	ND<0.48 X	**3.8 D**	**1.40 D**
A-181E	8/15/2005	mg/kg	ND<0.057	ND<0.12	ND<0.057	ND<0.057	ND<0.057	**0.15**	**0.26**
A-200R	8/19/2005	mg/kg	ND<8.4	ND<17	ND<8.4	ND<8.4	ND<8.4	**60 D**	ND<8.4
A-201E	8/17/2005	mg/kg	ND<6	ND<13	ND<6	ND<6	**52 D**	ND<6.0	ND<6.0
A-22E	8/19/2005	mg/kg	ND<0.075	ND<0.16	ND<0.075	ND<0.075	ND<0.075	ND<0.075	ND<0.075
A-45R	8/17/2005	mg/kg	ND<0.69	ND<1.4	ND<0.69	ND<0.69	ND<0.69	**0.870 D**	**1.0 D**
A-47R	8/19/2005	mg/kg	ND<1.7	ND<3.4	ND<1.7	ND<1.7	ND<1.7	**5.20 D**	ND<1.7
A-48R	8/19/2005	mg/kg	ND<0.31	ND<0.63	ND<0.31	ND<0.31	ND<0.31	**1.30 D**	**0.5 D**
A-55E	8/17/2005	mg/kg	ND<0.66	ND<1.4	ND<0.66	ND<0.66	ND<0.66	**2.8 D**	ND<0.66
A-64R	8/19/2005	mg/kg	ND<0.049	ND<0.1	ND<0.049	ND<0.049	ND<0.049	**0.099**	**0.068**
A-64R RE	8/19/2005	mg/kg	ND<0.05	ND<0.1	ND<0.05	ND<0.05	ND<0.05	**0.23**	**0.16**
A-68E	9/7/2005	mg/kg	ND<0.045	ND<0.089	ND<0.045	ND<0.045	ND<0.045	**0.044 J**	ND<0.045
A-91E	8/15/2005	mg/kg	ND<0.38	ND<0.76	ND<0.38	ND<0.38	**0.850 D,Z**	**1.70 D**	**0.740 D**
A-99R	8/19/2005	mg/kg	ND<0.17	ND<0.35	ND<0.17	ND<0.17	**2.90 D**	ND<0.17	**0.390 D**

Table 7-1
Concentrations of Polychlorinated Biphenyls Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

Sample ID	Date Sampled	Units	Aroclor						
			1016	1221	1232	1242	1248	1254	1260
Airport									
B10-E-TOP	3/19/2005	mg/kg	ND<0.72	ND<1.4	ND<0.72	ND<0.72	**0.20 J,D**	ND<0.72	ND<0.72
B11-E-TOP	3/19/2005	mg/kg	ND<0.15	ND<0.29	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
B-11I	8/29/2005	mg/kg	ND<0.29	ND<0.58	ND<0.29	**7.0 D,Z**	ND<0.29	ND<0.29	**0.98**
B-11R	8/29/2005	mg/kg	ND<0.034	ND<0.068	ND<0.034	**0.043 Z**	ND<0.034	**0.012 J**	ND<0.034
B13-E	3/19/2005	mg/kg	ND<0.86	ND<1.7	ND<0.86	ND<0.86	ND<0.86	ND<0.86	ND<0.86
B14-E	3/19/2005	mg/kg	ND<0.75	ND<1.5	ND<0.75	ND<0.75	ND<0.75	ND<0.75	ND<0.75
B-14R	8/29/2005	mg/kg	ND<0.034	ND<0.068	ND<0.034	ND<0.034	ND<0.034	**0.011 J**	ND<0.034
B18-E	3/19/2005	mg/kg	ND<0.17	ND<0.33	ND<0.17	ND<0.17	ND<0.17	**1.60 D**	ND<0.17
B-18R	9/7/2005	mg/kg	ND<0.069	ND<0.14	ND<0.069	ND<0.069	ND<0.069	**0.25**	ND<0.069
B19-E	3/18/2005	mg/kg	ND<0.089	ND<0.18	ND<0.089	ND<0.089	**0.14**	ND<0.089	ND<0.089
B1-E-BOTTOM	3/18/2005	mg/kg	ND<0.08	ND<0.16	ND<0.08	ND<0.08	ND<0.08	ND<0.08	ND<0.08
B1-E-TOP	3/18/2005	mg/kg	ND<0.069	ND<0.14	ND<0.069	ND<0.069	ND<0.069	ND<0.069	ND<0.069
B-1R	8/29/2005	mg/kg	ND<0.033	ND<0.067	ND<0.033	ND<0.033	ND<0.033	ND<0.033	ND<0.033
B20-E	3/18/2005	mg/kg	ND<0.088	ND<0.17	ND<0.088	ND<0.088	ND<0.088	ND<0.088	ND<0.088
B-21I	8/29/2005	mg/kg	ND<0.16	ND<0.31	ND<0.16	ND<0.16	ND<0.16	**0.160 J**	ND<0.16
B-21R	8/29/2005	mg/kg	ND<0.033	ND<0.067	ND<0.033	ND<0.033	ND<0.033	ND<0.033	ND<0.033
B-23I	9/7/2005	mg/kg	ND<0.076	ND<0.15	ND<0.076	ND<0.076	ND<0.076	**0.13**	ND<0.076
B24-E	3/18/2005	mg/kg	ND<0.084	ND<0.17	ND<0.084	ND<0.084	**0.086**	ND<0.084	ND<0.084
B25-E	3/18/2005	mg/kg	ND<0.08	ND<0.16	ND<0.08	ND<0.08	ND<0.08	ND<0.08	ND<0.08
B26-E	3/18/2005	mg/kg	ND<0.067	ND<0.13	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.067
B-27I	9/9/2005	mg/kg	ND<0.35	ND<0.69	ND<0.35	ND<0.35	ND<0.35	ND<0.35	ND<0.35
B28-E	3/18/2005	mg/kg	ND<0.078	ND<0.15	ND<0.078	ND<0.078	ND<0.078	ND<0.078	ND<0.078
B2-E-TOP	3/18/2005	mg/kg	ND<0.075	ND<0.15	ND<0.075	ND<0.075	ND<0.075	ND<0.075	ND<0.075
B-2R	8/29/2005	mg/kg	ND<0.033	ND<0.067	ND<0.033	ND<0.033	ND<0.033	ND<0.033	ND<0.033
B3-E-TOP	3/19/2005	mg/kg	ND<0.78	ND<1.6	ND<0.78	ND<0.78	ND<0.78	ND<0.78	ND<0.78
B-4E	9/7/2005	mg/kg	ND<0.17	ND<0.33	ND<0.17	ND<0.17	ND<0.17	ND<0.17	ND<0.17
B6-E-BOTTOM	3/18/2005	mg/kg	ND<0.084	ND<0.17	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084
B6-E-TOP	3/18/2005	mg/kg	ND<0.068	ND<0.14	ND<0.068	ND<0.068	ND<0.068	ND<0.068	ND<0.068
B8-E-TOP	3/19/2005	mg/kg	ND<0.074	ND<0.15	ND<0.074	ND<0.074	**0.11**	ND<0.074	ND<0.074
B8-R	4/29/2005	mg/kg	ND<0.068	ND<0.14	ND<0.068	ND<0.068	**0.086**	**0.064 J**	ND<0.068
B9-E-BOTTOM	3/19/2005	mg/kg	ND<0.23	ND<0.44	ND<0.23	ND<0.23	**0.24**	ND<0.23	ND<0.23
B9-E-TOP	3/19/2005	mg/kg	ND<0.7	ND<1.4	ND<0.7	ND<0.7	**0.230 J,D**	ND<0.7	ND<0.7
MH-B23-242N-0	9/28/2005	mg/kg	ND<0.13	ND<0.25	ND<0.13	ND<0.13	ND<0.13	ND<0.13	ND<0.13
MH-B23-242N-70S	9/28/2005	mg/kg	ND<0.11	ND<0.21	ND<0.11	ND<0.11	ND<0.11	ND<0.11	**0.17**

Table 7-1
Concentrations of Polychlorinated Biphenyls Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

			Aroclor						
Sample ID	**Date Sampled**	**Units**	**1016**	**1221**	**1232**	**1242**	**1248**	**1254**	**1260**
Sky Chefs									
C-1 E	8/24/2005	mg/kg	ND<0.069	ND<0.14	ND<0.069	ND<0.069	ND<0.069	**0.034 J**	ND<0.069
C-2 E	8/24/2005	mg/kg	ND<0.11	ND<0.21	ND<0.11	ND<0.11	ND<0.11	ND<0.11	ND<0.11
C-2/B-24-119VID	9/8/2005	mg/kg	ND<0.17	ND<0.34	ND<0.17	ND<0.17 Z	ND<0.17	**0.300 D**	ND<0.17
General Dynamics									
D12-E	3/23/2005	mg/kg	ND<0.093	ND<0.18	ND<0.093	ND<0.093	ND<0.093	**2.0 D**	**1.0 D**
D13-E	3/23/2005	mg/kg	ND<0.087	ND<0.17	ND<0.087	ND<0.087	ND<0.087	ND<0.087	**1.3 D**
D-13MH-842	9/9/2005	mg/kg	ND<0.44	ND<0.85	ND<0.44	ND<0.44	**0.330 J,D**	ND<0.44	**1.9 D**
D15-E	3/23/2005	mg/kg	ND<0.11	ND<0.21	ND<0.11	ND<0.11	ND<0.11	ND<0.11	**0.48**
D-20E	9/9/2005	mg/kg	ND<0.43	ND<0.85	ND<0.43	ND<0.43	ND<0.43	ND<0.43	**3.20 D**
D21E	4/22/2005	mg/kg	ND<0.089	ND<0.18	ND<0.089	ND<0.089	ND<0.089	**0.056 J**	ND<0.17
D22E	4/22/2005	mg/kg	ND<0.085	ND<0.17	ND<0.085	ND<0.085	ND<0.085	**0.026 J**	ND<0.085
D23E BOTTOM	4/22/2005	mg/kg	ND<0.18	ND<0.34	ND<0.18	ND<0.18	ND<0.18	**0.34**	**0.66**
D23E TOP	4/22/2005	mg/kg	ND<0.074	ND<0.15	ND<0.074	ND<0.074	ND<0.074	**0.32**	**0.47**
D24E BOTTOM	4/22/2005	mg/kg	ND<0.097	ND<0.19	ND<0.097	ND<0.097	ND<0.097	**0.32**	**0.55**
D24E TOP	4/22/2005	mg/kg	ND<0.074	ND<0.15	ND<0.074	ND<0.074	ND<0.074	**0.64 D**	**1.0 D**
D25E	4/22/2005	mg/kg	ND<0.083	ND<0.17	ND<0.083	ND<0.083	ND<0.083	**0.12**	**0.13**
D26E	4/22/2005	mg/kg	ND<0.081	ND<0.16	ND<0.081	ND<0.081	ND<0.081	**0.061 J**	ND<0.081
D-27E	9/9/2005	mg/kg	ND<0.088	ND<0.18	ND<0.088	ND<0.088	ND<0.088	ND<0.088	**0.092**
D-28E	9/9/2005	mg/kg	ND<0.042	ND<0.083	ND<0.042	ND<0.042	ND<0.042	ND<0.042	**0.08 X**
D-28R	9/9/2005	mg/kg	ND<0.069	ND<0.14	ND<0.069	ND<0.069	ND<0.069	ND<0.069	**0.084**
D-29E	9/9/2005	mg/kg	ND<0.069	ND<0.14	ND<0.069	ND<0.069	ND<0.069 Z	**0.19**	**0.16**
D-30E	9/9/2005	mg/kg	ND<0.27	ND<0.53	ND<0.27	ND<0.27	ND<0.27	**1.2**	ND<0.27
D-7E	9/29/2005	mg/kg	ND<0.17	ND<0.32	ND<0.17	ND<0.17	ND<0.17	ND<0.17	**1.0 D**
Rental Car Area									
E-10 E	8/23/2005	mg/kg	ND<0.064	ND<0.13	ND<0.064	ND<0.064	ND<0.064	ND<0.064	ND<0.064
E-13 E	8/23/2005	mg/kg	ND<0.069	ND<0.14	ND<0.069	ND<0.069	ND<0.069	**0.035 J**	ND<0.069
E-14 E	8/23/2005	mg/kg	ND<0.067	ND<0.14	ND<0.067	ND<0.067	ND<0.067	**0.033 J**	ND<0.067
E-17 E	8/23/2005	mg/kg	ND<2	ND<4	ND<2	ND<2	ND<2	ND<2	ND<2
E-18 E	8/24/2005	mg/kg	ND<0.064	ND<0.13	ND<0.064	ND<0.064	ND<0.064	ND<0.064	ND<0.064
E-1E	8/22/2005	mg/kg	ND<0.042	ND<0.084	ND<0.042	ND<0.042	ND<0.042	0.020 JP	ND<0.042
E-21 R	8/24/2005	mg/kg	ND<0.064	ND<0.13	ND<0.064	ND<0.064	ND<0.064	ND<0.064	ND<0.064
E-22 E	8/24/2005	mg/kg	ND<0.067	ND<0.14	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.067
E-25 R	8/24/2005	mg/kg	ND<0.067	ND<0.14	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.067
E-2E	8/22/2005	mg/kg	ND<0.033	ND<0.066	ND<0.033	ND<0.033	ND<0.033	**0.064**	ND<0.033
E-7R	8/22/2005	mg/kg	ND<0.034	ND<0.068	ND<0.034	ND<0.034	ND<0.034	**0.053**	ND<0.034

Table 7-1
Concentrations of Polychlorinated Biphenyls Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

			Aroclor						
Sample ID	**Date Sampled**	**Units**	**1016**	**1221**	**1232**	**1242**	**1248**	**1254**	**1260**
City of San Diego Offsite									
G1-E	3/9/2005	mg/kg	ND<0.18	ND<0.35	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18
G-1I	9/12/2005	mg/kg	ND<0.22	ND<0.43	ND<0.22	ND<0.22	ND<0.22	ND<0.22	ND<0.22
G-2I	9/12/2005	mg/kg	ND<0.071	ND<0.14	ND<0.071	ND<0.071	ND<0.071	ND<0.071	ND<0.071
G3-E	3/9/2005	mg/kg	ND<0.086	ND<0.17	ND<0.086	ND<0.086	ND<0.086	ND<0.086	ND<0.086
G-4I	9/12/2005	mg/kg	ND<0.21	ND<0.41	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21
H5-E	3/23/2005	mg/kg	ND<0.077	ND<0.15	ND<0.077	ND<0.077	ND<0.077	ND<0.077	ND<0.077
H-5I	9/14/2005	mg/kg	ND<0.098	ND<0.2	ND<0.098	ND<0.098	ND<0.098	ND<0.098	ND<0.098
I1-E	3/9/2005	mg/kg	ND<0.085	ND<0.17	ND<0.085	ND<0.085	ND<0.085	ND<0.085	**0.026 J**
I1-R	4/29/2005	mg/kg	ND<0.1	ND<0.2	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
I2-E	3/9/2005	mg/kg	ND<0.077	ND<0.15	ND<0.077	ND<0.077	ND<0.077	ND<0.077	ND<0.077
Convair Lagoon									
L-1	8/11/2005	mg/kg	ND<0.61	ND<1.3	ND<0.61	**18 D,Z**	ND<0.61	**3.10 D**	**2.50 D**
L-2	8/11/2005	mg/kg	ND<0.11	ND<0.23	ND<0.11	ND<0.11	ND<0.11	ND<0.11	ND<0.11
L-3	8/11/2005	mg/kg	ND<0.041	ND<0.082	ND<0.041	**0.220 Z**	ND<0.041	**0.07**	**0.047**
L-4	8/11/2005	mg/kg	ND<0.11	ND<0.23	ND<0.11	**0.320 Z**	ND<0.11	ND<0.11	ND<0.11
L-5	8/11/2005	mg/kg	ND<0.32	ND<0.64	ND<0.32	**9.60 D,Z**	ND<0.32	**1.0 D**	**0.47 D**
L-6	8/11/2005	mg/kg	ND<0.095	ND<0.2	ND<0.095	**0.520 D,Z**	ND<0.095	**0.092 J,D**	ND<0.095

Note:

Sample types:
- E - Existing sediment sample
- I - In-line sample
- R - Run-in sample
- VID - Sample collected remotely with video rover
- BOTTOM - Sample collected from bottom of catch basins
- TOP - Sample collected from the catch basin grate

mg/kg - milligram per kilogram
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
X - Aroclor was confirmed qualitatively
Y - Amount reported is estimated due to presence of Aroclor 1260 and heavier Aroclors
Z - Indicates a weathered Aroclor

Table 7-2
Concentrations of Semi-Volatile Organic Compounds Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	A-58E 8/17/2005	A-132R 9/7/2005	A-169E 8/19/2005	A-187E 8/19/2005
1,2,4-Trichlorobenzene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
1,2-Dichlorobenzene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
1,3-Dichlorobenzene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
1,4-Dichlorobenzene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
1,4-Dioxane	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2,4,5-Trichlorophenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2,4,6-Trichlorophenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2,4-Dichlorophenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2,4-Dimethylphenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2,4-Dinitrophenol	mg/kg	ND<180	ND<8.6	ND<170	ND<250
2,4-Dinitrotoluene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2,6-Dinitrotoluene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2-Chloronaphthalene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2-Chlorophenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2-Methylnaphthalene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2-Methylphenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
2-Nitroaniline	mg/kg	ND<71	ND<3.5	ND<67	ND<100
2-Nitrophenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
3,3'-Dichlorobenzidine	mg/kg	ND<71	ND<3.5	ND<67	ND<100
3,4-Methylphenol	mg/kg	ND<71	ND<3.5	ND<67	ND<100
3-Nitroaniline	mg/kg	ND<71	ND<3.5	ND<67	ND<100
4,6-Dinitro-2-methylphenol	mg/kg	ND<71	ND<3.5	ND<67	ND<100
4-Bromophenyl-phenylether	mg/kg	ND<35	ND<1.7	ND<33	ND<49
4-Chloro-3-methylphenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
4-Chloroaniline	mg/kg	ND<35	ND<1.7	ND<33	ND<49
4-Chlorophenyl-phenylether	mg/kg	ND<35	ND<1.7	ND<33	ND<49
4-Nitroaniline	mg/kg	ND<71	ND<3.5	ND<67	ND<100
4-Nitrophenol	mg/kg	ND<180	ND<8.6	ND<170	ND<250
Acenaphthene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Acenaphthylene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Aniline	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Anthracene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Benzo(a)anthracene	mg/kg	ND<35	ND<1.7	**6.3 J,D**	ND<49
Benzo(a)pyrene	mg/kg	ND<35	ND<1.7	**9.4 J,D**	ND<49
Benzo(b)fluoranthene	mg/kg	ND<35	ND<1.7	**13 J,D**	ND<49
Benzo(g,h,i)perylene	mg/kg	ND<35	ND<1.7	**9.5 J,D**	ND<49
Benzo(k)fluoranthene	mg/kg	ND<35	ND<1.7	**5.7 J,D**	ND<49
Benzoic Acid	mg/kg	ND<180	ND<8.6	ND<170	ND<250
Benzyl Alcohol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
bis (2-Chloroethoxy) methane	mg/kg	ND<35	ND<1.7	ND<33	ND<49
bis (2-chloroethyl) Ether	mg/kg	ND<35	ND<1.7	ND<33	ND<49
bis (2-chloroisopropyl) Ether	mg/kg	ND<35	ND<1.7	ND<33	ND<49
bis (2-ethylhexyl) Phthalate	mg/kg	**12 J,D**	**0.51 J,D**	ND<33	ND<49
Butylbenzylphthalate	mg/kg	ND<35	**0.21 J,D**	ND<33	ND<49
Chrysene	mg/kg	ND<35	ND<1.7	**10 J,D**	ND<49
Dibenzo(a,h)anthracene	mg/kg	ND<35	ND<1.7	**1.6 J,D**	ND<49
Dibenzofuran	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Diethylphthalate	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Dimethylphthalate	mg/kg	ND<35	ND<1.7	ND<33	ND<49
di-n-butylphthalate	mg/kg	**5.1 J,D**	**0.14 J,D**	ND<33	ND<49

Table 7-2
Concentrations of Semi-Volatile Organic Compounds Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	A-58E 8/17/2005	A-132R 9/7/2005	A-169E 8/19/2005	A-187E 8/19/2005
di-n-octylphthalate	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Fluoranthene	mg/kg	ND<35	ND<1.7	**12 J,D**	ND<49
Fluorene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Hexachlorobenzene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Hexachlorobutadiene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Hexachlorocyclopentadiene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Hexachloroethane	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Indeno (1,2,3-cd) pyrene	mg/kg	ND<35	ND<1.7	**8 J,D**	ND<49
Isophorone	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Naphthalene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Nitrobenzene	mg/kg	ND<35	ND<1.7	ND<33	ND<49
n-Nitrosodimethylamine	mg/kg	ND<35	ND<1.7	ND<33	ND<49
n-Nitroso-di-n-propylamine	mg/kg	ND<35	ND<1.7	ND<33	ND<49
n-Nitrosodiphenylamine/Diphenylamine	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Pentachlorophenol	mg/kg	ND<110	ND<5.2	ND<100	ND<150
Phenanthrene	mg/kg	ND<35	ND<1.7	**4.7 J,D**	ND<49
Phenol	mg/kg	ND<35	ND<1.7	ND<33	ND<49
Pyrene	mg/kg	ND<35	ND<1.7	**14 J,D**	ND<49
Pyridine	mg/kg	ND<35	ND<1.7	ND<33	ND<49

Note:
mg/kg - milligram per kilogram
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-3
Concentrations of Metals Detected in Sediment Samples
2701 North Harbor Drive
San Diego, California

	Units	**ESL**	**A-58E** **8/17/2005**	**A-68E** **9/7/2005**	**A-132R** **9/7/2005**	**A-134E** **9/7/2005**	**A-169E** **8/19/2005**	**A-172E** **8/15/2005**	**A-187E** **8/19/2005**	**A-201E** **8/17/2005**	**D-7E** **9/29/2005**
Metals											
Antimony	mg/kg	40	ND<11 N	ND<13 N*	ND<10 N*	ND<12 N*	ND<10	ND<13 N	20	ND<23 N	ND<10 N
Arsenic	mg/kg	5.5	4.6	**19 N**	**6.9 N**	3.7 N	3.4	3.4	**18**	3.4 J	2
Barium	mg/kg	1500	1000	51 *	420 *	**2900 ***	710	255 N	433	112	26
Beryllium	mg/kg	8	0.6	0.2 B	0.3 B	0.2 B	0.2 J	0.2	0.1 J	0.2 J	0.1
Cadmium	mg/kg	7.4	**29**	0.8 B	**312**	3	3.2	2.9 N	0.9 J	1.3	1
Chromium	mg/kg	750	322	35	**1080**	279	17	55 N	**1130**	427	93
Cobalt	mg/kg	10	**17**	4.8	**12**	4.2	2.6	4.8	**17**	6.3	2
Copper	mg/kg	230	**950**	**360 N***	**801 N***	60 N*	**538**	91 N	**230**	152	25
Lead	mg/kg	750	**858 N**	618 N*	532 N*	71 N*	248	253	131	582 N	136
Mercury	mg/kg	10	0.25	0.15	1.6	0.12	0.045 J	0.091	0.19	0.2	0.02
Molybdenum	mg/kg	40	10 J,N	2.9 N,B	20 N	0.9 N,B	0.8 J	4.3	29	17 J,N	1.4
Nickel	mg/kg	150	63	32 N*	**216 N***	40 N*	12	19 N	124	54	8.1
Selenium	mg/kg	10	ND<3.2	ND<4 N	ND<3.1 N	ND<3.6 N	ND<3	ND<4.0	ND<4.5	ND<6.8	ND<3
Silver	mg/kg	40	23	ND<1.3	8.8	0.8 B	ND<1	2.4	ND<1.5	ND<2.3	ND<1
Thallium	mg/kg	13	0.3 J	0.089 B	0.09 B	0.15 B	0.048 J	0.15	0.075 J	ND<0.91	ND<0.4
Vanadium	mg/kg	200	68	25	26	17	12	16	6.7	28	11
Zinc	mg/kg	600	**2730**	216 N	**5280 N**	176 N	480	**662**	446	**1010**	177 N

Note:

ESL - Environmental Screening Level

mg/kg - milligram per kilogram

ND< - Analyte not detected at concentrations greater than or equal to reporting limit (RL)

bold - Analyte detected above ESL

B - Hit above RL also found in Method Blank

J - Analyte detected above method detection limit (MDL), but below RL

N - Matrix Spike/Matrix Spike Duplicate outside control limits. The Laboratory Control Sample (LCS) was acceptable; therefore, data was approved.

* - Relative Percent Difference outside of acceptance limits. The LCS was acceptable: therefore, data was approved.

Table 7-4
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Soil Samples
2701 North Harbor Drive
San Diego, California

VOCs

	UNITS	T-14-S-6B 6/30/2005	T-19-S-6.5T 6/30/2005	T-26-S-6.5-B 7/13/2005	T-31-S-6T 7/1/2005	T-34-S-7-T 7/14/2005	T-39-S-6.5-B 7/13/2005	T-40-S-6.5-T 7/13/2005
1,1,1,2-Tetrachloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,1,1-Trichloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,1,2,2-Tetrachloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,1,2-Trichloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,1-Dichloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,1-Dichloroethene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,1-Dichloropropene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2,3-Trichlorobenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2,3-Trichloropropane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2,4-Trichlorobenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2,4-Trimethylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2-Dibromo-3-chloropropane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2-Dibromoethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2-Dichlorobenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2-Dichloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,2-Dichloropropane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,3,5-Trimethylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,3-Dichlorobenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,3-Dichloropropane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
1,4-Dichlorobenzene	µg/kg	ND<5.5	**2.9 J**	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
2,2-Dichloropropane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
2-Butanone (MEK)	µg/kg	ND<22	ND<28	ND<24	ND<24	ND<21	ND<27	ND<22
2-Chlorotoluene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
2-Hexanone	µg/kg	ND<22	ND<28	ND<24	ND<24	ND<21	ND<27	ND<22
4-Chlorotoluene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
4-Methyl-2-pentanone	µg/kg	ND<22	ND<28	ND<24	ND<24	ND<21	ND<27	ND<22
Acetone	µg/kg	**13 J,H**	**8.1 J,H**	**13 J,H**	**11 J,H**	ND<21	**8 J,H**	**7.3 J,H**
Benzene	µg/kg	**6.4**	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Bromobenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Bromochloromethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Bromoform	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Bromomethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Carbon Disulfide	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Carbon Tetrachloride	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Chlorobenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5

Table 7-4
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Soil Samples
2701 North Harbor Drive
San Diego, California

	UNITS	T-14-S-6B 6/30/2005	T-19-S-6.5T 6/30/2005	T-26-S-6.5-B 7/13/2005	T-31-S-6T 7/1/2005	T-34-S-7-T 7/14/2005	T-39-S-6.5-B 7/13/2005	T-40-S-6.5-T 7/13/2005
VOCs								
Chloroethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Chloroform	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Chloromethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
cis-1,2-Dichloroethene	µg/kg	ND<5.5	**280 J,X**	ND<5.9	ND<5.9	**6.5**	ND<6.6	ND<5.5
cis-1,3-Dichloropropene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Dibromochloromethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Dibromomethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Dichlorobromomethane	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Dichloromethane (Methylene Chloride)	µg/kg	**9.4**	**6.9 J**	**3.4 J,H**	**8.4**	**4.9 J,H**	**6.2 J,H**	**2.9 J,H**
Ethyl benzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Freon-11	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Freon-113	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Freon-12	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Hexachlorobutadiene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Isopropylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Methyl tertbutyl ether (MTBE)	µg/kg	ND<11	ND<14	ND<12	ND<12	ND<11	ND<14	ND<11
Naphthalene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
n-Butylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
n-Propylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
p-Isopropyltoluene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
sec-Butylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Styrene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
tert-Butylbenzene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Tetrachloroethene	µg/kg	ND<5.5	**570 X**	ND<5.9	ND<5.9	**81**	**47**	ND<5.5
Toluene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
trans-1,2-Dichloroethene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
trans-1,3-Dichloropropene	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Trichloroethene	µg/kg	ND<5.5	**280 X**	ND<5.9	ND<5.9	**10**	ND<6.6	ND<5.5
Vinyl Acetate	µg/kg	ND<22	ND<28	ND<24	ND<24	ND<21	ND<27	ND<22
Vinyl Chloride	µg/kg	ND<5.5	ND<7.0	ND<5.9	ND<5.9	ND<5.1	ND<6.6	ND<5.5
Xylenes (Total)	µg/kg	ND<17	ND<21	ND<18	ND<18	ND<16	ND<21	ND<17
Petroleum Hydrocarbons								
C13 - C22 DRO	mg/kg	ND<12	ND<13	ND<12	ND<11	ND<12	ND<13	ND<11
C23 - C36 HRO	mg/kg	ND<62 *	ND<67 *	ND<60 *	**12 J***	ND<62 *	ND<65 *	ND<57 *
C6 - C12 GRO	mg/kg	ND<12 *	ND<13 *	ND<12 *	ND<11 *	ND<12 *	ND<13 *	ND<11 *
Total Petroleum Hydrocarbon (TPH)	mg/kg	ND<86	ND<93	ND<84	ND<77	ND<86	ND<91	ND<79

Table 7-4
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Soil Samples
2701 North Harbor Drive
San Diego, California

	UNITS	B120-MW4-6.5-B 7/20/2005	B120-MW5-6.5 7/20/2005	B120-MW6-6-B 7/21/2005	B131-MW5-7-T 7/21/2005
VOCs					
1,1,1,2-Tetrachloroethane	µg/kg	-	-	-	-
1,1,1-Trichloroethane	µg/kg	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	-	-	-	-
1,1,2-Trichloroethane	µg/kg	-	-	-	-
1,1-Dichloroethane	µg/kg	-	-	-	-
1,1-Dichloroethene	µg/kg	-	-	-	-
1,1-Dichloropropene	µg/kg	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	-	-	-	-
1,2,3-Trichloropropane	µg/kg	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	-	-	-	-
1,2-Dibromoethane	µg/kg	-	-	-	-
1,2-Dichlorobenzene	µg/kg	-	-	-	-
1,2-Dichloroethane	µg/kg	-	-	-	-
1,2-Dichloropropane	µg/kg	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	-	-	-	-
1,3-Dichlorobenzene	µg/kg	-	-	-	-
1,3-Dichloropropane	µg/kg	-	-	-	-
1,4-Dichlorobenzene	µg/kg	-	-	-	-
2,2-Dichloropropane	µg/kg	-	-	-	-
2-Butanone (MEK)	µg/kg	-	-	-	-
2-Chlorotoluene	µg/kg	-	-	-	-
2-Hexanone	µg/kg	-	-	-	-
4-Chlorotoluene	µg/kg	-	-	-	-
4-Methyl-2-pentanone	µg/kg	-	-	-	-
Acetone	µg/kg	-	-	-	-
Benzene	µg/kg	-	-	-	-
Bromobenzene	µg/kg	-	-	-	-
Bromochloromethane	µg/kg	-	-	-	-
Bromoform	µg/kg	-	-	-	-
Bromomethane	µg/kg	-	-	-	-
Carbon Disulfide	µg/kg	-	-	-	-
Carbon Tetrachloride	µg/kg	-	-	-	-
Chlorobenzene	µg/kg	-	-	-	-

Table 7-4
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Soil Samples
2701 North Harbor Drive
San Diego, California

	UNITS	B120-MW4-6.5-B 7/20/2005	B120-MW5-6.5 7/20/2005	B120-MW6-6-B 7/21/2005	B131-MW5-7-T 7/21/2005
VOCs					
Chloroethane	µg/kg	-	-	-	-
Chloroform	µg/kg	-	-	-	-
Chloromethane	µg/kg	-	-	-	-
cis-1,2-Dichloroethene	µg/kg	-	-	-	-
cis-1,3-Dichloropropene	µg/kg	-	-	-	-
Dibromochloromethane	µg/kg	-	-	-	-
Dibromomethane	µg/kg	-	-	-	-
Dichlorobromomethane	µg/kg	-	-	-	-
Dichloromethane (Methylene Chloride)	µg/kg	-	-	-	-
Ethyl benzene	µg/kg	-	-	-	-
Freon-11	µg/kg	-	-	-	-
Freon-113	µg/kg	-	-	-	-
Freon-12	µg/kg	-	-	-	-
Hexachlorobutadiene	µg/kg	-	-	-	-
Isopropylbenzene	µg/kg	-	-	-	-
Methyl tertbutyl ether (MTBE)	µg/kg	-	-	-	-
Naphthalene	µg/kg	-	-	-	-
n-Butylbenzene	µg/kg	-	-	-	-
n-Propylbenzene	µg/kg	-	-	-	-
p-Isopropyltoluene	µg/kg	-	-	-	-
sec-Butylbenzene	µg/kg	-	-	-	-
Styrene	µg/kg	-	-	-	-
tert-Butylbenzene	µg/kg	-	-	-	-
Tetrachloroethene	µg/kg	-	-	-	-
Toluene	µg/kg	-	-	-	-
trans-1,2-Dichloroethene	µg/kg	-	-	-	-
trans-1,3-Dichloropropene	µg/kg	-	-	-	-
Trichloroethene	µg/kg	-	-	-	-
Vinyl Acetate	µg/kg	-	-	-	-
Vinyl Chloride	µg/kg	-	-	-	-
Xylenes (Total)	µg/kg	-	-	-	-
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/kg	ND<12	ND<12	ND<12	ND<12
C23 - C36 HRO	mg/kg	ND<60	ND<62	ND<62	ND<61
C6 - C12 GRO	mg/kg	ND<12	ND<12	ND<12	ND<12
Total Petroleum Hydrocarbon (TPH)	mg/kg	ND<84	ND<86	ND<86	ND<85

Table 7-4
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Soil Samples
2701 North Harbor Drive
San Diego, California

Note:
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/kg - microgram per kilogram
mg/kg - milligram per kilogram
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
H - It is the opinion of CAS that this result is due to laboratory contamination
J - Analyte detected above method detection limit (MDL), but below RL
X - Indicates a holding time violation
* - GRO and HRO MDL based on lowest calibration standard

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	142WDP 8/8/2005	142WEP 8/8/2005	DUP4 (142WEP) 8/8/2005	142WGP 8/8/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<10
Acetone	µg/L	ND<10	ND<10	ND<10	ND<10
Benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	**0.62 J**	ND<2.0	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**0.42 J**	ND<0.50	ND<0.50	ND<0.50
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**142WDP 8/8/2005**	**142WEP 8/8/2005**	**DUP4 (142WEP) 8/8/2005**	**142WGP 8/8/2005**
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	**0.45 J**	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	**0.4 J**	**0.41 J**	ND<1.0
Tetrachloroethene	µg/L	ND<0.50	**0.72**	**0.44 J**	ND<0.50
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	ND<0.50	**0.27 J**	**0.18 J**	**0.34 J**
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	-
C23 - C36 HRO	mg/L	-	-	-	-
C6 - C12 GRO	mg/L	-	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standard

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Volatile Organic Compounds

	Units	BLD102-MW3 7/28/2005	BLD102-MW4 7/28/2005	BLD102-MW-5 8/5/2005	BLD120-MW-1 8/1/2005
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	**0.36 J**	**46 J,D**
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	**340 D**
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<200
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<1000
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<1000
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<1000
Acetone	µg/L	ND<10	ND<10	**2.3 J**	ND<1000
Benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<200
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
cis-1,2-Dichloroethene	µg/L	**ND<0.50**	**0.63**	**0.57**	**2400 D**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<200
Ethyl benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<200
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	BLD102-MW3 7/28/2005	BLD102-MW4 7/28/2005	BLD102-MW-5 8/5/2005	BLD120-MW-1 8/1/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<200
Naphthalene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
tert-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<100
Tetrachloroethene	µg/L	**0.64**	ND<0.50	ND<0.50	**3400 D**
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
trans-1,2-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	**94 D**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<50
Trichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	**2900 D**
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<1000
Vinyl Chloride	µg/L	ND<0.50	**5.1**	**0.66**	ND<50
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5	ND<150
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	ND<1	-	-
C23 - C36 HRO	mg/L	-	ND<5	-	-
C6 - C12 GRO	mg/L	-	ND<1	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	ND<7	-	-

Note:

DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	BLD120-MW-2 8/1/2005	BLD120-MW3 7/29/2005	B120-MW4 8/2/2005
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	µg/L	ND<10	ND<50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<10	ND<50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<10	ND<50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<10	ND<50	ND<0.50
1,1-Dichloroethane	µg/L	ND<10	**60 D**	ND<0.50
1,1-Dichloroethene	µg/L	ND<10	**310 D**	ND<0.50
1,1-Dichloropropene	µg/L	ND<10	ND<50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<20	ND<100	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<10	ND<50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<20	ND<100	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<20	ND<100	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<40	ND<200	ND<2.0
1,2-Dibromoethane	µg/L	ND<20	ND<100	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<10	ND<50	ND<0.50
1,2-Dichloroethane	µg/L	ND<10	ND<50	ND<0.50
1,2-Dichloropropane	µg/L	ND<10	ND<50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<20	ND<100	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<10	ND<50	ND<0.50
1,3-Dichloropropane	µg/L	ND<10	ND<50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<10	ND<50	ND<0.50
2,2-Dichloropropane	µg/L	ND<10	ND<50	ND<0.50
2-Butanone (MEK)	µg/L	ND<200	ND<1000	ND<10
2-Chlorotoluene	µg/L	ND<20	ND<100	ND<1.0
2-Hexanone	µg/L	ND<200	ND<1000	ND<10
4-Chlorotoluene	µg/L	ND<20	ND<100	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<200	ND<1000	ND<10
Acetone	µg/L	ND<200	ND<1000	ND<10
Benzene	µg/L	ND<10	ND<50	ND<0.50
Bromobenzene	µg/L	ND<20	ND<100	ND<1.0
Bromochloromethane	µg/L	ND<10	ND<50	ND<0.50
Bromoform	µg/L	ND<20	ND<100	ND<1.0
Bromomethane	µg/L	ND<20	ND<100	ND<1.0
Carbon Disulfide	µg/L	ND<40	ND<200	ND<2.0
Carbon Tetrachloride	µg/L	ND<10	ND<50	ND<0.50
Chlorobenzene	µg/L	ND<10	ND<50	ND<0.50
Chloroethane	µg/L	ND<20	ND<100	ND<1.0
Chloroform	µg/L	ND<10	ND<50	ND<0.50
Chloromethane	µg/L	ND<20	ND<100	ND<1.0
cis-1,2-Dichloroethene	µg/L	**890 D**	**3800 D**	**2.9**
cis-1,3-Dichloropropene	µg/L	ND<10	ND<50	ND<0.50
Dibromochloromethane	µg/L	ND<20	ND<100	ND<1.0
Dibromomethane	µg/L	ND<10	ND<50	ND<0.50
Dichlorobromomethane	µg/L	ND<20	ND<100	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<40	ND<200	ND<2.0
Ethyl benzene	µg/L	ND<10	ND<50	ND<0.50
Freon-11	µg/L	ND<20	ND<100	ND<1.0
Freon-113	µg/L	ND<40	ND<200	ND<2.0
Freon-12	µg/L	ND<20	ND<100	ND<1.0
Hexachlorobutadiene	µg/L	ND<20	ND<100	ND<1.0
Isopropylbenzene	µg/L	ND<20	ND<100	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	BLD120-MW-2 8/1/2005	BLD120-MW3 7/29/2005	B120-MW4 8/2/2005
Volatile Organic Compounds				
Methyl tertbutyl ether (MTBE)	µg/L	ND<40	ND<200	ND<2.0
Naphthalene	µg/L	ND<20	ND<100	ND<1.0
n-Butylbenzene	µg/L	ND<20	ND<100	ND<1.0
n-Propylbenzene	µg/L	ND<20	ND<100	ND<1.0
p-Isopropyltoluene	µg/L	ND<20	ND<100	ND<1.0
sec-Butylbenzene	µg/L	ND<20	ND<100	ND<1.0
Styrene	µg/L	ND<10	ND<50	ND<0.50
tert-Butylbenzene	µg/L	ND<20	ND<100	ND<1.0
Tetrachloroethene	µg/L	**120 D**	**86 D**	**6.6**
Toluene	µg/L	ND<10	ND<50	ND<0.50
trans-1,2-Dichloroethene	µg/L	**26 D**	**100 D**	**0.39 J**
trans-1,3-Dichloropropene	µg/L	ND<10	ND<50	ND<0.50
Trichloroethene	µg/L	**440 D**	**57 D**	**0.96**
Vinyl Acetate	µg/L	ND<200	ND<1000	ND<10
Vinyl Chloride	µg/L	ND<10	ND<50	ND<0.50
Xylenes (Total)	µg/L	ND<30	ND<150	ND<1.5
Petroleum Hydrocarbons				
C13 - C22 DRO	mg/L	-	-	-
C23 - C36 HRO	mg/L	-	-	-
C6 - C12 GRO	mg/L	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-

Note:

DUP - Field duplicate

DRO - Diesel range organics

GRO - Gasoline range organics

HRO - heavy oil range organics

µg/L - microgram per liter

mg/L - milligram per liter

ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)

bold - Analyte detected

- Constituent not analyzed for

C - The relative standard deviation was greater than 15%; the sample data is not significantly affected

D - Result from diluted sample

J - Analyte detected above method detection limit (MDL), but below RL

* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**B120-MW5 8/2/2005**	**B120-MW6 8/1/2005**	**DUP3 (B120-MW6) 8/1/2005**
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<50	ND<50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<50	ND<50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<50	ND<50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<50	ND<50
1,1-Dichloroethane	µg/L	ND<0.50	ND<50	ND<50
1,1-Dichloroethene	µg/L	ND<0.50	ND<50	ND<50
1,1-Dichloropropene	µg/L	ND<0.50	ND<50	ND<50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<100	ND<100
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<50	ND<50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<100	ND<100
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<100	ND<100
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<200	ND<200
1,2-Dibromoethane	µg/L	ND<1.0	ND<100	ND<100
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<50	ND<50
1,2-Dichloroethane	µg/L	ND<0.50	ND<50	ND<50
1,2-Dichloropropane	µg/L	ND<0.50	ND<50	ND<50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<100	ND<100
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<50	ND<50
1,3-Dichloropropane	µg/L	ND<0.50	ND<50	ND<50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<50	ND<50
2,2-Dichloropropane	µg/L	ND<0.50	ND<50	ND<50
2-Butanone (MEK)	µg/L	ND<10	ND<1000	ND<1000
2-Chlorotoluene	µg/L	ND<1.0	ND<100	ND<100
2-Hexanone	µg/L	ND<10	ND<1000	ND<1000
4-Chlorotoluene	µg/L	ND<1.0	ND<100	ND<100
4-Methyl-2-pentanone	µg/L	ND<10	ND<1000	ND<1000
Acetone	µg/L	ND<10	ND<1000	ND<1000
Benzene	µg/L	ND<0.50	ND<50	ND<50
Bromobenzene	µg/L	ND<1.0	ND<100	ND<100
Bromochloromethane	µg/L	ND<0.50	ND<50	ND<50
Bromoform	µg/L	ND<1.0	ND<100	ND<100
Bromomethane	µg/L	ND<1.0	ND<100	ND<100
Carbon Disulfide	µg/L	ND<2.0	ND<200	ND<200
Carbon Tetrachloride	µg/L	ND<0.50	ND<50	ND<50
Chlorobenzene	µg/L	ND<0.50	ND<50	ND<50
Chloroethane	µg/L	ND<1.0	ND<100	ND<100
Chloroform	µg/L	**3.1**	ND<50	ND<50
Chloromethane	µg/L	ND<1.0	ND<100	ND<100
cis-1,2-Dichloroethene	µg/L	**0.69**	**4800 D**	**4900 D**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<50	ND<50
Dibromochloromethane	µg/L	ND<1.0	ND<100	ND<100
Dibromomethane	µg/L	ND<0.50	ND<50	ND<50
Dichlorobromomethane	µg/L	ND<1.0	ND<100	ND<100
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<200	ND<200
Ethyl benzene	µg/L	ND<0.50	ND<50	ND<50
Freon-11	µg/L	ND<1.0	ND<100	ND<100
Freon-113	µg/L	ND<2.0	ND<200	ND<200
Freon-12	µg/L	ND<1.0	ND<100	ND<100
Hexachlorobutadiene	µg/L	ND<1.0	ND<100	ND<100
Isopropylbenzene	µg/L	ND<1.0	ND<100	ND<100

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	B120-MW5 8/2/2005	B120-MW6 8/1/2005	DUP3 (B120-MW6) 8/1/2005
Volatile Organic Compounds				
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<200	ND<200
Naphthalene	µg/L	ND<1.0	ND<100	ND<100
n-Butylbenzene	µg/L	ND<1.0	ND<100	ND<100
n-Propylbenzene	µg/L	ND<1.0	ND<100	ND<100
p-Isopropyltoluene	µg/L	ND<1.0	ND<100	ND<100
sec-Butylbenzene	µg/L	ND<1.0	ND<100	ND<100
Styrene	µg/L	ND<0.50	ND<50	ND<50
tert-Butylbenzene	µg/L	ND<1.0	ND<100	ND<100
Tetrachloroethene	µg/L	**0.82**	**68 D**	**63 D**
Toluene	µg/L	ND<0.50	ND<50	ND<50
trans-1,2-Dichloroethene	µg/L	ND<0.50	**100 D**	**100 D**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<50	ND<50
Trichloroethene	µg/L	**0.25 J**	**120 D**	**100 D**
Vinyl Acetate	µg/L	ND<10	ND<1000	ND<1000
Vinyl Chloride	µg/L	ND<0.50	ND<50	ND<50
Xylenes (Total)	µg/L	ND<1.5	ND<150	ND<150
Petroleum Hydrocarbons				
C13 - C22 DRO	mg/L	-	ND<1	ND<1
C23 - C36 HRO	mg/L	-	ND<5	ND<5
C6 - C12 GRO	mg/L	-	ND<1	ND<1
Total Petroleum Hydrocarbon (TPH)	mg/L	-	ND<7	ND<7

Note:

DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	B131-MW1 8/4/2005	B131-MW2 8/4/2005
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<500
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<500
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<500
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<500
1,1-Dichloroethane	µg/L	ND<0.50	ND<500
1,1-Dichloroethene	µg/L	ND<0.50	ND<500
1,1-Dichloropropene	µg/L	ND<0.50	ND<500
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1000
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<500
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1000
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1000
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2000
1,2-Dibromoethane	µg/L	ND<1.0	ND<1000
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<500
1,2-Dichloroethane	µg/L	ND<0.50	ND<500
1,2-Dichloropropane	µg/L	ND<0.50	ND<500
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1000
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<500
1,3-Dichloropropane	µg/L	ND<0.50	ND<500
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<500
2,2-Dichloropropane	µg/L	ND<0.50	ND<500
2-Butanone (MEK)	µg/L	**1.8 J**	ND<10000
2-Chlorotoluene	µg/L	ND<1.0	ND<1000
2-Hexanone	µg/L	ND<10	ND<10000
4-Chlorotoluene	µg/L	ND<1.0	ND<1000
4-Methyl-2-pentanone	µg/L	ND<10	ND<10000
Acetone	µg/L	**5 J**	ND<10000
Benzene	µg/L	**0.89**	ND<500
Bromobenzene	µg/L	ND<1.0	ND<1000
Bromochloromethane	µg/L	ND<0.50	ND<500
Bromoform	µg/L	ND<1.0	ND<1000
Bromomethane	µg/L	ND<1.0	ND<1000
Carbon Disulfide	µg/L	ND<2.0	ND<2000
Carbon Tetrachloride	µg/L	ND<0.50	ND<500
Chlorobenzene	µg/L	ND<0.50	ND<500
Chloroethane	µg/L	ND<1.0	ND<1000
Chloroform	µg/L	**0.22 J**	ND<500
Chloromethane	µg/L	ND<1.0	ND<1000
cis-1,2-Dichloroethene	µg/L	ND<0.50	**6200 D**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<500
Dibromochloromethane	µg/L	ND<1.0	ND<1000
Dibromomethane	µg/L	ND<0.50	ND<500
Dichlorobromomethane	µg/L	ND<1.0	ND<1000
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2000
Ethyl benzene	µg/L	ND<0.50	ND<500
Freon-11	µg/L	ND<1.0	ND<1000
Freon-113	µg/L	ND<2.0	ND<2000
Freon-12	µg/L	ND<1.0	ND<1000
Hexachlorobutadiene	µg/L	ND<1.0	ND<1000
Isopropylbenzene	µg/L	ND<1.0	ND<1000

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	B131-MW1 8/4/2005	B131-MW2 8/4/2005
Volatile Organic Compounds			
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2000
Naphthalene	µg/L	ND<1.0	ND<1000
n-Butylbenzene	µg/L	ND<1.0	ND<1000
n-Propylbenzene	µg/L	ND<1.0	ND<1000
p-Isopropyltoluene	µg/L	ND<1.0	ND<1000
sec-Butylbenzene	µg/L	ND<1.0	ND<1000
Styrene	µg/L	ND<0.50	ND<500
tert-Butylbenzene	µg/L	ND<1.0	ND<1000
Tetrachloroethene	µg/L	ND<0.50	**39000 D**
Toluene	µg/L	ND<0.50	ND<500
trans-1,2-Dichloroethene	µg/L	**0.43 J**	ND<500
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<500
Trichloroethene	µg/L	ND<0.50	**7400 D**
Vinyl Acetate	µg/L	ND<10	ND<10000
Vinyl Chloride	µg/L	**4.4**	**810 D**
Xylenes (Total)	µg/L	ND<1.5	ND<1500
Petroleum Hydrocarbons			
C13 - C22 DRO	mg/L	-	-
C23 - C36 HRO	mg/L	-	-
C6 - C12 GRO	mg/L	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	B131-MW3 8/4/2005	B131-MW4 8/5/2005	B131-MW5 8/5/2005	B156-MW3 8/2/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,1-Dichloroethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,1-Dichloroethene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,1-Dichloropropene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<1000	ND<10	ND<200	ND<2.0
1,2-Dibromoethane	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,2-Dichloroethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,2-Dichloropropane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,3-Dichloropropane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
2,2-Dichloropropane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
2-Butanone (MEK)	µg/L	ND<5000	ND<50	ND<1000	ND<10
2-Chlorotoluene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
2-Hexanone	µg/L	ND<5000	ND<50	ND<1000	ND<10
4-Chlorotoluene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<5000	ND<50	ND<1000	ND<10
Acetone	µg/L	ND<5000	ND<50	ND<1000	ND<10
Benzene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Bromobenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Bromochloromethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Bromoform	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Bromomethane	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Carbon Disulfide	µg/L	ND<1000	ND<10	ND<200	ND<2.0
Carbon Tetrachloride	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Chlorobenzene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Chloroethane	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Chloroform	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Chloromethane	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
cis-1,2-Dichloroethene	µg/L	**11000 D**	**150 D**	**5000 D**	**1.4**
cis-1,3-Dichloropropene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Dibromochloromethane	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Dibromomethane	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Dichlorobromomethane	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<1000	ND<10	ND<200	ND<2.0
Ethyl benzene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Freon-11	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Freon-113	µg/L	ND<1000	ND<10	ND<200	ND<2.0
Freon-12	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Hexachlorobutadiene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Isopropylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	B131-MW3 8/4/2005	B131-MW4 8/5/2005	B131-MW5 8/5/2005	B156-MW3 8/2/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<1000	ND<10	ND<200	ND<2.0
Naphthalene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
n-Butylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
n-Propylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
p-Isopropyltoluene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
sec-Butylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Styrene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
tert-Butylbenzene	µg/L	ND<500	ND<5.0	ND<100	ND<1.0
Tetrachloroethene	µg/L	**9400 D**	**1.7 J,D**	ND<50	**2.7**
Toluene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<250	ND<2.5	**67 D**	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<250	ND<2.5	ND<50	ND<0.50
Trichloroethene	µg/L	**4300 D**	**1.8 J D**	ND<50	**1.3**
Vinyl Acetate	µg/L	ND<5000	ND<50	ND<1000	ND<10
Vinyl Chloride	µg/L	**1900 D**	**48 D**	**4200 D**	**0.77**
Xylenes (Total)	µg/L	ND<750	ND<7.5	ND<150	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	ND<1	ND<1	-
C23 - C36 HRO	mg/L	-	ND<5	ND<5	-
C6 - C12 GRO	mg/L	-	ND<1	ND<1	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	ND<7	ND<7	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%;
the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**BLD156-MW1 7/29/2005**	**B180-MW-1 10/4/2005**	**GT4 8/2/2005**
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,1-Dichloroethane	µg/L	**0.88**	ND<2.5	0.32 J
1,1-Dichloroethene	µg/L	ND<0.50	ND<2.5	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<2.5	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<10	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<5.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<2.5	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<2.5	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<2.5	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<2.5	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<2.5	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<50	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<5.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<50	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<5.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<50	ND<10
Acetone	µg/L	ND<10	**42 J,D**	**2 J**
Benzene	µg/L	ND<0.50	ND<2.5	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<2.5	ND<0.50
Bromoform	µg/L	ND<1.0	ND<5.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<5.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<10	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<5.0	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<2.5	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<5.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<2.5	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<5.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**3.9**	ND<2.5	ND<0.50
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<2.5	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<5.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<2.5	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<5.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<10	**0.7 J**
Ethyl benzene	µg/L	ND<0.50	ND<2.5	ND<0.50
Freon-11	µg/L	ND<1.0	ND<5.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<10	ND<2.0
Freon-12	µg/L	ND<1.0	ND<5.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<5.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<5.0	**0.55 J**

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	BLD156-MW1 7/29/2005	B180-MW-1 10/4/2005	GT4 8/2/2005
Volatile Organic Compounds				
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<10	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<5.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<5.0	**0.28 J**
p-Isopropyltoluene	µg/L	ND<1.0	ND<5.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<2.5	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<5.0	ND<1.0
Tetrachloroethene	µg/L	**12**	ND<2.5	ND<0.50
Toluene	µg/L	ND<0.50	ND<2.5	ND<0.50
trans-1,2-Dichloroethene	µg/L	**0.37 J**	ND<2.5	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<2.5	ND<0.50
Trichloroethene	µg/L	**6.5**	ND<2.5	ND<0.50
Vinyl Acetate	µg/L	ND<10	ND<50	ND<10
Vinyl Chloride	µg/L	**18**	ND<2.5	ND<0.50
Xylenes (Total)	µg/L	ND<1.5	ND<7.5	ND<1.5
Petroleum Hydrocarbons				
C13 - C22 DRO	mg/L	-		-
C23 - C36 HRO	mg/L	-		-
C6 - C12 GRO	mg/L	-		-
Total Petroleum Hydrocarbon (TPH)	mg/L	-		-

Note:

DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Volatile Organic Compounds	**Units**	**P1 8/5/2005**	**P2 8/9/2005**	**SDE 8/3/2005**	**T-1-GW 7/5/2005**
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	**ND<0.50**
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	**1.9**	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<10
Acetone	µg/L	ND<10	**3.2 J**	**1.9 J**	ND<10
Benzene	µg/L	ND<0.50	ND<0.50	**2.4**	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**19**	**0.48 J**	ND<0.50	**3**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	ND<0.50	ND<0.50	**1.3**	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	**28**	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	P1 8/5/2005	P2 8/9/2005	SDE 8/3/2005	T-1-GW 7/5/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<1.0	**63 C**	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	**0.64 J**	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	**33**	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	**6.9**	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	**0.37 J**	**1.7**	ND<1.0
Tetrachloroethene	µg/L	**8.6**	**1.4**	ND<0.50	ND<0.50
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	**1.2**	ND<0.50	ND<0.50	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	**2.8**	**0.33 J**	ND<0.50	**0.13 J**
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	-
C23 - C36 HRO	mg/L	-	-	-	-
C6 - C12 GRO	mg/L	-	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	-

Note:

DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T2-GW 7/5/2005	T3-GW 7/5/2005	T4-GW 7/5/2005	T5-GW 7/5/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<10
Acetone	µg/L	ND<10	ND<10	ND<10	ND<10
Benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	**0.47 J**	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**1.2**	**0.8**	**1.5**	**0.22 J**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**T2-GW 7/5/2005**	**T3-GW 7/5/2005**	**T4-GW 7/5/2005**	**T5-GW 7/5/2005**
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Tetrachloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	**0.13 J**	**0.13 J**	**0.14 J**	ND<0.50
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	-
C23 - C36 HRO	mg/L	-	-	-	-
C6 - C12 GRO	mg/L	-	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%;
the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T6-GW 7/5/2005	T-7-GW 9/22/2005	T-8-GW 9/22/2005	T-9GW 9/22/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	**ND<0.50**
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<10
Acetone	µg/L	ND<10	**3.7 J**	**3.3 J**	**3.9 J**
Benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**0.35 J**	ND<0.50	**0.70**	**2.6**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<1.0	ND<1.0	ND<1.0
Ethyl benzene	µg/L	ND<0.50	ND<2.0	ND<2.0	ND<2.0
Freon-11	µg/L	ND<1.0	ND<0.50	ND<0.50	ND<0.50
Freon-113	µg/L	ND<2.0	ND<1.0	ND<1.0	ND<1.0
Freon-12	µg/L	ND<1.0	ND<2.0	ND<2.0	ND<2.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	T6-GW 7/5/2005	T-7-GW 9/22/2005	T-8-GW 9/22/2005	T-9GW 9/22/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0	**11**
Naphthalene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Tetrachloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	ND<0.50	ND<0.50	ND<0.50	**5.3**
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	-
C23 - C36 HRO	mg/L	-	-	-	-
C6 - C12 GRO	mg/L	-	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%;
the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	T-10B 9/22/2005	T-10GW 9/22/2005	T-11GW 9/22/2005	T-13-GW 6/30/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<4.0	ND<10	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<20	ND<50	**1.1 J**
2-Chlorotoluene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<20	ND<50	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<20	ND<50	ND<10
Acetone	µg/L	**10**	ND<20	ND<50	**2.8 J**
Benzene	µg/L	ND<0.50	ND<1.0	ND<2.5	**1.2**
Bromobenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
Bromoform	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<4.0	ND<10	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Chloroform	µg/L	0.43 J	ND<1.0	ND<2.5	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**16**	**15 D**	ND<2.5	ND<0.50
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<2.0
Ethyl benzene	µg/L	ND<2.0	ND<4.0	ND<10	ND<0.50
Freon-11	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<1.0
Freon-113	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<2.0
Freon-12	µg/L	ND<2.0	ND<4.0	ND<10	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-10B 9/22/2005	T-10GW 9/22/2005	T-11GW 9/22/2005	T-13-GW 6/30/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<4.0	ND<10	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<2.0	ND<5.0	ND<1.0
Tetrachloroethene	µg/L	**110 D**	**99 D**	**1.3 J,D**	ND<0.50
Toluene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
trans-1,2-Dichloroethene	µg/L	**0.53**	ND<1.0	ND<2.5	**0.65**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<1.0	ND<2.5	ND<0.50
Trichloroethene	µg/L	**83 D**	**79 D**	**12 D**	ND<0.50
Vinyl Acetate	µg/L	ND<10	ND<20	ND<50	ND<10
Vinyl Chloride	µg/L	ND<0.50	ND<1.0	**150 D**	**0.59**
Xylenes (Total)	µg/L	ND<1.5	ND<3.0	ND<7.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	-
C23 - C36 HRO	mg/L	-	-	-	-
C6 - C12 GRO	mg/L	-	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%;
the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-14-GW 6/30/2005	T-15-GW 7/1/2005	T-16-GW 7/1/2005	T-17B-GW 6/30/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	**1.2**
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	**3.9**
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	**0.3 J**
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	**3.4**
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	**13**
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	**0.22 J**
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<10
Acetone	µg/L	**4.2 J**	**3.1 J**	**5.1 J**	**2.3 J**
Benzene	µg/L	**1.3**	**0.37 J**	**1**	**0.44 J**
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	ND<2.0	**0.56 J**
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	**3**
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	ND<0.50	**0.23 J**	**1.8**	**4800 D**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-14-GW 6/30/2005	T-15-GW 7/1/2005	T-16-GW 7/1/2005	T-17B-GW 6/30/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<1.0	ND<1.0	**0.4 J**
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Tetrachloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	**31000 D**
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	**0.54**
trans-1,2-Dichloroethene	µg/L	**0.5**	**0.4 J**	**0.49 J**	**88**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	**5700 D**
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	**2.8**	**12**	**14**	**290 D**
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5	**0.6 J**
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	0.72 J	-	-	-
C23 - C36 HRO	mg/L	ND<5	-	-	-
C6 - C12 GRO	mg/L	ND<1 *	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	ND<7	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
\- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Volatile Organic Compounds	Units	T-17-GW 6/30/2005	T-18-GW 6/30/2005	T-19-GW 6/30/2005	T-20-GW 6/30/2005
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,1-Dichloroethane	µg/L	**0.88**	**1.2**	ND<10	**2.2**
1,1-Dichloroethene	µg/L	**5.7**	**7.6**	ND<10	**1.7**
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
1,2,4-Trimethylbenzene	µg/L	**0.7 J**	ND<1.0	ND<20	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<40	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
1,2-Dichlorobenzene	µg/L	**6.4**	**9.7**	ND<10	**0.19 J**
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	**0.72**	ND<10	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
1,4-Dichlorobenzene	µg/L	**22**	**17**	ND<10	**0.63**
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<200	ND<10
2-Chlorotoluene	µg/L	**0.38 J**	**0.28 J**	ND<20	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<200	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<200	ND<10
Acetone	µg/L	**3.4 J**	**3.1 J**	ND<200	**3.4 J**
Benzene	µg/L	**0.87**	**1.6**	ND<10	**0.33 J**
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Carbon Disulfide	µg/L	**0.53 J**	ND<2.0	ND<40	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
Chlorobenzene	µg/L	**5.6**	**3.9**	ND<10	**0.42 J**
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
cis-1,2-Dichloroethene	µg/L	**7500 D**	**13000 D**	**1400 D**	**2100 D**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<40	ND<2.0
Ethyl benzene	µg/L	**0.2 J**	ND<0.50	ND<10	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<40	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-17-GW 6/30/2005	T-18-GW 6/30/2005	T-19-GW 6/30/2005	T-20-GW 6/30/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<40	ND<2.0
Naphthalene	µg/L	**0.89 J**	ND<1.0	ND<20	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<20	ND<1.0
Tetrachloroethene	µg/L	**61000 D**	**2000 D**	**770 D**	**330 D**
Toluene	µg/L	**1.1**	**0.54**	ND<10	ND<0.50
trans-1,2-Dichloroethene	µg/L	**80**	**40**	**7.4 J,D**	**13**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<10	ND<0.50
Trichloroethene	µg/L	**6400 D**	**10000 D**	**1400 D**	**1100 D**
Vinyl Acetate	µg/L	ND<10	ND<10	ND<200	ND<10
Vinyl Chloride	µg/L	**270 D**	**350 D**	**180 D**	**200 D**
Xylenes (Total)	µg/L	**1.1 J**	**0.56 J**	ND<30	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	**0.67 J**	-	**0.62 J**	-
C23 - C36 HRO	mg/L	ND<5	-	ND<5	-
C6 - C12 GRO	mg/L	**15 ***	-	**0.72 J***	-
Total Petroleum Hydrocarbon (TPH)	mg/L	**16**	-	ND<7	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Volatile Organic Compounds	Units	T-21B-GW 7/6/2005	T-22-GW 7/6/2005	T-23-GW 7/6/2005
1,1,1,2-Tetrachloroethane	µg/L	ND<50	ND<250	ND<25
1,1,1-Trichloroethane	µg/L	ND<50	ND<250	ND<25
1,1,2,2-Tetrachloroethane	µg/L	ND<50	ND<250	ND<25
1,1,2-Trichloroethane	µg/L	ND<50	ND<250	ND<25
1,1-Dichloroethane	µg/L	ND<50	ND<250	ND<25
1,1-Dichloroethene	µg/L	ND<50	ND<250	ND<25
1,1-Dichloropropene	µg/L	ND<50	ND<250	ND<25
1,2,3-Trichlorobenzene	µg/L	ND<100	ND<500	ND<50
1,2,3-Trichloropropane	µg/L	ND<50	ND<250	ND<25
1,2,4-Trichlorobenzene	µg/L	ND<100	ND<500	ND<50
1,2,4-Trimethylbenzene	µg/L	ND<100	ND<500	ND<50
1,2-Dibromo-3-chloropropane	µg/L	ND<200	ND<1000	ND<100
1,2-Dibromoethane	µg/L	ND<100	ND<500	ND<50
1,2-Dichlorobenzene	µg/L	ND<50	ND<250	ND<25
1,2-Dichloroethane	µg/L	ND<50	ND<250	ND<25
1,2-Dichloropropane	µg/L	ND<50	ND<250	ND<25
1,3,5-Trimethylbenzene	µg/L	ND<100	ND<500	ND<50
1,3-Dichlorobenzene	µg/L	ND<50	ND<250	ND<25
1,3-Dichloropropane	µg/L	ND<50	ND<250	ND<25
1,4-Dichlorobenzene	µg/L	ND<50	ND<250	ND<25
2,2-Dichloropropane	µg/L	ND<50	ND<250	ND<25
2-Butanone (MEK)	µg/L	ND<1000	ND<5000	ND<500
2-Chlorotoluene	µg/L	ND<100	ND<500	ND<50
2-Hexanone	µg/L	ND<1000	ND<5000	ND<500
4-Chlorotoluene	µg/L	ND<100	ND<500	ND<50
4-Methyl-2-pentanone	µg/L	ND<1000	ND<5000	ND<500
Acetone	µg/L	ND<1000	ND<5000	ND<500
Benzene	µg/L	**45 J,D**	ND<250	**12 J,D**
Bromobenzene	µg/L	ND<100	ND<500	ND<50
Bromochloromethane	µg/L	ND<50	ND<250	ND<25
Bromoform	µg/L	ND<100	ND<500	ND<50
Bromomethane	µg/L	ND<100	ND<500	ND<50
Carbon Disulfide	µg/L	ND<200	ND<1000	ND<100
Carbon Tetrachloride	µg/L	ND<50	ND<250	ND<25
Chlorobenzene	µg/L	ND<50	ND<250	ND<25
Chloroethane	µg/L	ND<100	ND<500	ND<50
Chloroform	µg/L	ND<50	ND<250	ND<25
Chloromethane	µg/L	ND<100	ND<500	ND<50
cis-1,2-Dichloroethene	µg/L	**57 D**	ND<250	**83 D**
cis-1,3-Dichloropropene	µg/L	ND<50	ND<250	ND<25
Dibromochloromethane	µg/L	ND<100	ND<500	ND<50
Dibromomethane	µg/L	ND<50	ND<250	ND<25
Dichlorobromomethane	µg/L	ND<100	ND<500	ND<50
Dichloromethane (Methylene Chloride)	µg/L	ND<200	ND<1000	ND<100
Ethyl benzene	µg/L	ND<50	ND<250	ND<25
Freon-11	µg/L	ND<100	ND<500	ND<50
Freon-113	µg/L	ND<200	ND<1000	ND<100
Freon-12	µg/L	ND<100	ND<500	ND<50
Hexachlorobutadiene	µg/L	ND<100	ND<500	ND<50
Isopropylbenzene	µg/L	ND<100	ND<500	ND<50

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	T-21B-GW 7/6/2005	T-22-GW 7/6/2005	T-23-GW 7/6/2005
Volatile Organic Compounds				
Methyl tertbutyl ether (MTBE)	µg/L	ND<200	ND<1000	ND<100
Naphthalene	µg/L	ND<100	ND<500	ND<50
n-Butylbenzene	µg/L	ND<100	ND<500	ND<50
n-Propylbenzene	µg/L	ND<100	ND<500	ND<50
p-Isopropyltoluene	µg/L	ND<100	ND<500	ND<50
sec-Butylbenzene	µg/L	ND<100	ND<500	ND<50
Styrene	µg/L	ND<50	ND<250	ND<25
tert-Butylbenzene	µg/L	ND<100	ND<500	ND<50
Tetrachloroethene	µg/L	ND<50	ND<250	ND<25
Toluene	µg/L	ND<50	ND<250	ND<25
trans-1,2-Dichloroethene	µg/L	**78 D**	ND<250	18 J,D
trans-1,3-Dichloropropene	µg/L	ND<50	ND<250	ND<25
Trichloroethene	µg/L	ND<50	ND<250	ND<25
Vinyl Acetate	µg/L	ND<1000	ND<5000	ND<500
Vinyl Chloride	µg/L	**4300 D**	**19000 D**	**2300 D**
Xylenes (Total)	µg/L	ND<150	ND<750	ND<75
Petroleum Hydrocarbons				
C13 - C22 DRO	mg/L	-	-	-
C23 - C36 HRO	mg/L	-	-	-
C6 - C12 GRO	mg/L	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-

Note:

DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	DUP2 (T-23-GW) 7/6/2005	T-24-GW 7/6/2005
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	µg/L	ND<50	ND<250
1,1,1-Trichloroethane	µg/L	ND<50	ND<250
1,1,2,2-Tetrachloroethane	µg/L	ND<50	ND<250
1,1,2-Trichloroethane	µg/L	ND<50	ND<250
1,1-Dichloroethane	µg/L	ND<50	ND<250
1,1-Dichloroethene	µg/L	ND<50	ND<250
1,1-Dichloropropene	µg/L	ND<50	ND<250
1,2,3-Trichlorobenzene	µg/L	ND<100	ND<500
1,2,3-Trichloropropane	µg/L	ND<50	ND<250
1,2,4-Trichlorobenzene	µg/L	ND<100	ND<500
1,2,4-Trimethylbenzene	µg/L	ND<100	ND<500
1,2-Dibromo-3-chloropropane	µg/L	ND<200	ND<1000
1,2-Dibromoethane	µg/L	ND<100	ND<500
1,2-Dichlorobenzene	µg/L	ND<50	ND<250
1,2-Dichloroethane	µg/L	ND<50	ND<250
1,2-Dichloropropane	µg/L	ND<50	ND<250
1,3,5-Trimethylbenzene	µg/L	ND<100	ND<500
1,3-Dichlorobenzene	µg/L	ND<50	ND<250
1,3-Dichloropropane	µg/L	ND<50	ND<250
1,4-Dichlorobenzene	µg/L	ND<50	ND<250
2,2-Dichloropropane	µg/L	ND<50	ND<250
2-Butanone (MEK)	µg/L	ND<1000	ND<5000
2-Chlorotoluene	µg/L	ND<100	ND<500
2-Hexanone	µg/L	ND<1000	ND<5000
4-Chlorotoluene	µg/L	ND<100	ND<500
4-Methyl-2-pentanone	µg/L	ND<1000	ND<5000
Acetone	µg/L	ND<1000	ND<5000
Benzene	µg/L	ND<50	ND<250
Bromobenzene	µg/L	ND<100	ND<500
Bromochloromethane	µg/L	ND<50	ND<250
Bromoform	µg/L	ND<100	ND<500
Bromomethane	µg/L	ND<100	ND<500
Carbon Disulfide	µg/L	ND<200	ND<1000
Carbon Tetrachloride	µg/L	ND<50	ND<250
Chlorobenzene	µg/L	ND<50	ND<250
Chloroethane	µg/L	ND<100	ND<500
Chloroform	µg/L	ND<50	ND<250
Chloromethane	µg/L	ND<100	ND<500
cis-1,2-Dichloroethene	µg/L	**130 D**	**15000 D**
cis-1,3-Dichloropropene	µg/L	ND<50	ND<250
Dibromochloromethane	µg/L	ND<100	ND<500
Dibromomethane	µg/L	ND<50	ND<250
Dichlorobromomethane	µg/L	ND<100	ND<500
Dichloromethane (Methylene Chloride)	µg/L	ND<200	ND<1000
Ethyl benzene	µg/L	ND<50	ND<250
Freon-11	µg/L	ND<100	ND<500
Freon-113	µg/L	ND<200	ND<1000
Freon-12	µg/L	ND<100	ND<500
Hexachlorobutadiene	µg/L	ND<100	ND<500
Isopropylbenzene	µg/L	ND<100	ND<500

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	DUP2 (T-23-GW) 7/6/2005	T-24-GW 7/6/2005
Volatile Organic Compounds			
Methyl tertbutyl ether (MTBE)	µg/L	ND<200	ND<1000
Naphthalene	µg/L	ND<100	ND<500
n-Butylbenzene	µg/L	ND<100	ND<500
n-Propylbenzene	µg/L	ND<100	ND<500
p-Isopropyltoluene	µg/L	ND<100	ND<500
sec-Butylbenzene	µg/L	ND<100	ND<500
Styrene	µg/L	ND<50	ND<250
tert-Butylbenzene	µg/L	ND<100	ND<500
Tetrachloroethene	µg/L	ND<50	**41000 D**
Toluene	µg/L	ND<50	ND<250
trans-1,2-Dichloroethene	µg/L	**23 J,D**	ND<250
trans-1,3-Dichloropropene	µg/L	ND<50	ND<250
Trichloroethene	µg/L	ND<50	**9600 D**
Vinyl Acetate	µg/L	ND<1000	ND<5000
Vinyl Chloride	µg/L	**3100 D**	**630 D**
Xylenes (Total)	µg/L	ND<150	ND<750
Petroleum Hydrocarbons			
C13 - C22 DRO	mg/L	-	-
C23 - C36 HRO	mg/L	-	-
C6 - C12 GRO	mg/L	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
\- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-25-GW 7/13/2005	T-26-GW 7/13/2005	T-27-GW 7/13/2005	T-27-GW-B 7/13/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<10	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<2.5	ND<0.50	**0.15 J**	ND<0.50
2,2-Dichloropropane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<50	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<50	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<50	ND<10	ND<10	ND<10
Acetone	µg/L	ND<50	**3.1 J**	**2.5 J**	**2.4 J**
Benzene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Bromobenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<10	ND<2.0	**0.48 J**	**0.64 J**
Carbon Tetrachloride	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**89 D**	**4**	**0.21 J**	**0.19 J**
cis-1,3-Dichloropropene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<10	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Freon-11	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<10	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-25-GW 7/13/2005	T-26-GW 7/13/2005	T-27-GW 7/13/2005	T-27-GW-B 7/13/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<10	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
n-Butylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Styrene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<5.0	ND<1.0	ND<1.0	ND<1.0
Tetrachloroethene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Toluene	µg/L	ND<2.5	**0.27 J**	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<2.5	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	ND<2.5	ND<0.50	**0.26 J**	**0.24 J**
Vinyl Acetate	µg/L	ND<50	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	**5.4 D**	ND<0.50	ND<0.50	ND<0.50
Xylenes (Total)	µg/L	ND<7.5	ND<1.5	ND<1.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	ND<1	-	-
C23 - C36 HRO	mg/L	-	ND<5 *	-	-
C6 - C12 GRO	mg/L	-	ND<1 *	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	ND<7	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%;
the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Volatile Organic Compounds	Units	T-28-GW 7/13/2005	T-29-GW 7/1/2005	T-30-GW 7/1/2005	T-31-GW 7/1/2005
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<10	**0.82 J,D**	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<40	ND<4.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
1,4-Dichlorobenzene	µg/L	**0.17 J**	ND<10	ND<1.0	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<200	ND<20	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<200	ND<20	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<200	ND<20	ND<10
Acetone	µg/L	ND<10	ND<200	**3.9 J,D**	ND<10
Benzene	µg/L	ND<0.50	ND<10	**0.34 J,D**	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Bromoform	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<40	ND<4.0	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<10	ND<1.0	**1.2**
Chloromethane	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**0.22 J**	ND<10	**1.1 D**	**0.3 J**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<20	ND<2.0	**0.2 J**
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<40	ND<4.0	ND<2.0
Ethyl benzene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Freon-11	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<40	ND<4.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-28-GW 7/13/2005	T-29-GW 7/1/2005	T-30-GW 7/1/2005	T-31-GW 7/1/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<40	ND<4.0	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<20	ND<2.0	ND<1.0
Tetrachloroethene	µg/L	ND<0.50	ND<10	**0.48 J,D**	**0.63**
Toluene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<0.50	**4.2 J,D**	**0.9 J,D**	**0.26 J**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<10	ND<1.0	ND<0.50
Trichloroethene	µg/L	**0.18 J**	ND<10	ND<1.0	**0.63**
Vinyl Acetate	µg/L	ND<10	ND<200	ND<20	ND<10
Vinyl Chloride	µg/L	ND<0.50	**550 D**	**280 D**	**53**
Xylenes (Total)	µg/L	ND<1.5	ND<30	ND<3.0	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	ND<1
C23 - C36 HRO	mg/L	-	-	-	ND<5
C6 - C12 GRO	mg/L	-	-	-	ND<1 *
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	ND<7

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-32-GW 7/5/2005	T-33-GW 7/1/2005	T-34-GW 7/14/2005	T-35-GW 7/14/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,1-Dichloroethane	µg/L	ND<0.50	**0.95 J,D**	ND<5.0	ND<5.0
1,1-Dichloroethene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,1-Dichloropropene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<10	ND<20	ND<20
1,2-Dibromoethane	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,2-Dichloroethane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,2-Dichloropropane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,3-Dichloropropane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
2,2-Dichloropropane	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
2-Butanone (MEK)	µg/L	ND<10	ND<50	ND<100	ND<100
2-Chlorotoluene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
2-Hexanone	µg/L	ND<10	ND<50	ND<100	ND<100
4-Chlorotoluene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
4-Methyl-2-pentanone	µg/L	ND<10	ND<50	ND<100	ND<100
Acetone	µg/L	**2.6 J**	ND<50	ND<100	ND<100
Benzene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
Bromobenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Bromochloromethane	µg/L	**1.5**	ND<2.5	ND<5.0	ND<5.0
Bromoform	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Bromomethane	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Carbon Disulfide	µg/L	ND<2.0	ND<10	ND<20	ND<20
Carbon Tetrachloride	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
Chlorobenzene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
Chloroethane	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Chloroform	µg/L	**27**	ND<2.5	ND<5.0	ND<5.0
Chloromethane	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
cis-1,2-Dichloroethene	µg/L	ND<0.50	**1.8 J,D**	**110 D**	**34 D**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
Dibromochloromethane	µg/L	**0.51 J**	ND<5.0	ND<10	ND<10
Dibromomethane	µg/L	**0.23 J**	ND<2.5	ND<5.0	ND<5.0
Dichlorobromomethane	µg/L	**2.6**	ND<5.0	ND<10	ND<10
Dichloromethane (Methylene Chloride)	µg/L	**2.1**	ND<10	ND<20	ND<20
Ethyl benzene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
Freon-11	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Freon-113	µg/L	ND<2.0	ND<10	ND<20	ND<20
Freon-12	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Hexachlorobutadiene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Isopropylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-32-GW 7/5/2005	T-33-GW 7/1/2005	T-34-GW 7/14/2005	T-35-GW 7/14/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<10	ND<20	ND<20
Naphthalene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
n-Butylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
n-Propylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
p-Isopropyltoluene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
sec-Butylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Styrene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
tert-Butylbenzene	µg/L	ND<1.0	ND<5.0	ND<10	ND<10
Tetrachloroethene	µg/L	ND<0.50	ND<2.5	**360 D**	**590 D**
Toluene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
trans-1,2-Dichloroethene	µg/L	ND<0.50	**1.1 J,D**	**3.2 J,D**	ND<5.0
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<2.5	ND<5.0	ND<5.0
Trichloroethene	µg/L	ND<0.50	ND<2.5	**70 D**	**64 D**
Vinyl Acetate	µg/L	ND<10	ND<50	ND<100	ND<100
Vinyl Chloride	µg/L	**16**	**310 D**	ND<5.0	ND<5.0
Xylenes (Total)	µg/L	ND<1.5	ND<7.5	ND<15	ND<15
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	ND<1	-
C23 - C36 HRO	mg/L	-	-	ND<5 *	-
C6 - C12 GRO	mg/L	-	-	ND<1 *	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	**ND<7**	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
\- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-37-GW 7/14/2005	T-38-GW 7/14/2005	T-39-GW 7/13/2005	T-40-GW 7/13/2005
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,1-Dichloroethane	µg/L	**1.6 J,D**	ND<5.0	ND<2.5	ND<0.50
1,1-Dichloroethene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,1-Dichloropropene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<10	ND<20	ND<10	ND<2.0
1,2-Dibromoethane	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,2-Dichloroethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,2-Dichloropropane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<2.5	ND<5.0	**0.7 J,D**	ND<0.50
1,3-Dichloropropane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
2,2-Dichloropropane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
2-Butanone (MEK)	µg/L	ND<50	ND<100	ND<50	ND<10
2-Chlorotoluene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
2-Hexanone	µg/L	ND<50	ND<100	ND<50	ND<10
4-Chlorotoluene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<50	ND<100	ND<50	ND<10
Acetone	µg/L	ND<50	ND<100	ND<50	**3.1 J**
Benzene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Bromobenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Bromochloromethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Bromoform	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Bromomethane	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Carbon Disulfide	µg/L	ND<10	ND<20	ND<10	ND<2.0
Carbon Tetrachloride	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Chlorobenzene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Chloroethane	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Chloroform	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Chloromethane	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**190 D**	**77 D**	**6.2 D**	**0.67**
cis-1,3-Dichloropropene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Dibromochloromethane	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Dibromomethane	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Dichlorobromomethane	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<10	ND<20	ND<10	ND<2.0
Ethyl benzene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Freon-11	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Freon-113	µg/L	ND<10	ND<20	ND<10	ND<2.0
Freon-12	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Isopropylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	T-37-GW 7/14/2005	T-38-GW 7/14/2005	T-39-GW 7/13/2005	T-40-GW 7/13/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<10	ND<20	ND<10	ND<2.0
Naphthalene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
n-Butylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
n-Propylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
sec-Butylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Styrene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
tert-Butylbenzene	µg/L	ND<5.0	ND<10	ND<5.0	ND<1.0
Tetrachloroethene	µg/L	**320 D**	**410 D**	**5.2 D**	**3.1**
Toluene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
trans-1,2-Dichloroethene	µg/L	**3.6 D**	ND<5.0	**8.3 D**	**0.44 J**
trans-1,3-Dichloropropene	µg/L	ND<2.5	ND<5.0	ND<2.5	ND<0.50
Trichloroethene	µg/L	**59 D**	**87 D**	**4.3 D**	ND<0.50
Vinyl Acetate	µg/L	ND<50	ND<100	ND<50	ND<10
Vinyl Chloride	µg/L	ND<2.5	ND<5.0	**160 D**	**0.92**
Xylenes (Total)	µg/L	ND<7.5	ND<15	ND<7.5	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	ND<1	-	ND<1	-
C23 - C36 HRO	mg/L	ND<5 *	-	ND<5 *	-
C6 - C12 GRO	mg/L	ND<1 *	-	ND<1 *	-
Total Petroleum Hydrocarbon (TPH)	mg/L	ND<7	-	ND<7	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Volatile Organic Compounds	Units	T-41-GW 7/14/2005	T-41-GW-B 7/14/2005	T-42-GW 7/13/2005	T-43-GW 11/18/2005
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	ND<10	ND<10	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10	ND<10
Acetone	µg/L	**2.5 J**	**2.2 J**	**2.9 J**	ND<10
Benzene	µg/L	**0.21 J**	**0.2 J**	ND<0.50	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**1.7**	**1.9**	ND<0.50	**6.2**
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0

Table 7-5

Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples

2701 North Harbor Drive

San Diego, California

	Units	T-41-GW 7/14/2005	T-41-GW-B 7/14/2005	T-42-GW 7/13/2005	T-43-GW 11/18/2005
Volatile Organic Compounds					
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Tetrachloroethene	µg/L	**7.5**	**10**	ND<0.50	**2.1**
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	**5.5**	**4.8**	ND<0.50	**0.42 J**
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	**1.9**	**2.5**	ND<0.50	**2.8**
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	**44**	**37**	ND<0.50	ND<0.50
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	**0.7 J**	ND<1.5
Petroleum Hydrocarbons					
C13 - C22 DRO	mg/L	-	-	-	-
C23 - C36 HRO	mg/L	-	-	-	-
C6 - C12 GRO	mg/L	-	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%;
the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**TC4EEP 8/9/2005**	**TC4EGP 8/9/2005**	**TC4EHP 8/3/2005**
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,1,1-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,1,2,2-Tetrachloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,1,2-Trichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50
1,1-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50
1,2,3-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0
1,2,3-Trichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,2,4-Trichlorobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0
1,2,4-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0
1,2-Dibromo-3-chloropropane	µg/L	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	µg/L	ND<1.0	ND<1.0	ND<1.0
1,2-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloroethane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,3,5-Trimethylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0
1,3-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50
1,3-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50
1,4-Dichlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50
2,2-Dichloropropane	µg/L	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	µg/L	ND<10	**1.2 J**	ND<10
2-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0
2-Hexanone	µg/L	ND<10	ND<10	ND<10
4-Chlorotoluene	µg/L	ND<1.0	ND<1.0	ND<1.0
4-Methyl-2-pentanone	µg/L	ND<10	ND<10	ND<10
Acetone	µg/L	**1.9 J**	**6.6 J**	ND<10
Benzene	µg/L	**3.9**	**0.39 J**	ND<0.50
Bromobenzene	µg/L	ND<1.0	ND<1.0	ND<1.0
Bromochloromethane	µg/L	ND<0.50	ND<0.50	ND<0.50
Bromoform	µg/L	ND<1.0	ND<1.0	ND<1.0
Bromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0
Carbon Disulfide	µg/L	ND<2.0	ND<2.0	ND<2.0
Carbon Tetrachloride	µg/L	ND<0.50	ND<0.50	ND<0.50
Chlorobenzene	µg/L	ND<0.50	ND<0.50	ND<0.50
Chloroethane	µg/L	ND<1.0	ND<1.0	ND<1.0
Chloroform	µg/L	ND<0.50	ND<0.50	ND<0.50
Chloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	µg/L	**0.23 J**	ND<0.50	ND<0.50
cis-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50
Dibromochloromethane	µg/L	ND<1.0	ND<1.0	ND<1.0
Dibromomethane	µg/L	ND<0.50	ND<0.50	ND<0.50
Dichlorobromomethane	µg/L	ND<1.0	ND<1.0	ND<1.0
Dichloromethane (Methylene Chloride)	µg/L	ND<2.0	ND<2.0	ND<2.0
Ethyl benzene	µg/L	**5.1**	ND<0.50	ND<0.50
Freon-11	µg/L	ND<1.0	ND<1.0	ND<1.0
Freon-113	µg/L	ND<2.0	ND<2.0	ND<2.0
Freon-12	µg/L	ND<1.0	ND<1.0	ND<1.0
Hexachlorobutadiene	µg/L	ND<1.0	ND<1.0	ND<1.0
Isopropylbenzene	µg/L	**15**	**2**	ND<1.0

Table 7-5
Concentrations of Volatile Organic Compounds and Total Petroleum Hydrocarbons Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	TC4EEP 8/9/2005	TC4EGP 8/9/2005	TC4EHP 8/3/2005
Volatile Organic Compounds				
Methyl tertbutyl ether (MTBE)	µg/L	ND<2.0	ND<2.0	ND<2.0
Naphthalene	µg/L	**7.5 C**	**2.8 C**	**0.31 J,C**
n-Butylbenzene	µg/L	ND<1.0	ND<1.0	ND<1.0
n-Propylbenzene	µg/L	**16**	**2.3**	ND<1.0
p-Isopropyltoluene	µg/L	ND<1.0	ND<1.0	ND<1.0
sec-Butylbenzene	µg/L	**3.7**	**0.45 J**	ND<1.0
Styrene	µg/L	ND<0.50	ND<0.50	ND<0.50
tert-Butylbenzene	µg/L	**2.2**	ND<1.0	ND<1.0
Tetrachloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50
Toluene	µg/L	ND<0.50	ND<0.50	ND<0.50
trans-1,2-Dichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50
trans-1,3-Dichloropropene	µg/L	ND<0.50	ND<0.50	ND<0.50
Trichloroethene	µg/L	ND<0.50	ND<0.50	ND<0.50
Vinyl Acetate	µg/L	ND<10	ND<10	ND<10
Vinyl Chloride	µg/L	ND<0.50	ND<0.50	ND<0.50
Xylenes (Total)	µg/L	ND<1.5	ND<1.5	ND<1.5
Petroleum Hydrocarbons				
C13 - C22 DRO	mg/L	-	-	-
C23 - C36 HRO	mg/L	-	-	-
C6 - C12 GRO	mg/L	-	-	-
Total Petroleum Hydrocarbon (TPH)	mg/L	-	-	-

Note:
DUP - Field duplicate
DRO - Diesel range organics
GRO - Gasoline range organics
HRO - heavy oil range organics
µg/L - microgram per liter
mg/L - milligram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
C - The relative standard deviation was greater than 15%; the sample data is not significantly affected
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL
* - GRO and HRO MDL based on lowest calibration standar

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	142WDP 8/8/2005	142WEP 8/8/2005	DUP4 (142WEP) 8/8/2005	BLD120-MW-1 8/1/2005
Semi-Volatile Organic Compounds					
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
1,4-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
1,4-Dioxane	µg/L	**8.8**	ND<2.0	ND<2.0	**490 D**
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2,4-Dimethylphenol	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6
2,4-Dinitrophenol	µg/L	ND<48	ND<48	ND<49	ND<48
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2-Chlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2-Methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
2-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<20	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6
3-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<20	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
4-Chloroaniline	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
4-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20
4-Nitrophenol	µg/L	ND<48	ND<48	ND<49	ND<48
Acenaphthene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Acenaphthylene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Aniline	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Anthracene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Benzo(g,h,i)perylene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Benzoic Acid	µg/L	ND<48	ND<48	ND<49	ND<48
Benzyl Alcohol	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Bis(2-ethylhexyl) Phthalate	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Chrysene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Dibenzofuran	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Diethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Dimethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	142WDP 8/8/2005	142WEP 8/8/2005	DUP4 (142WEP) 8/8/2005	BLD120-MW-1 8/1/2005
Fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Fluorene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Hexachlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Hexachlorobutadiene	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6
Hexachlorocyclopentadiene	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6
Hexachloroethane	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Isophorone	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Naphthalene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Nitrobenzene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Pentachlorophenol	µg/L	ND<29	ND<29	ND<29	ND<29
Phenanthrene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Phenol	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Pyrene	µg/L	ND<4.8	ND<4.8	ND<4.9	ND<4.8
Pyridine	µg/L	ND<9.6	ND<9.6	ND<9.7	ND<9.6

Note:

DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	BLD120-MW-2 8/1/2005	BLD120-MW3 7/29/2005	B120-MW4 8/2/2005	B120-MW5 8/2/2005
Semi-Volatile Organic Compounds					
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
1,4-Dichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
1,4-Dioxane	µg/L	**1.6 J**	-	ND<2.0	ND<2.0
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2,4-Dimethylphenol	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6
2,4-Dinitrophenol	µg/L	ND<48	ND<49	ND<48	ND<48
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2-Chlorophenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2-Methylphenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
2-Nitroaniline	µg/L	ND<19	ND<20	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
3,3'-Dichlorobenzidine	µg/L	ND<19	ND<20	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6
3-Nitroaniline	µg/L	ND<19	ND<20	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<19	ND<20	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
4-Chloroaniline	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
4-Nitroaniline	µg/L	ND<19	ND<20	ND<20	ND<20
4-Nitrophenol	µg/L	ND<48	ND<49	ND<48	ND<48
Acenaphthene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Acenaphthylene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Aniline	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Anthracene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Benzo(g,h,i)perylene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Benzoic Acid	µg/L	ND<48	ND<49	ND<48	ND<48
Benzyl Alcohol	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Bis(2-ethylhexyl) Phthalate	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Chrysene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Dibenzofuran	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Diethylphthalate	µg/L	ND<4.8	**0.59 J**	**1.6 J**	**1.1 J**
Dimethylphthalate	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	BLD120-MW-2 8/1/2005	BLD120-MW3 7/29/2005	B120-MW4 8/2/2005	B120-MW5 8/2/2005
Fluoranthene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Fluorene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Hexachlorobenzene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Hexachlorobutadiene	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6
Hexachlorocyclopentadiene	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6
Hexachloroethane	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.8	**0.34 J**	ND<4.8	ND<4.8
Isophorone	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Naphthalene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Nitrobenzene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Pentachlorophenol	µg/L	ND<29	ND<30	ND<29	ND<29
Phenanthrene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Phenol	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Pyrene	µg/L	ND<4.8	ND<4.9	ND<4.8	ND<4.8
Pyridine	µg/L	ND<9.5	ND<9.8	ND<9.6	ND<9.6

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	B120-MW6 8/1/2005	DUP3 (B120-MW6) 8/1/2005	B131-MW1 8/4/2005	B131-MW2 8/4/2005
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	**3.9 J**
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
1,4-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	**12**
1,4-Dioxane	µg/L	**18**	**19**	ND<2.0	**38**
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,4-Dimethylphenol	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7
2,4-Dinitrophenol	µg/L	ND<48	ND<48	ND<48	ND<49
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Chlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	**0.67 J**
2-Methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Nitroaniline	µg/L	ND<19	ND<20	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
3,3'-Dichlorobenzidine	µg/L	ND<19	ND<20	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7
3-Nitroaniline	µg/L	ND<19	ND<20	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<19	ND<20	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Chloroaniline	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Nitroaniline	µg/L	ND<19	ND<20	ND<20	ND<20
4-Nitrophenol	µg/L	ND<48	ND<48	ND<48	ND<49
Acenaphthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Acenaphthylene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Aniline	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(g,h,i)perylene	µg/L	**0.38 J**	ND<4.8	ND<4.8	ND<4.9
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzoic Acid	µg/L	ND<48	ND<48	ND<48	ND<49
Benzyl Alcohol	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Bis(2-ethylhexyl) Phthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Chrysene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Dibenzofuran	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Diethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Dimethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	B120-MW6 8/1/2005	DUP3 (B120-MW6) 8/1/2005	B131-MW1 8/4/2005	B131-MW2 8/4/2005
Fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Fluorene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Hexachlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Hexachlorobutadiene	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7
Hexachlorocyclopentadiene	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7
Hexachloroethane	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7
Indeno(1,2,3-cd)pyrene	µg/L	**0.37 J**	ND<4.8	ND<4.8	ND<4.9
Isophorone	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Naphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Nitrobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Pentachlorophenol	µg/L	ND<29	ND<29	ND<29	ND<29
Phenanthrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Phenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Pyridine	µg/L	ND<9.5	ND<9.6	ND<9.6	ND<9.7

Note:

DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	B131-MW3 8/4/2005	B131-MW4 8/5/2005	B131-MW5 8/5/2005	TC4EEP 8/9/2005	TC4EGP 8/9/2005
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
1,4-Dichlorobenzene	µg/L	**8.2**	ND<4.8	ND<4.8	ND<4.8	ND<4.9
1,4-Dioxane	µg/L	**89**	**1.5 J**	**120 D**	ND<2.0	ND<2.0
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,4-Dimethylphenol	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7
2,4-Dinitrophenol	µg/L	ND<48	ND<48	ND<48	ND<48	ND<49
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Chlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	**0.66 J**	ND<4.9
2-Methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
2-Nitroaniline	µg/L	ND<20	ND<19	ND<19	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<19	ND<19	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7
3-Nitroaniline	µg/L	ND<20	ND<19	ND<19	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<19	ND<19	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Chloroaniline	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
4-Nitroaniline	µg/L	ND<20	ND<19	ND<19	ND<20	ND<20
4-Nitrophenol	µg/L	ND<48	ND<48	ND<48	ND<48	ND<49
Acenaphthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Acenaphthylene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Aniline	µg/L	ND<4.8	**1.6 J**	ND<4.8	ND<4.8	ND<4.9
Anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(g,h,i)perylene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Benzoic Acid	µg/L	ND<48	ND<48	ND<48	ND<48	ND<49
Benzyl Alcohol	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Bis(2-ethylhexyl) Phthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Chrysene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Dibenzofuran	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Diethylphthalate	µg/L	ND<4.8	**0.97 J**	ND<4.8	ND<4.8	ND<4.9
Dimethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	B131-MW3 8/4/2005	B131-MW4 8/5/2005	B131-MW5 8/5/2005	TC4EEP 8/9/2005	TC4EGP 8/9/2005
Fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Fluorene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Hexachlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Hexachlorobutadiene	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7
Hexachlorocyclopentadiene	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7
Hexachloroethane	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Isophorone	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Naphthalene	µg/L	**0.9 J**	ND<4.8	ND<4.8	**5**	**1.7 J**
Nitrobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Pentachlorophenol	µg/L	ND<29	ND<29	ND<29	ND<29	ND<29
Phenanthrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Phenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.9
Pyridine	µg/L	ND<9.6	ND<9.5	ND<9.5	ND<9.6	ND<9.7

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**TC4EHP 8/3/2005**	**P1 8/5/2005**	**P2 8/9/2005**	**SDE 8/3/2005**	**T-7-GW 9/22/2005**
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
1,4-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
1,4-Dioxane	µg/L	ND<2.0	ND<1.9	ND<2.0	ND<2.0	ND<2.0
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2,4-Dimethylphenol	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9
2,4-Dinitrophenol	µg/L	ND<48	ND<48	ND<48	ND<48	ND<50
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2-Chlorophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	**2.2 J**	ND<5.0
2-Methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
2-Nitroaniline	µg/L	ND<20	ND<19	ND<20	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<19	ND<20	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9
3-Nitroaniline	µg/L	ND<20	ND<19	ND<20	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<19	ND<20	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
4-Chloroaniline	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
4-Nitroaniline	µg/L	ND<20	ND<19	ND<20	ND<20	ND<20
4-Nitrophenol	µg/L	ND<48	ND<48	ND<48	ND<48	ND<50
Acenaphthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Acenaphthylene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Aniline	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Benzo(g,h,i)perylene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Benzoic Acid	µg/L	ND<48	ND<48	ND<48	ND<48	ND<50
Benzyl Alcohol	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Bis(2-ethylhexyl) Phthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	**19**
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Chrysene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Dibenzofuran	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Diethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Dimethylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	TC4EHP 8/3/2005	P1 8/5/2005	P2 8/9/2005	SDE 8/3/2005	T-7-GW 9/22/2005
Fluoranthene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Fluorene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Hexachlorobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Hexachlorobutadiene	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9
Hexachlorocyclopentadiene	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9
Hexachloroethane	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Isophorone	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Naphthalene	µg/L	ND<4.8	ND<4.8	ND<4.8	**30**	ND<5.0
Nitrobenzene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Pentachlorophenol	µg/L	ND<29	ND<29	ND<29	ND<29	ND<30
Phenanthrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Phenol	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Pyrene	µg/L	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<5.0
Pyridine	µg/L	ND<9.6	ND<9.5	ND<9.6	ND<9.6	ND<9.9

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-8-GW 9/22/2005	T-9GW 9/22/2005	T-10B 9/22/2005	T-10GW 9/22/2005	T-13-GW 6/30/2005
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
1,2-Dichlorobenzene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
1,3-Dichlorobenzene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
1,4-Dichlorobenzene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
1,4-Dioxane	µg/L	**240 D**	**11**	ND<2.0	ND<2.0	ND<1.9
2,4,5-Trichlorophenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2,4,6-Trichlorophenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2,4-Dichlorophenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2,4-Dimethylphenol	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5
2,4-Dinitrophenol	µg/L	ND<50	ND<49	ND<49	ND<50	ND<48
2,4-Dinitrotoluene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2,6-Dinitrotoluene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2-Chloronaphthalene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2-Chlorophenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2-Methylnaphthalene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2-Methylphenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
2-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20	ND<19
2-Nitrophenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<20	ND<20	ND<20	ND<19
3/4-Methylphenol	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5
3-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20	ND<19
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<20	ND<20	ND<20	ND<19
4-Bromophenyl-phenylether	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
4-Chloro-3-methylphenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
4-Chloroaniline	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
4-Chlorophenyl-phenylether	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
4-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20	ND<19
4-Nitrophenol	µg/L	ND<50	ND<49	ND<49	ND<50	ND<48
Acenaphthene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Acenaphthylene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Aniline	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Anthracene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Benzo(a)anthracene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Benzo(a)pyrene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Benzo(b)fluoranthene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Benzo(g,h,i)perylene	µg/L	ND<5.0	ND<4.9	**0.50 J**	ND<5.0	ND<4.8
Benzo(k)fluoranthene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Benzoic Acid	µg/L	ND<50	ND<49	ND<49	ND<50	ND<48
Benzyl Alcohol	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5
bis(2-Chloroethoxy) methane	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Bis(2-chloroethyl) Ether	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Bis(2-chloroisopropyl) Ether	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Bis(2-ethylhexyl) Phthalate	µg/L	**1.7 J**	**2.3 J**	**4.1 J**	**5.1**	**1.4 J**
Butylbenzylphthalate	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Chrysene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Dibenzo(a,h)anthracene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Dibenzofuran	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Diethylphthalate	µg/L	ND<5.0	**1.6 J**	ND<4.9	ND<5.0	ND<4.8
Dimethylphthalate	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Di-n-butylphthalate	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Di-n-octylphthalate	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-8-GW 9/22/2005	T-9GW 9/22/2005	T-10B 9/22/2005	T-10GW 9/22/2005	T-13-GW 6/30/2005
Semi-Volatile Organic Compounds						
Fluoranthene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Fluorene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Hexachlorobenzene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Hexachlorobutadiene	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5
Hexachlorocyclopentadiene	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5
Hexachloroethane	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5
Indeno(1,2,3-cd)pyrene	µg/L	ND<5.0	ND<4.9	ND<4.9	**0.28 J**	ND<4.8
Isophorone	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Naphthalene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Nitrobenzene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
N-Nitrosodimethylamine	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
N-Nitroso-di-n-propylamine	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Pentachlorophenol	µg/L	ND<30	ND<29	ND<30	ND<30	ND<29
Phenanthrene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Phenol	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Pyrene	µg/L	ND<5.0	ND<4.9	ND<4.9	ND<5.0	ND<4.8
Pyridine	µg/L	ND<9.9	ND<9.7	ND<9.8	ND<9.9	ND<9.5

Note:

DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	T-14-GW 6/30/2005	T-15-GW 7/1/2005	T-16-GW 7/1/2005	T-17-GW 6/30/2005	T-18-GW 6/30/2005
1,2,4-Trichlorobenzene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
1,2-Dichlorobenzene	µg/L	ND<4.9	ND<4.9	ND<25	**2.6 J**	**6**
1,3-Dichlorobenzene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
1,4-Dichlorobenzene	µg/L	ND<4.9	ND<4.9	ND<25	**8.7**	**9.4**
1,4-Dioxane	µg/L	ND<2.0	ND<2.0	ND<9.7	**14**	**37**
2,4,5-Trichlorophenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2,4,6-Trichlorophenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2,4-Dichlorophenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2,4-Dimethylphenol	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5
2,4-Dinitrophenol	µg/L	ND<49	ND<49	ND<250	ND<49	ND<48
2,4-Dinitrotoluene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2,6-Dinitrotoluene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2-Chloronaphthalene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2-Chlorophenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2-Methylnaphthalene	µg/L	ND<4.9	ND<4.9	ND<25	**1.4 J**	ND<4.8
2-Methylphenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
2-Nitroaniline	µg/L	ND<20	ND<20	ND<97	ND<20	ND<19
2-Nitrophenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<20	ND<97	ND<20	ND<19
3/4-Methylphenol	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5
3-Nitroaniline	µg/L	ND<20	ND<20	ND<97	ND<20	ND<19
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<20	ND<97	ND<20	ND<19
4-Bromophenyl-phenylether	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
4-Chloro-3-methylphenol	µg/L	ND<4.9	ND<4.9	ND<25	**1.9 J**	ND<4.8
4-Chloroaniline	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
4-Chlorophenyl-phenylether	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
4-Nitroaniline	µg/L	ND<20	ND<20	ND<97	ND<20	ND<19
4-Nitrophenol	µg/L	ND<49	ND<49	ND<250	ND<49	ND<48
Acenaphthene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Acenaphthylene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Aniline	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Anthracene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Benzo(a)anthracene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Benzo(a)pyrene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Benzo(b)fluoranthene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Benzo(g,h,i)perylene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Benzo(k)fluoranthene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Benzoic Acid	µg/L	ND<49	ND<49	ND<250	ND<49	ND<48
Benzyl Alcohol	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5
bis(2-Chloroethoxy) methane	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Bis(2-chloroethyl) Ether	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Bis(2-ethylhexyl) Phthalate	µg/L	**12**	**3.8 J**	ND<25	ND<4.9	**7.7**
Butylbenzylphthalate	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Chrysene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Dibenzo(a,h)anthracene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Dibenzofuran	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Diethylphthalate	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Dimethylphthalate	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Di-n-butylphthalate	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Di-n-octylphthalate	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-14-GW 6/30/2005	T-15-GW 7/1/2005	T-16-GW 7/1/2005	T-17-GW 6/30/2005	T-18-GW 6/30/2005
Semi-Volatile Organic Compounds						
Fluoranthene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Fluorene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Hexachlorobenzene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Hexachlorobutadiene	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5
Hexachlorocyclopentadiene	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5
Hexachloroethane	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.9	ND<4.9	ND<25	**0.33 J**	ND<4.8
Isophorone	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Naphthalene	µg/L	ND<4.9	ND<4.9	ND<25	**0.49 J**	ND<4.8
Nitrobenzene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
N-Nitrosodimethylamine	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
N-Nitroso-di-n-propylamine	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Pentachlorophenol	µg/L	ND<29	ND<29	ND<150	ND<29	ND<29
Phenanthrene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Phenol	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Pyrene	µg/L	ND<4.9	ND<4.9	ND<25	ND<4.9	ND<4.8
Pyridine	µg/L	ND<9.7	ND<9.7	ND<49	ND<9.7	ND<9.5

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than
or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL),
but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	T-19-GW 6/30/2005	T-20-GW 6/30/2005	T-21B-GW 7/6/2005	T-22-GW 7/6/2005	T-23-GW 7/6/2005
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
1,4-Dichlorobenzene	µg/L	**0.58 J**	ND<4.8	**5.7 J,D**	**5.2 J,D**	**1.2 J**
1,4-Dioxane	µg/L	**160 D**	**130 D**	ND<9.6	ND<9.6	**680 D**
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2,4-Dimethylphenol	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5
2,4-Dinitrophenol	µg/L	ND<48	ND<48	ND<240	ND<240	ND<48
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2-Chlorophenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2-Methylphenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
2-Nitroaniline	µg/L	ND<19	ND<19	ND<96	ND<96	ND<19
2-Nitrophenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
3,3'-Dichlorobenzidine	µg/L	ND<19	ND<19	ND<96	ND<96	ND<19
3/4-Methylphenol	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5
3-Nitroaniline	µg/L	ND<19	ND<19	ND<96	ND<96	ND<19
4,6-Dinitro-2-methylphenol	µg/L	ND<19	ND<19	ND<96	ND<96	ND<19
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.8	**7.7 J,D**	**2.2 J,D**	ND<4.8
4-Chloroaniline	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
4-Nitroaniline	µg/L	ND<19	ND<19	ND<96	ND<96	ND<19
4-Nitrophenol	µg/L	ND<48	ND<48	ND<240	ND<240	ND<48
Acenaphthene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Acenaphthylene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Aniline	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Anthracene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Benzo(g,h,i)perylene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	**0.58 J**
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Benzoic Acid	µg/L	ND<48	ND<48	ND<240	ND<240	ND<48
Benzyl Alcohol	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Bis(2-ethylhexyl) Phthalate	µg/L	**1.8 J**	**5.6**	**6.6 J,D**	**5.7 J,D**	**4.5 J**
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Chrysene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	**0.49 J**
Dibenzofuran	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Diethylphthalate	µg/L	**1.3 J**	ND<4.8	ND<24	ND<24	**1.1 J**
Dimethylphthalate	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	T-19-GW 6/30/2005	T-20-GW 6/30/2005	T-21B-GW 7/6/2005	T-22-GW 7/6/2005	T-23-GW 7/6/2005
Fluoranthene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Fluorene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Hexachlorobenzene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Hexachlorobutadiene	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5
Hexachlorocyclopentadiene	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5
Hexachloroethane	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	**0.55 J**
Isophorone	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Naphthalene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Nitrobenzene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Pentachlorophenol	µg/L	ND<29	ND<29	ND<150	ND<150	ND<29
Phenanthrene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Phenol	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Pyrene	µg/L	ND<4.8	ND<4.8	ND<24	ND<24	ND<4.8
Pyridine	µg/L	ND<9.5	ND<9.5	ND<48	ND<48	ND<9.5

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	DUP2 (T-23-GW) 7/6/2005	T-24-GW 7/6/2005	T-25-GW 7/13/2005	T-26-GW 7/13/2005	T-27-GW 7/13/2005
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
1,4-Dichlorobenzene	µg/L	**1.3 J**	**8.4 J,D**	ND<4.9	ND<9.7	ND<4.8
1,4-Dioxane	µg/L	**700 D**	**4.7 J,D**	ND<2.0	ND<3.9	ND<2.0
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2,4-Dichlorophenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2,4-Dimethylphenol	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6
2,4-Dinitrophenol	µg/L	ND<48	ND<240	ND<49	ND<97	ND<48
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2-Chloronaphthalene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2-Chlorophenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2-Methylnaphthalene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2-Methylphenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
2-Nitroaniline	µg/L	ND<19	ND<95	ND<20	ND<39	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
3,3'-Dichlorobenzidine	µg/L	ND<19	ND<95	ND<20	ND<39	ND<20
3/4-Methylphenol	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6
3-Nitroaniline	µg/L	ND<19	ND<95	ND<20	ND<39	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<19	ND<95	ND<20	ND<39	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
4-Chloroaniline	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
4-Nitroaniline	µg/L	ND<19	ND<95	ND<20	ND<39	ND<20
4-Nitrophenol	µg/L	ND<48	ND<240	ND<49	ND<97	ND<48
Acenaphthene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Acenaphthylene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Aniline	µg/L	ND<4.8	ND<24	**0.71 J**	ND<9.7	**0.93 J**
Anthracene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Benzo(a)anthracene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Benzo(a)pyrene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Benzo(g,h,i)perylene	µg/L	**0.44 J**	ND<24	ND<4.9	ND<9.7	ND<4.8
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Benzoic Acid	µg/L	ND<48	ND<240	ND<49	ND<97	ND<48
Benzyl Alcohol	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Bis(2-ethylhexyl) Phthalate	µg/L	**8.2**	ND<24	**5.4**	**5.3 J,D**	**7.8**
Butylbenzylphthalate	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Chrysene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Dibenzofuran	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Diethylphthalate	µg/L	**1.5 J**	ND<24	**1.2 J**	ND<9.7	**0.9 J**
Dimethylphthalate	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Di-n-butylphthalate	µg/L	ND<4.8	ND<24	**0.4 J**	ND<9.7	ND<4.8
Di-n-octylphthalate	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	DUP2 (T-23-GW) 7/6/2005	T-24-GW 7/6/2005	T-25-GW 7/13/2005	T-26-GW 7/13/2005	T-27-GW 7/13/2005
Fluoranthene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Fluorene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Hexachlorobenzene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Hexachlorobutadiene	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6
Hexachlorocyclopentadiene	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6
Hexachloroethane	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6
Indeno(1,2,3-cd)pyrene	µg/L	**0.39 J**	ND<24	ND<4.9	ND<9.7	ND<4.8
Isophorone	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Naphthalene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Nitrobenzene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Pentachlorophenol	µg/L	ND<29	ND<150	ND<29	ND<58	ND<29
Phenanthrene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Phenol	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Pyrene	µg/L	ND<4.8	ND<24	ND<4.9	ND<9.7	ND<4.8
Pyridine	µg/L	ND<9.5	ND<48	ND<9.7	ND<20	ND<9.6

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6

Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-27-GW-B 7/13/2005	T-28-GW 7/13/2005	T-34-GW 7/14/2005	T-35-GW 7/14/2005	T-36-GW 7/14/2005
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
1,2-Dichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
1,3-Dichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
1,4-Dichlorobenzene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
1,4-Dioxane	µg/L	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
2,4,5-Trichlorophenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2,4,6-Trichlorophenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2,4-Dichlorophenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2,4-Dimethylphenol	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9
2,4-Dinitrophenol	µg/L	ND<48	ND<49	ND<50	ND<49	ND<50
2,4-Dinitrotoluene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2,6-Dinitrotoluene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2-Chloronaphthalene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2-Chlorophenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2-Methylnaphthalene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2-Methylphenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
2-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<20	ND<20	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9
3-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<20	ND<20	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
4-Chloro-3-methylphenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
4-Chloroaniline	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
4-Chlorophenyl-phenylether	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
4-Nitroaniline	µg/L	ND<20	ND<20	ND<20	ND<20	ND<20
4-Nitrophenol	µg/L	ND<48	ND<49	ND<50	ND<49	ND<50
Acenaphthene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Acenaphthylene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Aniline	µg/L	**1.1 J**	**2.2 J**	ND<5.0	ND<4.9	ND<5.0
Anthracene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Benzo(a)anthracene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Benzo(a)pyrene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Benzo(b)fluoranthene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Benzo(g,h,i)perylene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Benzo(k)fluoranthene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Benzoic Acid	µg/L	ND<48	ND<49	ND<50	ND<49	ND<50
Benzyl Alcohol	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9
bis(2-Chloroethoxy) methane	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Bis(2-chloroethyl) Ether	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Bis(2-ethylhexyl) Phthalate	µg/L	**7.4**	**1.3 J**	**2.4 J**	**3.4 J**	**2.7 J**
Butylbenzylphthalate	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Chrysene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Dibenzo(a,h)anthracene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Dibenzofuran	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Diethylphthalate	µg/L	**2.2 J**	ND<4.9	**1.3 J**	**1.6 J**	ND<5.0
Dimethylphthalate	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Di-n-butylphthalate	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Di-n-octylphthalate	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	T-27-GW-B 7/13/2005	T-28-GW 7/13/2005	T-34-GW 7/14/2005	T-35-GW 7/14/2005	T-36-GW 7/14/2005
Fluoranthene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Fluorene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Hexachlorobenzene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Hexachlorobutadiene	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9
Hexachlorocyclopentadiene	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9
Hexachloroethane	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Isophorone	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Naphthalene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Nitrobenzene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
N-Nitrosodimethylamine	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
N-Nitroso-di-n-propylamine	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Pentachlorophenol	µg/L	ND<29	ND<29	ND<30	ND<29	ND<30
Phenanthrene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Phenol	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Pyrene	µg/L	ND<4.8	ND<4.9	ND<5.0	ND<4.9	ND<5.0
Pyridine	µg/L	ND<9.6	ND<9.7	ND<9.9	ND<9.7	ND<9.9

Note:
DUP - Field duplicate
µg/L - microgram per liter
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected
- Constituent not analyzed for
D - Result from diluted sample
J - Analyte detected above method detection limit (MDL), but below RL

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	T-37-GW 7/14/2005	T-38-GW 7/14/2005	T-43-GW 11/18/2005
Semi-Volatile Organic Compounds				
1,2,4-Trichlorobenzene	µg/L	ND<4.9	ND<5.0	ND<5.0
1,2-Dichlorobenzene	µg/L	ND<4.9	ND<5.0	ND<5.0
1,3-Dichlorobenzene	µg/L	ND<4.9	ND<5.0	ND<5.0
1,4-Dichlorobenzene	µg/L	ND<4.9	ND<5.0	ND<5.0
1,4-Dioxane	µg/L	**0.86 J**	ND<2.0	ND<2.0
2,4,5-Trichlorophenol	µg/L	ND<4.9	ND<5.0	ND<5.0
2,4,6-Trichlorophenol	µg/L	ND<4.9	ND<5.0	ND<5.0
2,4-Dichlorophenol	µg/L	ND<4.9	ND<5.0	ND<5.0
2,4-Dimethylphenol	µg/L	ND<9.7	ND<10	ND<10
2,4-Dinitrophenol	µg/L	ND<49	ND<50	ND<50
2,4-Dinitrotoluene	µg/L	ND<4.9	ND<5.0	ND<5.0
2,6-Dinitrotoluene	µg/L	ND<4.9	ND<5.0	ND<5.0
2-Chloronaphthalene	µg/L	ND<4.9	ND<5.0	ND<5.0
2-Chlorophenol	µg/L	ND<4.9	ND<5.0	ND<5.0
2-Methylnaphthalene	µg/L	ND<4.9	ND<5.0	ND<5.0
2-Methylphenol	µg/L	ND<4.9	ND<5.0	ND<5.0
2-Nitroaniline	µg/L	ND<20	ND<20	ND<20
2-Nitrophenol	µg/L	ND<4.9	ND<5.0	ND<5.0
3,3'-Dichlorobenzidine	µg/L	ND<20	ND<20	ND<20
3/4-Methylphenol	µg/L	ND<9.7	ND<10	ND<10
3-Nitroaniline	µg/L	ND<20	ND<20	ND<20
4,6-Dinitro-2-methylphenol	µg/L	ND<20	ND<20	ND<20
4-Bromophenyl-phenylether	µg/L	ND<4.9	ND<5.0	ND<5.0
4-Chloro-3-methylphenol	µg/L	ND<4.9	ND<5.0	ND<5.0
4-Chloroaniline	µg/L	ND<4.9	ND<5.0	ND<5.0
4-Chlorophenyl-phenylether	µg/L	ND<4.9	ND<5.0	ND<5.0
4-Nitroaniline	µg/L	ND<20	ND<20	ND<20
4-Nitrophenol	µg/L	ND<49	ND<50	ND<50
Acenaphthene	µg/L	ND<4.9	ND<5.0	ND<5.0
Acenaphthylene	µg/L	ND<4.9	ND<5.0	ND<5.0
Aniline	µg/L	ND<4.9	ND<5.0	ND<5.0
Anthracene	µg/L	ND<4.9	ND<5.0	ND<5.0
Benzo(a)anthracene	µg/L	ND<4.9	ND<5.0	ND<5.0
Benzo(a)pyrene	µg/L	ND<4.9	ND<5.0	ND<5.0
Benzo(b)fluoranthene	µg/L	ND<4.9	ND<5.0	ND<5.0
Benzo(g,h,i)perylene	µg/L	ND<4.9	ND<5.0	ND<5.0
Benzo(k)fluoranthene	µg/L	ND<4.9	ND<5.0	ND<5.0
Benzoic Acid	µg/L	ND<49	ND<50	ND<50
Benzyl Alcohol	µg/L	ND<9.7	ND<10	ND<10
bis(2-Chloroethoxy) methane	µg/L	ND<4.9	ND<5.0	ND<5.0
Bis(2-chloroethyl) Ether	µg/L	ND<4.9	ND<5.0	ND<5.0
Bis(2-chloroisopropyl) Ether	µg/L	ND<4.9	ND<5.0	ND<5.0
Bis(2-ethylhexyl) Phthalate	µg/L	**3.2 J**	**2.6 J**	**30**
Butylbenzylphthalate	µg/L	ND<4.9	ND<5.0	ND<5.0
Chrysene	µg/L	ND<4.9	ND<5.0	ND<5.0
Dibenzo(a,h)anthracene	µg/L	ND<4.9	ND<5.0	ND<5.0
Dibenzofuran	µg/L	ND<4.9	ND<5.0	ND<5.0
Diethylphthalate	µg/L	**1 J**	ND<5.0	ND<5.0
Dimethylphthalate	µg/L	ND<4.9	ND<5.0	ND<5.0
Di-n-butylphthalate	µg/L	ND<4.9	ND<5.0	ND<5.0
Di-n-octylphthalate	µg/L	ND<4.9	ND<5.0	ND<5.0

Table 7-6
Concentrations of Semi-Volatile Organic Compounds Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Semi-Volatile Organic Compounds	Units	T-37-GW 7/14/2005	T-38-GW 7/14/2005	T-43-GW 11/18/2005
Fluoranthene	µg/L	ND<4.9	ND<5.0	ND<5.0
Fluorene	µg/L	ND<4.9	ND<5.0	ND<5.0
Hexachlorobenzene	µg/L	ND<4.9	ND<5.0	ND<5.0
Hexachlorobutadiene	µg/L	ND<9.7	ND<10	ND<10
Hexachlorocyclopentadiene	µg/L	ND<9.7	ND<10	ND<10
Hexachloroethane	µg/L	ND<9.7	ND<10	ND<10
Indeno(1,2,3-cd)pyrene	µg/L	ND<4.9	ND<5.0	ND<5.0
Isophorone	µg/L	ND<4.9	ND<5.0	ND<5.0
Naphthalene	µg/L	ND<4.9	ND<5.0	ND<5.0
Nitrobenzene	µg/L	ND<4.9	ND<5.0	ND<5.0
N-Nitrosodimethylamine	µg/L	ND<4.9	ND<5.0	ND<5.0
N-Nitroso-di-n-propylamine	µg/L	ND<4.9	ND<5.0	ND<5.0
N-Nitrosodiphenylamine/Diphenylamine	µg/L	ND<4.9	ND<5.0	ND<5.0
Pentachlorophenol	µg/L	ND<29	ND<30	ND<30
Phenanthrene	µg/L	ND<4.9	ND<5.0	ND<5.0
Phenol	µg/L	ND<4.9	ND<5.0	ND<5.0
Pyrene	µg/L	ND<4.9	ND<5.0	ND<5.0
Pyridine	µg/L	ND<9.7	ND<10	ND<10

Note:

DUP - Field duplicate

µg/L - microgram per liter

ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)

bold - Analyte detected

- Constituent not analyzed for

D - Result from diluted sample

J - Analyte detected above method detection limit (MDL), but below RL

Table 7-7
Concentrations of Metals Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

Metals	**Units**	**Background**	**SDE 8/3/2005**	**142WDP 8/8/2005**	**142WEP 8/8/2005**	**DUP4 (142WEP) 8/8/2005**	**142WGP 8/8/2005**	**GT4 8/9/2005**	**P2 8/9/2005**	**BLD156-MW3 8/10/2005**
Antimony	µg/L	NE	ND<50 N	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50
Arsenic	µg/L	NE	0.88	4.11 S	1.77 S	2.09 S	3.9 S	6.21 S	3 S	1.9
Barium	µg/L	490	209	33	86	92	65	165	243	44
Beryllium	µg/L	NE	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Cadmium	µg/L	NE	ND<10	ND<10	ND<10	9.3	ND<10	ND<10	ND<10	ND<10
Chromium	µg/L	30	ND<10 N	ND<10	5.9	ND<10	ND<10	ND<10 N	19 N	ND<10
Chromium (Hexavalent)	µg/L	NE	ND<0.1 B32	-	ND<0.1	ND<0.1	-	-	ND<0.1	-
Cobalt	µg/L	NE	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Copper	µg/L	40	ND<10	5.5	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Lead	µg/L	NE	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50
Molybdenum	µg/L	46	ND<20	**65**	6.4	ND<20	28	ND<20	ND<20	**87**
Nickel	µg/L	NE	ND<40	ND<40	ND<40	ND<40	ND<40	ND<40	ND<40	ND<40
Selenium	µg/L	630	2.8	0.98	1.4	1.2	1.1	ND<5.0	2.3	1.3
Silver	µg/L	NE	ND<10	ND<10 N	ND<10 N	ND<10 N	ND<10 N	ND<10	ND<10	ND<10
Thallium	µg/L	NE	ND<0.50	0.18	ND<0.50	0.39	0.12	0.49	ND<0.50	0.04
Vanadium	µg/L	76	ND<10	ND<10	4.2	ND<10	6.8	ND<10	ND<10	ND<10
Zinc	µg/L	69	ND<20	ND<20	ND<20	ND<20	ND<20	ND<20	5	9.9

Table 7-7
Concentrations of Metals Detected in Groundwater Samples
2701 North Harbor Drive
San Diego, California

	Units	**Background**	**B180-MW-1 10/4/2005**	**TC4EHP 8/3/2005**	**T-11GW 9/22/2005**	**T-29-GW 7/1/2005**	**T-30-GW 7/1/2005**	**T-31-GW 7/1/2005**	**T-32-GW 7/5/2005**	**T-33-GW 7/1/2005**
Metals										
Antimony	µg/L	NE	ND<50	ND<50 N	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50
Arsenic	µg/L	NE	1.9 S	2.5	5.2 S	4.2	5.3	2.7	4.6	7.1
Barium	µg/L	490	31	48	27 N	53	44	35	9.1	33
Beryllium	µg/L	NE	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Cadmium	µg/L	NE	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Chromium	µg/L	30	ND<10	4.4 N	11	ND<10	ND<10	ND<10	ND<10	ND<10
Chromium (Hexavalent)	µg/L	NE	-	ND<0.1	-	-	-	-	-	-
Cobalt	µg/L	NE	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Copper	µg/L	40	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Lead	µg/L	NE	47 B	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	31
Molybdenum	µg/L	46	27	44	37	34	39	19	24	38
Nickel	µg/L	NE	ND<40	ND<40	ND<40	ND<40	ND<40	ND<40	ND<40	ND<40
Selenium	µg/L	630	3 B	3.6	4.3 J	2	2.2	1.3	0.74	1.3
Silver	µg/L	NE	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
Thallium	µg/L	NE	2	ND<0.50	0.14 J	ND<0.50	ND<0.50	0.02	ND<0.50	ND<0.50
Vanadium	µg/L	76	ND<10	6.8	37	11	7.6	18	4.4	4.4
Zinc	µg/L	69	ND<20	7.5	7 J	ND<20	ND<20	5.5	ND<20	ND<20

Note:
DUP - Field duplicate
µg/L - microgram per liter
NE - Not established
ND< - Analyte not detected at concentrations greater than or equal to reporting limits (RL)
bold - Analyte detected above background concentrations
- Constituent not analyzed for
B - Hit above RL also found in Method Blank
B32 - Sample was analyzed 2 hours and 31 minutes past the end of the recommended maximum holding time
J - Analyte detected above method detection limit (MDL), but below RL
N - Matrix Spike/Matrix Spike Duplicate outside control limits. The Laboratory Control Sample (LCS) was acceptable; therefore, data was approved.
S - The reported value was determined by the Method of Standard Additions

Table 7-8
Constituent Concentrations Indicative of Apparent Non-Aqueous Phase Liquids in Soil
2701 North Harbor Drive
San Diego, California

Soil Physical Properties

Bulk Density (ρ_b)	1.548 g/cm^3
Total Porosity	43.19 %
Air-Filled Porosity	10.78 %
Water Filled Porosity (φ_w)	32.41 %
Total Organic Carbon (TOC)	0.152 %
f_{oc}	0.00152 g/g

Apparent Non-Aqueous Phase Liquid Calculations

Constituent	Solubility (Cw*) (mg/L)	Koc (cm^3/g)	Kd (cm^3/g)	Apparent NAPL Concentration Ct (mg/kg)
Dense Non-Aqueous Phase Liquids				
Tetrachloroethene	200	270	0.4104	124
Trichloroethene	1100	94.0	0.1429	387
Cis-1,2-Dichloroethene	3500	44.7	0.0679	970
Vinyl Chloride	2800	19.0	0.0289	667
1,1,1-Trichloroethane	1300	140	0.2128	549
1,1-Dichloroethane	5100	53	0.0806	1478
1,2-Dichloroethane	8500	38	0.0578	2270
1,4-Dioxane	800	0.25	0.00038	168
Light Non-Aqueous Phase Liquids				
Naphthalene	31	1200	1.82400	63
Benzene	1,800	62	0.09424	546
Ethylbenzene	170	200	0.30400	87
Toluene	530	140	0.21280	224
Xylenes	180	250	0.38000	106
TPH - DRO	6	10470	15.91440	97
TPH - GRO	240	890	1.35280	375

$$C_t = \frac{C_w\left(K_d\rho_b + \varphi_w\right)}{\rho_b}$$ (USEPA, 1992)

Where:

φ_w = water filled porosity

ρ_b = bulk density

K_d = partition coefficient = $K_{oc} \times f_{oc}$

K_{oc} = Organic carbon-water partition coefficient

f_{oc} = fraction of organic carbon = TOC(%)/100

C_w = Constituent solubility in water

C_t = Constituent concentration in soil indicative of apparent residual DNAPL

TPH-DRO = Diesel range organics including heating oil and jet fuel

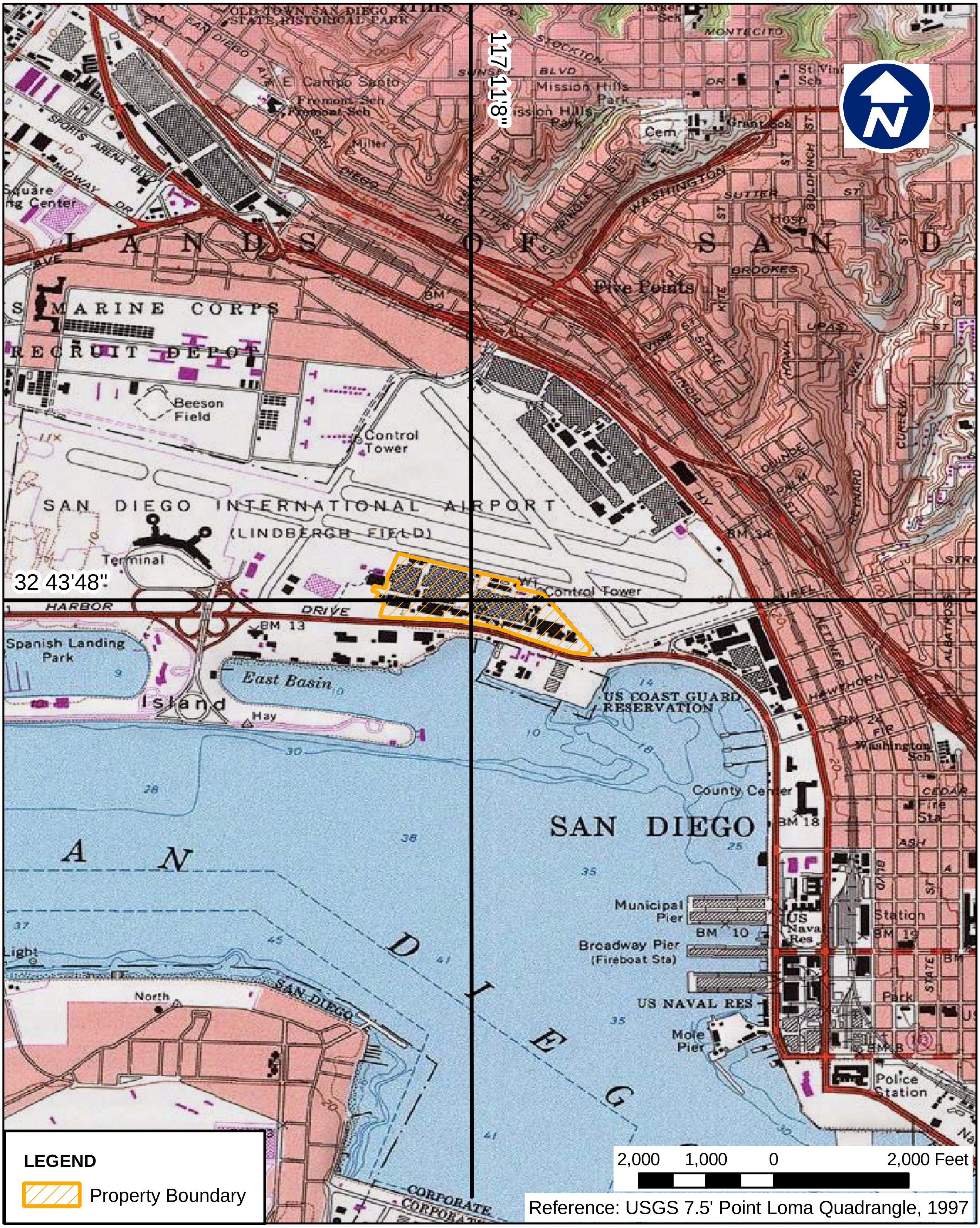
TPH-GRO = Gasoline range organics

Notes:

Water filled porosity, bulk density, and total organic carbon values based on an average of saturated soil samples (Haley & Aldrich, 2004).

DRO and GRO solubility values from Massachusetts DEP (1996). DRO and GRO Koc values from Kansas DHE (2005).

FIGURES



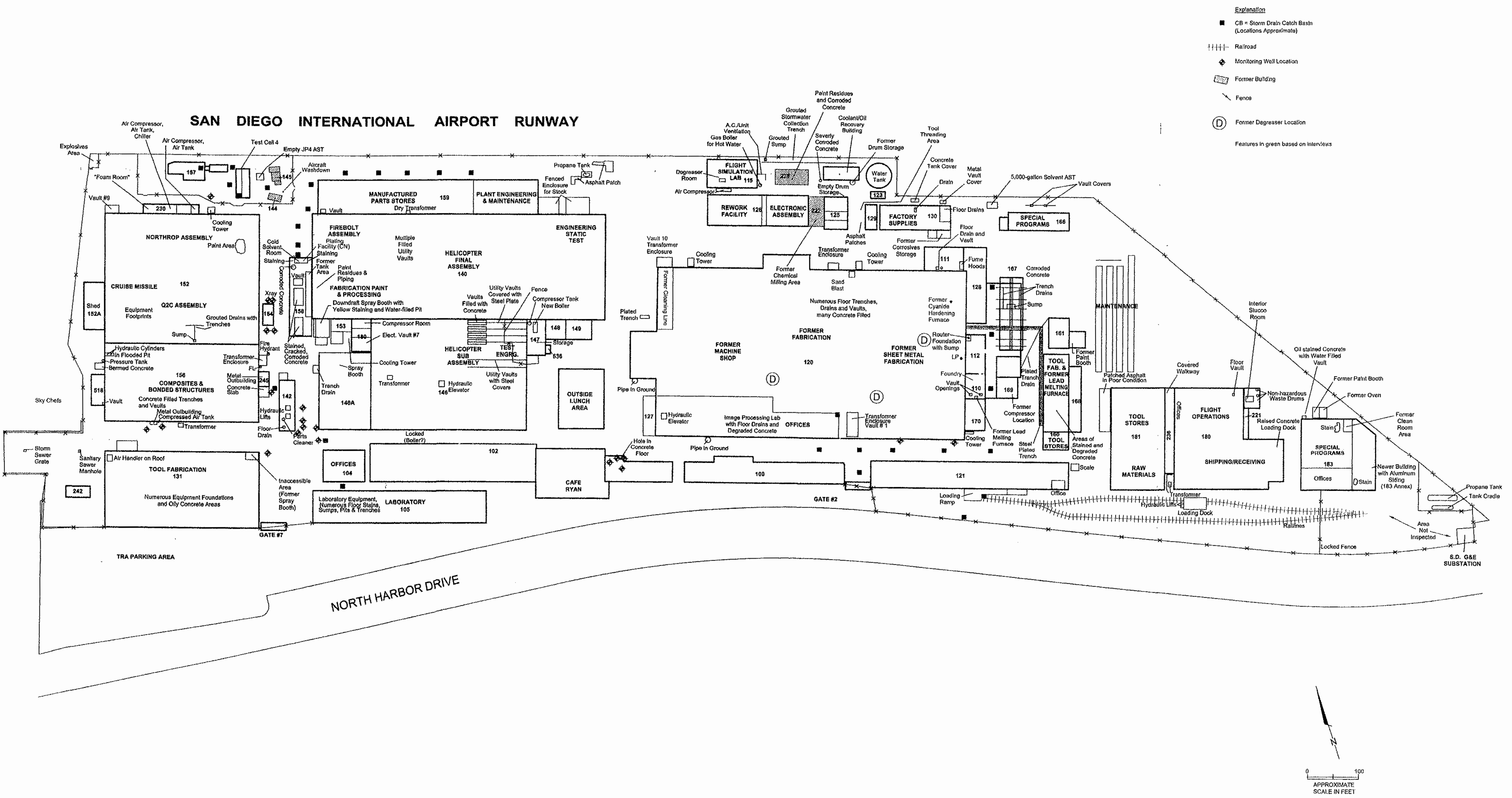
Reference: USGS 7.5' Point Loma Quadrangle, 1997

GEOSYNTEC CONSULTANTS

SITE LOCATION
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	1-1
PROJECT NO.	SC0307
DATE:	SEPTEMBER 2005

x:/gis/tdy/dtsc/figure1.mxd

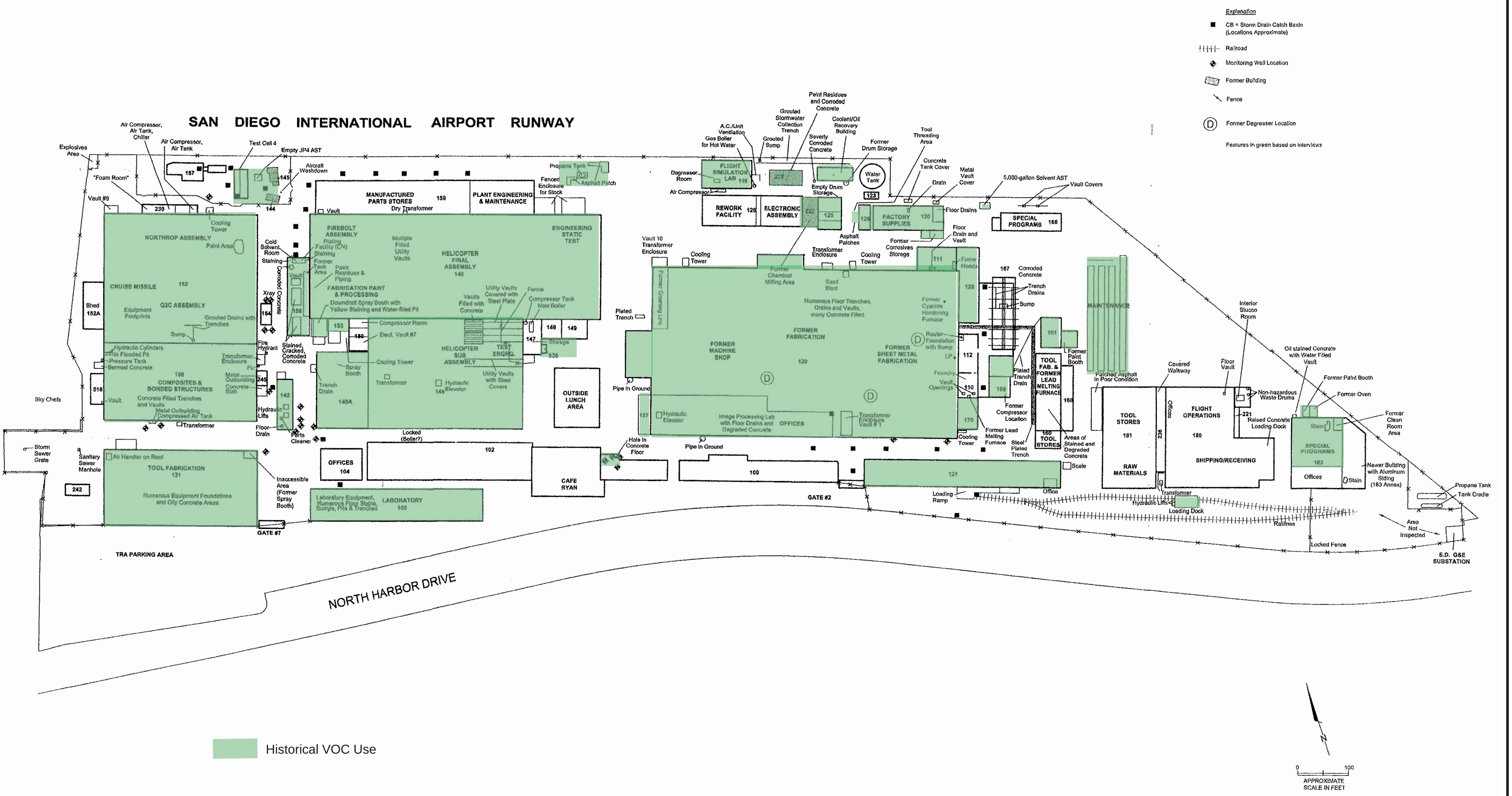


Source: PES Environmental, Inc. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, Plate 3 - January 2001

GEOSYNTEC CONSULTANTS

SITE PLAN AND HISTORICAL ACTIVITY AREAS
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	1-2
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



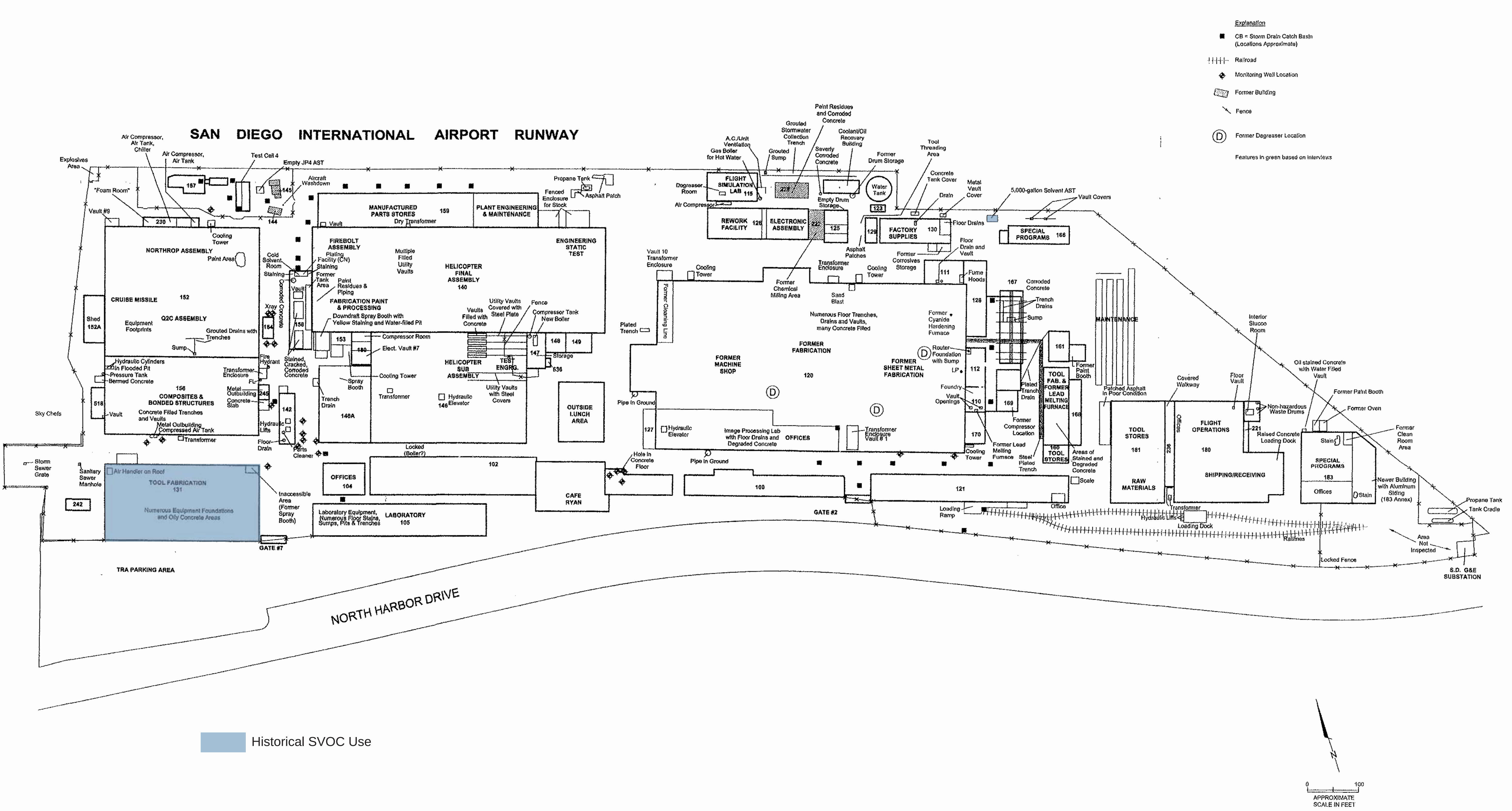
🟩 Historical VOC Use

Source: PES Environmental, Inc. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, Plate 3 - January 2001

GEOSYNTEC CONSULTANTS

SITE PLAN AND HISTORICAL VOC USE AREAS
2701 NORTH HARBOR DRIVE
SAN DIEGO CALIFORNIA

FIGURE NO.	2-1
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

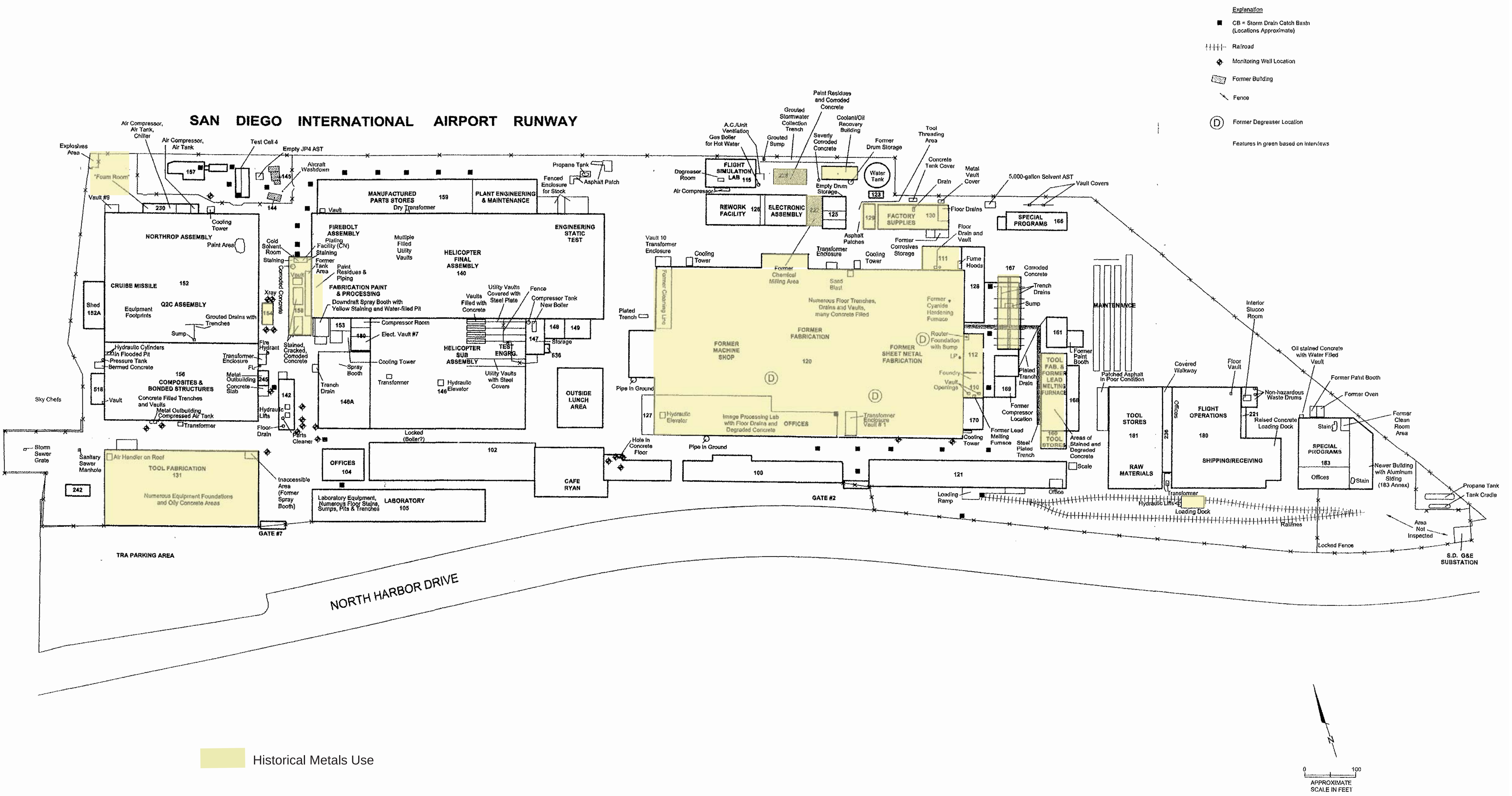


GEOSYNTEC CONSULTANTS

SITE PLAN AND HISTORICAL SVOC USE AREAS
2701 NORTH HARBOR DRIVE
SAN DIEGO CALIFORNIA

FIGURE NO.	2-2
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Source: PES Environmental, Inc. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, Plate 3 - January 2001

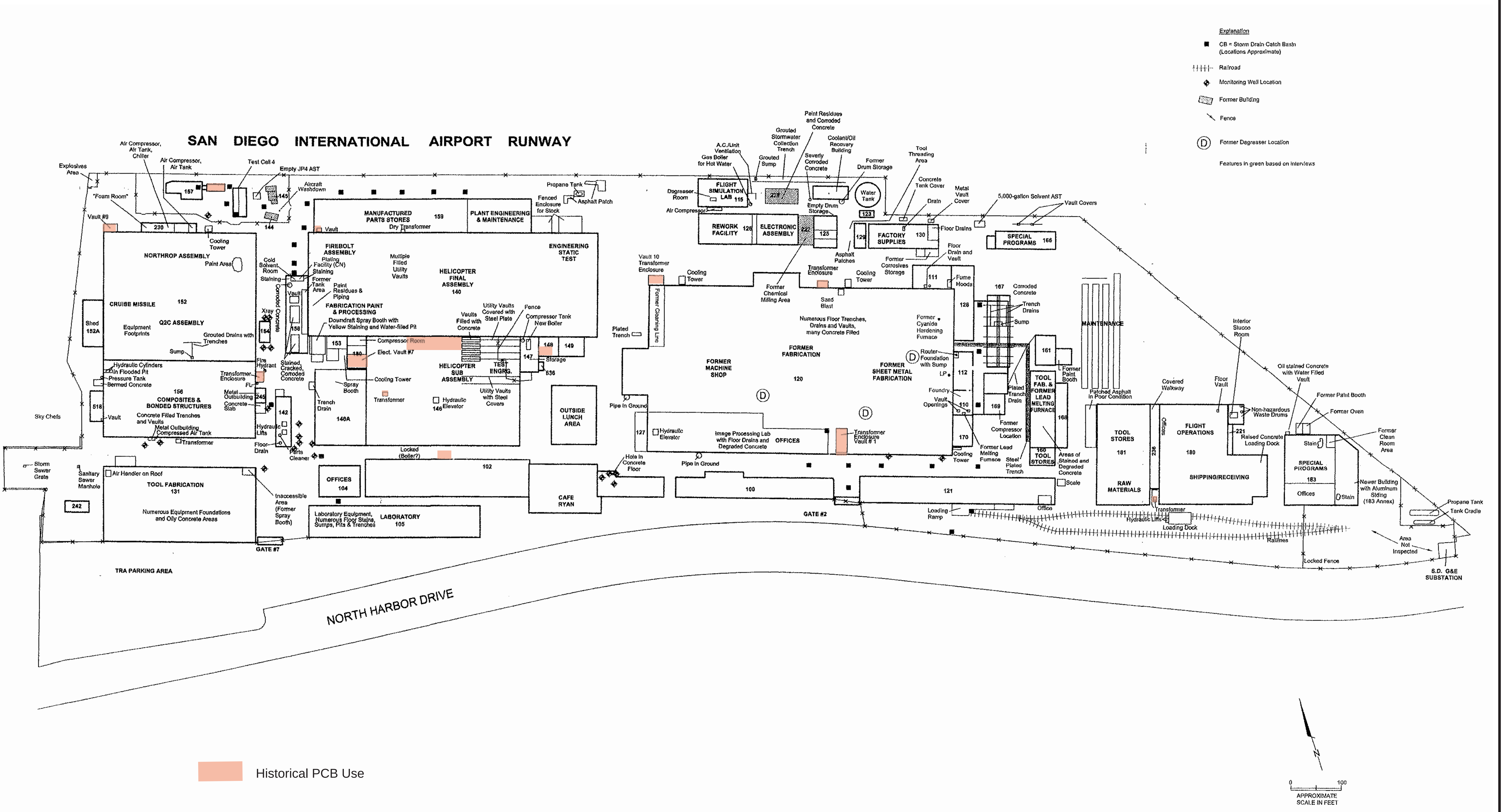


GEOSYNTEC CONSULTANTS

SITE PLAN AND HISTORICAL METALS USE AREAS
2701 NORTH HARBOR DRIVE
SAN DIEGO CALIFORNIA

FIGURE NO.	2-3
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Source: PES Environmental, Inc. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, Plate 3 - January 2001

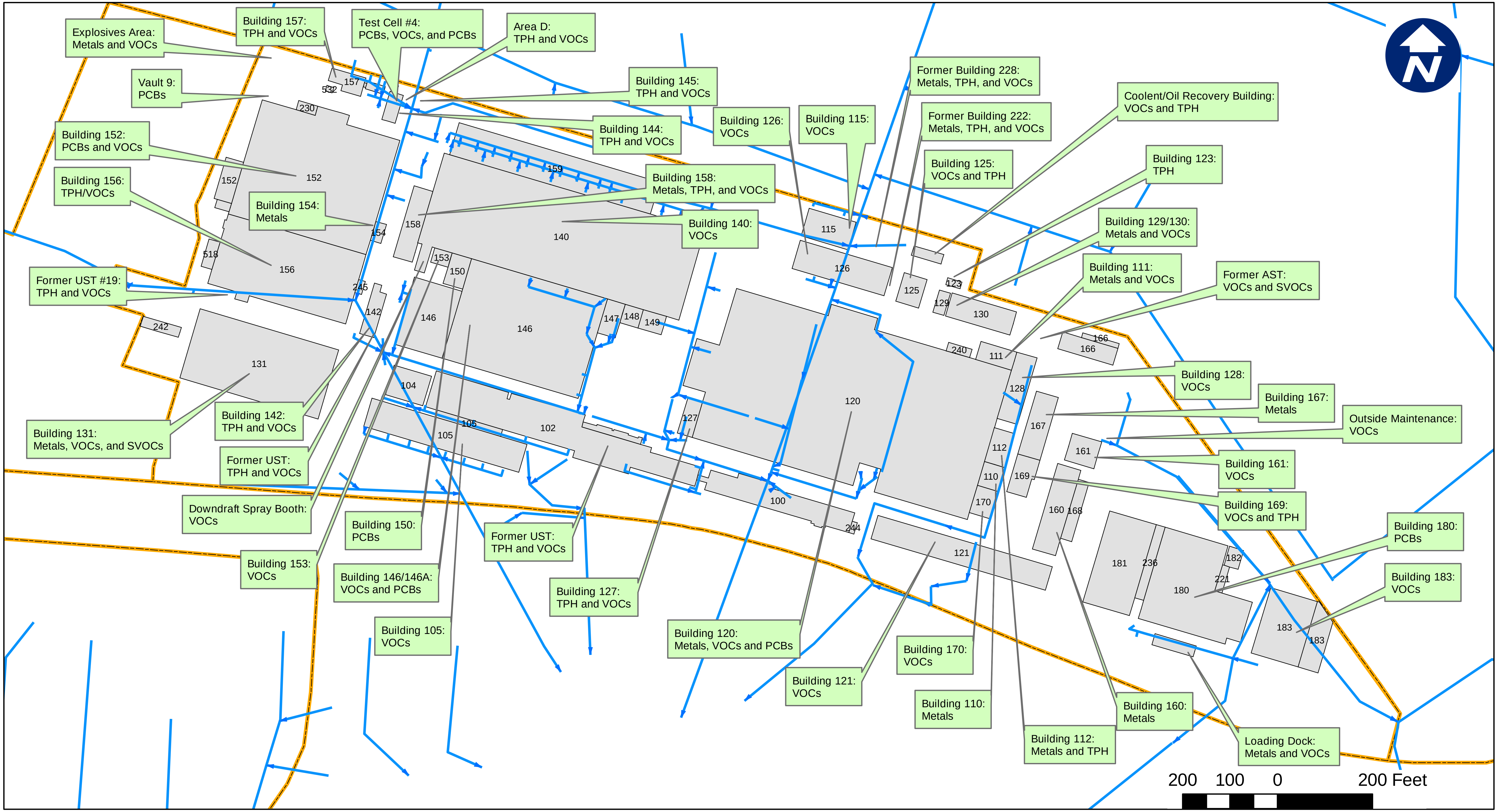


GEOSYNTEC CONSULTANTS

SITE PLAN AND HISTORICAL PCB USE AREAS
2710 NORTH HARBOR DRIVE
SAN DIEGO CALIFORNIA

FIGURE NO.	2-4
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Source: PES Environmental, Inc. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, Plate 3 - January 2001



Legend

→ Storm Drain and Flow Direction

140 Building

GeoSyntec Consultants

HISTORICAL USE AREAS - ALL CLASSES
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO. 2-5
PROJECT NO. SC0307
DATE: DECEMBER 2005

AllUse.mxd

Legend

● 2003 Haley & Aldrich Soil Sample Locations

🟨 2005 GeoSyntec Consultants Soil Sample Locations

100 50 0 100 200 300 Feet

GEOSYNTEC CONSULTANTS

SOIL SAMPLE LOCATIONS
2701 HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	3-1
PROJECT NO.	SC0307
DATE	DECEMBER 2005

Legend

- ⊕ Monitor Well Installed and Sampled During 2005 Site Characterization
- ⊕ Existing Monitor Well Sampled During 2005 Site Characterization
- △ 2005 Hydropunch Sample Location
- ⊕ Existing Monitor Well
- ● 2003 Hydropunch Sample Location

GeoSyntec Consultants

EXISTING MONITOR WELLS AND GROUNDWATER SAMPLE LOCATIONS
2701 HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	3-2
PROJECT NO.	SC0307
DATE	DECEMBER 2005

x:/GIS/TDY/HA&GSCLocations.mxd

GeoSyntec Consultants

SWCS SEDIMENT SAMPLING LOCATIONS 2701 NORTH HARBOR DRIVE SAN DIEGO CALIFORNIA	FIGURE NO. 3-3 PROJECT NO. SC0307 DATE DECEMBER 2005

Legend

🟩 2.25 GROUNDWATER ELEVATION CONTOUR
(CONTOUR INTERVAL 0.25 FEET)

⊕ GROUNDWATER MONITOR WELL WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

⇧ APPROXIMATE GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT (FT/FT)

🟦 STORM WATER CONVEYANCE SYSTEM (SWCS)

Water Level Gauged July 27th 2005 From 7:45am to 11:45am

GEOSYNTEC CONSULTANTS

GROUNDWATER ELEVATIONS AND FLOW DIRECTION
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	4-3
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:\GIS\TDY\WATER LEVEL

Legend

- 🟥 30" East Storm Drain
- 🟦 54" Storm Drain
- 🟧 60" Storm Drain
- 🟩 15" and 30" SD Bay Storm Drains
- 🟪 30" West Storm Drain

156 - Building Number

⬡47 - Storm Drain Inlet Number

GeoSyntec Consultants

STORMWATER CONVEYANCE SYSTEM
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	6-1
PROJECT NO.	SC0307
DATE:	NOVEMBER 2005

X:/GIS/TDY/BMP

Legend

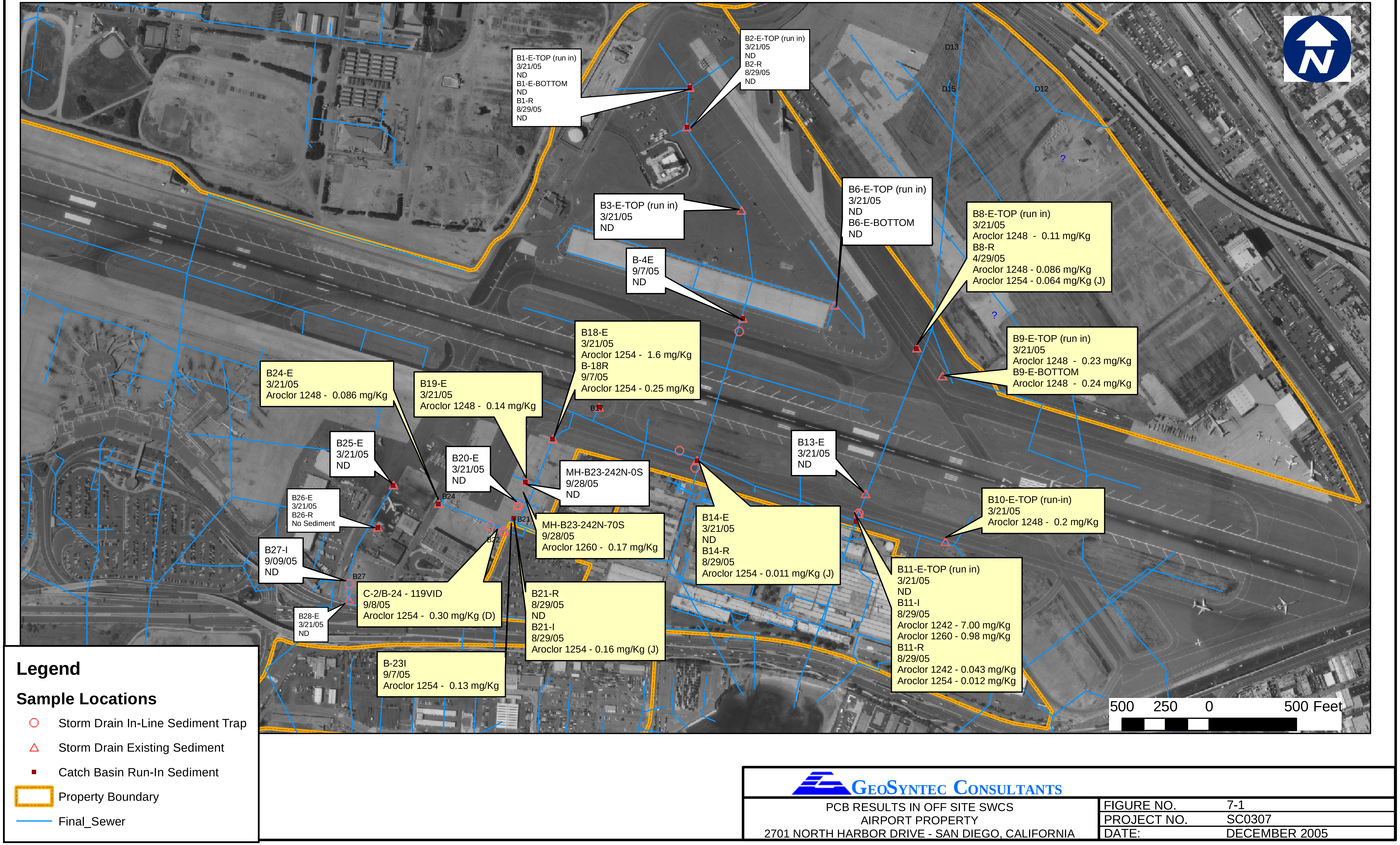
🟩 Survey Locations

― Storm Water Conveyance System

GeoSyntec Consultants

SURVEY OF INVERT ELEVATIONS
AIRPORT/TRA SITE
2701 NORTH HARBOR DRIVE

FIG NO.	6-2
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



Legend

Sample Locations

○ Storm Drain In-Line Sediment Trap

△ Storm Drain Existing Sediment

■ Catch Basin Run-In Sediment

▭ Property Boundary

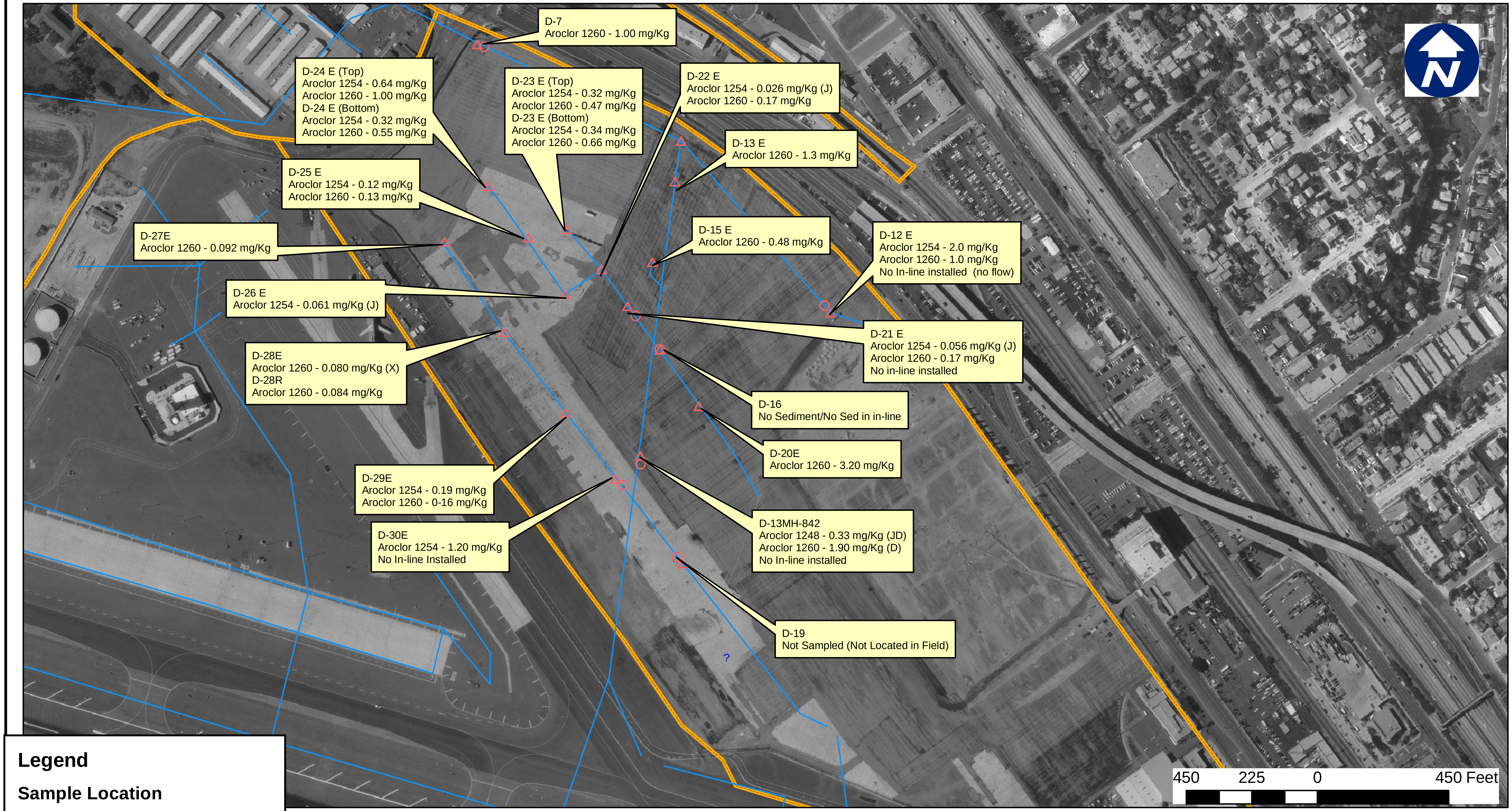
— Final_Sewer

GEOSYNTEC CONSULTANTS

PCB RESULTS IN OFF SITE SWCS
AIRPORT PROPERTY
2701 NORTH HARBOR DRIVE - SAN DIEGO, CALIFORNIA

FIGURE NO.	7-1
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

AreaBPCBs.mxd



Legend

Sample Location

○ Storm Drain In-Line Sediment Trap

△ Storm Drain Existing Sediment

— Storm Drain

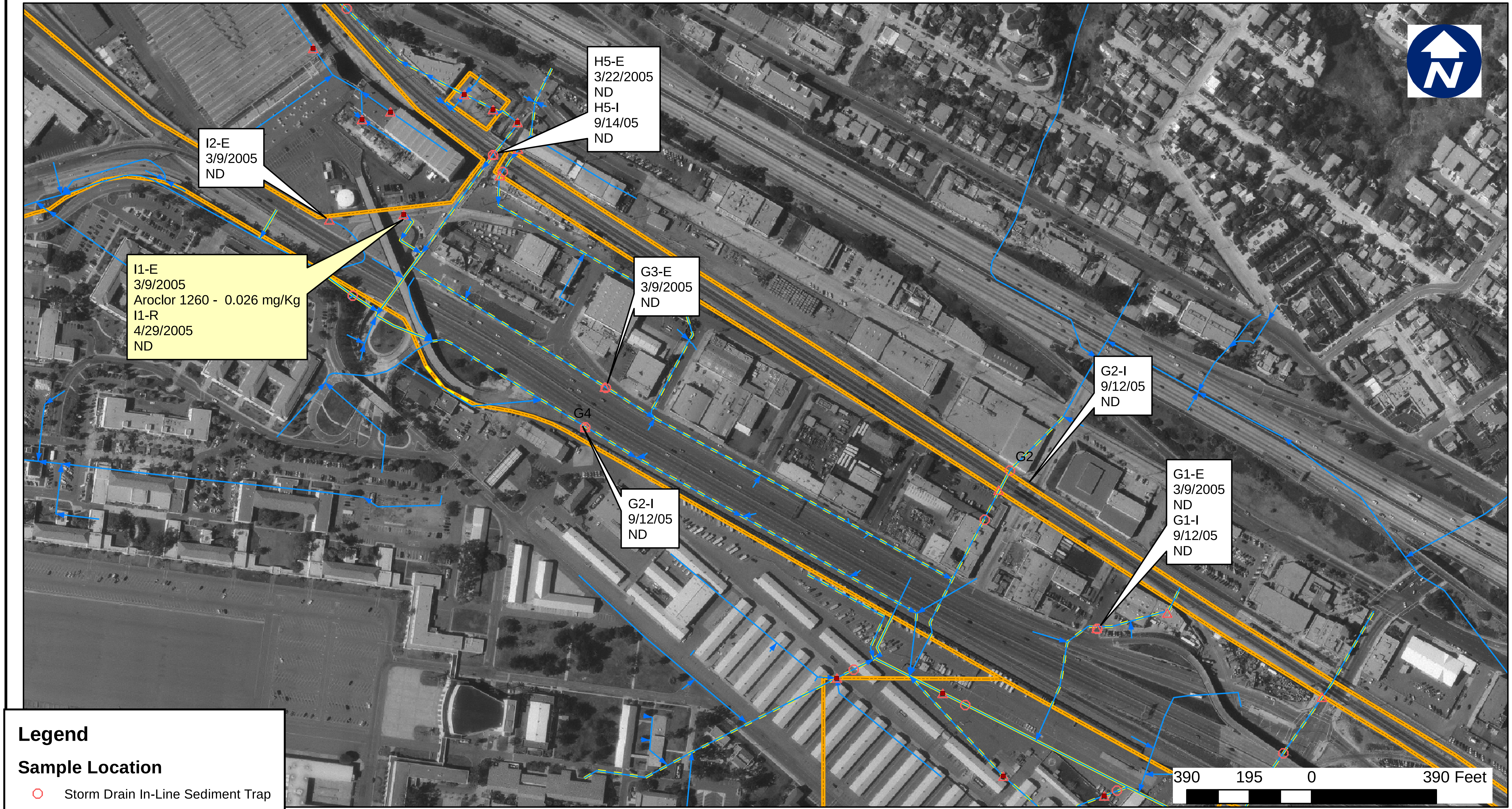
▭ Property Boundary

GeoSyntec Consultants

PCB RESULTS IN OFF-SITE SWCS
FORMER GENERAL DYNAMICS LINDBERGH FIELD SITE
2701 NORTH HARBOR DRIVE - SAN DIEGO, CALIFORNIA

FIGURE NO.	7-2
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:/gis/tdy/gis/Area D PCBs.mxd



Legend

Sample Location

- ○ Storm Drain In-Line Sediment Trap
- △ Storm Drain Existing Sediment
- ■ Catch Basin Run-In Sediment
- → Sewer Line Flow Direction
- ▭ Property Boundaries

Area Offsite PCBs.mxd

GEOSYNTEC CONSULTANTS

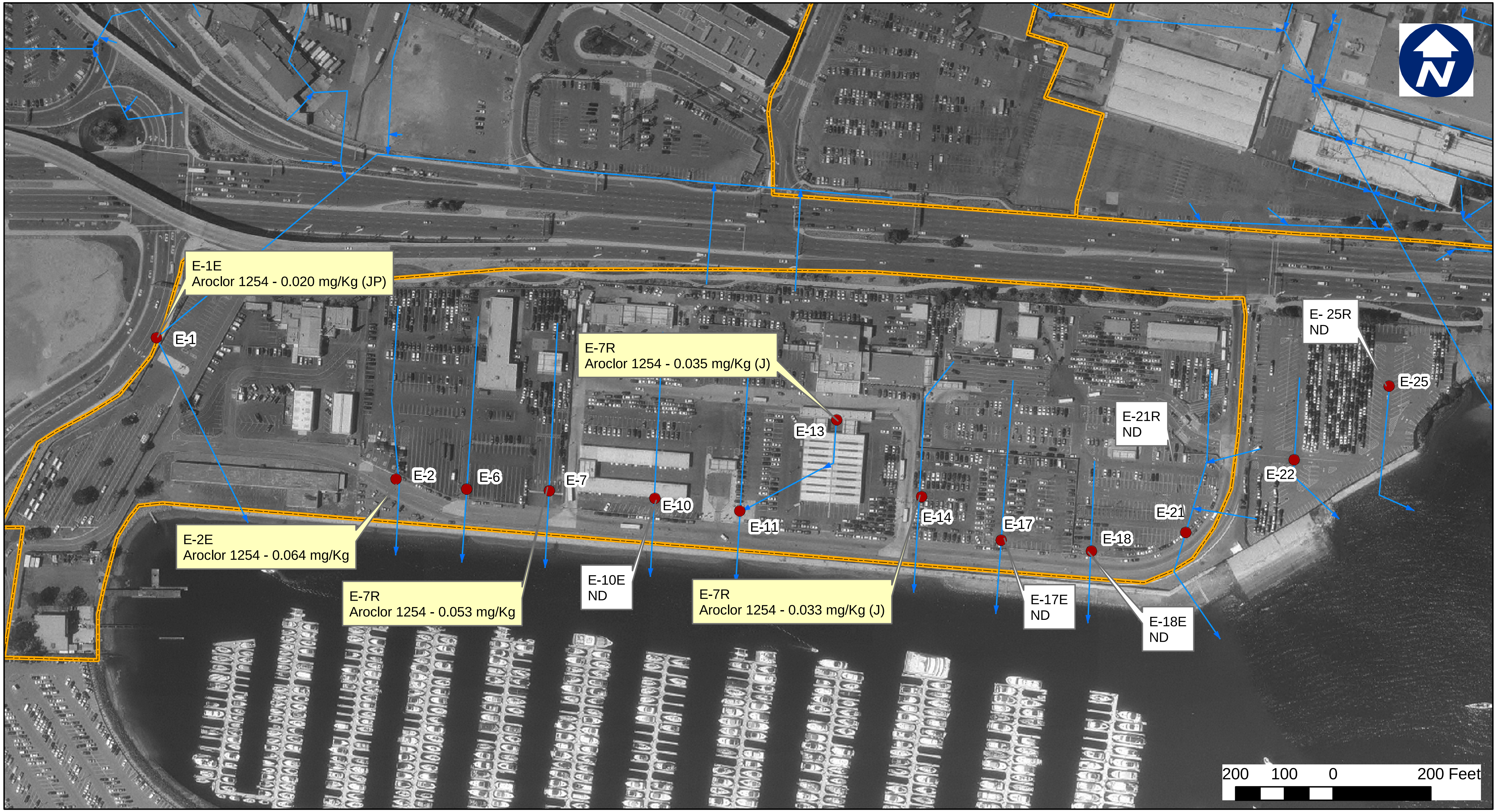
PCB RESULTS IN SWCS
UPGRADIENT PROPERTIES
2701 NORTH HARBOR - SAN DIEGO, CALIFORNIA

FIGURE NO.	7-3
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

PCB RESULTS IN OFF-SITE SWCS
SKY CHEFS/SAN PARK PROPERTIES
2701 NORTH HARBOR DRIVE - SAN DIEGO, CALIFORNIA

FIGURE NO.	7-4
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

x:/sco307/sitecharacterizationreport/skychef PCBs.mxd



Legend

● Storm Drain Sampling Location

GeoSyntec Consultants

PCB RESULTS IN OFF-SITE SWCS
FORMER GENERAL DYNAMICS - HARBOR DRIVE SITE
2701 NORTH HARBOR DRIVE - SAN DIEGO, CALIFORNIA

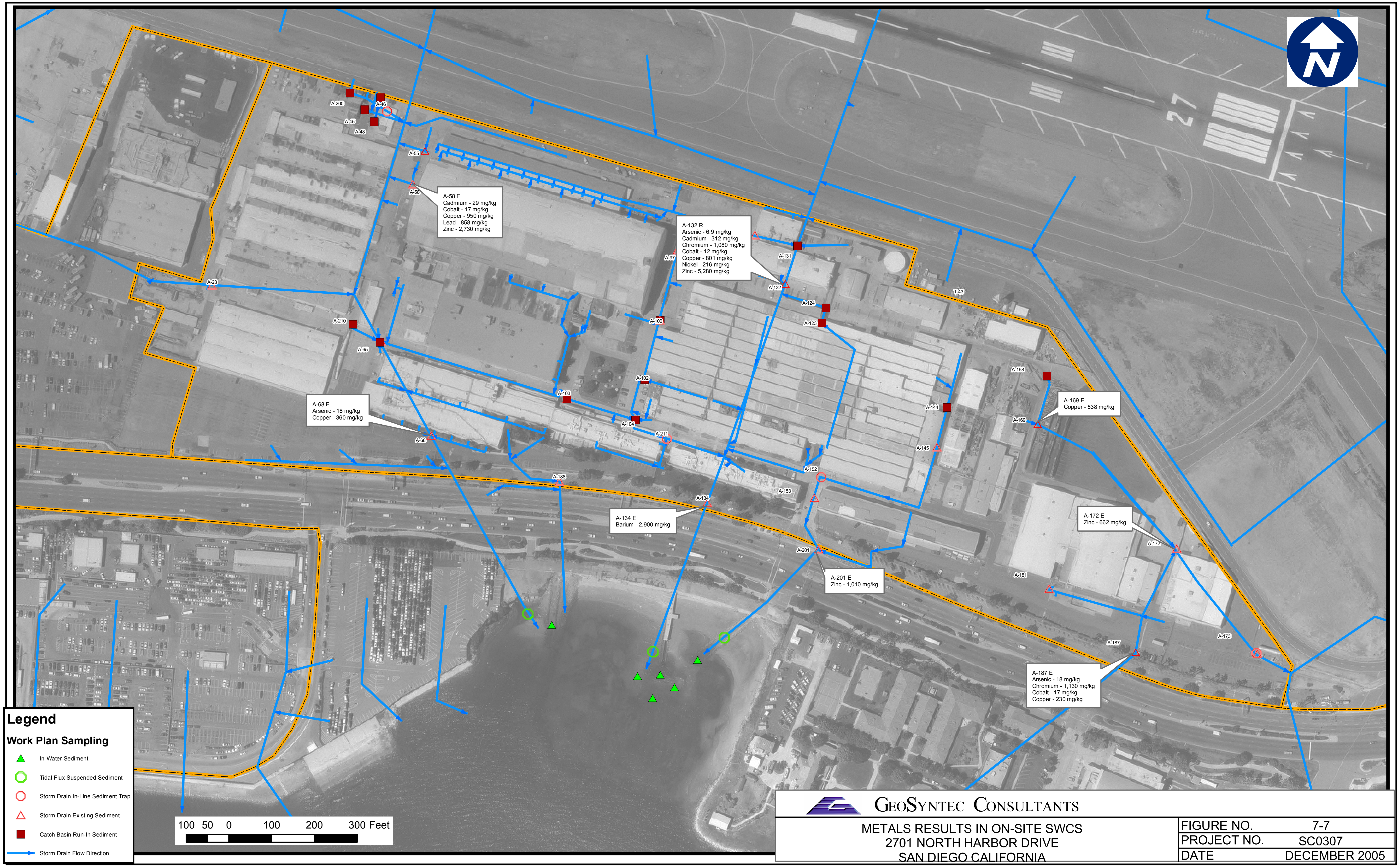
FIGURE NO.	7-5
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Rental Car PCBs 10-3-05.mxd

GeoSyntec Consultants

PCB RESULTS IN ON-SITE SWCS
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7-6
PROJECT NO.	SC0307
DATE	DECEMBER 2005



A-58 E
Cadmium - 29 mg/kg
Cobalt - 17 mg/kg
Copper - 950 mg/kg
Lead - 858 mg/kg
Zinc - 2,730 mg/kg

A-132 R
Arsenic - 6.9 mg/kg
Cadmium - 312 mg/kg
Chromium - 1,080 mg/kg
Cobalt - 12 mg/kg
Copper - 801 mg/kg
Nickel - 216 mg/kg
Zinc - 5,280 mg/kg

A-68 E
Arsenic - 18 mg/kg
Copper - 360 mg/kg

A-169 E
Copper - 538 mg/kg

A-134 E
Barium - 2,900 mg/kg

A-172 E
Zinc - 662 mg/kg

A-201 E
Zinc - 1,010 mg/kg

A-187 E
Arsenic - 18 mg/kg
Chromium - 1,130 mg/kg
Cobalt - 17 mg/kg
Copper - 230 mg/kg

Legend

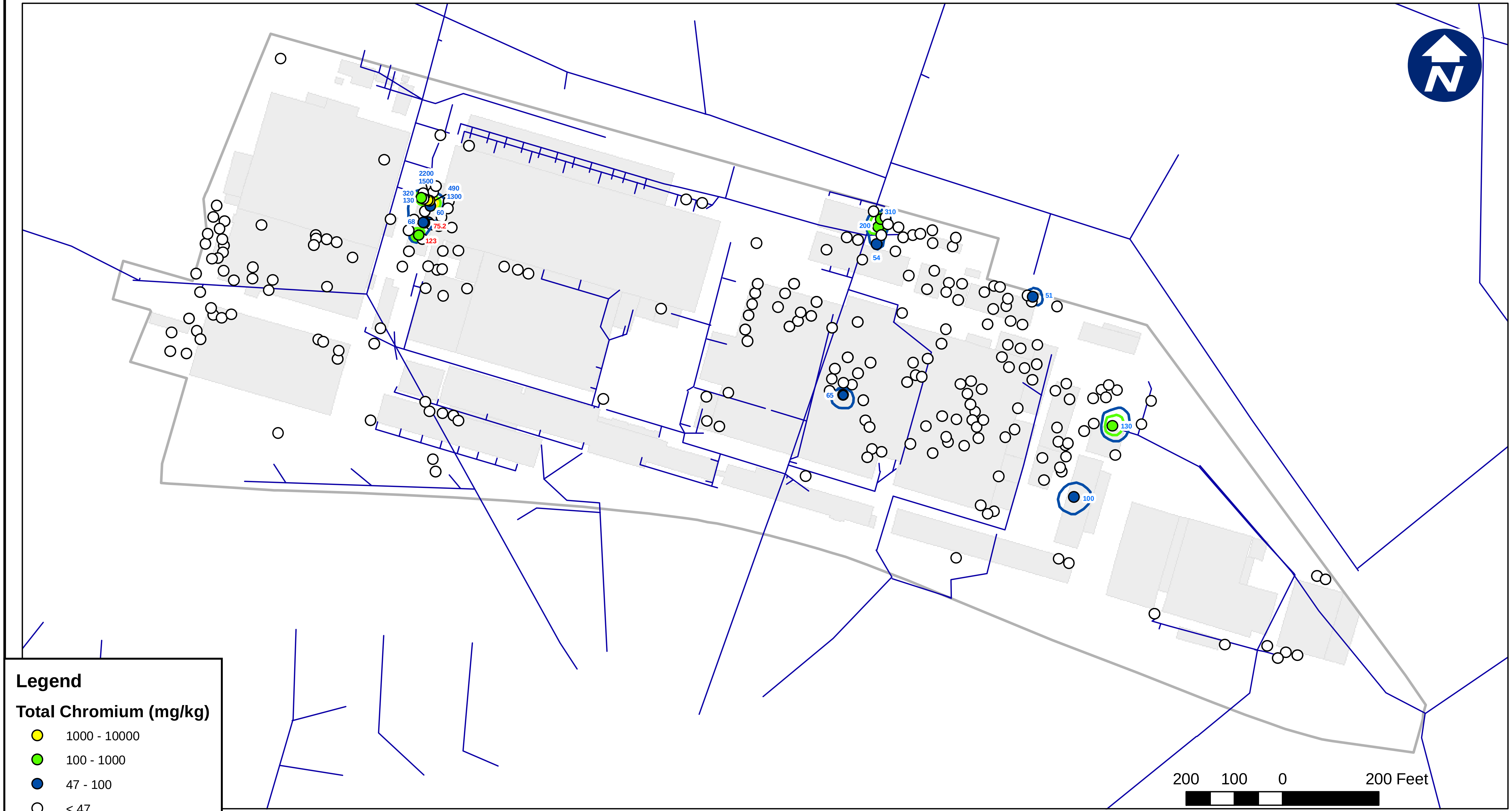
Work Plan Sampling

- ▲ In-Water Sediment
- ○ Tidal Flux Suspended Sediment
- ○ Storm Drain In-Line Sediment Trap
- △ Storm Drain Existing Sediment
- ■ Catch Basin Run-In Sediment
- → Storm Drain Flow Direction

GeoSyntec Consultants

METALS RESULTS IN ON-SITE SWCS
2701 NORTH HARBOR DRIVE
SAN DIEGO CALIFORNIA

FIGURE NO.	7-7
PROJECT NO.	SC0307
DATE	DECEMBER 2005



Legend

Total Chromium (mg/kg)

- 🟡 1000 - 10000
- 🟢 100 - 1000
- 🔵 47 - 100
- ○ < 47

Concentration Isopleths

- 1000
- 100
- 47

Chromium PRG: 450 mg/kg

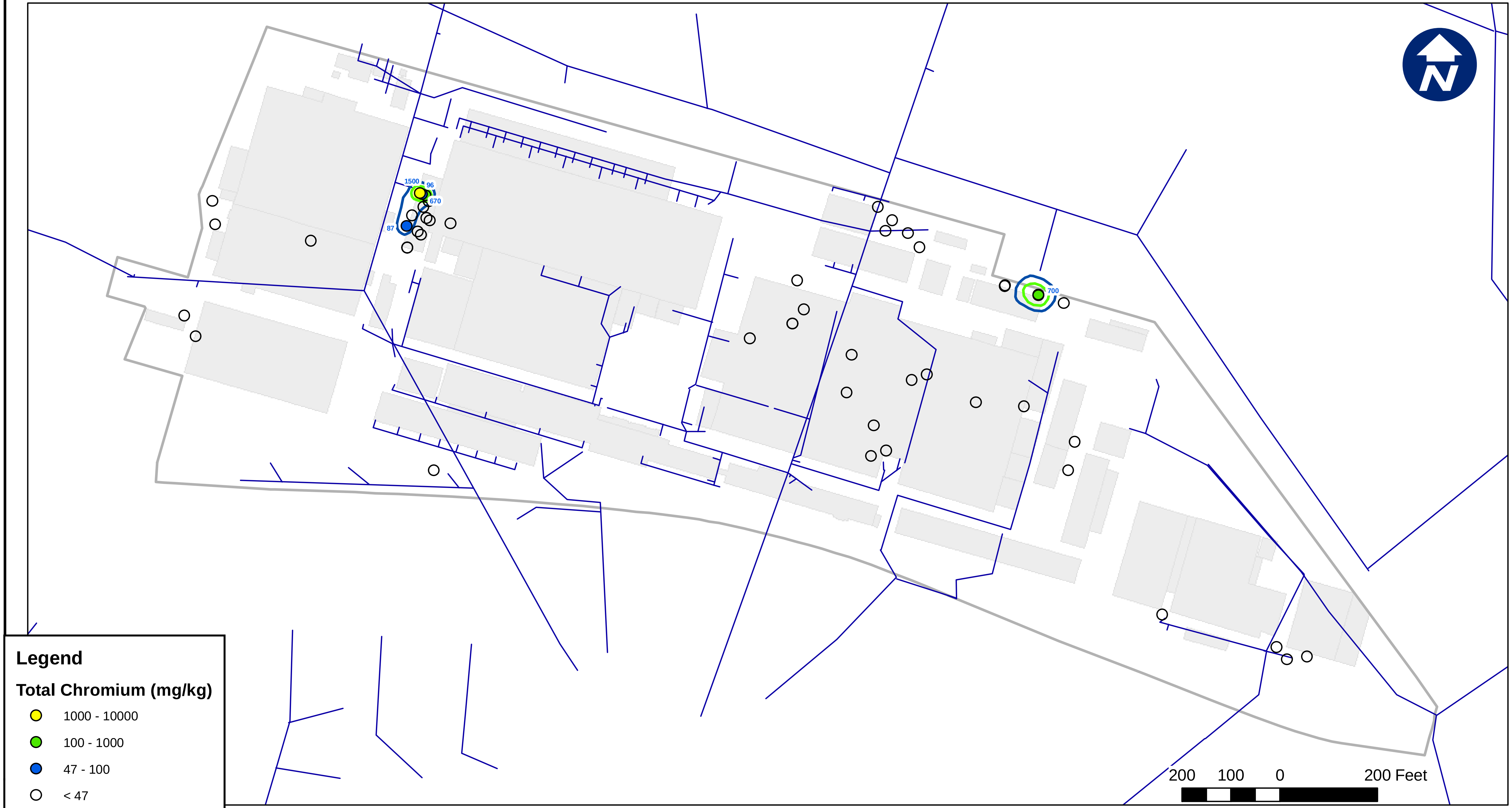
Chromium (Hexavalent) PRG: 64 mg/kg

GEOSYNTEC CONSULTANTS

CHROMIUM IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-1
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Chromium0-5



Legend

Total Chromium (mg/kg)

- 🟡 1000 - 10000
- 🟢 100 - 1000
- 🔵 47 - 100
- ○ < 47

Concentration Isopleths

- — 1000
- — 100
- — 47

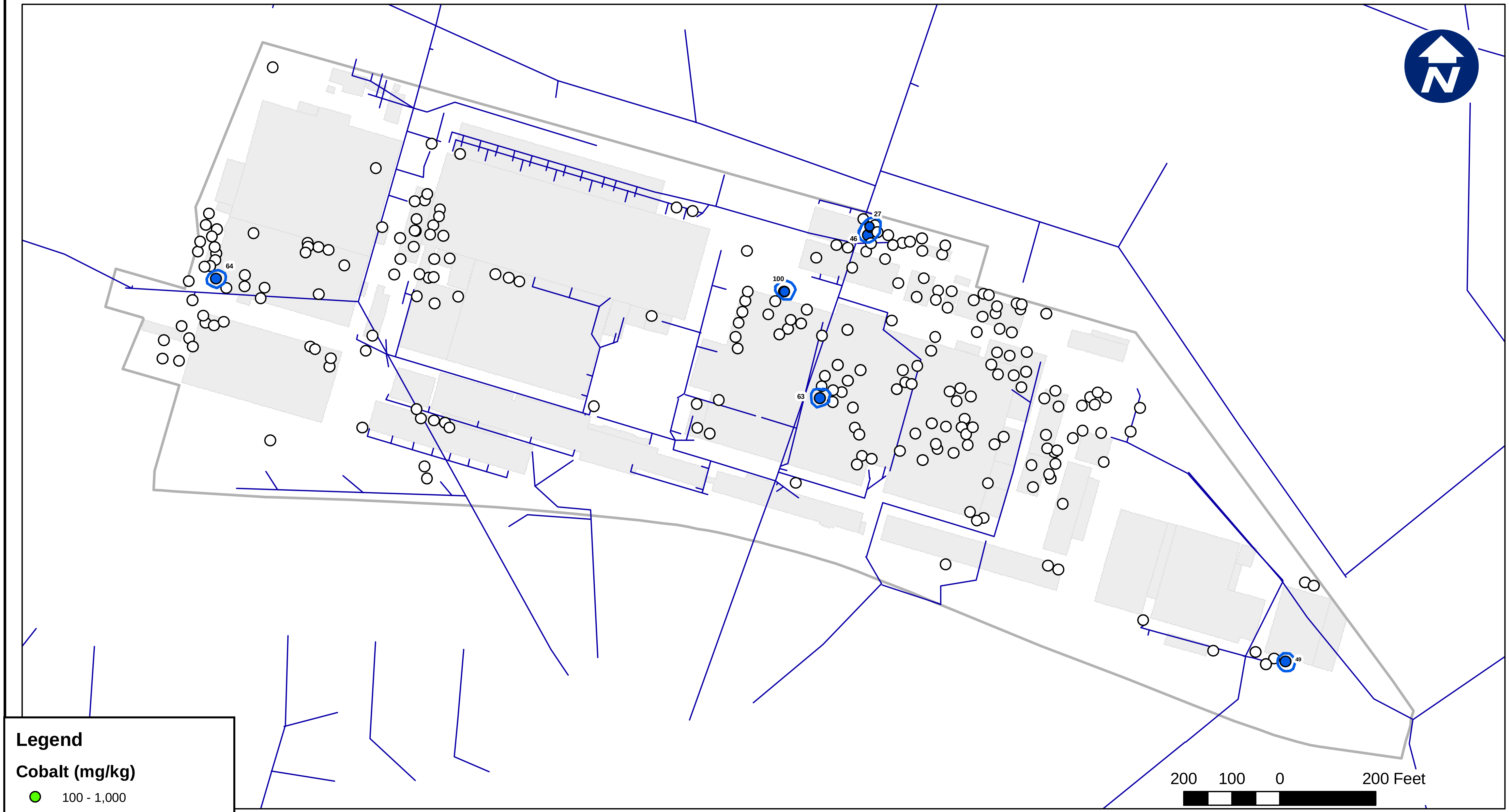
Chromium PRG: 450 mg/kg
Chromium (Hexavalent) PRG: 64 mg/kg

GeoSyntec Consultants

CHROMIUM IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-2
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Chromium0-5



Legend

Cobalt (mg/kg)

🟢 100 - 1,000

🔵 23 - 100

○ <23

Concentration Isopleths

— <23

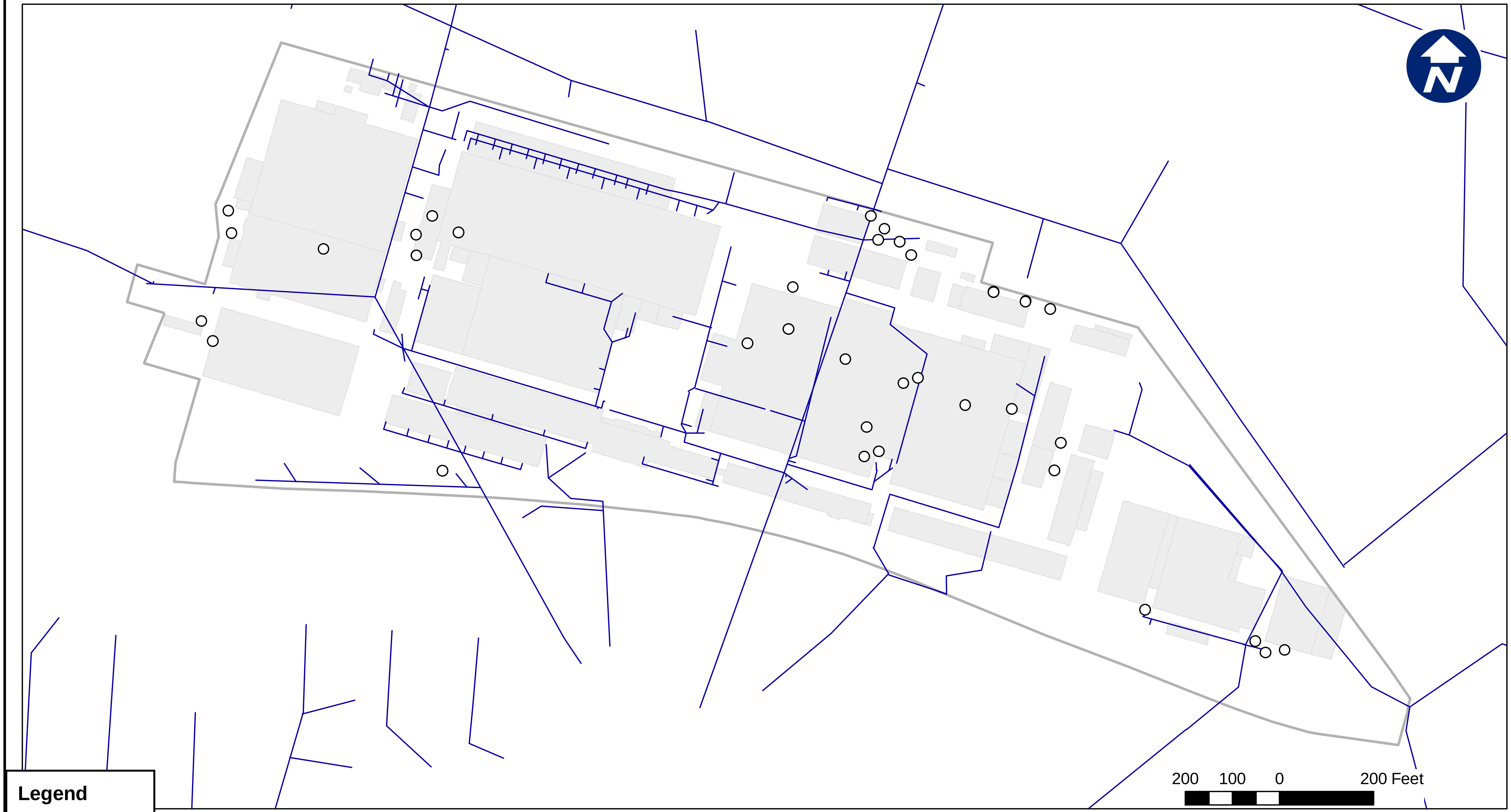
Cobalt PRG: 1,900 mg/kg

GEOSYNTEC CONSULTANTS

COBALT IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO. 7S-3
PROJECT NO. SC0307
DATE: DECEMBER 2005

X:\SCO307 TDY HARBOR DRIVE\SITE CHARACTERIZATION REPORT\DATAPLOTS\DATAPLOTS MXD\Cobalt 0-5 soil



Legend

Cobalt (mg/kg)

- 🟢 100 - 1,000
- 🔵 23 - 100
- ○ <23

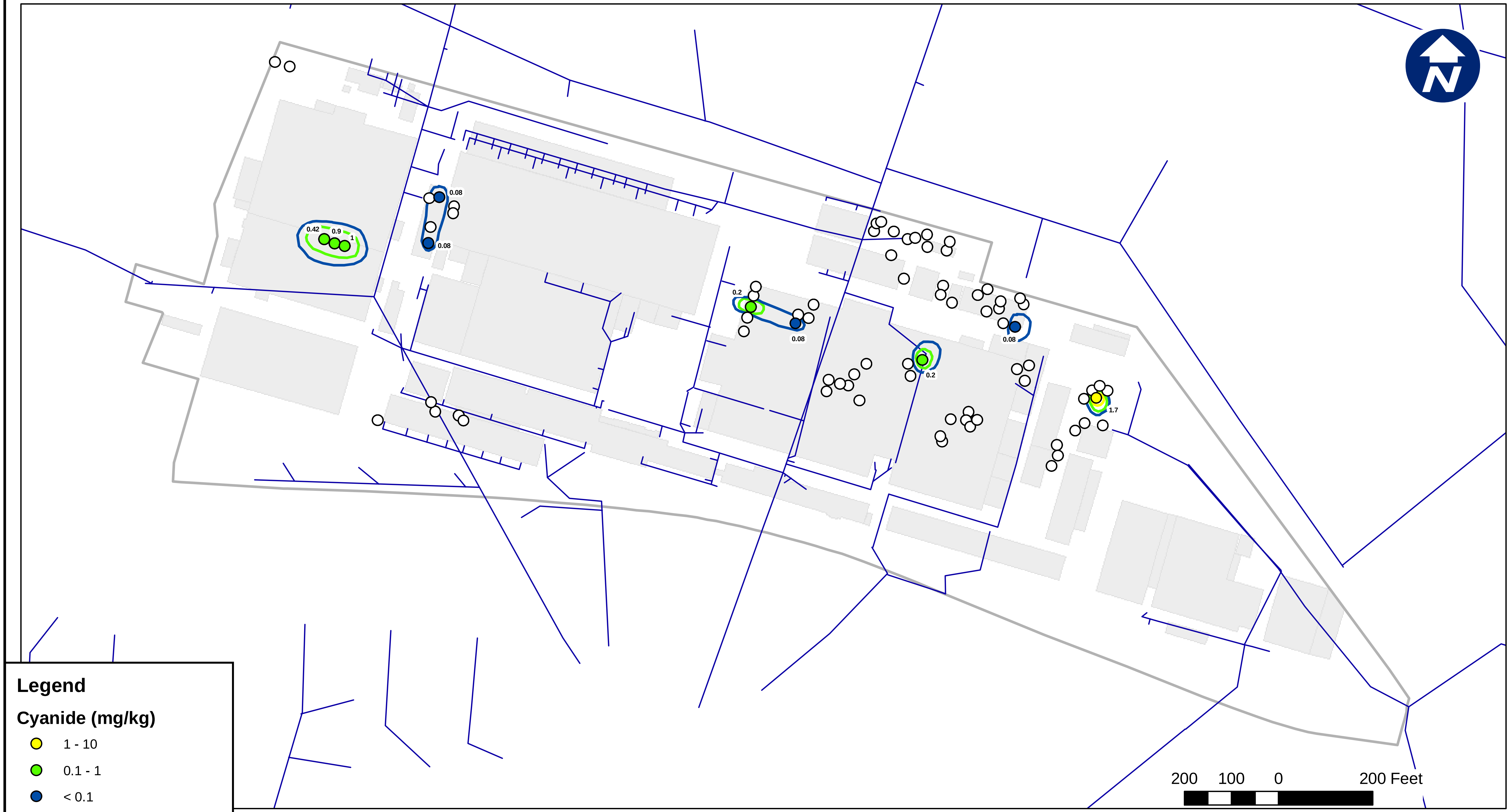
Cobalt PRG: 1,900 mg/kg

GEOSYNTEC CONSULTANTS

COBALT IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIG NO.	7S-4
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Cobalt 5 -10.mxd



Legend

Cyanide (mg/kg)

- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 < 0.1

Concentration Isopleths

- — 1
- — 0.1
- — ND

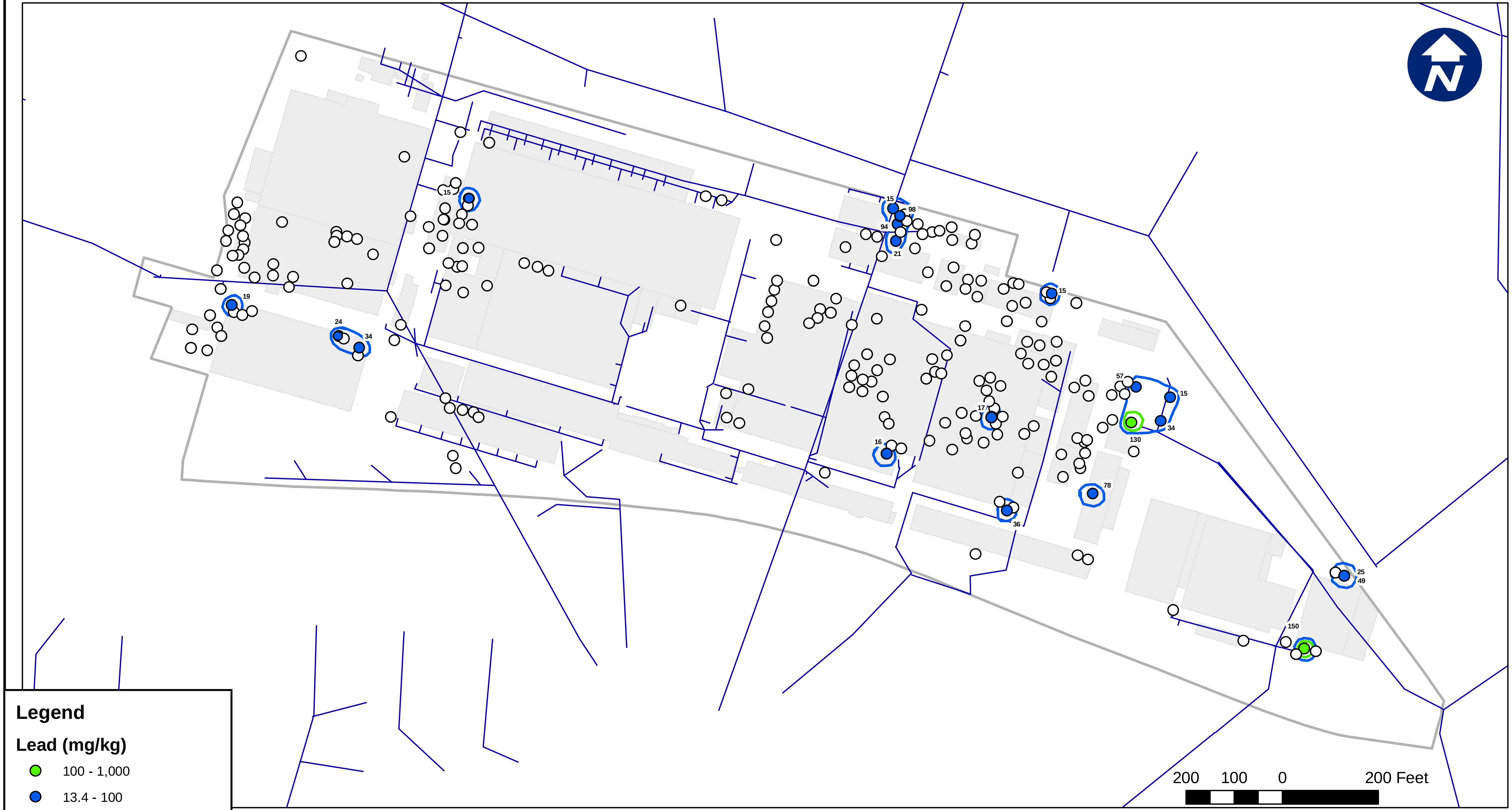
Cyanide PRG: 12,000 mg/kg

Cyanide0-5

GeoSyntec Consultants

TOTAL CYANIDE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-5
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



Legend

Lead (mg/kg)

- 🟢 100 - 1,000
- 🔵 13.4 - 100
- ○ <13.4

Concentration Isopleths

- — 100
- — <13.4

Lead PRG: 800 mg/kg

GeoSyntec Consultants

LEAD IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-6
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Lead 0-5.mxd

Legend

Lead (mg/kg)

🟢	100 - 1,000
🔵	13.4 - 100
○	<13.4

Concentration Isopleths

—	<13.4

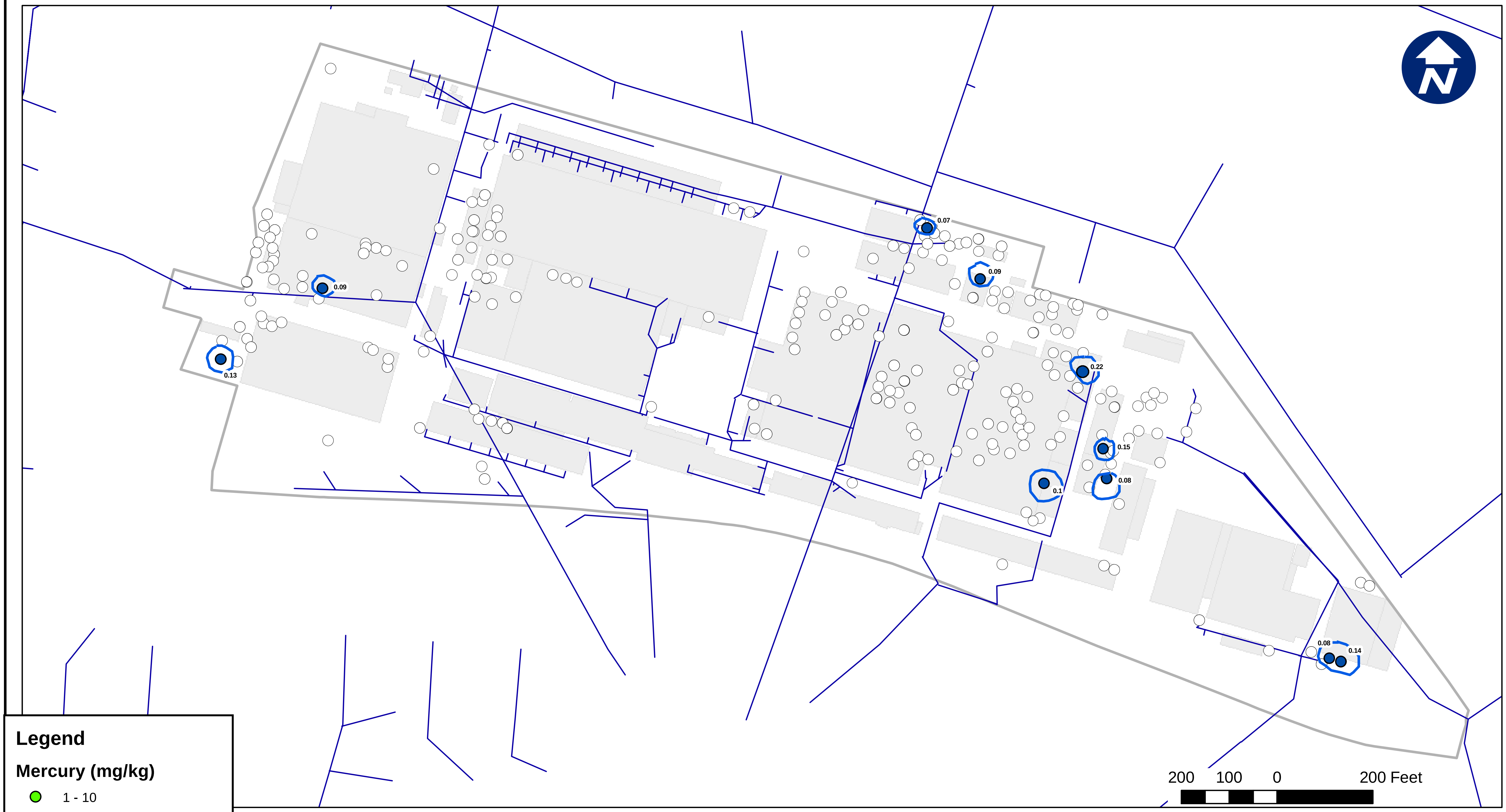
Lead PRG: 800 mg/kg

GEOSYNTEC CONSULTANTS

LEAD IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-7
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Lead 5 -1 0.mxd



Legend

Mercury (mg/kg)

- ● 1 - 10
- ● 0.065 - 1
- ○ <0.065

Concentration Isopleths

- ― 0.065

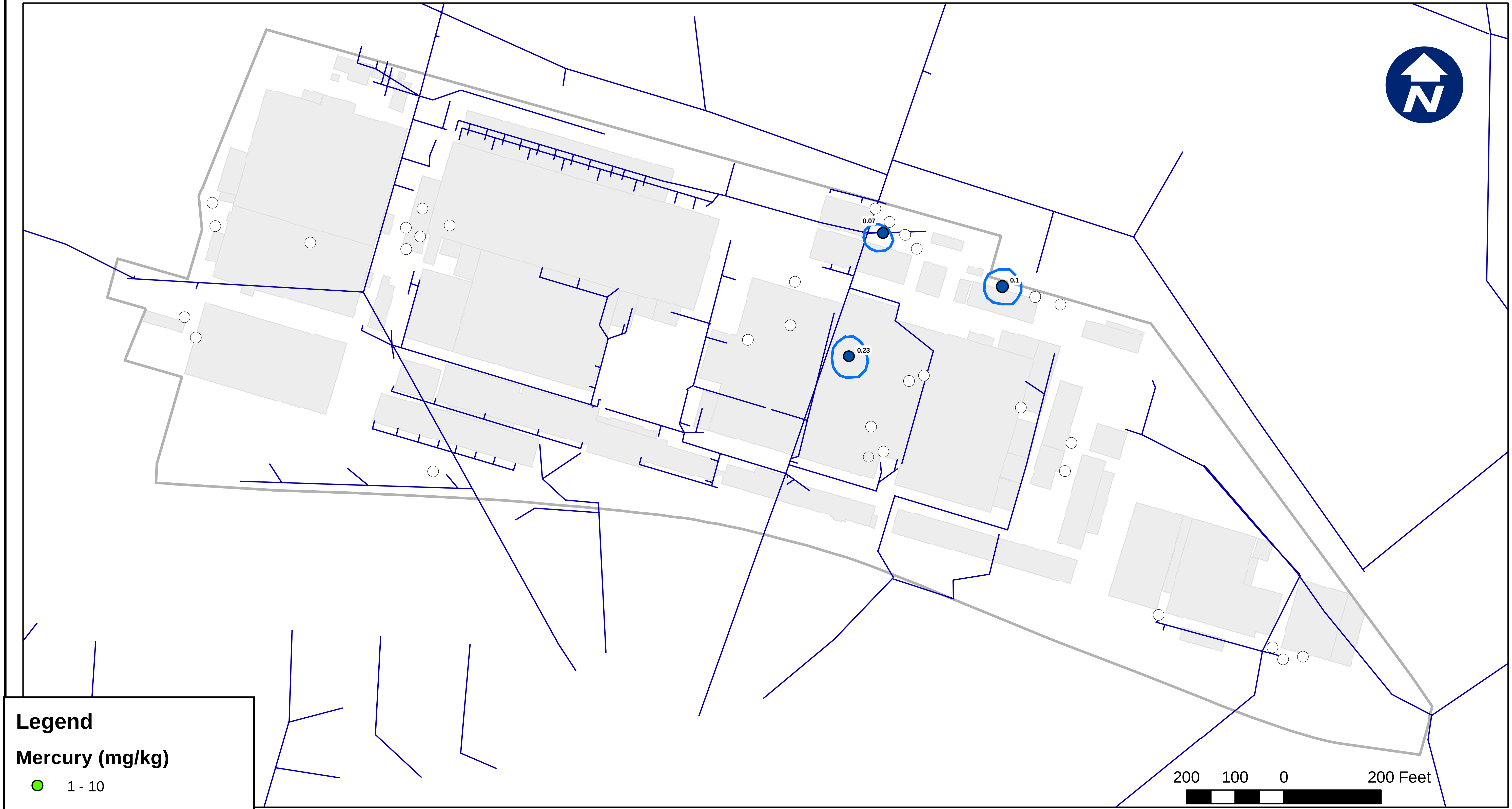
Mercury PRG: 310 mg/kg

GEOSYNTEC CONSULTANTS

MERCURY IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-8
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Mercury 0-5.mxd



Legend

Mercury (mg/kg)

🟢 1 - 10

🔵 0.065 - 1

○ <0.065

Concentration Isopleths

— 0.065

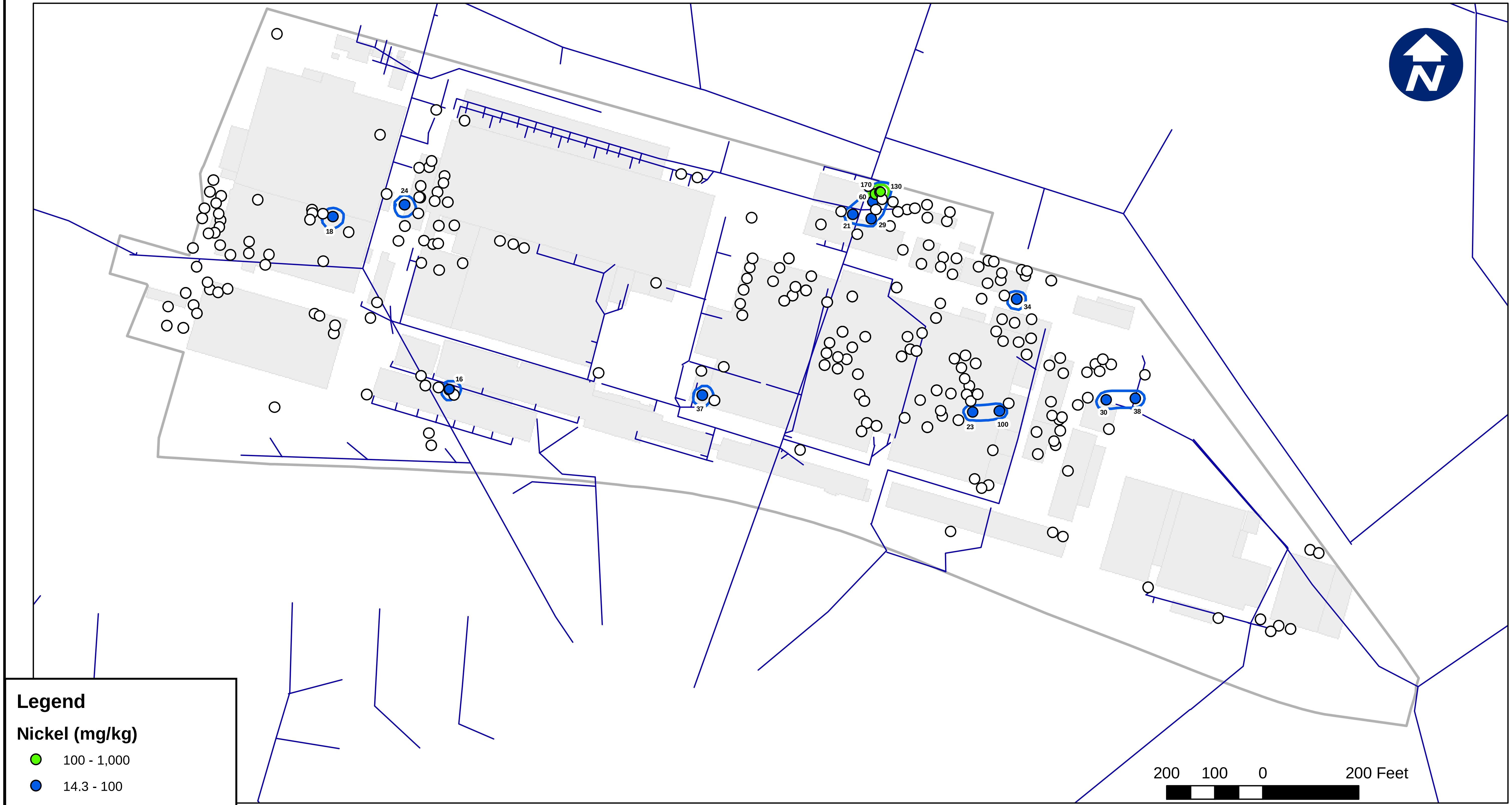
Mercury PRG: 310 mg/kg

GEOSYNTEC CONSULTANTS

MERCURY IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-9
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Mercury 5 -10.mxd



Legend

Nickel (mg/kg)

- 🟢 100 - 1,000
- 🔵 14.3 - 100
- ○ <14.3

Concentration Isopleths

- — 100
- — <14.3

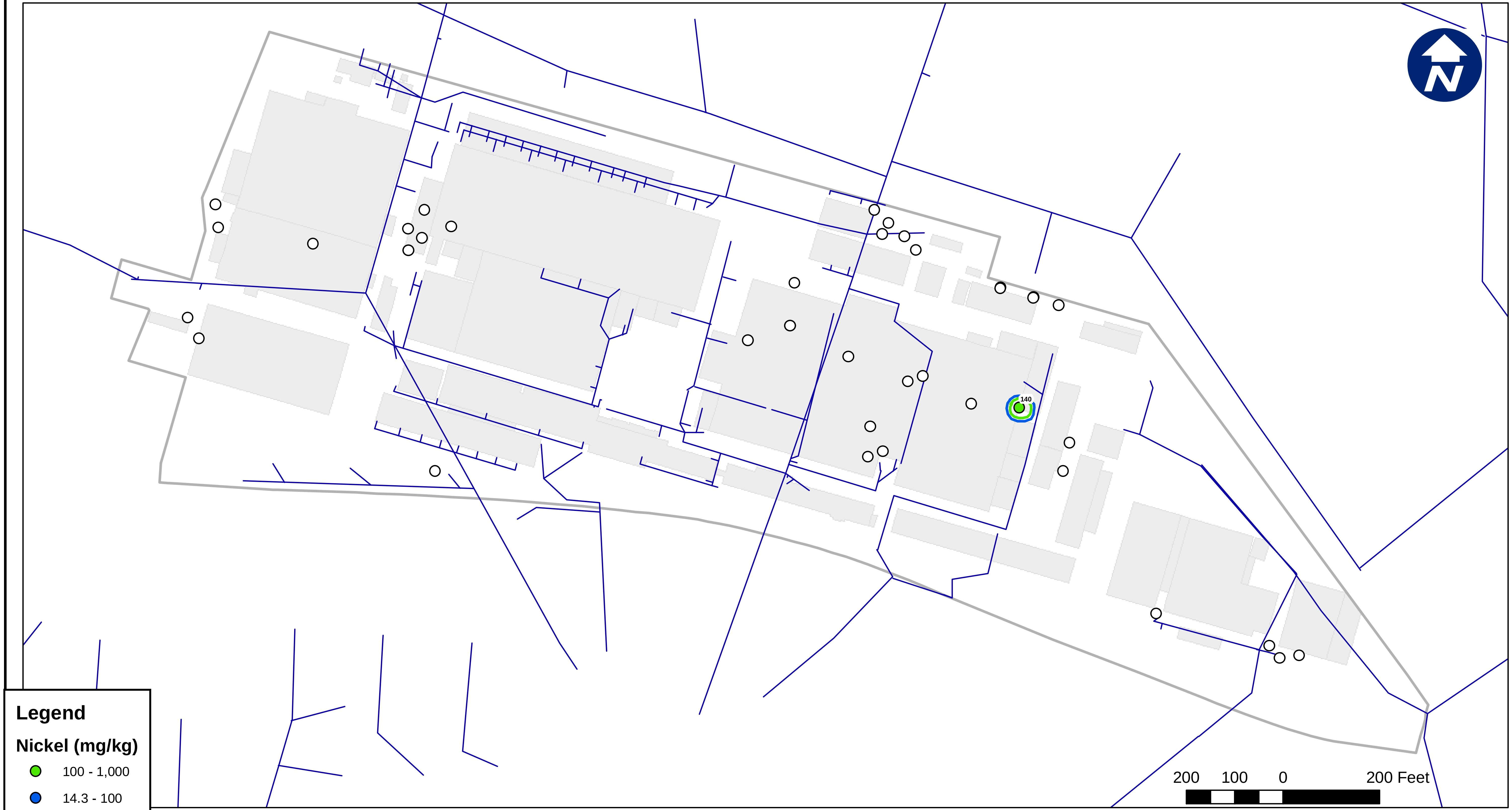
Nickel PRG: 11,000 mg/Kg

GEOSYNTEC CONSULTANTS

NICKEL IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-10
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Nickel 0-5.mxd



Legend

Nickel (mg/kg)

- 🟢 100 - 1,000
- 🔵 14.3 - 100
- ○ <14.3

Nickel 5 - 10

- 100
- <14.3

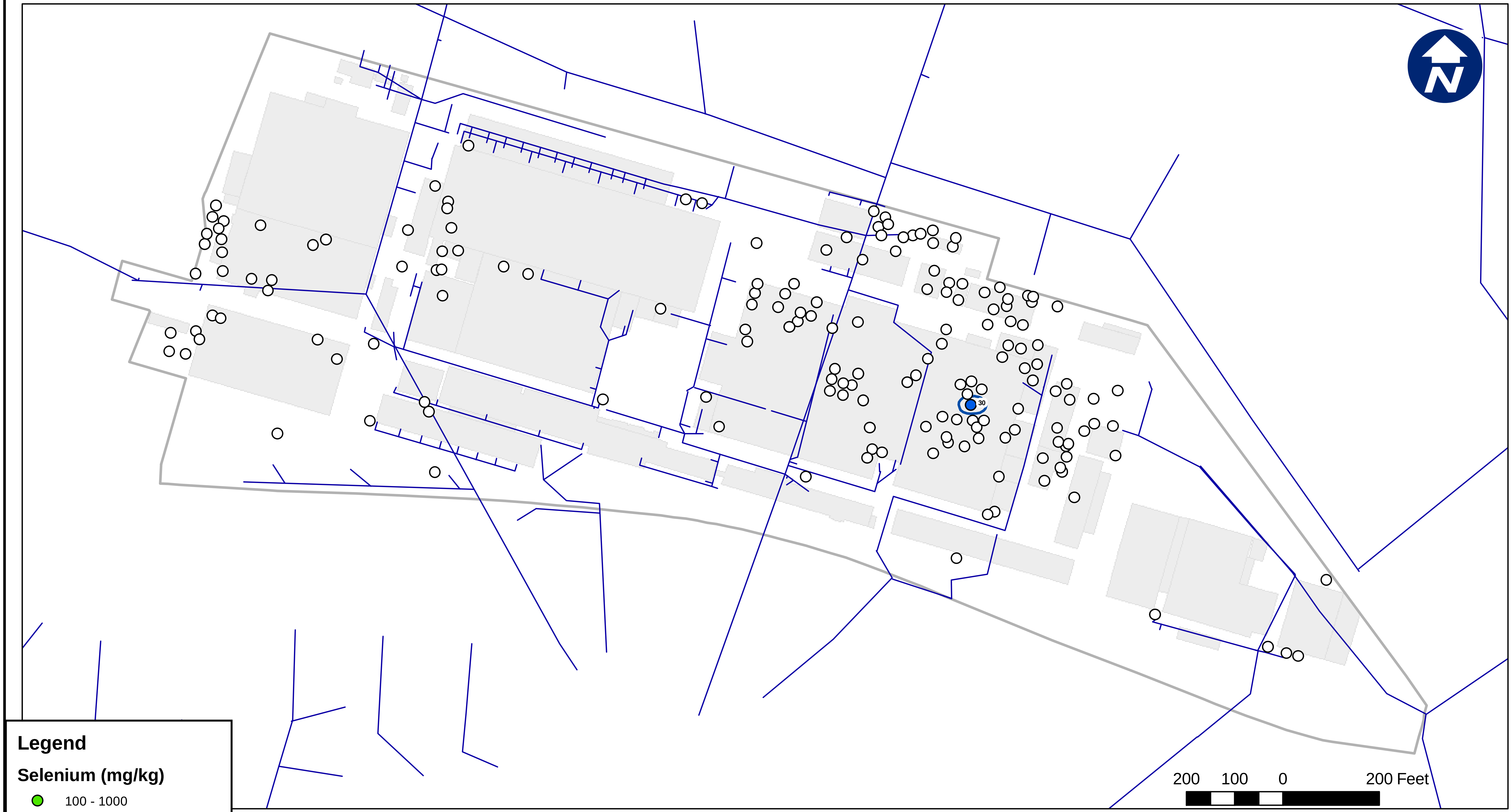
Nickel PRG: 11,000 mg/kg

GeoSyntec Consultants

NICKEL IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-11
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Nickel 5 -1 0.mxd



Legend

Selenium (mg/kg)

- 🟢 100 - 1000
- 🔵 23.7- 100
- ○ <23.7

Concentration Isopleths

- — < 23.7

Selenium PRG: 5,100 mg/kg

GeoSyntec Consultants

SELENIUM IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-12
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Selenium0-5.mxd

Legend

Selenium (mg/kg)

🟢 100 - 1000

🔵 23.7- 100

○ <23.7

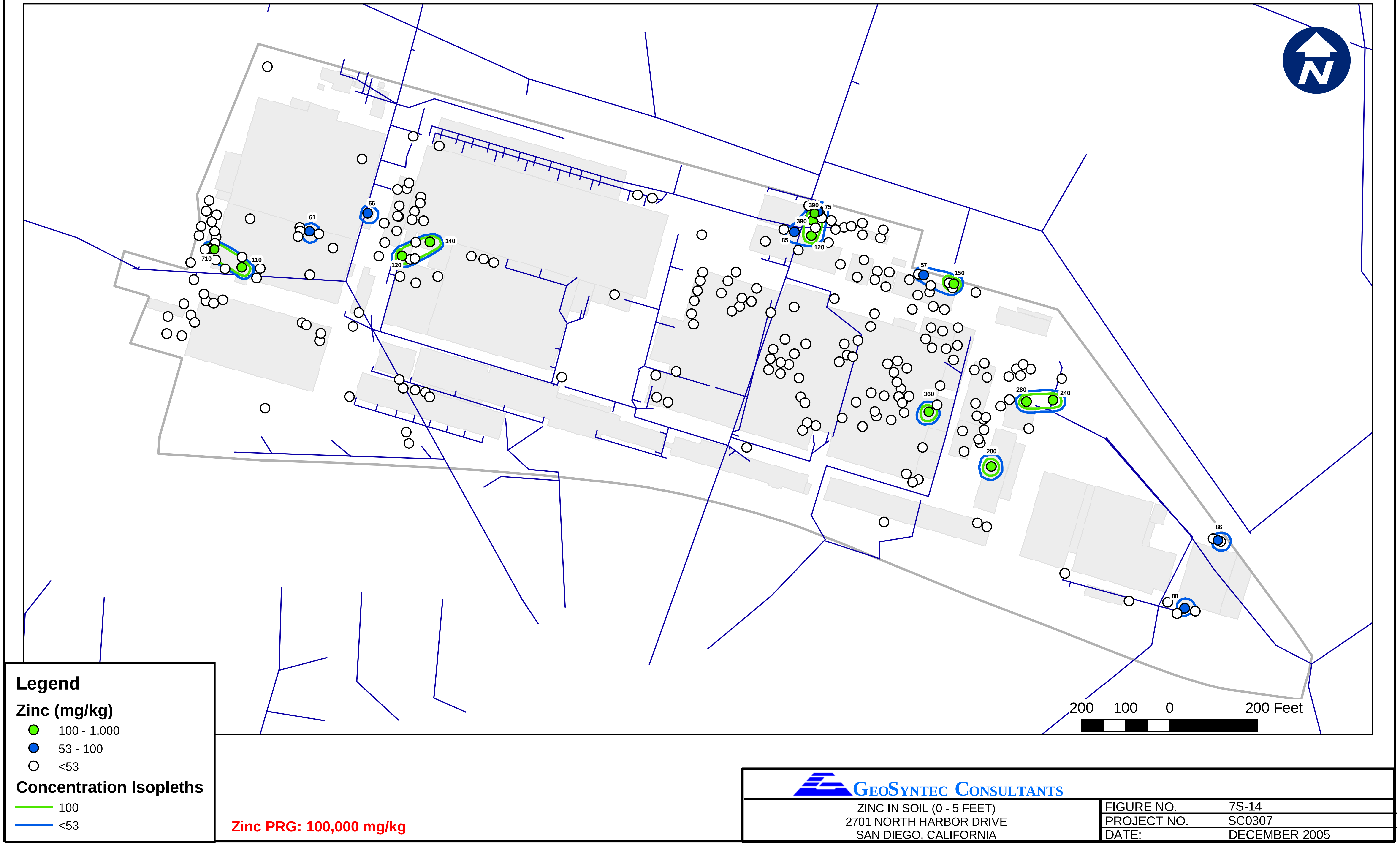
Selenium PRG: 5,100 mg/kg

GEOSYNTEC CONSULTANTS

SELENIUM IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-13
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Selenium5 -1 0.mxd



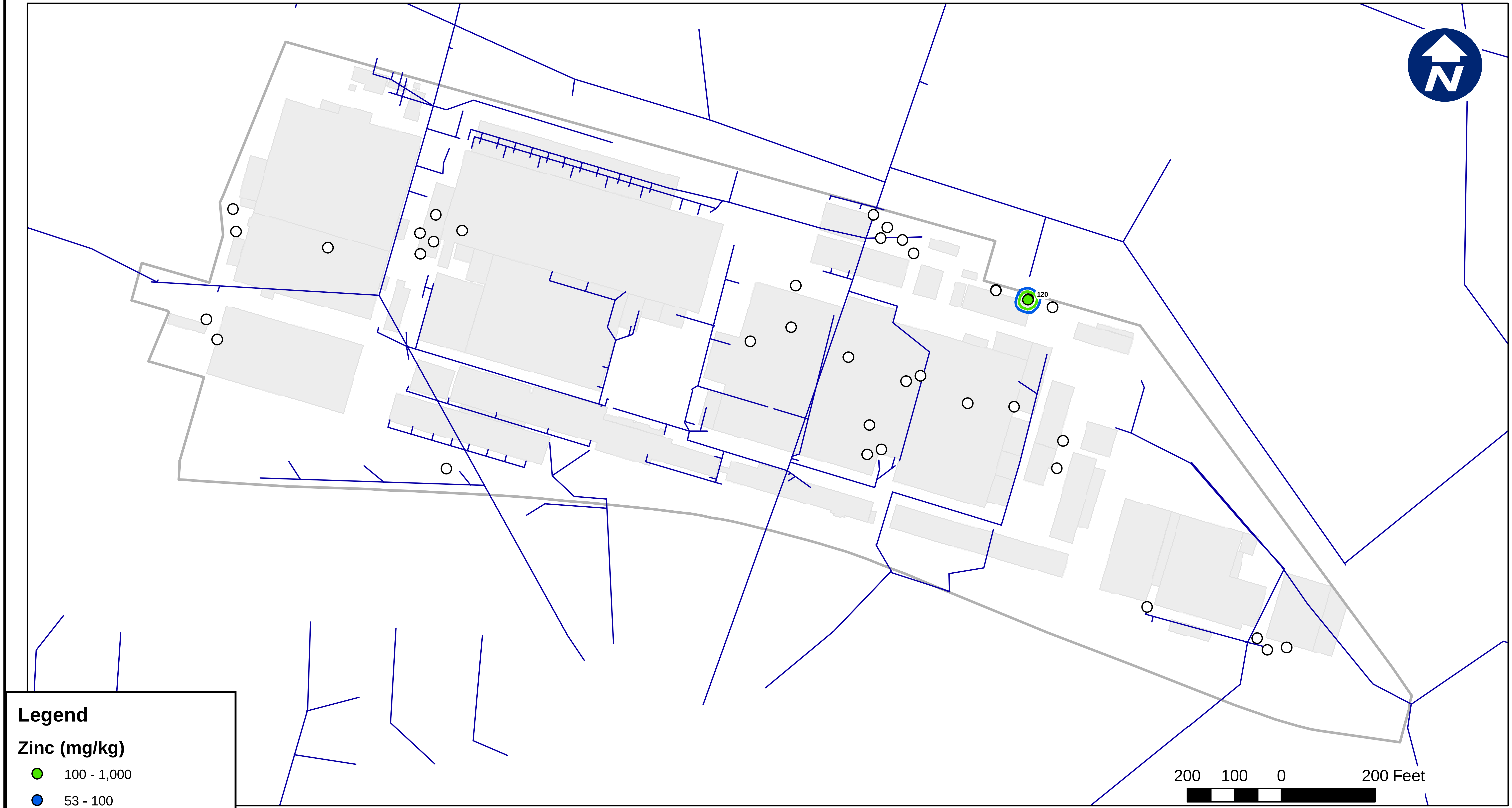
Zinc PRG: 100,000 mg/kg

GEOSYNTEC CONSULTANTS

ZINC IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-14
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Zinc 0-5.mxd



Legend

Zinc (mg/kg)

- ● 100 - 1,000
- ● 53 - 100
- ○ <53

Concentration Isopleths

- — 100
- — <53

Zinc PRG: 100,000 mg/kg

GeoSyntec Consultants

ZINC IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-15
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Zinc 5 -10.mxd

Legend

Total VOCs (mg/kg)

- ● 1000 - 10000
- ● 100 - 1000
- ● 10 - 100
- ● 1 - 10
- ● <1.0
- ○ Non-Detect

Concentration Isopleths

- — 100
- — 10
- — 1
- — ND

○ Data Collected June - August 2003 - Haley & Aldrich

△ Data Collected July - October 2005 - GeoSyntec Consultants

GeoSyntec Consultants

TOTAL VOCs IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-16
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

TOTALVOCS(SOIL)0-5.MXD

Legend

Total VOCs in Soil 5-10 Feet (mg/Kg)

- ● 1000 - 10000
- ● 100 - 1000
- ● 10 - 100
- ● 1 - 10
- ● <1.0
- ○ Non-Detect

Concentration Isopleths

- 1000
- 100
- 10
- 1
- ND

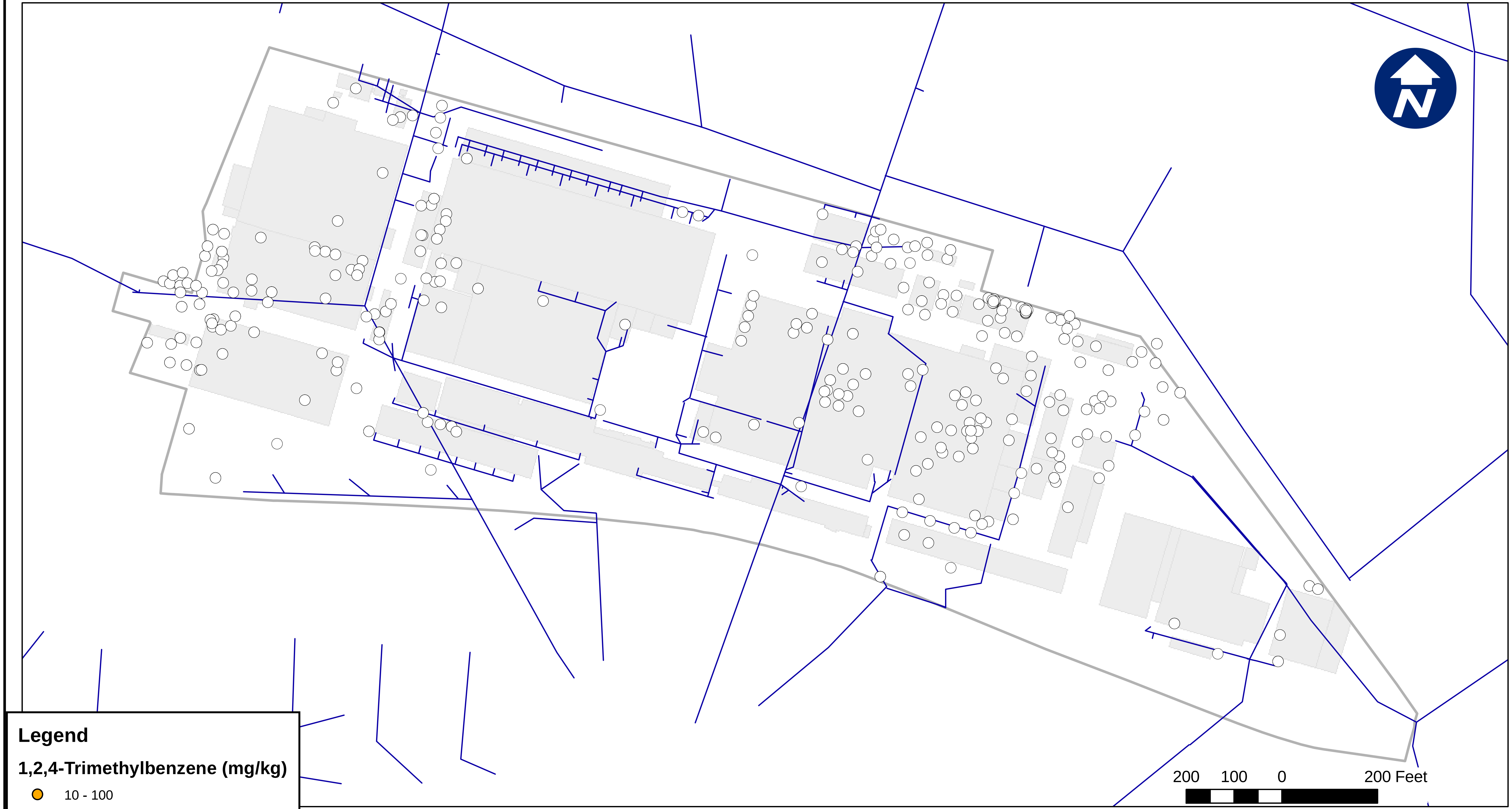
○ Data Collected June-August 2003 - Haley&Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
☐ Data Collected July-October 2005 - GeoSyntec Consultants

GeoSyntec Consultants

TOTAL VOCS IN SOIL (5-10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIG NO.	7S-17
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:/SC0307/SITECHARACTERIZATION REPORT/TOTALVOCS(SOIL)5-10 (11-8-05).MXD



Legend

1,2,4-Trimethylbenzene (mg/kg)

- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 0.005 - 0.1
- ○ < 0.005

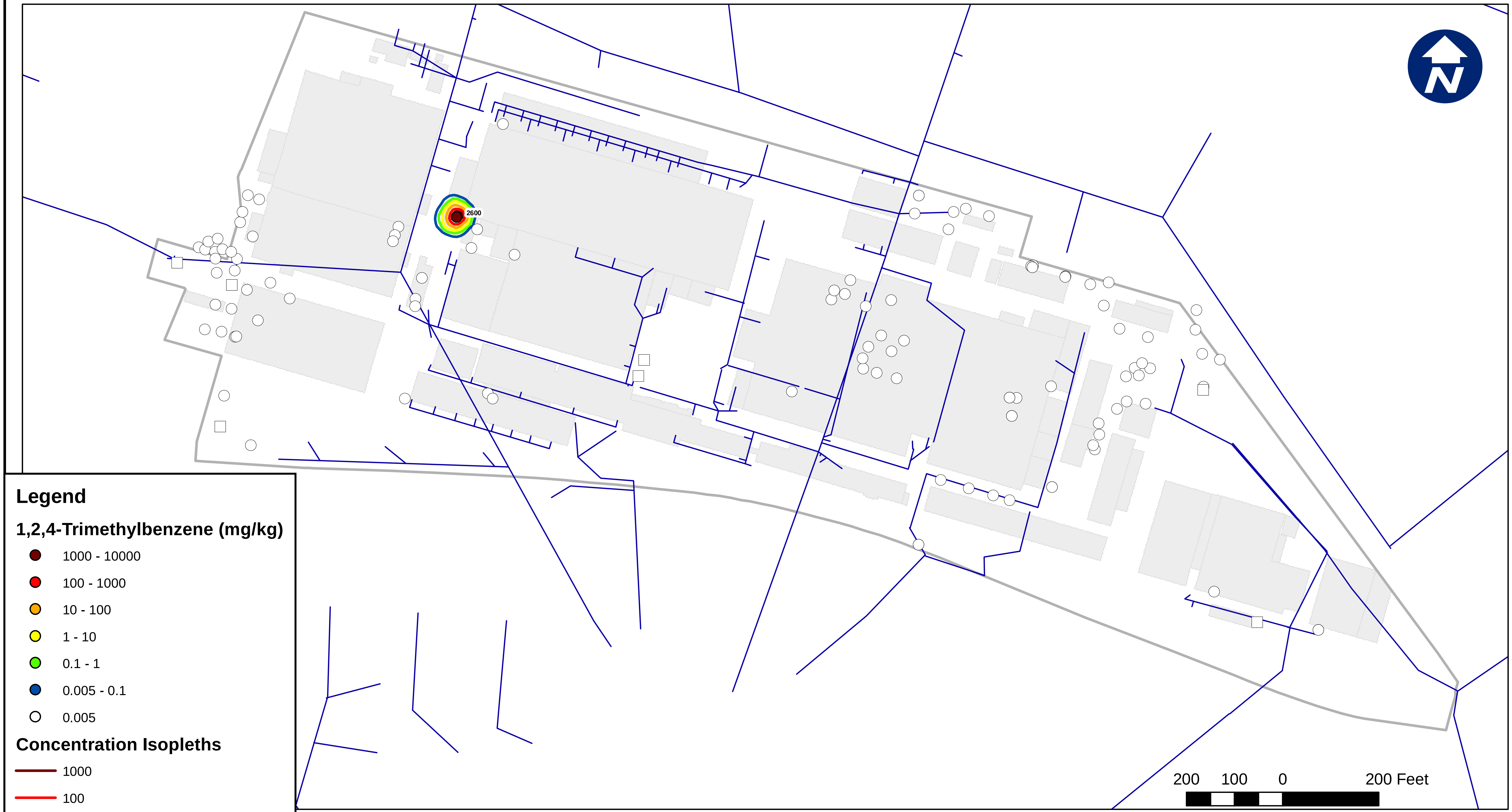
1,2,4-Trimethylbenzene PRG: 170 mg/kg

GeoSyntec Consultants

1,2,4-TRIMETHYLBENZENE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-18
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

124TRIMETHYLBENZENE0-5



Legend

1,2,4-Trimethylbenzene (mg/kg)

● 1000 - 10000
● 100 - 1000
● 10 - 100
● 1 - 10
● 0.1 - 1
● 0.005 - 0.1
○ 0.005

Concentration Isopleths

— 1000
— 100
— 10
— 1
— 0.1
— ND

○ Data Collected June/August 2003 - Haley & Aldrich
☐ Data Collected July/August 2005 - GeoSyntec Consultants

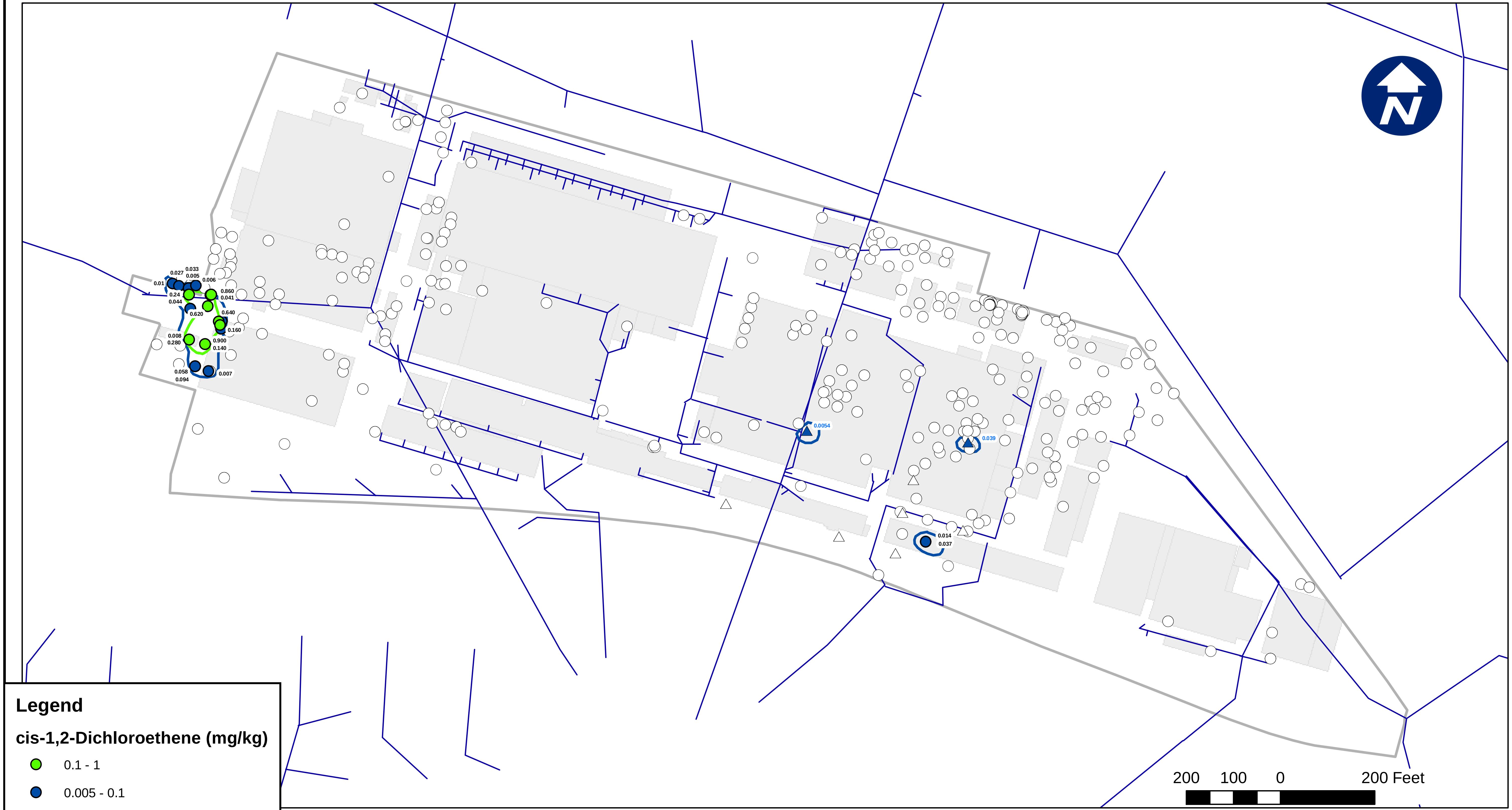
1,2,4-Trimethylbenzene PRG: 170 mg/kg

GEOSYNTEC CONSULTANTS

1,2,4-TRIMETHYLBENZENE IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-19
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

124TRIMETHYLBENZENE5-10



Legend

cis-1,2-Dichloroethene (mg/kg)

- 🟢 0.1 - 1
- ● 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- — 0.1
- — ND

△ Data Collected August 2002 - GeoSyntec Consultants

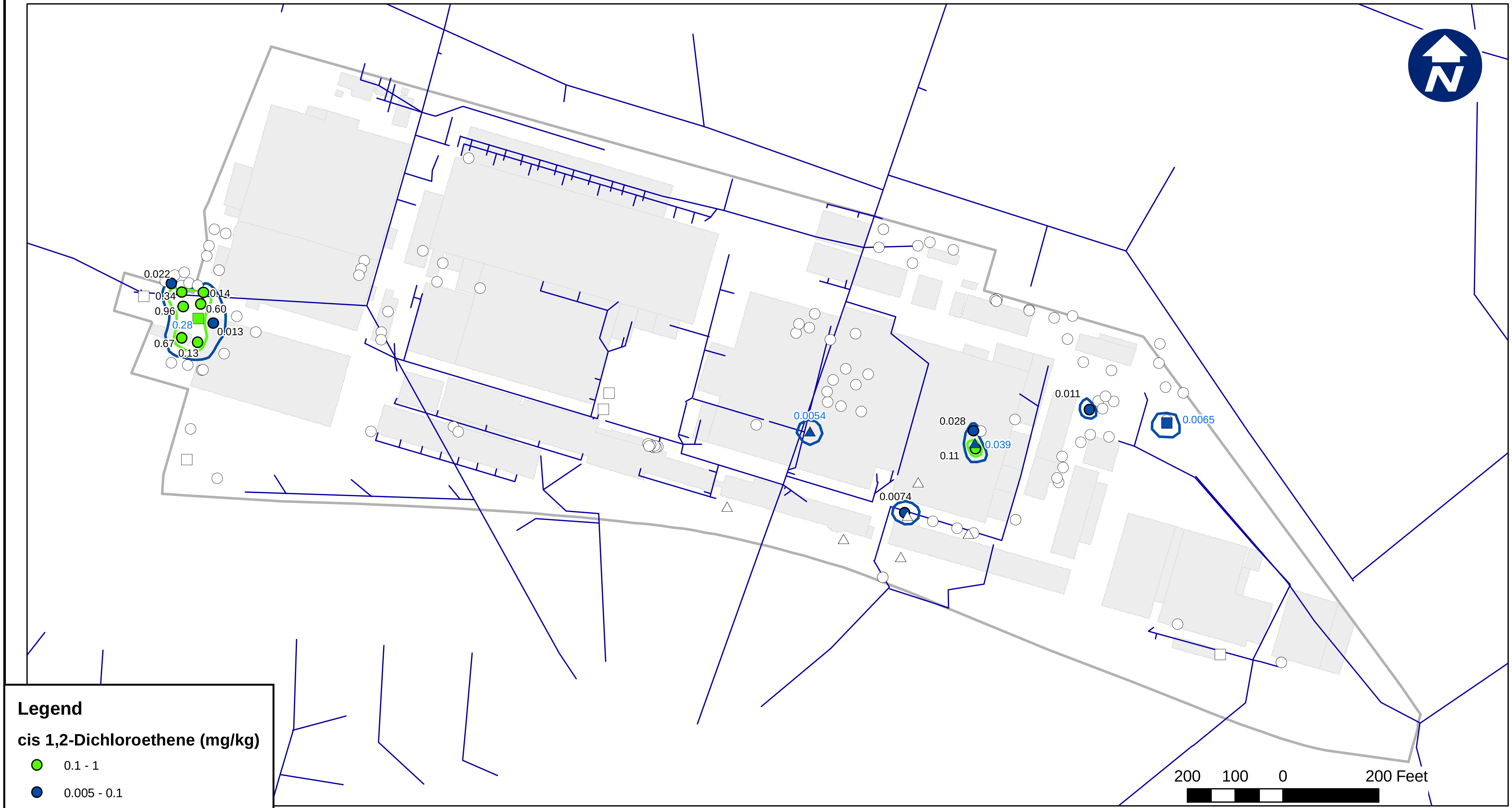
cis-1,2-Dichloroethene ESL: 3.6 mg/kg

GEOSYNTEC CONSULTANTS

CIS-1,2-DICHLOROETHENE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-20
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

CIS-1,2-DCE 0-5



Legend

cis 1,2-Dichloroethene (mg/kg)

- ● 0.1 - 1
- ● 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- — 0.1
- — ND

○ Data Collected June-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSuntec Consultants
☐ Data Collected July-October 2005 - GeoSuntec Consultants

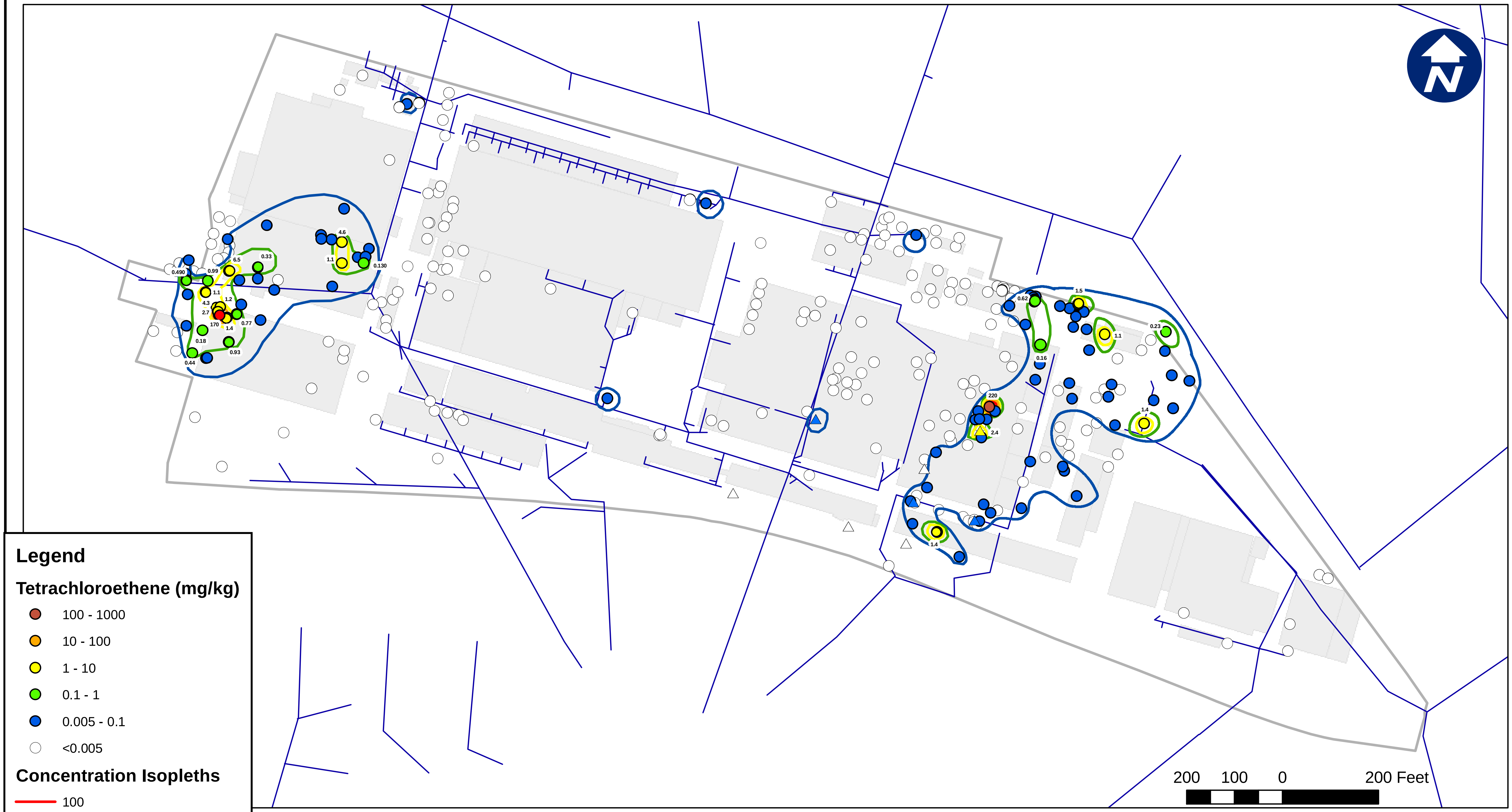
cis-1,2-Dichloroethene ESL: 3.6 mg/kg

GeoSyntec Consultants

CIS-1,2-DICHLOROETHENE IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-21
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

CIS-1,2-DCE 5-10



Legend

Tetrachloroethene (mg/kg)

- ● 100 - 1000
- ● 10 - 100
- ● 1 - 10
- ● 0.1 - 1
- ● 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- — 100
- — 10
- — 1
- — 0.1
- — ND

△ Data Collected August 2002 - GeoSyntec Consultants

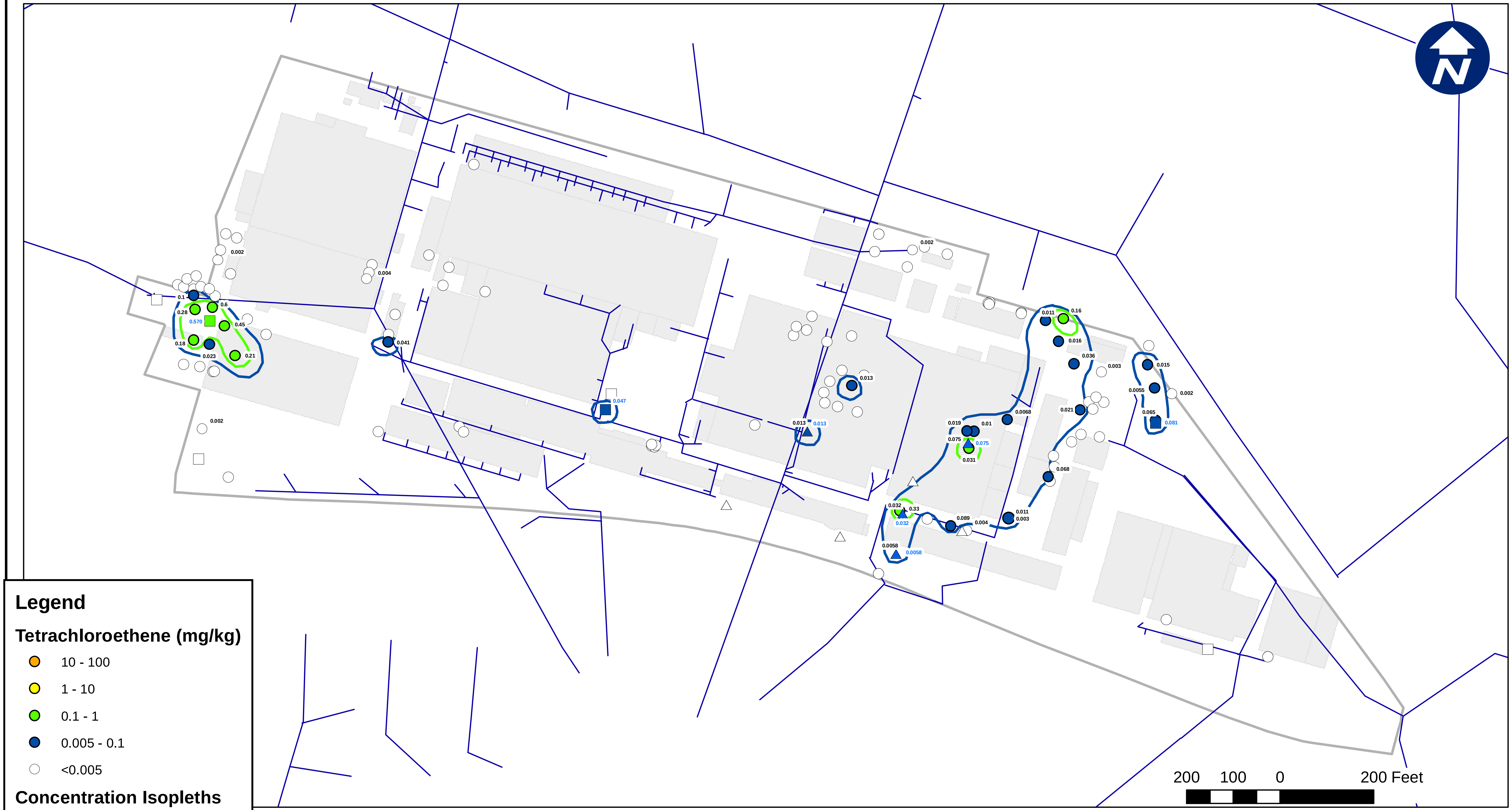
Tetrachloroethene ESL: 0.24 mg/kg

GEOSYNTEC CONSULTANTS

TETRACHLOROETHENE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-22
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

PCE0-5.MXD



Legend

Tetrachloroethene (mg/kg)

- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- ━ 10
- ━ 1
- ━ 0.1
- ━ ND

○ Data Collected June/August 2003 - Haley & Aldrich
△ Data Collected August 2002- GeoSyntec Consultants
☐ Data Collected July-October 2005 - GeoSyntec Consultants

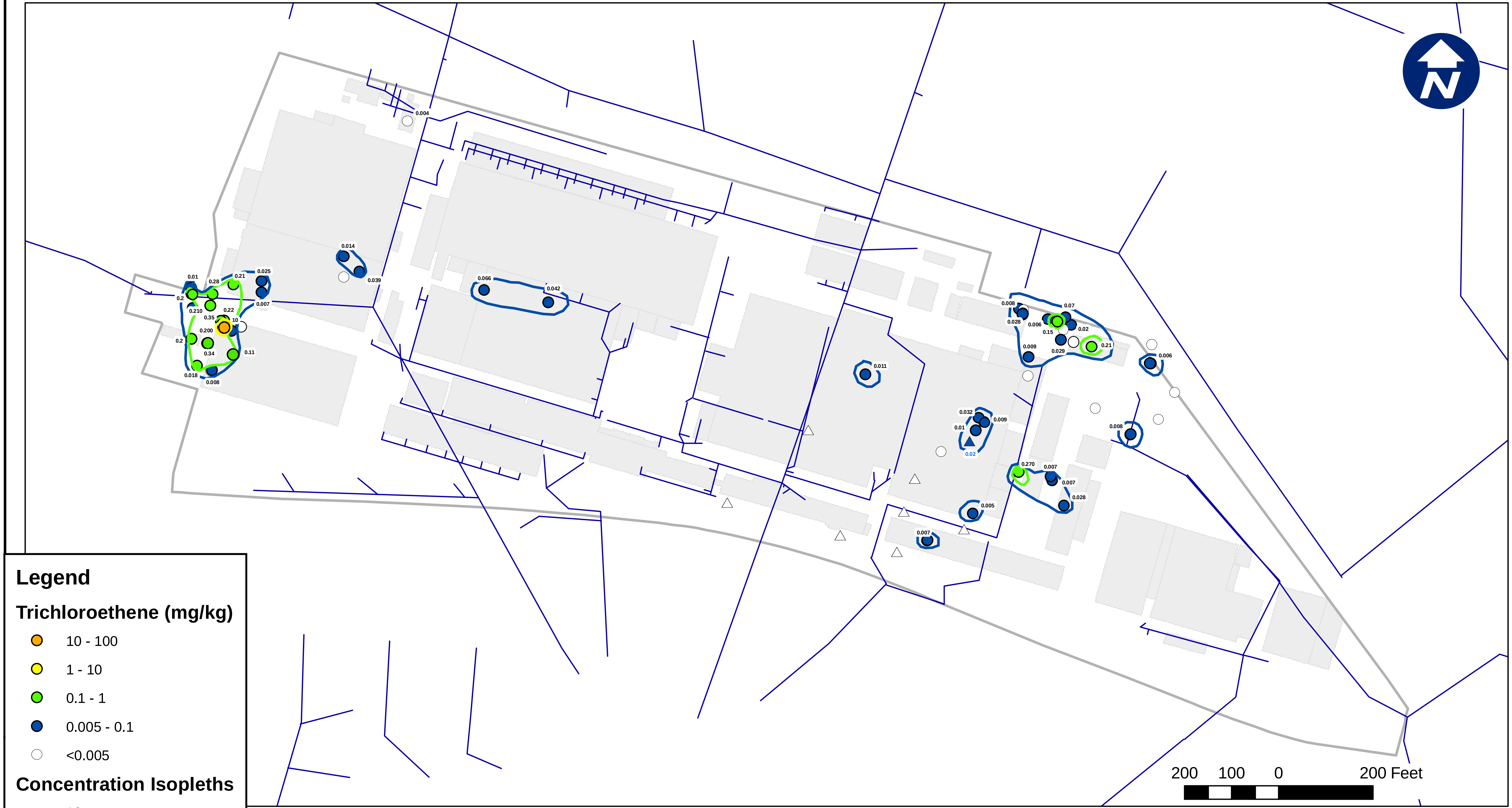
Tetrachloroethene ESL: 0.24 mg/kg

GEOSYNTEC CONSULTANTS

TETRACHLOROETHENE IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-23
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

PCE5-10



Legend

Trichloroethene (mg/kg)

- ● 10 - 100
- ● 1 - 10
- ● 0.1 - 1
- ● 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- — 10
- — 1
- — 0.1
- — ND

△ Data Collected August 2002- GeoSyntec Consultants

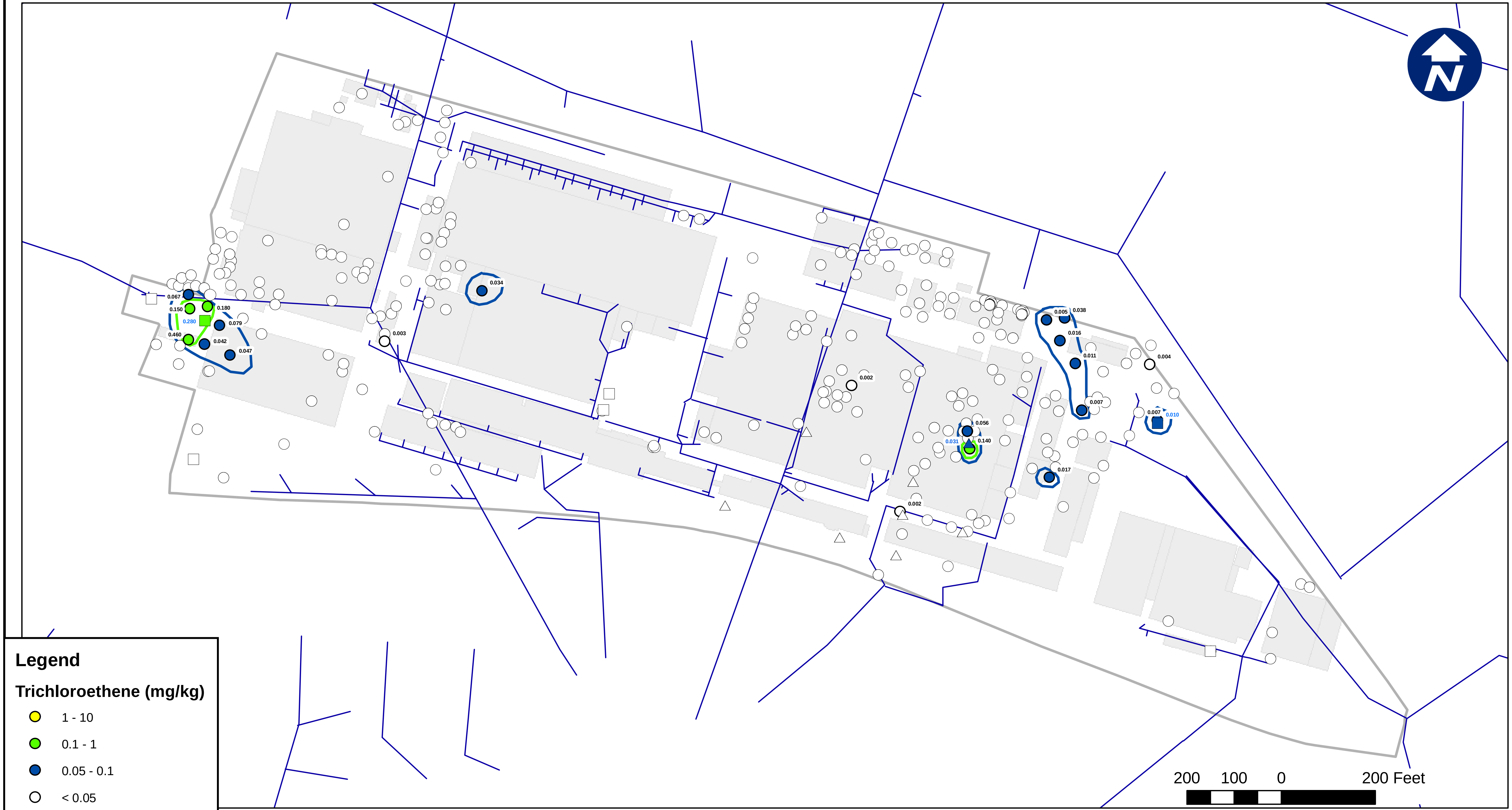
Trichloroethene ESL: 0.73 mg/kg

GeoSyntec Consultants

TRICHLOROETHENE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-24
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

tce0-5



Legend

Trichloroethene (mg/kg)

- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 0.05 - 0.1
- ○ < 0.05

Concentration Isopleths

- ━ 1
- ━ 0.1
- ━ ND

- ○ Data Collected June-August 2003 - Haley & Aldrich
- △ Data Collected August 2002 - GeoSyntec Consultants
- ☐ Data Collected July-October 2005 - GeoSyntec Consultants

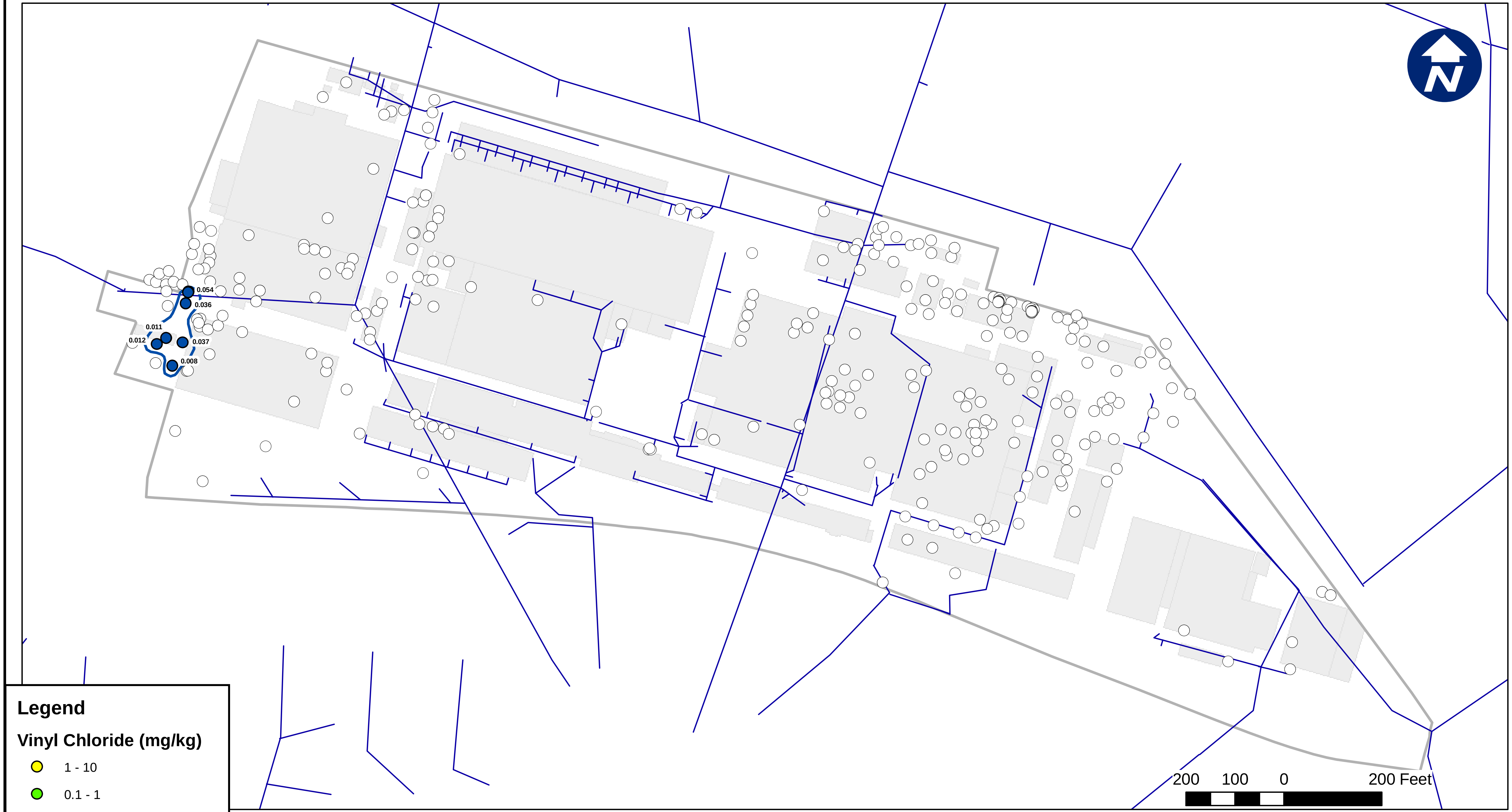
Trichloroethene ESL: 0.73 mg/kg

GEOSYNTEC CONSULTANTS

TRICHLOROETHENE IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-25
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

tce5-10



Legend

Vinyl Chloride (mg/kg)

- ● 1 - 10
- ● 0.1 - 1
- ● 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- ND

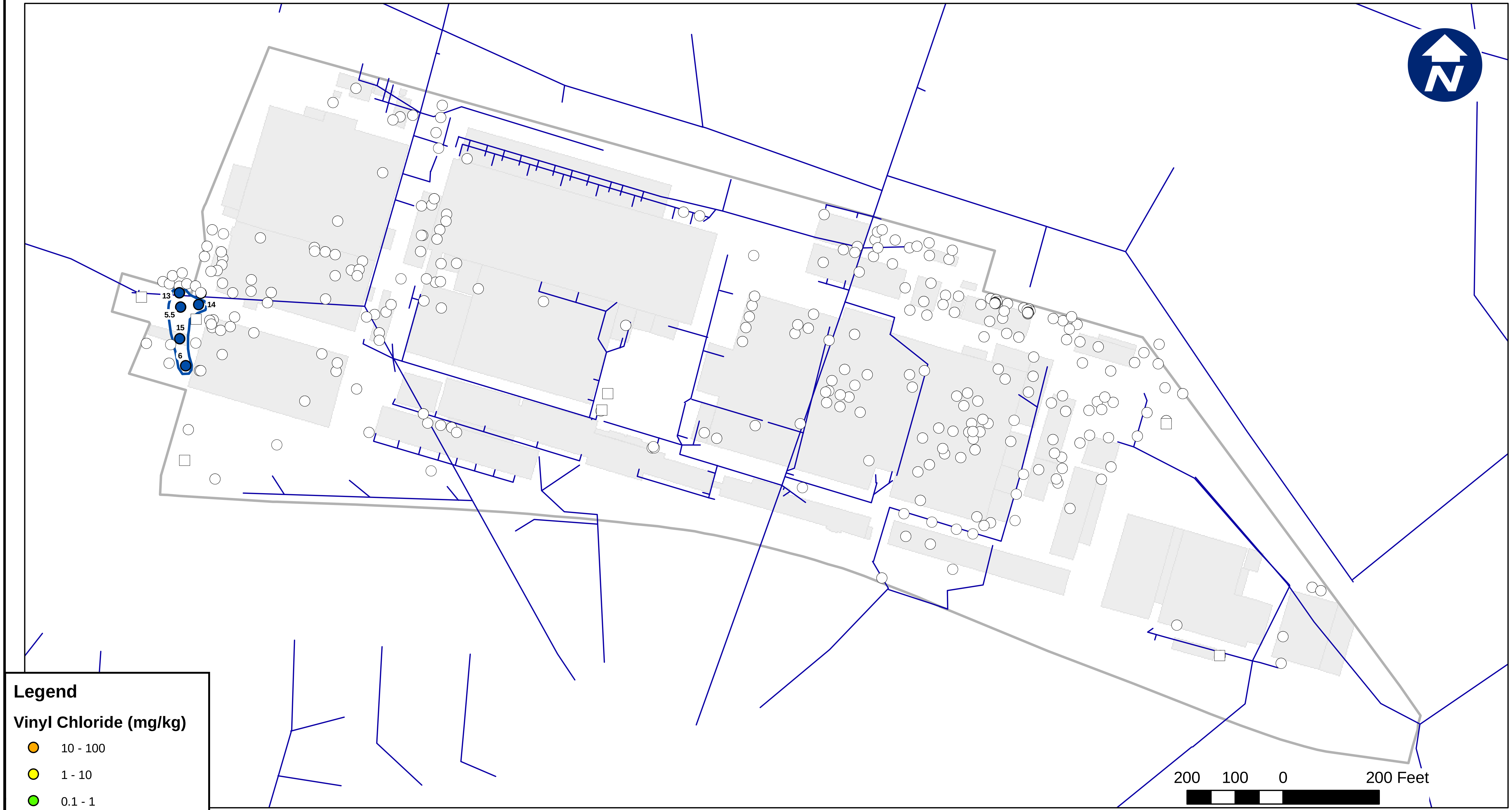
Vinyl Chloride ESL: 0.019 mg/kg

GEOSYNTEC CONSULTANTS

VINYL CHLORIDE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-26
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

vc0-5.mxd



Legend

Vinyl Chloride (mg/kg)

- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 ND - 0.1
- ○ ND

Concentration Isopleths

- — ND

○ Data Collected June-August 2003 - Haley & Aldrich

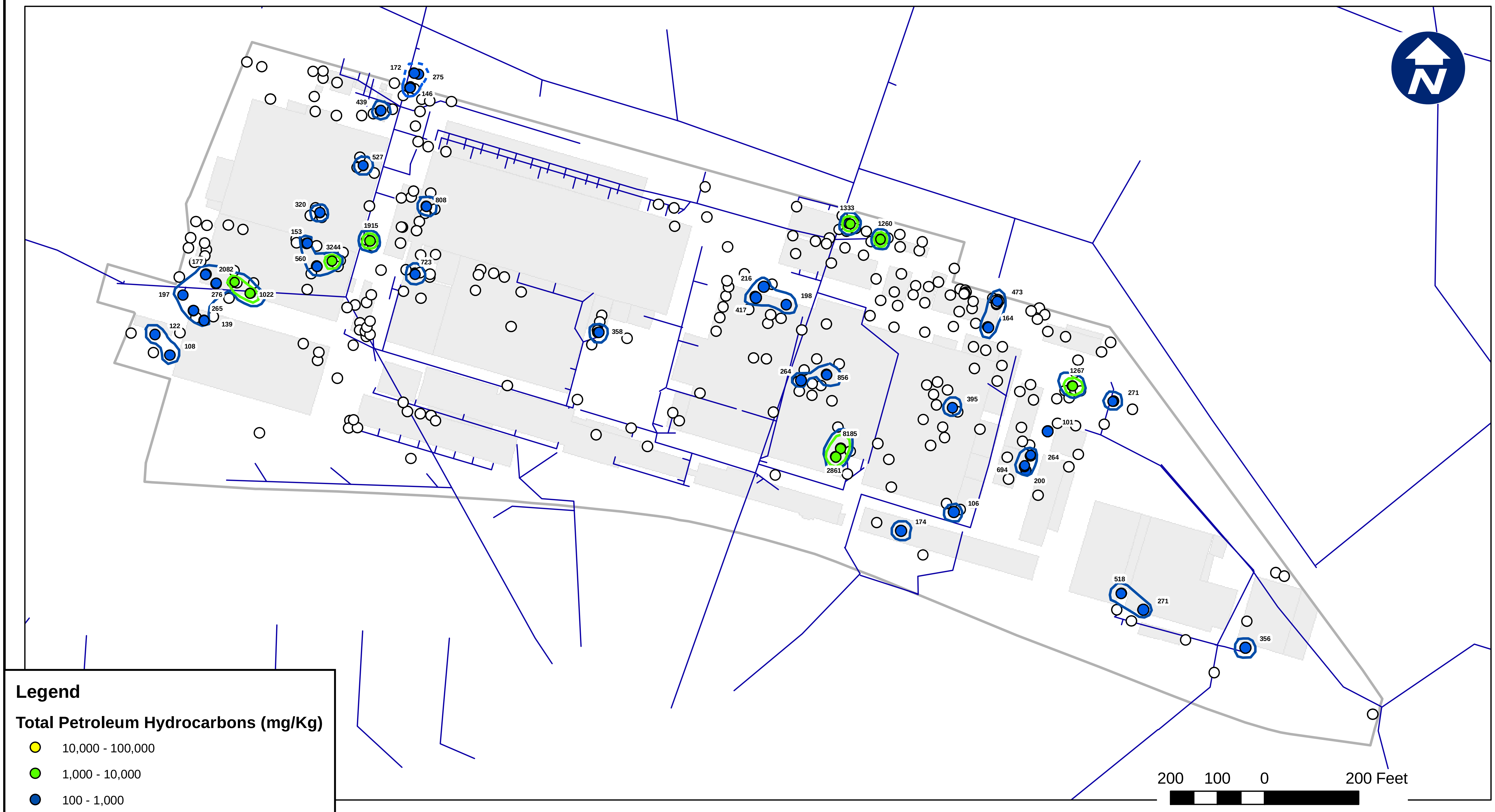
☐ Data Collected July-October 2005 - GeoSyntec Consultants

Vinyl Chloride ESL: 0.019 mg/kg

GeoSyntec Consultants

VINYL CHLORIDE IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-27
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



Legend

Total Petroleum Hydrocarbons (mg/Kg)

- 🟡 10,000 - 100,000
- 🟢 1,000 - 10,000
- 🔵 100 - 1,000
- ○ <100

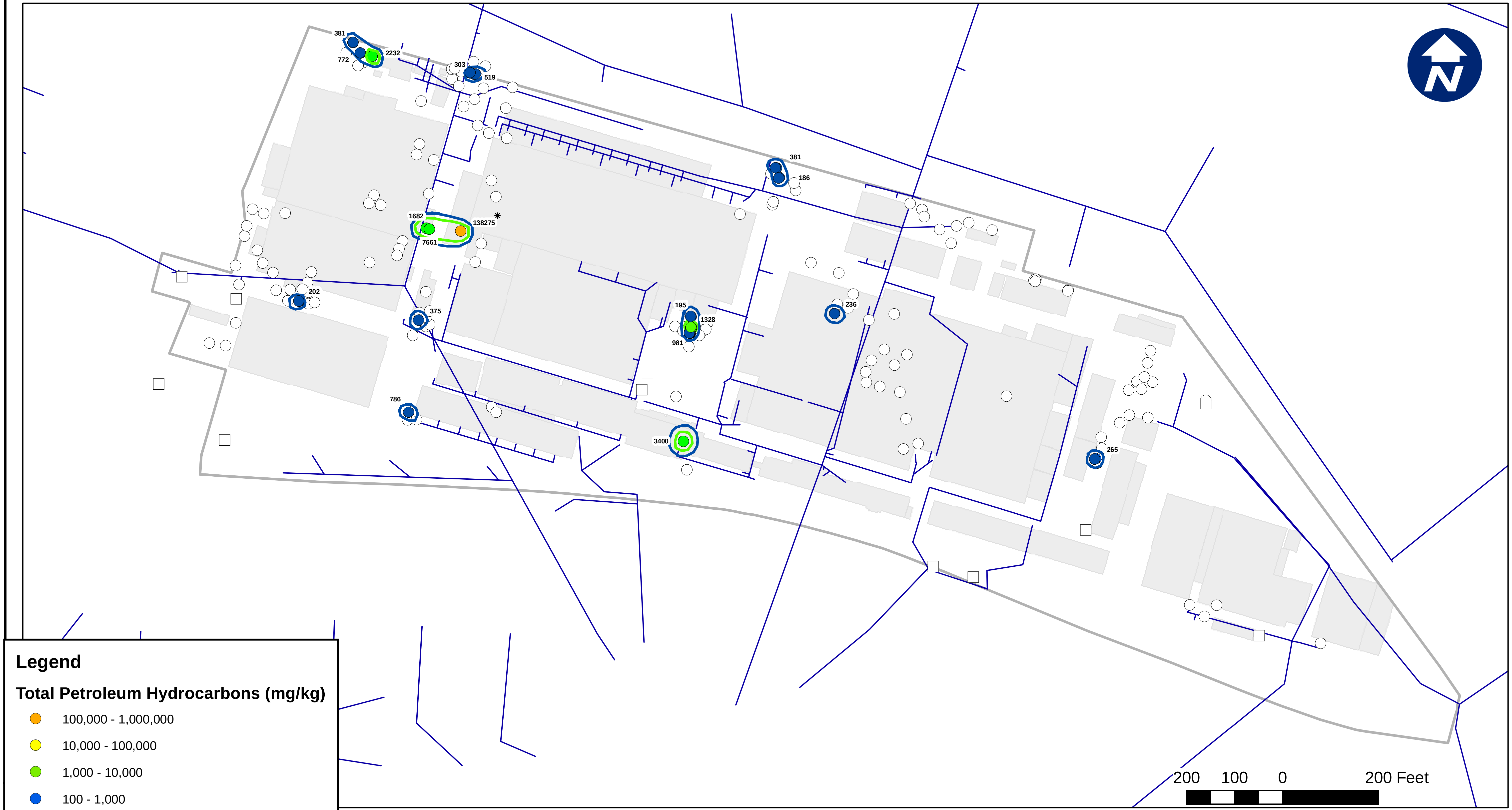
Concentration Isopleths

- — 500
- — 100

GEOSYNTEC CONSULTANTS

TOTAL PETROLEUM HYDROCARBONS IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO. 7S-28
PROJECT NO. SC0307
DATE: DECEMBER 2005



Legend

Total Petroleum Hydrocarbons (mg/kg)

- 🟠 100,000 - 1,000,000
- 🟡 10,000 - 100,000
- 🟢 1,000 - 10,000
- 🔵 100 - 1,000
- ○ <100

Concentration Isopleths

- 1000
- 100

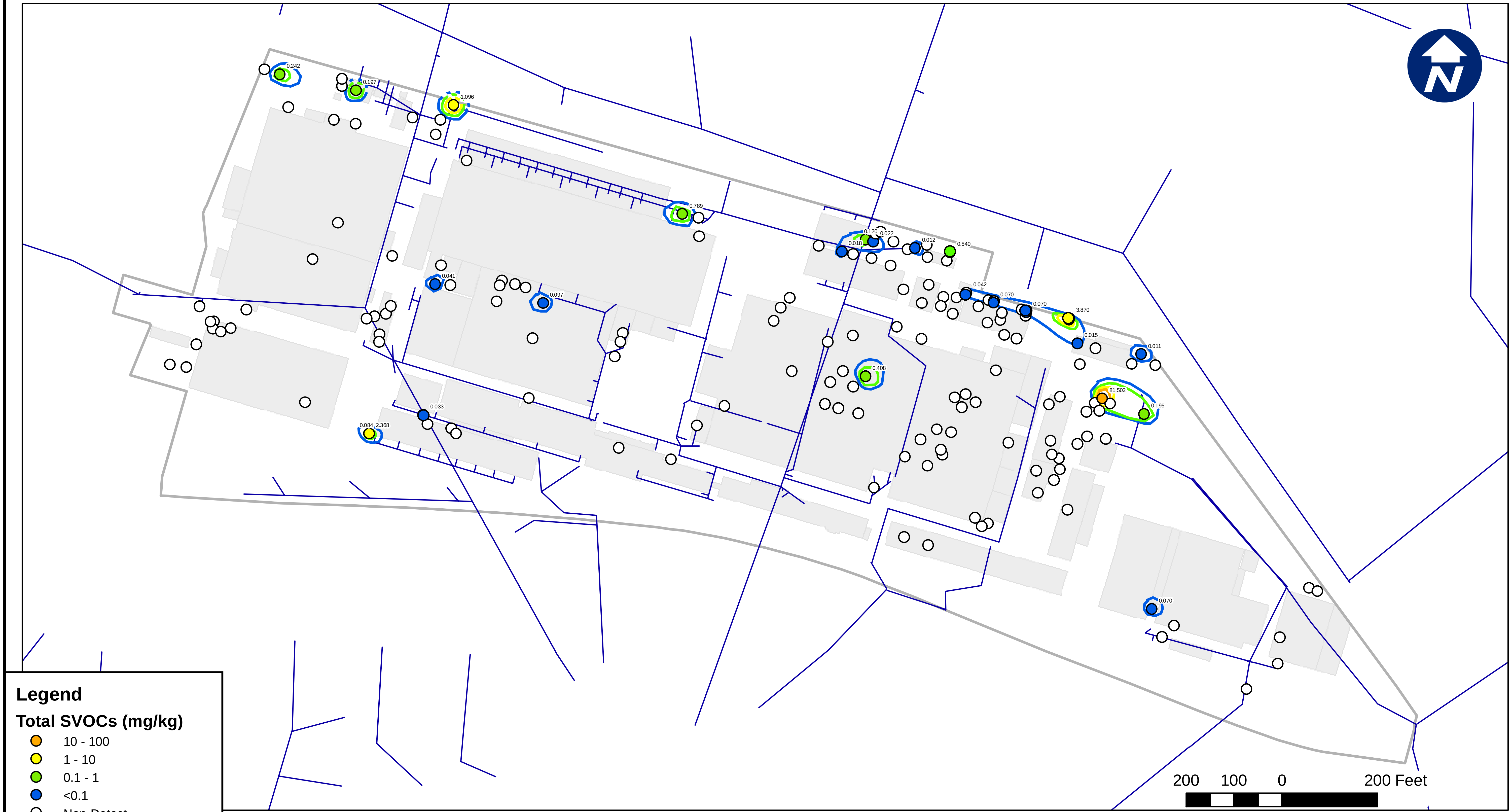
✱ LNAPL Analysis
○ Data Collected June-August 2003 - Haley & Aldrich
☐ Data Collected July-October 2005 - GeoSyntec Consultants

GeoSyntec Consultants

TOTAL PETROLEUM HYDROCARBONS IN SOIL (5 -10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-29
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

TPH5-10



Legend

Total SVOCs (mg/kg)

- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 <0.1
- ○ Non-Detect

Concentration Isopleths

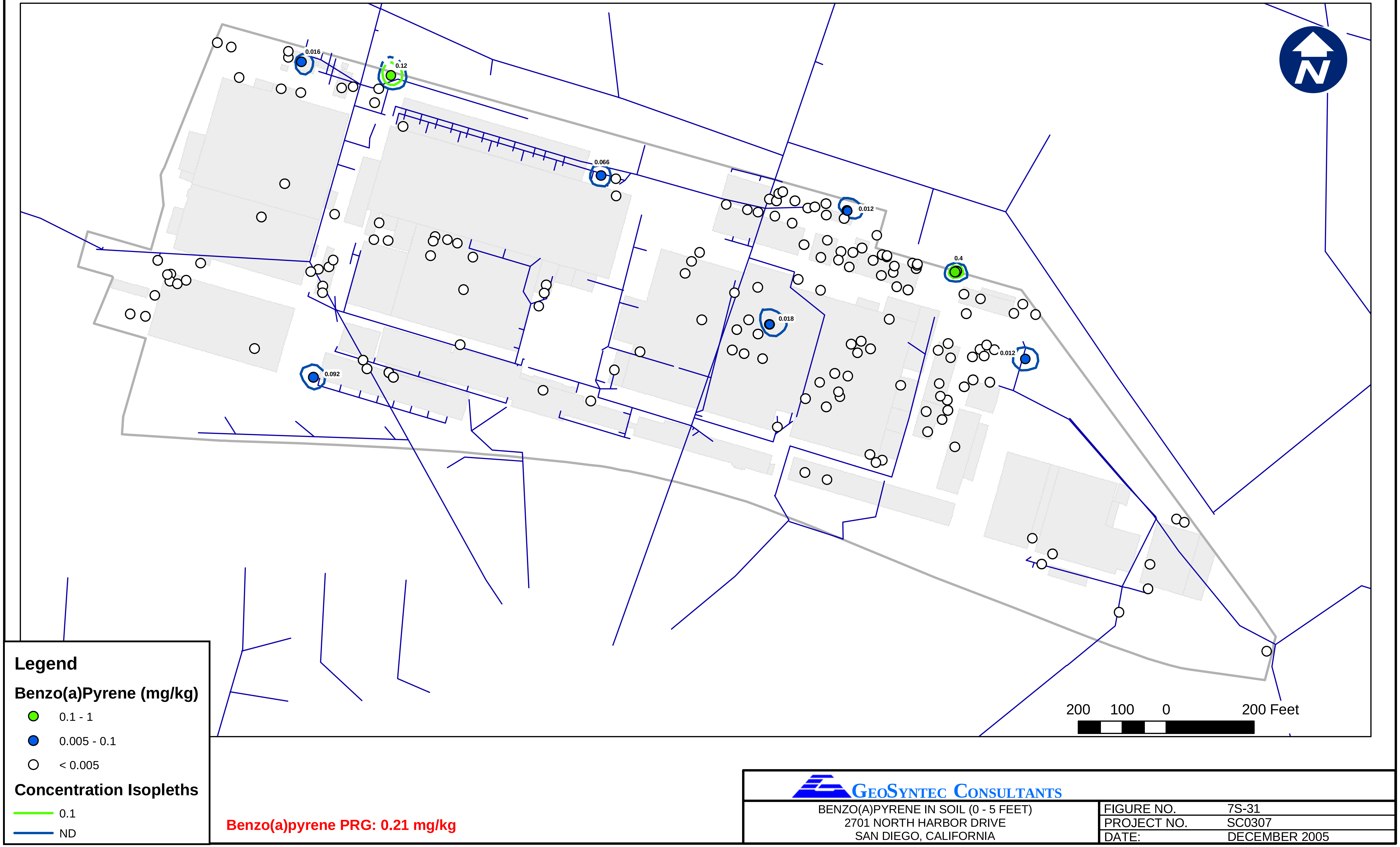
- — 10
- — 1
- — 0.1
- — ND

GeoSyntec Consultants

TOTAL SVOCs IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-30
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

PCE0-5.MXD



Legend

Benzo(a)Pyrene (mg/kg)

- 🟩 0.1 - 1
- ● 0.005 - 0.1
- ○ < 0.005

Concentration Isopleths

- 0.1
- ND

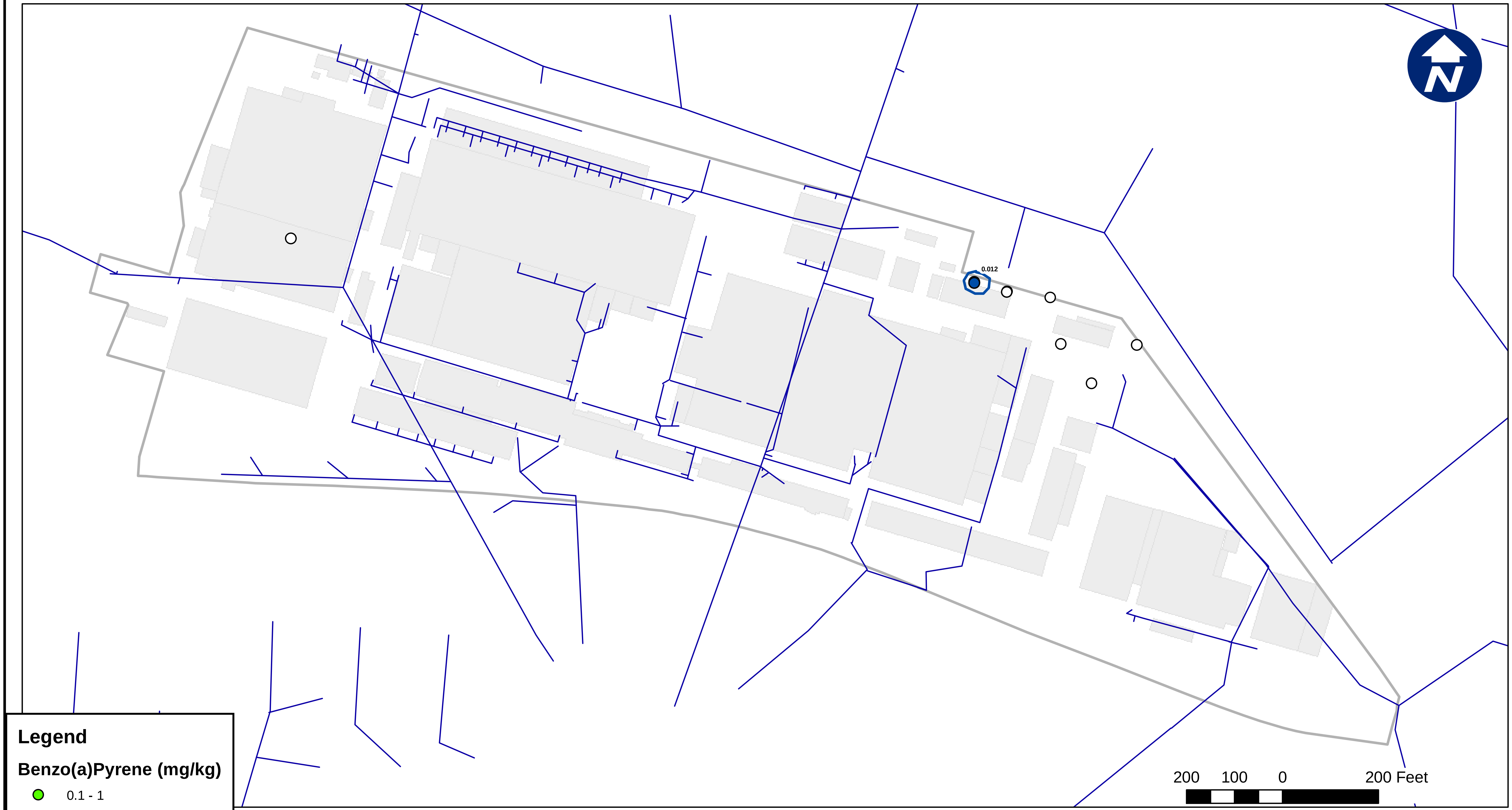
Benzo(a)pyrene PRG: 0.21 mg/kg

GeoSyntec Consultants

BENZO(A)PYRENE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-31
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

BAP0-5.MXD



Legend

Benzo(a)Pyrene (mg/kg)

- 🟢 0.1 - 1
- ● 0.005 - 0.1
- ○ < 0.005

Concentration Isopleths

- ▬ ND

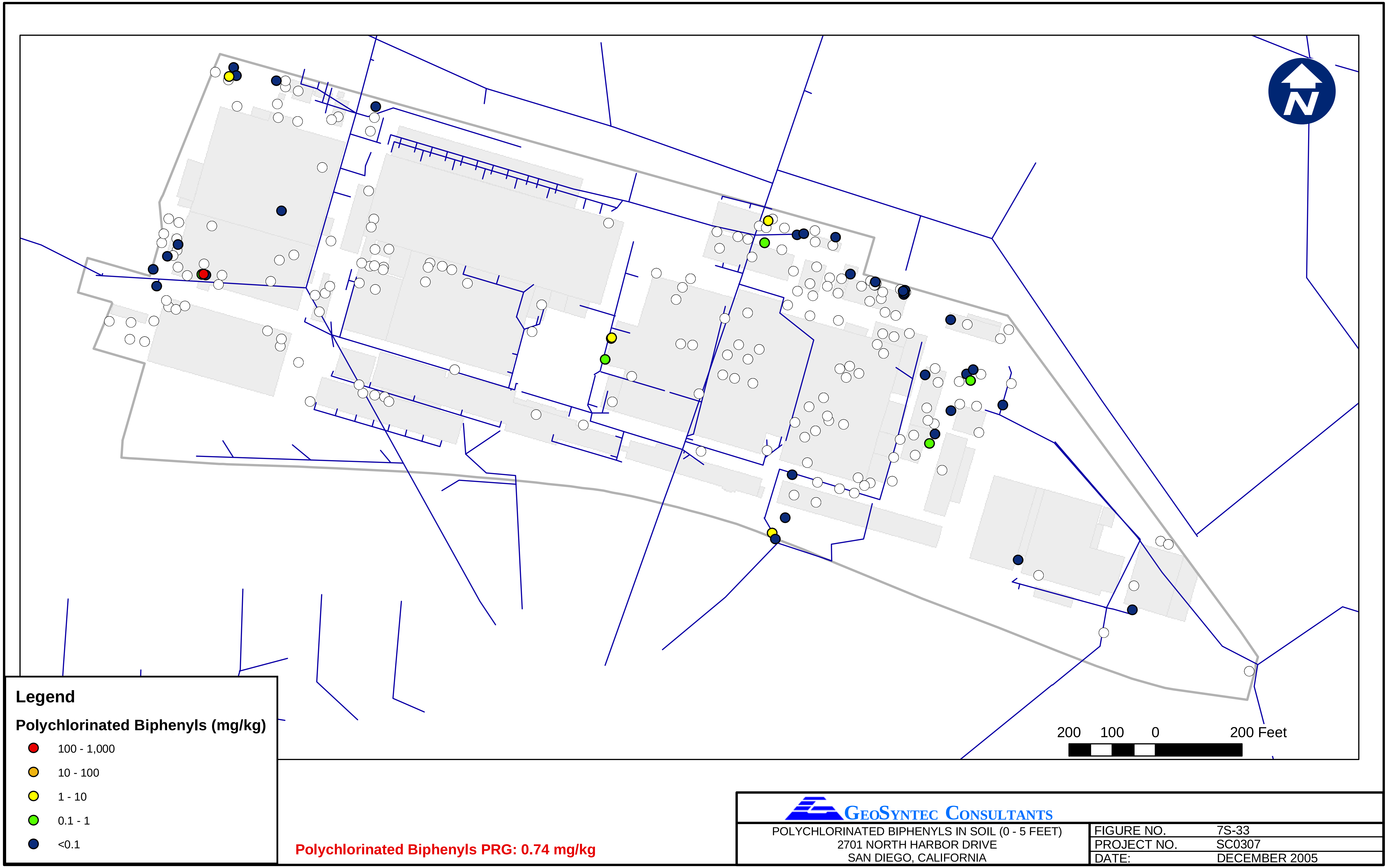
Benzo(a)pyrene PRG: 0.21 mg/kg

GEOSYNTEC CONSULTANTS

BENZO(A)PYRENE IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-32
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

BAP5-10.MXD



Legend

Polychlorinated Biphenyls (mg/kg)

- 🔴 100 - 1,000
- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 <0.1

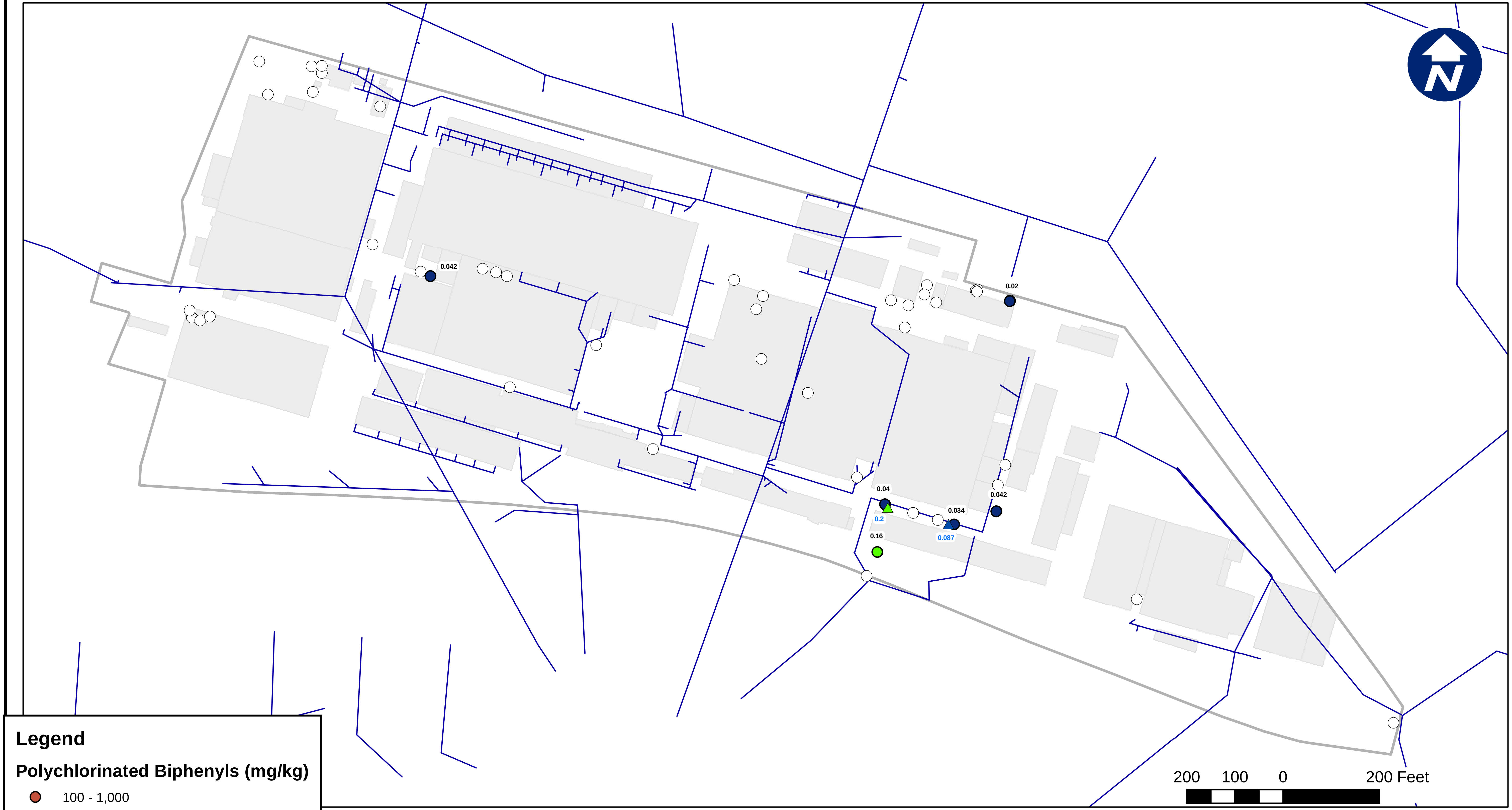
Polychlorinated Biphenyls PRG: 0.74 mg/kg

GeoSyntec Consultants

POLYCHLORINATED BIPHENYLS IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-33
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

PCBS0-5



Legend

Polychlorinated Biphenyls (mg/kg)

- ● 100 - 1,000
- ● 10 - 100
- ● 1 - 10
- ● 0.1 - 1
- ● <0.1

△ Data Collected August 2002 - GeoSyntec Consultants

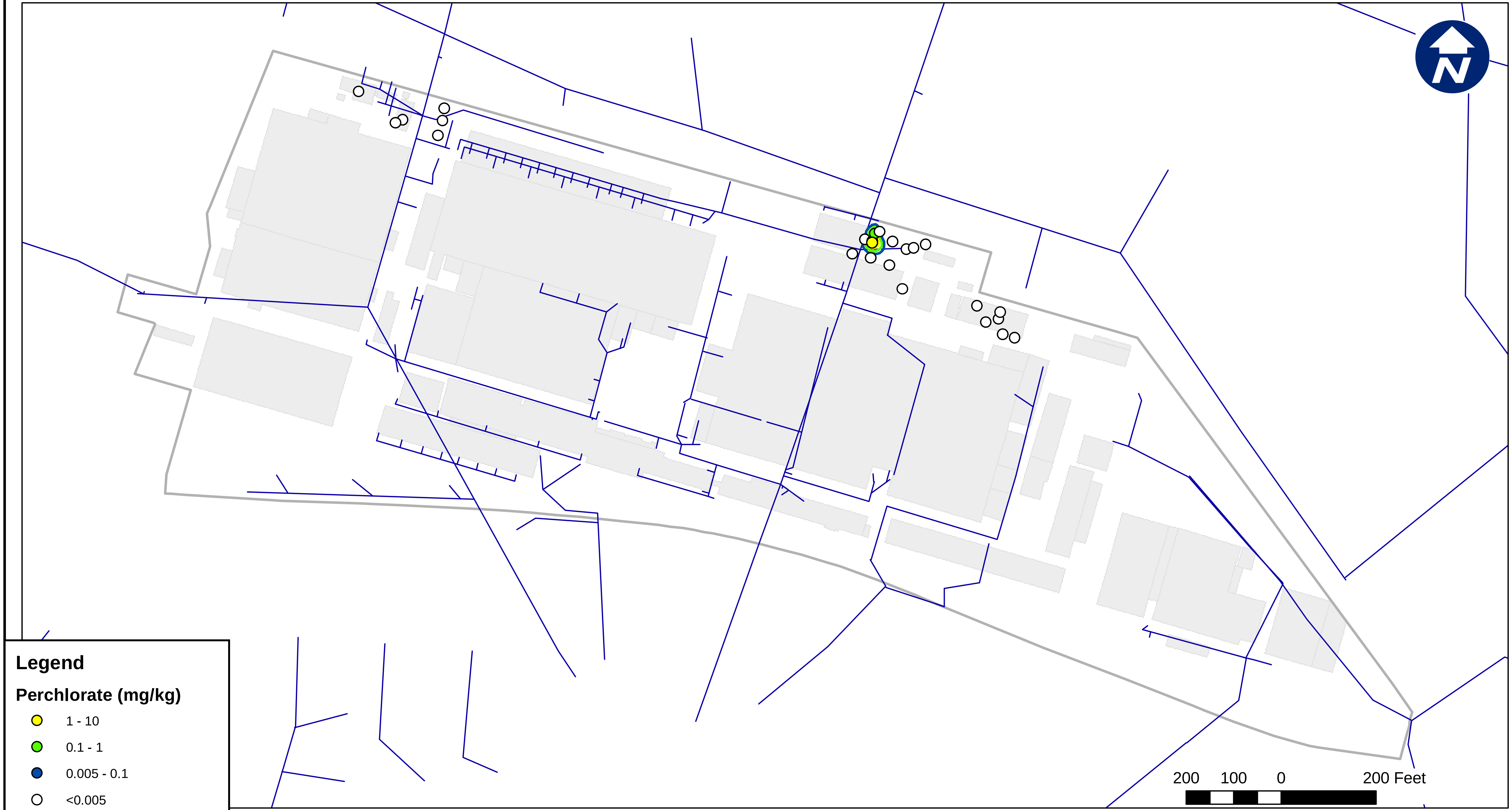
Polychlorinated Biphenyls PRG: 0.74 mg/kg

PCBS5-10

GEOSYNTEC CONSULTANTS

POLYCHLORINATED BIPHENYLS IN SOIL (5 - 10 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-34
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



Legend

Perchlorate (mg/kg)

- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 0.005 - 0.1
- ○ <0.005

Concentration Isopleths

- — 1
- — 0.1
- — ND

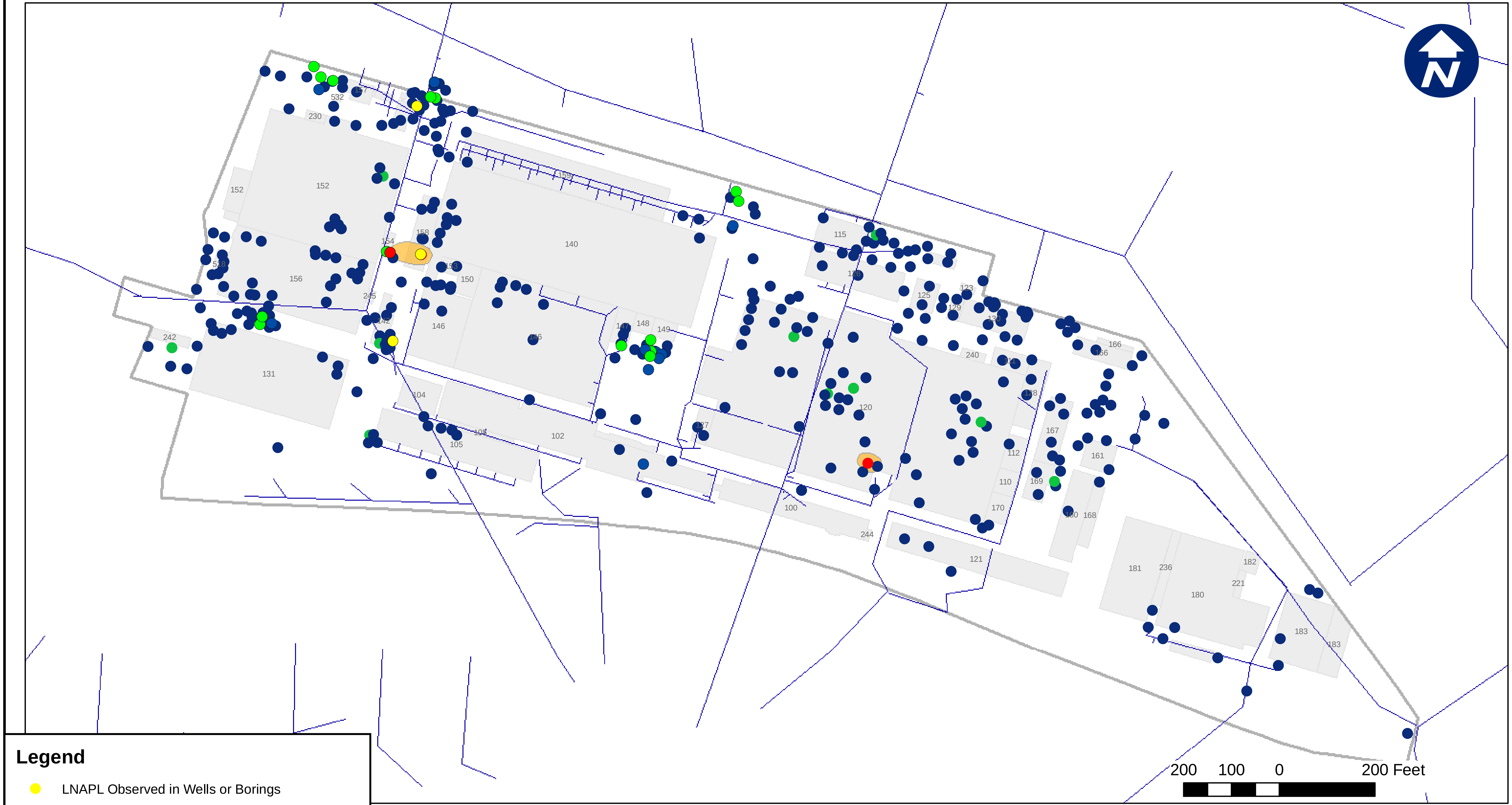
PERCHLORATE 0-5

Perchlorate PRG: 100 mg/kg

GEOSYNTEC CONSULTANTS

PERCHLORATE IN SOIL (0 - 5 FEET)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-35
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



Legend

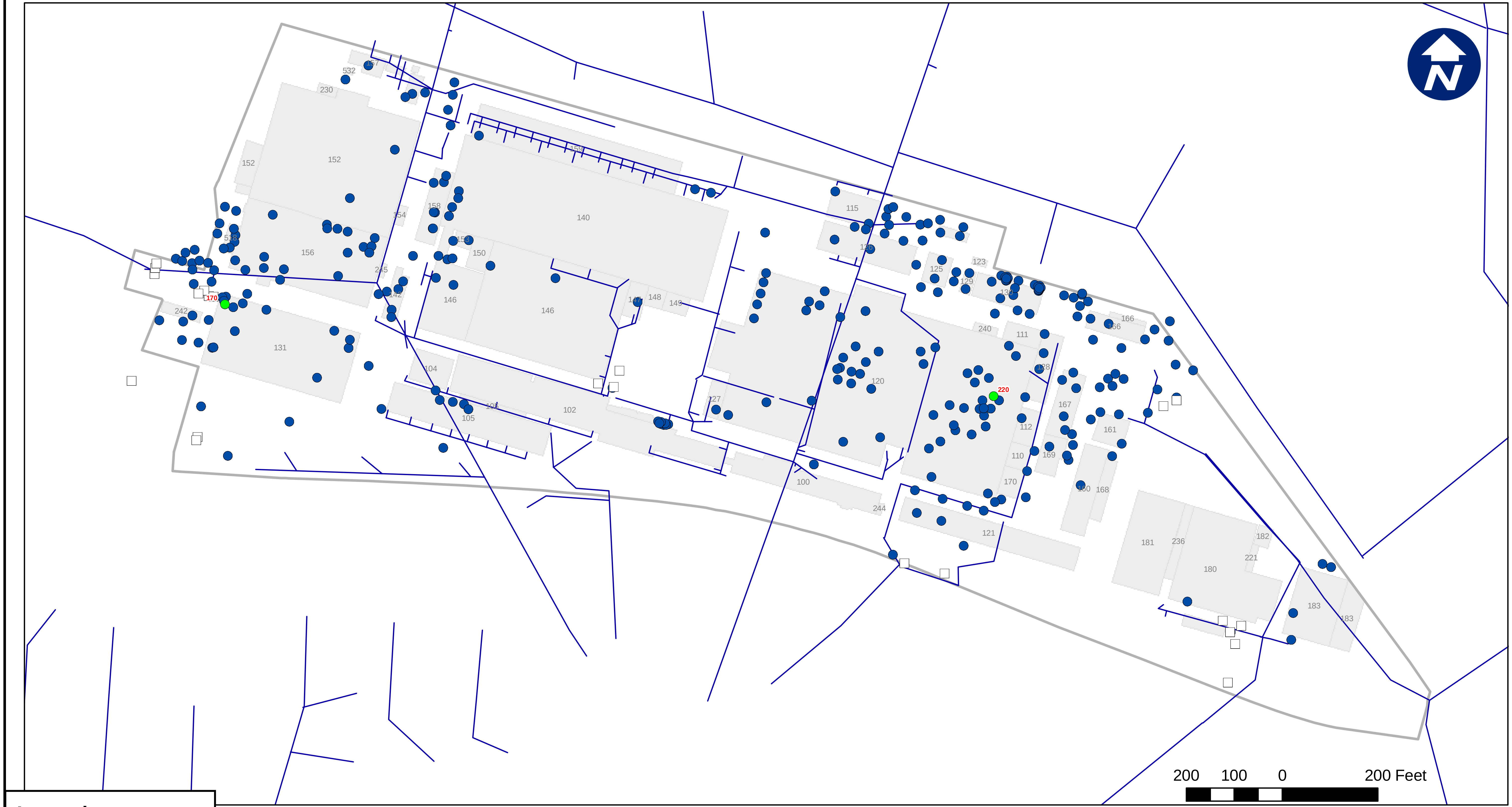
- ● LNAPL Observed in Wells or Borings
- ● Potential Mobile LNAPL (TPH>5,400 mg/kg)
- ● Theoretical Presence of LNAPL (TPH>100 mg/kg)
- ● TPH<100 mg/kg
- 🟧 Potential LNAPL in Soil

GeoSyntec Consultants

POTENTIAL LNAPL IN SOIL
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-36
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

LNAPL(soil)



Legend

● >120

● <120

🟧 Potential DNAPL in Soil

Tetrachloroethene 120
● Trichloroethene 390
Vinyl Chloride 670
cis-1,2-Dichloroethene 970

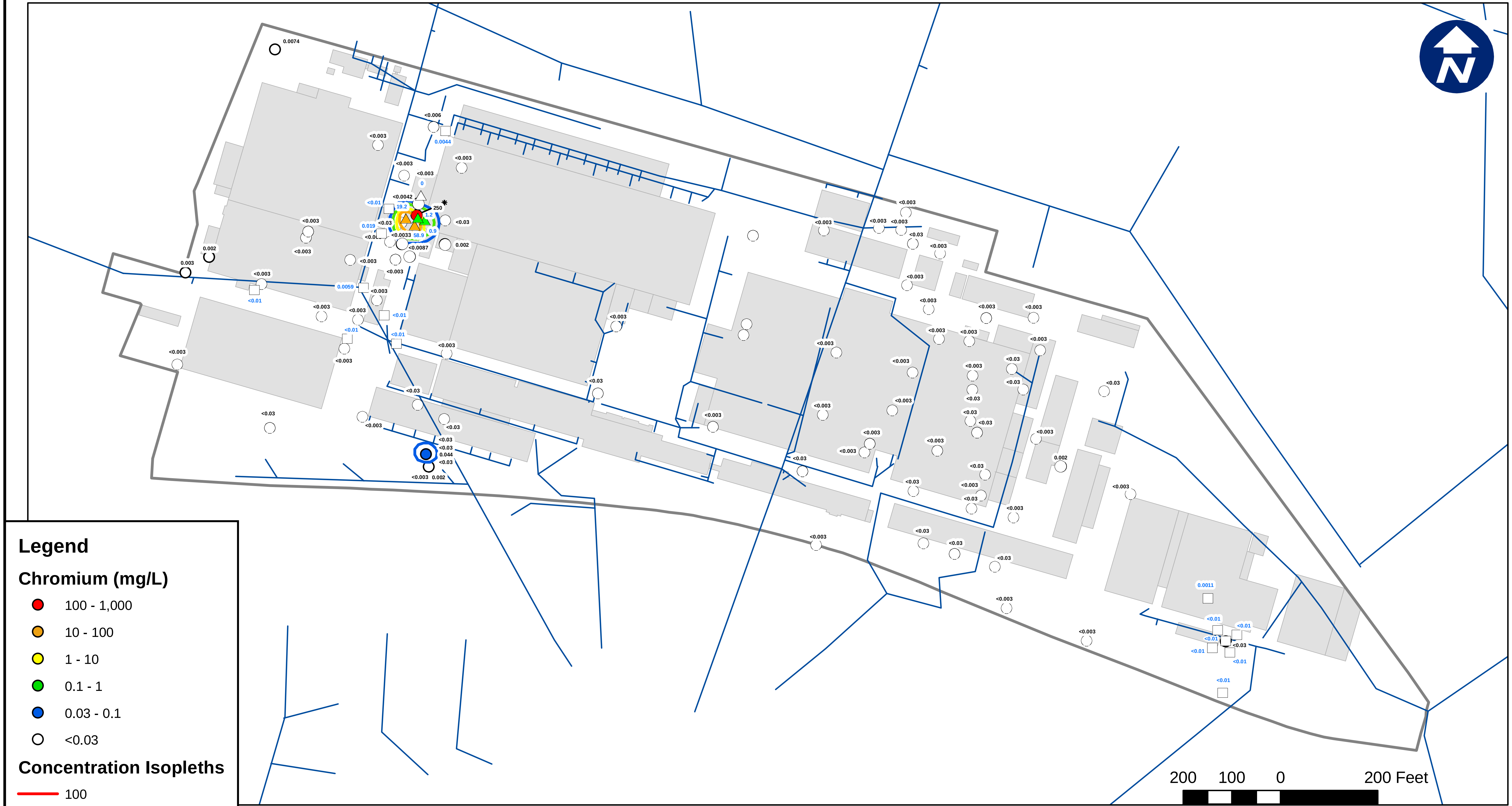
Concentration above the Apparent DNAPL Concentration in Soil (mg/Kg)

GEOSYNTEC CONSULTANTS

POTENTIAL DNAPL IN SOIL
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7S-37
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

DNAPL(soil)



Legend

Chromium (mg/L)

- 🔴 100 - 1,000
- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 0.03 - 0.1
- ○ <0.03

Concentration Isopleths

- — 100
- — 10
- — 1
- — 0.1
- — ND

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs (otherwise grab samples generally collected from 9' bgs)

○ Data Collected July-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
☐ Data Collected July - October 2005 - GeoSyntec Consultants
✱ Data point suspect - Sample was unfiltered and Hexavalent Chromium is 3X greater than Total Chromium

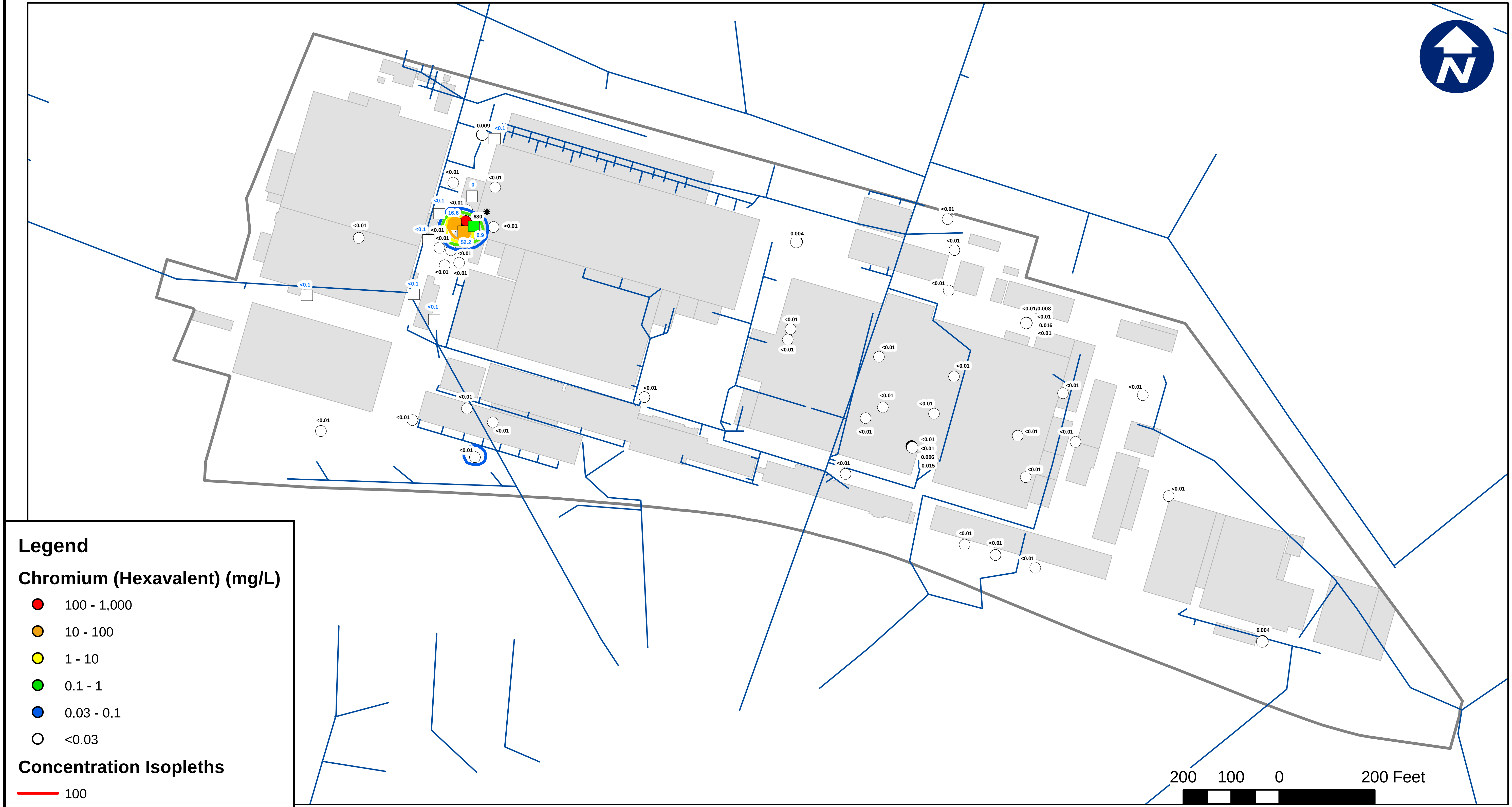
Chromium SWPC: 0.002 mg/L

GEOSYNTEC CONSULTANTS

TOTAL CHROMIUM IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-1
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Total Chromium - GW.mxd



Legend

Chromium (Hexavalent) (mg/L)

- 🔴 100 - 1,000
- 🟠 10 - 100
- 🟡 1 - 10
- 🟢 0.1 - 1
- 🔵 0.03 - 0.1
- ○ <0.03

Concentration Isopleths

- 100
- 10
- 1
- 0.1
- 0.03

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs
	(otherwise grab samples generally collected from 9' bgs)

○ Data Collected July-August 2003 - Haley & Aldrich

☐ Data Collected July-October 2005 - GeoSyntec Consultants

✱ Data point suspect - Sample was unfiltered and Hexavalent Chromium is 3X larger than Total Chromium

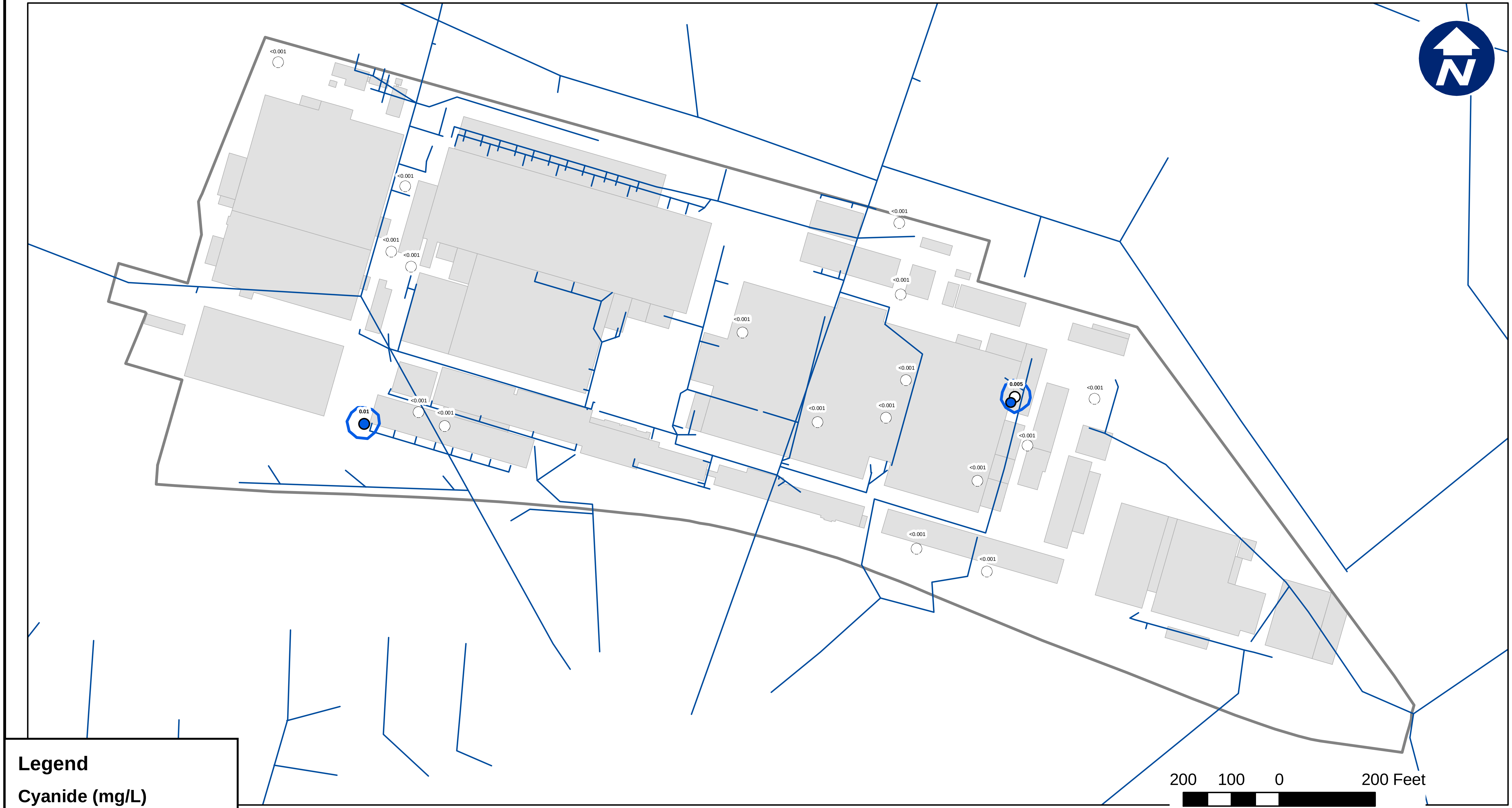
Chromium (Hexavalent) SWPC: 0.050 mg/L

GEOSYNTEC CONSULTANTS

CHROMIUM (HEXAVALENT) IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-2
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Total Hex Chromium- gw.mxd



Legend

Cyanide (mg/L)

● 0.001 - 0.1

○ <0.001

Concentration Isopleths

— ND

<1 / 0.5 Duplicate Result

4000
<25 Depth Discrete Samples e.g. 9' bgs,
15' bgs
(otherwise grab samples generally
collected from 9' bgs)

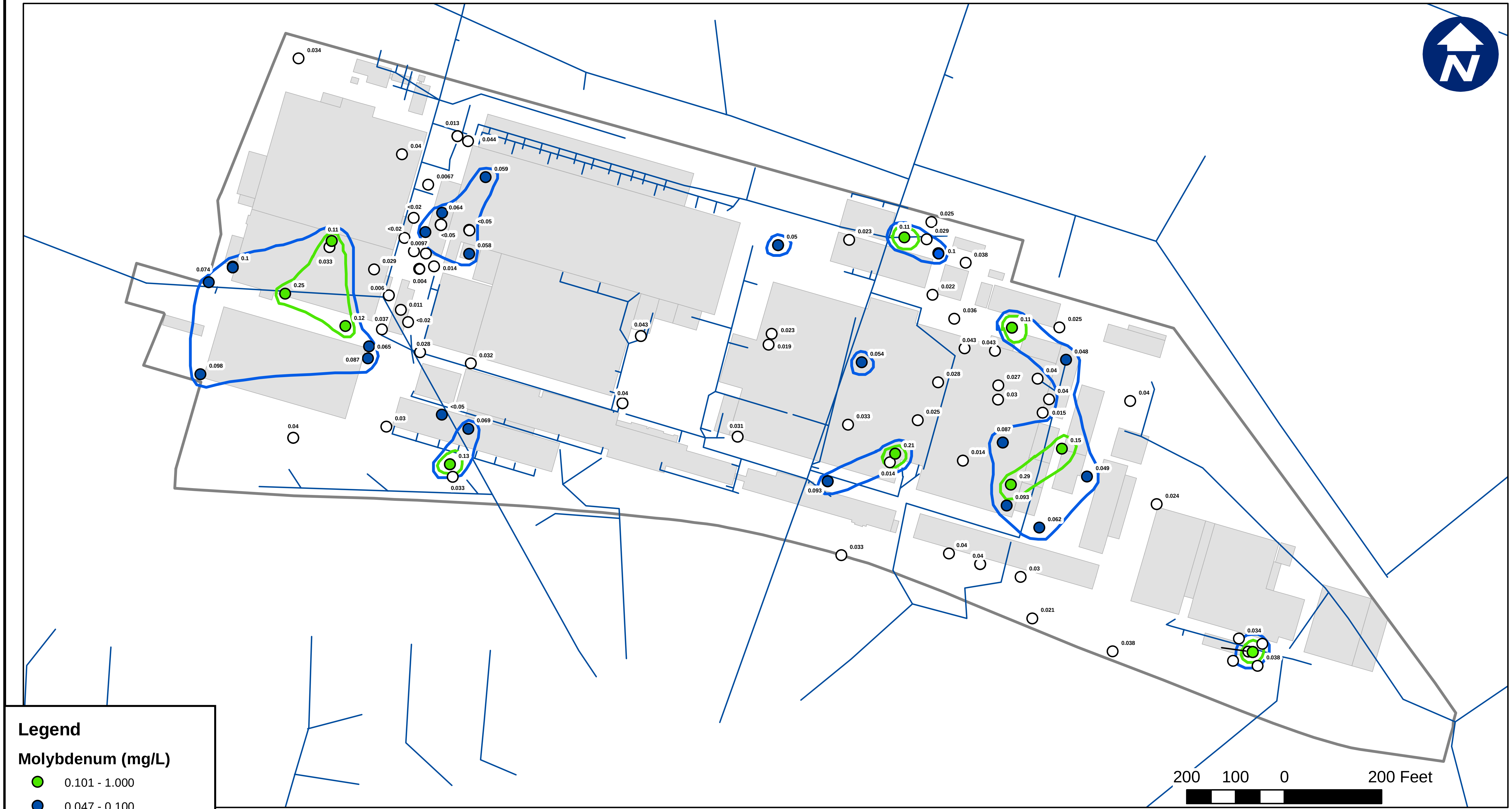
Cyanide SWPC: 0.001 mg/L

GeoSyntec Consultants

CYANIDE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-3
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Total Cyanide.mxd



Legend

Molybdenum (mg/L)

- 🟢 0.101 - 1.000
- 🔵 0.047 - 0.100
- ○ 0.004 - 0.046

Concentration Isopleths

- — 0.1
- — 0.046

<1 / 0.5 Duplicate Result

4000
<25 Depth Discrete Samples e.g. 9' bgs,
15' bgs
(otherwise grab samples generally
collected from 9' bgs)

○ Data Collected June-August 2003 - Haley&Aldrich
☐ Data Collected July-October 2005 - GeoSyntec Consultants

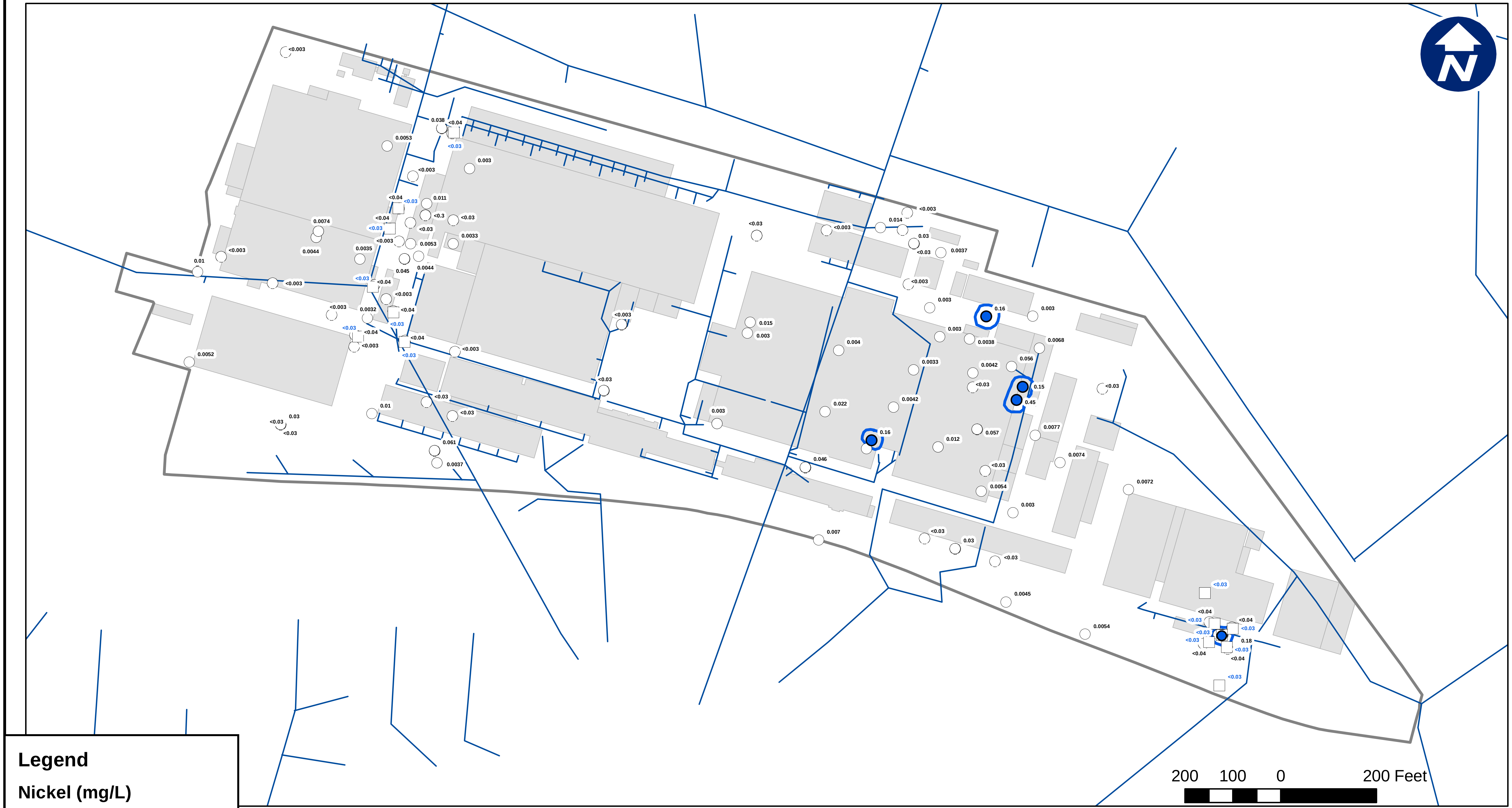
Molybdenum SWPC: Not Established

GEOSYNTEC CONSULTANTS

MOLYBDENUM IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-4
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Molybdenum GW.mxd



Legend

Nickel (mg/L)

- ● 0.1 - 1
- ○ <0.1

Concentration Isopleths

- ― 0.1

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs
	(otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley&Aldrich

☐ Data Collected July-October 2005 - GeoSyntec Consultants

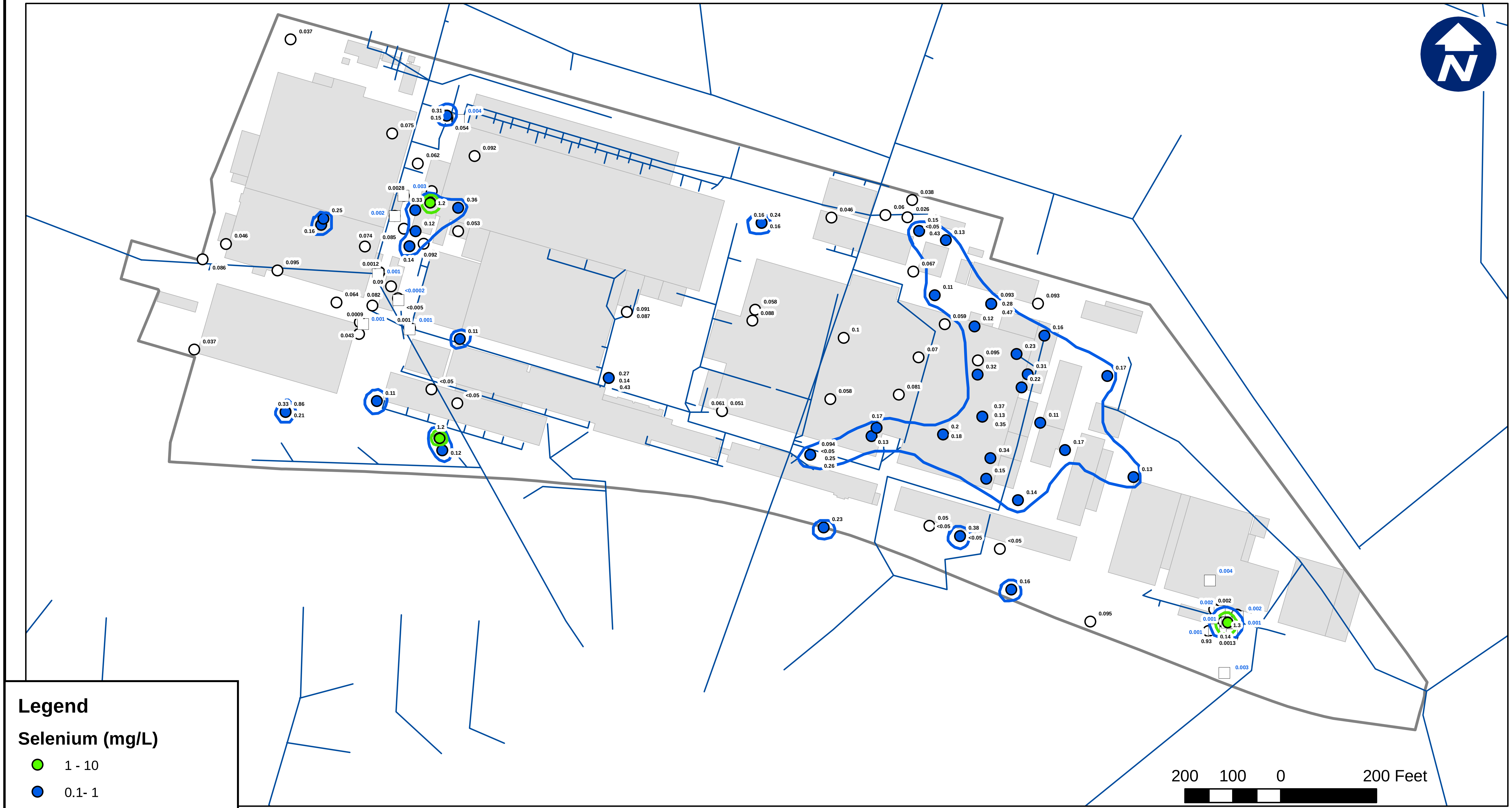
Nickel SWPC: 8.2 mg/L

GEOSYNTEC CONSULTANTS

NICKEL IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-5
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Nickel GW.mxd



Legend

Selenium (mg/L)

- 🟢 1 - 10
- 🔵 0.1- 1
- ○ <0.1

Concentration Isopleths

- 1
- 0.1

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs (otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley&Aldrich

☐ Data Collected July-October 2005 - GeoSyntec Consultants

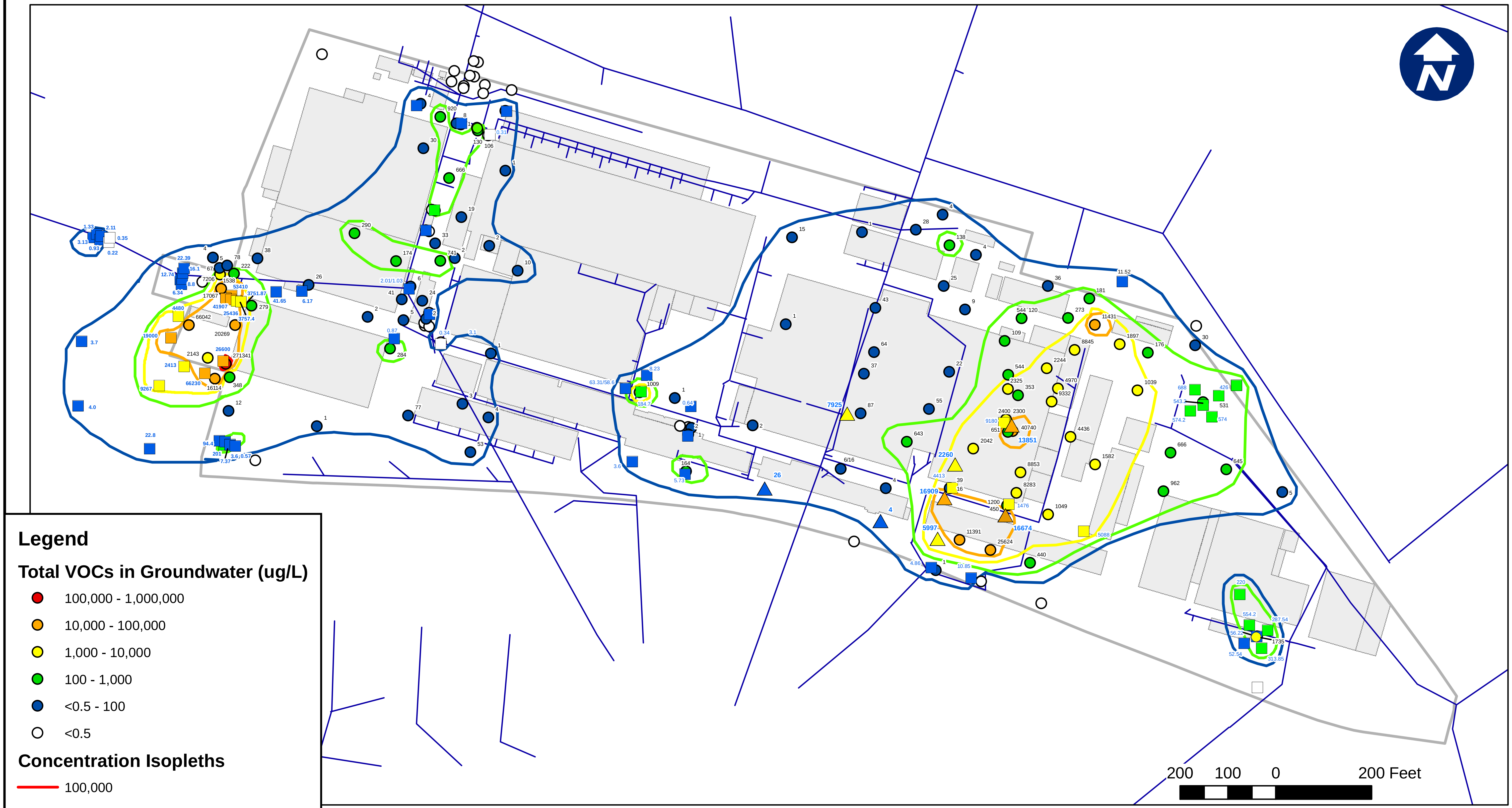
Selenium SWPC: 0.071 mg/L

GEOSYNTEC CONSULTANTS

SELENIUM IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-6
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Selenium GW.mxd



Legend

Total VOCs in Groundwater (ug/L)

🔴 100,000 - 1,000,000

🟠 10,000 - 100,000

🟡 1,000 - 10,000

🟢 100 - 1,000

🔵 <0.5 - 100

○ <0.5

Concentration Isopleths

— 100,000

— 10,000

— 1,000

— 100

— ND

○ Data Collected June/August 2003 - Haley & Aldrich

△ Data Collected August 2002 - GeoSyntec Consultants

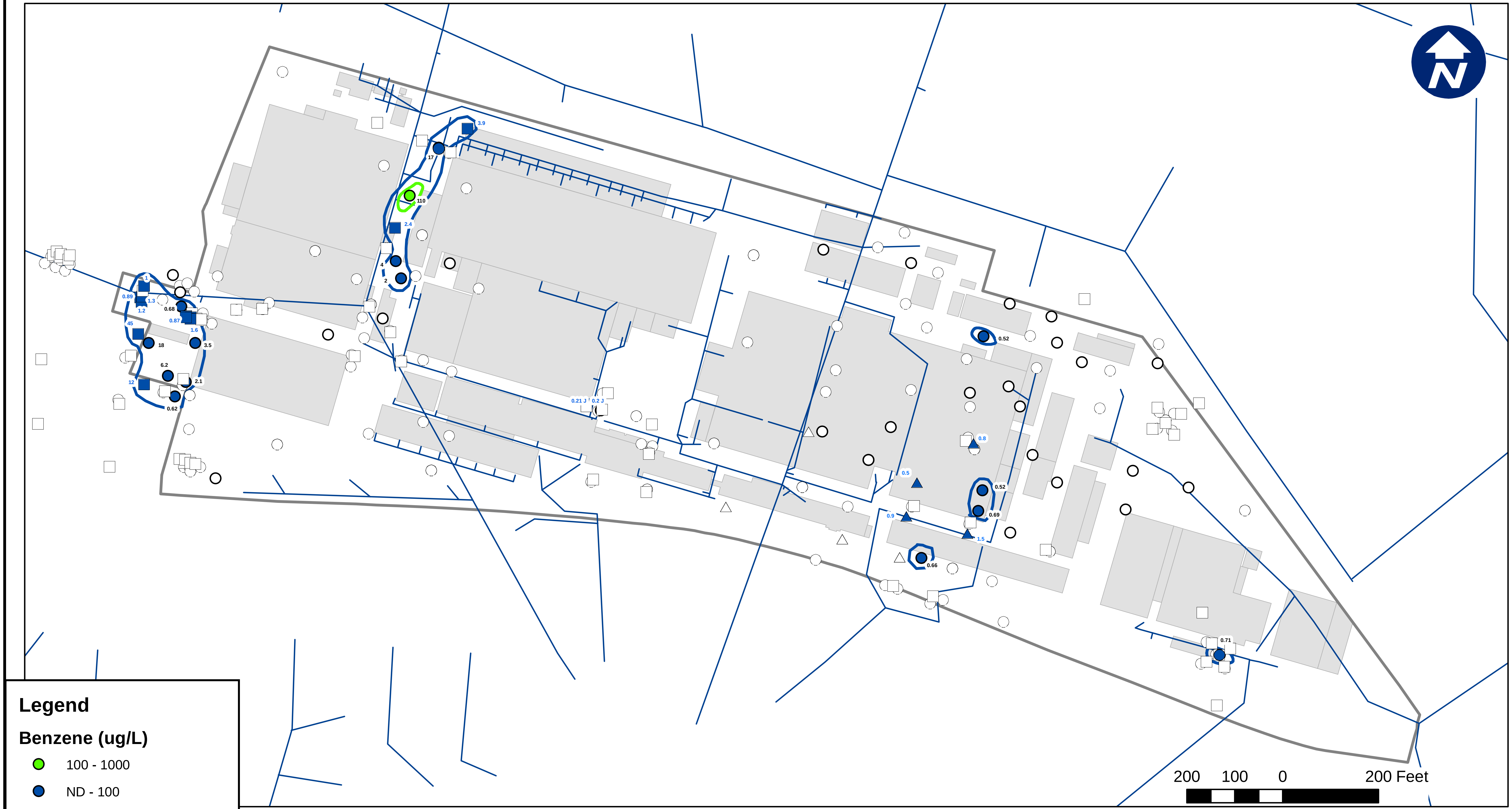
☐ Data Collected July-October 2005 - GeoSyntec Consultants

GeoSyntec Consultants

TOTAL VOCs IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-7
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:\GIS\TDY\SSPA\SSPAGIS\Total VOCsGW 2.mxd



Legend

Benzene (ug/L)

- 🟢 100 - 1000
- ● ND - 100
- ○ ND

Concentration Isopleths

- 100
- ND

<1 / 0.5 Duplicate Result

4000
<25 Depth Discrete Samples e.g. 9' bgs,
15' bgs
(otherwise grab samples generally
collected from 9' bgs)

○ Data Collected July-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
☐ Data Collected July-October 2005 - GeoSyntec Consultants

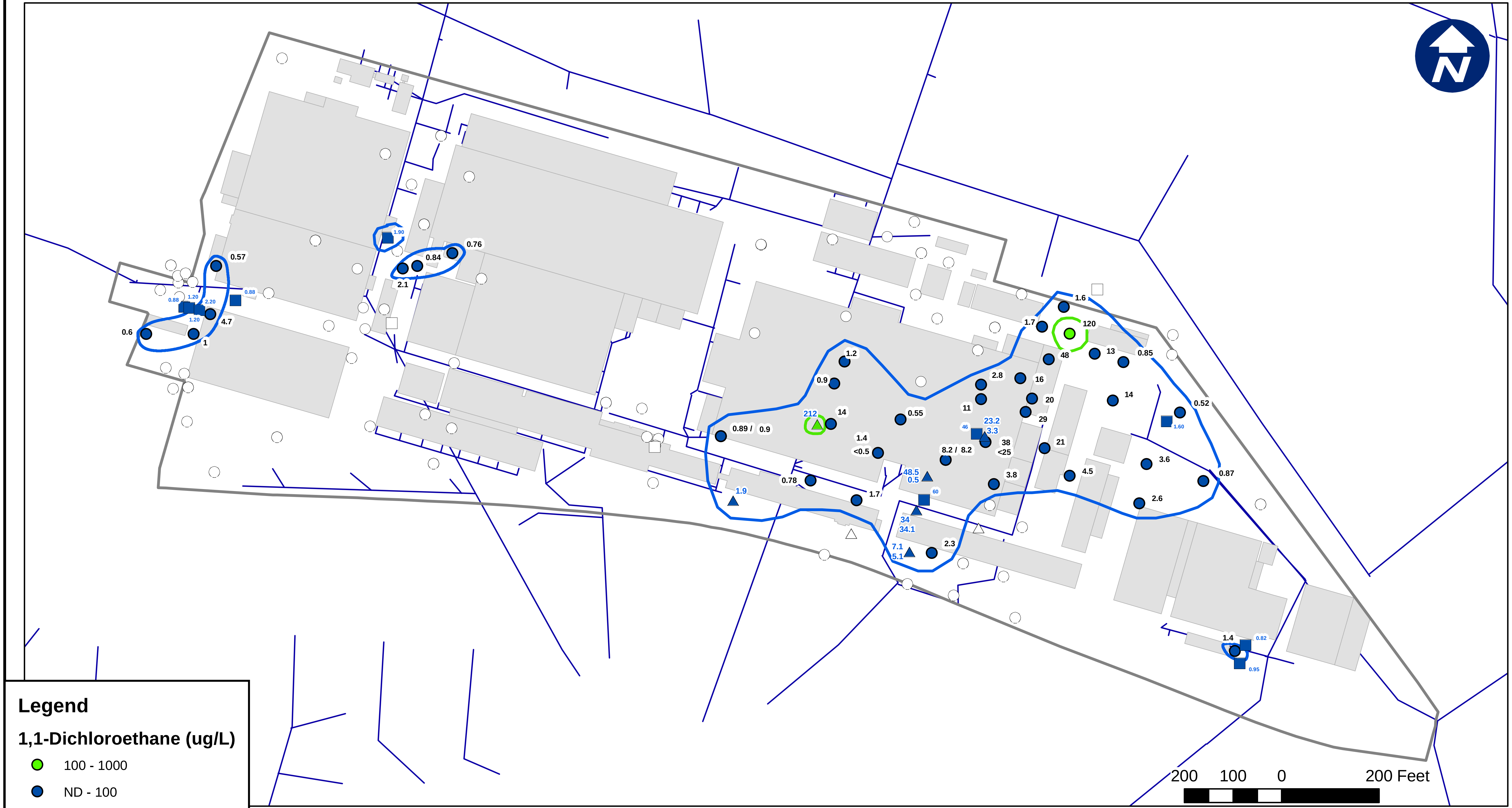
Benzene SWPC: 400 ug/L

GEOSYNTEC CONSULTANTS

BENZENE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-8
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

x:/GIS/SSPA/GIS/12DCA.mxd



Legend

1,1-Dichloroethane (ug/L)

- 🟢 100 - 1000
- ● ND - 100
- ○ ND

Concentration Isopleths

- 🟩 100
- 🟦 ND

<1 / 0.5 Duplicate Result

4000
<25 Depth Discrete Samples e.g. 9' bgs, 15' bgs

(otherwise grab samples generally collected from 9' bgs)

○ Data collected June - August 2003 - Haley & Aldrich

△ Data collected August 2002 - GeoSyntec Consultants

☐ Data collected June - August 2005 - GeoSyntec Consultants

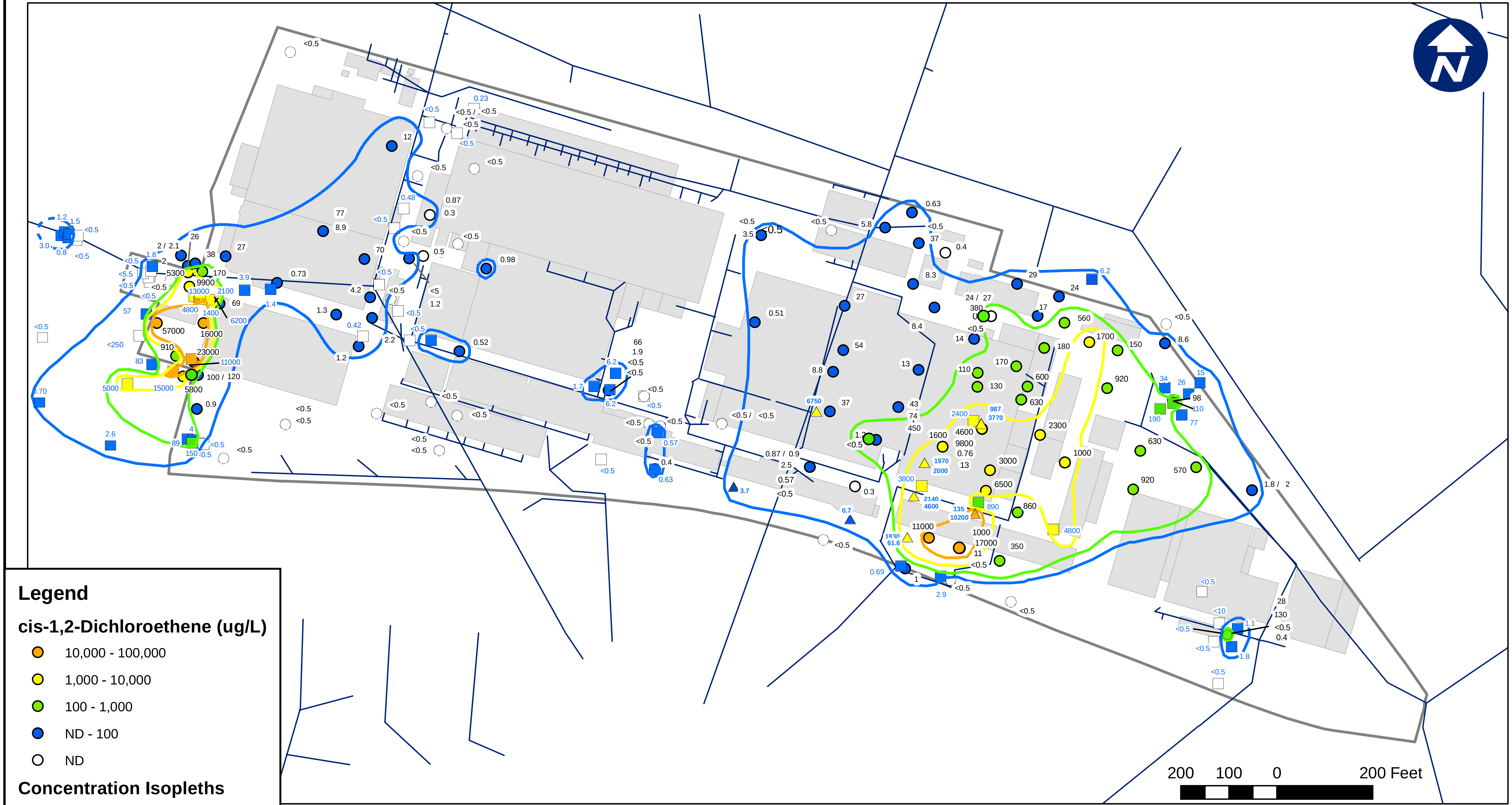
1,1-Dichloroethane SWPC: Not Established

GEOSYNTEC CONSULTANTS

1,1-DICHLOROETHANE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-9
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

11DCA2



Legend

cis-1,2-Dichloroethene (ug/L)

- 🟠 10,000 - 100,000
- 🟡 1,000 - 10,000
- 🟢 100 - 1,000
- 🔵 ND - 100
- ○ ND

Concentration Isopleths

- — 10,000
- — 1,000
- — 100
- — ND

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs
	(otherwise grab samples generally collected from 9' bgs)

○ Data collected June-August 2003 - Haley & Aldrich

△ Data Collected August 2002 - GeoSyntec Consultants

□ Data Collected July-October 2005 - GeoSyntec Consultants

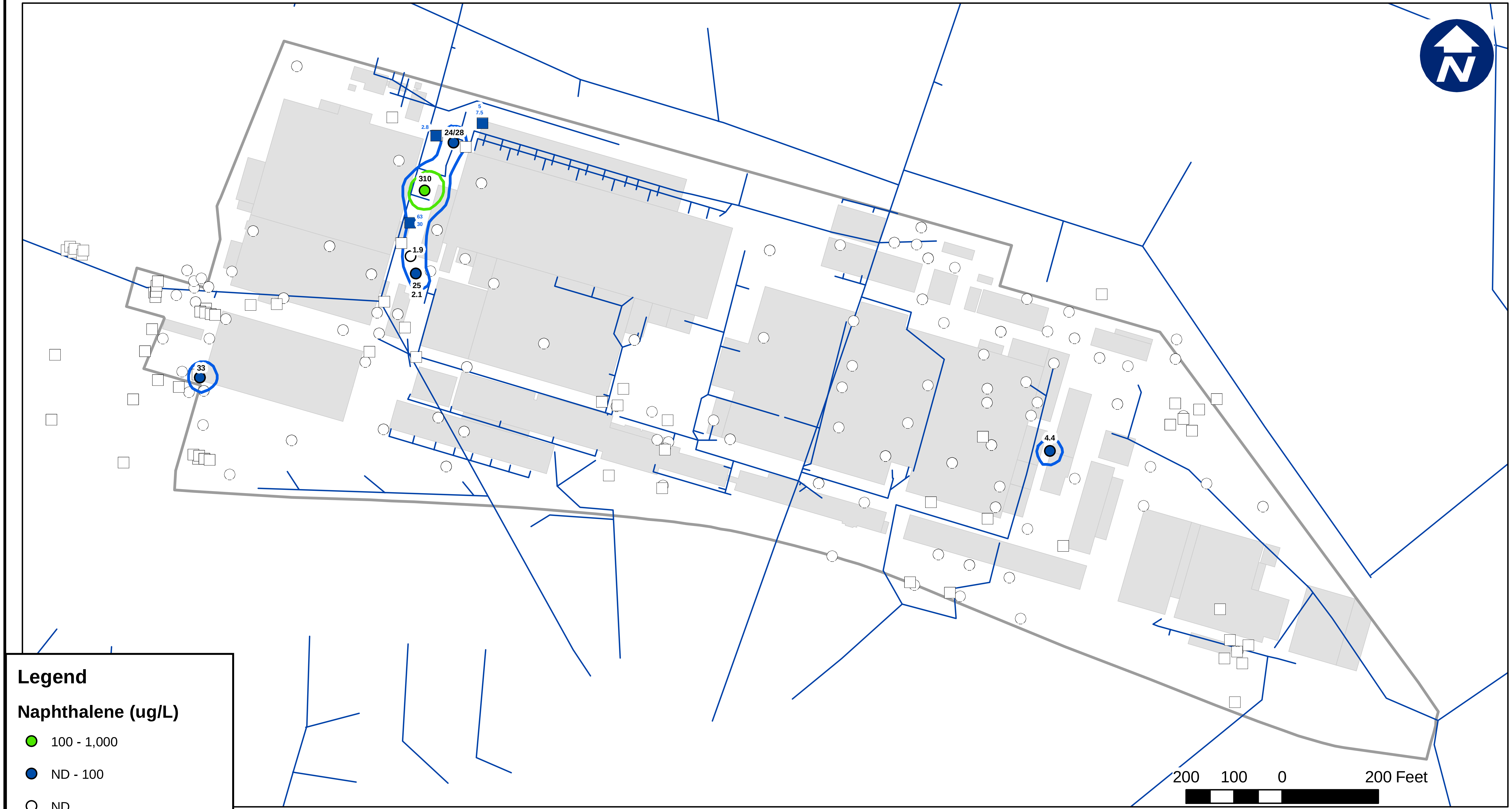
cis-1,2-Dichloroethene SWPC: 224,000 ug/L

GEOSYNTEC CONSULTANTS

CIS-1,2-DICHLOROETHENE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-10
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

C12dce2



Legend

Naphthalene (ug/L)

● 100 - 1,000

● ND - 100

○ ND

Concentration Isopleths

— 100

— ND

<1 / 0.5 Duplicate Result

4000 Depth Discrete Samples e.g. 9' bgs,
<25 15' bgs

(otherwise grab samples generally collected from 9' bgs)

○ Data Collected June/August 2003 - Haley & Aldrich

☐ Data Collected July/August 2005 - GeoSyntec Consultants

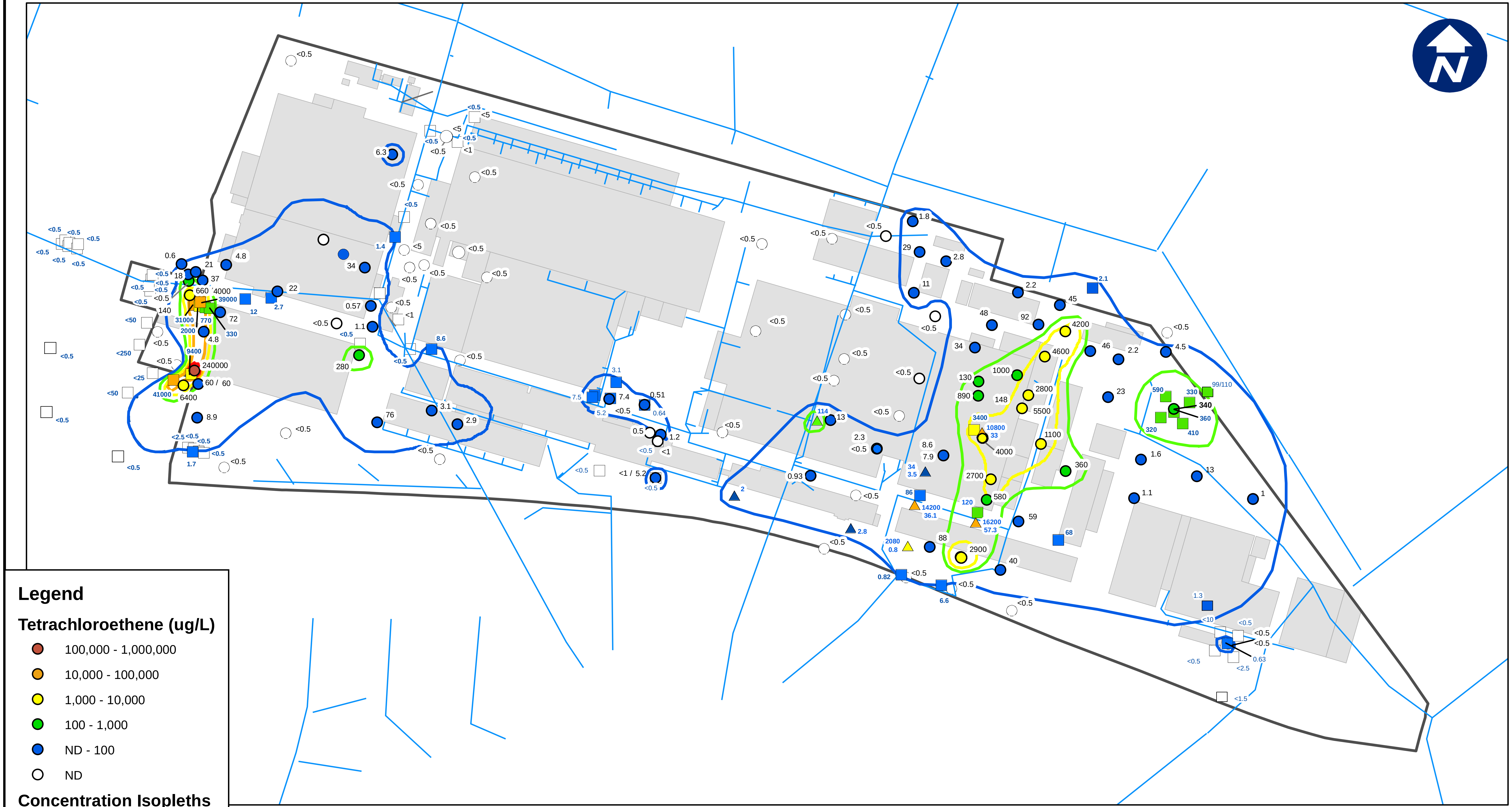
Naphthalene SWPC: 2,350 ug/L

GEOSYNTEC CONSULTANTS

NAPHTHALENE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-11
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Naphthalene_gw2



Legend

Tetrachloroethene (ug/L)

- 🔴 100,000 - 1,000,000
- 🟠 10,000 - 100,000
- 🟡 1,000 - 10,000
- 🟢 100 - 1,000
- 🔵 ND - 100
- ○ ND

Concentration Isopleths

- — 100,000
- — 10,000
- — 1,000
- — 100
- — ND

<1 / 0.5 Duplicate Result

4000
<25 Depth Discrete Samples e.g. 9' bgs,
15' bgs
(otherwise grab samples generally
collected from 9' bgs)

○ Data Collected June-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
□ Data Collected July-October 2005 - GeoSyntec Consultants

Tetrachloroethene SWPC: 450 ug/L

200 100 0 200 Feet

GEOSYNTEC CONSULTANTS

TETRACHLOROETHENE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-12
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:\GIS\TDY\SSPA\SSPAGIS\TETRACHLOROETHENE

Legend

1,1,1-Trichloroethane (ug/L)

- 🔴 100,000 - 1,000,000
- 🟠 10,000 - 100,000
- 🟡 1,000 - 10,000
- 🟢 100 - 1,000
- 🔵 ND - 100
- ○ ND

Concentration Isopleths

— ND

<1 / 0.5 Duplicate Result

4000 Depth Discrete Samples e.g. 9' bgs,
<25 15' bgs
(otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
☐ Data Collected July-October 2005 - GeoSyntec Consultants

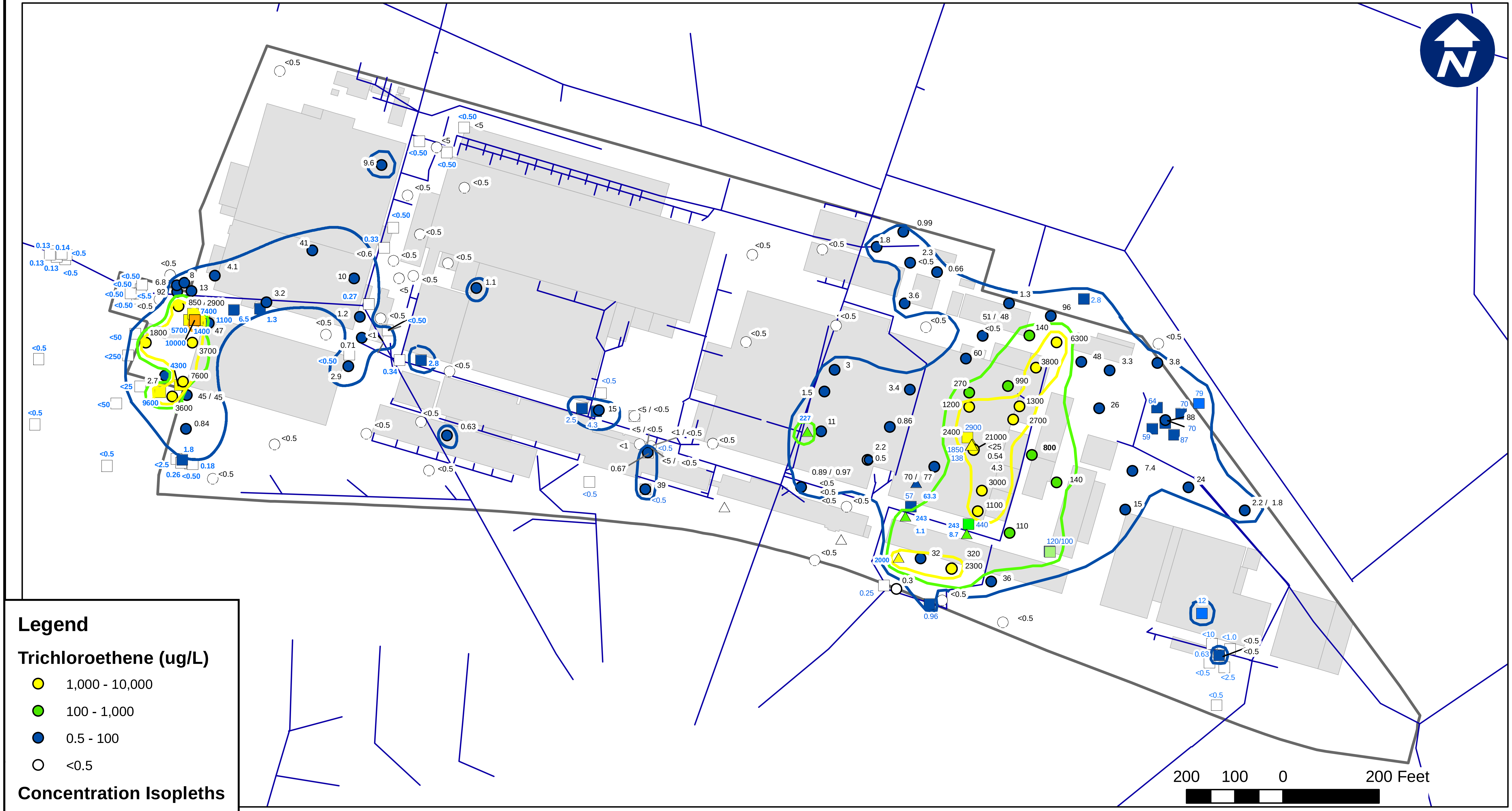
1,1,1-Trichloroethane SWPC: 31,200 ug/L

GeoSyntec Consultants

1,1,1-TRICHLOROETHANE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-13
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:\SC0307\SITE CHARACTERIZATION\DATAPLOTS\DATAPLOTS MXD\111TCA



Legend

Trichloroethene (ug/L)

- 🟡 1,000 - 10,000
- 🟢 100 - 1,000
- 🔵 0.5 - 100
- ○ <0.5

Concentration Isopleths

- 10,000
- 1,000
- 100
- ND

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs (otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
☐ Data Collected July-October 2005 - GeoSyntec Consultants

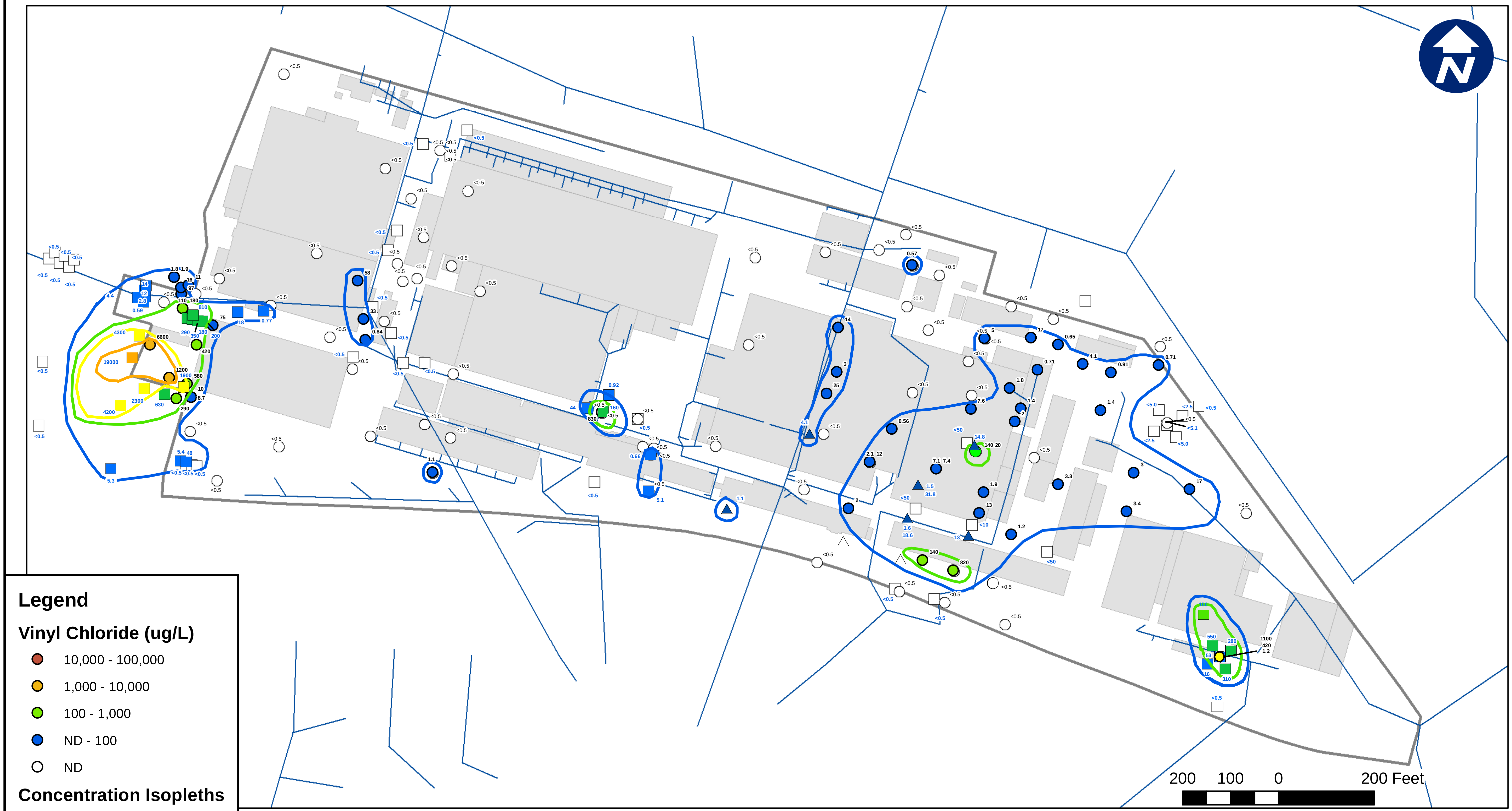
Trichloroethene SWPC: 2,000 ug/L

GEOSYNTEC CONSULTANTS

TRICHLOROETHENE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-14
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Trichloroethylene2.mxd



Legend

Vinyl Chloride (ug/L)

- ● 10,000 - 100,000
- ● 1,000 - 10,000
- ● 100 - 1,000
- ● ND - 100
- ○ ND

Concentration Isopleths

- — 10,000
- — 1,000
- — 100
- — ND

<1 / 0.5 Duplicate Result
4000 / <25 Depth Discrete Samples e.g. 9' bgs, 15' bgs
(otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley & Aldrich
△ Data Collected August 2002 - GeoSyntec Consultants
☐ Data Collected July-October 2005 - GeoSyntec Consultants

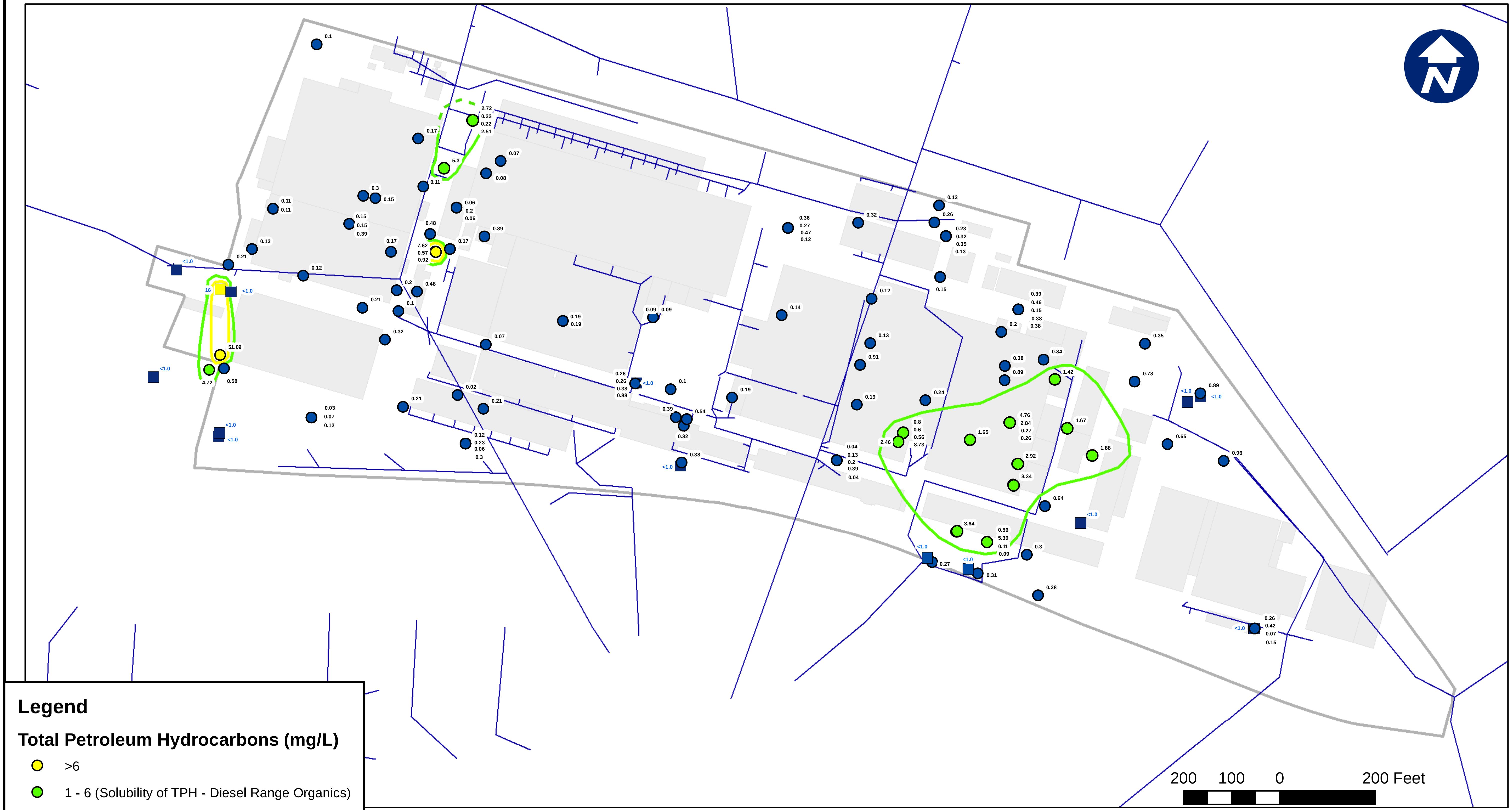
Vinyl Chloride SWPC: Not Established

GeoSyntec Consultants

VINYL CHLORIDE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-15
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

vinylchloride



Legend

Total Petroleum Hydrocarbons (mg/L)

- 🟡 >6
- 🟢 1 - 6 (Solubility of TPH - Diesel Range Organics)
- 🔵 <6

Concentration Isopleths

- — 6 mg/L
- — 1 mg/L

○ Data Collected June-August 2003 - Haley & Aldrich

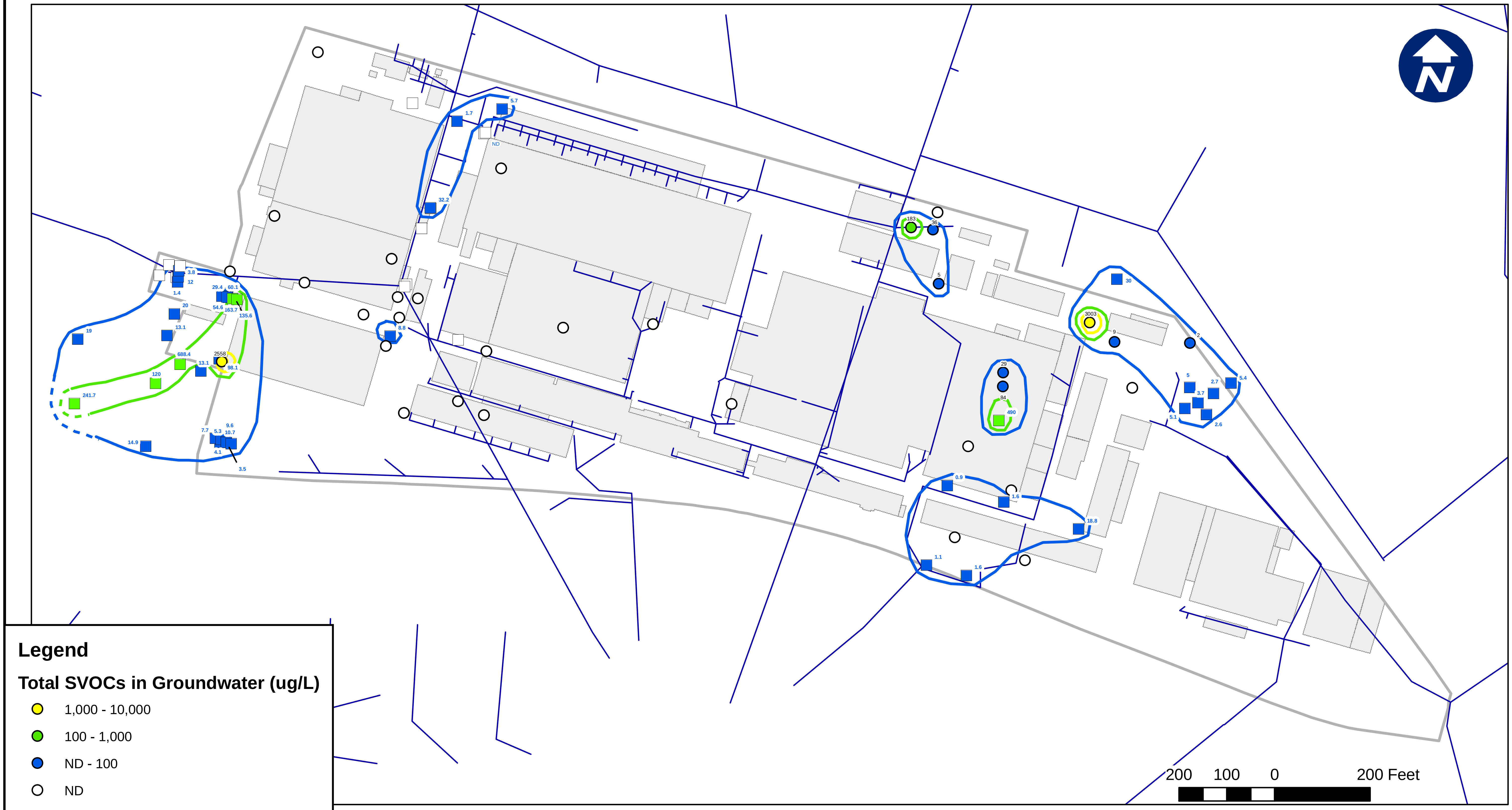
☐ Data Collected July-October 2005 - GeoSyntec Consultants

GeoSyntec Consultants

TOTAL PETROLEUM HYDROCARBONS IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-16
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

x:\SC0307\SITE CHARATERIZATIO\DATA PLOTS\DATA PLOTS MXD\TPH GW 11-7-05



Legend

Total SVOCs in Groundwater (ug/L)

- 🟡 1,000 - 10,000
- 🟢 100 - 1,000
- 🔵 ND - 100
- ○ ND

Concentration Isopleths

- 1,000
- 100
- ND

○ Data Collected June/August 2003 - Haley & Aldrich

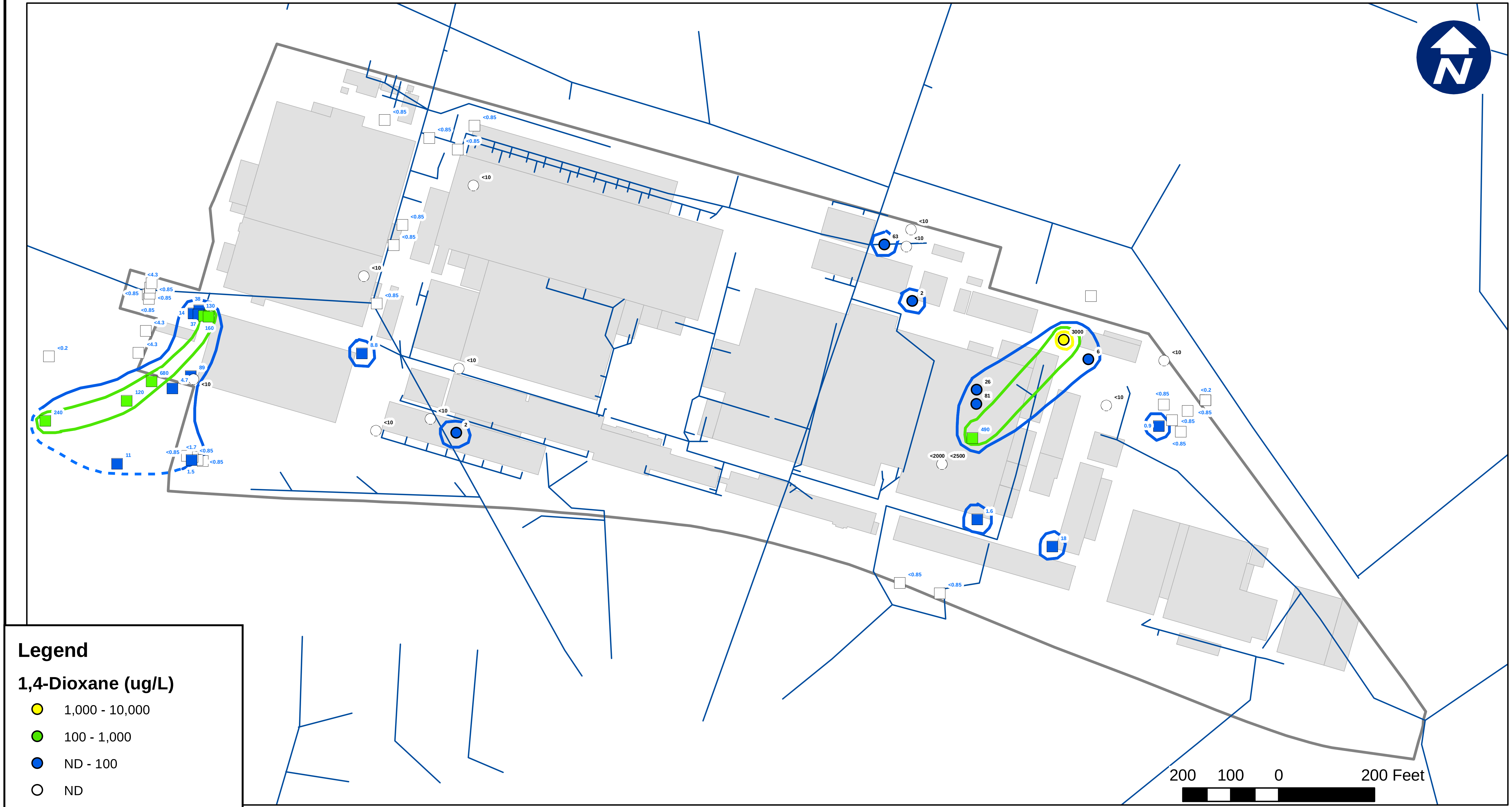
☐ Data Collected July/August 2005 - GeoSyntec Consultants

GeoSyntec Consultants

TOTAL SVOCs IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-17
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Total SVOCsGW.mxd



Legend

1,4-Dioxane (ug/L)

- 🟡 1,000 - 10,000
- 🟢 100 - 1,000
- 🔵 ND - 100
- ○ ND

Concentration Isolpleths

- — 1,000
- — 100
- — ND

<1 / 0.5 Duplicate Result

4000 <25 Depth Discrete Samples e.g. 9' bgs, 15' bgs (otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley & Aldrich

☐ Data Collected June-October 2005 - GeoSyntec Consultants

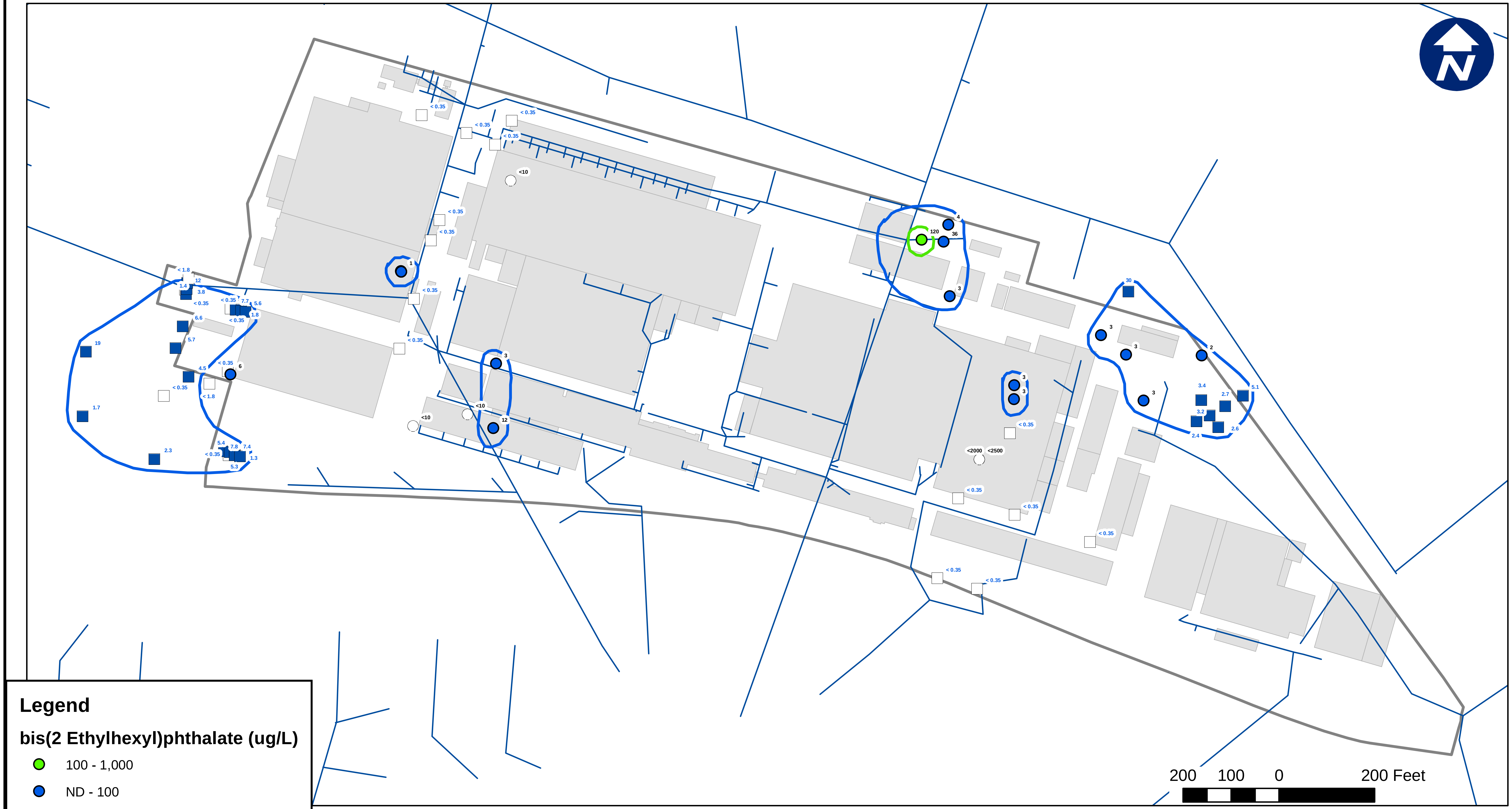
1,4-Dioxane SWPC: Not Established

GEOSYNTEC CONSULTANTS

1,4-DIOXANE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-18
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:\GIS\TDY\SSPA\SSPAGIS\1,4-Dioxane 2 gw



Legend

bis(2 Ethylhexyl)phthalate (ug/L)

- ● 100 - 1,000
- ● ND - 100
- ○ ND

Concentration Isopleths

- 100
- ND

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs (otherwise grab samples generally collected from 9' bgs)

○ Data Collected June-August 2003 - Haley&Aldrich

☐ Data Collected July-October 2005 - GeoSyntec Consultants

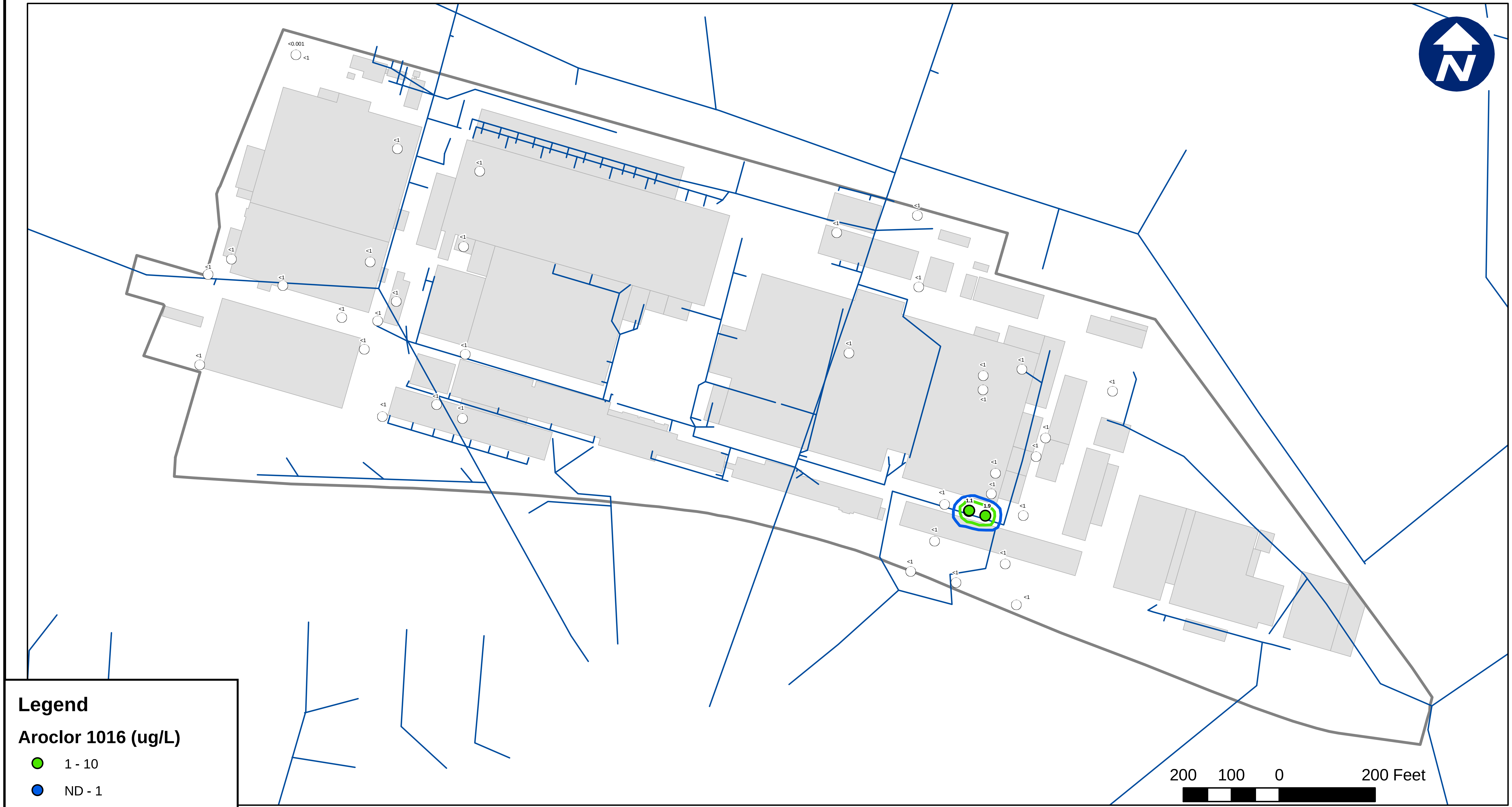
bis(2-Ethylhexyl)phthalate SWPC: Not Established

GEOSYNTEC CONSULTANTS

BIS (2-ETHYLHEXYL) PHTHALATE IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-19
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

BIS(2-ETHYLHEXYL)PHTHALATE.mxd



Legend

Aroclor 1016 (ug/L)

- 🟢 1 - 10
- 🔵 ND - 1
- ○ ND

Concentration Isopleths

- — 1
- — ND

<1 / 0.5	Duplicate Result
4000 <25	Depth Discrete Samples e.g. 9' bgs, 15' bgs (otherwise grab samples generally collected from 9' bgs)

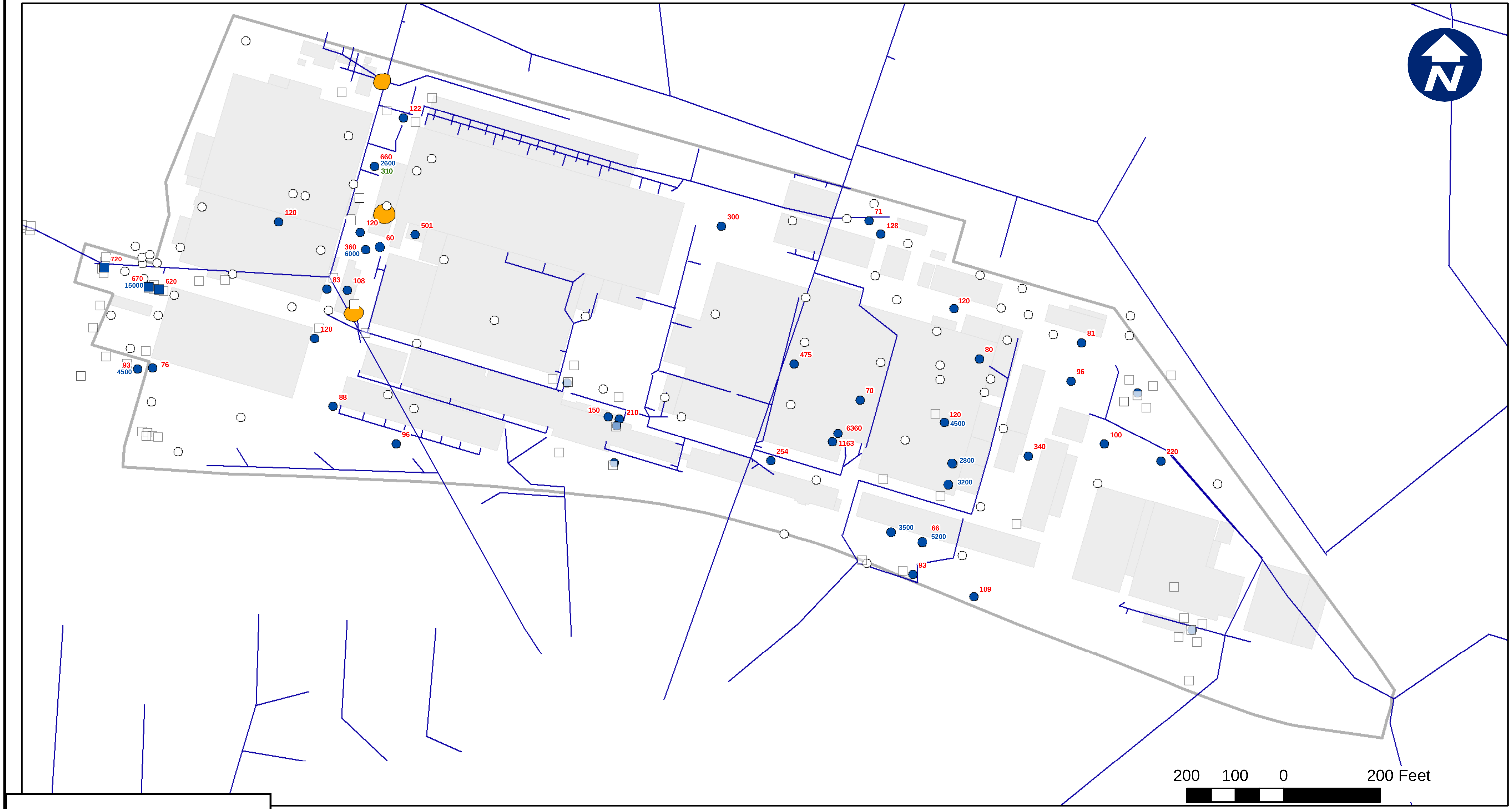
Aroclor 1016 SWPC: 0.03 ug/L

GEOSYNTEC CONSULTANTS

AROCLOR 1016 IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-20
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Aroclor 1016 GW.mxd



Legend

🟧 Observed LNAPL in Groundwater

● Potential LNAPL

○ No LNAPL

●
TPH (DRO) - 60
TPH (GRO) - 2400
Naphthalene - 310
Ethyl Benzene - 1700

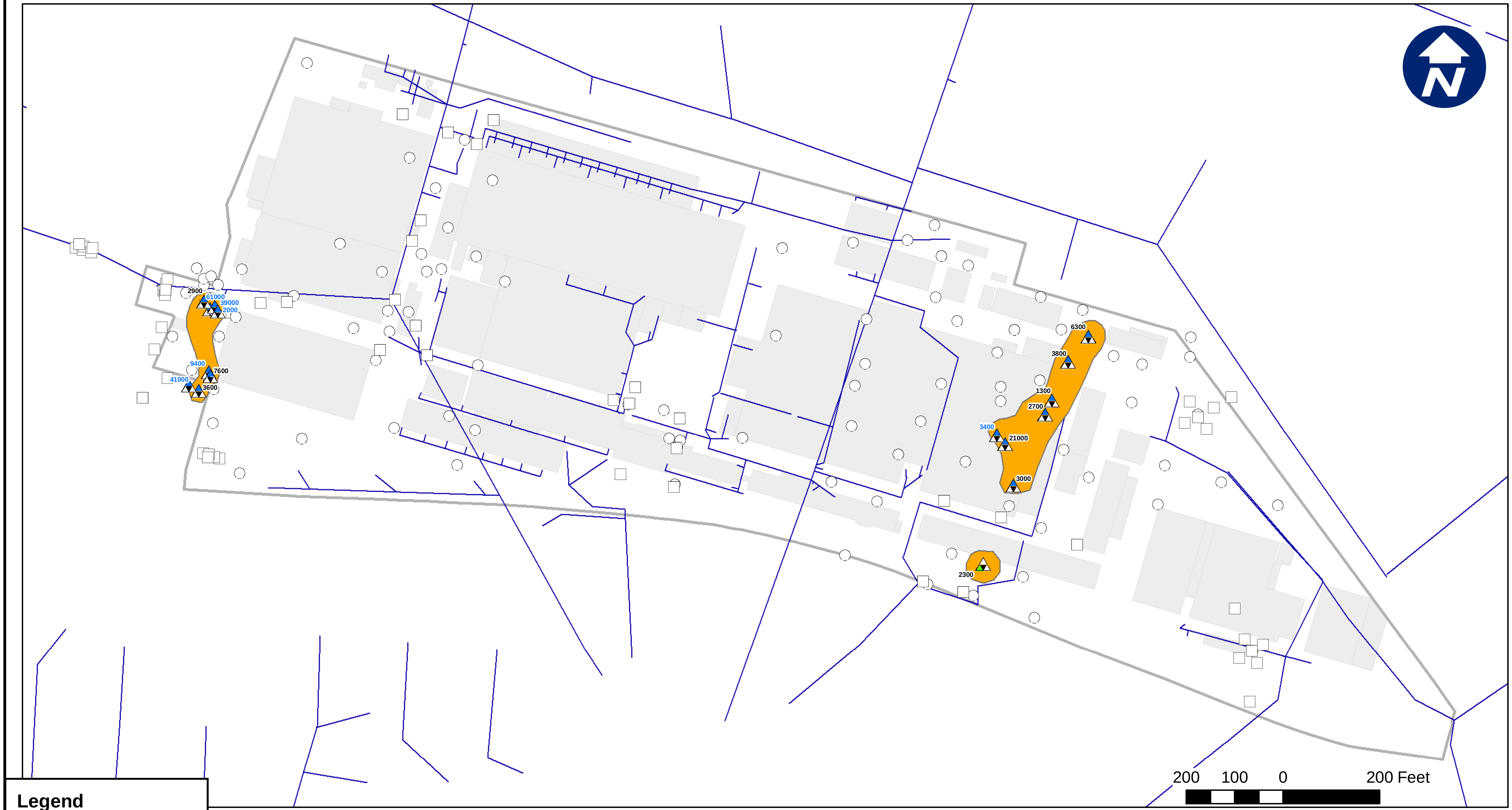
Concentrations above 1% solubility (ug/L) are labeled

GEOSYNTEC CONSULTANTS

POTENTIAL LNAPL IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-21
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

X:\SC0307\SITE CHARACTERIZATION REPORT\DATA PLOTS\DATA PLOTS MXD\LNAPL (groundwater)



Legend

○ No DNAPL

🟧 Potential DNAPL

Tetrachloroethene (2,000)

Trichloroethene (11,000) Vinyl Chloride (28,000)

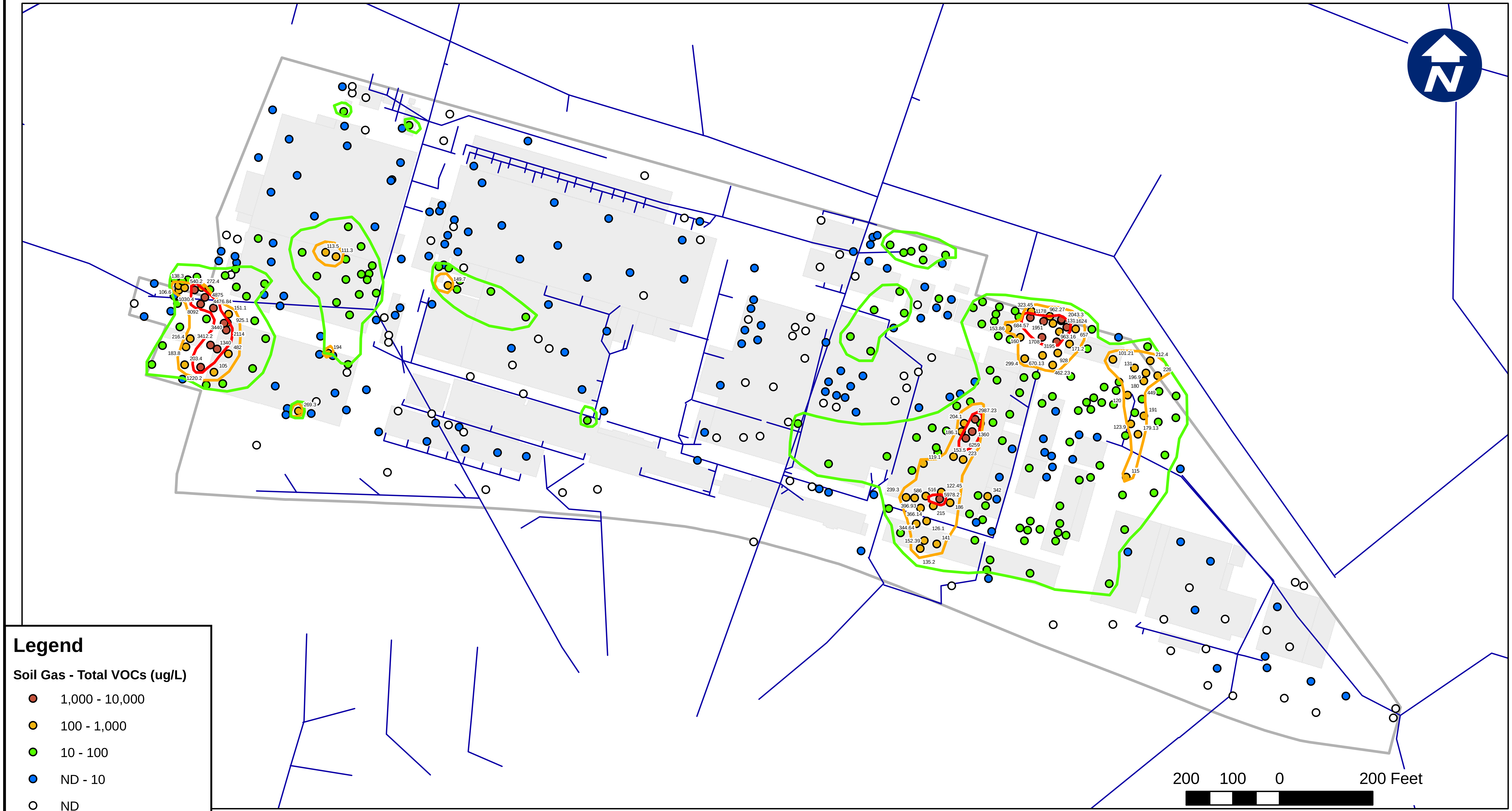
Concentrations above 1% solubility (ug/L) are labeled

GEOSYNTEC CONSULTANTS

POTENTIAL DNAPL IN GROUNDWATER
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7G-22
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

DNAPL(groundwater)



Legend

Soil Gas - Total VOCs (ug/L)

● 1,000 - 10,000

● 100 - 1,000

● 10 - 100

● ND - 10

○ ND

Concentration Isopleths (ug/L)

🟩 10

🟧 100

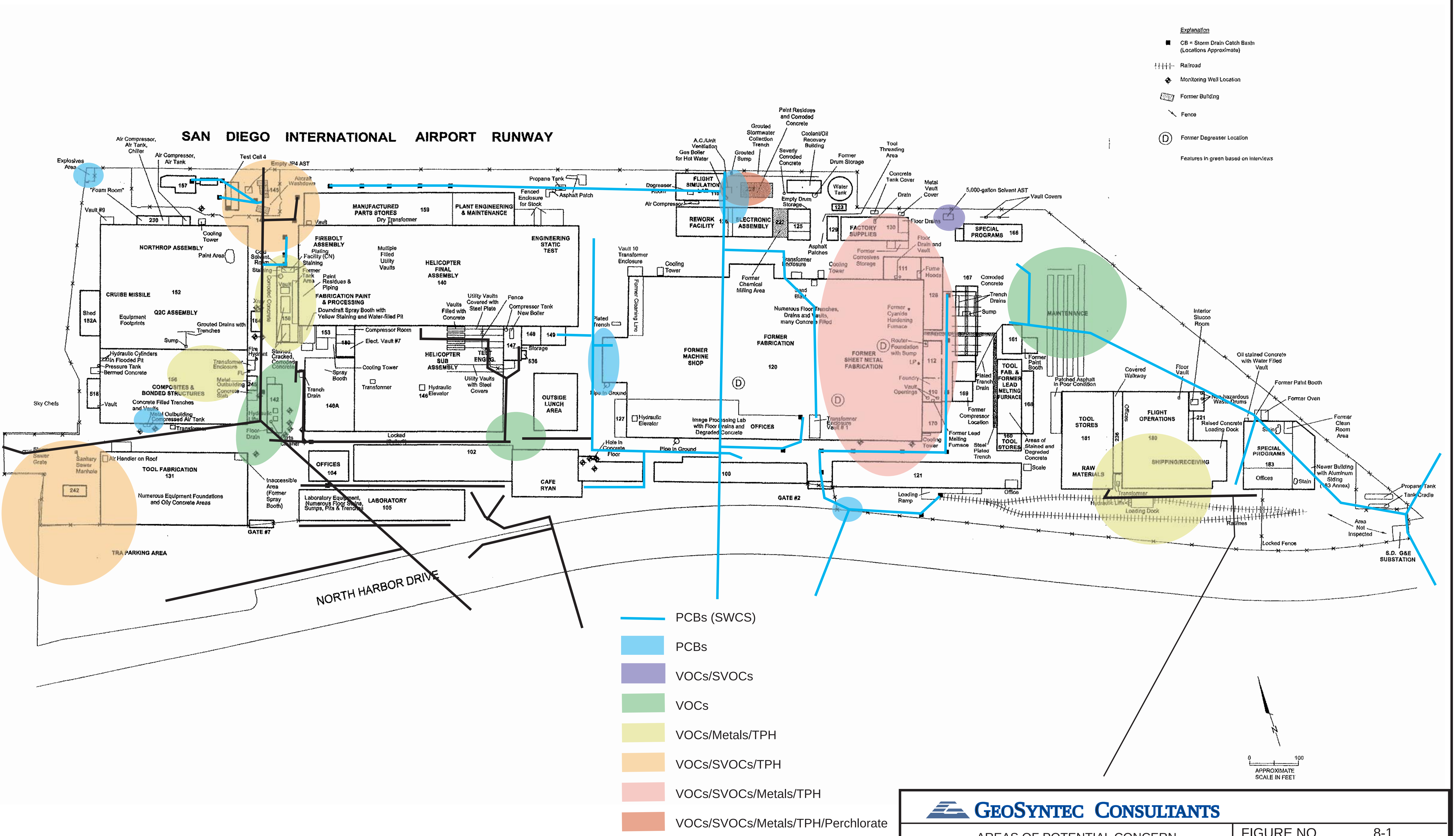
🟥 1000

x:/gis/tdy/sitecharacterization/Total VOCs-soilgas.mxd

GeoSyntec Consultants

TOTAL VOCs IN SOIL GAS (3 FEET BGS)
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA

FIGURE NO.	7-8
PROJECT NO.	SC0307
DATE:	DECEMBER 2005



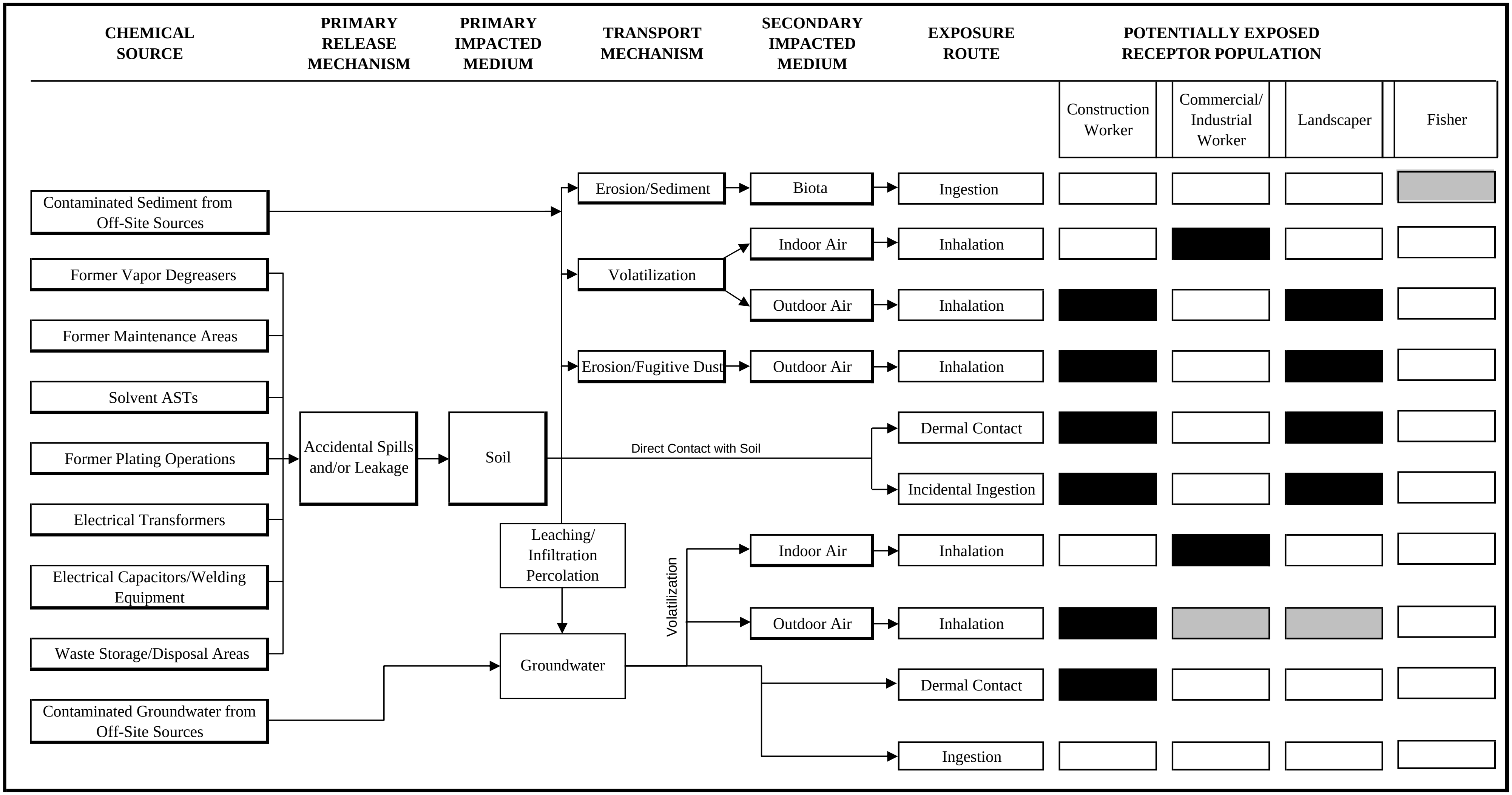
GEOSYNTEC CONSULTANTS

AREAS OF POTENTIAL CONCERN
2701 NORTH HARBOR DRIVE
SAN DIEGO CALIFORNIA

FIGURE NO.	8-1
PROJECT NO.	SC0307
DATE:	DECEMBER 2005

Source: PES Environmental, Inc. Environmental Assessment, Former Teledyne Ryan Aeronautical Site, Plate 3 - January 2001

FIGURE 9-1
CONCEPTUAL SITE MODEL
2701 NORTH HARBOR DRIVE
SAN DIEGO, CALIFORNIA



SECONDARY IMPACTED MEDIUM	EXPOSURE ROUTE	Construction Worker	Commercial/ Industrial Worker	Landscaper	Fisher
Biota	Ingestion	☐	☐	☐	▨
Indoor Air	Inhalation	☐	■	☐	☐
Outdoor Air	Inhalation	■	☐	■	☐
Outdoor Air	Inhalation	■	☐	■	☐
	Dermal Contact	■	☐	■	☐
	Incidental Ingestion	■	☐	■	☐
Indoor Air	Inhalation	☐	■	☐	☐
Outdoor Air	Inhalation	■	▨	▨	☐
	Dermal Contact	■	☐	☐	☐
	Ingestion	☐	☐	☐	☐

NOTES:

■	Complete exposure pathway, which will be quantitatively evaluated in the risk assessment
▨	Potentially complete pathway; however, risk is likely negligible.
☐	Incomplete pathway.

APPENDIX A
BACKGROUND ANALYSIS

APPENDIX A
SITE-SPECIFIC BACKGROUND EVALUATION

Prepared by S.S. Papadopoulos and Associates, Inc.
12 May 2005

A.1 Methodology

Inorganic constituents such as metals and cyanide occur naturally in the environment. A determination of whether site-related activities have resulted in elevated concentrations of these constituents requires an understanding of the range of background concentrations representative of natural conditions. Existing site data for metals and cyanide in soil and groundwater were evaluated to derive site-specific maximum background concentrations, following guidance provided in the California Department of Toxic Substances Control document *Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities, Final Policy* (DTSC, 1997). The site-specific maximum background concentrations for soil and groundwater are presented in Table 3-1.

The 2003 site-specific dataset for soil contains between 408 and 431 analytical results for each metal, 161 results for total cyanide, and 159 results for amenable cyanide in soil samples collected across the site. The existing site-specific dataset for groundwater contains between 121 and 127 analytical results for each metal, and 19 results each for total cyanide, and amenable cyanide in groundwater samples collected across the site.

The soil and groundwater datasets include samples from both potentially impacted and non-impacted areas. For each constituent, each dataset may therefore represent either one population, representative of background conditions, or two or more separate populations, one representative of background conditions and the other(s) impacted by facility-related activities. The impacted soil and groundwater sample populations, if present, are characterized by higher concentrations, relative to background, of those constituents. The soil and groundwater datasets were statistically analyzed to determine whether the two or more populations could be identified and distinguished, and to estimate the maximum concentration of each constituent that could be attributed to the background population.

For each constituent in each of the two media, the statistical evaluation included:

1. An initial screening to determine whether the dataset contained sufficient values greater than the detection limit (at least 10% of samples and at least 10 samples for each constituent),

2. Computation and review of summary statistics for concentrations and log-transformed concentrations of each constituent in each media,

3. Construction and review of histograms, box-and-whisker percentile plots, and normal quantile plots of concentrations and log-transformed concentrations of each constituent in each media, to determine whether the dataset more closely follows a normal or log-normal distribution (both analyses are presented for each constituent), to identify whether more than one population is evident and to estimate the maximum concentration associated with the background population, and

4. Comparison of the site-specific maximum background concentrations in soil with published maximum background values for these same metals in California and Western U.S. soils.

A.2 Results

The statistical analyses are presented in Exhibit A. Beryllium, silver, thallium, and total and amenable cyanide were not detected frequently enough in soils to permit a meaningful analysis. In groundwater, there were insufficient detections for antimony, arsenic, beryllium, cadmium, copper, lead, mercury, silver, thallium, and total and amenable cyanide (Table 3-1).

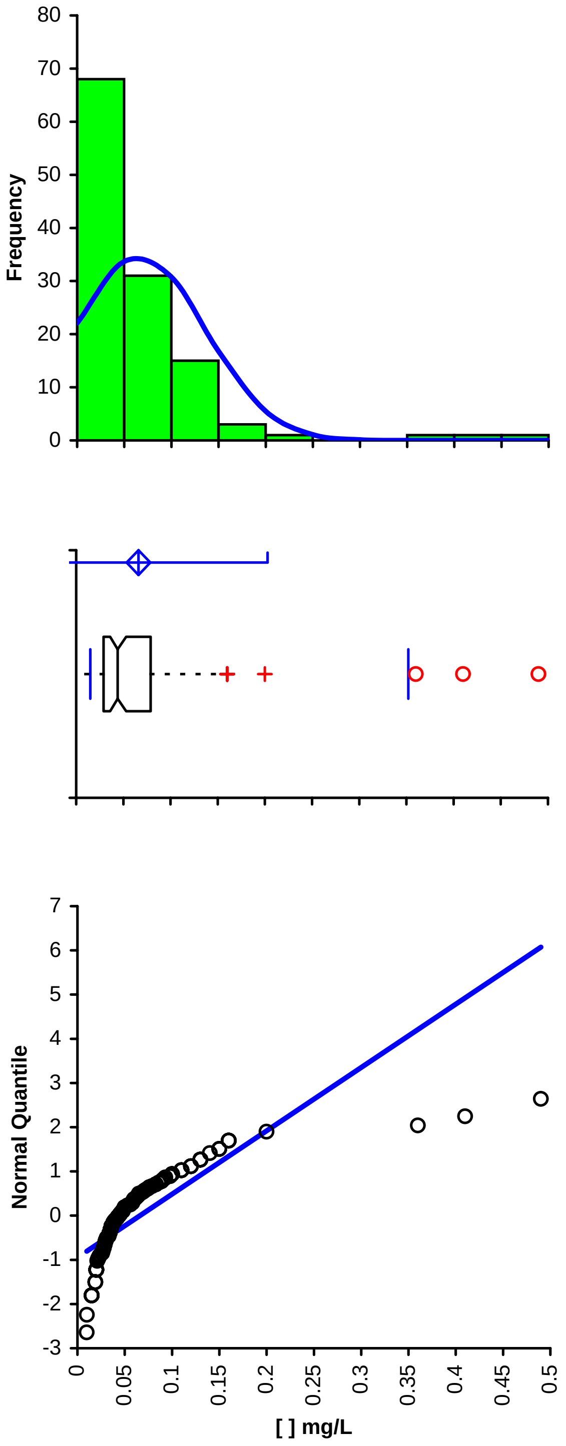
For arsenic, barium, and vanadium in soil, and for barium in groundwater, quantile plots of concentration or log-transformed concentration plot as a single linear trend, indicating a single sample population. For these, the maximum observed value is taken as the maximum site-specific background concentration. For the remaining metals, quantile plots of either concentration or log-transformed concentration indicated a break in slope. The population nearest the origin was taken as the background population, and the maximum background concentration was estimated from the concentration corresponding to the break in slope on the quantile diagram. The interpreted break in slope is indicated by a line on the diagram. The site-specific maximum background concentrations for soil are compared to published maximum background values for California and Western U.S. soils in Table 3-2. All of the site-specific maximum values are less than state or regional maximum background except for antimony, cadmium, and selenium.

Statistical Analysis of Constituents in Groundwater

Test | **Continuous summary descriptives**

Variable | Barium in groundwater

Performed by | tl **Date** | 28 April 2005



n	121
Mean	0.066
95% CI	0.054 to 0.079
Variance	0.0049
SD	0.0698
SE	0.0063
CV	106%
% Detection	96.7%
Minimum	0.0099
Maximum	0.49
Median	0.044
95.5% CI	0.036 to 0.053
Range	0.4801
IQR	0.05

Percentile	
2.5th	0.015
25th	0.029
50th	0.044
75th	0.079
97.5th	0.352

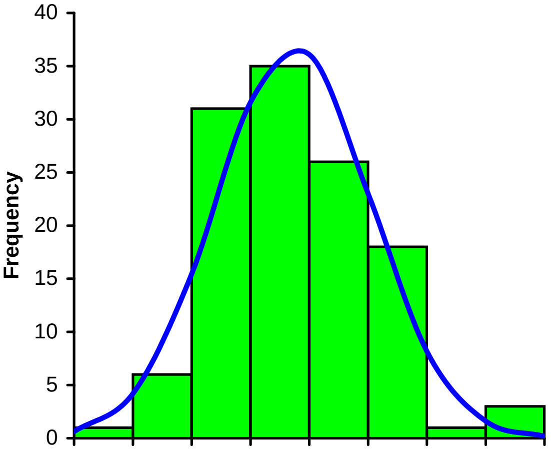
	Coefficient	**p**
Kolmogorov-Smirnov	2.3859	< 0.01
Skewness	3.6599	<0.0001
Kurtosis	17.1296	<0.0001

analysed with: Analyse-it + General 1.71

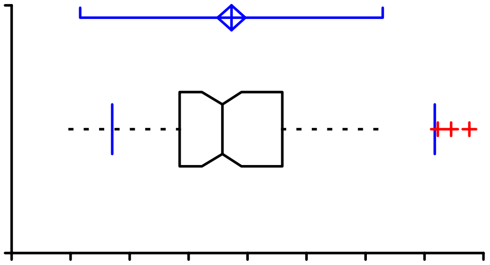
Test **Continuous summary descriptives**

Variable Barium in groundwater

Performed by tl **Date** 28 April 2005

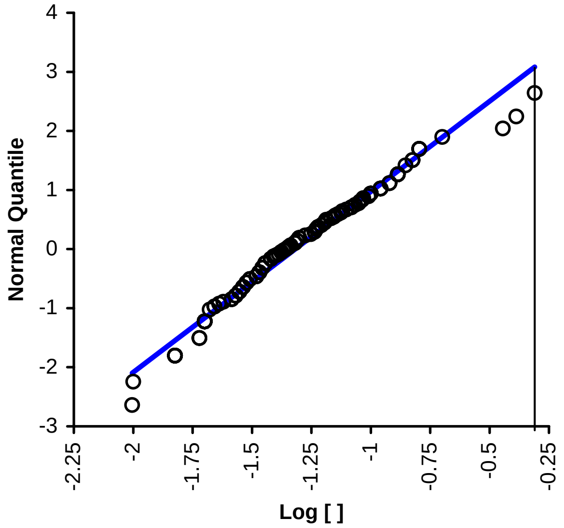


n	121
Mean	-1.318
95% CI	-1.377 to -1.259
Variance	0.1070
SD	0.3271
SE	0.0297
CV	-25%
% Detection	96.7%
Minimum	-2.0044
Maximum	-0.3098



Median	-1.357
95.5% CI	-1.444 to -1.276
Range	1.6946
IQR	0.4352

Percentile	
2.5th	-1.824
25th	-1.538
50th	-1.357
75th	-1.102
97.5th	-0.456



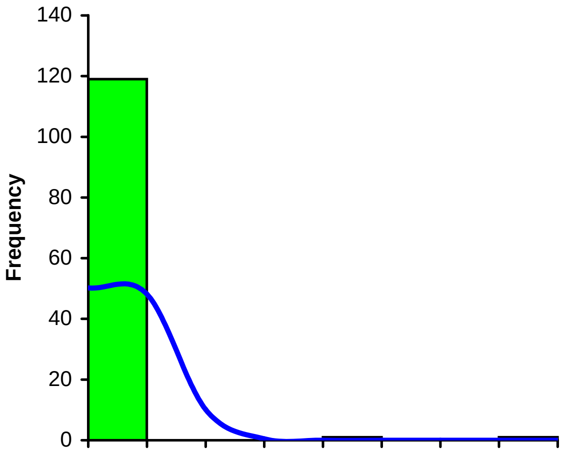
	Coefficient	p
Kolmogorov-Smirnov	0.7846	0.1391
Skewness	0.5167	0.0214
Kurtosis	0.2692	0.4481

Test | **Continuous summary descriptives**

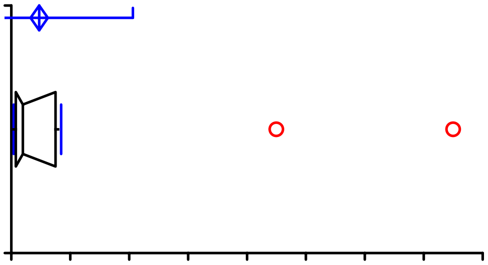
Variable | Cobalt in groundwater

Performed by | tl

Date | 28 April 2005

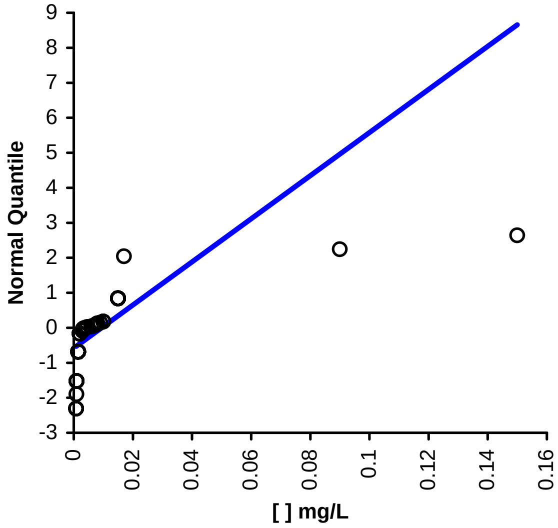


n	121
Mean	0.009
95% CI	0.007 to 0.012
Variance	0.0003
SD	0.0162
SE	0.0015
CV	172%
% Detection	24.8%
Minimum	0.0008
Maximum	<0.3



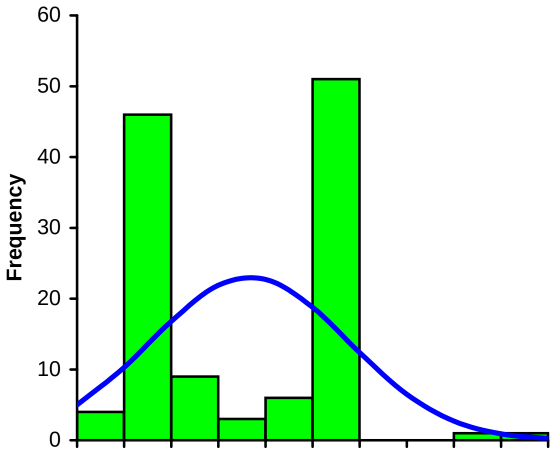
Median	0.004
95.5% CI	0.002 to 0.015
Range	0.1492
IQR	0.0135

Percentile	
2.5th	0.001
25th	0.002
50th	0.004
75th	0.015
97.5th	0.017

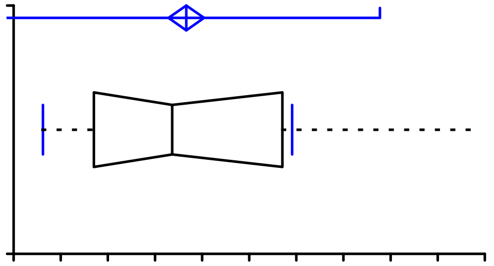


	Coefficient	**p**
Kolmogorov-Smirnov	3.7796	< 0.01
Skewness	6.4942	<0.0001
Kurtosis	51.5265	<0.0001

Test	**Continuous summary descriptives**		
Variable	Cobalt in groundwater		
Performed by	tl	**Date**	28 April 2005

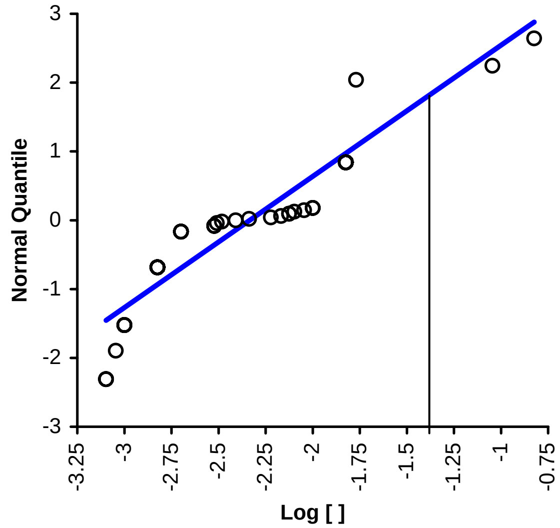


n	121
Mean	-2.334
95% CI	-2.428 to -2.240
Variance	0.2749
SD	0.5243
SE	0.0477
CV	-22%
% Detection	24.8%
Minimum	-3.0969
Maximum	<-0.5228



Median	-2.409
95.5% CI	-2.824 to -1.824
Range	2.2730
IQR	1

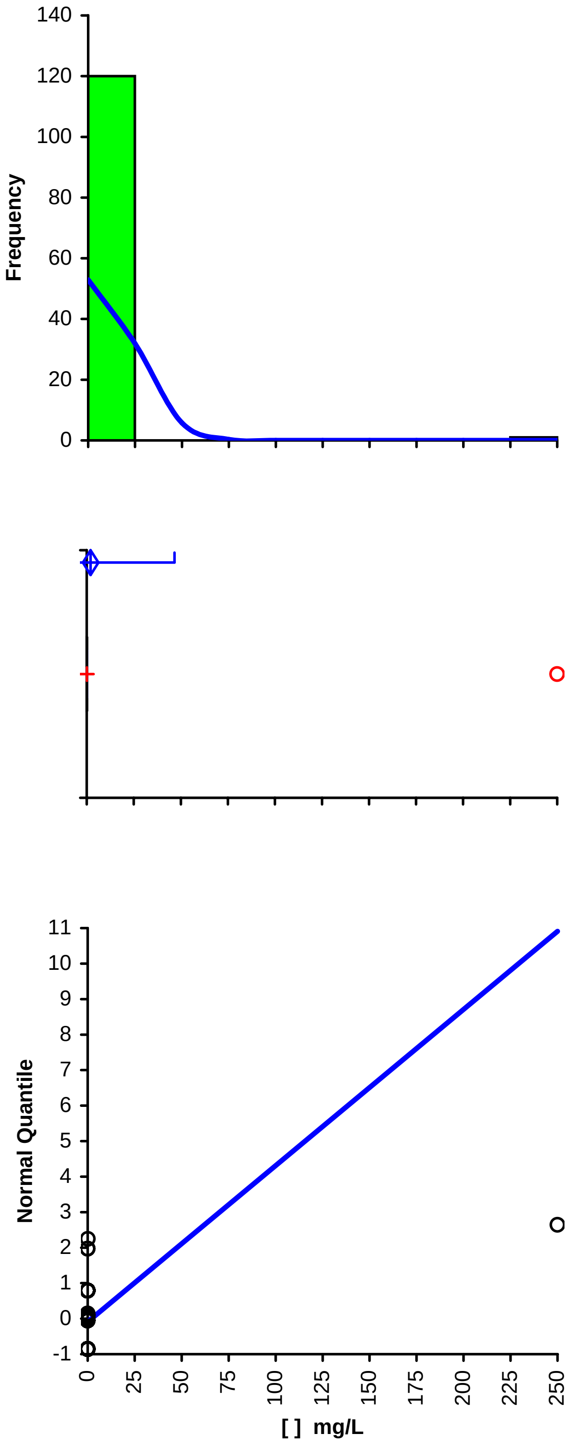
Percentile	
2.5th	-3.094
25th	-2.824
50th	-2.409
75th	-1.824
97.5th	-1.772



	Coefficient	**p**
Kolmogorov-Smirnov	2.8351	< 0.01
Skewness	0.2041	0.3440
Kurtosis	-1.1669	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Chromium in groundwater
Performed by	tl
Date	28 April 2005



n	121
Mean	2.074
95% CI	-2.017 to 6.165
Variance	516.4959
SD	22.7265
SE	2.0660
CV	1096%
% Detection	10.7%
Minimum	0.002
Maximum	250
Median	0.003
95.5% CI	0.002 to 0.015
Range	249.9985
IQR	0.0135

Percentile	
2.5th	0.002
25th	0.002
50th	0.003
75th	0.015
97.5th	0.020

	Coefficient	**p**
Kolmogorov-Smirnov	5.8360	< 0.01
Skewness	11.0000	<0.0001
Kurtosis	121.0000	<0.0001

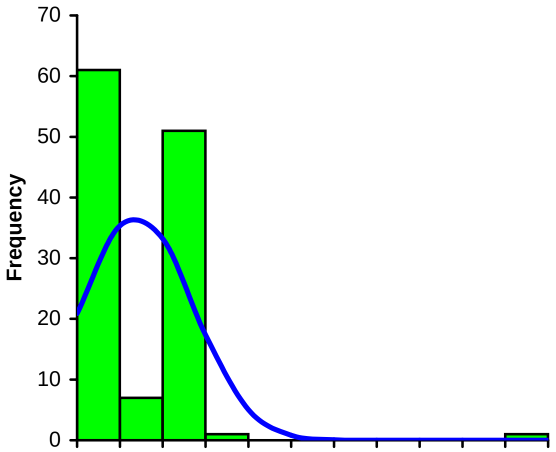
analysed with: Analyse-it + General 1.71

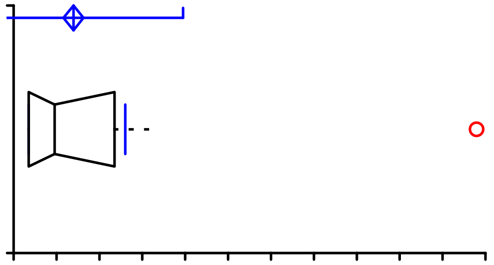
Test **Continuous summary descriptives**

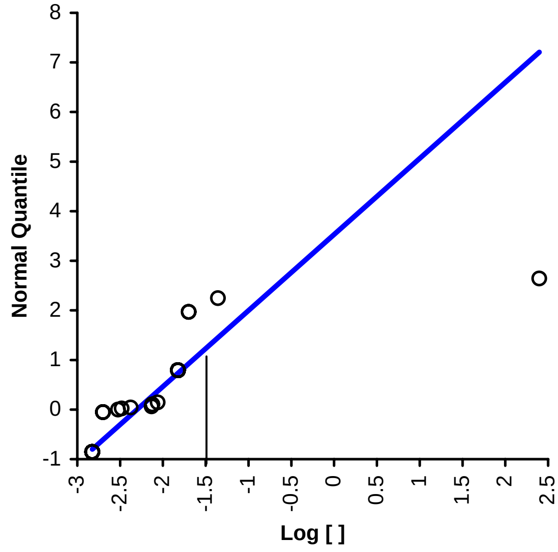
Variable Chromium in groundwater

Performed by tl

Date 28 April 2005







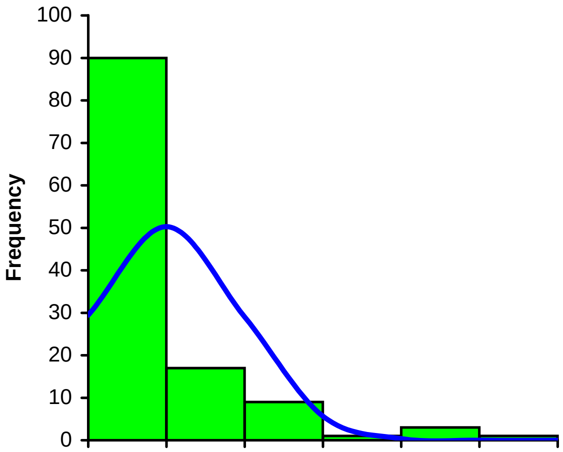
n	121
Mean	-2.303
95% CI	-2.420 to -2.185
Variance	0.4255
SD	0.6523
SE	0.0593
CV	-28%
% Detection	10.7%
Minimum	-2.6989
Maximum	2.3979

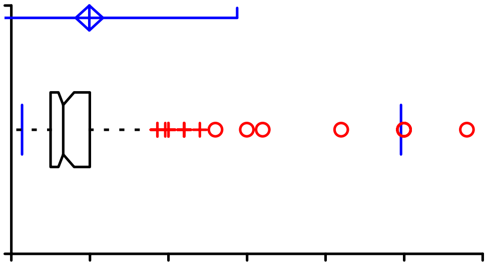
Median	-2.523
95.5% CI	-2.824 to -1.824
Range	5.2218
IQR	1

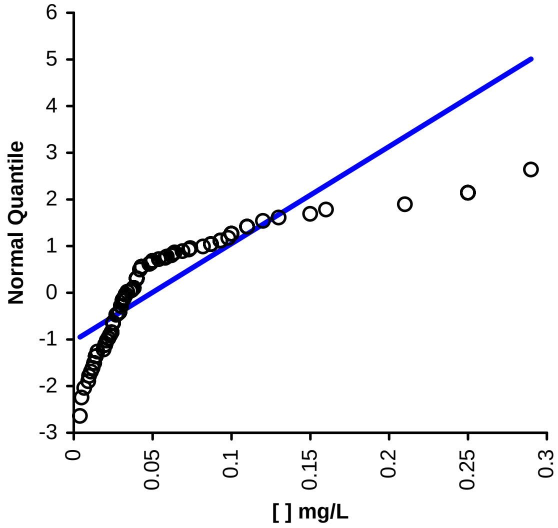
Percentile	
2.5th	-2.824
25th	-2.824
50th	-2.523
75th	-1.824
97.5th	-1.699

	Coefficient	p
Kolmogorov-Smirnov	2.7749	< 0.01
Skewness	3.1244	<0.0001
Kurtosis	20.9241	<0.0001

Test	**Continuous summary descriptives**
Variable	Molybdenum in groundwater
Performed by	tl
Date	28 April 2005







n	121
Mean	0.050
95% CI	0.041 to 0.058
Variance	0.0023
SD	0.0480
SE	0.0044
CV	97%
% Detection	90.9%
Minimum	0.004
Maximum	0.29
Median	0.033
95.5% CI	0.030 to 0.040
Range	0.286
IQR	0.025

Percentile	
2.5th	0.007
25th	0.025
50th	0.033
75th	0.050
97.5th	0.248

	Coefficient	**p**
Kolmogorov-Smirnov	3.1235	< 0.01
Skewness	2.8654	<0.0001
Kurtosis	9.5750	<0.0001

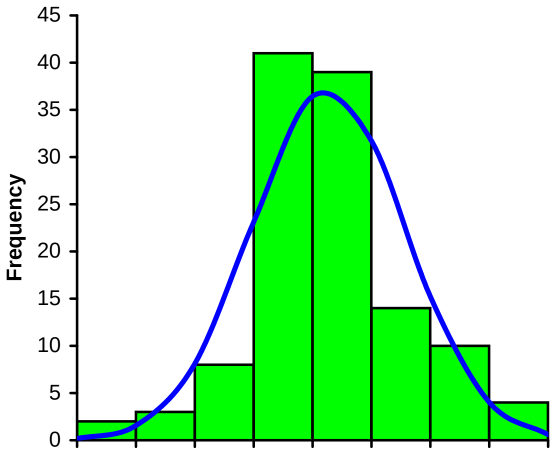
analysed with: Analyse-it + General 1.71

Test Continuous summary descriptives

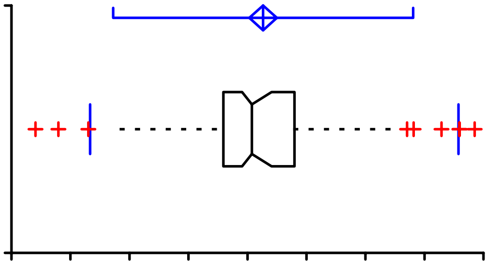
Variable Molybdenum in groundwater

Performed by tl

Date 28 April 2005

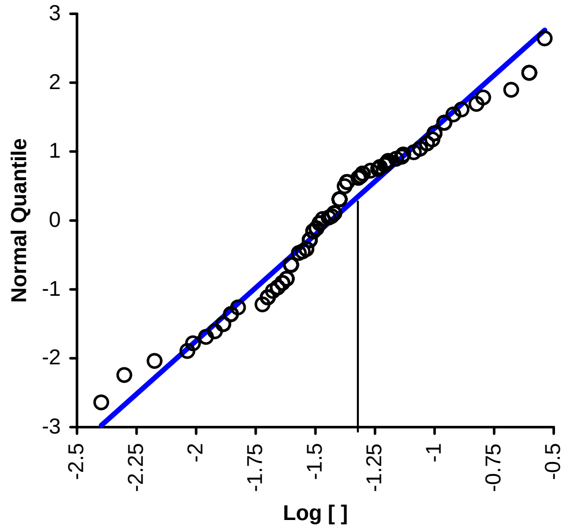


n	121
Mean	-1.434
95% CI	-1.492 to -1.375
Variance	0.1052
SD	0.3243
SE	0.0295
CV	-23%
% Detection	90.9%
Minimum	-2.3979
Maximum	-0.5376



Median	-1.481
95.5% CI	-1.523 to -1.398
Range	1.8603
IQR	0.3010

Percentile	
2.5th	-2.167
25th	-1.602
50th	-1.481
75th	-1.301
97.5th	-0.606



	Coefficient	p
Kolmogorov-Smirnov	1.6089	< 0.01
Skewness	0.2005	0.3523
Kurtosis	1.0308	0.0530

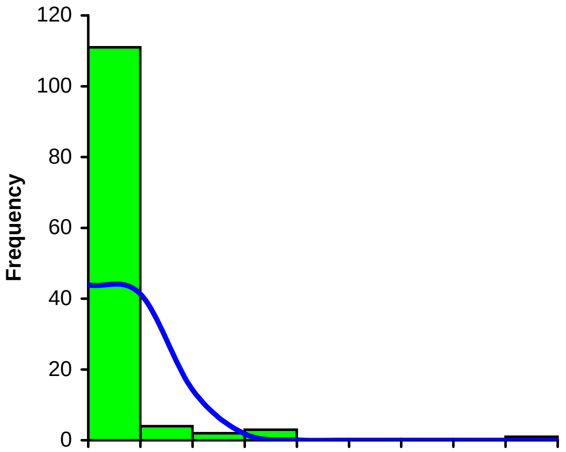
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

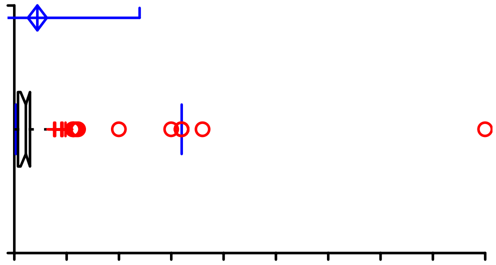
Variable | Nickel in groundwater

Performed by | tl

Date | 28 April 2005

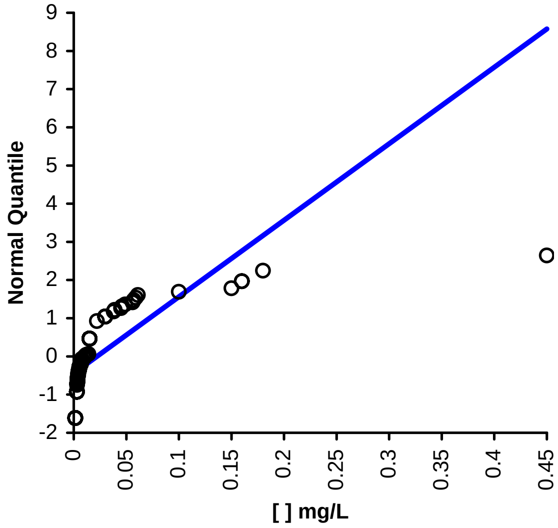


n	121
Mean	0.022
95% CI	0.013 to 0.031
Variance	0.0025
SD	0.0499
SE	0.0045
CV	227%
% Detection	57.0%
Minimum	<0.003
Maximum	0.45



Median	0.011
95.5% CI	0.006 to 0.015
Range	0.4485
IQR	0.0115

Percentile	
2.5th	0.002
25th	0.004
50th	0.011
75th	0.015
97.5th	0.160



	Coefficient	p
Kolmogorov-Smirnov	4.1378	< 0.01
Skewness	6.1426	<0.0001
Kurtosis	46.7203	<0.0001

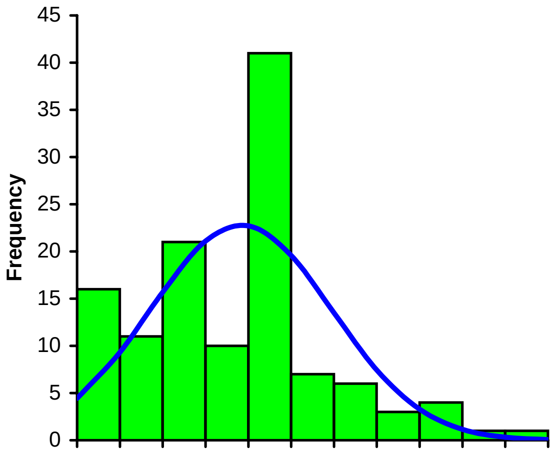
analysed with: Analyse-it + General 1.71

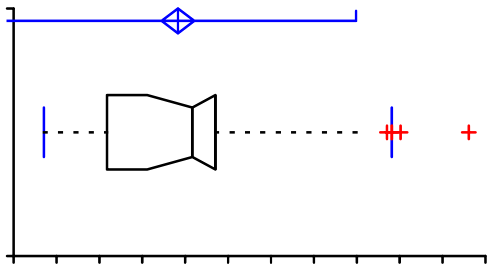
Test | **Continuous summary descriptives**

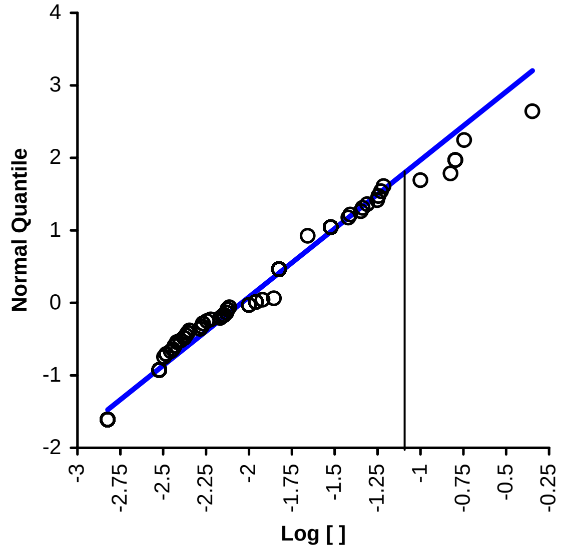
Variable | Nickel in groundwater

Performed by | tl

Date | 28 April 2005





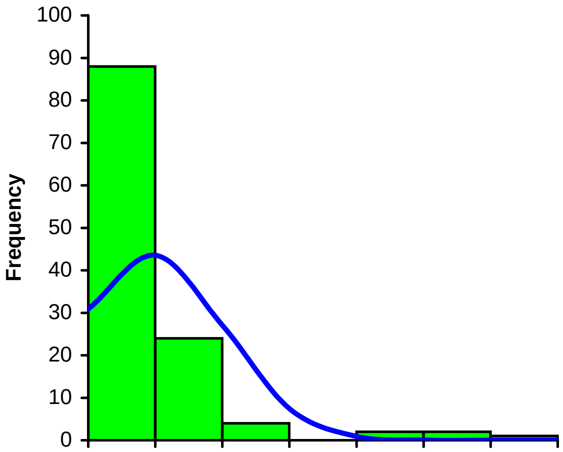


n	121
Mean	-2.042
95% CI	-2.138 to -1.947
Variance	0.2804
SD	0.5295
SE	0.0481
CV	-26%
% Detection	57.0%
Minimum	<-2.5228
Maximum	-0.3468
Median	-1.959
95.5% CI	-2.222 to -1.824
Range	2.477121255
IQR	0.632023215

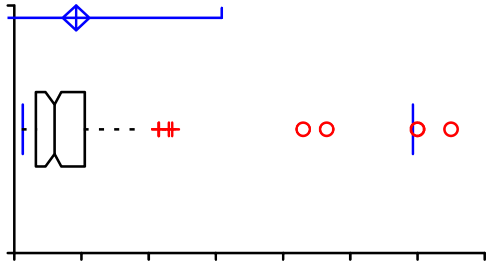
Percentile	
2.5th	-2.824
25th	-2.456
50th	-1.959
75th	-1.824
97.5th	-0.796

	Coefficient	**p**
Kolmogorov-Smirnov	1.7517	< 0.01
Skewness	0.5135	0.0222
Kurtosis	0.2152	0.5148

Test	**Continuous summary descriptives**
Variable	Selenium in groundwater
Performed by	tl
Date	28 April 2005

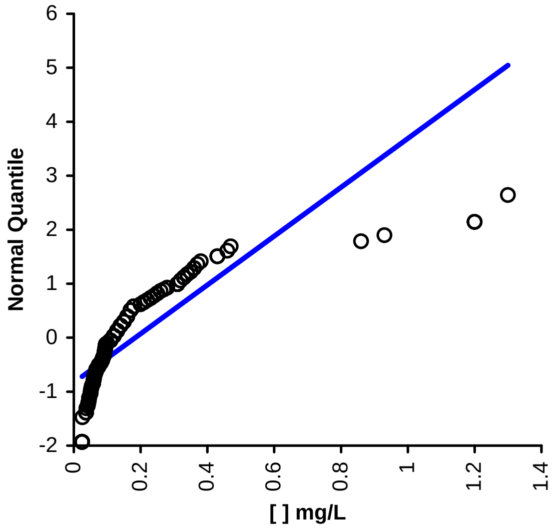


n	121
Mean	0.184
95% CI	0.144 to 0.224
Variance	0.0489
SD	0.2212
SE	0.0201
CV	120%
% Detection	93.4%
Minimum	0.025
Maximum	1.3



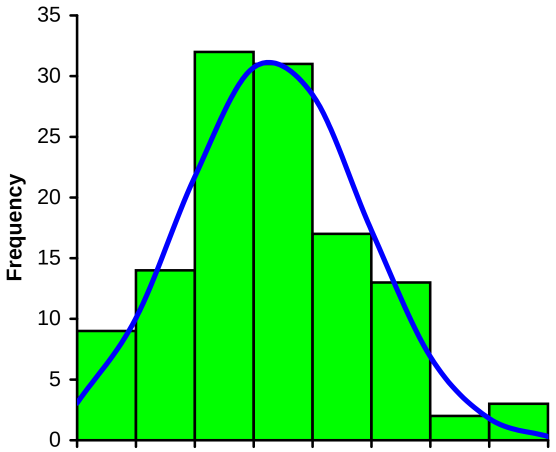
Median	0.120
95.5% CI	0.093 to 0.140
Range	1.275
IQR	0.146

Percentile	
2.5th	0.025
25th	0.064
50th	0.120
75th	0.210
97.5th	1.187

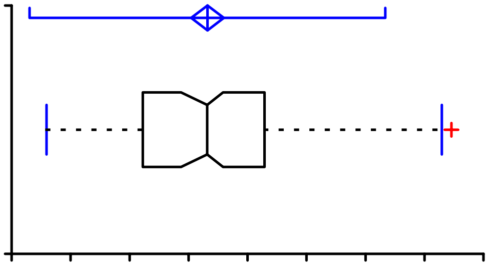


	Coefficient	**p**
Kolmogorov-Smirnov	2.6135	< 0.01
Skewness	3.3040	<0.0001
Kurtosis	12.4574	<0.0001

Test	**Continuous summary descriptives**		
Variable	Selenium in groundwater		
Performed by	tl	**Date**	28 April 2005

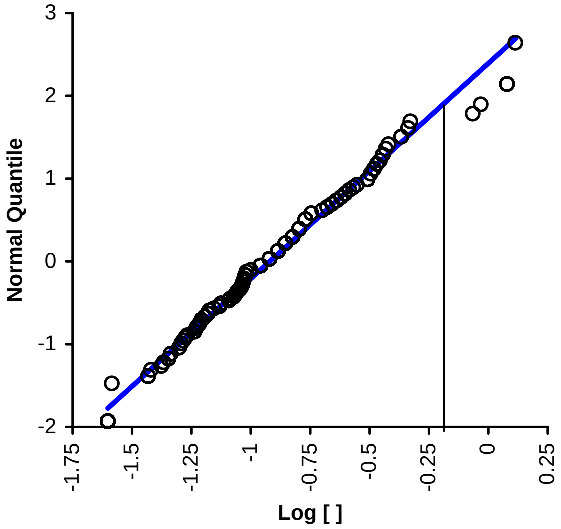


n	121
Mean	-0.920
95% CI	-0.989 to -0.851
Variance	0.1479
SD	0.3845
SE	0.0350
CV	-42%
% Detection	93.4%
Minimum	-1.6021
Maximum	0.1139



Median	-0.921
95.5% CI	-1.032 to -0.854
Range	1.7160
IQR	0.5160

Percentile	
2.5th	-1.602
25th	-1.194
50th	-0.921
75th	-0.678
97.5th	0.074

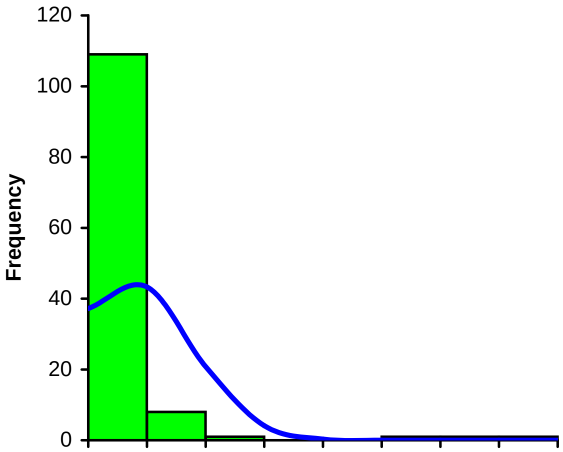


	Coefficient	**p**
Kolmogorov-Smirnov	0.6479	> 0.15
Skewness	0.3524	0.1077
Kurtosis	0.0621	0.7475

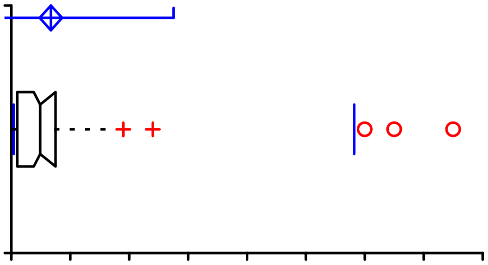
Test | **Continuous summary descriptives**

Variable Vanadium in groundwater

Performed by tl **Date** 28 April 2005

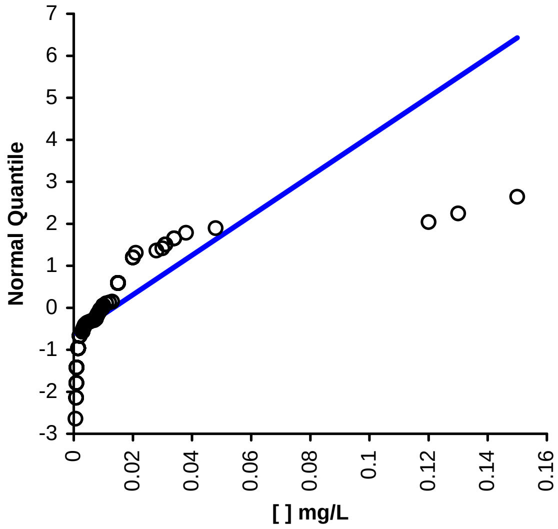


n	121
Mean	0.013
95% CI	0.010 to 0.017
Variance	0.0005
SD	0.0212
SE	0.0019
CV	158%
% Detection	52.9%
Minimum	0.0006
Maximum	<0.3



Median	0.010
95.5% CI	0.008 to 0.015
Range	0.1494
IQR	0.013

Percentile	
2.5th	0.001
25th	0.002
50th	0.010
75th	0.015
97.5th	0.116



	Coefficient	**p**
Kolmogorov-Smirnov	3.7436	< 0.01
Skewness	4.7396	<0.0001
Kurtosis	25.5187	<0.0001

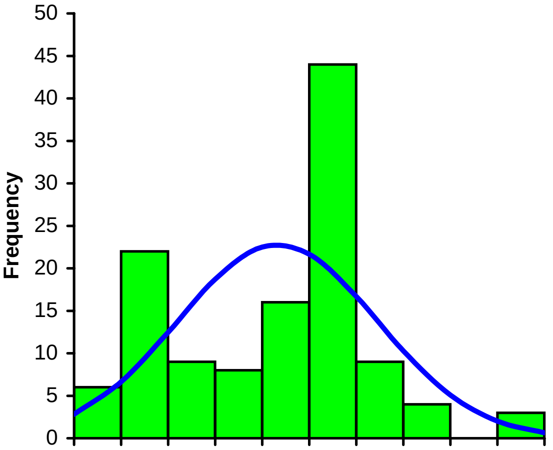
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

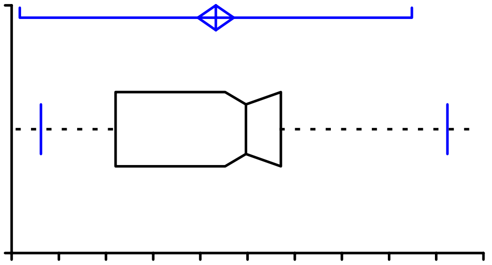
Variable | Vanadium in groundwater

Performed by | tl

Date | 28 April 2005

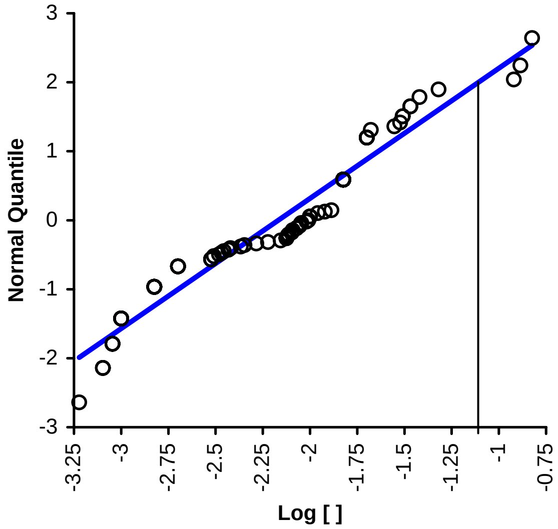


n	121
Mean	-2.168
95% CI	-2.263 to -2.073
Variance	0.2809
SD	0.5300
SE	0.0482
CV	-24%
% Detection	52.9%
Minimum	-3.2218
Maximum	<-0.5228



Median	-2.009
95.5% CI	-2.119 to -1.824
Range	2.3979
IQR	0.8751

Percentile	
2.5th	-3.094
25th	-2.699
50th	-2.009
75th	-1.824
97.5th	-0.941



	Coefficient	p
Kolmogorov-Smirnov	1.9913	< 0.01
Skewness	-0.1558	0.4684
Kurtosis	-0.5991	0.0750

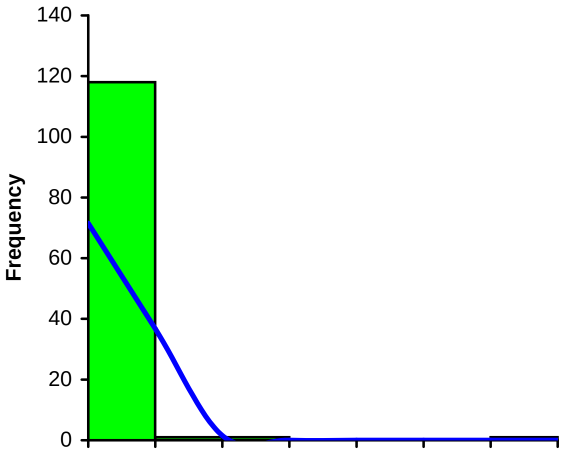
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

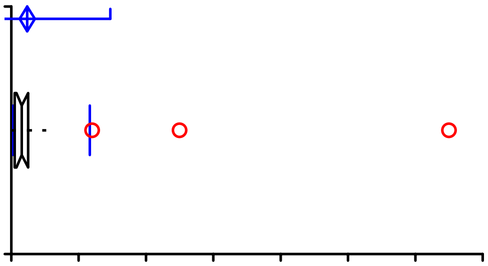
Variable | Zinc in groundwater

Performed by | tl

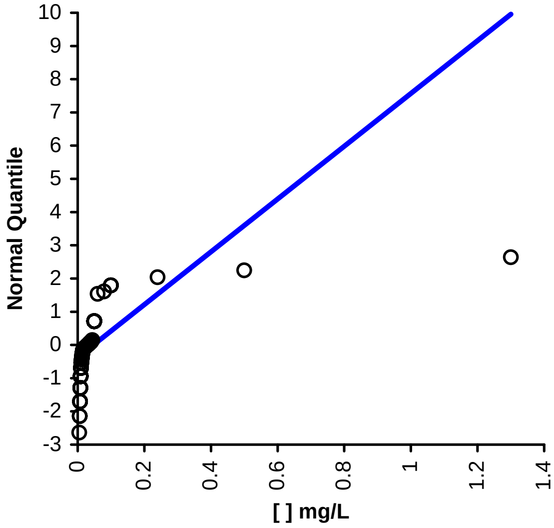
Date | 28 April 2005



n	121
Mean	0.047
95% CI	0.025 to 0.070
Variance	0.0158
SD	0.1258
SE	0.0114
CV	266%
% Detection	59.5%
Minimum	0.006
Maximum	1.3
Median	0.031
95.5% CI	0.015 to 0.050
Range	1.295
IQR	0.04

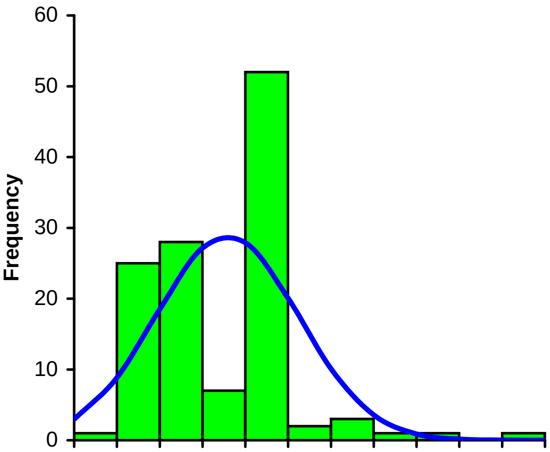


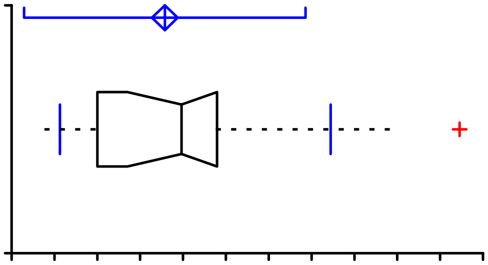
Percentile	
2.5th	0.006
25th	0.010
50th	0.031
75th	0.050
97.5th	0.233

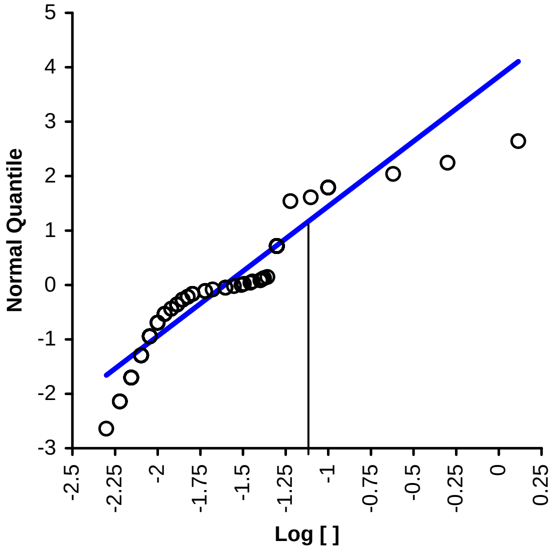


	Coefficient	**p**
Kolmogorov-Smirnov	4.7057	< 0.01
Skewness	8.7733	<0.0001
Kurtosis	84.4713	<0.0001

Test	**Continuous summary descriptives**
Variable	Zinc in groundwater
Performed by	tl
Date	28 April 2005







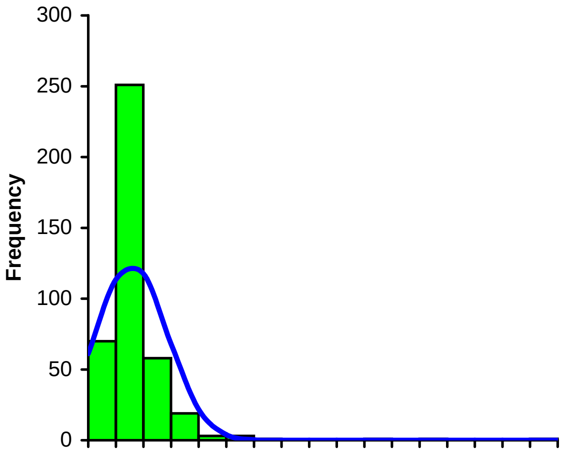
n	121
Mean	-1.606
95% CI	-1.682 to -1.531
Variance	0.1754
SD	0.4189
SE	0.0381
CV	-26%
% Detection	59.5%
Minimum	-2.2218
Maximum	0.1139
Median	-1.509
95.5% CI	-1.824 to -1.301
Range	2.4150
IQR	0.6990

Percentile	
2.5th	-2.219
25th	-2.000
50th	-1.509
75th	-1.301
97.5th	-0.639

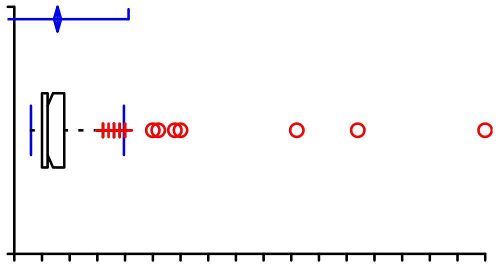
	Coefficient	**p**
Kolmogorov-Smirnov	2.2674	< 0.01
Skewness	0.7018	0.0025
Kurtosis	1.3746	0.0201

Statistical Analysis of Constituents in Soil

Test	**Continuous summary descriptives**
Variable	Antimony in soil
Performed by	tl
Date	15 April 2005

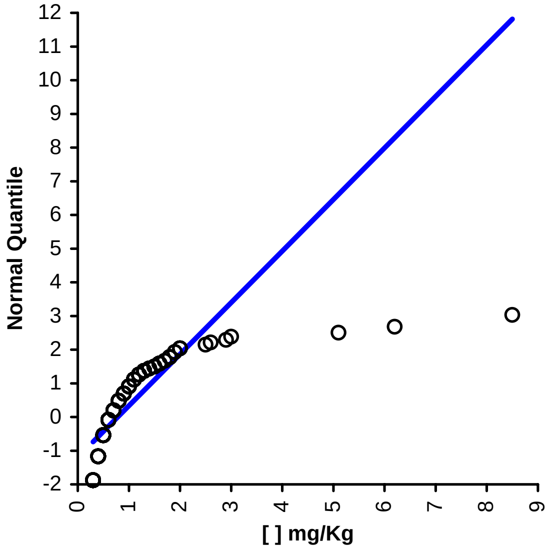


n	408
Mean	0.780
95% CI	0.716 to 0.844
Variance	0.4271
SD	0.6535
SE	0.0324
CV	84%
% Detection	85.0%
Minimum	0.3
Maximum	8.5



Median	0.600
95.8% CI	0.600 to 0.700
Range	8.2
IQR	0.4

Percentile	
2.5th	0.300
25th	0.500
50th	0.600
75th	0.900
97.5th	1.978



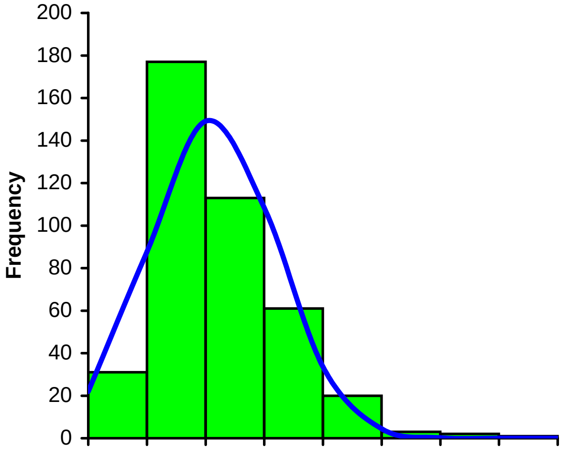
	Coefficient	p
Kolmogorov-Smirnov	4.6811	< 0.01
Skewness	6.6115	<0.0001
Kurtosis	63.3227	<0.0001

analysed with: Analyse-it + General 1.71

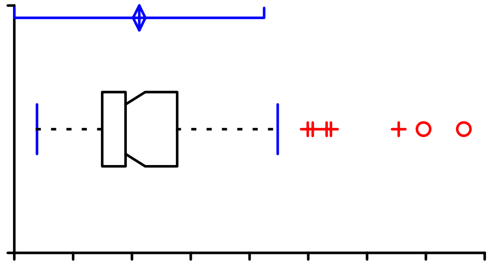
Test **Continuous summary descriptives**

Variable Antimony in soil

Performed by tl **Date** 15 April 2005

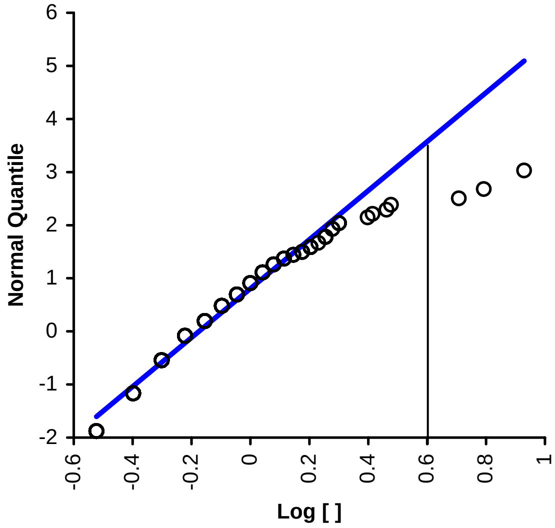


n	408
Mean	-0.175
95% CI	-0.196 to -0.154
Variance	0.0470
SD	0.2168
SE	0.0107
CV	-124%
% Detection	85.0%
Minimum	-0.5229
Maximum	0.9294



Median	-0.222
95.8% CI	-0.222 to -0.155
Range	1.452
IQR	0.255

Percentile	
2.5th	-0.523
25th	-0.301
50th	-0.222
75th	-0.046
97.5th	0.296



	Coefficient	**p**
Kolmogorov-Smirnov	2.9000	< 0.01
Skewness	1.0335	<0.0001
Kurtosis	2.5887	<0.0001

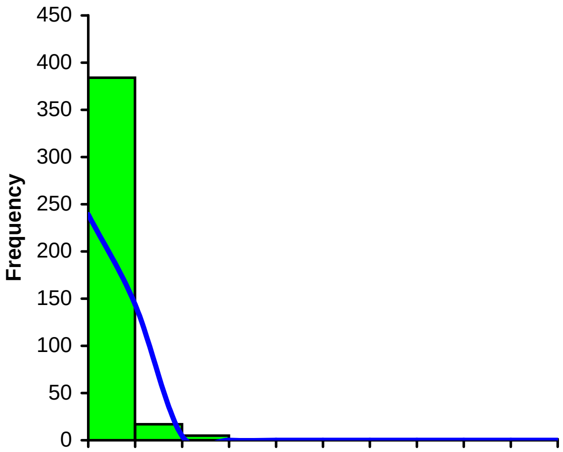
analysed with: Analyse-it + General 1.71

Test Continuous summary descriptives

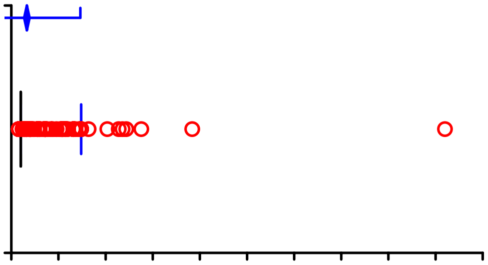
Variable Arsenic in soil

Performed by tl

Date 15 April 2005

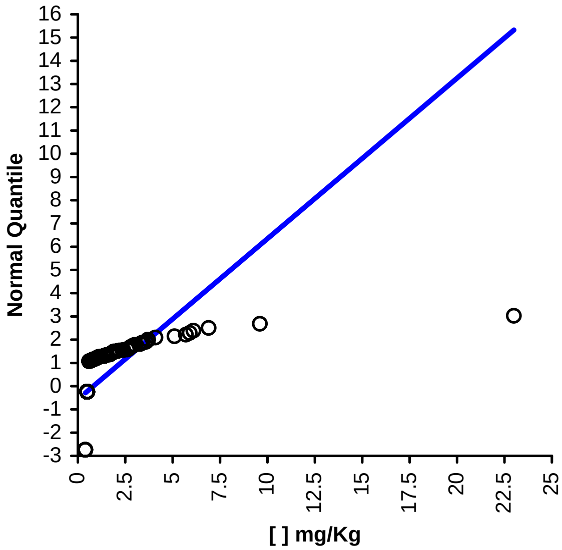


n	408
Mean	0.824
95% CI	0.683 to 0.965
Variance	2.0932
SD	1.4468
SE	0.0716
CV	176%
% Detection	14.7%
Minimum	0.4
Maximum	23



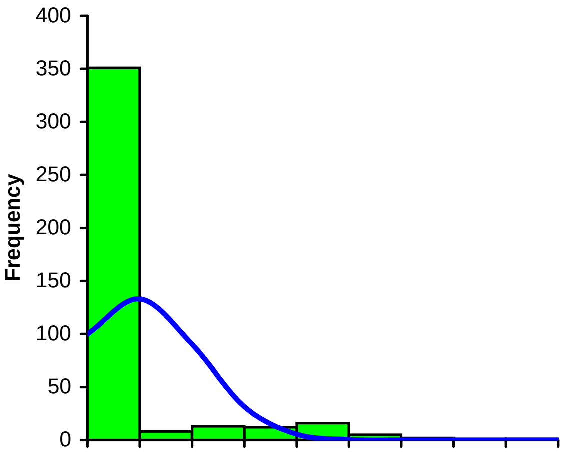
Median	0.500
95.8% CI	0.500 to 0.500
Range	22.6
IQR	0

Percentile	
2.5th	0.500
25th	0.500
50th	0.500
75th	0.500
97.5th	3.700

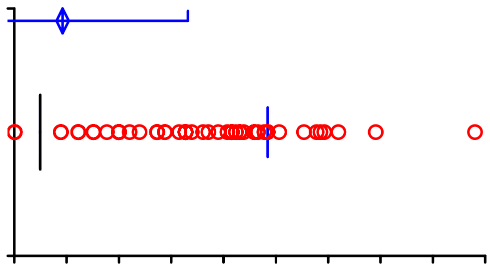


	Coefficient	p
Kolmogorov-Smirnov	8.9812	< 0.01
Skewness	10.2139	<0.0001
Kurtosis	140.4708	<0.0001

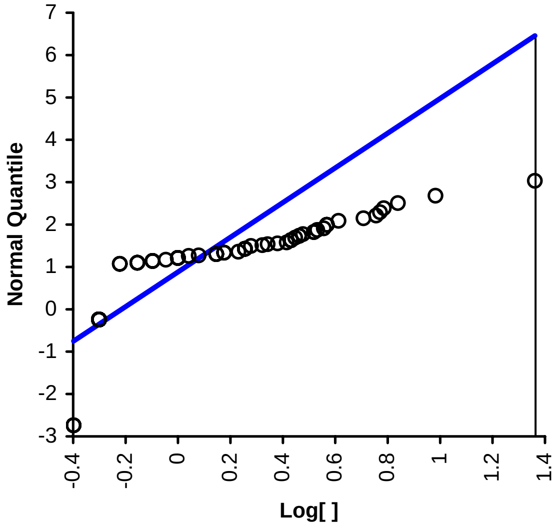
Test	**Continuous summary descriptives**
Variable	Arsenic in soil
Performed by	tl
Date	15 April 2005



n	408
Mean	-0.215
95% CI	-0.239 to -0.191
Variance	0.0597
SD	0.2442
SE	0.0121
CV	-113%
% Detection	14.7%
Minimum	-0.3979
Maximum	1.3617
Median	-0.301
95.8% CI	-0.301 to -0.301
Range	1.7597
IQR	0



Percentile	
2.5th	-0.301
25th	-0.301
50th	-0.301
75th	-0.301
97.5th	0.568



	Coefficient	p
Kolmogorov-Smirnov	9.9685	< 0.01
Skewness	3.1077	<0.0001
Kurtosis	9.9225	<0.0001

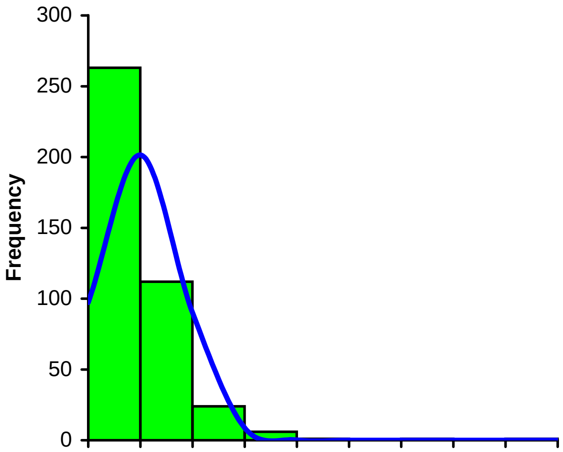
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

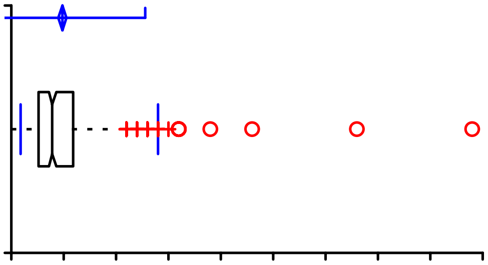
Variable | Barium in soil

Performed by | tl

Date | 15 April 2005

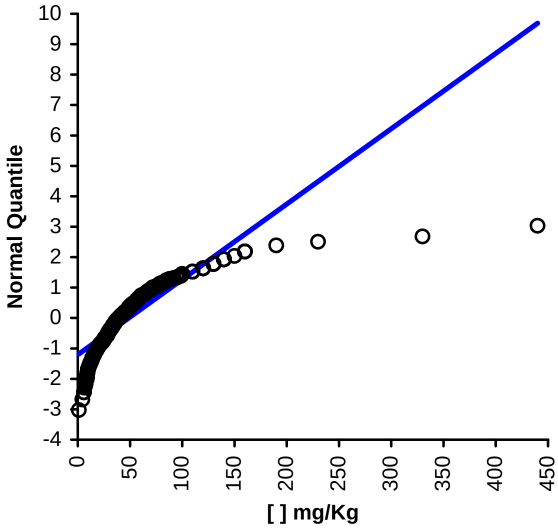


n	408
Mean	48.735
95% CI	44.806 to 52.664
Variance	1629.8119
SD	40.3709
SE	1.9987
CV	83%
% Detection	100.0%
Minimum	1
Maximum	440



Median	39.000
95.8% CI	36.000 to 43.000
Range	439
IQR	33

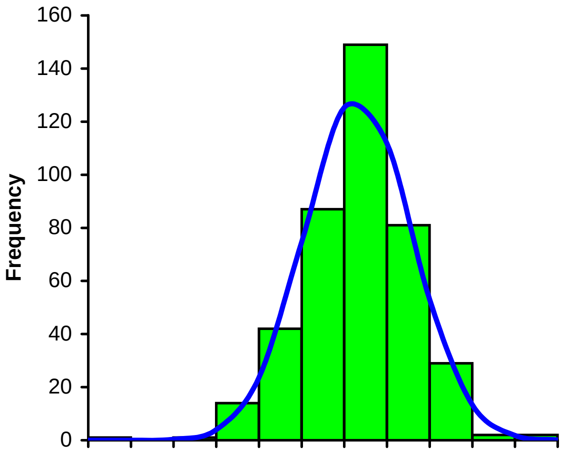
Percentile	
2.5th	8.823
25th	26.000
50th	39.000
75th	59.000
97.5th	140.000

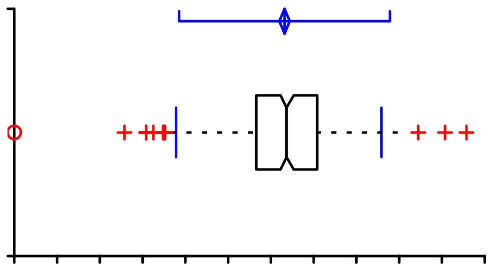


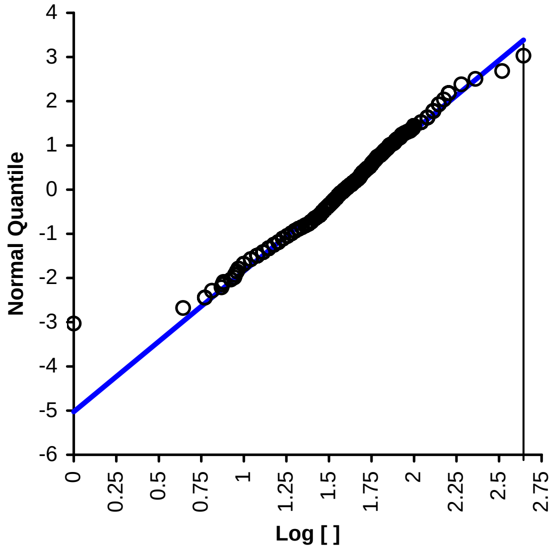
	Coefficient	**p**
Kolmogorov-Smirnov	3.1388	< 0.01
Skewness	3.9154	<0.0001
Kurtosis	27.8067	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Barium in soil
Performed by	tl
Date	2 May 2005





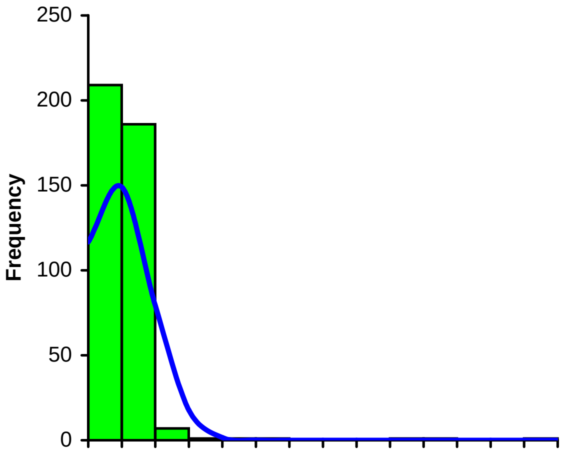


n	408
Mean	1.580
95% CI	1.549 to 1.610
Variance	0.0988
SD	0.3144
SE	0.0156
CV	20%
% Detection	100.0%
Minimum	0
Maximum	2.6435
Median	1.591
95.8% CI	1.556 to 1.633
Range	2.6435
IQR	0.3559

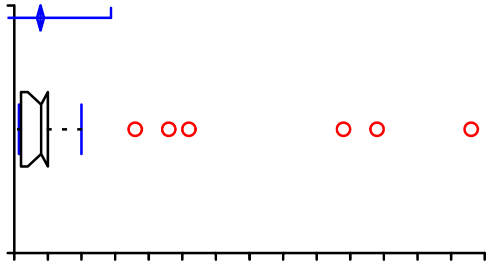
Percentile	
2.5th	0.946
25th	1.415
50th	1.591
75th	1.771
97.5th	2.146

	Coefficient	**p**
Kolmogorov-Smirnov	1.3536	< 0.01
Skewness	-0.4128	0.0009
Kurtosis	1.5572	<0.0001

Test	**Continuous summary descriptives**
Variable	Cadmium in soil
Performed by	tl
Date	15 April 2005

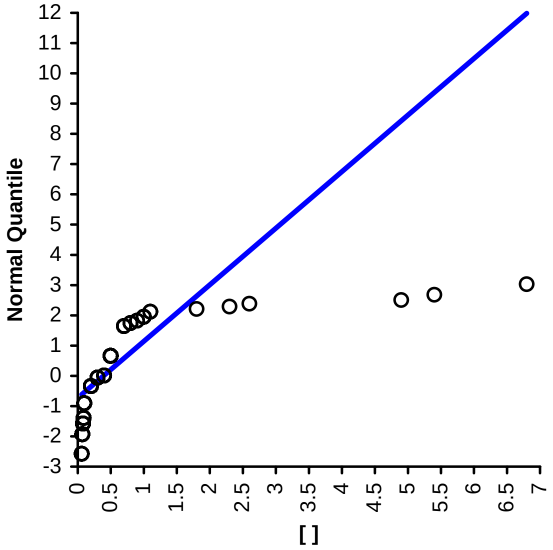


n	408
Mean	0.390
95% CI	0.338 to 0.442
Variance	0.2862
SD	0.5349
SE	0.0265
CV	137%
% Detection	57.1%
Minimum	0.06
Maximum	6.8



Median	0.400
95.8% CI	0.200 to 0.500
Range	6.74
IQR	0.4

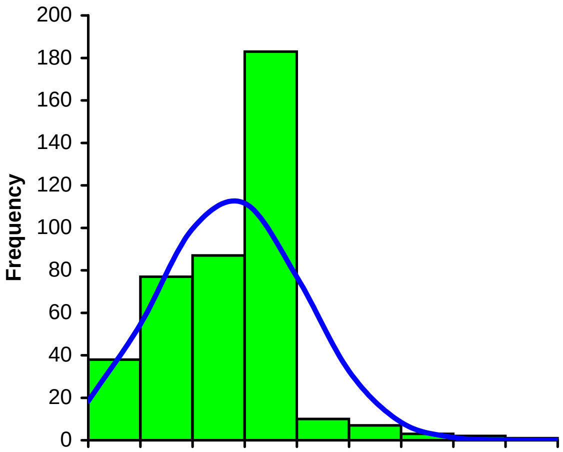
Percentile	
2.5th	0.070
25th	0.100
50th	0.400
75th	0.500
97.5th	1.000



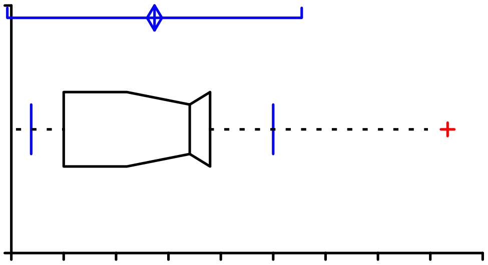
	Coefficient	**p**
Kolmogorov-Smirnov	7.3263	< 0.01
Skewness	8.0748	<0.0001
Kurtosis	81.5026	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Cadmium in soil
Performed by	tl
Date	15 April 2005

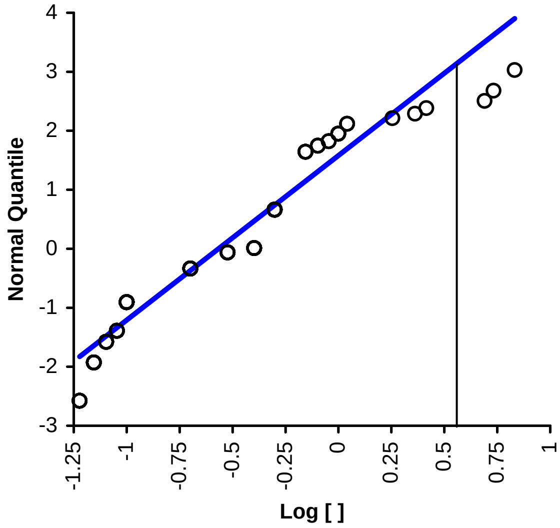


n	408
Mean	-0.567
95% CI	-0.601 to -0.532
Variance	0.1284
SD	0.3584
SE	0.0177
CV	-63%
% Detection	57.1%
Minimum	-1.2218
Maximum	0.8325



Median	-0.398
95.8% CI	-0.699 to -0.301
Range	2.0544
IQR	0.6990

Percentile	
2.5th	-1.155
25th	-1.000
50th	-0.398
75th	-0.301
97.5th	0.000



	Coefficient	p
Kolmogorov-Smirnov	5.2266	< 0.01
Skewness	0.0924	0.4408
Kurtosis	-0.0041	0.9247

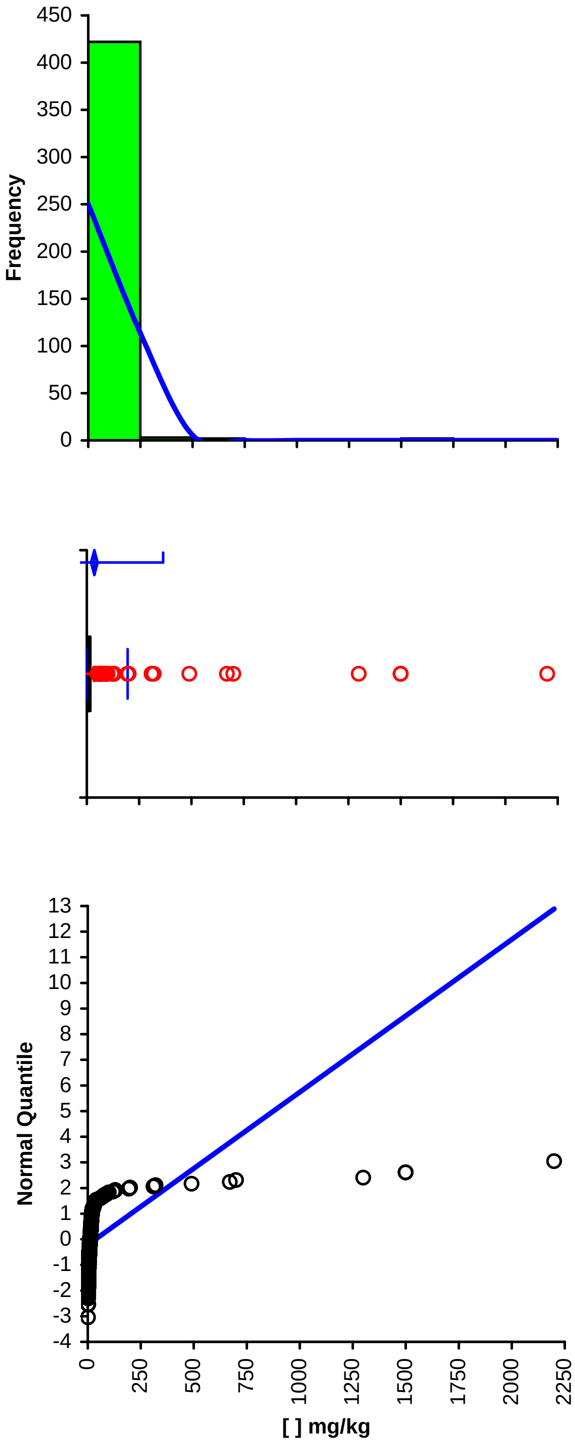
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

Variable | Chromium in soil

Performed by | tl

Date | 15 April 2005

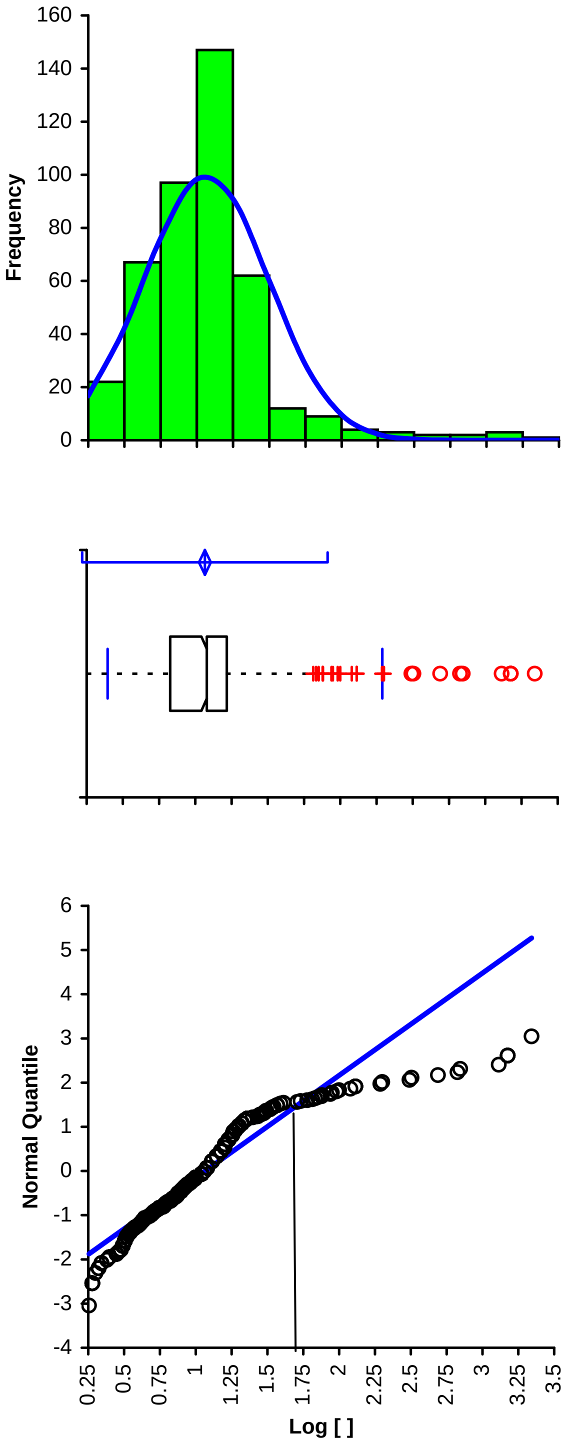


n	431
Mean	35.810
95% CI	19.911 to 51.710
Variance	28203.2237
SD	167.9382
SE	8.0893
CV	469%
% Detection	100.0%
Minimum	1.8
Maximum	2200
Median	12.000
95.7% CI	11.000 to 12.000
Range	2198.2
IQR	9.8

Percentile	
2.5th	2.480
25th	6.700
50th	12.000
75th	16.500
97.5th	195.200

	Coefficient	**p**
Kolmogorov-Smirnov	8.9863	< 0.01
Skewness	9.4342	<0.0001
Kurtosis	98.0679	<0.0001

Test	**Continuous summary descriptives**
Variable	Chromium in soil
Performed by	tl
Date	15 April 2005



n	431
Mean	1.066
95% CI	1.025 to 1.107
Variance	0.1866
SD	0.4320
SE	0.0208
CV	41%
% Detection	100.0%
Minimum	0.2553
Maximum	3.3424
Median	1.079
95.7% CI	1.041 to 1.079
Range	3.0872
IQR	0.3912

Percentile	
2.5th	0.394
25th	0.826
50th	1.079
75th	1.217
97.5th	2.290

	Coefficient	**p**
Kolmogorov-Smirnov	3.0872	< 0.01
Skewness	1.8141	<0.0001
Kurtosis	6.5654	<0.0001

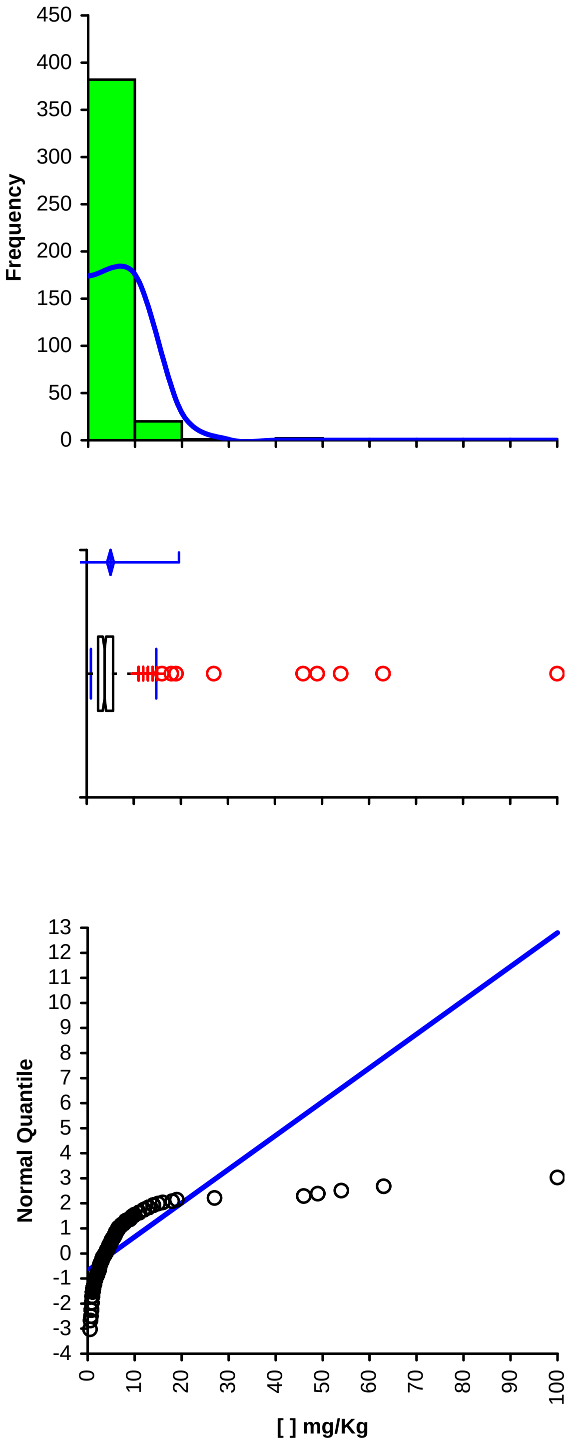
analysed with: Analyse-it + General 1.71

Test **Continuous summary descriptives**

Variable Cobalt in soil

Performed by tl

Date 15 April 2005



n	408
Mean	5.050
95% CI	4.328 to 5.772
Variance	55.0294
SD	7.4182
SE	0.3673
CV	147%
% Detection	99.0%
Minimum	0.5
Maximum	100
Median	3.800
95.8% CI	3.400 to 4.100
Range	99.5
IQR	3.2

Percentile	
2.5th	0.900
25th	2.400
50th	3.800
75th	5.600
97.5th	14.775

	Coefficient	**p**
Kolmogorov-Smirnov	5.5840	< 0.01
Skewness	8.1063	<0.0001
Kurtosis	83.6260	<0.0001

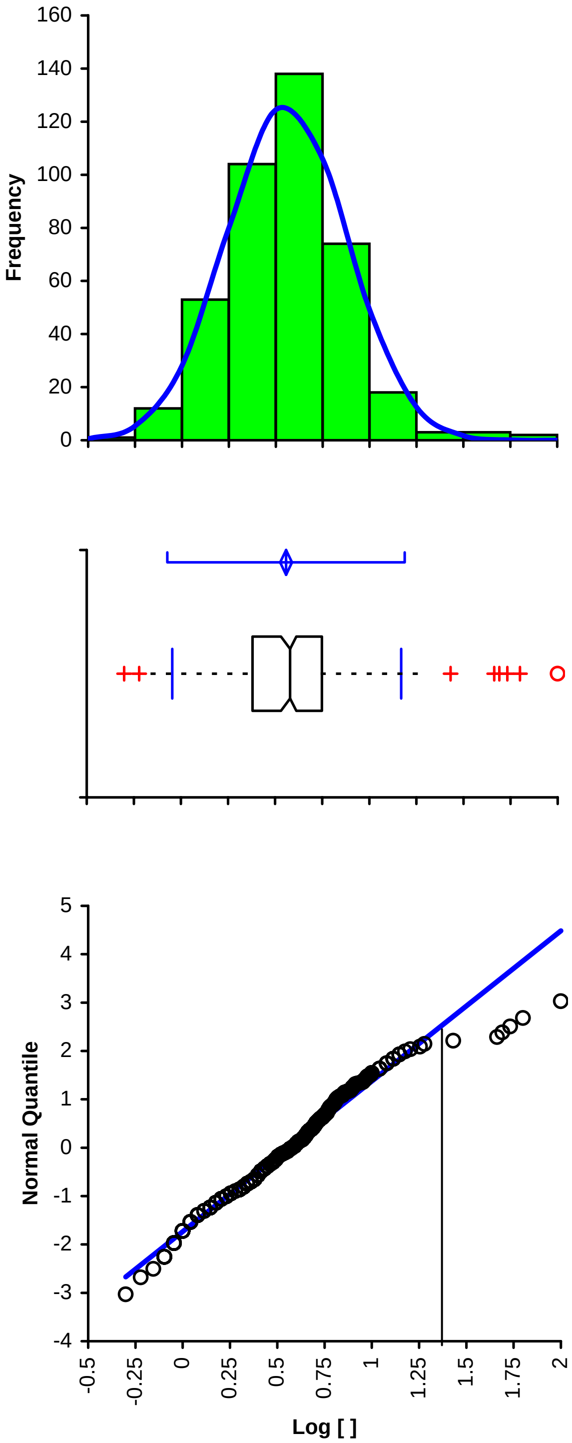
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

Variable | Cobalt in soil

Performed by | tl

Date | 15 April 2005



n	408
Mean	0.558
95% CI	0.527 to 0.589
Variance	0.1034
SD	0.3216
SE	0.0159
CV	58%
% Detection	99.0%
Minimum	-0.3010
Maximum	2

Median	0.580
95.8% CI	0.531 to 0.613
Range	2.3010
IQR	0.3680

Percentile	
2.5th	-0.046
25th	0.380
50th	0.580
75th	0.748
97.5th	1.169

	Coefficient	p
Kolmogorov-Smirnov	1.2053	< 0.01
Skewness	0.4368	0.0005
Kurtosis	1.7240	<0.0001

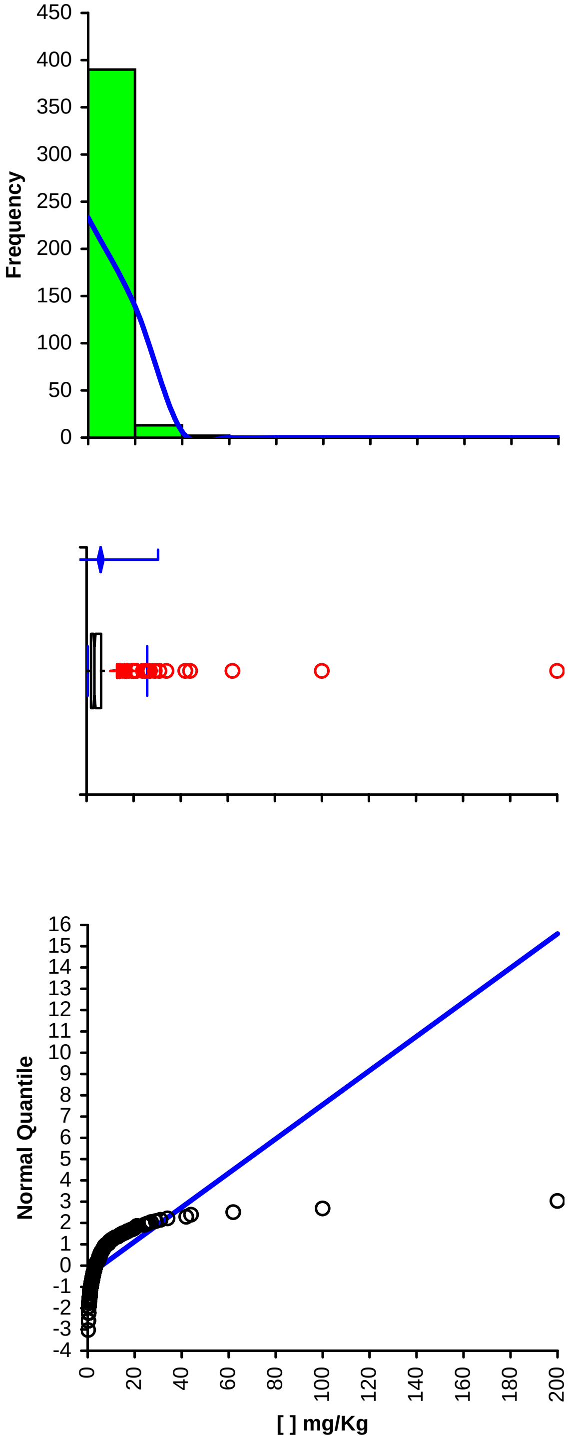
analysed with: Analyse-it + General 1.71

Test Continuous summary descriptives

Variable Copper in soil

Performed by tl

Date 15 April 2005



n	408
Mean	5.987
95% CI	4.775 to 7.198
Variance	154.8845
SD	12.4453
SE	0.6161
CV	208%
% Detection	98.8%
Minimum	0.2
Maximum	200
Median	3.300
95.8% CI	3.000 to 3.800
Range	199.8
IQR	4.275

Percentile	
2.5th	0.500
25th	1.900
50th	3.300
75th	6.175
97.5th	25.775

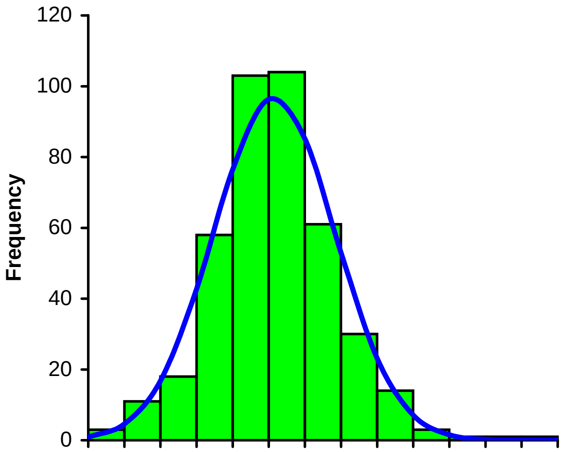
	Coefficient	**p**
Kolmogorov-Smirnov	6.5025	< 0.01
Skewness	10.9017	<0.0001
Kurtosis	154.0327	<0.0001

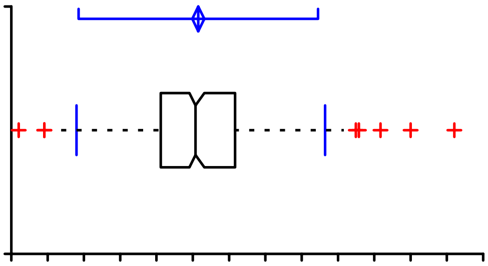
Test Continuous summary descriptives

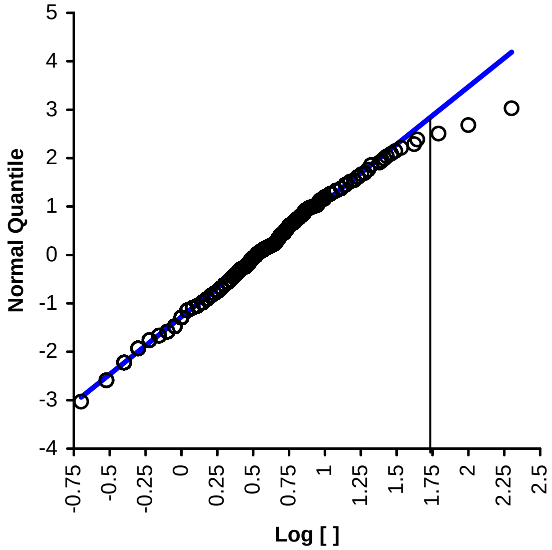
Variable Copper in soil

Performed by tl

Date 15 April 2005







n	408
Mean	0.538
95% CI	0.497 to 0.579
Variance	0.1771
SD	0.4208
SE	0.0208
CV	78%
% Detection	98.8%
Minimum	-0.6990
Maximum	2.3010
Median	0.519
95.8% CI	0.477 to 0.580
Range	3
IQR	0.5119

Percentile	
2.5th	-0.301
25th	0.279
50th	0.519
75th	0.791
97.5th	1.411

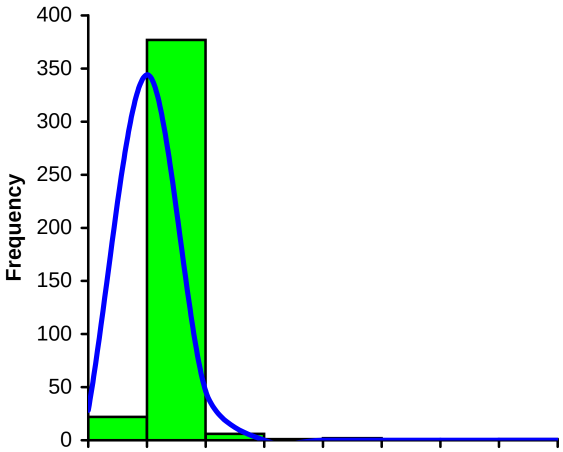
	Coefficient	**p**
Kolmogorov-Smirnov	0.8743	0.0636
Skewness	0.2462	0.0423
Kurtosis	0.8923	0.0049

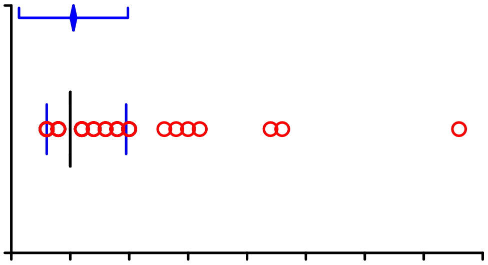
Test Continuous summary descriptives

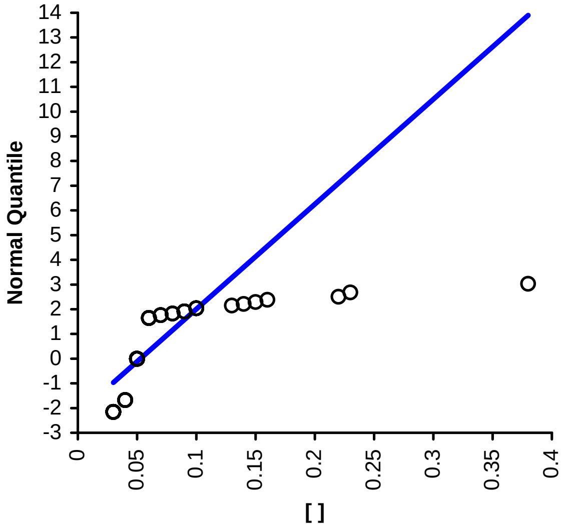
Variable Mercury in soil

Performed by tl

Date 15 April 2005





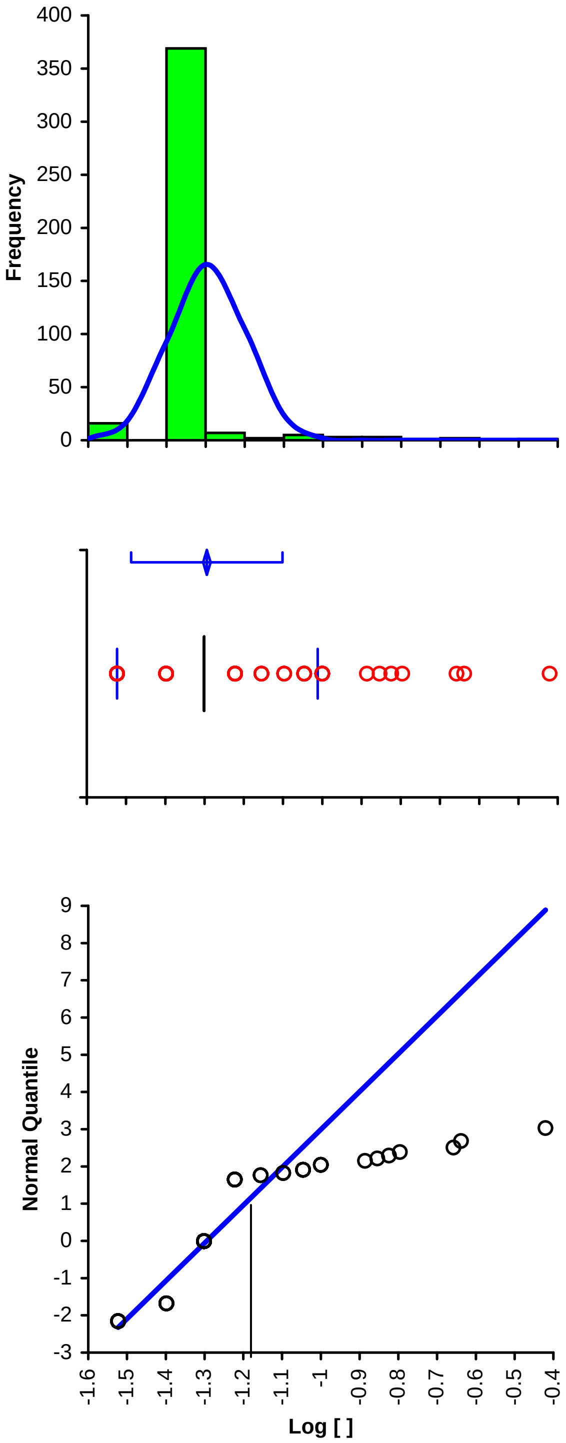


n	409
Mean	0.053
95% CI	0.050 to 0.055
Variance	0.0006
SD	0.0236
SE	0.0012
CV	45%
% Detection	12.2%
Minimum	0.03
Maximum	0.38
Median	0.050
95.2% CI	0.050 to 0.050
Range	0.35
IQR	0

Percentile	
2.5th	0.030
25th	0.050
50th	0.050
75th	0.050
97.5th	0.098

	Coefficient	p
Kolmogorov-Smirnov	9.8767	< 0.01
Skewness	9.2175	<0.0001
Kurtosis	106.7591	<0.0001

Test	**Continuous summary descriptives**
Variable	Mercury in soil
Performed by	tl
Date	15 April 2005



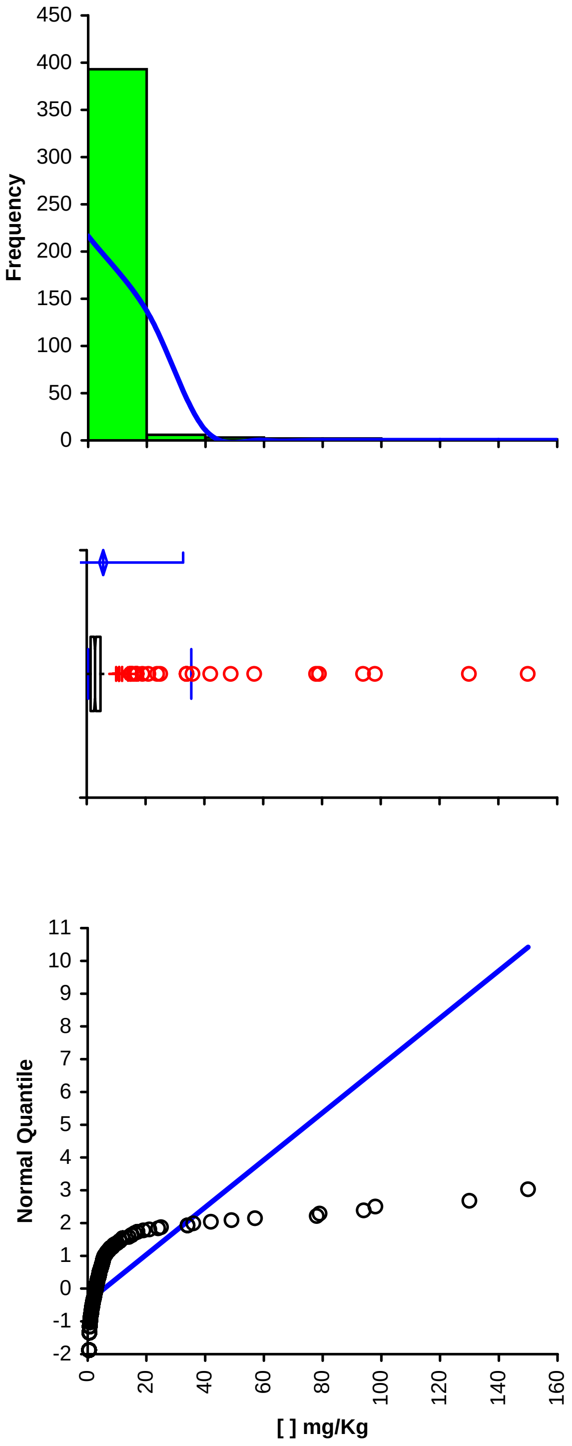
n	409
Mean	-1.294
95% CI	-1.304 to -1.285
Variance	0.0097
SD	0.0983
SE	0.0049
CV	-8%
% Detection	12.2%
Minimum	-1.5229
Maximum	-0.4202
Median	-1.301
95.2% CI	-1.301 to -1.301
Range	1.1027
IQR	0

Percentile	
2.5th	-1.523
25th	-1.301
50th	-1.301
75th	-1.301
97.5th	-1.011

	Coefficient	p
Kolmogorov-Smirnov	9.5062	< 0.01
Skewness	3.9773	<0.0001
Kurtosis	28.6427	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Lead in soil
Performed by	tl
Date	15 April 2005



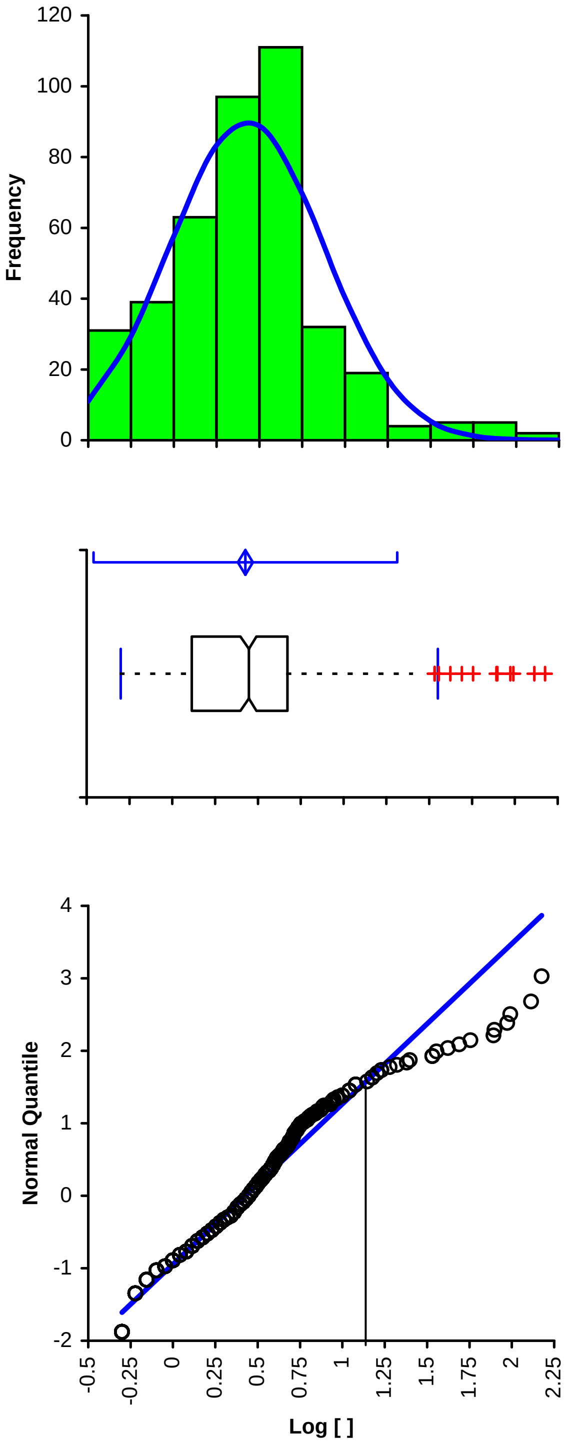
n	408
Mean	5.600
95% CI	4.251 to 6.948
Variance	192.1289
SD	13.8611
SE	0.6862
CV	248%
% Detection	91.4%
Minimum	0.6
Maximum	150
Median	2.800
95.8% CI	2.500 to 3.100
Range	149.5
IQR	3.4

Percentile	
2.5th	0.500
25th	1.300
50th	2.800
75th	4.700
97.5th	35.550

	Coefficient	**p**
Kolmogorov-Smirnov	7.2118	< 0.01
Skewness	6.9936	<0.0001
Kurtosis	56.4009	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Lead in soil
Performed by	tl
Date	15 April 2005



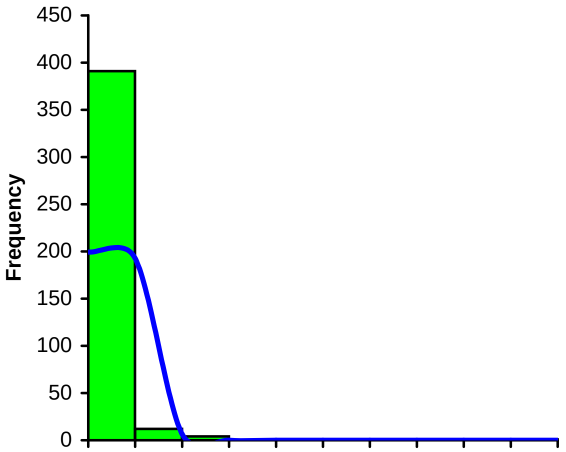
n	408
Mean	0.427
95% CI	0.383 to 0.471
Variance	0.2046
SD	0.4524
SE	0.0224
CV	106%
% Detection	91.4%
Minimum	-0.222
Maximum	2.1761
Median	0.447
95.8% CI	0.398 to 0.491
Range	2.4771
IQR	0.5582

Percentile	
2.5th	-0.301
25th	0.114
50th	0.447
75th	0.672
97.5th	1.551

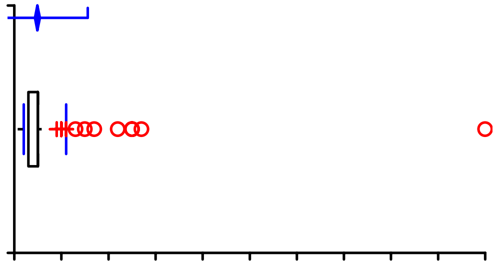
	Coefficient	**p**
Kolmogorov-Smirnov	1.5464	< 0.01
Skewness	0.6770	<0.0001
Kurtosis	1.3649	0.0002

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Molybdenum in soil
Performed by	tl
Date	15 April 2005

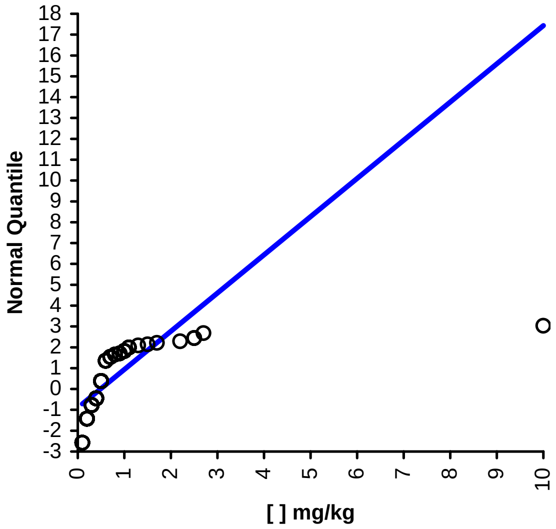


n	408	
Mean	0.490	
95% CI	0.437	to 0.543
Variance	0.2977	
SD	0.5456	
SE	0.0270	
CV	111%	
% Detection	53.4%	
Minimum	0.1	
Maximum	10	



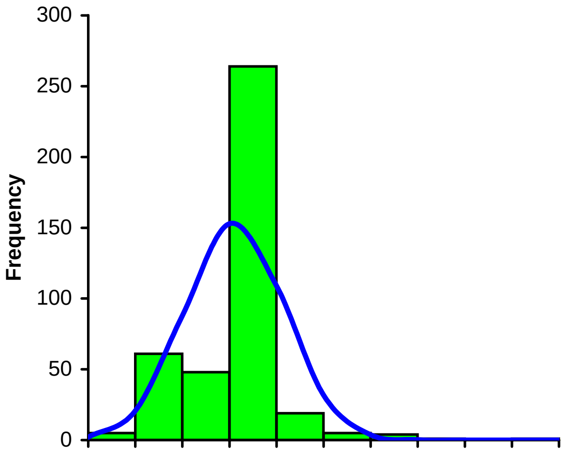
Median	0.500	
95.8% CI	0.500	to 0.500
Range	9.9	
IQR	0.2	

Percentile	
2.5th	0.200
25th	0.300
50th	0.500
75th	0.500
97.5th	1.100

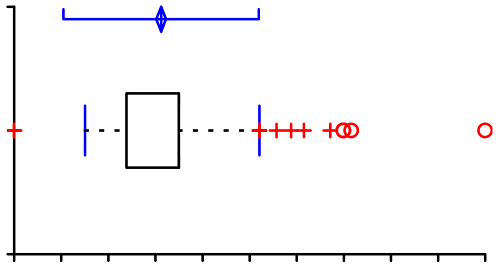


	Coefficient	p
Kolmogorov-Smirnov	7.8843	< 0.01
Skewness	13.6056	<0.0001
Kurtosis	229.0684	<0.0001

Test	**Continuous summary descriptives**
Variable	Molybdenum in soil
Performed by	tl
Date	15 April 2005

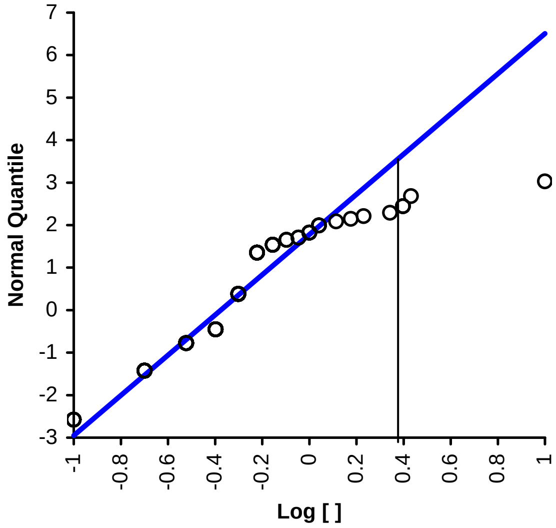


n	408
Mean	-0.376
95% CI	-0.397 to -0.355
Variance	0.0447
SD	0.2115
SE	0.0105
CV	-56%
% Detection	53.4%
Minimum	-1
Maximum	1



Median	-0.301
95.8% CI	-0.301 to -0.301
Range	2
IQR	0.2218

Percentile	
2.5th	-0.699
25th	-0.523
50th	-0.301
75th	-0.301
97.5th	0.041



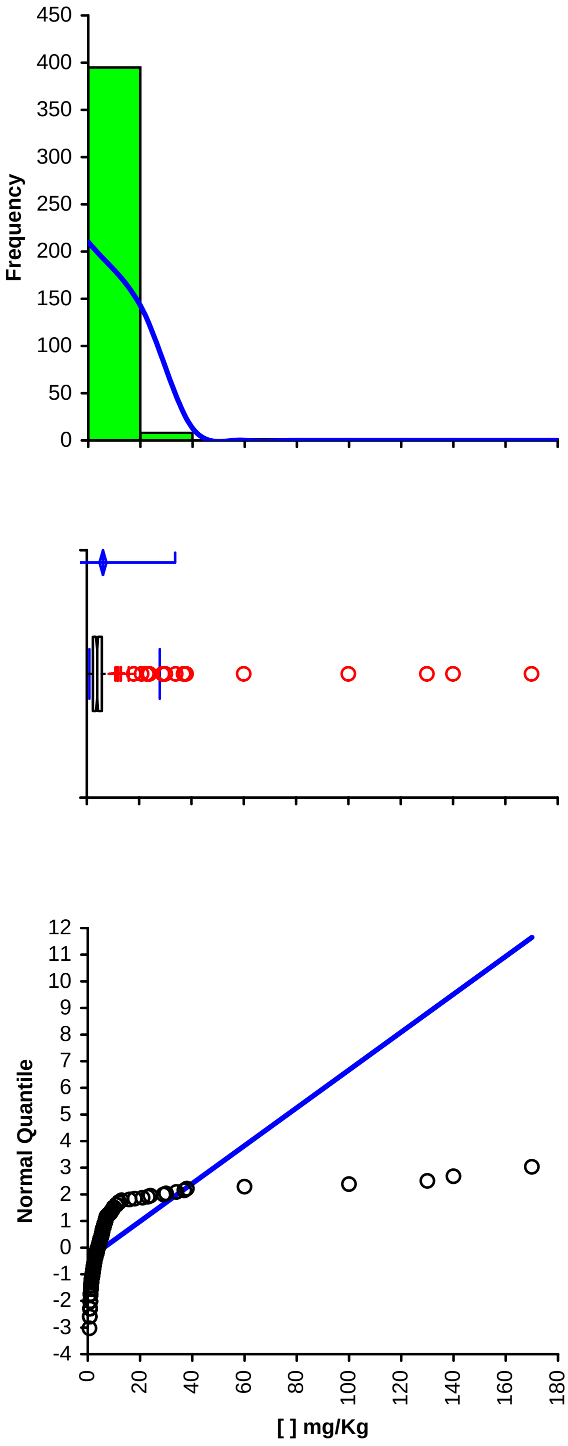
	Coefficient	p
Kolmogorov-Smirnov	5.3802	< 0.01
Skewness	0.6261	<0.0001
Kurtosis	5.7055	<0.0001

Test **Continuous summary descriptives**

Variable Nickel in soil

Performed by tl

Date 15 April 2005

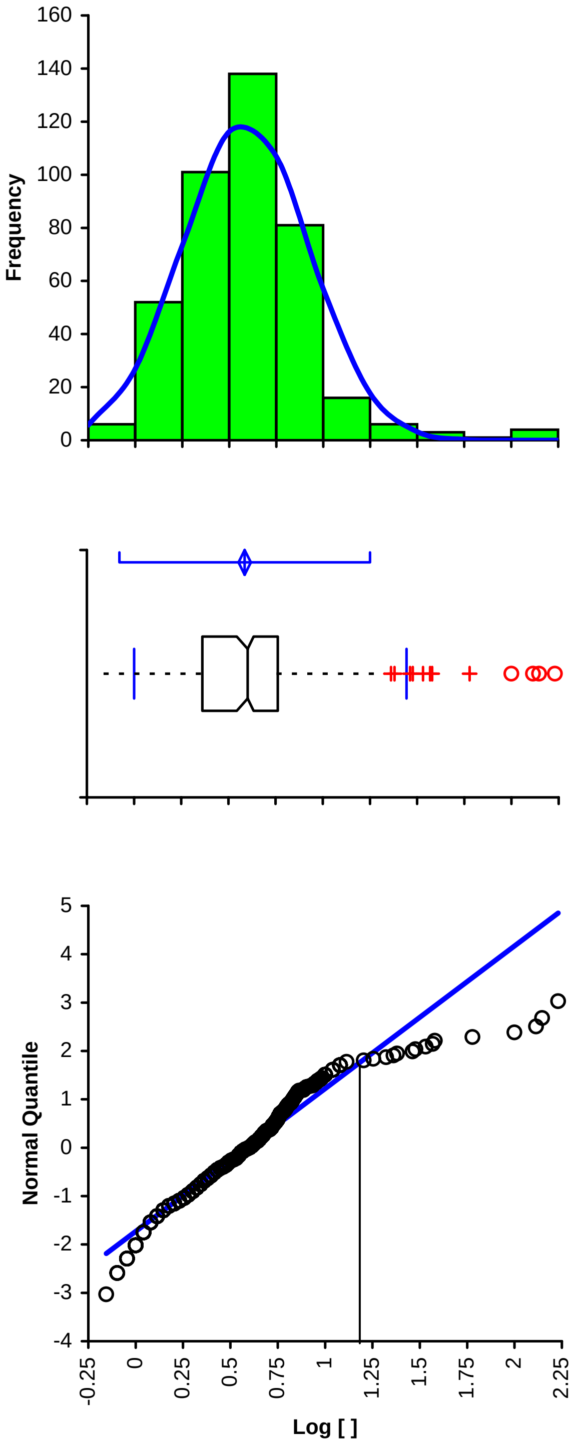


n	408
Mean	6.173
95% CI	4.804 to 7.541
Variance	197.7843
SD	14.0636
SE	0.6963
CV	228%
% Detection	99.5%
Minimum	0.7
Maximum	170
Median	4.000
95.8% CI	3.500 to 4.300
Range	169.3
IQR	3.475

Percentile	
2.5th	1.000
25th	2.300
50th	4.000
75th	5.775
97.5th	27.875

	Coefficient	**p**
Kolmogorov-Smirnov	7.0967	< 0.01
Skewness	8.6885	<0.0001
Kurtosis	84.0218	<0.0001

Test	**Continuous summary descriptives**
Variable	Nickel in soil
Performed by	tl
Date	15 April 2005



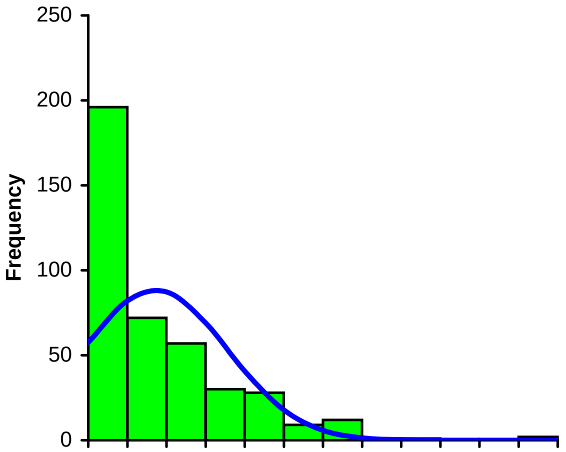
n	408
Mean	0.586
95% CI	0.553 to 0.619
Variance	0.1149
SD	0.3389
SE	0.0168
CV	58%
% Detection	99.5%
Minimum	-0.1549
Maximum	2.2304
Median	0.602
95.8% CI	0.544 to 0.633
Range	2.385
IQR	0.400

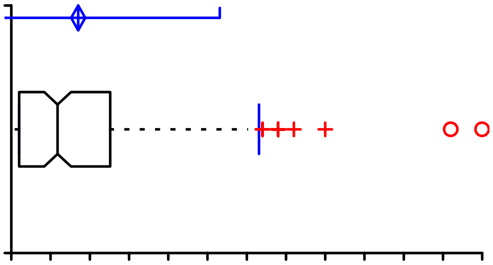
Percentile	
2.5th	0.000
25th	0.362
50th	0.602
75th	0.762
97.5th	1.444

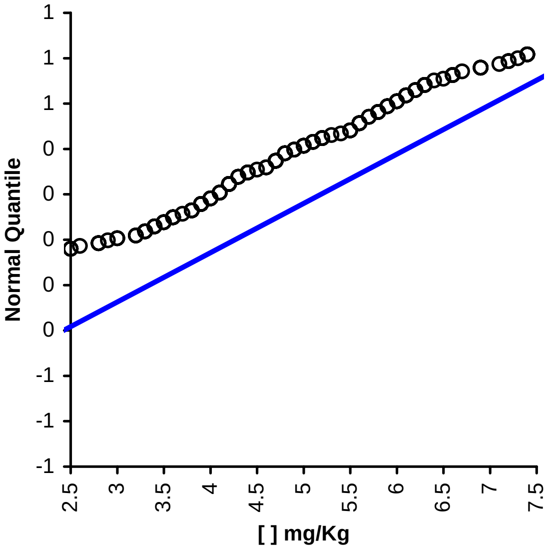
	Coefficient	**p**
Kolmogorov-Smirnov	1.8578	< 0.01
Skewness	1.0457	<0.0001
Kurtosis	3.7124	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**		
Variable	Selenium in soil		
Performed by	tl	**Date**	15 April 2005







n	408
Mean	4.263
95% CI	3.816 to 4.711
Variance	21.1874
SD	4.6030
SE	0.2279
CV	108%
% Detection	63.2%
Minimum	0.3
Maximum	30
Median	2.950
95.8% CI	2.100 to 3.800
Range	29.7
IQR	5.8

Percentile	
2.5th	0.500
25th	0.500
50th	2.950
75th	6.300
97.5th	15.775

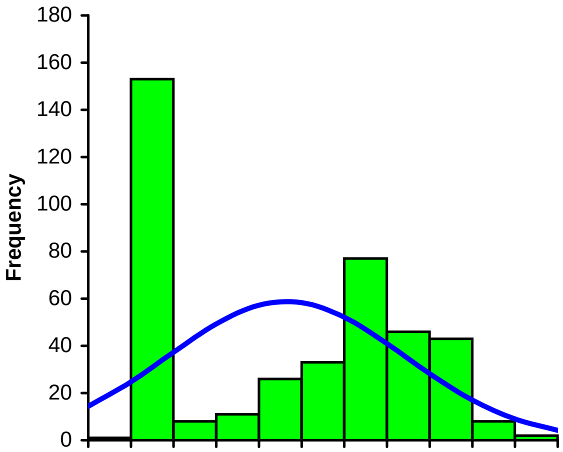
	Coefficient	**p**
Kolmogorov-Smirnov	4.0844	< 0.01
Skewness	1.6584	<0.0001
Kurtosis	3.9183	<0.0001

analysed with: Analyse-it + General 1.71

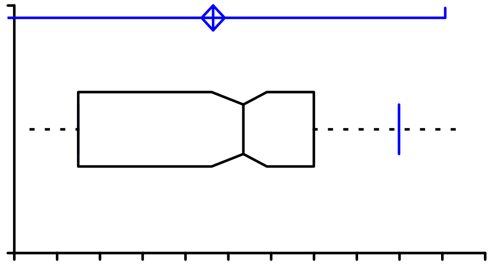
Test **Continuous summary descriptives**

Variable Selenium in soil

Performed by tl **Date** 15 April 2005

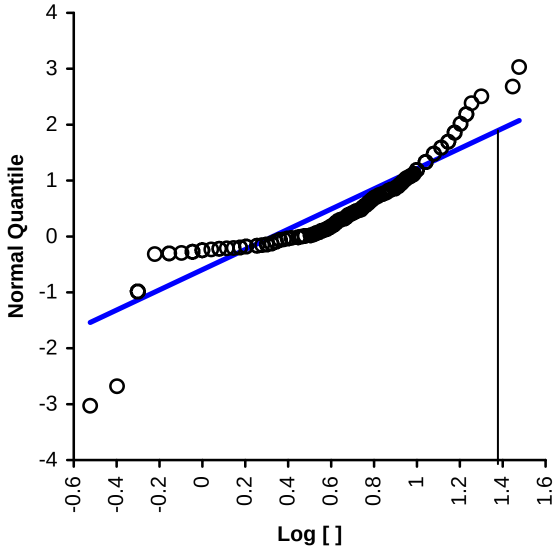


n	408
Mean	0.329
95% CI	0.275 to 0.383
Variance	0.3064
SD	0.5535
SE	0.0274
CV	168%
% Detection	63.2%
Minimum	-0.5229
Maximum	1.4771



Median	0.470
95.8% CI	0.322 to 0.580
Range	2
IQR	1.1004

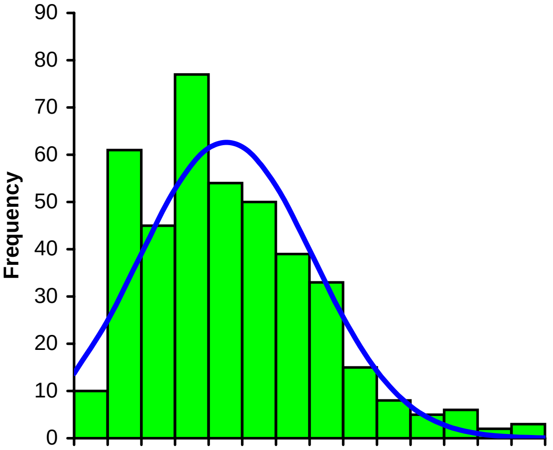
Percentile	
2.5th	-0.301
25th	-0.301
50th	0.470
75th	0.799
97.5th	1.198

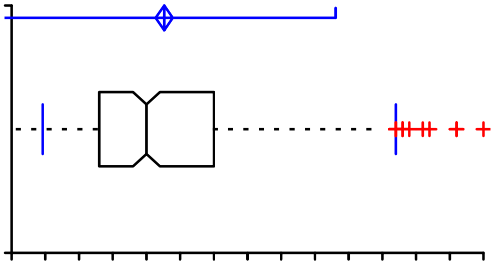


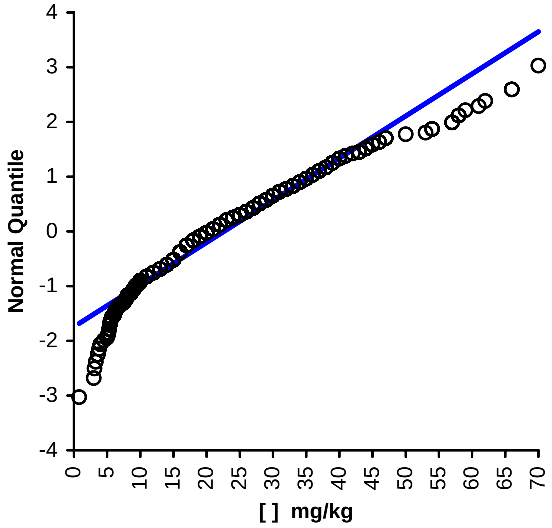
	Coefficient	**p**
Kolmogorov-Smirnov	5.0049	< 0.01
Skewness	0.0155	0.8971
Kurtosis	-1.5700	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**
Variable	Vanadium in soil
Performed by	tl
Date	15 April 2005







n	408
Mean	22.636
95% CI	21.373 to 23.899
Variance	168.4383
SD	12.9784
SE	0.6425
CV	57%
% Detection	100.0%
Minimum	0.8
Maximum	70
Median	20.000
95.8% CI	18.000 to 22.000
Range	69.2
IQR	17

Percentile	
2.5th	4.613
25th	13.000
50th	20.000
75th	30.000
97.5th	57.000

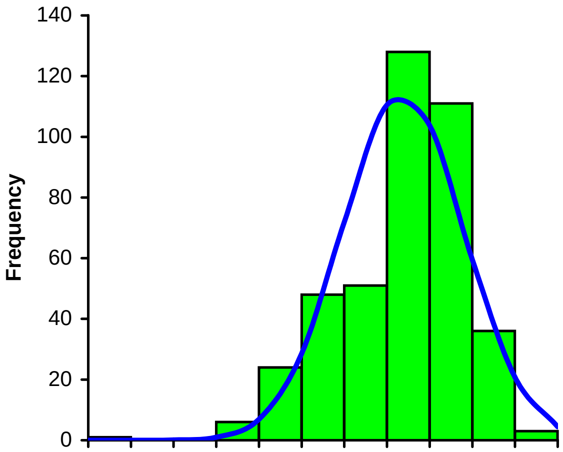
	Coefficient	**p**
Kolmogorov-Smirnov	1.8808	< 0.01
Skewness	0.8751	<0.0001
Kurtosis	0.6938	0.0190

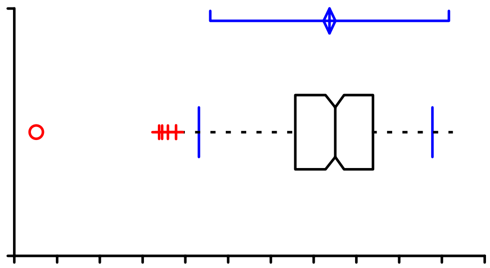
Test | **Continuous summary descriptives**

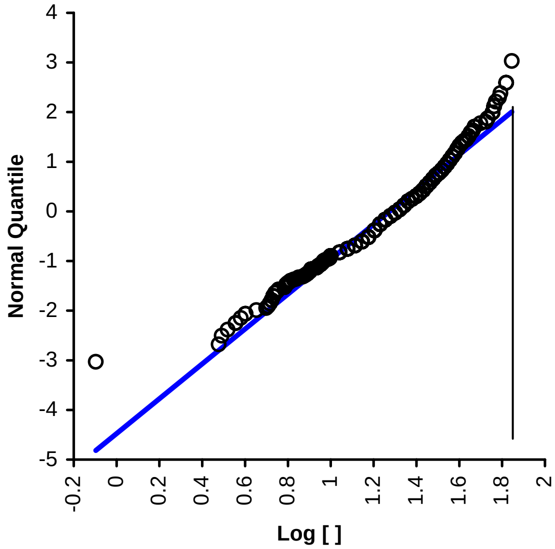
Variable | Vanadium in soil

Performed by | tl

Date | 15 April 2005







n	408
Mean	1.274
95% CI	1.247 to 1.302
Variance	0.0811
SD	0.2847
SE	0.0141
CV	22%
% Detection	100.0%
Minimum	-0.0969
Maximum	1.8451
Median	1.301
95.8% CI	1.255 to 1.342
Range	1.942008053
IQR	0.363177902

Percentile	
2.5th	0.664
25th	1.114
50th	1.301
75th	1.477
97.5th	1.756

	Coefficient	**p**
Kolmogorov-Smirnov	1.7008	< 0.01
Skewness	-0.7273	<0.0001
Kurtosis	0.8552	0.0064

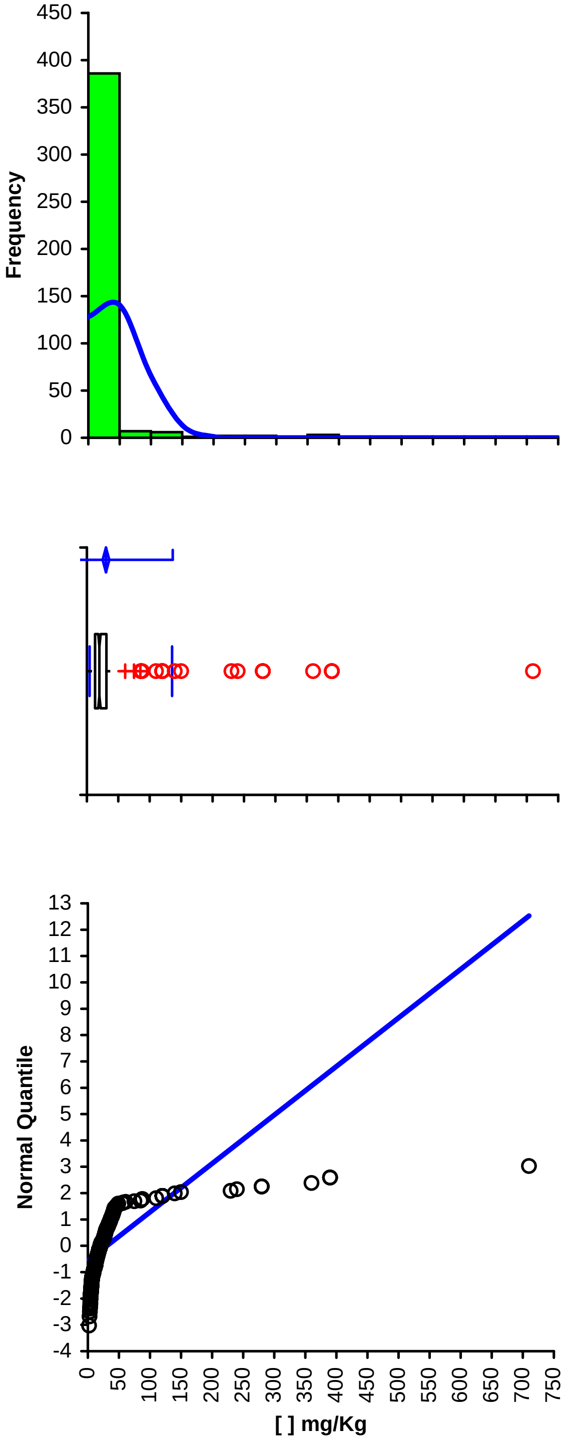
analysed with: Analyse-it + General 1.71

Test | **Continuous summary descriptives**

Variable | Zinc in soil

Performed by | tl

Date | 15 April 2005



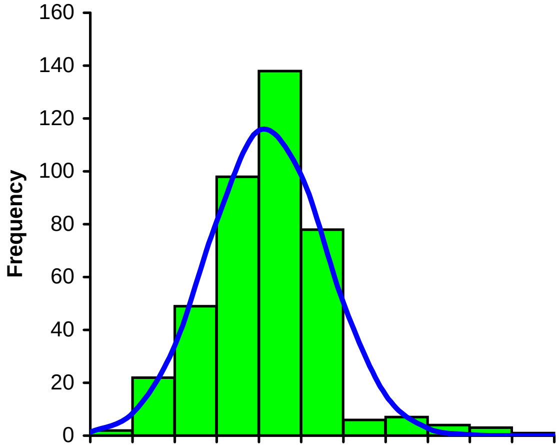
n	408
Mean	30.377
95% CI	25.097 to 35.658
Variance	2943.7091
SD	54.2560
SE	2.6861
CV	179%
% Detection	100.0%
Minimum	2
Maximum	710
Median	20.0
95.8% CI	18.0 to 22.0
Range	708
IQR	18

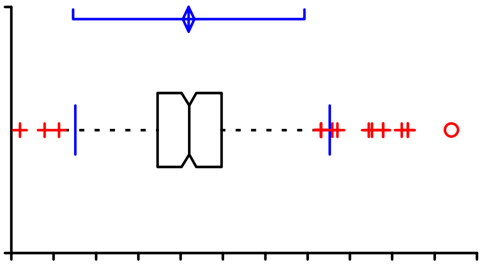
Percentile	
2.5th	4.245
25th	13.000
50th	20.000
75th	31.000
97.5th	135.500

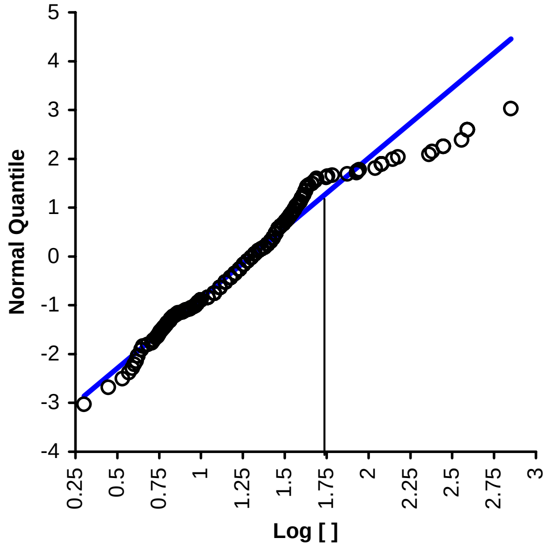
	Coefficient	**p**
Kolmogorov-Smirnov	6.7671	< 0.01
Skewness	7.6780	<0.0001
Kurtosis	74.8426	<0.0001

analysed with: Analyse-it + General 1.71

Test	**Continuous summary descriptives**		
Variable	Zinc in soil		
Performed by	tl	**Date**	15 April 2005







n	408	
Mean	1.298	
95% CI	1.264	to 1.332
Variance	0.1217	
SD	0.3488	
SE	0.0173	
CV	27%	
% Detection	100.0%	
Minimum	0.3010	
Maximum	2.8513	
Median	1.301	
95.8% CI	1.255	to 1.342
Range	2.5502	
IQR	0.3774	

Percentile	
2.5th	0.628
25th	1.114
50th	1.301
75th	1.491
97.5th	2.131

	Coefficient	**p**
Kolmogorov-Smirnov	1.9110	< 0.01
Skewness	0.6076	<0.0001
Kurtosis	2.3122	<0.0001

APPENDIX B
COPIES OF WASTE MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008322475

Manifest Document No.

2. Page 1 of 1

3. Generator's Name and Mailing Address
TDY INDUSTRIES. INC.
1000 SIX PPG PLACE
PITTSBURGH, PH 15222-5479

4. Generator's Phone (412) 395-8052

5. Transporter 1 Company Name OCEAN BLUE ENVIRONMENTAL

6. US EPA ID Number CHD 183608758

A. State Transporter's ID

B. Transporter 1 Phone 562.624.4120

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
CROSBY AND OVERTON
1630 WEST 17th STREET
LONG BEACH, CA. 90813

10. US EPA ID Number CAD 2849011

E. State Facility's ID

F. Facility's Phone 562.432.5445

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE SOLID (DRILL CUTTINGS)	001	DM	000300	P
b. NON-HAZARDOUS WASTE LIQUID (RINSE WATER)	002	DM	000100	G
c. NON. HAZARDOUS WASTE SOLID (PPE, DEBRIS)	005	DM	000200	P
d.				

G. Additional Descriptions for Materials Listed Above
11a. PROFILE 27885
11b. PROFILE 24813
11c. PROFILE 10288

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information OB JOB # S1102

SITE: TDY
2701 N. HARBOR
SAN DIEGO, CA

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date Month	Day	Year
EDGARD BENTAUT		07	13	05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year
DONALD OSTRAND		07	14	05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date Month	Day	Year

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 072705

2. Page 1 of 1

3. Generator's Name and Mailing Address
TDY Industries Inc.
1000 Six PPG Place
Pittsburgh, PA 15222-5479

4. Generator's Phone (412) 345-3052

5. Transporter 1 Company Name OCEAN BLUE ENVIRONMENTAL

6. US EPA ID Number CAD983608258

A. State Transporter's ID

B. Transporter 1 Phone 562-624-4120

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
CROSBY AND OVERTON
1630 WEST 17TH STREET
LONG BEACH, CA 90813

10. US EPA ID Number CAD028409019

E. State Facility's ID

F. Facility's Phone 562-432-5445

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE SOLID (DRILL CUTTINGS)	005	DM	002125	P
b. NON-HAZARDOUS WASTE SOLID (PPE, DEBRIS)	005	DM	000900	P
c. NON-HAZARDOUS WASTE SOLID (ASPHALT, CONCRETE)	008	DM	003400	P
d. NON-HAZARDOUS WASTE LIQUID (RINSE WATER)	003	DM	00150	G

G. Additional Descriptions for Materials Listed Above
11a Profile 27885
11b Profile ~~24813~~ 10288
11c Profile 10288
11d. PROFILE 24813

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
CB JOB # ~~S1602~~ S1713

SITE: TDY
2701 N. HARBOR DR.
SAN DIEGO, CA

Project # SC0307-01-II

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDGARD BERTAUT

Signature

Date Month 07 Day 27 Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name DONALD OSTRAND

Signature Donald Ostrand

Date Month 07 Day 27 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name

Signature

Date Month Day Year

NON-HAZARDOUS WASTE

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PRINTED WITH SOY INK

Rev. 3/95

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 080305

2. Page 1 of 1

3. Generator's Name and Mailing Address
TDY INDUSTRIES, INC.
1000 SIX PPG PLACES
PITTSBURGH, PA 15222-5479

4. Generator's Phone (412) 345-3052

5. Transporter 1 Company Name OCEAN BLUE ENVIRONMENTAL

6. US EPA ID Number CAD983608258

A. State Transporter's ID

B. Transporter 1 Phone 562·624·4127

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
CROSBY AND OVERTON
1630 WEST 17TH STREET
LONG BEACH, CA 90813

10. US EPA ID Number CAD028409019

E. State Facility's ID

F. Facility's Phone 562·432·5445

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE SOLID (DRILL CUTTINGS)	005	DM	02,250	P
b. NON-HAZARDOUS WASTE LIQUID (DECON WATER)	008	DM	00400	G
c. NON-HAZARDOUS WASTE SOLID (PPE, DEBRIS)	002	DM		P
d.				

G. Additional Descriptions for Materials Listed Above
11a. PROFILE # 27885 (5×55)
11b. PROFILE #24813 (8×55)
11c. PROFILE #10288 (2×55)

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information OB JOB # S1716

SITE: TDY
2701 N. HARBOR DR.
SAN DIEGO, CA

PROJECT # SC0307-01-1I

GENERATOR

NON-HAZARDO WASTE

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDGARD BERTAUT | Signature Edgard Bertaut | Date Month 08 Day 03 Year 05

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name DONALD OSTRAND | Signature Donald Ostrand | Date Month 08 Day 03 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date Month Day Year

TRANSPORTER

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name | Signature | Date Month Day Year

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 081005

2. Page 1 of 1

3. Generator's Name and Mailing Address
TDY. INDUSTRIES
1000 SIX PPG PLACE
PITTSBURGH, PA 15222-5479

4. Generator's Phone ( ) 412-345-3052

5. Transporter 1 Company Name OCEAN BLUE ENVIRONMENTAL

6. US EPA ID Number CAD983608252

7. Transporter 2 Company Name

8. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 562-624-4120

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
CROSBY AND OVERTON
1630 WEST 17th STREET
LONG BEACH CA 90813

10. US EPA ID Number CAD028409019

E. State Facility's ID

F. Facility's Phone 562-432-5445

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE LIQUID	001	DM	00200	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a PROFILE: 24813

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information OB JOB #
SITE: TDY
2701 N. HARBOR DR
SAN DIEGO, CA
PROJECT # SC0307-01-IT

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDGARD BERTAUT
Signature Edgard Bertaut
Date Month 08 Day 10 Year 05

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name DONALD OSTRAND
Signature Donald Ostrand
Date Month 08 Day 10 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.
Printed/Typed Name
Signature
Date Month Day Year

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 81105-2

2. Page 1 of 1

3. Generator's Name and Mailing Address
TDY Industries INC
1000 Six PPG Place
Pittsburgh, PA 15222

4. Generator's Phone (412) 345-3052

5. Transporter 1 Company Name OCEAN Blue ENVIRONMENTAL

6. US EPA ID Number CAD983608258

A. State Transporter's ID

B. Transporter 1 Phone 562-624-4120

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Crosby And Overton
1630 West 17th street
LONG BEACH, CA 90813

10. US EPA ID Number CAD028409019

E. State Facility's ID

F. Facility's Phone 562-432-5445

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE LIQUID	006	DM	00300	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a Profile ~~27685~~ 24813

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
OB JOB # ~~517~~B

SITE: TDY
2701 N. HARBOR DR.
SAN DIEGO, CA
Project # SCC307-01-1T

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDGARD BERTAUT
Signature Edgard Bertaut
Date Month 08 Day 12 Year 05

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name DON OSTRAND
Signature Donald Ostrand
Date Month 08 Day 12 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.
Printed/Typed Name
Signature
Date Month Day Year

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

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Rev. 3/95

State of California—Environmental Protection Agency
Form Approved OMB No. 2050–0039 (Expires 9-30-99)
Please print or type. *Form designed for use on elite (12-pitch) typewriter.*

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

21727935

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RES SE CENTER 1-800-424-8802: WITHIN CALIFORNIA, CALL 1-800-852-755

UNIFORM HAZARDOUS WASTE MANIFEST

GENERATOR

1. Generator's US EPA ID No. CAD008382475 Manifest Document No. 81105
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number **21727935**

3. Generator's Name and Mailing Address
TDY Industries Inc.
1000 SIX PPG PLACE
PITTSBURGH, PA 15222-5479

4. Generator's Phone (412) 145 562

B. State Generator's ID

5. Transporter 1 Company Name OCEAN BLUE ENVIRONMENTAL
6. US EPA ID Number CAD983608258

C. State Transporter's ID [Reserved.]

D. Transporter's Phone 562-624-4120

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID [Reserved.]

F. Transporter's Phone

9. Designated Facility Name and Site Address
CROSBY AND OVERTON
1630 WEST ~~[illegible]~~ 17th St.
LONG BEACH, CA 90813

10. US EPA ID Number CAD028409019

G. State Facility's ID

H. Facility's Phone 562-432-5445

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. HAZARDOUS WASTE LIQUID, N.O.S., 9, UN3082, PG III (PURGE WATER)	004	DM	000200	G	State 135 EPA/Other D039, D040, D043
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
11a PROFILE #

K. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information OB JOB # 51719
WEAR PROPER PPE WHEN HANDLING THIS MATERIAL
EMERGENCY TELEPHONE NUMBER (562) 624-4120 CONTACT: DON OSTRAND

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Edgard Bertaut	Edgard Bertaut	08	12	05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
DON OSTRAND	Donald Ostrand	08	12	05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (1/99)
EPA 8700—22

Yellow: GENERATOR RETAINS

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 081705

2. Page 1 of 1

3. Generator's Name and Mailing Address
TDY · INDUSTRIES
1000 SIX PPG PLACE 15222-5479
PITTSBURGH PA

4. Generator's Phone (412) 345-2052

5. Transporter 1 Company Name OCEAN BLUE ENVIRONMENTAL

6. US EPA ID Number CAD983608253

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
CROSBY OVERTON
1630 WEST 17th ST
LONG BEACH, CA 90813

10. US EPA ID Number CAD028409019

A. State Transporter's ID

B. Transporter 1 Phone 562-624-4120

C. State Transporter's ID

D. Transporter 2 Phone

E. State Facility's ID

F. Facility's Phone 562-432-5445

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE LIQUID (PURGE WATER)	DM	004	00200	G
b. NON-HAZARDOUS WASTE SOLID (DEBRIS)	DM	002	00100	P
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a PROFILE #24813 (4x55)
11b PROFILE #10288 (2x55)

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information OB JOB # 51724

SITE: TDY
2701 N. HARBOR DR.
SAN DIEGO CA

NON-HAZARDOUS WASTE

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDGARD BERTAUT

Signature Edgard Bertaut

Date Month 8 Day 17 Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name DONALD OSTRAND

Signature Donald Ostrand

Date Month 8 Day 17 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name

Signature

Date Month Day Year

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

NON-HAZARDOUS WASTE

GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 90605

2. Page 1 of 1

3. Generator's Name and Mailing Address
TPY Industries Inc
1000 Six PPG place
pittsburgh, PA 15222-5479

4. Generator's Phone (412) 345-3052

5. Transporter 1 Company Name Ocean Blue Environmental

6. US EPA ID Number CAD983608258

A. State Transporter's ID

B. Transporter 1 Phone 562-624-4120

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Crosby Andoverton
1630 West 17th Street
Long Beach, CA 90813

10. US EPA ID Number CAD028409019

E. State Facility's ID

F. Facility's Phone 562-432-5445

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE LIQUID (RINSE WATER)	001	DM	000050	G
b. NON-HAZARDOUS WASTE SOLID (PPE, DEBRIS)	002	DM	000075	P
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a) PROFILE # 24813
11b) PROFILE # 10288

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information OB JOB #

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDLARD BERTAUT
Signature Edgard Bertaut
Date Month 09 Day 06 Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name DONALD OSTRAND
Signature Donald Ostrand
Date Month 09 Day 06 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.
Printed/Typed Name
Signature
Date Month Day Year

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Rev. 3/95

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CADC08382475

Manifest Document No. 100705

2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address
TDY Industries INC
1000 SIX PPG Place
Pittsburgh, PA, 15222

4. Generator's Phone (412) 345-3052

5. Transporter 1 Company Name: Ocean Blue Environmental

6. US EPA ID Number: CAD923602258

7. Transporter 2 Company Name:

8. US EPA ID Number:

A. State Transporter's ID:

B. Transporter 1 Phone: 562-624-4120

C. State Transporter's ID:

D. Transporter 2 Phone:

9. Designated Facility Name and Site Address
Crosby And Overton
1630 West 17th street
Long Beach, CA, 80813

10. US EPA ID Number: CAD028409019

E. State Facility's ID:

F. Facility's Phone: 562-432-5445

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE SOLID (PPE DEBRIS)	003	DM	00200	P
b. NON-HAZARDOUS WASTE, SOLID (DRILL CUTTINGS)	002	DM	01000	P
c. NON-HAZARDOUS WASTE SOLID (SOIL)	001	DM	00028	P
d. NON-HAZARDOUS WASTE LIQUID (PURGE WATER)	004	DM	00200	G

G. Additional Descriptions for Materials Listed Above
11a. PROFILE #10288
11b. PROFILE #27885
11c. PROFILE #10288
11c. PROFILE #24813

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: OB JOB #51739

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date Month	Day	Year
EDGARD BERTAUT		10	07	05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year
DONALD OSTRAND		10	07	05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date Month	Day	Year

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD008382475

Manifest Document No. 110205-2

2. Page 1 of 1

3. Generator's Name and Mailing Address
TPY Industries Inc.
1000 Six PPG Place
Pittsburgh PA. 15222-5479

4. Generator's Phone (412) 345-3052

5. Transporter 1 Company Name Ocean Blue Environmental

6. US EPA ID Number CAD983608258

A. State Transporter's ID

B. Transporter 1 Phone (562)624-4120

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Crosby And Overton
1630 West 17th Street.
Long Beach, CA 90813

10. US EPA ID Number CAD028409019

E. State Facility's ID

F. Facility's Phone 562-432-5445

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS Waste Solid (PPE, Debris)	003	DM	00300	P
b. NON-HAZARDOUS Waste Solid (soil)	001	DM	00250	P
c. NON-HAZARDOUS waste Liquid (Rinse Water)	002	DM	00100	G
d.				

G. Additional Descriptions for Materials Listed Above
11a, Profile#10288
11b. profile# 10288
11c. Profile # 24813

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information OB JOB# S1750

GENERATOR

NON-HAZARDOUS WASTE

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name EDGARD BERTAUT
Signature Edgard Bertaut
Date Month 11 Day 02 Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name DONALD OSTRAND
Signature Donald Ostrand
Date Month 11 Day 02 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.
Printed/Typed Name
Signature
Date Month Day Year

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Rev. 3/95

APPENDIX C
BORING LOGS AND
MONITOR WELL CONSTRUCTION DIAGRAMS

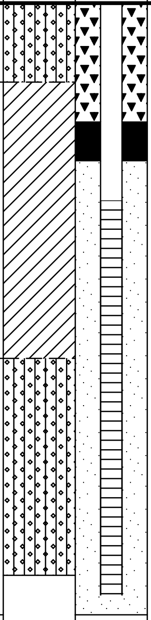
GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B120-MW4 **SHEET** 1 **OF** 1
START DATE 20 Jul 05 **Ground Surface** FT.
FINISH DATE 20 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	TIME	COMMENTS
	Fine Sand (SM) with shell hash, olive brown [2.5Y 4/3], loose, dry.	Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 4.5 ft^3						0		
	Silty Clay (CL) with fine sand lenses, dark grayish brown [2.5Y 4/2] slightly hard, dry.							0		
								0		
		Medium Bentonite Chips, pure gold Cetco 0.325 ft^3						0		
5	@ 5', light olive brown [2.5Y 5/3], firm, moist					3/5/5		0 0		
	@ 6.5', plastic, wet @ 7', with trace shell hash	#3 RMC quartz sand 3.0 ft^3				3/4/4				
						2/3/5		0		
10	**Silty Sand (SM)** with lense of medium sand, fine, olive brown [2.5Y 4/3], wet.	2" PVC, 0.010" slot						0		
	@ 11', dark gray [2.5Y 4/1]					3/6/10				
						1/0/0				
15								0		
	Total Depth = 15.5 feet bgs.									

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

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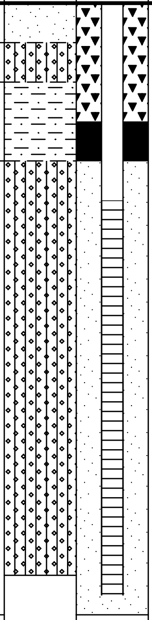
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B120-MW5 **SHEET** 1 **OF** 1
START DATE 20 Jul 05 **Ground Surface** FT.
FINISH DATE 20 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	TIME	COMMENTS
	Medium Sand (SP) with Asphalt, very dark grayish brown [2.5Y 3/2].			Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 4.5 ft^3								
	Fine Sand (SM) with silty clay lenses and shell hash, olive brown [2.5Y 4/3], loose, dry.									0		
	Sand Silty Clay (SM-CL) with asphalt.									0		
	Fine Sand (SM) with major shell hash, very dark grayish brown [2.5Y 3/2].			Medium Bentonite Chips, pure gold Cetco 0.325 ft^3						0		
5	@ 5', dark grayish brown [2.5Y 4/2], loose, wet							6/7/5				
	@ 6.5', with silty clay lenses			#3 RMC quartz sand 3.25 ft^3						0		
								5/4/6				
								1/2/5				
10				2" PVC, 0.010" slot						0		
								2/2/4				
										0		
								2/4/2				
15												
	Total Depth = 15.5 feet bgs.											

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
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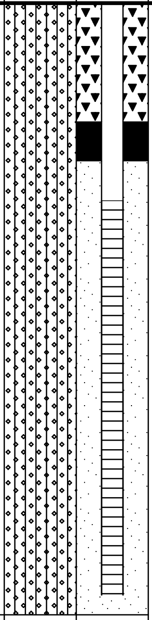
11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B120-MW6 **SHEET** 1 **OF** 1
START DATE 21 Jul 05 **Ground Surface** FT.
FINISH DATE 21 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	TIME	COMMENTS
	Fine Sand (SM)light olive brown [2.5Y 5/3], loose, dry.			Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 5.5 ft^3								
	@ 1', with pebble clasts							3/10/14				
	@ 2.5', with shell hash							11/18/21		0.1		
				Medium Bentonite Chips, pure gold Cetco 0.325 ft^3								
5	@ 5', moist							10/11/11		0.3		
	@ 6.5', dark grayish brown [2.5Y 4/2]			#3 RMC quartz sand 3.0 ft^3				6/7/3		0.4		
	@ 7', dark grayish brown [2.5Y 5/3] ***											
	@ 8.5', very dark gray [2.5Y 3/1]							2/6/5		0.1		
10				2" PVC, 0.010" slot								
								6/7/3		0.5		
								1/0/2		0.2		
15										0.2		

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

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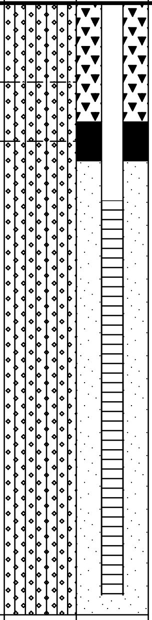
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B-131-MW1
SHEET 1 **OF** 1
START DATE 18 Jul 05
Ground Surface **FT.**
FINISH DATE 18 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	TIME	COMMENTS
	Fine Sand (SM) grayish brown [2.5Y 3/2], loose, dry.			Concrete and Quickrete mix used for cover, 2/1 cement ratio 5.5 ft^3								
	Silty Sand (SM) with trace shell hash, dark gray [2.5Y 4/1], loose.							3/4/5				
	Fine Sand (SM) with trace shell hash, dark gray [2.5Y 4/1]. @ 4', with clay lenses			Medium Bentonite Chips, pure gold/Cetco 0.325 ft^3				2/9/16		0		
5												
	@ 6', very dark gray [2.5Y 3/1], loose, wet			#3 RMC quartz sand 3.0 ft^3				9/14/20				∇ Groundwater encountered at approximately 6.5 ft bgs on 7/18/2005.
								8/11/12		0		
										0		
										0		
10				2"PVC, 0.010" slot				6/6/12				
										0		
								1/1/1				
								0/0/1		0		
15												
	Total Depth = 15.5 feet bgs.									0		

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**
NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
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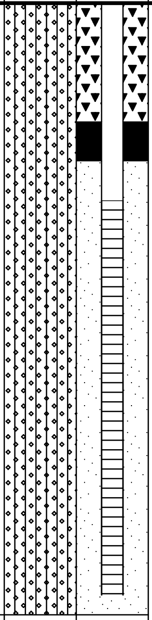
GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B131-MW2 **SHEET** 1 **OF** 1
START DATE 19 Jul 05 **Ground Surface** FT.
FINISH DATE 19 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	TIME	COMMENTS
	Fine Sand (SM)with shell hash and silty clay lenses, gray [2.5 5/1], loose, dry.			Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 5.5 ft^3								
								3/4/12				
	@ 3.5', grayish brown [2.5Y 5/2] with silty clay lense and shell hash.			Medium Bentonite Chips, pure gold Cetco 0.325 ft^3				5/10/14		17		
5										15		
	@ 5.5', moist @ 6', with shell hash, wet			#3 RMC quartz sand 2.5 ft^3				9/16/14				
	@ 7.5', dark gray [2.5Y 4/1]							5/6/7		2.4		⊻ Groundwater encountered at 7 ft bgs on 7/19/2005.
10	@ 9.5', very dark gray [2.5Y 3/1]			2" PVC, 0.010" slot				6/6/6		4.5		
	@ 12', with trace shell hash							1/1/1		2.7		
								1/0/0		0.3		
15										0		
	Total Depth = 15.5 feet bgs.											

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

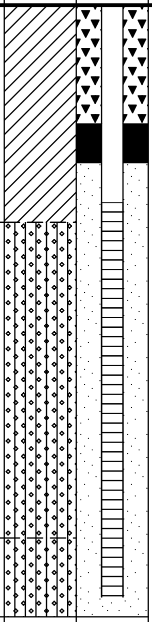
GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B131-MW3 **SHEET** 1 **OF** 1
START DATE 19 Jul 05
FINISH DATE 19 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307
Ground Surface FT.



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	TIME	COMMENTS
	Silty Clay (CL) very dark gray [2.5Y 3/1], slightly hard.			Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 5.5 ft^3				3/3/6				
	@ 3.5', very dark gray [2.5Y 4/1] @ 4', with trace shell hash			Medium Bentonite Chips, pure gold Cetco 0.325 ft^3				4/5/13		0		
5	**Fine Sand (SM)** with shell hash, dark gray [2.5Y 4/1], loose, moist. @ 6', wet			#3 RMC quartz sand 3.25 ft^3				9/12/12		0		
								9/9/11		0		
10				2" PVC, 0.010" slot				5/5/9		5.3		
								2/2/2		0		
	Silty Sand (ML) very dark gray [2.5Y 3/1], hard, wet.							1/0/0		0		
15										0		

Total Depth = 15.5 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR	H&P	**NORTHING**	
EQUIPMENT	CME-75	**EASTING**	
DRILL MTHD	Hollow-Stem Auger	**ANGLE**	Vertical
DIAMETER	8"	**BEARING**	------
LOGGER	B. Hitchens **REVIEWER**	**PRINTED**	10 Nov 05

REMARKS:

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

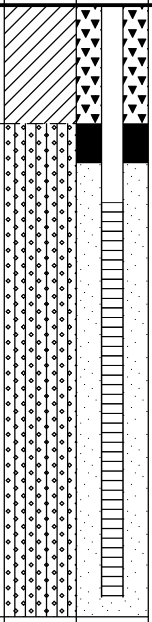
GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
CORE3 10/00

BOREHOLE LOG

BORING B-131-MW-4 **SHEET** 1 **OF** 1
START DATE 18 Jul 05 **Ground Surface** FT.
FINISH DATE 18 Jul 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS PER 6"	SAMPLES: RECOVERY (%)	SAMPLES: PID READING (ppm)	TIME	COMMENTS
	Silty Clay (CL) dark grayish brown [2.5Y 4/2], hard.			Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 4.5 ft^3								
	@ 1.5', with shell hash									203		
	Fine Sand (SM) with shell hash, grayish brown [2.5Y 5/2], loose, dry.			Medium Bentonite Chips, pure gold Cetco 0.325 ft^3								
5								1/0/10		115		
	@ 6', trace shell hash, wet.			#3 RMC quartz sand 2.0 ft ^{3}								⊻ Groundwater encountered at approximately 7 ft bgs on 7/18/2005.
								3/5/7				
	@ 9', very dark gray [2.5Y 3/1]							2/6/7				
10				2" PVC, 0.010" slot						46.3		
								5/5/1				
								1/1/1		100		
15								3/4/6				
	Total Depth = 15.5 feet bgs.											

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS
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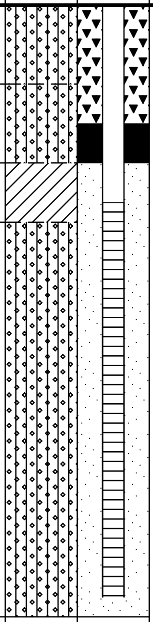
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM: CORE3 10/00

BOREHOLE LOG

BORING B131-MW5 **SHEET** 1 **OF** 1
START DATE 21 Jul 05
FINISH DATE 21 Jul 05
Ground Surface FT.
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	WELL LOG	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	TIME	COMMENTS
	Silty Sand (SM) with medium sand and asphalt, dark olive brown [2.5Y 3/3].			Concrete and Quickrete mix used for cover (vault), 3/1 cement ratio 4.5 ft^3								
	Fine sand (SM) with silty clay lenses, very dark gray, loose, dry.							5/7/5				
										0.3		
	Silty Clay (CL) with fine sand, dark gray [2.5Y 4/1], silty clay is slightly plastic, fine sand is loose.			Medium Bentonite Chips, pure gold Cetco 0.325 ft^3				2/10/10				
5	**Fine Sand (SM)** with silty clay lense, dark gray [2.5Y 4/1], loose, moist. @ 6', wet			#3 RMC quartz sand 3.0 ft^3				7/13/15		0.1		
	@ 7.5', with shell hash							10/10/9		0.1		
10				2" PVC, 0.010" slot				8/5/10		7.1		
								3/4/2				
										0		
15										0		
	Total Depth = 15.5 feet bgs.											

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT CME-75
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER B. Hitchens **REVIEWER**

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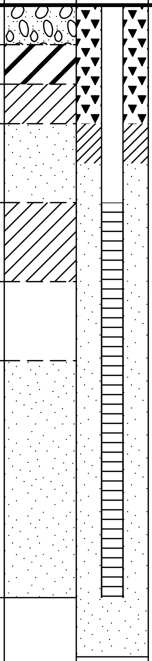
GS FORM: CORE3 10/00

BOREHOLE LOG

BORING B180-MW1 **SHEET** 1 **OF** 1
START DATE 23 Sep 05 **Ground Surface** **FT.**
FINISH DATE 23 Sep 05
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	WELL CONSTRUCTION MATERIAL	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	TIME	COMMENTS
	Sand (SW), loose, dry, strong brown [7.5YR 5/6].							0.0		
	Clay (CH), very cohesive, dark grayish brown [2.5Y 4/2], with pebble clasts.	2,500psi concrete mix & 5,000psi quikrete rapid set. 1/0, 2/1, 2/1, 1/0.5 Medium chips/Enviroplug 50# bag, 25# used								
	Silty Clay (CL) slightly cohesive, dark brown [7.5YR 3/3].							0.0		
	Sand (SP), medium to fine, loose, dry, olive brown [2.5Y 4/3], with shell hash.									
5	**Silty Clay (CL)** moderately cohesive, moist, olive brown [2.5YR 4/4].				☒	3/3/6/5	50	0.2		
	No Recovery				☒	5/11/16/14	0	0.1		▽ Groundwater encountered at 6.8' bgs on 9/23/05.
	Sand (SP), medium to fine, loose, wet, dark gray [5Y 4/1], with trace silt and shell hash.				☒	4/8/7/5	70	0.0		
10		#3 RMC/ Lapis Lustre 100# Bag, 425# used			☒	4/8/7/5	70	0.0		
					☒	2/3/4/6	70	0.0		
15					☒	4/5/5/3				

Total Depth = 17.5 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR Tri-County
EQUIPMENT
DRILL MTHD Hollow-Stem Auger
DIAMETER 8"
LOGGER C. Lieder **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

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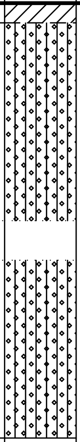
GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-1 **SHEET** 1 **OF** 1
START DATE 5 Jul 05 **ELEVATION** FT
FINISH DATE 5 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) grayish brown [2.5Y 5/2], slightly hard.								
	Fine Sand (SM) with shell fragments, grayish brown [2.5Y 5/2], loose.								
5									
	Sample Interval			T-1-S-6B	☒				
	Fine Sand (SM) with shell fragments, grayish brown [2.5Y 5/2], loose. @ 8', dark gray [2.5Y 4/1], wet, non-cohesive								▽ Groundwater encountered at 7.8 ft bgs on 7/5/2005.
10									
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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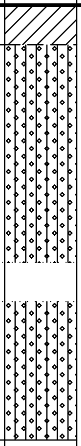
BOREHOLE RECORD

BORING T-2 **SHEET** 1 **OF** 1
START DATE 5 Jul 05 **ELEVATION** FT
FINISH DATE 5 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) light olive brown (2.5Y 5/4), slightly hard.								Brick fragment/cobble found in top 1'
	Fine Sand (SM) grayish brown [2.5Y 5/2], loose.								
	@ 4', with some shell fragments								
5									
	Sample Interval			T-2-S-7T	☒				
	Fine Sand (SM) grayish brown [2.5Y 5/2], loose, moist.								∇ Groundwater encountered 7.80 feet bgs on 7/5/2005.
10	@ 10', dark gray [2.5Y 4/1], wet.								

Total Depth = 11 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTORH&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

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EASTING
ANGLE Vertical
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REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

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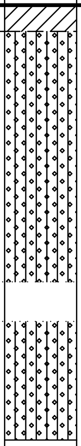
BOREHOLE RECORD

BORING T-3 **SHEET** 1 **OF** 1
START DATE 5 Jul 05 **ELEVATION** FT
FINISH DATE 5 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) with few rock fragments (pebbles), dark olive brown [2.5Y 3/3], slightly hard, dry. @ 5", olive yellow [2.5Y 6/6]								
	Fine Sand (SM) with very few shell fragments, dark gray [2.5Y 4/1], loose, dry.								
5									
	Sample Interval			T-3-S-7.5B	☒				
	Fine Sand (SM) with very few shell fragments, grayish brown [2.5Y 5/2], loose, wet.								∇ Groundwater encountered at 8.1 ft bgs on 7/5/2005.
10	@9.5', very dark gray [2.5Y 3/1]								
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-4 **SHEET** 1 **OF** 1
START DATE 5 Jul 05 **ELEVATION** FT
FINISH DATE 5 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	COMMENTS
	Silty Clay (CL) with few rock fragments (pebbles), dark olive brown [2.5Y 3/3], slightly hard, dry.								
	Fine Sand (SM) with few shell fragments, gray [2.5Y 6/1], loose, dry.								
	@ 4', light olive brown [2.5Y 5/3]								
5									
	Sample Interval								
	Fine Sand (SM) with few shell fragments, gray [2.5Y 6/1], loose, dry. @9', dark gray [2.5Y 4/1], wet, 1" layer of fine sand, yellowish red [5YR 5/8]								∇ Groundwater encounter at 8.2 ft bgs on 7/5/2005.
10									
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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BOREHOLE RECORD

BORING T-5 **SHEET** 1 **OF** 1
START DATE 5 Jul 05 **ELEVATION** FT
FINISH DATE 5 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) light olive brown [2.5Y 5/3], slightly hard.	▨							
	Fine Sand (SM) gray [2.5Y 5/1], loose, dry.	⁙							
	@ 4', few shell fragments, light olive brown [2.5Y 5/3].	⁙							
5		⁙							
	Sample Interval			T-5-S-7.5B	☒				
	@ 8', becomes wet.	⁙							∇ Groundwater encountered at 8.5 ft bgs on 7/5/2005.
10	@ 9.5', dark gray [2.5Y 4/1]	⁙							
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
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REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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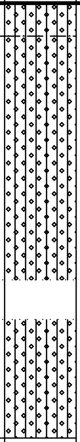
BOREHOLE RECORD

BORING T-6 **SHEET** 1 **OF** 1
START DATE 5 Jul 05 **ELEVATION** FT
FINISH DATE 5 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Sand (SM) very dark grayish brown [10YR 3/3], slightly hard.								
	Fine Sand (SM) with few shell fragments, gray [2.5Y 5/1], loose.								
	@ 4', light brownish gray [2.5Y 6/2], dry								
5									
	Sample Interval			T-6-S-7.5T	☒				
	Fine Sand (SM) with few shell fragments, gray [2.5Y 5/1], loose. @ 9', dark gray [2.5Y 4/1], wet								▽ Groundwater encountered at 8.7 ft bgs on 7/5/2005.
10									

Total Depth = 11 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

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EASTING
ANGLE Vertical
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REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-7 **SHEET** 1 **OF** 1
START DATE 22 Sep 05 **ELEVATION** FT
FINISH DATE 22 Sep 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Sandy Silt (ML) medium, loose, dry, light olive brown [2.5Y 5/3].							0.0	
	Sand (SP), coarse, loose, dry, dark grayish brown [2.5Y 4/2]. @ 2', becomes fine sand, dark gray [2.5 4/1]							0.0 0.0	
	Clay (CH), very cohesive, olive gray [5Y 4/2].							0.0	
	Sand (SP), fine, loose, dry, dark gray [2.5Y 4/1]								
5	**Clay (CH)**, very cohesive, olive gray [5Y 4/2].								
	Sample Interval							0.0	Sudan Red = Negative
	Clay (CH), very cohesive, olive gray [5Y 4/2].								
	Sand (SP), fine, loose, dry, gray [2.5Y 5/1], with shell hash. @ 8', becomes wet, very dark gray [2.5Y 3/1].							0.0	▽ Groundwater encountered at 8' 8" bgs on 9/22/05.
10								0.0	
	Total Depth = 10 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER C. Lieder **REVIEWER**

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ANGLE Vertical
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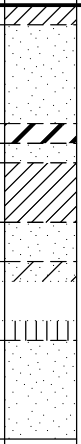
BOREHOLE RECORD

BORING T-8 **SHEET** 1 **OF** 1
START DATE 22 Sep 05 **ELEVATION** FT
FINISH DATE 22 Sep 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) slightly cohesive, dry, light olive brown [2.5Y 5/3].								
	Sand (SP), fine, loose, dry, gray [2.5Y 5/1].							0.0 0.0	
	Clay (CH), very cohesive, dark gray [5Y 4/1].							0.0	
	Sand (SP), medium, loose, dry , dark gray [5Y 4/1].							0.0	
5	**Sandy Clay (CL)** slightly cohesive, dry, dark grayish brown [2.5Y 4/2].								
	Sand (SP), fine, loose, dry, gray [2.5Y 5/1], with shell hash.							0.0	
	Clayey Sand (SC) slightly cohesive, dark gray [2.5Y 4/1], with shell fragments.								
	Sample Interval								
	Sandy Silt (ML) loose, moist, dark gray [2.5Y 4/1].							0.0	▽ Groundwater encountered at 8' bgs on 9/22/05.
10	**Sand (SP)**, fine, loose, wet, very dark gray [2.5Y 3/1].							0.0	Sudan Red = Negative
	Total Depth = 11 feet bgs.							0.0	

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER C. Lieder **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

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GS FORM:
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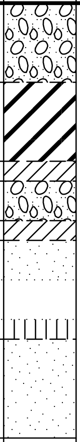
BOREHOLE RECORD

BORING T-9 **SHEET** 1 **OF** 1
START DATE 22 Sep 05 **ELEVATION** FT
FINISH DATE 22 Sep 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Sand (SW), coarse, loose, dry, olive brown [2.5Y 4/3], with gravel and asphalt.							0.0	
	Clay (CH), very cohesive, dry, dark grayish brown [2.5Y 4/2].							0.0 0.0	
	Sandy Clay (CL) slightly cohesive, dark grayish brown [2.5Y 4/2]							0.0	
5	**Sandy (SW)**, medium, loose, dry, dark olive brown [2.5Y 3/3], with gravel. @ 5', becomes grayish brown [2.5Y 5/2] with shell hash							0.0	
	Sandy Clay (CL) slightly cohesive, very dark grayish brown [2.5Y 3/2].							0.0	▽ Sudan Red = Negative
	Sand (SP), fine, loose, dry, dark gray [2.5Y 4/1].								
	Sample Interval								Groundwater encountered at 7'5" bgs on 9/22/05.
	Sandy Silt (ML) slightly cohesive, moist, very dark grayish brown [2.5Y 3/2].							0.0	
10	**Sand (SP)**, fine, loose, wet, very dark gray [2.5Y 3/1].							0.0	

Total Depth = 11 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTORH&P
EQUIPMENT
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER C. Lieder **REVIEWER**

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EASTING
ANGLE Vertical
BEARING ------
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BOREHOLE RECORD

BORING T-10 **SHEET** 1 **OF** 1
START DATE 22 Sep 05 **ELEVATION** FT
FINISH DATE 22 Sep 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Sand (SW), medium, loose, dry, very dark grayish brown [2.5Y 3/2], with pebble clast.								
	Silty Clay (CL) slightly cohesive, dry, light olive brown [2.5Y 5/4]. @ 2', becomes moderate cohesive, very dark grayish brown [2.5Y 3/2].							0.0 0.0	
5	**Sand (SP)**, medium, loose, dry, gray [2.5Y 5/1], with shell hash. @ 4', becomes dark grayish brown [2.5Y 4/2]							0.0	
	Sample Interval							0.5	∇ Groundwater encountered at 6'4" bgs on 9/22/05.
	Silty Clay (CL) moderate cohesiveness, wet, dark grayish brown [2.5Y 4/2].								
	Sand (SP), fine, loose, wet, dark grayish brown [2.5Y 4/2], with shell hash. @ 8', becomes very dark gray [2.5 3/1]							2.0	Sudan Red = Negative

Total Depth = 9 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER C. Lieder **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

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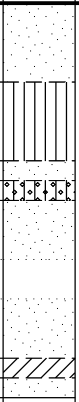
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-11
SHEET 1 **OF** 1
START DATE 22 Sep 05
ELEVATION FT
FINISH DATE 22 Sep 05
DATUM Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Sand (SP), fine, loose, dry, light olive brown [2.5Y 5/4], with dark organic lense from 1.5' -2'.							0.0	
	Sandy Silt (ML) slightly cohesive, dry, light olive brown [2.5Y 5/4], with dark organic lense from 2'8" to 2'10".							0.0	
	Sand (SP), loose, dry, light olive brown [2.5Y 5/4], with shell hash.							0.0	
5	**Silty Sand (SM)** slightly cohesive, dry, olive brown [2.5Y 4/4].								
	Sand (SP), medium, loose, dry, olilve brown [2.5Y 4/4], with minor lenses of silty sand.								
	Sample Interval								∇ Groundwater encountered at 7' 1" on 9/22/05.
	Sand (SP), medium, loose, wet, light olive brown [2.5Y 5/4], with shell hash.							0.0	Sudan Red = Negative
	Silty Clay (CL) moderate cohesiveness, wet, dark gray [2.5Y 4/1].								
10	**Sand (SP)**, loose, wet, very dary gray [2.5Y 3/1], with shell hash.							0.0	

Total Depth = 10 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER C. Lieder **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS:

COORDINATE SYSTEM:

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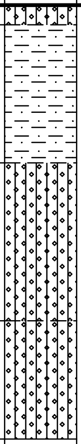
GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-13 **SHEET** 1 **OF** 1
START DATE 30 Jun 05
FINISH DATE 30 Jun 05
ELEVATION FT
DATUM Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Sand (SM) light yellowish brown [2.5Y 6/3].							0.0	
	Silty Clay/Silty Sand (CL-SM) gray [2.5Y 6/1].							14 0.0	
5	**Medium Sand and Silt (SM)** gray [2.5Y 6/1].			T-13-S-6.5T	☒			0.0 0.0	∇ Groundwater encountered at 6.7 ft bgs on 6/30/2005.
10	**Fine Sand (SM)** with shell hash, dark grey [2.5Y 4/1], wet.								
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**
NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

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GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING **T-14** **SHEET** **1** **OF** **1**
START DATE **30 Jun 05** **ELEVATION** **FT**
FINISH DATE **30 Jun 05** **DATUM** **Mean Seal Level**
PROJECT **TDY**
LOCATION **Harbor Drive**
PROJECT NUMBER **SC0307**

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Clay and Silt (CL) dark reddish gray [2.5Y 4/1].	▨						0.0	
								0.0	
	Fine Sand and Silt (SM) dark reddish gray [2.5Y 4/1].	⁘							
								0.6	
5									
	@ 6', becomes wet.			T-14-S-6B	☒			0.0	
	@ 8', with some shells, becomes dark gray.							0.0	
10									
								0.0	
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **B. Hitchens** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:
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GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-15
SHEET 1 **OF** 1
START DATE 1 Jul 05
ELEVATION FT
FINISH DATE 1 Jul 05
DATUM Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Medium Fine Sand and Silt(SM)grayish brown [2.5Y 5/2].								
	@ 3', mixed layers of clay, moist.								
5	@5', with shell hash, dark bluish grey [GLEY 2, 3/5 PB], wet.			T-15-S-5.5T	☒				
									∇ Groundwater encountered at 6.65 ft bgs on 7/1/2005.
10									
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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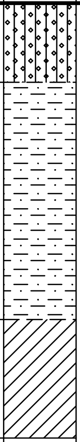
GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING **T-16** **SHEET 1 OF 1**
START DATE **1 Jul 05** **ELEVATION** **FT**
FINISH DATE **1 Jul 05** **DATUM** **Mean Seal Level**
PROJECT **TDY**
LOCATION **Harbor Drive**
PROJECT NUMBER **SC0307**



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Medium to Fine Sand (SM) with shell hash, light olive brown [2.5Y 4/3].								
	Silty Sand and Clay (SM-CL) with shell hash, gray [2.5Y 5/1], moist.							0.0	
5				T-16-S-6T	☒			0.0	▽ Groundwater encountered at 6.95 ft bgs on 7/1/2005.
	Silty Clay (CL) with shell hash, greenish gray [GLEY 6/5GY].								
10								0.0	
								0.0	
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **B. Hitchens** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

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GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-17 **SHEET** 1 **OF** 1
START DATE 30 Jun 05 **ELEVATION** FT
FINISH DATE 30 Jun 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Clay and Silt (CL) dark reddish gray [5Y 4/2], moist.	▨							
	Medium Sand and Silt (SM) well graded, dark reddish gray [5YR 4/2], moist.	⁘							
5									
				T-17B-S-6.5B T-17B-S-6.5B DUP	☒				▽ Groundwater encountered at 6.8 ft bgs on 6/30/2005.
	Medium Sand (SP) with shells.	⁚						5.4	
10									
	Total Depth = 11 feet bgs.							1.1	

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

BORING LOG NO WELL (SAM) SC0307.GPJ GEOSNTEC.GDT 10/11/05

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GS FORM:
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BOREHOLE RECORD

BORING T-18 **SHEET** 1 **OF** 1
START DATE 30 Jun 05 **ELEVATION** FT
FINISH DATE 30 Jun 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	<u>Clay (CL)</u> with some silt lenses, olive gray [4/2 5Y], moist.	▨							
		▨						20	
	<u>Silty Sand (SM)</u>	⁘						14	
5		⁘							
		⁘						6.5	
		⁘		T-18-S-6.5B	☒				∇ Groundwater encountered at 7 ft bgs at approximately 1030 on 6/30/2005.
	@ 8', with shells, gray [10YR 5/1], wet.	⁘						11	
10		⁘						0.7	
	Total Depth = 11 ft bgs.							0.0	

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

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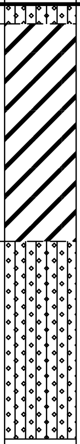
GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-19 **SHEET** 1 **OF** 1
START DATE 30 Jun 05 **ELEVATION** FT
FINISH DATE 30 Jun 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Sand (SM), light yellowish brown [10YR 6/4].								
	Silty Clay (CH) grayish brown [10YR 5/2], moist, high plasticity.							0	
								2.5	
	@4', some shell lense to 6'.							0.0	
5									
	Silty Sand (SM)with interbedded shell hash, dark reddish gray [10YR 4/1].							1.2	∇ Groundwater encountered at 6.79 ft bgs at approximately 1330 on 6/30/2005.
	@ 8', with shell hash.							3.1	
10								0.0	
	Total Depth = 11 ft bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

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GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-20 **SHEET** 1 **OF** 1
START DATE 30 Jun 05 **ELEVATION** FT
FINISH DATE 30 Jun 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	COMMENTS
	Clay (CL) with silty sand lenses and minor shells, brown [10YR 5/3].	▨							
5	**Medium Sand and Silt (SM)** with interbedded shell hash, brown [10YR 5/3].	⁘							
				T-20-S-6.5B	☒				
	Transitioning to fine sand, dark reddish gray [2.5 Y 4/1].	⁘							
10		⁘							
	Total Depth = 11 ft bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-21A **SHEET** 1 **OF** 1
START DATE 6 Jul 05 **ELEVATION** FT
FINISH DATE 6 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Silty Sand (SM) with asphalt-appearing material mixed in , greenish black [GLEY 1 2.5/1], dry, loose.							3.8	
	No Recovery, Drilling Stopped								
5	Stopped drilling moved a few inches over and started again due to poor recovery. Rocks blocked sampling bit.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .1 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

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GS FORM:
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BOREHOLE RECORD

BORING T-21B **SHEET** 1 **OF** 1
START DATE 6 Jul 05 **ELEVATION** FT
FINISH DATE 6 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Sand (SM)with asphalt mixed in, very dark greenish gray [GLEY1 3/1], slightly hard, dry. @ 2', with loose sand lenses, few shell fragments, and slightly hard silty sections, gray [2.5Y 6/1].	▒							
5	**Silty Clay (CL)**with few shell fragments, gray [2.5Y 6/1], slightly hard, dry.	▨							
10	**Fine Sand (SM)**with very few shell fragments, dark gray [2.5Y 4/1], loose, wet.	▒		T-21B-S-7.5B	☒				∇ Groundwater encountered at 7.65 ft bgs on 7/6/2005.

Total Depth = 11 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-22 **SHEET** 1 **OF** 1
START DATE 6 Jul 05 **ELEVATION** FT
FINISH DATE 6 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	COMMENTS
	Silty Sand (SM) olive brown [2.5Y 4/3], slightly hard, dry.								
	Silty Clay (CL) with fine sand, dark gray [2.5Y 4/1], slightly hard.								
5	**Fine Sand (SM)** light olive brown [2.5Y 5/4], loose, dry.								
	Silty Clay (CL) with loose fine sand and very few shell fragments, slightly hard, dry.							1.4	
	Sample Interval				☒			1.2	▽ Groundwater encountered at 7.65 ft bgs on 7/6/2005.
	Fine Sand (SM) with few shell fragments, dark gray [2.5Y 4/1], loose, wet.							5.1	
10									
								3.1	

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING **T-23** **SHEET 1 OF 1**
START DATE **6 Jul 05** **ELEVATION** **FT**
FINISH DATE **6 Jul 05** **DATUM** **Mean Seal Level**
PROJECT **TDY**
LOCATION **Harbor Drive**
PROJECT NUMBER **SC0307**

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Silty Clay (CL) with fine sand lenses and few shell fragments, dark grayish brown [2.5Y 4/2], dry, slightly hard.	▨						1.4	
		▨						1	
	@ 4', grayish brown [2.5Y 5/2].	▨						1.3	
5		▨						1.2	
	Silty Sand (SM) with few shell fragments, gray [2.5Y 5/1], slightly hard.	⁘							
	Sample Interval			T-223-S-7.5T	☒			1.2	∇ Groundwater encountered at 7.95 ft bgs on 7/6/2005.
	Silty Sand (SM) with few shell fragments, gray [2.5Y 5/1], slightly hard.	⁘							
10	**Fine Sand (SM)** with few shell fragments, dark gray [2.5Y 4/1], loose, wet.	⁘						1.2	
		⁘						1.5	
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **S. Williams** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

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GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-24 **SHEET** 1 **OF** 1
START DATE 6 Jul 05 **ELEVATION** FT
FINISH DATE 6 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) with fine sand lenses and few shell fragments, grayish brown [2.5Y 5/2], slightly hard, dry.	▨						1.4	
		▨						1.2	
	@ 4', no fine sand lenses.	▨						1.2	
5	@ 4.5', dark olive brown [2.5Y 3/3] @ 5', with fine sand lenses, grayish brown [2.5Y 5/2]	▨							
		▨		T-24-S-7.5B	☒				▽ Groundwater encountered at 7.9 ft bgs on 7/6/2005.
	@8', dark grayish brown [2.5Y 4/2], moist	▨							
	Fine Sand (SM) with few shell fragments, dark gray [2.5Y 4/1], loose, wet.	⁘						7	
10		⁘							
								38	
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-25 **SHEET** 1 **OF** 1
START DATE 13 Jul 05 **ELEVATION** FT
FINISH DATE 13 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) very dark grayish brown [2.5Y 3/2], slightly hard, dry.	▨						0.5	
	No Recovery								
5									
	Silty Clay (CL) very dark grayish brown [2.5Y 3/2], slightly hard, moist.	▨		T-25-S-7T	☒			0	▽ Groundwater encountered at 6.6 ft bgs on 7/13/2005.
	Sample interval.							0	
	Fine Sand (SM) light olive brown [2.5Y 5/3], slightly hard, wet. @ 8.5', with shell hash, dark gray [2.5Y 4/1], loose, wet.	░							
10									

Total Depth = 10 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING **T-26** **SHEET 1 OF 1**
START DATE 13 Jul 05 **ELEVATION FT**
FINISH DATE 13 Jul 05 **DATUM Mean Seal Level**
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Sandy Gravel (SW) very dark grayish brown [2.5Y 3/2], loose, dry.	○						0.5	
	Fine Sand (SM) with shell hash, gray [2.5Y 6/1], loose, dry. @ 1.5', with silty clay lenses, grayish brown [2.5Y 5/2]	⁘						0.0 0.0	
5	**Silty Clay (CL)** with shell hash, light olive brown [2.5Y 5/3], slightly hard, dry.	▨							
	Sample interval.			T-26-S-6.5B	☒			0.0	∇ Groundwater encountered at 6.85 ft bgs on 7/13/2005.
	Fine Sand (SM) with shell hash, dark gray [2.5Y 4/1], loose, moist.	⁘						0.0 0.0	
10	Total Depth = 10 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-27 **SHEET 1 OF 1**
START DATE 13 Jul 05 **ELEVATION** FT
FINISH DATE 13 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Sandy Gravel (GM) dark grayish brown [2.5Y 3/2], loose, dry.								
	Silty Clay (CL)with lenses of fine sand, dark grayish brown [2.5Y 4/2], slightly hard, dry.							56.3 8.5	
	Fine Sand (SM)with shell hash, gray [2.5Y 5/1], loose, dry.							9.2	
5	**Silty Clay (CL)**with shell hash, grayish brown [2.5Y 5/2], slightly hard, dry.								
	Sample interval			T-27-S-6.5T	☒			26	
	Fine Sand (SM)with few shell fragments, dark gray [2.5Y 4/1], loose, moist.							6	▽ Groundwater encountered at 6.8 ft bgs on 7/13/2005.
	Silty Clay (CL)with few shell fragments, dark grayish brown [2.5Y 4/2], slightly hard, moist.							10	
10	**Fine Sand (SM)**with shell hash, dark gray [2.5Y 3/1], loose, wet.								

Total Depth = 10 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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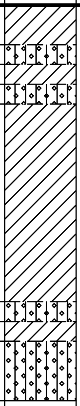
BOREHOLE RECORD

BORING T-28 **SHEET** 1 **OF** 1
START DATE 13 Jul 05 **ELEVATION** FT
FINISH DATE 13 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	PID READING (ppm)	COMMENTS
	Silty Clay (CL) with pieces of shell hash, light brown gray [2.5Y 6/2], slightly hard.							3	
	Fine Sand (SM) gray [2.5Y 6/1], loose.								
	Silty Clay (CL) light brown gray [2.5Y 6/2], slightly hard.								
	Fine Sand (SM) gray [2.5Y 6/1], loose.							1.2	
5	**Silty Clay (CL)** light brown gray [2.5Y 6/2], slightly hard.							2.7 0	∇ Groundwater encountered at 6.5 ft bgs on 7/13/2005.
	Fine Sand (SM) with shell hash, dark gray [2.5Y 4/1], loose.							0	
	Silty Clay (CL) grayish brown [2.5Y 5/2], slightly hard, wet.							0	
10	**Silty Sand (SM)** dark gray [2.5Y 4/1], loose, wet.							0 0	

Total Depth = 10 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

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GS FORM:
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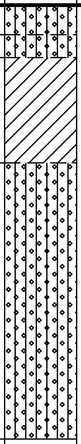
BOREHOLE RECORD

BORING T-29 **SHEET** 1 **OF** 1
START DATE 1 Jul 05 **ELEVATION** FT
FINISH DATE 1 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Sand (SM) grayish brown [2.5Y 5/2], with shell hash. @ 6", dark black layer. **Fine Sand (SM)** light olive brown layer [2.5Y 5/4]. @ 10", grayish brown [2.5Y 5/2], with shell hash. **Silty Clay (CL)** @ 2', inner beds of fine sand with shell hash.								
	Very Fine Sand (SM) with shell hash and silty clay lenses, olive brown [2.5Y 5/5].								
5									
				T-29-6B	⊠				▽ Groundwater measured on 7/1/2005.
10	@ 10', dark gray [2.5Y 4/1].								
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

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BOREHOLE RECORD

BORING **T-30** **SHEET 1 OF 1**
START DATE 1 Jul 05 **ELEVATION FT**
FINISH DATE 1 Jul 05 **DATUM Mean Seal Level**
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES				PID READING (ppm)	COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)		
	Silty Sand (SM) medium brown.								
	Gravel (GM) light tan.								
	Clay (CL), olive brown [2.5Y 4/4]								
	Silty Clay (CL) with shell hash.							0.0	
								0.0	
5				T-30-S-6T	⊠				
								0.0	▽ Groundwater measured on 7/1/2005.
	@ 7', very dark grayish brown [2.5Y 3/2], increasing sand.								
	Silty Sand (SM) with shell hash, very dark grayish brown [2.5Y 3/2].								
10									
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **B. Hitchens** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-31
SHEET 1 **OF** 1
START DATE 1 Jul 05
ELEVATION FT
FINISH DATE 1 Jul 05
DATUM Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Silty Clay (CL) grayish brown [2.5Y 5/2].								
	Medium Sand (SW)with shell hash.								
5	No recovery			T-31-S-6T	⊠				
	Silty Clay (CL)with inner beds of fine sand and shell hash, light yellowish brown [2.5Y 6/3].								∇ Groundwater encountered at approximately 6.5 ft bgs on 7/1/2005.
10	**Fine Sand (SM)**with few shell fragments, dark grey [2.5Y 4/1].								

Total Depth = 11 ft bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER S. Williams **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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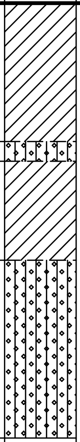
GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING **T-32** **SHEET 1 OF 1**
START DATE **5 Jul 05** **ELEVATION** **FT**
FINISH DATE **5 Jul 05** **DATUM** **Mean Seal Level**
PROJECT **TDY**
LOCATION **Harbor Drive**
PROJECT NUMBER **SC0307**



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Clay (CL) olive brown [2.5Y 4/3], with few shell fragments								1" carbon/ash layer
	Fine Sand (SM) with shell hash.								
5	**Silty Clay (CL)** with inner beds of fine sand, olive brown [2.5Y 4/3].			T-32-S-6T	☒				
	Silty Sand (SM) with shell hash.								▽ Groundwater encountered at 6.4 ft bgs on 7/5/2005.
	@ 8', dark gray [2.5Y 4/1]								
10	@ 10', olive brown [2.5Y 4/3]								
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **S. Williams** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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BORING LOG NO WELL (SAM) SC0307.GPJ GEOSNTEC.GDT 10/11/05

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GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING **T-33** **SHEET 1 OF 1**
START DATE **1 Jul 05** **ELEVATION** **FT**
FINISH DATE **1 Jul 05** **DATUM** **Mean Seal Level**
PROJECT **TDY**
LOCATION **Harbor Drive**
PROJECT NUMBER **SC0307**

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	No Recovery								
	Silty Clay (CL)with interbeds of fine sand with shell hash, dark grayish brown [2.5Y 4/2].	▨							
5	**Fine Sand (SM)**with shell hash, grayish brown [2.5Y 5/2].	░							
				T-33-S-6B	☒				▽ Groundwater encountered at 6.3' bgs at 1528 on 7/1/2005.
10									
	Total Depth = 11 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **S. Williams** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-34 **SHEET** 1 **OF** 1
START DATE 14 Jul 05 **ELEVATION** FT
FINISH DATE 14 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	PID READING (ppm)	COMMENTS
	Gravely Sand (GM) dark olive brown [2.5Y 3/3], loose, dry, with pieces of concrete.								
	Clay (CL) with some silt, olive brown [2.5Y 4/3], hard.	▨							
	No Recovery							392	
5	**Silty Clay (CL)** with fine sand lenses, olive brown [2.5Y 4/3], slightly hard.	▨						644	
	Sample interval.			T-34-S-7T	☒			64.7 0	▽ Groundwater encountered at 6.9 ft bgs on 7/14/2005.
10	**Fine Sand (SM)** olive brown [2.5Y 4/3]. @ 8 ', dark gray [2.5Y 4/1], loose, wet.							0	
								0	

Total Depth = 11 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .22 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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BOREHOLE RECORD

BORING T-35 **SHEET** 1 **OF** 1
START DATE 14 Jul 05 **ELEVATION** FT
FINISH DATE 14 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Silty Sand (SM) dark yellowish brown [10YR 4/4], slightly hard, dry.								
	Fine Sand (SM) with minor shell hash, light gray [2.5Y 7/1], loose, dry.							4.6	
	Silty Clay (CL) with fine sand lenses, dark grayish brown [2.5Y 4/2], slightly hard, dry.							5.6	
5	**Fine Sand (SM)** dark grayish brown [2.5Y 4/2], loose, dry. Sample Interval			T-35-S-5.5T	☒			11.4	
	Fine Sand (SM) dark grayish brown [2.5Y 4/2], loose, moist, with major shell hash. @ 8', becomes wet.							2	▽ Groundwater encountered at 5.8 ft bgs on 7/14/2005.
10	Total Depth = 10 feet bgs.							0	
15									
20									
25									
30									
35									

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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BOREHOLE RECORD

BORING **T-36** **SHEET 1 OF 1**
START DATE **14 Jul 05** **ELEVATION** **FT**
FINISH DATE **14 Jul 05** **DATUM** **Mean Seal Level**
PROJECT **TDY**
LOCATION **Harbor Drive**
PROJECT NUMBER **SC0307**

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Fine Sand (SM) very dark grayish brown [2.5Y 3/2], loose, dry, with trace asphalt mixed in. @ 1', with some silt grayish brown [2.5Y 5/2]							0	
	@ 4', minor shell hash							58	
5	**Silty Clay (CL)** with shell hash, grayish brown [2.5Y 5/2], slightly hard, dry.								
	Sample interval			T-36-S-6.5B	☒			0	∇ Groundwater encountered at 6.8 ft bgs on 7/14/2005.
	Fine Sand (SM) with minor shell hash, dark grayish brown [2.5Y 4/2], loose, moist. @ 8', becomes wet							0 0	
10								0	

Total Depth = 10 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT **Strataprobe**
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **B. Hitchens** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **10 Nov 05**

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

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GS FORM:
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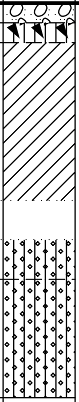
BORING T-37 **SHEET** 1 **OF** 1
START DATE 14 Jul 05 **ELEVATION** FT
FINISH DATE 14 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Medium Sand (SW) with few pebble clast, dark olive brown [2.5Y 3/3], loose, dry.								
	Gravely Sand (GM) with pebble clasts, light yellowish brown [2.5Y 6/3], loose, dry.								
	Silty Clay (CL) with fine sand lenses, olive brown [2.5Y 4/3], slightly hard, dry.							**	
								1312	
5	Sample Interval							89	
	Silty Sand (SM) with minor shell hash, grayish brown [2.5Y 5/2], slightly hard, moist.								∇ Groundwater encountered at 6 ft bgs on 7/14/2005.
	Fine Sand (SM) with minor shell hash, grayish brown [2.5Y 5/2], slightly hard, moist.								
								17 .06	
10	Total Depth = 10 feet bgs.							5.8	
									** PID reading over range.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

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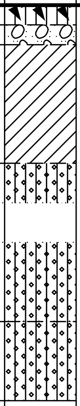
BOREHOLE RECORD

BORING T-38 **SHEET** 1 **OF** 1
START DATE 14 Jul 05 **ELEVATION** FT
FINISH DATE 14 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Gravely Sand (GM) with concrete fragments, very dark gray [2.5Y 3/1], loose, dry.							
	Medium Sand (SW), poorly sorted, yellowish brown [10YR 5/6], loose, dry.							
	Silty Clay (CL) with sand lenses, grayish brown [2.5Y 5/2], hard, dry.						139	
	Silty Sand (SM) with shell hash, grayish brown [2.5Y 5/2], slightly hard, dry.						219	
5	Sample Interval		T-38-S-5.5T	☒			90	∇ Groundwater encountered at 5.7 ft bgs on 7/14/2005.
	Silty Sand (SM) with minor shell hash, grayish brown [2.5Y 4/2], slightly hard, moist.							
	Fine Sand (SM) with minor shell hash, dark gray [2.5Y 4/1], loose, wet.						89	
10	Total Depth = 10 feet bgs.						82	

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-39 **SHEET** 1 **OF** 1
START DATE 13 Jul 05 **ELEVATION** FT
FINISH DATE 13 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	SAMPLES PID READING (ppm)	COMMENTS
	Gravely Sand (GM) with pebble size clasts, grayish brown [2.5Y 5/2], loose, dry.								
	Fine Sand (SM) with minor shell fragments, grayish brown [2.5Y 5/2], loose, dry.							267 220	
	No Recovery							52.7	
5	**Fine Sand (SM)** grayish brown [2.5Y 5/2], loose, dry.								
	Sample Interval			T-39-S-6.5T	☒				
	Fine Sand (SM) with shell hash, grayish brown [2.5Y 5/2], loose, moist. @ 8', with fine pieces of shell fragments, dark grayish brown [2.5Y 4/2], wet.							16.1 30.3 106 110 28.7	
10	Total Depth = 10 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

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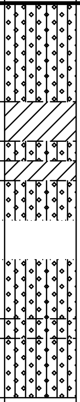
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-40 **SHEET** 1 **OF** 1
START DATE 13 Jul 05 **ELEVATION** FT
FINISH DATE 13 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS PER 6"	SAMPLES RECOVERY (%)	PID READING (ppm)	COMMENTS
	Fine Sand (SM) olive brown [2.5Y 4/3], loose, dry. @ 6", well-sorted, gray [2.5Y 6/1]								
	Silty Clay (CL) with minor shell fragments, dark gray [2.5Y 4/1], hard, dry.								
	Fine Sand (SM) with shell fragments, fine, light brownish gray [2.5Y 6/2], loose, dry.								
5	**Silty Clay (CL)** very dark grayish brown [2.5Y 3/2], slightly hard, dry.								
	Fine Sand (SM) well-sorted, fine grained, gray [2.5Y 5/1]. Sample interval.			T-40-S-6T	☒				
	Silty Sand (SM) very dark gray [2.5Y 3/1], loose, moist, with shell hash.							38.1 9.7 6.4	∇ Groundwater encountered at 6.48 ft bgs on 7/13/2005.
	Fine sand (SM) with shell hash, grayish brown [2.5Y 5/2], loose, moist.							20.8 38.1	
10	**Silty Sand (SM)** with shell fragments, very dark grey [2.5Y 3/1] slightly hard, wet.							18.4	

Total Depth = 10 feet bgs.

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR	**H&P**	**NORTHING**	
EQUIPMENT	**Strataprobe**	**EASTING**	
DRILL MTHD	**Direct Push**	**ANGLE**	**Vertical**
DIAMETER	**2"**	**BEARING**	**------**
LOGGER	**B. Hitchens** **REVIEWER**	**PRINTED**	**10 Nov 05**

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

BORING LOG NO WELL (SAM) SC0307.GPJ GEOSNTEC.GDT 10/11/05

GEOSYNTEC CONSULTANTS

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San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-41 **SHEET** 1 **OF** 1
START DATE 14 Jul 05 **ELEVATION** FT
FINISH DATE 14 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Fine Sand (SM) well sorted, grayish brown [2.5Y 5/2], loose, dry.	⁘							
	Silty Clay (CL) with fine sand lenses and minor shell hash, dark grayish brown [2.5Y 4/2], slightly hard, dry.	▨							
	No Recovery							0 0	
5	**Silty Clay (CL)** with shell hash, dark grayish brown [2.5Y 4/2], slightly hard, dry.	▨							
	Sample interval			T-41-S-6.5B	☒				
	Fine Sand (SM) with major shell hash, dark grayish brown [2.5Y 4/2], loose, moist. @ 8', very dark gray [2.5Y 3/1], wet.	⁘						304 0	▽ Groundwater encountered at 7 ft bgs on 7/14/2005.
10	Total Depth = 10 feet bgs.								

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P
EQUIPMENT Strataprobe
DRILL MTHD Direct Push
DIAMETER 2"
LOGGER B. Hitchens **REVIEWER**

NORTHING
EASTING
ANGLE Vertical
BEARING ------
PRINTED 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GEOSYNTEC CONSULTANTS

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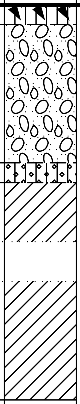
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-42 **SHEET 1 OF 1**
START DATE 13 Jul 05 **ELEVATION** FT
FINISH DATE 13 Jul 05 **DATUM** Mean Seal Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307



DEPTH (ft)	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLES NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	COMMENTS
	Gravely Sand (GM) very dark gray [2.5Y 3/1], loose, dry.							
	Sand (SW) with some shell hash, well sorted, grayish brown [2.5Y 5/2], loose, dry.							
	Fine Sand (SM) grayish brown [2.5Y 5/2], loose, dry.							
5	**Silty Clay (CL)** with shell hash, dark gray [2.5Y 4/1], slightly hard, dry.							
	Sample Interval.		T-42-S-6.5B	☒				▽ Groundwater encountered at 7.15 ft bgs on 7/13/2005.
	Silty Clay (CL) with shell hash, dark gray [2.5Y 4/1], slightly hard, semi-moist. @ 8', olive brown [2.5Y 4/3], wet.							
10	Total Depth = 10 feet bgs.							

D. Sam Williams
Registered Geologist No. 4858

CONTRACTOR H&P **NORTHING**
EQUIPMENT Strataprobe **EASTING**
DRILL MTHD Direct Push **ANGLE** Vertical
DIAMETER 2" **BEARING** ------
LOGGER B. Hitchens **REVIEWER** **PRINTED** 10 Nov 05

REMARKS: Backfilled with .20 cubic feet Enviroplug bentonite pellets to surface.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

BORING LOG NO WELL (SAM) SC0307.GPJ GEOSNTEC.GDT 10/11/05

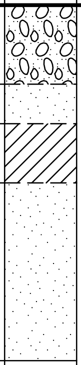
GEOSYNTEC CONSULTANTS

11305 Rancho Bernardo Rd, Suite 101
San Diego, CA 92127
Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM:
BORE 1/99

BOREHOLE RECORD

BORING T-43 **SHEET** 1 **OF** 1
START DATE 18 Nov 05 **ELEVATION** FT
FINISH DATE 18 Nov 05 **DATUM** Mean Sea Level
PROJECT TDY
LOCATION Harbor Drive
PROJECT NUMBER SC0307

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	ELEVATION (ft)	SAMPLES					COMMENTS
				NUMBER	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)	
	Gravelly Sand (SW) with clay, dark olive brown (2.5Y 3/3), dry.								
	Sand (SP) with clay, dark olive brown (2.5Y 3/3), dry, medium sand.								
	Clay (CL) with medium sand, olive brown (2.5Y 4/3), dry.								
5	**Sand (SP)**, olive brown (2.5Y 4/3), dry, fine sand. @ 5', dark olive brown (2.5Y 3/2), wet							0 0 0	▽ Groundwater encountered at 6.33' bgs on 11/18/05.
	Total Depth = 9 ft bgs								

D. Sam Williams
Professional Geologist No. 4858

CONTRACTOR **H&P**
EQUIPMENT
DRILL MTHD **Direct Push**
DIAMETER **2"**
LOGGER **B. Hitchens** **REVIEWER**

NORTHING
EASTING
ANGLE **Vertical**
BEARING **------**
PRINTED **30 Nov 05**

REMARKS: Backfilled with 0.025 ft^3 Asphalt Cap and 0.19 ft^3 Enviroplug medium Wyo-Ben, Inc.

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

APPENDIX D
GROUNDWATER SAMPLING AND WELL DEVELOPMENT FIELD LOGS

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: 560307

Monitoring Well: BLD102-MW3 Sampling Date: 7/28/05

Sample ID: BLD102-MW3 Sampler: Dave Kipper, Chris Lieder, Caroline Dokszadey

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity S/m (~~μS/cm~~) (ATC)	pH (ATC)	Redox Potential (± mv) mV	DO mg/L	Appearance of Water
09:14										
09:16					25.37	.674	6.97	101	3.92	Clear Turbidity 0
09:20					25.23	.692	6.98	90	3.81	7.35 ft Toc to water
09:25					25.45	.692	6.99	84	3.63	7.34 ft Toc water
09:27					25.56	.692	7.00	82	3.60	0.90 NTU
09:29					25.60	.692	7.00	80	3.58	7.35 ft Toc water
09:31					25.68	.690	7.01	78	3.32	1.4 NTU
09:33					25.74	.693	7.01	77	3.26	1.9 NTU
09:35					25.76	.692	7.02	76	3.26	1.9 NTU
09:37					25.77	.692	7.02	75	3.19	2.3 NTU
09:39					25.80	.692	7.02	75	3.07	2.9 NTU
09:41					25.86	.692	7.03	74	2.98	4.5 NTU

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	______	pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity	______	____ μS/cm fluid reads ____ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: ____ ft

Turbidity: ____ NTUs

Dis. Oxygen: ____ ppm

Pump Rate: 300 ~~in~~ mL/Min.

____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth 17.1 ft TOC
Depth to water 7.21 ft Toc
= 10 ft of water in well

Pump at 13 ft Toc
Flow at 300 mL/Min

Pump at 100→250 mL/Min
water can't Drop 10.25ft

Sample taken 9:50
Voc's

Time	Temp	Condu	pH	ORP	DO	Turb.
9:42	25.91	.693	7.03	72	2.90	4.2
9:44	25.94	.693	7.03	71	2.87	4.2

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: SC0307

Monitoring Well: BCD 102-MW4 Sampling Date: 7/28/05

Sample ID: BCD102-MW4 Sampler: Caroline Dobrzansky Chris Lieder

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity S/M (μS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO mg/L	Appearance of Water
11:17										6.55
11:20					24.66	.276	6.88	-96	3.23	1.9 NTU clear water 6.55 ATOC
11:22					24.74	.298	6.91	-103	2.90	1.3 NTU
11:24					24.69	.316	6.93	-106	2.75	1.0 NTU
11:26					24.67	.340	6.96	-111	2.71	.95 NTU
11:28					24.70	.358	6.99	-115	2.74	.45 NTU 6.56 H2O water TOC
11:36					24.65	.370	7.01	-117	2.63	1.0 NTU
11:38					24.63	.376	7.02	-118	2.61	.45 NTU
11:40					24.68	.381	7.03	-119	2.59	.35 NTU
11.42					24.69	.386	7.04	-120	2.58	.25 NTU 6.56 DTW TOC
11.44					24.67	.387	7.05	-122	2.62	.40 NTU
11:46					24.67	.388	7.06	-123	2.62	.1 NTU

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	______	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	______	______ μS/cm fluid reads ______ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: ______ ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: 300 ~~in~~ ml/m

______ min, ______ sec.

5.67

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

	Total Depth of well	17.8 ft
Assumed 5ft screen	Top of Screen	12.8 ft
	Depth to water	6.54 ft
	water in well	11.35 ft
	Pump at	12.00 ft

Sample Taken at 11:50

TPH and VOC's

Depth to water 6.54 ft

-17.8

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307

Monitoring Well: BLD 102-MW-5 Sampling Date: 8/5/05

Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	purge rate
14:26					20.65	.467	7.16	-114	1.09	5.6	8.03	—
14:34					20.52	.534	7.18	-115	1.25	0.35	7.65	300
14:38					20.40	.788	7.20	-143	.67	0.0	7.62	300
14:41					20.38	1.54	7.21	-143	.57	0.0	7.65	290
14:44					20.37	2.34	7.22	-141	.57	0.0	7.65	290
14:47					20.36	2.26	7.24	-139	.58	0.0	7.65	290
14:50					20.37	2.26	7.25	-140	.56	0.0	7.65	290
14:53					20.36	2.28	7.26	-140	.54	0.0	7.65	290

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	______	pH 4:______; pH 7:______; pH 10:______ (ATC)
Conductivity	______	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7.04 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in ______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 15.2
pump set @ 11.00ft

Started pumping @ 14:24
moderate fuel ODOR

GeoSyntec Consultants
Page 1 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr.
Project No.: SC0307
Monitoring Well: BID120-MW-1
Sampling Date: 8/1/05
Sample ID: BLD120-mw-1
Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	ft. Appearance of Water DTW	ml/min Purge rate	
14:41					21.04	1.55	7.06	82	.76	0.0	6.20	380	
14:44					20.97	.642	7.05	75	.68	0.0	6.31	320	
14:47					21.06	.568	7.04	48	.68	0.0	6.32	200	
14:50					21.15	.665	7.00	20	.67	0.0	–	200	
14:53					21.16	.754	7.00	-7	.70	0.0	–	200	
14:56					21.15	.851	7.00	-21	.72	0.0	6.32	200	
14:59					21.13	.961	7.00	-32	.74	0.0	–	190	
15:02					21.12	1.30	7.01	-35	.75	0.0	–	190	
15:05					21.12	1.31	7.02	-40	.78	0.0	–	190	
15:08					21.10	1.53	7.02	-44	.78	0.0	–	190	
15:11					21.09	1.74	7.02	-47	.79	0.0	6.32	190	
15:14					21.09	1.79	7.03	-49	.80	0.0	–	190	

Meter Calibration

Meter Number: ______

Parameter	Date & Time Calibrated	Calibration Results
pH	______	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	______	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 5.91 ft
Turbidity: ______ NTUs
Dis. Oxygen: ______ ppm
Pump Rate: ______ in
______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Depth to pump is 10.5 ft

Time	Temp	cond	pH	ORP	DO	turb	DTW	purge rate
15:17	21.09	1.85	7.03	-52	.80	0.0	6.32	190
15:20	21.08	1.91	7.03	-54	.79	0.0	–	190
15:23	21.07	2.05	7.04	-55	.80	0.0	–	190
15:26	21.07	1.97	7.05	-54	.80	0.0	6.33	190
15:29	21.07	3.15	7.04	-54	.78	0.0	6.33	190

GeoSyntec Consultants

Page 2 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TPY N. Harbor Dr. Project No.: SC0307
Monitoring Well: Bld 120-MW-1 Sampling Date: 8/1/05
Sample ID: Bld120-MW-1 Sampler: CL, DS

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	ft DTW	ml/min Purge Rate	Appearance of Water
15:32					21.05	2.56	7.05	-55	.77	0.0	–	190	
15:35					21.06	2.54	7.05	-56	.79	0.0	–	190	
15:38					21.05	2.48	7.06	-56	.80	0.0	6.32	190	

Meter Calibration

Meter Number: ______

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity		______ µS/cm fluid reads ______ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 5.91 ft
Turbidity: ______ NTUs
Dis. Oxygen: ______ ppm
Pump Rate: ______ in
______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Depth to pump 10.5

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr.
Project No.: SC0307
Monitoring Well: BL0120-MW-~~8~~ 2
Sampling Date: 8/1/05
Sample ID:
Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb.	ft DTW	ml/min Purse rate	Appearance of Water
13:01					24.80	3.17	7.21	51	.89	7.8	6.28	230	
13:04					24.82	1.27	7.17	53	.73	5.6	6.27	230	
13:07					24.98	.456	7.15	56	.73	5.0	–	230	
13:10					25.06	.402	7.16	56	.72	3.5	6.26	11	
13:13					25.06	.369	7.15	57	.69	3.1	–	11	
13:16					25.09	.355	7.15	57	.67	1.1	–	11	
13:19					25.12	.322	7.15	57	.65	.90	6.27	11	
13:22					25.16	.329	7.15	56	.65	1.7	–	230	
13:25					25.18	.332	7.16	55	.65	1.1	6.27	11	
13:28					25.14	.336	7.17	55	.65	.55	–	11	
13:31					25.12	.350	7.17	54	.66	.45	–	11	
13.34					25.12	.351	7.17	53	.65	.20	6.27	11	

Meter Calibration

Meter Number:

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.19 ft
Turbidity: ____ NTUs
Dis. Oxygen: ____ ppm
Pump Rate: ____ in ____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Install pump at 10.5

TD = 14.35

Time	Temp	Cond	pH	ORP	DO	Turb	DTW	Purge rate
13:37	25.14	.349	7.17	53	.65	0	6.27	11
13:40	25.15	.360	7.18	52	.66	0	–	11

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: 56307

Monitoring Well: BLD 120-MW3 Sampling Date: 7/29/05

Sample ID: BLD 120-MW3 Sampler: Dave Skippon

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)		Appearance of Water		
									DO mg/L	Turbidity	Depth	
13:57					24.64	.505	7.45	+33	2.22	2.8		500 mL/min
14:02					24.32	.502	7.37	+31	0.58	2.6	6.6	300 mL/min
14:05					24.38	.500	7.36	+25	0.58	1.0	6.81	
14:11					24.37	.502	7.37	-15	0.55	1.6	6.88	170 mL/min
14:15					24.93	.503	7.38	-31	0.49	1.0	6.82	150 mL/min
14:19					25.40	.508	7.40	-30	.50	0.0	6.81	140 mL/min
14:23					25.46	.518	7.42	-25	.50	0.5	6.74	
14:27					25.46	.521	7.43	-30	.49	0.0	6.73	
14:31					25.39	.522	7.44	-43	.48	0.0		
14:35					25.29	.522	7.44	-63	.48	0.0	6.71	
14:39					25.35	.526	7.44	co -7677	.48	0.0		Continue
42 14:38					25.35	.528	7.44	-86	.49	0.0		→ Over

Meter Calibration

Meter Number: ____

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: ____ ft

Turbidity: ____ NTUs

Dis. Oxygen: ____ ppm

Pump Rate: ____ in

____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Depth to water	6.22 ft	TOC
Total Depth	14.1 ft	TOC
water Colom	7.88 ft 3.94 ft	
Pump at	10.16 ft 10.5 ft	

Start Pump

- Started at 500 mL/min
- pulled Down to 300 mL/min

Sample Lable BLD120-MW3 14:55

Sampled For VOC, SVOC, Perchlorate.

Time	Temp	Cond.	pH	ORP	DO	Turb	Depth	Flow
14:46	25.27	.528	7.45	-95	0.49	0.0	6.71	160
14:50	25.26	.534	7.45	-100	0.49	0.0		
14:54	25.21	.537	7.46	-102	.47	0.0	6.71	

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY	**Well I.D.** B120-MW4	
Project Number SC0307	**Developer** Dave Skipper	
Weather Sunny 80F	**Subcontractor**	
Date of Development 7/25/05	**Water Quality Meter I.D.**	
Development Criteria 3X Vol and Stabilization	**Depth of Pump (ft)**	
Well Condition Good		

Equipment	**Surging/Development**
Bladder Pump	
Hand Pump	
Submersible Pump	
Bailer (size)	
Surge Block	

Well Data		**Conversions**	**Well Development**	**Recovery Data**
Casing Diameter (ft)	.17	2" = 0.17 ft	Max Depth/Development (ft)	% Recovery
Borehole Diameter (ft)	.67	4" = 0.33 ft	Total Volume Purged (gal)	
Filter Pack Porosity (dec.)	0.25	5" = 0.42 ft		PR = (1-(RD/MD)) x 100
Well Depth (ft)	13.8	6" = 0.50 ft	$BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)$	
Depth to Water (ft)	~~4.22~~ 4.82	7" = 0.58 ft	CD=Casing Diameter in feet	PR=Percent Recovery
Water Column Height (ft)	8.98	8" = 0.67 ft	BD=Borehole Diameter in feet	RD=Residual Drawdown
Borehole Volume (gal)	0.00 x WCH = 7.184	9" = 0.75 ft	P=Porosity of Filter Pack (decimal)	MD=Max Drawdown
3 Borehole Volumes (gal)	21.55	10" = 0.83 ft	WCH=(Well Depth - Depth to Water)	

Purging Data					**Cumulative Total Removed**		**Water Characteristics**				**Comments**
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	
	Begin	Finish									
7/25/05	15:00		1								
	15:05		1	5	5		7.54	.96		28.47	
	15:10		1	5	10		7.47	1.01		26.69	
	15:15										Pumped Dry
			~~.5~~								
	15:20		.3								Start Pump again.
	15:25		.3	1.5	11.5		7.62	1.03		27.49	
	15:30		.3	1.5	13		7.46	1.03		27.32	11.7 ft to water
	15:40		.25	2.5	17.5		7.5	1.09	650	28.49	
	15:45		.25	1.25	18.75		7.40	1.00	260	28.27	
	15:55		.25	2.5	20.25		7.46	1.03	24	29.20	
	16:05		.25	2.5	22.75		7.43	1.13	12	28.28	
	16:15		.25	2.5	25.25		7.40	1.15	15	27.40	
	16:20		.25	1.25	26.5		7.38	1.14	9.9	27.53	
	16:25		.25	1.25	27.75		7.40	1.06	12.0	27.34	
	~~16:30~~		~~.25~~	~~1.25~~	~~29~~						
	16:35		.25	2.5	30.25		7.38	1.07	90	26.71	Pump was disturbed
						14.2					

Purge Water Disposal: ______________________

Field Personnel Signature: ______________________

GeoSyntec Consultants Page 1 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307
Monitoring Well: B120-MW4 Sampling Date: 8/2/05
Sample ID: ~~[illegible]~~ cl B120-MW4 Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water ft DTW	ml/min Purge rate	
9:10					26.43	.98	7.31	78	2.06	90	6.10	800	
9:16					26.00	6.20	7.33	66	1.09	120	6.10	100	
9:21					25.46	6.27	7.31	57	.91	29	5.80	100	
9:26					25.31	2.69	7.33	42	.68	27	5.80	230	
9:29					25.33	2.46	7.34	35	.66	22	5.78	230	
9:32					25.32	2.35	7.35	26	.67	24	–	230	
9:35					25.35	2.14	7.35	12	.66	22	5.75	230	
9:38					25.34	1.94	7.35	-4	.65	25	5.76	230	
9:41					25.34	1.76	7.35	-21	.64	30	5.77	230	
9:44					25.36	1.68	7.36	-39	.63	28	–	210	
9:47					25.36	1.67	7.36	-50	.64	31	5.77	210	
9:50					25.34	1.65	7.36	-59	.64	28	–	210	

Meter Calibration

Meter Number: ________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	________	pH 4: ________; pH 7: ________; pH 10: ________ (ATC)
Conductivity	________	________ µS/cm fluid reads ________ (ATC)
Redox Pot.	________	+231 mv Zoebell solution reads ________

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 4.86 ft
Turbidity: ________ NTUs
Dis. Oxygen: ________ ppm
Pump Rate: ________ in
________ min, ________ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)
Total Depth of well = 14.4 ft
Pump Depth = 10.0 ft

GeoSyntec Consultants

page 2 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harber Dr.
Project No.: SC0307
Monitoring Well: ~~MW~~ B.0 120-MW4
Sampling Date: 8/2/05
Sample ID: ____________
Sampler: DS, CC

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	ft Appearance DTW	ml/min of Water purge rate	
9:53					25.31	1.68	7.36	70	.65	27	5.77	210	
9:56					25.34	1.70	7.36	-76	.65	27	-	210	
9:59					25.34	1.72	7.37	-80	.64	28	5.77	210	

Meter Calibration

Meter Number: ____________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	____________	pH 4: ________; pH 7: ________; pH 10: ________ (ATC)
Conductivity	____________	________ µS/cm fluid reads ________ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ________

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 4.86 ft
Turbidity: ________ NTUs
Dis. Oxygen: ________ ppm
Pump Rate: ________ in
________ min, ________ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

pump Depth at 10 ft

WELL DEVELOPMENT LOG

GeoSyntec Consultants
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Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY
Well I.D. B120-MW5
Project Number SC0307
Developer Dave Skippon
Weather Sunny 75°F
Subcontractor
Date of Development 7/26/05
Water Quality Meter I.D.
Development Criteria 3X well vol and Stable
Depth of Pump (ft) 12.3
Well Condition Good

Equipment	**Surging/Development**
Bladder Pump	
Hand Pump	
Submersible Pump	✓ Dedi Flow
Bailer (size)	2" Poly.
Surge Block	2" PVC Manual

Well Data

Casing Diameter (ft)
Borehole Diameter (ft)
Filter Pack Porosity (dec.) 0.25
Well Depth (ft) 13.3
Depth to Water (ft) 5.7
Water Column Height (ft) 7.6
Borehole Volume (gal) 0.00 x WCH = 6.08
3 Borehole Volumes (gal) 18.24

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) 11
Total Volume Purged (gal)

$BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)$
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					Cumulative Total Removed		Water Characteristics				Comments
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	Remove 6 gallons ~~after~~ bailing by Hand
	Begin	Finish									
7/26/05	9:42		.5	6	6						8.4 ft to water
	9:46		.5	2	8		7.11	.266	over.	29.34	9.4 ft to water
	9:55		.5	4.5	12.5		7.84	.277	190	27.61	
	10:05		.5	5	17.5		7.77	.286	98	27.61	9.8 ft to water
	10:15		.5	5	22.5		7.75	.260	80	27.41	Had to move generator - stopped purging 5 min
	10:20		.5	2.5	25		7.72	.282	45	27.39	10 ft to water
	10:25		.5	2.5	27.5		7.74	.289	30	27.28	
	10:30		.5	2.5	30		7.73	.294	22	27.08	10.2 ft TOC to water
	10:40		.5	~~2.5~~	32.5		7.81	.292	20	27.51	generator stalled
	10:50		.5	5	37.5		7.70	.298	21	27.48	
	10:55		.5	2.5	40		7.69	.298	16	27.57	
	11:00		.5	2.5	42.5		7.68	.299	9	27.62	
	11:05		.5	2.5	45		7.69	~~.299~~ .300	8.1	27.5	
	11:10		.5	2.5	47.5		7.69	.300 .304	4.7	27.53	

Purge Water Disposal:

Field Personnel Signature:

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307
Monitoring Well: B120-MW5 Sampling Date: 8/2/05
Sample ID: ____________ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water		
											DTW	Purge rate	
10:56					27.55	.147	7.72	49	3.45	—		260	
10:59					27.51	.146	7.74	49	3.84	140	6.00	260	
11:02					27.49	.146	7.76	43	3.97	100	6.10	250	
11:05					27.55	.145	7.77	40	4.07	80	6.07	250	
11:08					27.54	.147	7.78	36	4.22	60	6.05	250	
11:11					27.55	.148	7.79	34	4.31	110	6.00	250	
11:14					27.55	.149	7.81	30	4.35	45	5.95	250	
11:17					27.61	.152	7.83	22	4.34	50	—	220	
11:20					27.63	.153	7.83	18	4.44	34	5.95	220	
11:23					27.57	.155	7.85	13	4.54	30	5.95	220	
11:26					27.67	.154	7.86	10	4.67	26	5.95	220	
11:29					27.63	.156	7.86	7	4.64	25	5.95	220	

Meter Calibration

Meter Number: ____________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	____________	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	____________	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 5.80 ft
Turbidity: ______ NTUs
Dis. Oxygen: ______ ppm
Pump Rate: ______ in ______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Pump Depth at 10 ft.

Time	Temp	cond	PH	Redox Pot.	DO	Turb	DTW	Purge rate
11:32	27.68	.158	7.87	5	4.88	23	5.95	220

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY
Project Number SC0307
Weather Sunny 80°F
Date of Development 7/26/05
Development Criteria 3x well vol Stable Params
Well Condition Good

Well I.D. B120-MW6
Developer Dave Skipper
Subcontractor
Water Quality Meter I.D. Horiba U-22
Depth of Pump (ft)

Equipment	**Surging/Development**
Bladder Pump	
Hand Pump	
Submersible Pump	Redi Flow
Bailer (size)	
Surge Block	2" PVC

Well Data

Casing Diameter (ft) .17
Borehole Diameter (ft) .65
Filter Pack Porosity (dec.) 0.25
Well Depth (ft) 13.55
Depth to Water (ft) 6.05
Water Column Height (ft) 7.5
Borehole Volume (gal) 0.00 x WCH = 6
3 Borehole Volumes (gal) 18

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) 11
Total Volume Purged (gal)

$BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)$
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					Cumulative Total Removed		Water Characteristics				Comments
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	
	Begin	Finish									
7/26/05	14:55				5						5 gallons Purged @ water foot value
	15:00		1.3	6.5			7.78	.505		27.8	9.10 ft to water TC
	15:10				25						Generator stopped
	15:20		1.3	20	20		7.41	.633		28.32	
	15:25		1	5	30		7.46	.629		26.22	
	15:27		1	2	32		7.40	.598	60	26.59	
	15:35		.7	8.6 gal	~~40~~	37.6	7.36	.565	110	27.21	
	15:40		.7	3.5	41.1		7.39	.569	7.4	26.83	
	15:45		.7	3.5	44.6		7.39	.572	2.0	26.74	
	15:50		.7	3.5			7.34	.579	1.3	26.59	
	15:55		.7	3.5			7.36	.581	1.1	26.58	7.3 TOC Depth to water
					47 gallons Total						

Purge Water Disposal:

Field Personnel Signature:

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: SC0307

Monitoring Well: B120-mw-6 Sampling Date: 1-Ag-05

Sample ID: B120-mw-6 Sampler: D.S. C.L.

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	DTW	Appearance of Water
9:25					25.98	.246	7.14	61	1.48	6.27	purge rate = 400ml/min
9:30					26.08	.259	7.22	56	1.33	–	Turb = 45 purge rate = 350 ml/min
9:37					26.18	.425	7.18	51	.81	6.5	Turb = 130 Purge rate = 300 ml/min
9:40					26.06	.547	7.23	42	.78	6.3	Turb = 150 purge rate = 160 ml/min
9:44					25.98	.724	7.24	25	.67	6.32	Turb = 55 purge rate = 180 ml/min
9:49					26.05	.882	7.23	22	.70	6.31	Turb = 65 purge rate = 200 ml/min
9:52					26.08	1.91	7.24	22	.71	6.31	Turb = 70 purge rate = 200 ml/min
9:55					26.11	2.22	7.24	19	.76	–	Turb = 50 purge rate = 200 ml/min
9:58					26.11	2.34	7.24	15	.81	–	Turb = 45 "
10:01					26.16	2.74	7.25	12	.87	–	Turb = 39 "
10:04					26.19	2.78	7.25	7	.90	–	Turb = 32 "
10:07					26.24	2.75	7.25	3	.94	–	Turb = 27 "

Meter Calibration

Meter Number: ____________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	____________	pH 4:______; pH 7:______; pH 10:______ (ATC)
Conductivity	____________	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.06 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in

______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

install pump 10.5

TD = 14.7

Time	Temp	Cond	PH	Redox potential	DO	Turb	DTW
10:10	26.26	2.75	7.25	-3	.98	24	6.32
10:13	26.27	2.60	7.26	-6	1.00	20	6.32
10:16	26.31	2.75	7.25	-12	1.01	20	
10:19	26.24	2.74	7.26	-14	1.02	15	
10:21	26.24	2.76	7.26	-18	1.03	13	

purge rate = 200ml/min

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY
Well I.D. B31- MW1
Project Number 5C0307
Developer Dave Skippon
Weather Sunny 80°F
Subcontractor
Date of Development 7/20/05
Water Quality Meter I.D.
Development Criteria Stable and 3x wellvol
Depth of Pump (ft) 12.2
Well Condition Good

Equipment	**Surging/Development**
Bladder Pump	
Hand Pump	
Submersible Pump	Redi Flow
Bailer (size)	
Surge Block	2" PVC Manual

Well Data

Casing Diameter (ft) .17
Borehole Diameter (ft) .67
Filter Pack Porosity (dec.) 0.25
Well Depth (ft) 13.2
Depth to Water (ft) 6.25
Water Column Height (ft) 6.95
Borehole Volume (gal) 0.00 x WCH = 5.56
3 Borehole Volumes (gal) 16.68

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) ________
Total Volume Purged (gal) ________

$BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)$

CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery ________

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data START 13:45

Purging Data					Cumulative Total Removed		Water Characteristics				Comments
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	
	Begin	Finish									
7/20/05	13:55	—	NA	15	15		7.71	0.444	over	25.73	Silty x HAND BAIL
	14:02		NA	~~20~~5	20		7.53	0.396	over	25.50	
	14:15		1		21		7.57	0.435	over	25.49	Start Pumping again DTW 8.50
	14:20		1	5	26		7.60	0.449	329	25.42	No oder or sheen 8.8ft
	14:25		1	~~10~~5	31		7.50	.460	187	25.26	
	14:30		1	~~15~~5	36		7.50	.458	98.2	24.78	8.8ft DTW
	14:35		1	~~15~~5	41		7.50	.456	82.5	24.75	9.3ft DTW
	14:40		1	5	46		7.50	.464	97.5	24.63	
	14:45		1	5	51		7.50	.475	74.3	24.65	
	14:50		1	5	56		7.50	.480	71.5	24.61	
	14:55		1	5	61		7.53	.478	74.6	24.61	9.35

Pump

Purge Water Disposal: ____________________

Field Personnel Signature: ____________________

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307
Monitoring Well: B131-MW1 Sampling Date: 8/4/05
Sample ID: Sampler: DS, LL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge rate
9:24					24.47	.432	7.51	-103	.96	60	6.45	470
9:26					24.55	.447	7.52	-125	.78	31	6.41	470
9:28					24.56	.455	7.52	-132	.65	13	6.42	410
9:30					24.56	.464	7.53	-135	.60	6.0	6.45	410
9:32					24.56	.473	7.53	-136	.57	5.0	—	410
9:34					24.58	.484	7.53	-136	.55	1.4	6.44	410
9:36					24.58	.492	7.53	-138	.54	0.0	-	410
9:38					24.59	.494	7.53	-140	.53	0.0	6.44	410
9:40					24.59	.495	7.52	-141	.53	0.0	6.44	410

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.24 ft
Turbidity: ____ NTUs
Dis. Oxygen: ____ ppm
Pump Rate: ____ in
____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)
Total Depth = 14.7 Started pumping @ 9:22
pump set @ 10.5

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY
Well I.D. BB1-MW2
Project Number 5C0307
Developer Dave Skipton
Weather Sunny 75°F
Subcontractor

Equipment **Surging/Development**
Bladder Pump
Hand Pump
Submersible Pump ✓
Bailer (size)
Surge Block Manual 2" PVC

Date of Development 7/25/05
Water Quality Meter I.D. Horiba U22
Development Criteria 3x vol, stable param.
Depth of Pump (ft) 12.5
Well Condition Good

Well Data

Casing Diameter (ft) .17
Borehole Diameter (ft) .67
Filter Pack Porosity (dec.) 0.25
Well Depth (ft) 13.5 TOC
Depth to Water (ft) 6.69 TOC
Water Column Height (ft) 6.81
Borehole Volume (gal) 0.00 x WCH = 5.448
3 Borehole Volumes (gal) 16.344

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) 11
Total Volume Purged (gal)

$BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)$
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					Cumulative Total Removed		Water Characteristics				Comments
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/~~cm~~m)	Turbidity (NTU)	Temp. (°C)	Turbidity Broken on Horiba and Turbidity meter
	Begin	Finish									
7/25/05	9:37		1								
	9:39		1	2	2		7.61	0.547	over	25.81	9.4 ft DTW
	9:46		1	7	9		7.44	0.483	—	25.25	
	9:51		1.0	5	14		7.40	0.480		25.34	
	9:59		~~1.25~~ 1	8	22		7.38	0.469		25.53	
	10:05		1	6	28		7.37	0.473		25.66	9.0ft DTW
	10:10		1	5	33		7.37	0.471		25.55	
	10:15		1	5	38		7.35	0.468		25.4	
											Done.
											No sheen no
											odor

Purge Water Disposal:

Field Personnel Signature:

GeoSyntec Consultants

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307

Monitoring Well: B131-MW2 Sampling Date: 8/4/05

Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
10:46					25,38	.333	7.29	-20	.85	65	6.8	410
10:48					25,31	.342	7.28	-35	.70	45	6.85	410
10:50					25.25	.350	7.27	-51	.64	37	6.85	—
10:52					25.22	.364	7.26	-62	.60	31	6.86	460
10:54					25.21	.379	7.26	-71	.60	31	6.86	410
10:56					25.22	.405	7.26	-77	.58	14	—	410
10:58					25,19	.432	7.26	-81	.57	9,8	—	410
11:00					25.22	.442	7.26	-85	.57	12	6.86	410
11:02					25.22	.457	7.26	-90	.57	8,4	6.86	400
11:04					25.22	.498	7.26	-93	.56	5,0	—	400
11:06					25.22	.577	7.26	-97	.57	1.9	6.86	400
11:08					25.21	.585	7.27	-100	.57	0.95	6.86	400

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.69 ft

Turbidity: ____ NTUs

Dis. Oxygen: ____ ppm

Pump Rate: ____ in ____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 14.3 ft
pump set @ 10.5 ft

Started pumping 10:44

GeoSyntec Consultants

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307

Monitoring Well: B131-MW2 Sampling Date: 8/4/05

Sample ID: ____ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	Purge rate
11:10					25,19	.644	7,27	-102	,57	1,2	–	400
11:12					25,20	.704	7,27	-104	.57	1,00	6,86	400
11:14					25,21	.666	7,27	-106	,56	0,0	6,86	400
11:16					25,18	.590	7,28	-107	,57	0,0	6,86	400
11:18					25,20	.712	7,28	-109	,57	0,0	–	400
11:20					25,19	,708	7,28	-109	,57	0,0	–	400
11:22					25,21	,709	7,28	-110	,57	0,0	6,86	400

Meter Calibration

Meter Number: ____

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	____	pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity	____	____ µS/cm fluid reads ____ (ATC)
Redox Pot.	____	+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.69 ft

Turbidity: ____ NTUs

Dis. Oxygen: ____ ppm

Pump Rate: ____ in ____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 14.3 ft
Pump set @ 10.5 ft

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name	TDY
Well I.D.	BB1-MW3
Project Number	560307
Developer	Dave Skippon
Weather	Sunny 75°F
Subcontractor	
Date of Development	7/25/05
Water Quality Meter I.D.	
Development Criteria	3x vol Stable Param
Depth of Pump (ft)	13.3
Well Condition	Good

Equipment	**Surging/Development**
Bladder Pump	
Hand Pump	
Submersible Pump	✓
Bailer (size)	
Surge Block	2" PVC Manual

Well Data

Casing Diameter (ft)	.17
Borehole Diameter (ft)	.67
Filter Pack Porosity (dec.)	0.25
Well Depth (ft)	14.3 TOC
Depth to Water (ft)	6.50 TOC
Water Column Height (ft)	7.8
Borehole Volume (gal)	0.00 x WCH = 6.24
3 Borehole Volumes (gal)	18.72

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) 11.2
Total Volume Purged (gal) ______

BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery ______

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					**Cumulative Total Removed**		**Water Characteristics**				**Comments**
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	
	Begin	Finish									
7/25/05	11:09		1	1	1		7.98	.502		25.66	Gray Silt water 10ft
	11:19		1	10	11		7.31	.575		25.32	
	11:25		1	6	17		7.23	.578		25.14	10.8ft
	11:30		1	5	22		7.21	.580		25.48	
	11:39		1	9	31		7.20	.583		25.41	10.9ft
	11:45		1	6	37		7.18	.583	20.1	25.51	
	11:50		1	5	42		7.18	.581	42.0	25.36	Turb questionable readings
	12:00		1	10	52		7.19	.582		25.54	
	12:05		1	5	57		7.15	.581		25.83	~~Take Turb Sample~~
	12:10		.5	2.5	59.5		7.16	.572	47.4	25.72	
	12:20		.75	7.5	67		7.15	.557	131	26.35	
	12:30		.5	5	72.		7.14	.554	32.2	26.77	
	12:35		.5	5	77		7.18	.556	15.1	26.40	
	12:40		.5	5	82		7.11	.555	5.71	26.25	Really 70gals removed

Purge Water Disposal: ______

Field Personnel Signature: ______

GeoSyntec Consultants

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TPY N. Harbor Dr. Project No.: SC0307
Monitoring Well: B131 MW3 Sampling Date: 8/4/05
Sample ID: ____________ Sampler: PS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
14:34					26,32	.483	7,21	10	1.29	[illegible]	6.80	400
14:36					26,11	,479	7,18	-11	,78	380	6,75	400
14:38					25,89	,495	7,18	-47	,66	300	—	400
14:40					25,89	,494	7,18	-78	,62	310	6,80	400
14:42					25,81	,495	7,18	-93	,58	280	6,80	"
14:44					25,81	,508	7,19	-97	,57	210	6,80	"
14:46					25,75	,554	7,21	-97	,54	130	6.82	"
14:48					25,70	,597	7,21	-94	,53	85	6.82	"
14:50					25,72	.651	7,21	-89	,52	65	—	"
14:52					25,71	.670	7,21	-87	,51	—	—	"
14:54					25,65	,720	7,20	-85	,51	40	6,80	"
14:56					25,67	,716	7,20	-84	,49	24	6,81	"

Meter Calibration

Meter Number: ____________

Parameter	Date & Time Calibrated	Calibration Results
pH	____________	pH 4:________; pH 7:________; pH 10:________ (ATC)
Conductivity	____________	________ µS/cm fluid reads ________ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ________

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.52 ft
Turbidity: ________ NTUs
Dis. Oxygen: ________ ppm
Pump Rate: ________ in
________ min, ________ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 14.5 ft Started pumping 14:32
Pump set @ 10.5 ft

GeoSyntec Consultants

page 2 of 3

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307

Monitoring Well: B131 - MW3 Sampling Date: 8/4/05

Sample ID: ______ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	Purge rate
14:58					25,64	,725	7,19	-85	,49	20	—	400
15:00					25,61	,715	7,19	-86	,49	19	—	400
15:02					25,63	.685	7,18	-87	,48	19	—	400
15:04					25,64	,690	7,18	-88	,49	14	—	400
15:06					25,68	,632	7,18	-89	,49	17	6,81	400
15:08					25,64	.612	7,18	-90	,49	15	6.82	400
15:10					25,66	.588	7,17	-91	.49	13	6.82	400
15:12					25,65	.590	7,17	-92	,48	14	6,82	400
15:14					25,67	,602	7,17	-93	,48	12	6,82	400
15:16					25,66	,609	7,17	-95	,48	12	6,82	400
15:18					25,66	.575	7,17	-95	,48	8,6	—	400
15:20					25,68	.571	7,17	-96	,48	9,5	6,82	400

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	______	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	______	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.52 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in ______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 14.5 ft

pump set @ 10.5 ft

GeoSyntec Consultants

page 3 of 3

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307
Monitoring Well: B131-MW3 Sampling Date: 8/4/05
Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge rate
15:22					25.63	.557	7.17	-97	.148	7	—	400
15:24					25.64	.549	7.17	-97	.148	6.3	6.83	400
15:26					25.66	.547	7.17	-98	.147	7	6.82	400

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4: ; pH 7: ; pH 10: (ATC)
Conductivity		µS/cm fluid reads (ATC)
Redox Pot.		+231 mv Zoebell solution reads

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.52 ft
Turbidity: NTUs
Dis. Oxygen: ppm
Pump Rate: in
min, sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 14.5 ft
Pump set @ 10.5 ft

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY

Well I.D. B131-MW4

Project Number 60307

Developer Dave Skippon

Weather Sunny 75°F

Subcontractor

Equipment	**Surging/Development**
Bladder Pump	
Hand Pump	
Submersible Pump	Dedi-flo
Bailer (size)	
Surge Block	2" PVC Manually

Date of Development 7/22/05

Water Quality Meter I.D. Horiba u22

Development Criteria Stable Parimiter 3xvol

Depth of Pump (ft) 13.7

Well Condition Good

Well Data I.D	
Casing Diameter (ft)	~~2~~ .17
Borehole Diameter (ft)	.67
Filter Pack Porosity (dec.)	0.25
Well Depth (ft)	14.7 ft
Depth to Water (ft)	6.21
Water Column Height (ft)	8.49
Borehole Volume (gal)	0.00 x WCH = 6.8
3 Borehole Volumes (gal)	20.4

Conversions
2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development
Max Depth/Development (ft) ______
Total Volume Purged (gal) ______

$BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)$
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data
% Recovery ______

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					**Cumulative Total Removed**		**Water Characteristics**				**Comments**
Date	Time Begin	Time Finish	Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	
7/22/05	9:48	—	1	5	5		7.57	1.73	over	27.56	Very Silty
7/22/05	9:55		1	7	12		7.48	.140	over	25.32	Very Silty 10.0 DTW
7/22/05	10:01		1	6	18		7.32	0.132	444	25.72	Slightly Cloudy. 10.10 DTW
7/22/05	10:05		1	4	22		7.26	0.130	240	25.29	Slightly Silty 10.15 DTW
"	10:10		1	6	28		7.24	0.121	77.6	25.24	Slight sewer odor
"	10:15		1	5	33		7.30	0.129	103	25.10	No Sheen 10.00 DTW
"	10:20		1	5	38		7.25	0.126	14.1	25.23	
"	10:25		1	5	43		7.32	.125	over	25.14	Very Silty Pump [illegible] + Bottom of well Stirred up Sediment
"	10:30		1	5	48		7.27	.123	376	25.45	Slight Silty
"	10:40		1	10	58		7.25	.124	862	25.45	Slight Silty
"	10:47		1	7	65		7.25	.120	47.7	25.33	DTW 10.25 ft
"	10:52		1	5	70		7.24	.123	22	25.30	
	10:55		1	3	73		7.25	.120	25.8	25.22	OMIT
	10:58		1	3	76		7.25	.123	24.3	25.33	Took Sample in Amber [illegible]

Purge Water Disposal: Drums.

Field Personnel Signature: ____________________

GeoSyntec Consultants

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307

Monitoring Well: B131-MW4 Sampling Date: 5-Aug-05

Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge rate
9:18					25.11	.137	6.73	75	.74	280	–	450
9:20					25.16	.138	6.74	61	.72	180	6.55	450
9:22					25.16	.145	6.77	25	.69	150	6.53	450
9:24					25.15	.154	6.79	-14	.65	95	6.55	450
9:26					25.45	.163	6.82	-47	.65	70	6.55	450
9:28					25.15	.178	6.83	-65	.66	50	6.55	460
9:32					25.14	.203	6.88	-95	.65	33	6.55	460
9:34					25.15	.199	6.91	-104	.64	28	6.55	460
9:36					25.17	.209	6.91	-109	.63	19	6.55	460
9:38					25.16	.199	6.93	-117	.63	14	6.55	460
9:40					25.17	.196	6.95	-120	.62	15	6.55	460
9:42					25.16	.185	6.96	-124	.62	13	6.55	460

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity		______ µS/cm fluid reads ______ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.21 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in ______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth (TD) = 13.9 ft started pumping @ 9:14

pump set @ 10.0 ft

GeoSyntec Consultants Page 2 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307
Monitoring Well: B131-MW4 Sampling Date: 8/5/05
Sample ID: Sampler: DS, LL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
9:44					25.16	.192	6.98	-128	.61	11	6.55	460
9:46					25.17	.191	6.99	-132	.61	8.8	6.55	460
9:48					25.20	.195	7.01	-134	.61	8.0	6.55	460
9:50					25.20	.202	7.02	-137	.60	7.0	6.55	460
9:52					25.23	.202	7.04	-140	.60	5.5	6.55	460
9:54					25.27	.197	7.04	-142	.59	5.9	6.55	460
9:56					25.31	.190	7.06	-144	.59	6.1	6.55	460

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4: ; pH 7: ; pH 10: (ATC)
Conductivity		µS/cm fluid reads (ATC)
Redox Pot.		+231 mv Zoebell solution reads

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.21 ft
Turbidity: NTUs
Dis. Oxygen: ppm
Pump Rate: in
min, sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

TD = 13.9 ft
pump set @ 10.0 ft

Collected samples at 9:58

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDD
Well I.D. BDI-MW-5
Project Number 510307
Developer Dave Klappron
Weather Sunny 80°F
Subcontractor

Equipment **Surging/Development**
Bladder Pump
Hand Pump
Submersible Pump Redi Flo
Bailer (size)
Surge Block 2" PVC Manual

Date of Development 7/26/05
Water Quality Meter I.D. Horiba U-22
Development Criteria 3x vol and stable
Depth of Pump (ft) 12.5
Well Condition Good

Well Data

Casing Diameter (ft) .17
Borehole Diameter (ft) .65
Filter Pack Porosity (dec.) 0.25
Well Depth (ft) 13.5
Depth to Water (ft) 7.5
Water Column Height (ft) 6
Borehole Volume (gal) 0.00 x WCH = 4.8
3 Borehole Volumes (gal) 14.4

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) ________
Total Volume Purged (gal) ________

BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery ________

PR = (1-(RD/MD)) x 100

PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					Cumulative Total Removed		Water Characteristics				Comments
Date	Time		Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (µS/cm)	Turbidity (NTU)	Temp. (°C)	
	Begin	Finish									
7/26/05	12:20		.5								
	12:25		.5	2.5	2.5		7.47	.538	over	27.7	9.5
	12:30		.5	2.5	5		7.39	.559	100	27.52	9.29
	12:35										Generator turned off
	12:40		.5	~~2.5~~ 5 10	10		7.35	.566	850	27.53	
	12:50		.5	5	15		7.32	.572	19	27.13	
	12:53										Generator started
	13:00		.5	5	20		7.29	.573	120	27.49	
	13:05		.5	2.5	~~25~~ 22.5		7.31	.578	15 ~~27.31~~ 00	27.31	
	13:10		.5	2.5	25		7.31	.575	6.8	27.35	
	13:15		.5	2.5	27.5		7.30	.577	4.6	27.26	
	13:20		.5	2.5	30		7.30	.577	4.1	27.35	
											Done,
											13.6 Total Depth after dev

Purge Water Disposal: ________________

Field Personnel Signature: ________________

GeoSyntec Consultants

page 1 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307

Monitoring Well: B131-MW5 Sampling Date: 8/5/05

Sample ID: ______ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	purge rate
10:58					27,15	.561	7,31	-43	,80	190	7,72	470
11:00					27,20	,590	7,31	-63	,67	170	7,75	470
11:02					27,14	,562	7,30	-81	,63	150	7,75	470
11:04					27,15	,858	7,30	-92	,60	100	—	470
11:06					27,13	1,35	7,30	-98	,57	110	—	470
11:08					27.16	1,28	7,30	-103	,55	85	7,76	470
11:10					27,12	1,24	7,30	-106	,55	55	7,75	460
11:12					27,12	1,20	7,30	-108	,54	40	7,76	460
11:14					27,12	1,16	7,30	-110	,54	55	7,76	460
11:16					27,12	1,12	7,30	-111	,54	50	7,76	460
11:18					27,10	1,10	7,29	-113	,53	27	7,77	460
11:20					27,12	1,07	7,30	-114	,52	30	—	460

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity		______ µS/cm fluid reads ______ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7.52 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in ______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 14.7 ft Started pumping @ 10:56

pump set @ 11.00 ft

GeoSyntec Consultants page 2 of 2

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307

Monitoring Well: B131 - MW 5 Sampling Date: 8/5/05

Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge rate
11:22					27.15	1.06	7,29	-115	,52	29	7.76	460
11:24					27.11	1,04	7,29	-116	,51	27	–	460
11:26					27.11	1,04	7,29	-116	,51	17	–	460
11:28					27.12	1,04	7,29	-117	,51	14	7,76	460
11:30					27,11	1,05	7,30	-118	,52	15	7,76	460
11:32					27.06	1,05	7,30	-118	,51	12	7,76	460
11:34					27.06	1,05	7,29	-118	,52	13	7,76	460
11:36					27,03	1,06	7,29	-119	,52	12	7,76	460

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4: ; pH 7: ; pH 10: (ATC)
Conductivity		µS/cm fluid reads (ATC)
Redox Pot.		+231 mv Zoebell solution reads

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7,52 ft

Turbidity: NTUs

Dis. Oxygen: ppm

Pump Rate: in

min, sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

TD = 14,7 ft

pump set @ 11,00 ft

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: SC0307
Monitoring Well: BLD156-MW1 Sampling Date: 7/29/05
Sample ID: BLD156-MW1 Sampler: Dave Skippon

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO (Mg/L)	DTW ft Appearance of Water NTU
11:27					23.86	0.217	7.72	4	0.05?	6.65 0.2 FLOW 325
11:30					23.95	0.214	7.65	-5	0.23	6.60 0.2 FLOW 200 ml/min
11:32					24.14	0.212	7.65	-12	0.30	6.60 0.2
11:35					24.18	0.210	7.65	-9	0.33	6.60 0.0
11:37					24.26	0.207	7.64	-16	0.42	6.60 0.0
11:40					24.30	0.205	7.64	-9	0.46	6.60 0.0
11:43					24.32	0.203	7.63	-13	0.51	0.0
11:45					24.34	0.202	7.64	-22	0.49	6.60 0.0
11:49					24.30	0.201	7.65	-22	0.50	6.60 0.0
11:52					24.39	0.200	7.65	-29	0.50	6.60 0.0
11:54					24.38	0.200	7.65	-28	0.52	0.0
11:56					24.38	0.199	7.64	-25	0.53	0.0

OKS ⇒

Meter Calibration

Meter Number: ____________

Parameter	Date & Time Calibrated	Calibration Results
pH	____________	pH 4:______; pH 7:______; pH 10:______ (ATC)
Conductivity	____________	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: ________ ft
Turbidity: ________ NTUs
Dis. Oxygen: ________ ppm
Pump Rate: ________ in
________ min, ________ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth 15.15 ft. TOC
Depth to water 6.50 ft TOC
Water Colom 8.65 ft
4.325 ft
Pump at 11 ft. TOC

Time	Temp	Cond	pH	ORP	DO	DTW	Turb
11:59	24.47	.198	7.65	-28	0.53	66	0.0
12:01	24.45	.148	7.65	-33	0.53		0.0
12:03	24.50	.198	7.65	-34	0.52		0.0
12:05	24.52	0.197	7.65	-36	.53		0.0

total = ~2.5 gallon

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TPY N. Harbor Dr. Project No.: SC0307

Monitoring Well: BID-156-MW3 Sampling Date: 8/2/05

Sample ID: ____________ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	ft Appearance DTW	mL/min of Water Purge rate
13:59					24.24	[illegible] .156	7.60	-186	.84	3.3	—	460
14:02					24.22	.505	7.52	-191	.72	2.5	6.45	400
14:04					24.25	.364	7.49	-191	.69	2.3	6.45	400
14:06					24.26	.287	7.47	-191	.65	1.6	—	400
14:08					24.27	.262	7.46	-191	.64	1.4	6.46	400
14:10					24.33	.234	7.45	-189	.65	1.4	6.46	400
14:12					24.32	.205	7.43	-185	.63	1.0	6.46	400
14:14					24.32	.200	7.40	-179	.65	1.2	6.46	400
14:16					24.37	.197	7.40	-175	.67	0.75	6.46	400
14:18					24.40	.203	7.40	-168	.68	0.95	6.46	400
14:20					24.40	.201	7.39	-165	.70	0.40	6.46	400
14:22					24.49	.224	7.37	-160	.71	0.00	6.46	400

Meter Calibration

Meter Number: ____________

Parameter	Date & Time Calibrated	Calibration Results
pH	____________	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	____________	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.32 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in

______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth = 15.3 ft

Depth of Pump @ 10.5 ft

Time	Temp	Cond	pH	Redox	DO	Turb	DTW	Purgerate
14:24	24.47	.243	7.37	-155	.73	0.0	6.46	400
14:26	24.49	.263	7.38	-150	.74	0.0	6.46	400
14:28	24.47	.260	7.40	-146	.75	0.05	6.46	400
14:30	24.49	.263	7.40	-144	.75	0.00	6.46	400

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: SC0307
Monitoring Well: BLD 156 -MW3 Sampling Date: 10-Aug-05
Sample ID: BLD-156-MW3 Sampler:

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge rate
8:58					23.81	.126	7.33	97	1.10	1.5	6.50	430
9:00					23.90	.127	7.45	81	.57	1.6	6.50	430
9:03					24.02	.125	7.47	64	.48	1.8	6.50	430
9:05					24.03	.124	7.46	70	.47	1.1	6.50	430
9:07					24.08	.121	7.46	75	.47	1.1	6.50	430
9:09					24.15	.116	7.44	77	.47	1.2	6.50	430
9:16					24.27	.106	7.40	81	.59	.65	6.50	430
9:18					24.31	.105	7.39	82	.63	.15	6.50	430
9:20					24.31	.104	7.40	83	.66	.05	6.49	430
9:22					24.34	.103	7.39	85	.69	.30	6.49	430
9:24					24.35	.103	7.40	86	.72	0.00	6.49	430
9:26					24.35	.102	7.41	86	.73	0.00	6.49	430

Meter Calibration

Meter Number:

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.32 ft
Turbidity:____ NTUs
Dis. Oxygen:____ ppm
Pump Rate:____ in
____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

TD 15.3 ft
pump set @ 10.5 ft
Started pumping @ 8:56
Sample collected @ 9:31

Time	Temp	cond	PH	Redox	DO	Turb	DTW	Purge rate
9:28	24.37	.102	7.41	87	.72	0.00	6.49	430

WELL DEVELOPMENT LOG

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127
Telephone: (858) 674-6559
Fax: (858) 674-6586

Project Name TDY

Well I.D. B180-MW-1

Project Number SC0307

Developer PS, CL

Weather 72° sunny

Subcontractor none

Equipment
Bladder Pump
Hand Pump
Submersible Pump
Bailer (size)
Surge Block

Surging/Development
Used Surge Block
from 14:10 to 14:30
Purged 7 gallons w/ ~~[illegible]~~
Watera Foot Valve

Date of Development 9/26/05

Water Quality Meter I.D. U-22 4053006

Development Criteria 3 Borehole/stable parameters

Depth of Pump (ft) 14.3

Well Condition Good

Well Data

Casing Diameter (ft)	2"
Borehole Diameter (ft)	8"
Filter Pack Porosity (dec.)	0.25
Well Depth (ft)	15.26
Depth to Water (ft)	6.22
Water Column Height (ft)	9.04
Borehole Volume (gal)	0.00 x WCH = 7.23
3 Borehole Volumes (gal)	21.69

Conversions

2" = 0.17 ft
4" = 0.33 ft
5" = 0.42 ft
6" = 0.50 ft
7" = 0.58 ft
8" = 0.67 ft
9" = 0.75 ft
10" = 0.83 ft

Well Development

Max Depth/Development (ft) 10.0
Total Volume Purged (gal)
water level stabalized @ 9.3
BV=(5.87)(CD^2+P(BD^2-CD^2))(WCH)
CD=Casing Diameter in feet
BD=Borehole Diameter in feet
P=Porosity of Filter Pack (decimal)
WCH=(Well Depth - Depth to Water)

Recovery Data

% Recovery
PR = (1-(RD/MD)) x 100
PR=Percent Recovery
RD=Residual Drawdown
MD=Max Drawdown

Purging Data					Cumulative Total Removed		Water Characteristics				Comments
Date	Time Begin	Time Finish	Pump Rate (gpm)	Water Removed (gal)	GAL	Borehole Volumes	pH	EC (~~[illegible]~~ S/m)	Turbidity (NTU)	Temp. (°C)	
9/26/05	15:00			0							
9/26/05	15:15	cal	1.6	25			7.75	.559	>1000	26.3	EC in S/m
9/26/05	15:25	2	~~[illegible]~~	45			8.00	.587	23.7	26.26	
9/26/05	15:30		2	55			8.10	.598	23.7	26.02	
"	15:36		1.3	63			8.08	.641	21.0	25.99	
"	15:39		1.6	68			8.09	.610	22.5	26.46	
"	15:42		1.6	73			8.13	.598	17.3	25.86	
"	15:45		1.6	78			8.17	.619	15.2	26.35	
	15:48		1.6	83			8.10	.620	14.3	26.22	Turb = 14.3
	15:51		1.6	88			8.11	.620	13.6	26.12	

Purge Water Disposal: 55 gallon Drums

Field Personnel Signature:

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Page 1 of 2

Site: TDY Project No.: SC0307

Monitoring Well: B180-MW-1 Sampling Date: 10/4/05

Sample ID: B180-MW-1 Sampler: D.Skippin/C. Lieder

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity ms/cm ~~(µS/cm)~~ (ATC)	pH (ATC)	Redox Potential (± mv)	DO (mg/L)	Turb (NTU)	DTW Appearance of (ft)	Flow Water rate (ml/min)
9:21					26.02	3.53	8.52	143	1.74	171	—	500
9:25					26.04	4.24	8.66	102	1.01	86.7	6.30	500
9:30					25.96	4.39	8.66	41	.87	84.5	6.22	400
9:33					25.98	4.48	8.67	28	.78	51.3	6.21	—
9:36					25.99	4.37	8.67	21	.77	39.4	6.22	325
9:39					26.00	4.68	8.67	20	.74	37.1	6.22	375
9:42					26.01	4.66	8.67	22	.78	34.7	6.22	375
9:44					26.01	4.70	8.68	24	.69	29.9	6.22	375
9:46					26.04	4.71	8.68	23	.66	25.5	6.22	375
9:48					26.05	4.73	8.67	25	.63	22.3	6.22	375
9:50					26.08	4.69	8.67	22	.62	19.5	6.22	375
9:52					26.09	4.74	8.67	23	.70	18.9	6.22	375

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	______	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	______	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.09 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in ______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 15.22 ft
pump set @ 10.5 ft
Started pumping @ 9:20
Water has no odor to it.

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GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: SC0307
Monitoring Well: B180-MW-1 Sampling Date: 10/4/05
Sample ID: B180-MW-1 Sampler: D. Skipper / C. Lieder

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity mS/cm ~~(µS/cm)~~ (ATC)	pH (ATC)	Redox Potential (± mv)	D.O (mg/L)	DTW (ft)	Turb Appearance of Water (NTU)	Flow rate ml/min
9:54					26.11	4.74	8.66	25	.167	6.22	15.1	375
9:56					26.11	4.76	8.66	26	.167	6.22	14.2	375
9:58					26.11	4.76	8.66	25	.152	6.22	13.7	375
10:00					26.12	4.74	8.66	24	.153	6.22	14.1	375
10:02					26.12	4.72	8.66	24	.152	6.22	13.6	375

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity		______ µS/cm fluid reads ______ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: ______ ft
Turbidity: ______ NTUs
Dis. Oxygen: ______ ppm
Pump Rate: ______ in
______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

GeoSyntec Consultants

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SE0307

Monitoring Well: GT-4 Sampling Date: 8/2/05

Sample ID: ________ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water ft DTW	ml/min Purge rate
15:38					23,44	4,00	7,13	-125	,74	0,05	7,19	340
15:40					23,31	2,68	7,16	-131	,66	0,00	—	320
15:42					23,17	1,67	7,20	-135	,62	—	7,26	—
15:44					23,13	1,53	7,20	-134	,61	0,00	7,32	400
15:46					23,09	1,29	7,22	-135	,61	0,00	7,32	400
15:48					23,07	1,17	7,23	-139	,61	0,00	7,31	400
15:50					23,03	1,12	7,25	-145	,58	0,00	—	400
15:52					22,98	1,09	7,27	-154	,57	0,00	—	400
15:54					22,95	1,09	7,27	-159	,54	0,00	—	400
15:56					22,90	1,16	7,27	-163	,53	0,00	—	400
15:58					22,92	1,25	7,26	-165	,52	0,00	—	400
16:00					22,91	1,36	7,27	-166	,51	0,00	—	400

Meter Calibration

Meter Number: ________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	________	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	________	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	________	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7.05 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in

______ min, ______ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 15.7 moderate fuel odor

Depth of pump @ 11.5

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

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Site: TDY N. Harbor Dr. Project No.: SCO307
Monitoring Well: GT-4 Sampling Date: 8/2/05
Sample ID: ____________ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge rate
16:02					22.87	1.45	7.27	-167	.51	0.00	7.34	400
16:04					22.85	1.53	7.28	-167	.51	0.00	—	400
16:06					22.85	1.59	7.28	-167	.50	0.00	—	400
16:08					22.84	1.63	7.28	-167	.49	0.00	-	400
16:10					22.84	1.67	7.28	-167	.49	0.00	-	400

Meter Calibration

Meter Number: ____________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	____________	pH 4:______; pH 7:______; pH 10:______ (ATC)
Conductivity	____________	________ µS/cm fluid reads ________ (ATC)
Redox Pot.	____________	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: ________ ft
Turbidity: ________ NTUs
Dis. Oxygen: ________ ppm
Pump Rate: ________ in
________ min, ________ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307
Monitoring Well: GT-4 Sampling Date: 8/9/05
Sample ID: GT4 Sampler: DS, LL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
15:34					23.69	.762	7.14	-117	2.06	0.00	7.40	550
15:37					23.24	.860	7.15	-141	.52	0.00	7.50	550
15:41					23.10	1.28	7.24	-160	.58	0.00	7.44	360
15:43					23.09	1.42	7.21	-166	.54	0.00	7.47	460
15:45					23.06	1.58	7.21	-169	.56	0.00	7.46	470
15:47					23.07	1.69	7.21	-171	.58	0.00	7.46	470
15:49					23.04	1.81	7.21	-171	.55	0.00	7.46	470
15:51					23.02	1.89	7.22	-171	.58	0.00	7.46	470
15:53					23.01	1.94	7.22	-171	.57	0.00	7.46	470
15:58					22.97	2.07	7.23	-173	.57	0.00	7.46	470
16:00					22.99	2.10	7.24	-173	.58	0.00	7.46	470
16:02					22.96	2.11	7.24	-174	.59	0.00	7.46	470

Meter Calibration

Meter Number: ________

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity		______ µS/cm fluid reads ______ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7.05 ft
Turbidity: ________ NTUs
Dis. Oxygen: ________ ppm
Pump Rate: ________ in
________ min, ________ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Started pumping @ 15:32 Total well Depth (TD) = 15.7 ft
pump set @ 11.5 ft fuel ODOR
collected Sample @ ~~16:05~~ 16:10

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307

Monitoring Well: P1 Sampling Date: 8/15/05

Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
15:56					22.71	.436	7.29	50	1.33	0.0	8.05	550
15:59					22.48	.463	7.28	47	.61	0.0	8.10	550
16:02					22.66	.903	7.30	36	.60	0.0	8.06	270
16:05					22.50	1.54	7.30	7	.48	0.0	8.10	470
16:07					22.48	1.42	7.31	-24	.46	0.0	8.10	470
16:09					22.47	1.26	7.31	-45	.46	0.0	8.10	470
16:11					22.47	1.11	7.32	-55	.45	0.0	8.10	470
16:13					22.46	1.04	7.33	-65	.45	0.0	8.10	470
16:15					22.44	.99	7.33	-73	.45	0.0	8.10	470
16:17					22.43	.707	7.35	-76	.46	0.0	8.10	470
16:19					22.41	.696	7.36	-78	.46	0.0	8.10	470
6:21					22.41	.686	7.37	-81	.46	0.0	8.10	470

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7.94 ft

Turbidity: ____ NTUs

Dis. Oxygen: ____ ppm

Pump Rate: ____ in ____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

TD = 15.2 ft
pump set @ 11.5 ft

Started pumping @ 15:54
collect samples @ 16:22

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr Project No.: SC0307
Monitoring Well: P2 Sampling Date: 8/3/05
Sample ID: ____ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
13:50					23.42	.386	6.88	-110	.75	8.8	-	550
13:52					23.41	.371	6.86	-110	.64	-	7.00	-
13:54					23.56	.366	6.85	-110	.62	11	7.25	-
14:00					24.24	.347	6.83	-100	.90	15	7.40	250
14:03					24.40	.352	6.82	-97	.70	16	7.45	100
14:10					25.02	.364	6.83	-95	.67	15	7.71	100
14:14					Stopped sample Due to Draw down exceeded 1,0 ft							

Meter Calibration

Meter Number: ____

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.26 ft
Turbidity: ____ NTUs
Dis. Oxygen: ____ ppm
Pump Rate: ____ in ____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)
Started pumping @ 13:45 Total Depth of well = 14.83 ft
pump set @ 10.5 ft

Groundwater Sample Collection Log

Well ID: P2

Well Data:

Sample Type: Groundwater

Casing Elevation (ft): NA

Weather: Sunny

Diameter of Well (in.): 4"

Diameter of Borehole (in.): 10" ?

Well Purging:

Equipment:

Depth to Water Surface (ft): 6.26

Well Depth (ft) 14.8

Feet of Water in Well: 8.54

casing ~~Borehole~~ Volume (gal): 8.54 x .65 = 5.55

Max. depth during purging (ft): 14.7

80 percent recovery:

Depth at time of sampling (ft):

Total Volume Purged (gal.):

	Time	pH	EC (µS/cm)	Temp. (C)	Turbidity (NTU)	Pump Rate (gpm)	cumulative Vol. Purged (gal)	Remarks Color/Odor	DO	ORP
Purge	11:53	6.77	.1250	23.75	90	.222	2	DTW = 8.3	.54	-64
	12:04	6.94	.475	22.51	20	.222	4	DTW = 11.00	2.12	-125
	12:22	7.12	.972	21.94	60	.222	6	DTW = 12.5	.48	-203
	12:32	7.07	.803	22.33	52	.222	7.5	DTW = 14.5	1.35	-149
Sample	14:52	7.14	0.970	22.75	9.1	–	–	–	1.71	-99

% Recovered: ~~64~~ .62%

Depth of Pump (feet):

Purge Water Disposal: 55 GALLON DRUM

DTW = 11.8'
@ 13:35

DTW @ 14:30
9:50

DRAWDOWN
= 5.2'

MAX - 8.4'

Sample Collection:

Volume	Container	Filtered	Pres.	Parameters

Date/Time: 14:32

Sample ID:

COC #:

Field Crew:

Samplers Signature:

Comments: Started pumping @ 11:44 Well pumped dry at 12:34

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TPY N. Harbor Dr Project No.: SC0307
Monitoring Well: SDE Sampling Date: 8/3/05
Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	ft Appearance of DTW	ml/min Water Purgrate
9:22					23.37	.439	6.96	-240	.68	120		120
9:27					23.59	.477	7.04	-284	.59			1.20
9:32					23.81	.472	7.05	-300	.55			

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.8 ft
Turbidity: ____ NTUs
Dis. Oxygen: ____ ppm
Pump Rate: ____ in
____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 9.2 ft HS2 odor
Depth of pump @ 8.0 ft
Stopped Sampling @ 9:35 Due to ~~the~~ not being able to read the DTW Because pump Housing was out of water column -

J.Raymer/GeoSyntec Consultants

6/5/98, ver. 1

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Ground Water Sampling Measurements for ~~Low~~ High-Flow Purging

Site: TDY N. Harbor Drive. Project No.: SC0307

Monitoring Well: SDE Sampling Date: 8/3/05

Sample ID: ______ Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water
9:48					23.75	.542	7,16	-303	2.26	>999	@ 3 gallons
9:52					23.59	.589	7,18	-282	2.85	600	@ 4 gallons
10:02					23.44	.590	7,20	-281	2,87	600	@ 6 gallons
10:08					23.34	.582	7,22	-280	2,80	450	@ 7 gallons.
10:12					23.20	.588	7,19	-284	2.75	500	@ 8 gallons
10:16					23,13	.602	7,18	-292	2.74	700	@ 9 gallons
11:10					23.69	.573	7.2~	-277	2.77	7.6	sample.
11:14					23.34	~	–	–	–	–	

Meter Calibration

Meter Number: ______

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	______	pH 4: ______; pH 7: ______; pH 10: ______ (ATC)
Conductivity	______	______ µS/cm fluid reads ______ (ATC)
Redox Pot.	______	+231 mv Zoebell solution reads ______

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.8 ft

Turbidity: ______ NTUs

Dis. Oxygen: ______ ppm

Pump Rate: ______ in ______ min, ______ sec.

Well Recovered to 6.82 before Sampling with Pump

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

10:35 put pump Back into well to collect samples. Removed 700ml before collecting sample to purge any liquid left in the pump and tubing (pump was set at 8.0 ft.).

Groundwater Sample Collection Log

Well ID: TC4 - EEP

Well Data:

Sample Type: Groundwater

Casing Elevation (ft): NA

Weather: Sunny

Diameter of Well (in.):

Diameter of Borehole (in.):

Well Purging:

Equipment: peristaltic pump / VOCs w/ disposable bailer

Depth to Water Surface (ft): 7.51

Well Depth (ft) 9.95

Feet of Water in Well: 2.44

Borehole Volume (gal): 2.44 x 1.05 = 2.56

2.56 x 1.5 = 3.8

Max. depth during purging (ft): 8.00

80 percent recovery: 7.61

Depth at time of sampling (ft): 7.51

Total Volume Purged (gal.): 4.5

	Time	pH	EC (µS/cm)	Temp. (C)	Turbidity (NTU)	Pump Rate (gpm)	Vol. Purged (gal)	Remarks Color/Odor	DO	ORP
Purge	8:51	7.50	.497	22.82	12	.111	1	DTW = 8.00	.46	-337
	9:09	7.45	.470	22.82	0	.111	2.5	DTW = 8.00	.41	-356
	9:14	7.44	.474	22.83	0	.111	3	DTW = 8.00	.39	-360
	9:23	7.44	.477	22.81	0	.111	4	DTW = 8.00	.39	-362
Sample	9:26	7.44	.476	22.82	0	.111	—	DTW = 7.51	.38	-363

% Recovered: 100

Depth of Pump (feet): 8.9

Purge Water Disposal:

Sample Collection:

Volume	Container	Filtered	Pres.	Parameters

Date/Time: 8/9/05

Sample ID: TC4EEP

COC #:

Field Crew: Chris Lieder & Dave Skippon

Samplers Signature:

12:50 collect samples for voc analysis

DTW =

Comments: Started pumping 8:42. 1st gallon had Dark sediment. Purge water has an H_2S odor. Stopped pump after 1 gallon to clean flow through cell of sediment.

Groundwater Sample Collection Log

Well ID: TC4 EGP

Well Data:

Sample Type: Groundwater

Casing Elevation (ft): NA

Weather: Sunny

Diameter of Well (in.): 1"

Diameter of Borehole (in.): 10"?

Well Purging:

Equipment: peristaltic pump / VOCs Disposable bailer

Depth to Water Surface (ft): 7.41

Well Depth (ft) 9.8

Feet of Water in Well: 2.39

Borehole Volume (gal): 2.39 x 1.05 = 2.51

2.51 x 1.5 = 3.76

Max. depth during purging (ft):

80 percent recovery:

Depth at time of sampling (ft):

Total Volume Purged (gal.):

	Time	pH	EC (µS/cm)	Temp. (C)	Turbidity (NTU)	Pump Rate (gpm)	Vol. Purged (gal)	Remarks Color/Odor	DO	ORP
Purge	10:22	6.86	84.8	26.42	12	–	1 L	–	5.37	-52
	11:06	6.74	86.8	26.38	25	–	1 L	–	3.86	-71
Sample	1:42	7.38	.123	29.25	8.2	–	1 L	–	3.86	-70

% Recovered:

Depth of Pump (feet):

Purge Water Disposal:

Sample Collection:

Volume	Container	Filtered	Pres.	Parameters

Date/Time:

Sample ID:

COC #:

Field Crew:

Samplers Signature:

Comments: Started pumping at 10:16. well went Dry after pumping for 1 minute. At 10:31 pumped well Dry to measure recovery time. 11:10 purged well a second time. Sample time 12:47

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY N. Harbor Dr. Project No.: SC0307

Monitoring Well: TC4-EHP Sampling Date: 8/13/05

Sample ID: ________ Sampler: DS, LL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water	
											DTW	purge rate
15:10					22.90	.581	7.47	13	.65	2.9	7.30	520
15:14					23.04	.595	7.45	8	.62	2.6	7.31	400
15:16					23.02	.608	7.45	2	.60	2.6	7.31	400
15:18					23.01	.616	7.45	-3	.59	0.95	7.31	440
15:20					22.97	.626	7.45	-9	.58	0.80	–	440
15:22					23.00	.643	7.45	-15	.57	0.20	–	440
15:24					22.99	.662	7.45	-20	.56	0.30	–	440
15:26					22.98	.676	7.45	-26	.55	0.25	–	440
15:28					22.95	.690	7.45	-31	.54	0.0	–	440
15:30					22.96	.704	7.46	-37	.53	0.0	–	440
15:32					22.98	.720	7.45	-43	.53	0.0	7.32	440
15:34					23.00	.738	7.45	-49	.52	0.0	–	440

Meter Calibration

Meter Number: ________

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	________	pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity	________	____ µS/cm fluid reads ____ (ATC)
Redox Pot.	________	+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.86 ft

Turbidity: ____ NTUs

Dis. Oxygen: ____ ppm

Pump Rate: ____ in

____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth = 15.35 ft

pump set @ 11.00 ft

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Ground Water Sampling Measurements for Low-Flow Purging

Site: Toy N. Harbor Dr
Project No.: SC0307
Monitoring Well: TC4-EHP
Sampling Date: 8/3/05
Sample ID: ____
Sampler: DS, CC

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Purge Rate
15:36					23.01	.753	7.46	-55	.51	0.0	7.33	440
15:38					22.95	.759	7.46	-61	.51	0.0	7.33	440
15:40					22.97	.770	7.46	-66	.50	0.0	7.33	440
15:42					22.87	.777	7.46	-73	.50	0.0	–	440
15:44					22.83	.785	7.46	-78	.50	0.0	–	440
15:46					22.83	.792	7.46	-83	.50	0.0	7.33	440

Meter Calibration

Meter Number: ____

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH	____	pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity	____	____ µS/cm fluid reads ____ (ATC)
Redox Pot.	____	+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 6.86 ft
Turbidity: ____ NTUs
Dis. Oxygen: ____ ppm
Pump Rate: ____ in
____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Total Depth of well = 15.35 ft
pump set @ 11.00 ft

1 of

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Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY   Project No.: SC0327
Monitoring Well: TC4W1P   Sampling Date: 9/19/05
Sample ID: ____   Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of Water DTW	Flow Rate
11:10					25.0	1,96	6,96	-116	5,65	3.44	7,10	250
11:14					24.8	2,06	7,13	-124	3.28	2.93	–	–
11:17					24.8	1,98	7,15	-135	3,33	2.49	–	–
11:20					24.9	1,87	7,16	-160	3,05	1,30	7,12	–
11:23					24.9	1,82	7,16	-167	2,82	1,10	–	300
11:26					24.8	1,73	7,16	-173	2,35	1,02	7,10	300
11:29					24.8	1,65	7,15	-174	2,20	1,01	7,10	–
11:32					24.8	1,56	7,16	-175	1,93	0,78	7,10	300
11:35					24.9	1,52	7,15	-176	1,68	0,70	7,12	–
11:38					24.8	1,46	7,16	-177	1,47	0,84	7,12	–
11:41					24.8	1,42	7,17	-176	1,27	0,80	7,12	300
11:44					24.9	1,39	7,17	-175	1,10	0,72	–	–

Meter Calibration

Meter Number: ____

Parameter	Date & Time Calibrated	Calibration Results
pH		pH 4: ____; pH 7: ____; pH 10: ____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7,04 ft
Turbidity: ____ NTUs
Dis. Oxygen: ____ ppm
Pump Rate: ____ in
____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Started pumping 11:08   pump is set @ 11 ft

2 of

GeoSyntec Consultants

Ground Water Sampling Measurements for Low-Flow Purging

Site: TDY Project No.: SC0307

Monitoring Well: TC4-WIP Sampling Date: 9/19/05

Sample ID: Sampler: DS, CL

Time	Start Purge	Readings	Start Samp.	End Samp.	Temperature (°C)	Conductivity (µS/cm) (ATC)	pH (ATC)	Redox Potential (± mv)	DO	Turb	Appearance of DTW	Water Flow Rate
11:47					24.8	1.38	7.17	-176	0.92	0.55	7.11	—
11:52					24.9	1.35	7.17	-175	0.72	0.62	7.11	—
11:55					24.9	1.34	7.17	-176	0.66	0.82	—	—
11:58					24.9	1.32	7.17	-176	0.54	0.54	—	
12:01					24.8	1.31	7.17	-176	0.45	~~[illegible]~~ 0.72	—	300
12:04					24.9	1.31	7.17	-176	0.39	0.45	7.10	300
12:07					24.8	1.31	7.17	-176	0.31	0.36	—	—
12:10					24.8	1.30	7.18	-177	0.26	0.18	—	—
12:13					24.8	1.29	7.18	-177	0.21	0.38	—	—
12:16					24.9	1.28	7.18	-177	0.16	0.54	—	—
12:19					24.9	1.28	7.18	-178	0.08	0.47	7.10	300

Meter Calibration

Meter Number:

Parameter	*Date & Time Calibrated*	*Calibration Results*
pH		pH 4:____; pH 7:____; pH 10:____ (ATC)
Conductivity		____ µS/cm fluid reads ____ (ATC)
Redox Pot.		+231 mv Zoebell solution reads ____

Split, Blank, Duplicate, & Filtered Samples

Sample ID	Description

Miscellaneous

Depth to Water: 7.04 ft

Turbidity:____ NTUs

Dis. Oxygen:____ ppm

Pump Rate:____ in

____ min, ____ sec.

Weather:

Notes: (well condition, nearby activities or changes in land use, odors, problems, deviations from plan, etc.)

Sample collected @ 12:30

Groundwater Sample Collection Log

Well ID: 142WDP

Well Data:

Sample Type: Groundwater

Casing Elevation (ft): NA

Weather: SUNNY

Diameter of Well (in.): 1"

Diameter of Borehole (in.): 10"?

Well Purging:

Equipment: Peristaltic Pump / Disposable Bailer for VOCs

Depth to Water Surface (ft): 6.84

Well Depth (ft): 9.85

Feet of Water in Well: 9.85 - 6.84 = 3.01

Borehole Volume (gal): 3.01 × 1.05 = 3.16

1.5 borehole vol = 4.74

Max. depth during purging (ft): 7.95

80 percent recovery: DRAWDOWN = 1.11 = 7.06

Depth at time of sampling (ft): 6.89

Total Volume Purged (gal.): 9.5

	Time	pH	EC (µS/cm)	Temp. (C)	Turbidity (NTU)	Pump Rate (gpm)	*cumulative Vol. Purged (gal)	Remarks Color/Odor	DO	ORP
Purge	11:30	7.76	.291	24.52	13	.125	1	DTW 7.95	.51	45
	11:38	7.75	.294	24.48	1.0	.125	2	DTW 7.95	.45	5
	11:46	7.74	.300	24.60	0.00	.125	3	DTW 7.95	.43	-141
	11:54	7.74	.366	24.50	0.00	.125	4	DTW 7.94	.41	-157
* see below	12:02	7.74	.387	24.46	0.00	.125	5	DTW 7.95	.41	-164
~~Sample~~	~~12:32~~	~~7.75~~	.	~~24.63~~					~~.45~~	~~-168~~

% Recovered: ~~98~~ 96

Depth of Pump (feet): 8.8

Purge Water Disposal:

Sample Collection:

Volume	Container	Filtered	Pres.	Parameters
3x40ml	VOA	NO	HCl	8260
1x1L	Amber glass	NO	None	8270
1x500ml	poly	yes	HNO3	metals

Date/Time: 8/8/05 / 12:47

Sample ID: 142WDP

COC #: 1370

Field Crew: Chris Lieder & Dave Skippon

Samplers Signature:

Comments: Started pumping @ 11:22 Took sample parameters at 12:32 after 80% Recovery. Parameters were over 10%. Started pumping more volume to stabilize parameters.

	Time	pH	EC	Temp	Turb	pump rate	cum vol. Purge	DTW	DO	ORP
Purge	12:24	7.74	.464	24.42	0.00	.125	6.5	7.95	.40	-168
	12:26	7.74	.508	24.39	0.00	.125	8	7.95	.39	-172
	12:44	7.75	.556	24.54	0.00	.125	9.5	—	.39	-172
Sample	12:47	7.75	.587	24.67	0.00	.125	—	Recovered DTW	.43	-172

Groundwater Sample Collection Log
Well ID: 142WEP

Well Data:

Sample Type: Groundwater
Casing Elevation (ft): NA
Weather: Sunny 75°
Diameter of Well (in.): ~~1-2?~~ 1"
Diameter of Borehole (in.): 10"?

Well Purging:

Equipment: PERISTALTIC PUMP / VOC sampled w bailer
Depth to Water Surface (ft): 6.60
Well Depth (ft) 9.8
Feet of Water in Well: 9.8 - 6.60 = 3.2
Borehole Volume (gal): 3.2 x 1.05 = 3.36
Max. depth during purging (ft): 8.40
80 percent recovery: DRAWDOWN = 1.8 = 6.96
Depth at time of sampling (ft): 6.90
Total Volume Purged (gal.): 5

	Time	pH	EC (µS/cm)	Temp. (C)	Turbidity (NTU)	Pump Rate (gpm)	@cumulative Vol. Purged (gal)	Remarks Color/Odor	DO	ORP
Purge	9:28	7.40	.767	23.12	0.00	.125	1	DTW 8.31	1.58	35
	9:36	7.40	.761	23.14	0.00	.125	2	DTW 8.34	1.30	36
	9:44	7.41	.762	23.17	0.00	.125	3	DTW 8.35	1.03	39
	9:52	7.41	.766	23.18	0.00	.125	4	DTW 8.40	.98	38
	10:01	7.41	.767	23.18	0.00	.111	5	DTW 8.40	.94	37
Sample	10:34	7.42	.768	23.27	0.00	.111	NA	NA	.92	32

% Recovered: ~~93~~ 83
Depth of Pump (feet): 8.8
Purge Water Disposal: 55 GALLON DRUM ON SITE

Sample Collection:

Volume	Container	Filtered	Pres.	Parameters
3x40ml	VOA	N	HCl	8260
1x125ml	P	Y	—	Cr6+
1x500ml	P	Y	HNO3	Dissolved metals
1x 1L	G	N	—	8270

Date/Time: 8/8/05 10:07
Sample ID: 142WEP
COC #: 1370
Field Crew: C. LIEDER - D. SHIPMAN
Samplers Signature:

Comments: Start time @ 9:20

Duplicate sample collected = DUP 4

Groundwater Sample Collection Log

Well ID: 142 W GP

Well Data:

Sample Type: Groundwater

Casing Elevation (ft): NA

Weather: SUNNY

Diameter of Well (in.): 1"

Diameter of Borehole (in.): 10?

Well Purging:

Equipment: PERISTALTIC PUMP

Depth to Water Surface (ft): 6.34

Well Depth (ft) 9.81

Feet of Water in Well: 9.81 - 6.34 = 3.47

Borehole Volume (gal): 3.47 x 1.05 = 3.6

1.5 borehole = 5.5

Max. depth during purging (ft): 6.80

80 percent recovery: Draw Down = .46 x .8 = .368 (6.43)

Depth at time of sampling (ft): 6.36

Total Volume Purged (gal.): 10.8

	Time	pH	EC (µS/cm)	Temp. (C)	Turbidity (NTU)	Pump Rate (gpm)	Cumulative Vol. Purged (gal)	Remarks Color/Odor	DO	ORP
Purge	14:50	7.25	.123	23.68	70	.125	1	DTW 6.60	.54	76
	14:58	7.26	.126	23.75	14	.125	2	DTW 6.60	.46	64
	15:10	7.30	.170	23.67	8.2	.125	3.5	DTW 6.80	.42	53
	15:22	7.33	.187	23.66	0.45	.125	5	DTW 6.60	.40	44
	15:27	7.34	.184	23.73	0.40	.125	5.5	DTW 6.60	.40	42
Sample	See Below									

% Recovered: 95

Depth of Pump (feet): 8.8

Purge Water Disposal: 55 GALLON DRUM

Sample Collection:

Volume	Container	Filtered	Pres.	Parameters
3 x 40ml	VOA	N	HCl	8260
1x 500ml	P	Y	HNO_3	Metals

Date/Time: 8/8/05

Sample ID: 142WGP

COC #:

Field Crew: Chris Lieder & Dave Skippon

Samplers Signature:

Comments: PVC casing at 30° Angle. Started pumping @ 14:42

	Time	PH	EC	Temp	Turb	Pump rate	cum. vol. purged	DTW	DO	ORP
purge	15:41	7.37	.312	23.52	0.00	.125	7.3	6.64	.39	37
purge	15:56	7.40	.370	23.41	0.00	.125	9	6.65	.38	36
purge	16:11	7.42	.360	23.36	0.00	.125	10.8	6.62	.37	35
purge										
sample	16:16	7.43	.357	23.40	—	.125	—	Recorded DTW 6.36	.39	.34

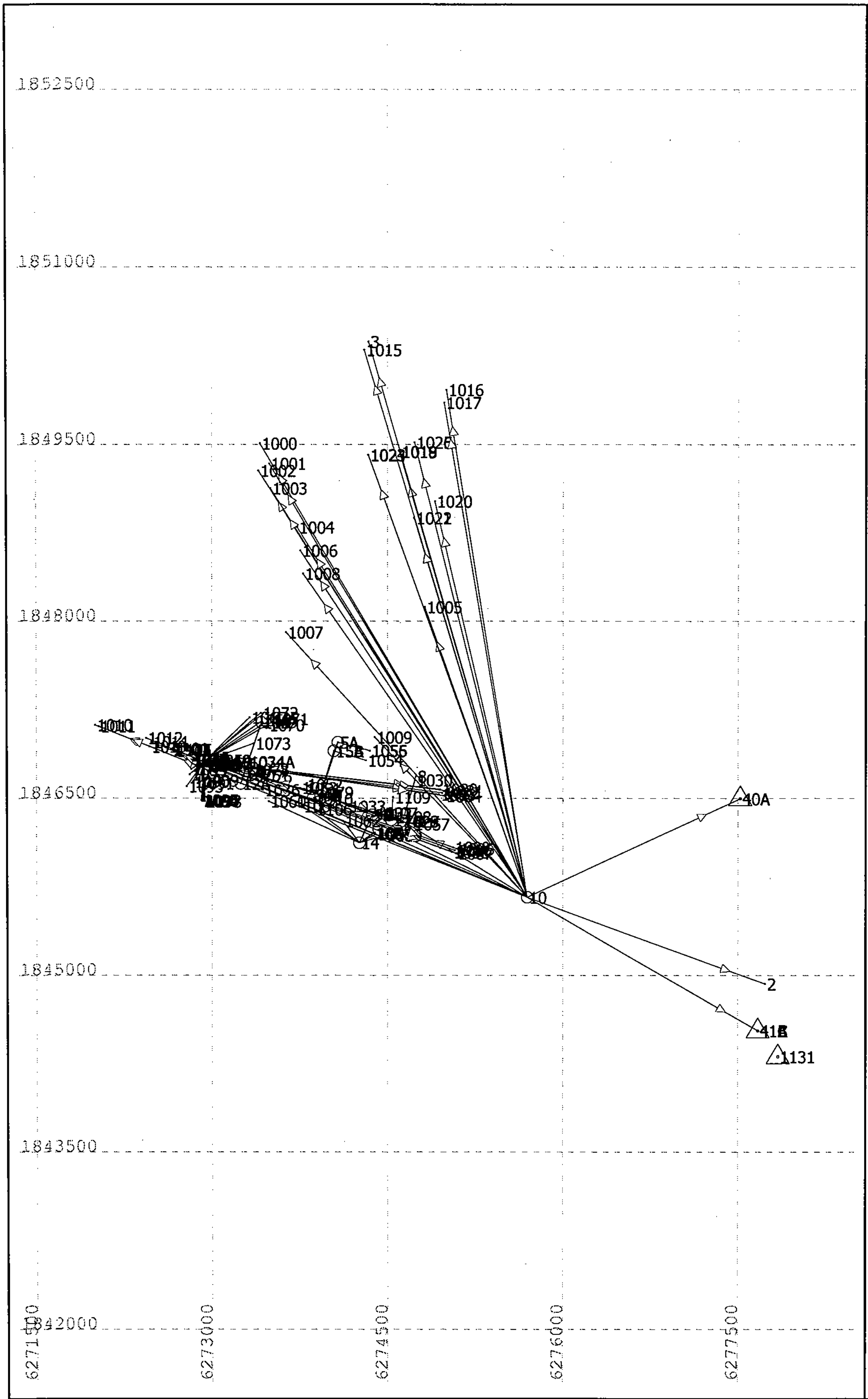
GEOSYNTEC CONSULTANTS

CALIBRATION LOG FOR WATER SAMPLING

Date	Time	Instrument Description			Calibration Fluid						Reading				Comments
		Brand	Type	Serial #	Brand	Lot #	pH	Cond (uS/cm)	Turb (NTU)	DO (mg/L)	pH	Cond (uS/cm)	Turb (NTU)	DO (mg/L)	
10/3/05	7:20 P.M	Horiba	U22	4053206	Horiba	501001	4.00	4.00	—	—	4.00	9.80*	—	7.85	CALIBRATE
	7:30	Horiba	U-10	812042	"	"	"	"	—	—	—	4.48	—	—	↓
	7:40	HACH	2100P	0508000 [illegible]	HACH	5241	—	—	100	—	—	—	97.6	—	CAL-CHECK
						5234	—	—	20	—	—	—	20.1	—	↓
↓	↓	↓	↓	↓	↓	5237	—	—	0.1	—	—	—	0.14	—	* Use U-10
															for conductivity

-- Not Applicable

APPENDIX E
SURVEY DATA



Field surveyor:
renner
Computer operator:
ramirez
Reference:
Geosyntec San Diego Airport

Scale 1" to 1250 ft
0 2250 sft
US survey feet

N0°00'00"E

Plot Scale: 1" to 1250 ft
Printed on 9/14/2005, at 6:29:59 AM

Printed from Trimble Geomatics Office

Site: Not selected, System: US
Zone: California Zone 6 0406,

Project: 13600hh
USFeet Template

Points

Project : 13600hh

User name	mramirez	**Date & Time**	6:36:05 AM 9/14/2005
Coordinate System	US State Plane 1983	**Zone**	California Zone 6 0406
Project Datum	NAD 1983 (Conus)		
Vertical Datum	ngvd 29	**Geoid Model**	GEOID99 (Conus)
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

```
Point listing
           Name    Northing     Easting    Elevation        Feature Code
              2 1844930.608 6277731.201        9.774             BM NEBP
              3 1850370.977 6274341.695       15.285     BM SBP ON INLET
              4 1846527.032 6273930.939        9.504WP SET SCRIBE X IN CONC
              5 1846974.696 6274078.532        9.697     WP SET SCRIBE X
              6 1846729.669 6273284.908        9.701WP SET SCRIBE X IN CONC
              7 1846309.718 6274628.878        8.741     WP SET MN IN AC
              8 1846685.287 6274742.084        8.843WP SET SCRIBE X IN CONC
              9 1846361.269 6274371.466        9.281WP SET SCRIBE X IN CONC
             10 1845664.124 6275692.770        8.139           SDUPD-010
             11 1847142.922 6273426.707       10.582     WP SET SCRIBE X
             12 1846625.063 6273249.003        9.835     WP SET SCRIBE X
             13 1846811.430 6272933.666        9.651   WP FD PK IN CONC
             14 1846124.520 6274261.372        8.335     WP SET SCRIBE X
             15 1846901.444 6274044.812        9.921     WP SET SCRIBE X
             16 1846207.509 6274379.247        9.207WP SET SCRIBE X IN TC
             17 1846317.645 6274531.981        9.105     WP SET SCRIBE X
             18 1846504.873 6273868.709        9.856   WP FD PEN X IN D
             40 1846498.899 6277519.656        0.000           SDUPD-040
             41 1844531.098 6277670.801        0.000           SDUPD-041
           1000 1849512.104 6273413.747       11.989                  B1
           1001 1849340.490 6273493.485       12.038                  B2
           1002 1849278.867 6273402.033       14.022                B2MH
           1003 1849128.868 6273503.415       14.215             B2MH180
           1004 1848798.073 6273733.342       10.498                  B3
           1005 1848121.709 6274816.266       11.398                  B8
           1006 1848601.777 6273760.152       13.055             B3MH200
           1007 1847906.082 6273636.833       10.390             B3MH900
           1008 1848404.353 6273783.197       11.633             B3MH397
           1009 1847018.218 6274392.197        8.444                 B11
           1010 1847120.620 6272000.246       11.990                 B24
           1011 1847110.157 6272027.966       11.498             B24MH30
           1012 1847011.860 6272430.616       10.154                 B23
           1013 1846937.501 6272461.733        8.056                  C2
           1014 1846976.789 6272477.269        8.161               C2-42
           1015 1850302.270 6274303.358       12.711                 D-7
           1016 1849966.175 6275000.533       14.347                 B-8
           1017 1849856.923 6274981.544       13.971                D-13
           1018 1849439.326 6274603.992       14.025            D-26 OUT
           1019 1849439.616 6274602.282       13.883             D-26 IN
```

1020	1849019.294	6274902.130	13.324	D-13MH-842
1021	1848878.603	6274726.051	12.482	D-30 IN
1022	1848876.794	6274727.201	12.495	D-30 IN
1023	1849412.941	6274338.037	14.218	D-28 IN
1024	1849410.849	6274339.590	14.135	D-28 OUT
1025	1849520.110	6274730.008	13.504	D-22 IN
1026	1849519.582	6274731.533	13.433	D-22 OUT
1027	1846305.125	6274622.544	8.582	A-147 IN 14"
1028	1846307.464	6274621.354	8.595	A-147 IN 18"
1029	1846306.351	6274619.091	8.587	A-147 OUT 18"
1030	1846654.722	6274734.924	8.856	A-141
1031	1846374.709	6274391.025	8.911	A-152 IN
1032	1846373.460	6274388.876	8.969	A-152 OUT
1033	1846431.103	6274169.298	8.637	A-133 TG
1034	1846808.973	6273310.069	9.520	A-63
1035	1847184.704	6273424.000	10.736	A-49
1036	1846572.153	6273436.699	9.423	A-67
1037	1846832.895	6272816.695	9.277	A-20
1038	1846789.935	6272935.156	9.460	MW B131-MW2
1039	1846653.118	6272916.366	9.196	MW B131-MW3
1040	1846823.902	6272827.732	8.995	MW B131-MW1
1041	1846776.803	6272954.302	9.962	TH T-20
1042	1846778.640	6272944.895	9.896	TH T-19
1043	1846781.499	6272933.231	9.790	TH T-18
1044	1846784.007	6272923.098	9.832	TH T-17
1045	1846847.315	6272835.909	9.646	TH T-16
1046	1846837.948	6272832.969	9.493	TH T-15
1047	1846825.371	6272831.503	9.438	TH T-14
1048	1846814.581	6272830.234	9.550	TH T-13
1049	1846821.563	6273017.327	9.237	A-23 IN
1050	1846821.385	6273019.609	9.221	A-23 OUT
1051	1846582.843	6273789.263	9.088	TH T-39
1052	1846616.730	6273801.626	9.160	TH T-40
1053	1846590.022	6273756.774	9.547	TH T-41
1054	1846820.809	6274317.281	8.212	A-132
1055	1846902.124	6274349.270	8.448	A-131 OUT
1056	1846904.327	6274349.938	8.439	A-131 IN
1057	1846283.910	6274713.157	8.728	MW B120-MW6
1058	1846210.514	6274393.927	8.029	MW B120-MW-5
1059	1846188.138	6274477.135	7.071	MW B120-MW-4
1060	1846475.922	6273488.422	8.707	A-68 IN
1061	1846475.139	6273486.458	8.704	A-68 OUT
1062	1846308.861	6274122.590	7.498	A-134
1063	1846197.244	6274400.730	8.818	A-201
1064	1846436.824	6273769.891	9.620	TH T-42
1065	1846796.715	6273028.019	9.263	MW BLD156-MW1
1066	1846798.299	6273082.048	9.314	MW BLD156-MW3
1067	1847184.623	6273324.911	10.903	MW P1
1068	1847162.934	6273373.409	10.750	MW TC4WEP
1069	1847146.423	6273417.966	10.318	MW TC4EGP
1070	1847122.066	6273477.209	9.851	MW TC4EHP
1071	1847171.306	6273512.634	10.457	MW TC4EEP
1072	1847224.017	6273422.950	10.933	MW TC4MWNC
1073	1846965.230	6273360.496	9.658	MW SDE
1074	1846801.340	6273305.776	9.158	MW 142WEP
1075	1846697.662	6273274.386	9.567	MW 142EBP/WDP
1076	1846686.084	6273371.328	8.490	MW 142WGP
1077	1846728.895	6273341.745	9.827	MW 142NC
1078	1846747.475	6273348.573	8.917	MW GT4
1079	1846551.085	6273893.041	9.685	MW BLD102-MW3

1080	1846578.448	6274947.872	9.036	TH T-35
1081	1846565.321	6274997.579	8.983	TH T-36
1082	1846546.036	6274964.767	8.995	TH T-34
1083	1846534.393	6274937.589	9.264	TH T-37
1084	1846521.526	6274982.733	8.855	TH T-38
1085	1846074.526	6275096.184	8.656	TH T-30
1086	1846061.775	6275073.074	8.670	TH T-31
1087	1846036.693	6275083.528	8.718	TH T-33
1088	1846047.432	6275046.508	8.912	TH T-32
1089	1846085.647	6275058.100	9.435	TH T-29
1090	1846642.310	6272834.288	10.616	TH T-23
1091	1846627.482	6272877.708	10.511	TH T-24
1092	1846702.269	6272807.591	10.343	TH T-22
1093	1846602.390	6272782.342	10.116	MW B131-MW5
1094	1846477.935	6272916.550	8.916	MW B131-MW4
1095	1846486.434	6272906.944	9.225	TH T-25
1096	1846484.257	6272918.835	9.382	TH T-26
1097	1846477.915	6272929.519	9.598	TH T-27
1098	1846475.276	6272940.247	9.678	TH T-28
1099	1846747.753	6272822.974	10.135	TH T-21
1100	1846913.500	6272646.379	10.636	TH T-1
1101	1846920.921	6272653.779	10.648	TH T-2
1102	1846908.884	6272660.433	10.957	TH T-3
1103	1846915.833	6272662.755	11.002	TH T-4
1104	1846903.677	6272678.384	11.366	TH T-5
1105	1846912.584	6272680.978	11.336	TH T-6
1106	1846409.716	6273880.231	8.831	MW BLD102-MW4
1107	1846376.743	6274438.617	8.776	WM BLD120-MW3
1108	1846341.675	6274556.652	8.867	WM BLD120-MW2
1109	1846511.908	6274547.748	8.882	MW BLD120-MW1
1110	1846489.662	6273886.536	9.533	MW BLD102-MW5
1131	1844311.240	6277841.550	11.420	SDGPS-1131
1034A	1846808.928	6273310.066	9.534	CHKIN #1034
11A	1847142.926	6273426.713	10.578	CHKIN WP-11
11B	1847142.894	6273426.745	10.571	CHKIN WP-11
12A	1846625.059	6273249.013	9.834	CHKIN WP-12
13A	1846811.428	6272933.675	9.598	BSCHK WP-13
15A	1846901.431	6274044.780	9.916	CHKIN WP-15
15B	1846901.429	6274044.812	9.928	CHKIN WP-15
16A	1846207.505	6274379.254	9.195	CHKIN WP-16
16B	1846207.504	6274379.248	9.204	CHKIN WP-16
40A	1846498.947	6277519.604	13.890	CHK SDUPD-040
41A	1844531.180	6277670.756	9.047	CHK SDUPD-041
41B	1844531.113	6277670.776	9.060	CHK SDUPD-041
41C	1844531.153	6277670.817	9.077	CHK SDUPD-041
4A	1846527.012	6273930.938	9.637	CHK WP-4
4B	1846527.022	6273930.951	9.626	CHKIN WP-4
4C	1846527.016	6273930.945	9.647	BSCHK WP-4
4D	1846527.027	6273930.943	9.636	BSCHK WP-4
4E	1846527.017	6273930.940	9.616	BSCHK WP-4
4F	1846527.014	6273930.928	9.624	BSCHK WP-4
4G	1846527.090	6273930.953	9.606	CHK WP-4
4H	1846527.008	6273930.942	9.640	BSCHK WP-4
4I	1846527.018	6273930.921	9.631	BSCHK WP-4
4J	1846527.012	6273930.937	9.644	BSCHK WP-4
5A	1846974.703	6274078.549	9.703	CHKIN WP-5
6A	1846729.676	6273284.886	9.790	CHK WP-6
6B	1846729.681	6273284.890	9.810	BSCHK WP-6
6C	1846729.671	6273284.884	9.804	BSCHK WP-6
6D	1846729.669	6273284.889	9.795	CHKIN WP-6

```
 6E 1846729.649 6273284.883       9.726            CHK WP-6
 7A 1846309.715 6274628.888       8.739          BSCHK WP-7
 7B 1846309.711 6274628.876       8.705          BSCHK WP-7
 7C 1846309.711 6274628.876       8.671          BSCHK WP-7
 7D 1846309.745 6274628.882       8.751          CHKIN WP-7
 7E 1846309.758 6274628.876       8.744          CHKIN WP-7
 7F 1846309.718 6274628.878       8.733          BSCHK WP-7
 9A 1846361.245 6274371.460       9.265          CHKIN WP-9
 9B 1846361.275 6274371.472       9.261          BSCHK WP-9
 9C 1846361.276 6274371.470       9.266          BSCHK WP-9
 9D 1846361.244 6274371.451       9.281          CHKIN WP-9
  A 1846482.303 6272919.262       9.382                 SPT
BM1           ?           ?       9.774  BM NEBP ELEV 9.774
BM2           ?           ?       9.774  BM NEBP ELEV 9.774
BM3           ?           ?      15.271BM SBP IN INLET ELEV 15.271
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TRIMBLE 4800 GPS-RTK
TOPCON 800A TOTAL STATION

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5620 FRIARS ROAD
SAN DIEGO, CA 92110
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CHN: CALABARO
INSTR: GASTELUM
CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEO SYNTEC - AIRPORT
FILE : 13600HH_1.DC
NAD 83/ NGVD 29/ BASIS OF COORDS PER ROS 16668

SHEET NO.: 1 OF 8 SHEETS
DATE: 8-31-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
BASE	10		SDUPD-010	5.21/1.587			SDUPD-010 FD 3" BRASS DISK IN SW FLUSH
							"SDUPD-010 LS 7876 RESET 2002" PER ROS 16668
OCP	41	41A	CHK	5.90		7/12 ✓	SDUPD-041 FD 3" BRASS DISK IN SW "
							"SDUPD-041 LS 6000" PER ROS 17055
TOPO		1000-1014					TOPO
							9-01-05 RENNER
							CALABARO
							GASTELUM
BASE	10			5.05/1.539			SDUPD-010
OCP	41	41B	CHK	5.90		6/10 ✓	SD UPD-041
"	BM2	2	BM	5.90	Z	5/9 ✓	BM-2 NEBP * @ HARBOR DRIVE & HAWTHORN ST.
							* ADJUSTED ELEV = 9.774
TOPO		1015-1026					TOPO
OCP	BM3	3	BM	5.90		5/12 ✓	BM-3 SBP * IN INLET PCH & WASHINGTON ST FRONTAGE RD.
							* ADJUSTED ELEV = 15.271
~~OCP~~		~~4~~	~~WP~~	~~5.90~~		~~5/8 ✓~~	~~WP-4 SET SCRIBE X IN CONC FLUSH~~
BASE	10		SDUPD-010	5.12/1.560			SDUPD-010 9-2-05 RENNER
OCP	41	41C	CHK	5.90		6/13 ✓	SDUPD-041 CALABRO
"	40	40A	"	"		6/12 ✓	SDUPD-040 FD 3" BRASS DISK IN SW GASTELUM
							"SDUPD-040 LS 6000" PER ROS 17055
OCP		4	WP	5.90		5/12 ✓	WP-4 SET SCRIBE X IN CONC FLUSH
"		6	"	"		6/15 ✓	WP-6 " " " "
"		7	"	"		5/7 ✓	WP-7 SET MN IN AC "

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CHN: CALABRO
INSTR:
CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC - AIRPORT
FILE: 13600 HH_1.DC

SHEET NO.: 2 OF ~~6~~ 8 SHEETS
DATE: 9-2-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
π	7			5.34			WP-7
BS	6	6A	BSCHK	5.11			WP-6
CHK	4	4A	CHKIN	4.99			WP-4
TOPO		1027-1033					TOPO
SS		8	WP	4.99			WP-8 SET SCRIBE X IN CONC FLUSH
SS		9	WP	"			WP-9 " " " "
π	6A			5.27			WP-6
BS	7	7A	BSCHK	5.18			WP-7
CHK	4A	4B	CHKIN	4.99			WP-4
TOPO		1034					TOPO
SS		11	WP	4.99			WP-11 SET SCRIBE X IN CONC FLUSH
π	11			5.50			WP-11
BS	6A	6B	BSCHK	5.10			WP-6
CHK	#1034	1034A	CHK	4.99			# 1034 (A-63)
TOPO		1035					TOPO
π	6A			5.27			WP-6
BS	7	7B	BSCHK	5.18			WP-7
CHK	11	11A	CHKIN	4.99			WP-11
SS		12					WP-12 SET SCRIBE X IN CONC

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INSTR:
CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC - AIRPORT
FILE: 13600HH_1.DC

SHEET NO.: 3 OF ~~5~~ 8 SHEETS
DATE: 9-02-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
⊼	12			5.41			WP-12
BS	6A	6C	BSCHK	5.10			WP-6
CHK	11	11B	CHKIN	4.99			WP-11
TOPO		1036					TOPO
⊼	6A			5.27			WP-6
BS	7	7C	BSCHK	5.18			WP-7
CHK	12	12A	CHKIN	4.99			
TOPO		1037-					TOPO
SS		13	WP	4.99			WP-13 FD PK NAIL IN CONC FLUSH
							9-06-05 RENNER
							CALABRO
⊼	13			5.40			WP-13
BS	4A	4C		5.17			WP-4
CHK	6A	6D		4.99			WP-6
TOPO		1038	MW	4.99			B131-MW2 SET N'LY MARK ON 2" PVC DOWN .32'
							FROM LID
"		1039	MW	22.59			B131-MW3 SET N'LY MARK ON 2" PVC DOWN .64'
							FROM LID
"		1040	MW	4.99			B131-MW1 FD N'LY MARK ON 2" PVC DOWN .78'
							FROM LID
TOPO		1041-1048					TH T-20 → T-13
"		1049-1050					TOPO

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CHN: CALABRO
INSTR:
CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC - AIRPORT
FILE: 13600HH_1.DC

SHEET NO.: 4 OF 58 SHEETS
DATE: 9-06-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
⊼	4A			5.32			WP-4
BS	13	13A	BSCHK	5.25			WP-13
CHK	9	9A	CHKIN				WP-9
TOPO		1051-1053					TH T-39 → T-41
SS		5	WP				WP-5 SET SCRIBE X IN CONC
SS		15	WP				WP-15 " " "
⊼	15			5.32			WP-15
BS	4A	4D	BSCHK	5.16			WP-4
CHK	5	5A	CHKIN	4.99			WP-5
TOPO		1054					TOPO
⊼	5			5.44			WP-5
BS	4A	4E	BSCHK	5.16			WP-4
CHK	15	15A	CHKIN	4.99			WP-15
TOPO		1055-1056					TOPO
⊼	9			5.34			WP-9
BS	4A	4F	BSCHK				WP-4
CHK	7	7D	CHKIN	4.99			WP-7
TOPO		1057	MW	4.99			B120-MW-6 FD N'LY MARK ON 2" PVC DOWN .65 FROM LID

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CHN: CALABRO
INSTR:
CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEO SYNTEC - AIRPORT
FILE: 13600 HH - 1.DC

SHEET NO.: 5 OF ~~7~~ 8 SHEETS
DATE: 9-06-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
⊼	9			5.34			WP-9
SS		14	WP	4.99			WP-14 SET SCRIBE X ON INLET FLUSH
SS		16	"	"			WP-16 SET SCRIBE X ON TC "
⊼	14			5.50			WP-14
BS	9	9B	BSCHK	5.18			WP-9
CHK	16	16A	CHKIN	4.99			WP-16
TOPO		1058	MW	4.99			B120-MW-5 FD N'LY MARK ON 2" PVC DOWN .31' FROM LID
"		1059	"	"			B120-MW-4 FD N'LY MARK ON 2" PVC DOWN .52' FROM LID
TOPO		1060-1064					TOPO & TH = T-42

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CHN: CALABRO

INSTR:

CHIEF: KENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC- AIR PORT
FILE: 13600HH-1.DC
NAD 83 / NGVD 29 / BASIS OF COORDS PER ROS 16668

SHEET NO.: 16 OF 8 SHEETS
DATE: 9-13-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
BASE	13			5.19/1.582			WP-13 FD PK IN CONC FLUSH
OCP	6	6E	CHK	5.90		6/9 ✓	WP-6 SET SCRIBE X IN CONC
"	4	4G	"	"		6/17 ✓	WP-4 " " "
TOPO		1065	MW	"			BLD 156-MW1 FD MARK ON N'LY EDGE OF 4"PVC DOWN .35' FROM LID
"		1066	"	"			BLD 156-MW3 " " " " DOWN .46' FROM LID
"		1067	"	"			P2 " " " " DOWN .48' FROM LID
"		1068	"	"			TC4 WEP FD MARK ON N'LY EDGE 1" PVC DOWN .28' FROM FS
"		1069					TC4 EGP FD NOTCH ON N'LY EDGE 1" PVC DOWN .30' FROM LID
"		1070	"	"			TC4 EHP FD MARK ON N'LY EDGE 4"PVC DOWN .51' FROM LID
"		1071	"	"			TC4 EEP FD NOTCH ON N'LY EDGE 1" PVC DOWN .26' FROM LID
"		1072	"	"			TC4 WNC FD NOTCH ON N'LY EDGE 4" PVC DOWN .51' FROM LID
"		1073	"	"			SDE FD NOTCH ON N'LY EDGE 2" PVC DOWN .29' FROM LID
"		1074	"	"			142 WEP FD MARK ON N'LY EDGE 1" PVC DOWN .34' " "
"		1075	"	"			142 EBP/WDP FD MARK ON N'LY EDGE 1" PVC DOWN .34' FROM LID
"		1076	"	"			142 WGP " " " " DOWN .25' "
"		1077	"	"			142 NC FD MARK ON N'LY EDGE 4" PVC DOWN .30' "
"		1078	"	"			GT4 " " " " DOWN .39' "
"		1079	"	"			BLD 102-MW3 " " " " DOWN .38' "
"		1080-1084	TH	"			T-34 → T-38
"		1085-1089	TH	"			T-29 → T-33
"		1090-1091	TH	"			T-23 → T-24
"		1092	TH				T-22
"		1093	MW	"			B131-MW5 FD MARK ON N'LY EDGE OF 2" PVC DOWN .45' FROM LID
		1094	"	"			B131-MW4 " " " DOWN .45' "
		1095-1098					T-25 - T-28

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CHN: CALABRO

INSTR:

CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC- AIRPORT
FILE: 13600HH-1.DC

SHEET NO.: ~~2~~7 OF 8 SHEETS
DATE: 9-13-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
BASE	13			5.19/1.582			WP-13
TOPO		1099	TH	5.90			T-21
"		1100→1105	"	"			T-1 → T-6
⊼	14			5.41			WP-14
BS	9	9C	BSCHK	4.99			WP-9
CHK	16	16B	CHKIN	4.99			WP-16
TOPO		1106	MW				BLD102-MW4 FD MARK ON N'LY SIDE OF 4" PVC DOWN .60' FROM LID
⊼	7			5.30			WP-7
BS	4A	4H	BSCHK	5.22			WP-4
CHK	9	9D	CHKIN	4.99			WP-9
TOPO		1107	MW	"			BLD 120-MW3 FD MARK ON N'LY SIDE OF 4" PVC DOWN .33' FROM LID
"		1108	"	"			BLD 120-MW2 " " " DOWN .32' FROM LID
SS		17	WP				WP-17 SET SCRIBE X IN CONC.
⊼	17			5.25			WP-17
BS	4A	4I	BSCHK	5.22			WP-4
CHK	7	7E	CHKIN	5.15			WP-7
TOPO		1109	MW	4.99			BLD120-MW1 FD MARK ON N'LY SIDE 4" PVC DOWN .42' FROM LID

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CHN: CALABRO
INSTR:
CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC - AIR PORT
FILE: 13600 HH_1.DC

SHEET NO.: ~~3~~8 OF 8 SHEETS
DATE: 9-13-05
JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
⊼	4A			5.38			WP-4
BS	7	7F	BSCHK	5.15			WP-7
CHK	15	15B	CHKIN	4.99			WP-15
SS		18	WP	4.99			WP-18 FD MARKER X IN DOORWAY FLUSH
⊼	18			5.39			WP-18
BS	4A	4J	BSCHK	5.22			WP-4
TOPO		1110	MW	4.99			BLD102-MW5 FD MARK ON N'LY SIDE OE 2" PVC DOWN .31 FROM LID

Points

Project : 13600hh

User name	mramirez	**Date & Time**	1:49:12 PM 9/26/2005
Coordinate System	US State Plane 1983	**Zone**	California Zone 6 0406
Project Datum	NAD 1983 (Conus)		
Vertical Datum	ngvd 29	**Geoid Model**	GEOID99 (Conus)
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

```
Point listing
           Name     Northing      Easting    Elevation        Feature Code
              4 1846527.032 6273930.939        9.504WP SET SCRIBE X IN CONC
              6 1846729.669 6273284.908        9.701WP SET SCRIBE X IN CONC
             13 1846811.430 6272933.666        9.651    WP FD PK IN CONC
             19 1846532.648 6275069.190        9.362     WP SET SCRIBE X
             20 1846411.824 6274877.986        8.991     WP SET MN IN AC
             21 1846334.870 6275179.609        8.745     WP SET MN IN AC
           1111 1847313.004 6273453.374        9.814          MW TC4-WIP
           1112 1846806.094 6274797.215        9.336             TH T-43
           1113 1846696.119 6272620.510       11.121              TH T-7
           1114 1846561.622 6272612.232       10.468              TH T-8
           1115 1846470.974 6272761.318        9.746              TH T-9
           1116 1846586.965 6275034.689        9.280             TH T-10
           1117 1845956.529 6275067.431        7.887        MW B180-MW-1
           1118 1846149.839 6275038.352        9.074            TH  T-11
            20A 1846411.903 6274877.964        8.962        CHKIN WP-20
            21A 1846334.873 6275179.608        8.719        BSCHK WP-21
             4A 1846527.012 6273930.938        9.637            CHK WP-4
             4K 1846527.049 6273930.934        9.625            CHK WP-4
             6F 1846729.704 6273284.880        9.797            CHK WP-6
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Back to top

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CHN: CALABRO

INSTR:

CHIEF: RENNER

JOB DESCRIPTION AND LOCATION: GEOSYNTEC - AIRPORT
FILE: 13600 HH-1 .DC (ADDING TO EXIST. FILE
NAD 83/ NGVD 29 / BASIS OF COORDS PER ROS 16668

SHEET NO.: 1 OF ___ SHEETS

DATE: 9-26-05

JOB NO.: 13600HH PH 154

STATION	HARD COPY NO.	DATA COLL NO.	CODE	HI FT/M	XYZ HOLD	No. SATS RMS/RI	DESCRIPTION
BASE	13		5.05/1.537				WP-13 FD PK NAIL IN CONC.
OCP	6	6F	CHK	5.90		5/7 ✓	WP-6 SET SCRIBE X IN CONC
OCP	4A	4K	CHK	5.90		5/10 ✓	WP-4 " " "
TOPO		1111	MW	"			TC4-WIP FD N'LY MARK ON 4"PVC DOWN .82' FROM LID
"		1112	TH	"			T-43
"		1113	"	"			T-7
"		1114	"	"			T-8
"		1115	"	"			T-9
"		1116	"	"			T-10
"		1117	MW	"			B180-MW-1 SET MARK ON N'LY SIDE 2"PVC DOWN .85' FROM LID
OCP		19	WP	"		6/10 ✓	WP-19 SET SCRIBE X IN CONC
"		20	"	"		7/13 ✓	WP-20 SET MN IN AC FLUSH
"		21	"	"		7/12 ✓	WP-21 " " " "
⊼	19						WP-19
BS	21	21A	BSCHK	4.99			WP-21
CHK	20	20A	CHKIN	4.99			WP-20
SS		1118	TH	"			T-11

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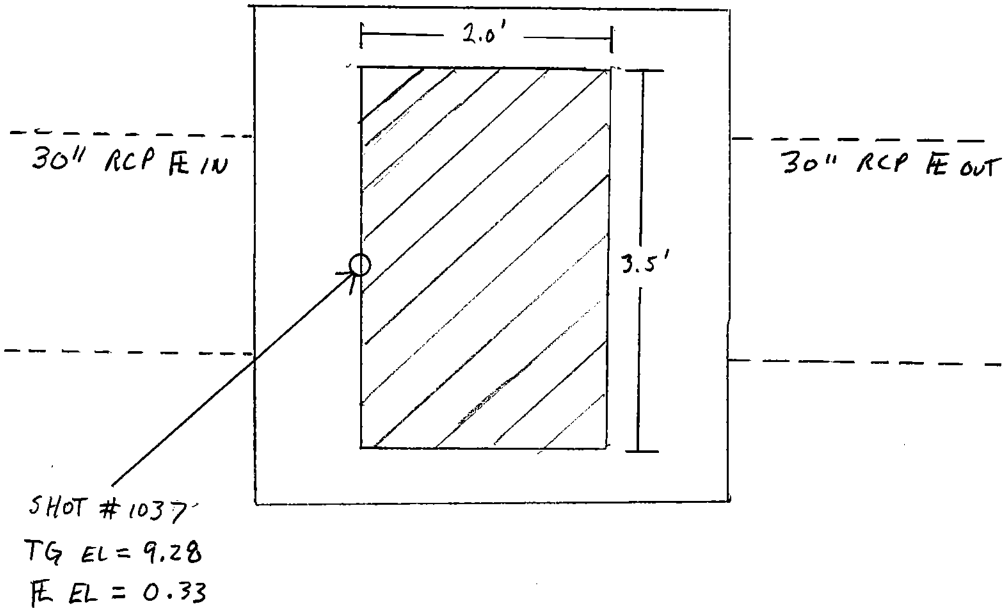
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH-1.DC

SHEET NO. 1 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Ph. 154

A-20

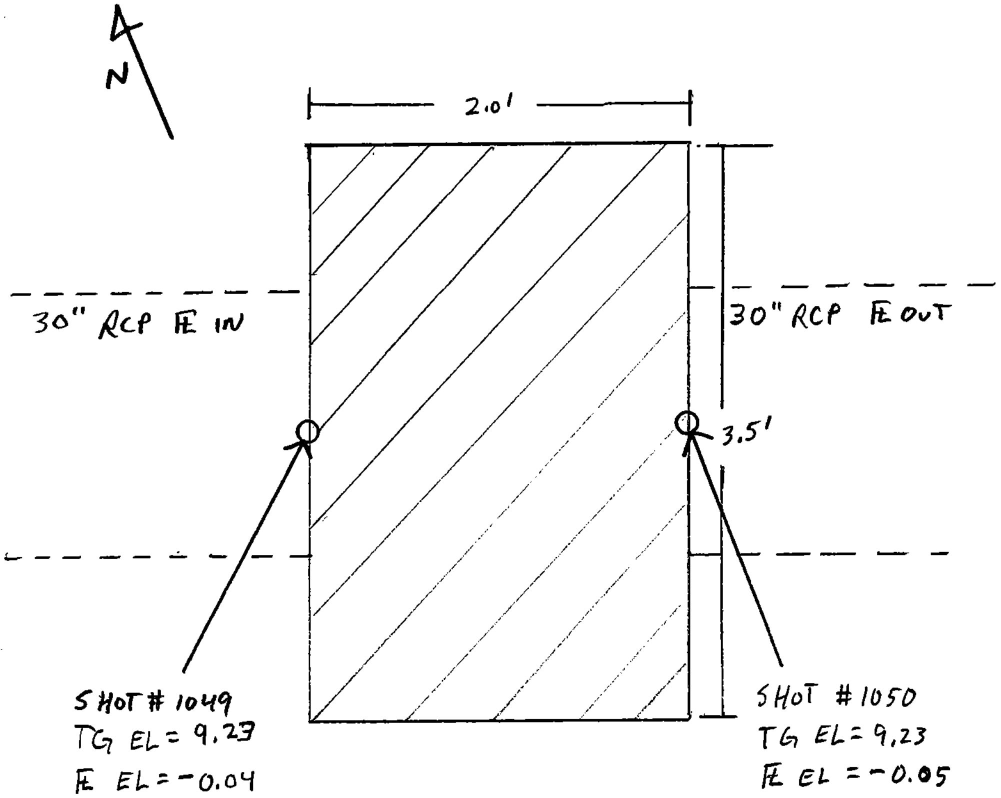


SHOT #1037
TG EL = 9.28
FL EL = 0.33

LEGEND

CB = CATCH BASIN
TG = TOP OF GRATE
FL = FLOW LINE
MH = MANHOLE

A-23



SHOT #1049
TG EL = 9.23
FL EL = -0.04

SHOT #1050
TG EL = 9.23
FL EL = -0.05

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INSTR:
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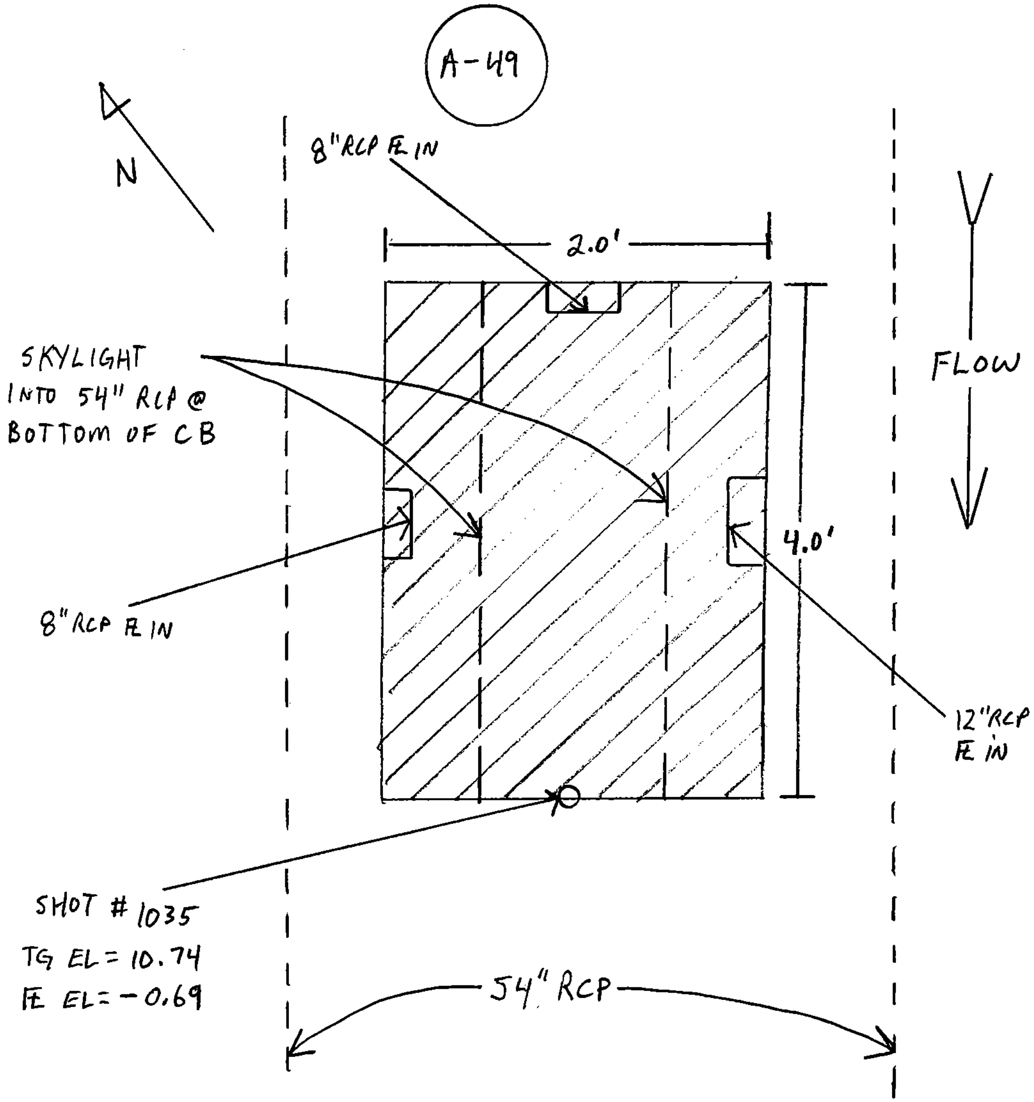
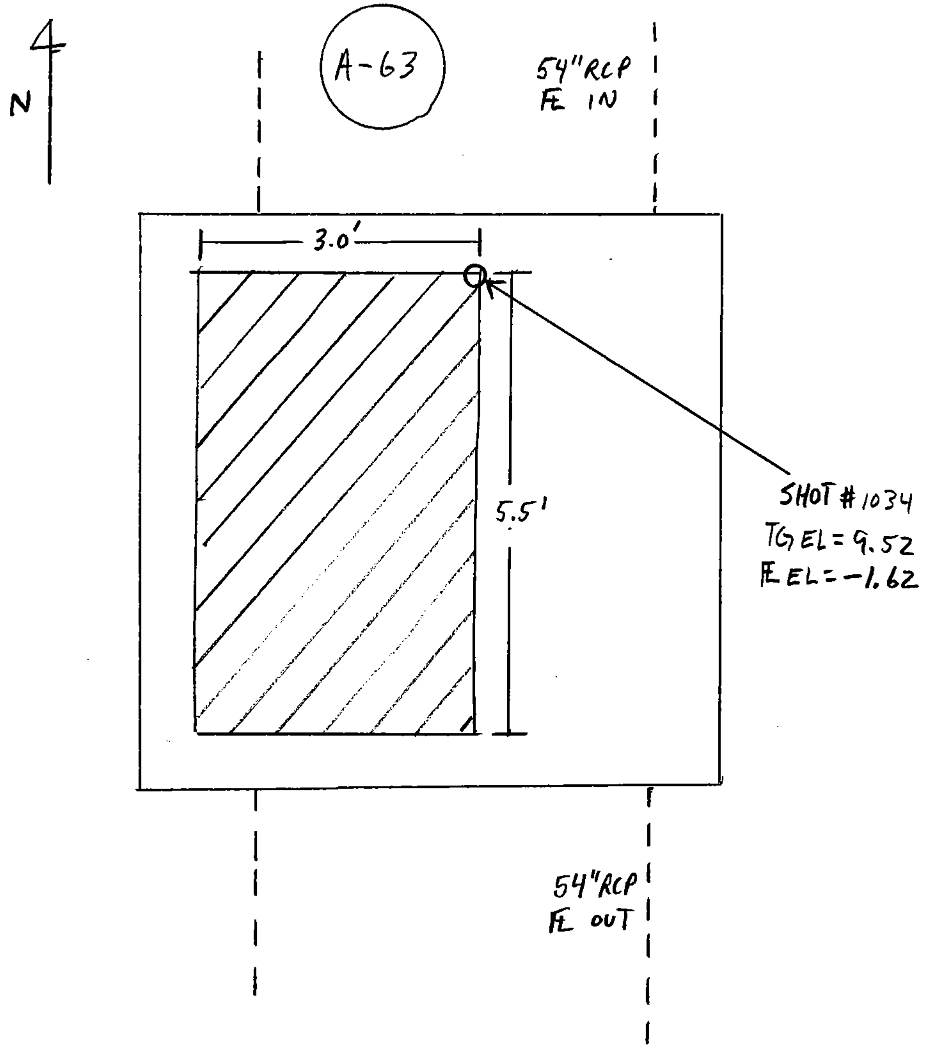
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH-1.DC

SHEET NO. 2 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Pk. 154





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CHIEF: RENNER

INSTR: ______

CHN: CALABRO

CHN: ______

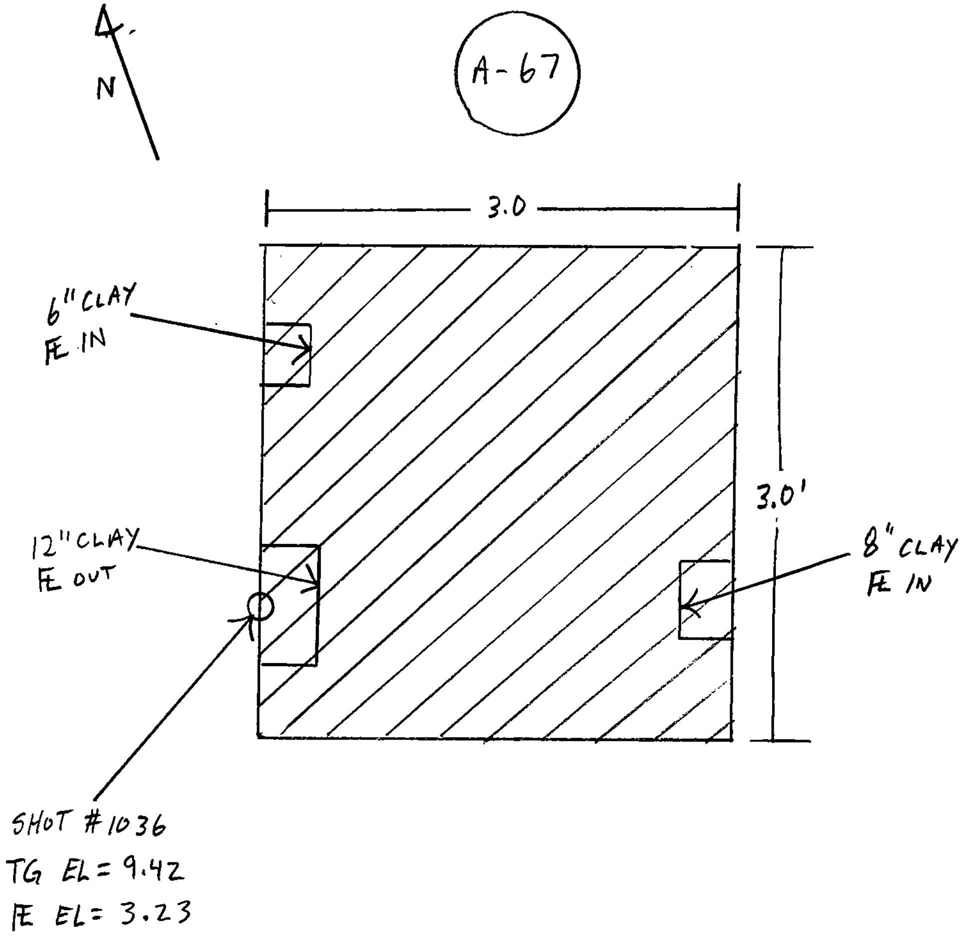
JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT

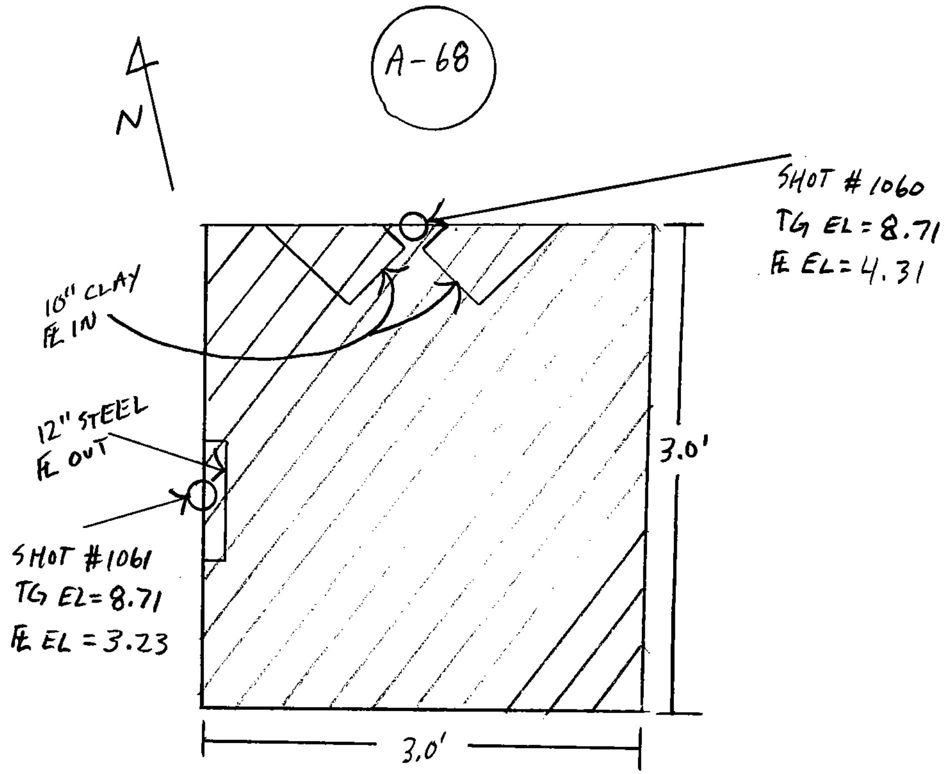
FILE: 13600HH-1.DC

SHEET NO. 3 OF 19 SHEETS

DATE: 9-9-05

JOB NO. 13600 HH Pk. 154





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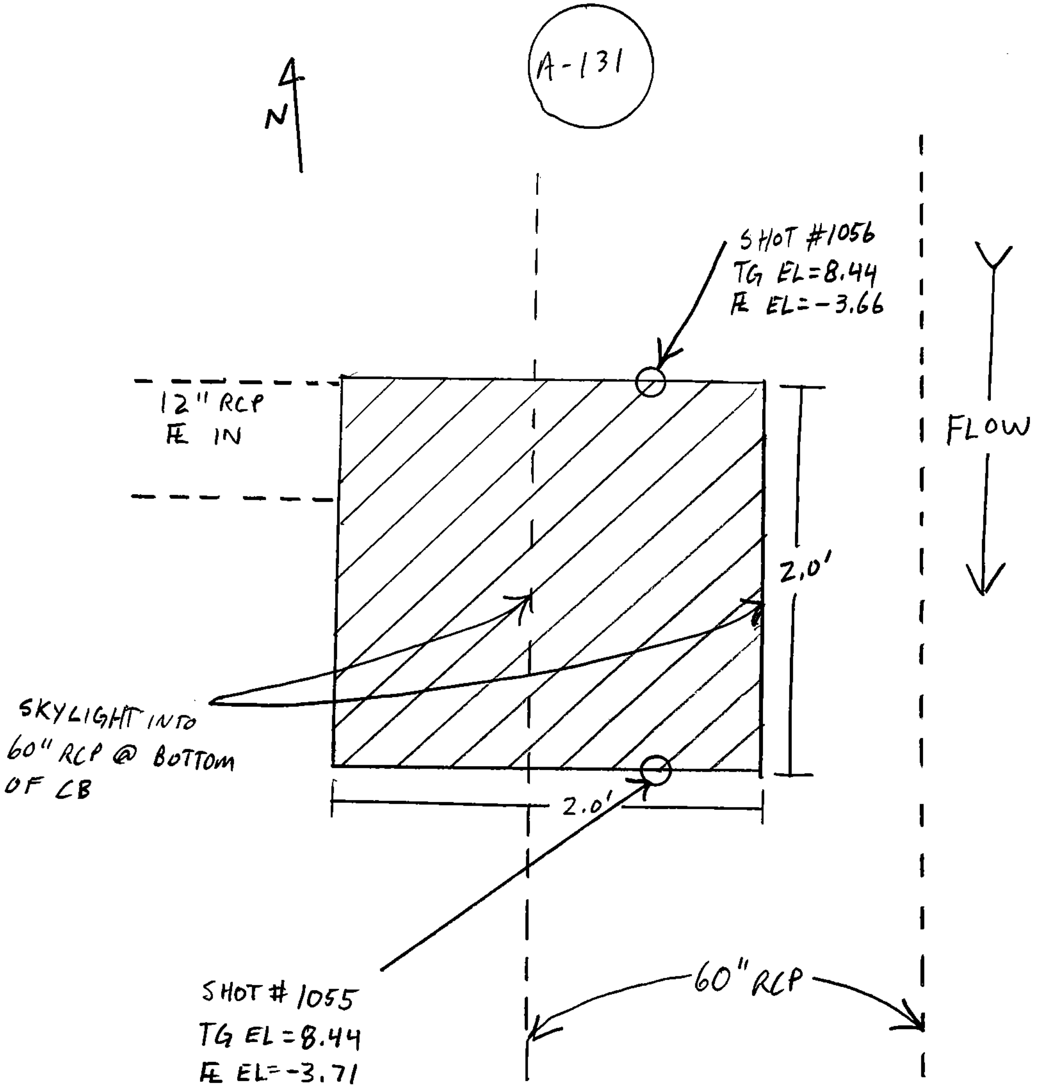
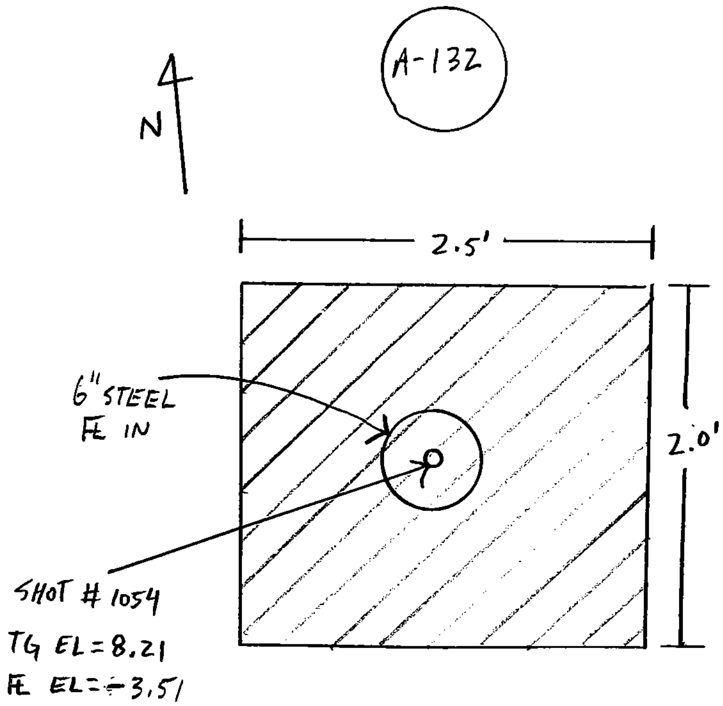
CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HM_1.DC

SHEET NO. 4 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600 HH Pg.154



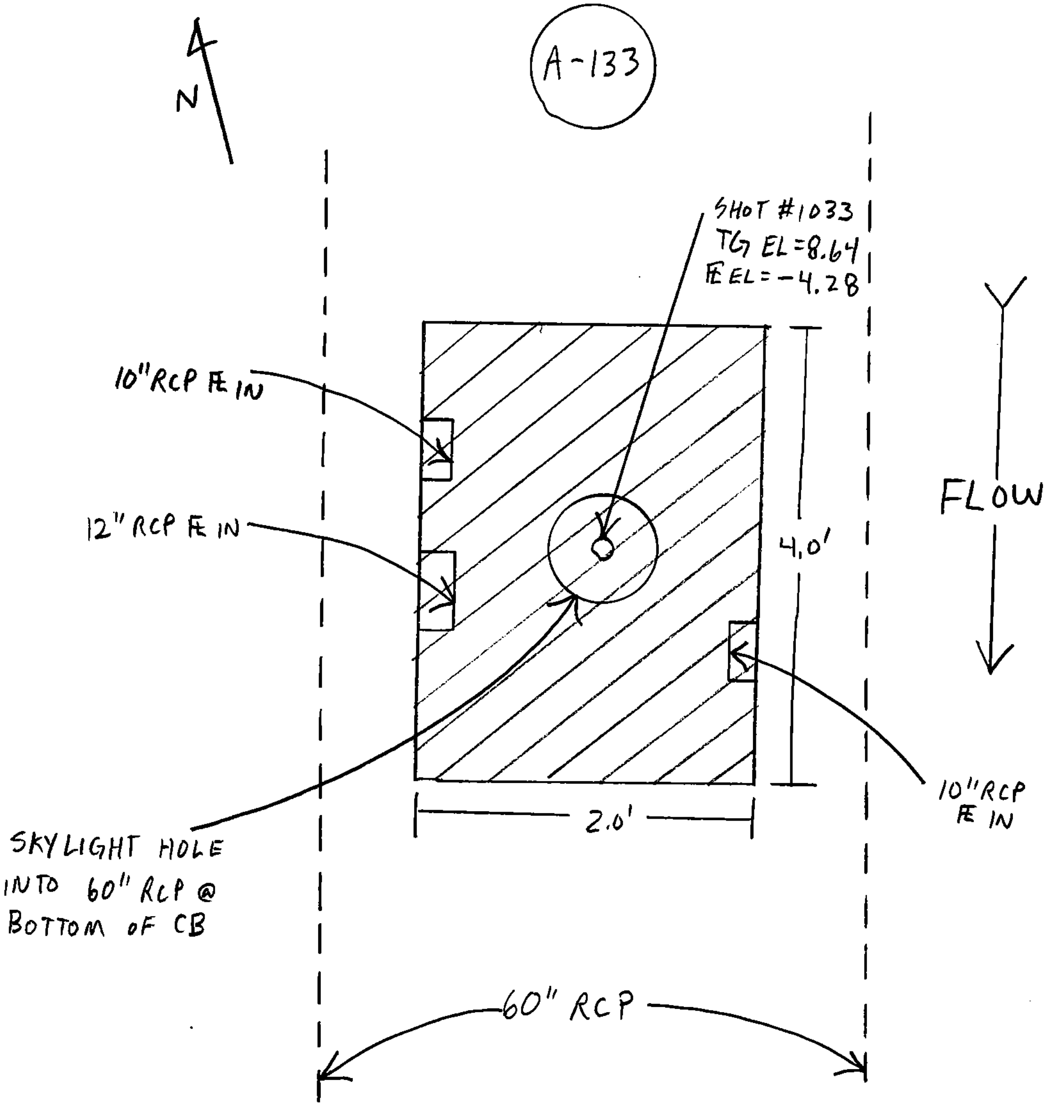


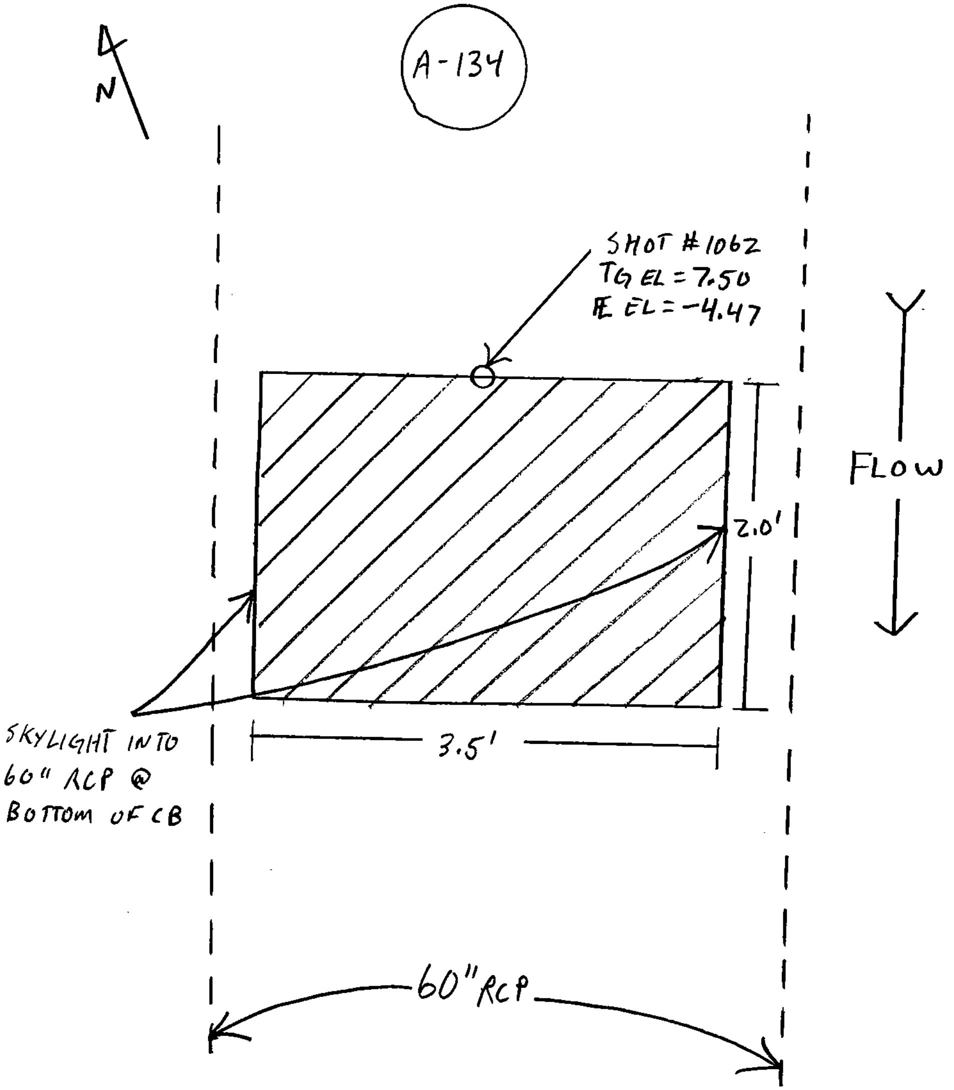
RICK
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC- AIRPORT
FILE: 13600 HH-1 .DC

SHEET NO. 5 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600 HH Ph. 154



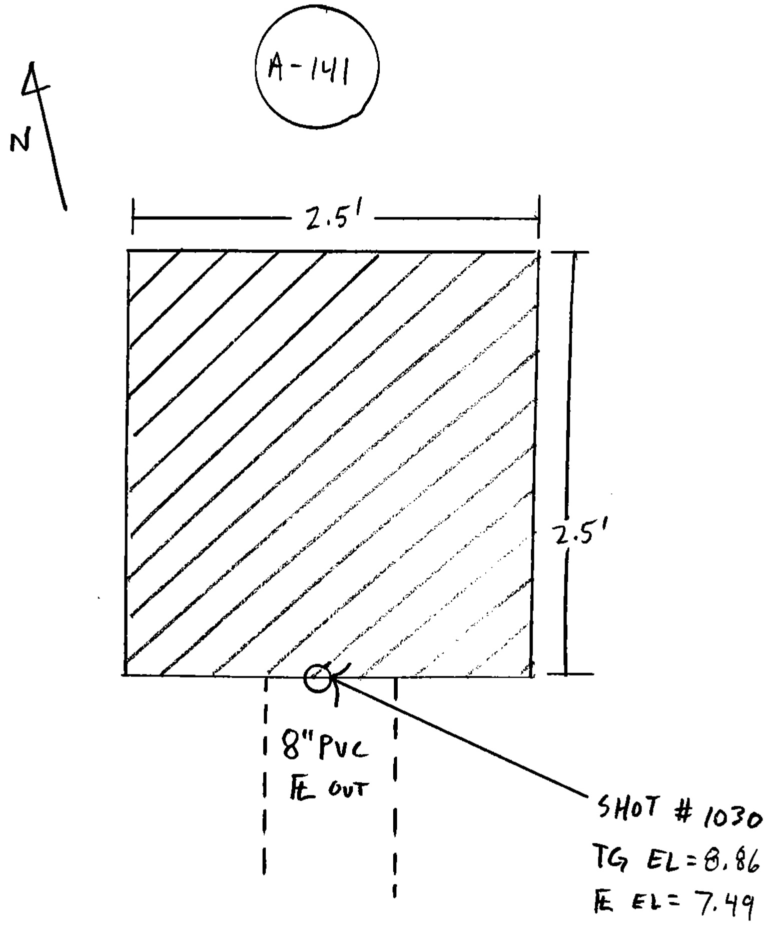


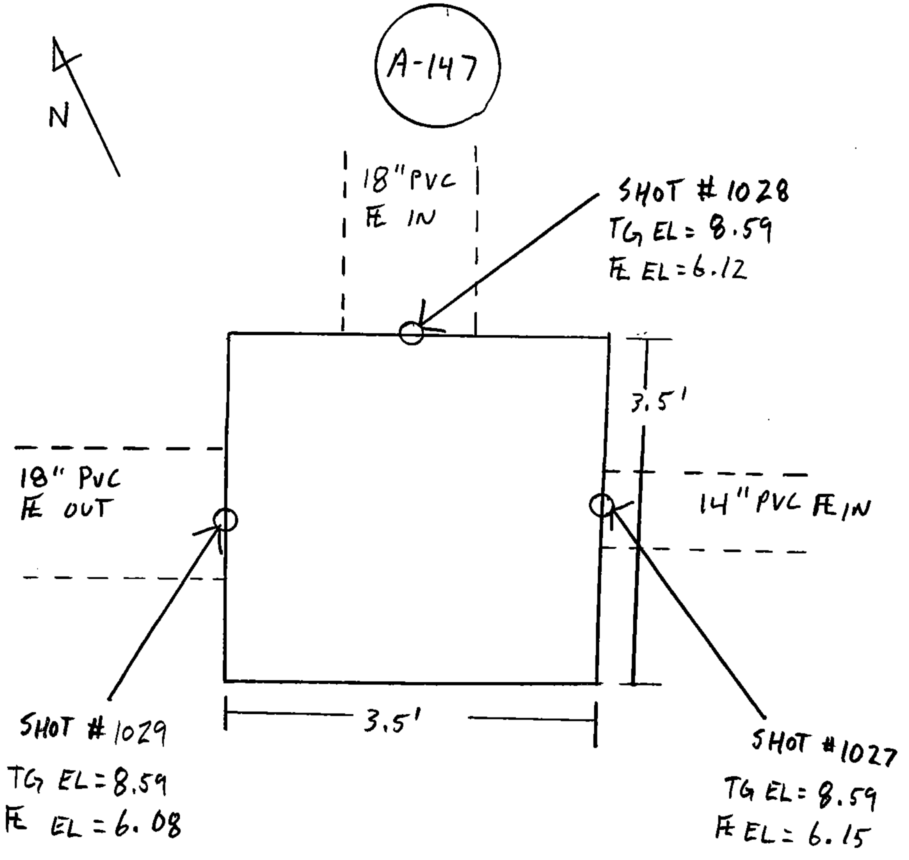
RICK™
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALAGRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600 HH-1.DC

SHEET NO. 6 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Ph. 154



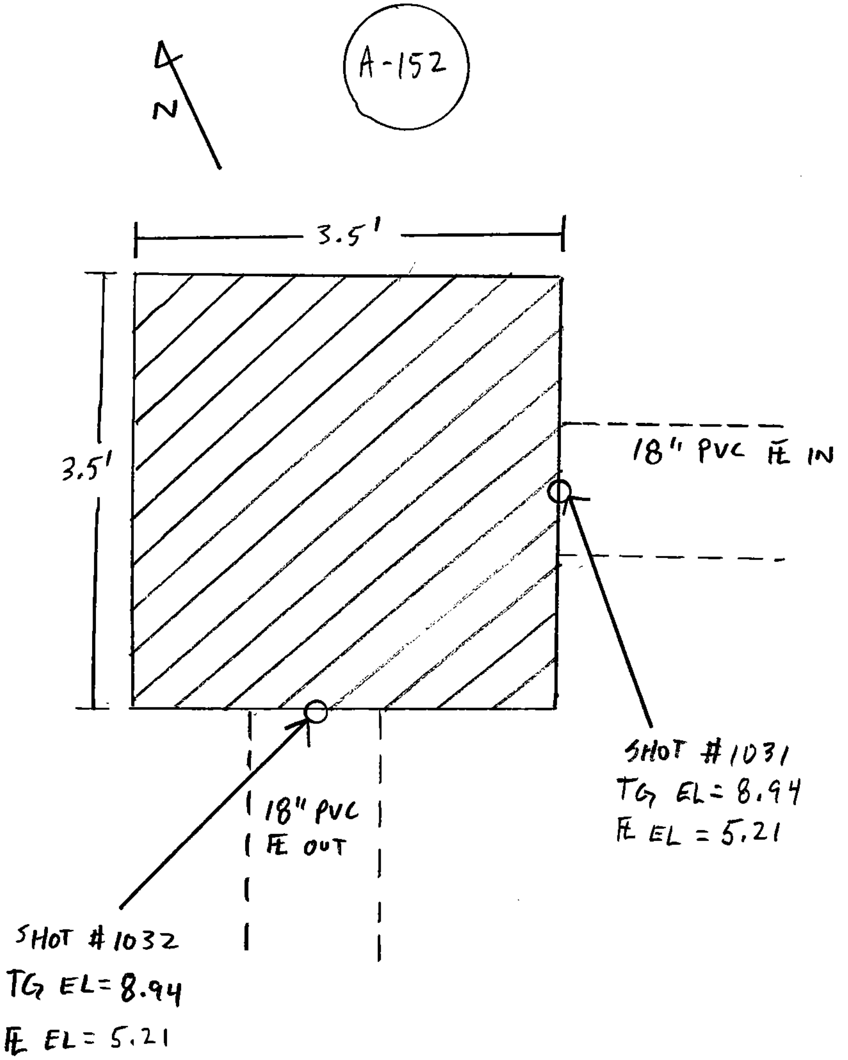


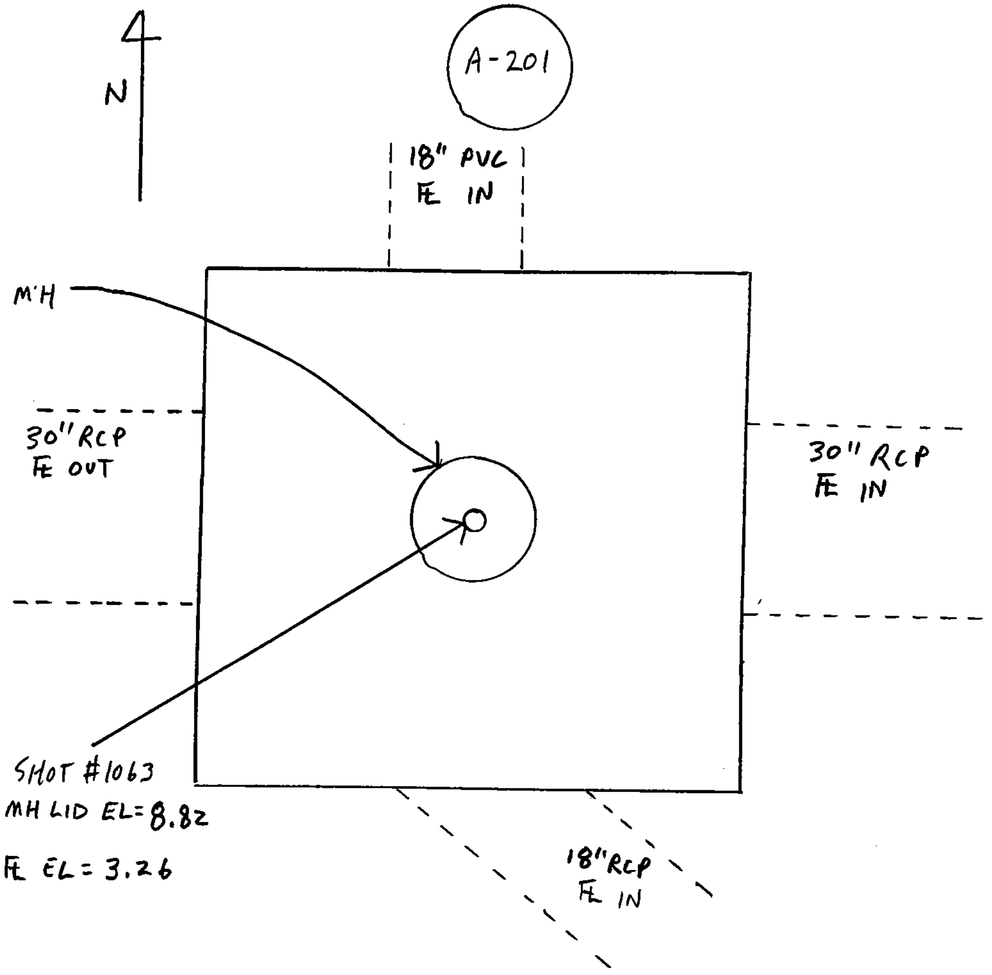
RICK
ENGINEERING COMPANY™

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH_1.DC

SHEET NO. 7 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600 HH. Ph.154





RICK
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INSTR:
CHN: CALABRO
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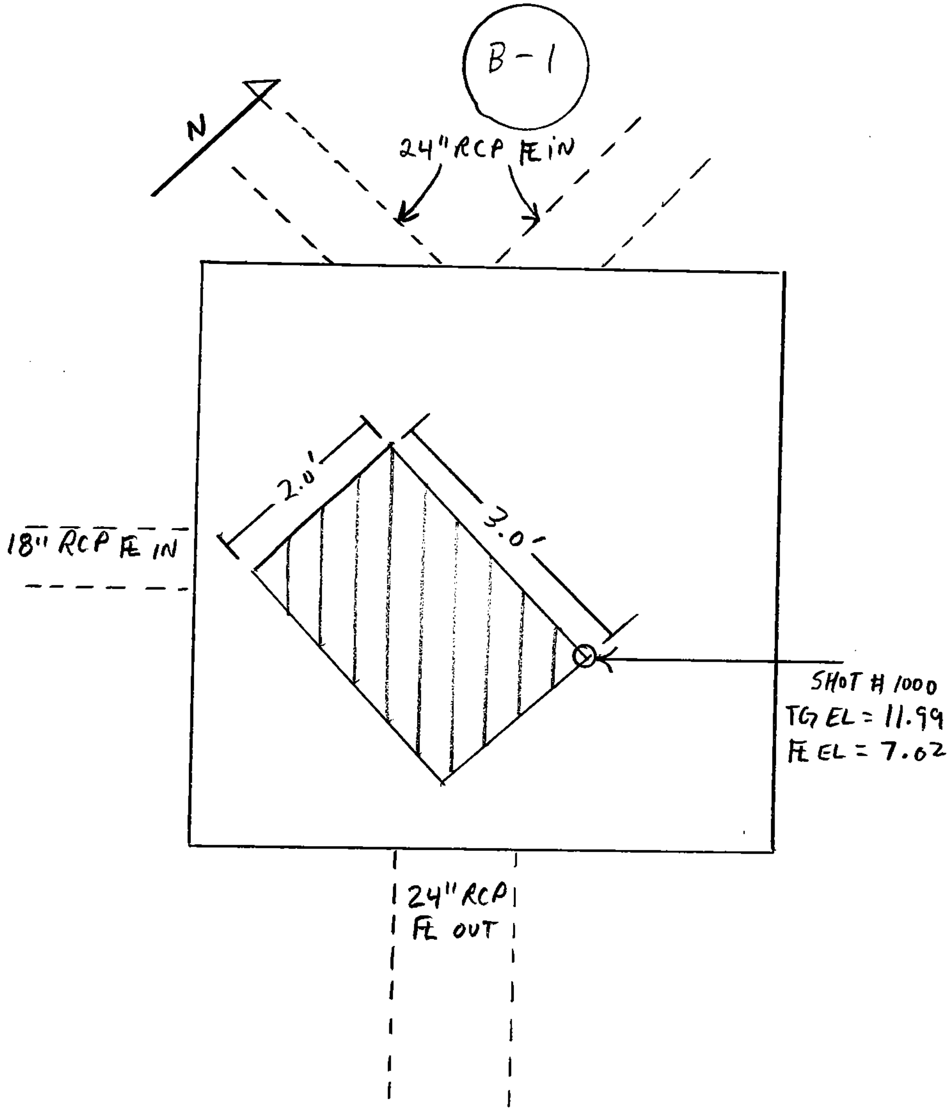
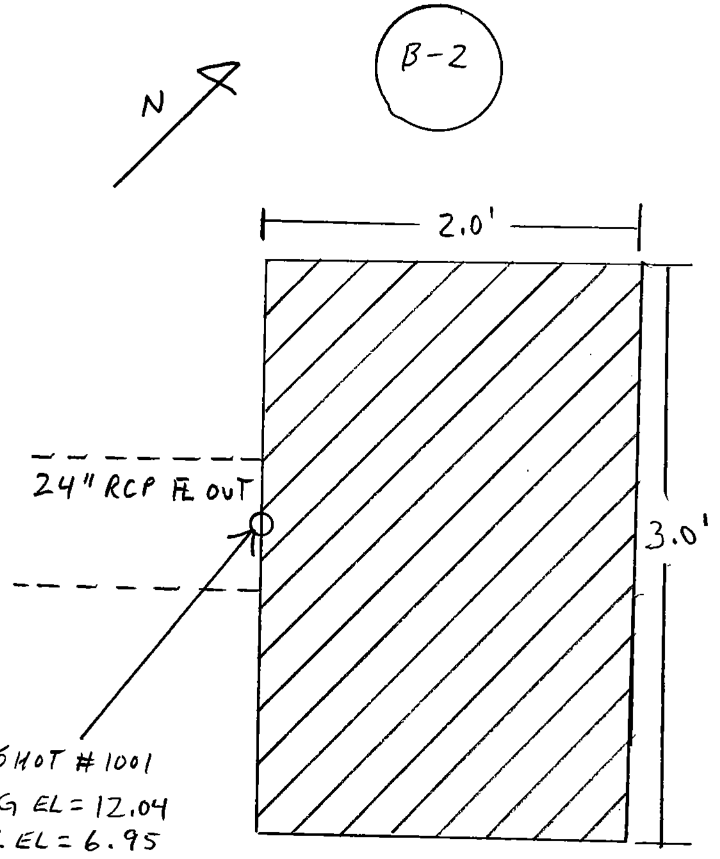
JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600 HH-1.DC

SHEET NO. 8 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600 HH Pg. 154





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CHIEF: RENNER
INSTR:
CHN: CALABRO
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JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH-1.DC

SHEET NO. 9 OF 19 SHEETS
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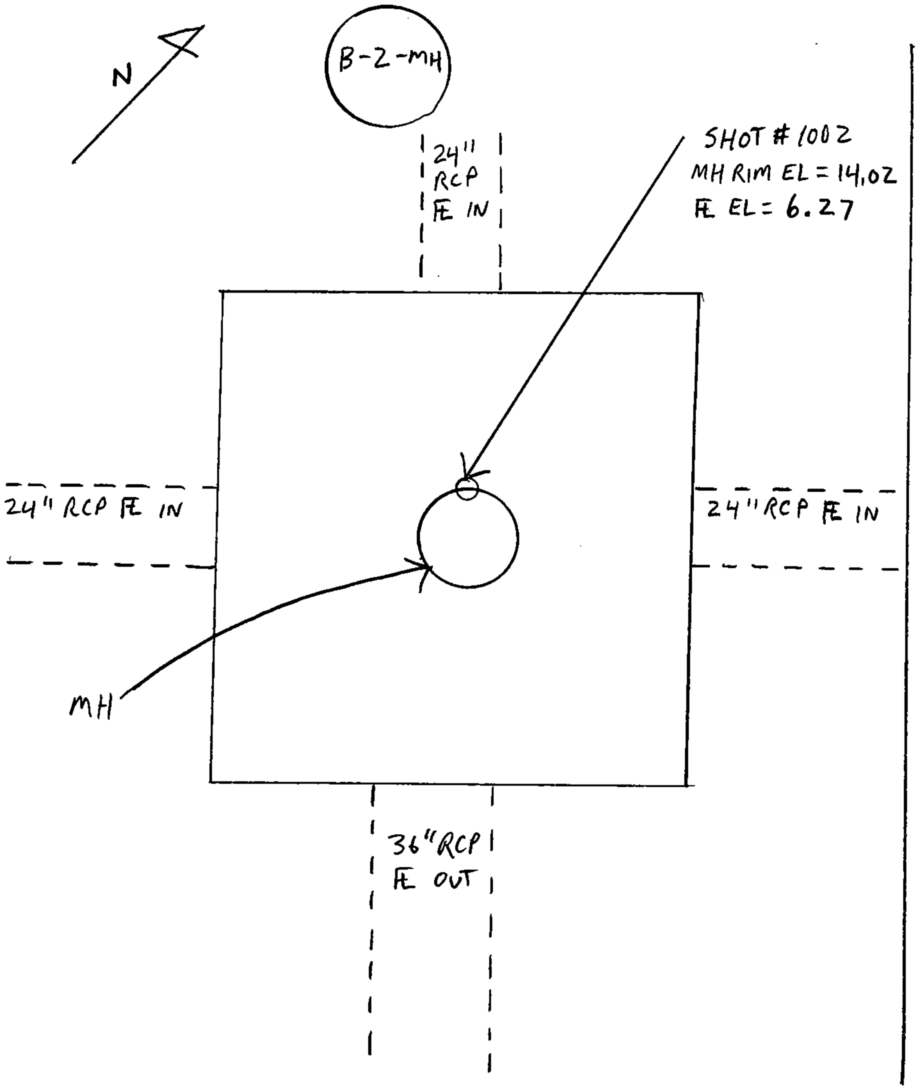
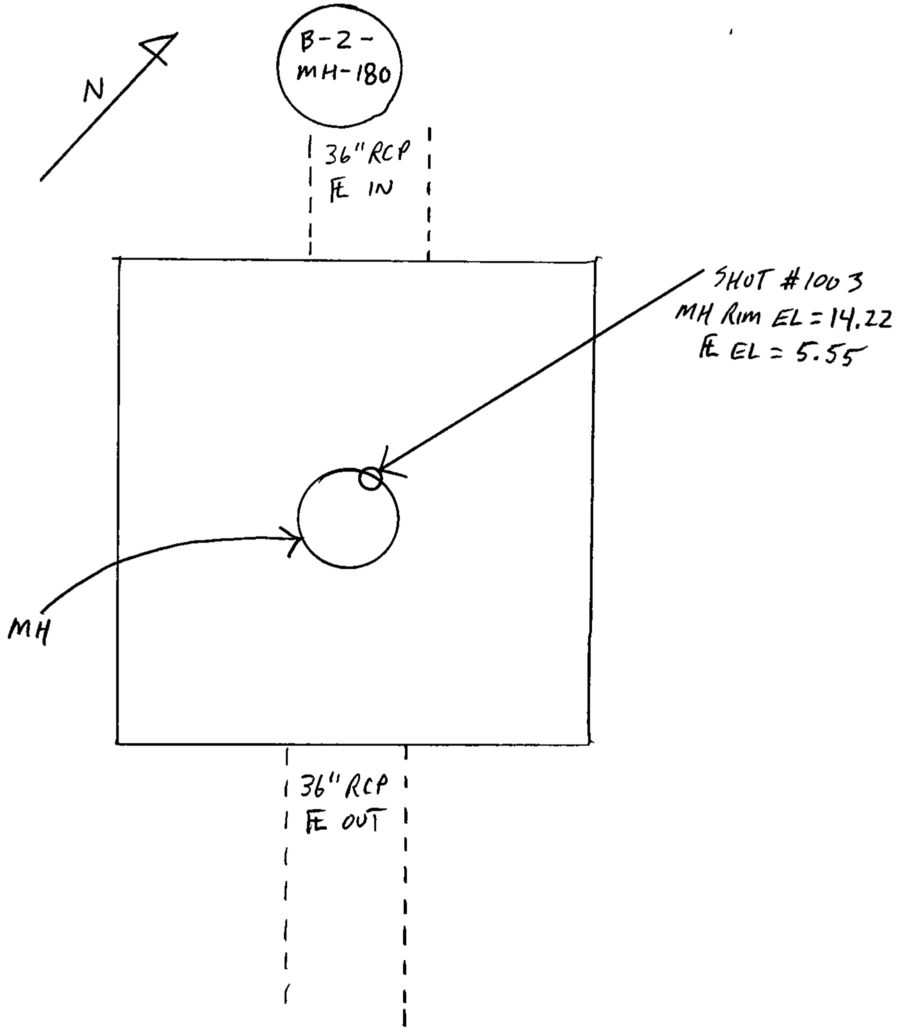
JOB NO. 13600HH Pk. 154





RICK
ENGINEERING COMPANY™

CHIEF: RENNER
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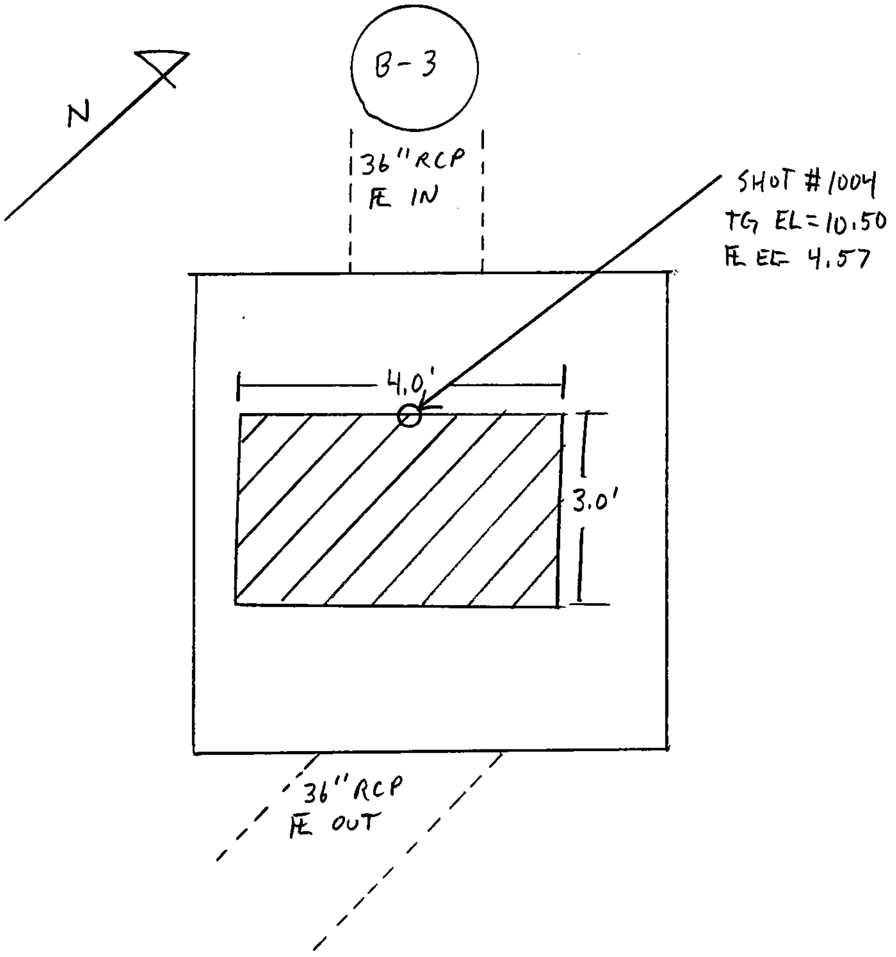
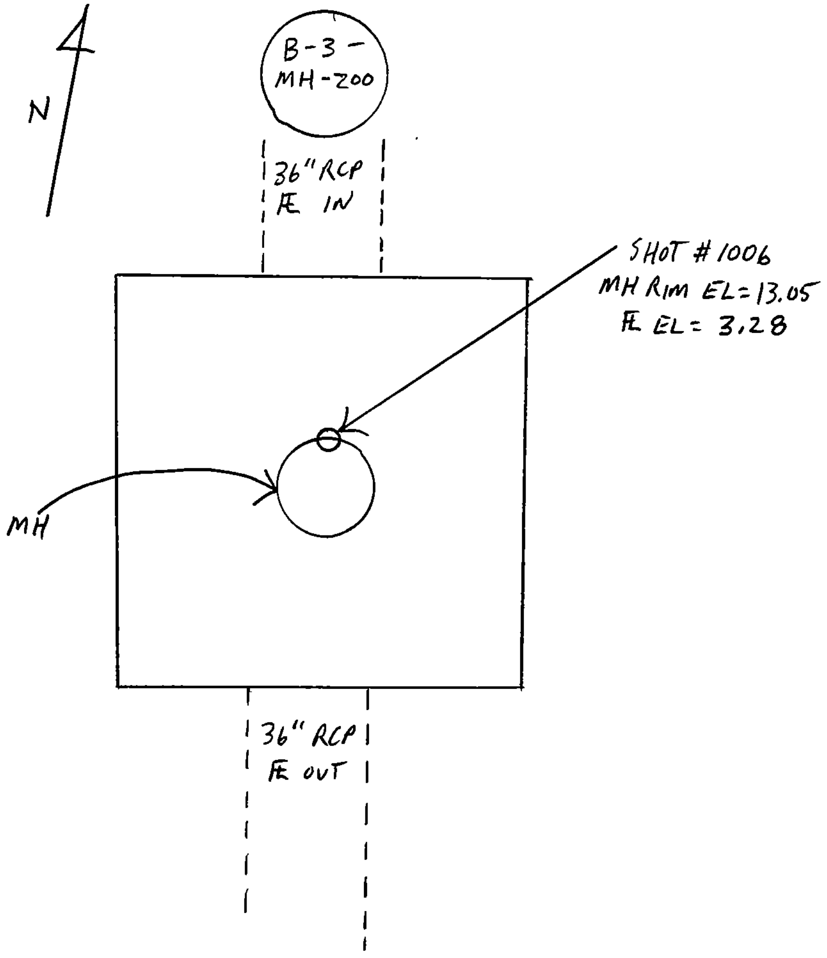
SHEET NO. 10 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Ph.154





RICK™
ENGINEERING COMPANY

CHIEF: RENNER
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CHN: CALABRO
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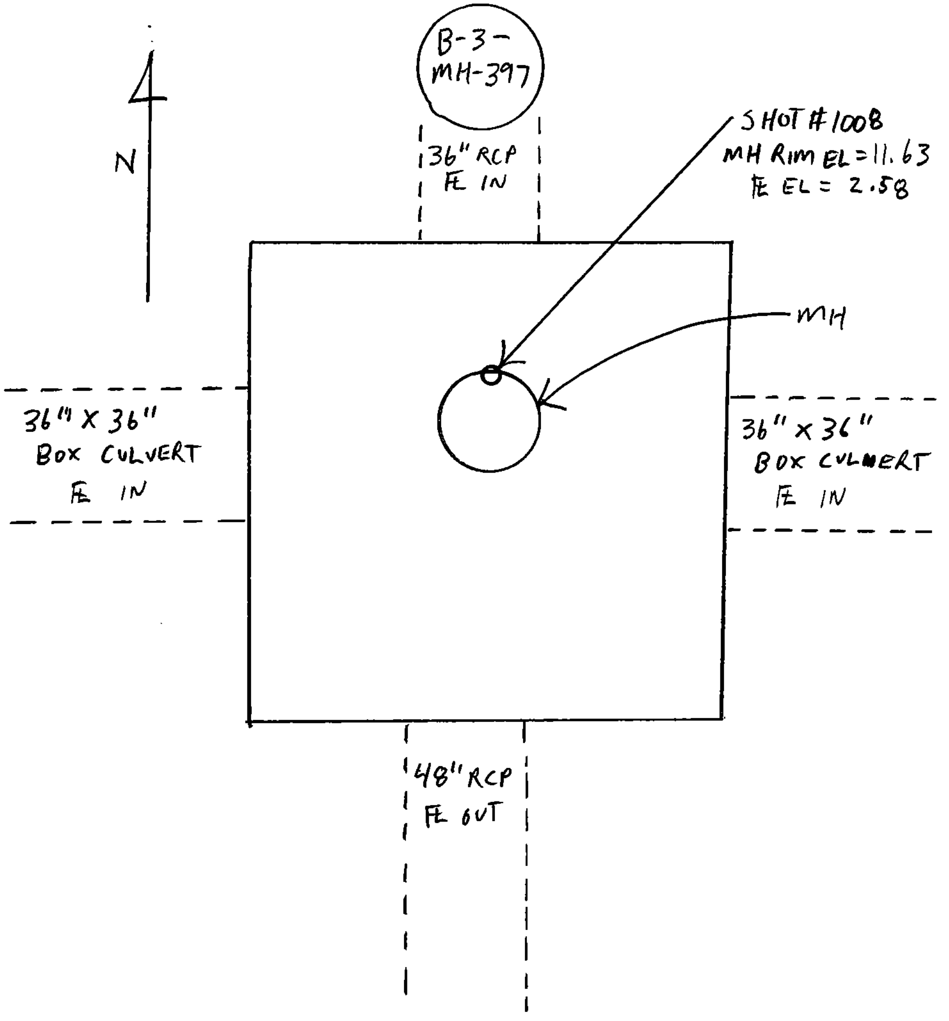
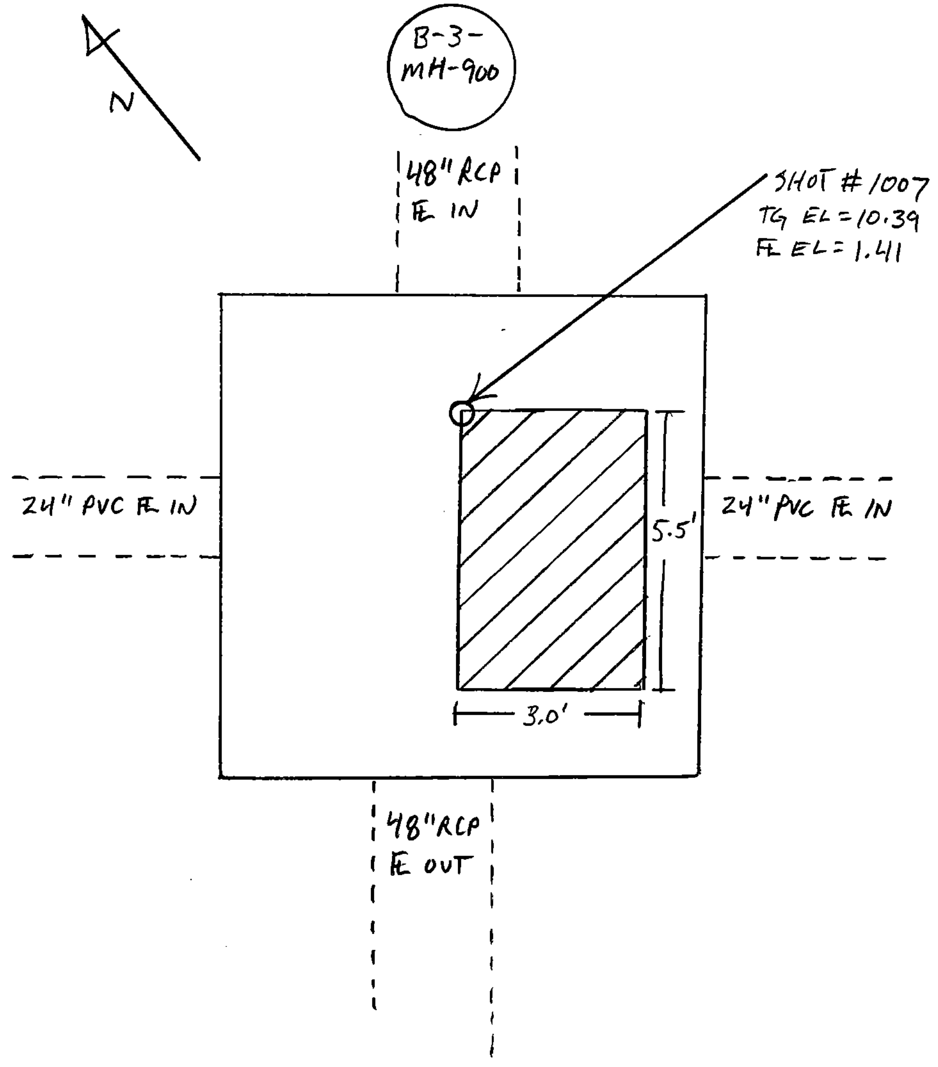
JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600 HH - 1.DC

SHEET NO. 11 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Ph. 154



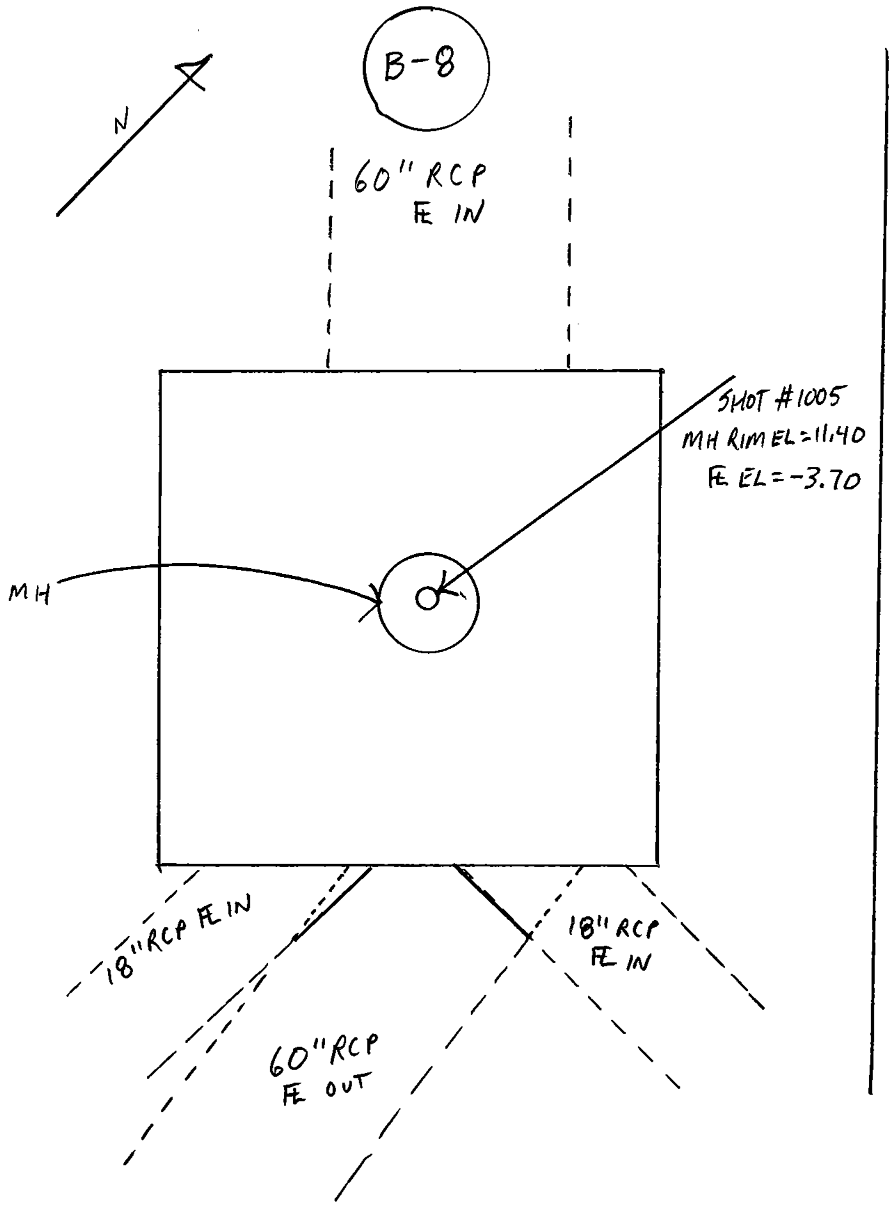


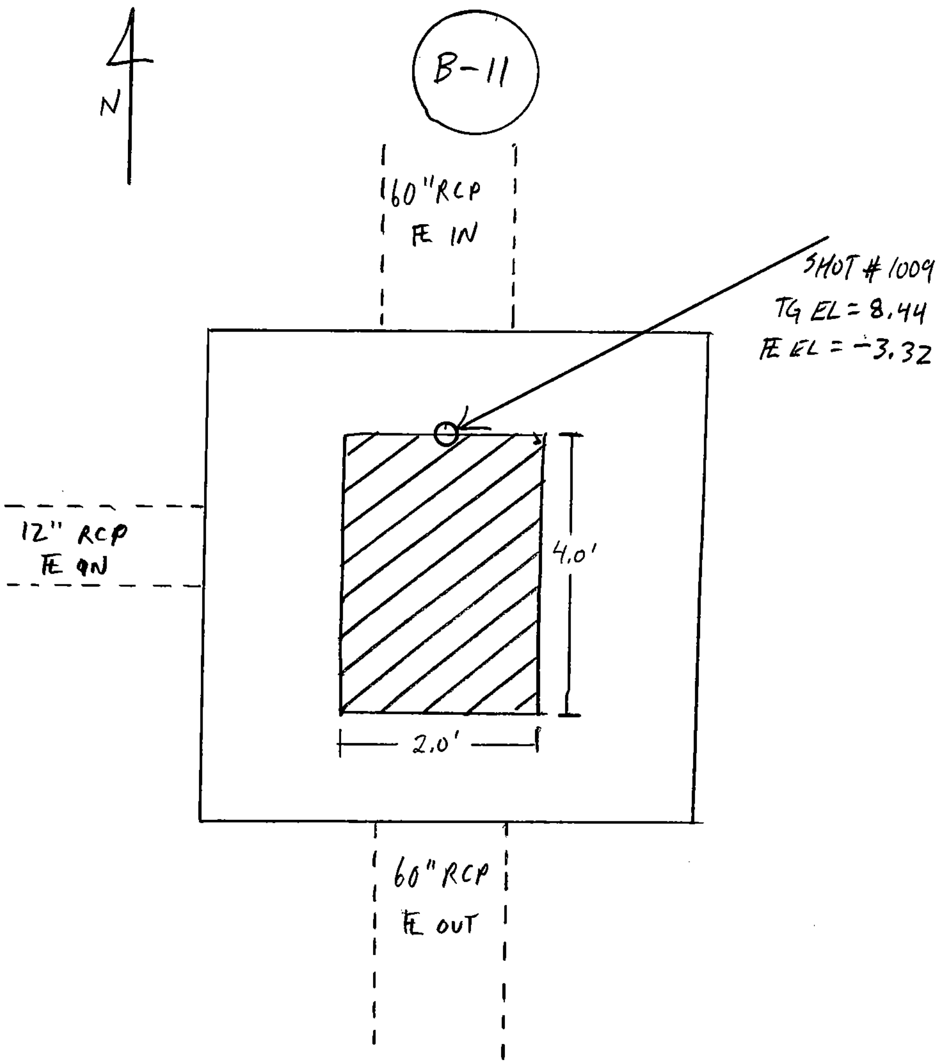
RICK™
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH_1.DC

SHEET NO. 12 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Pk. 154





RICK™
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CHIEF: RENNER
INSTR:
CHN: CALABRO
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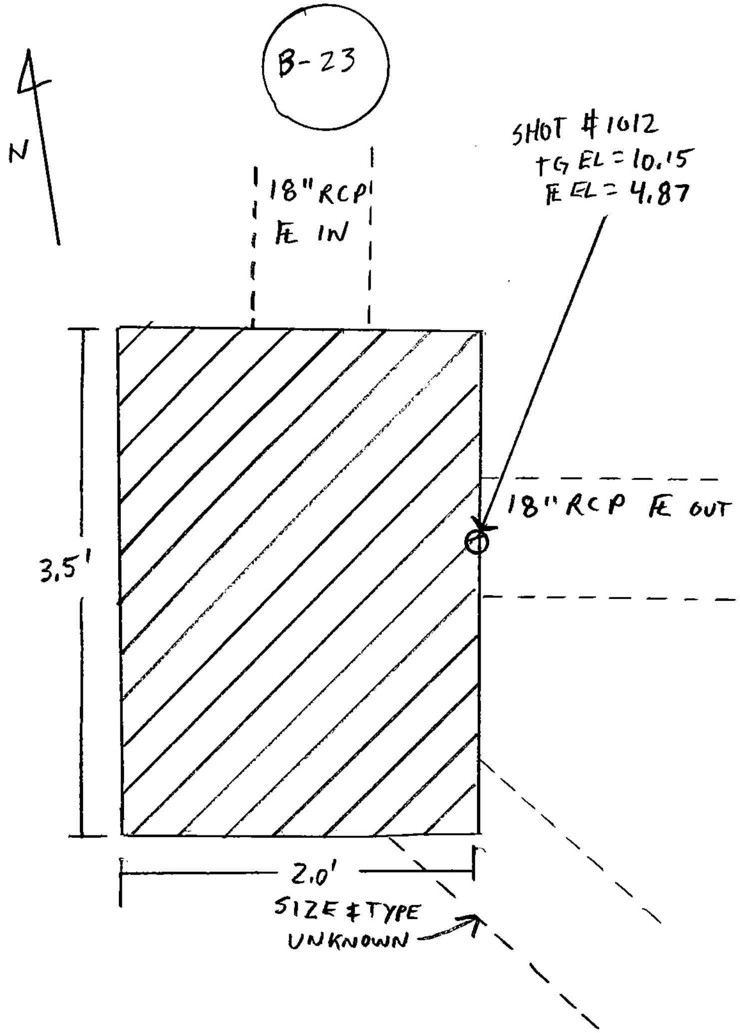
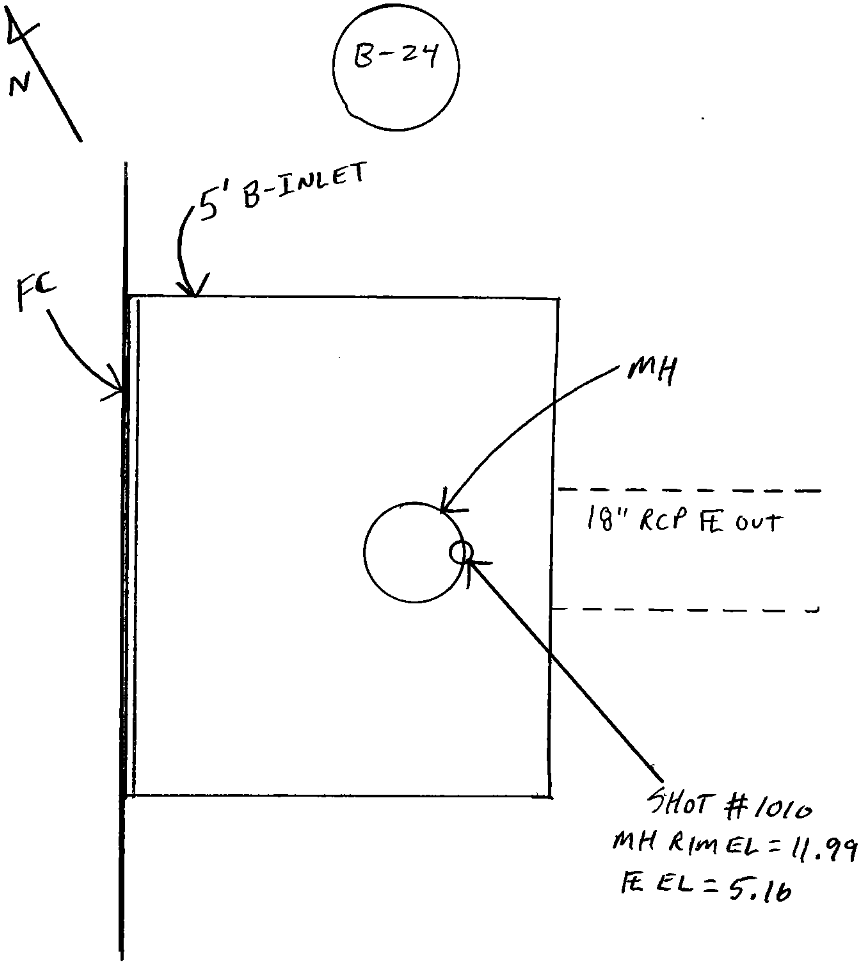
JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH_1.DC

SHEET NO. 13 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Ph. 154





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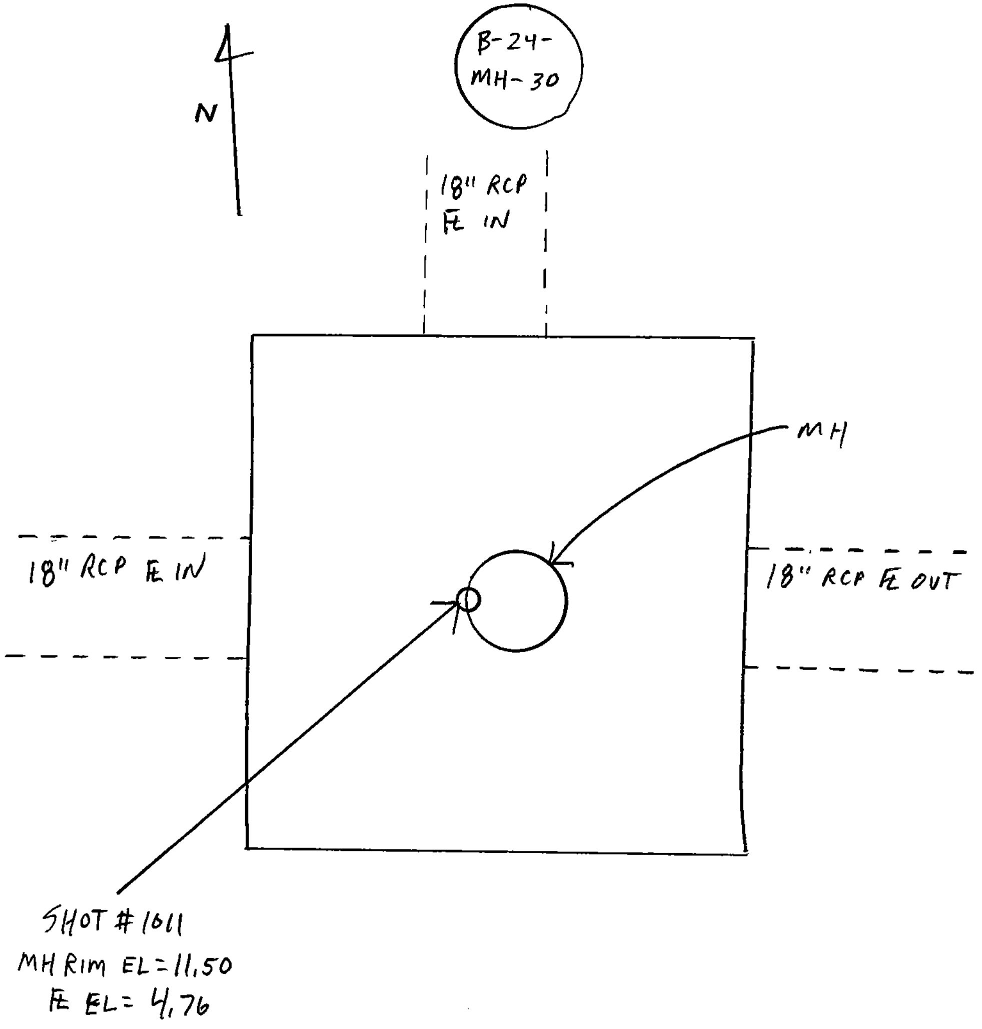
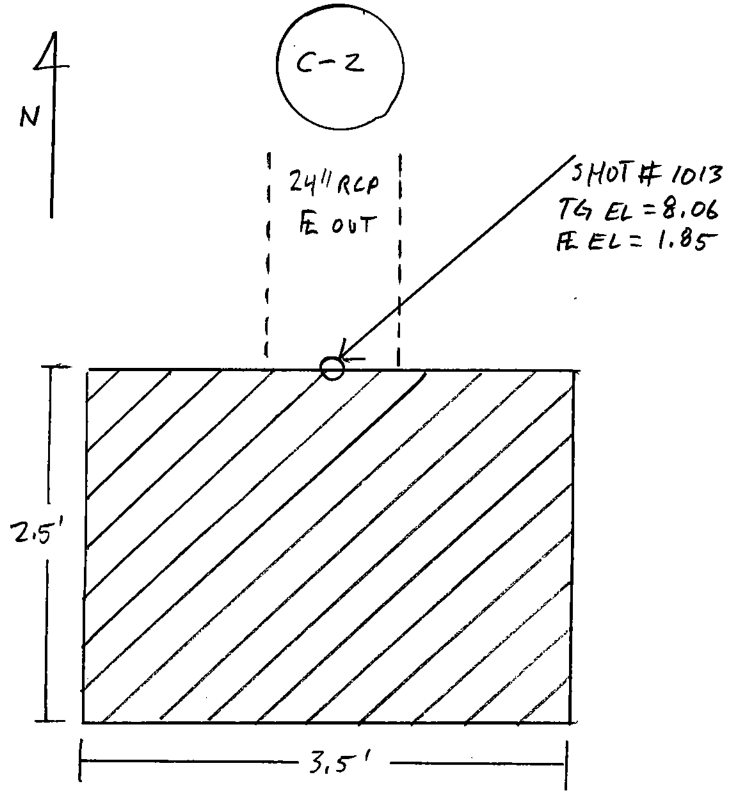
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEO SYNTEC - AIR PORT
FILE: 13600HH-1.DC

SHEET NO. 14 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Pg. 154





RICK™
ENGINEERING COMPANY

CHIEF: RENNER

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CHN: CALABRO

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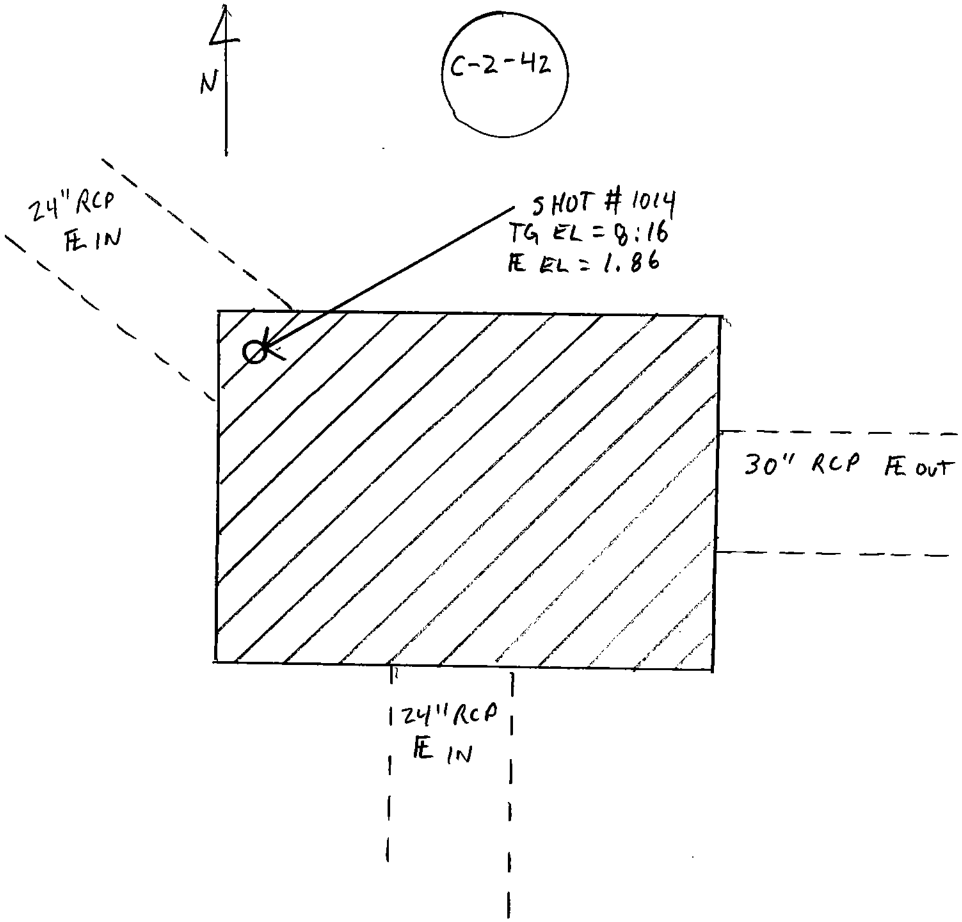
JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIR PORT

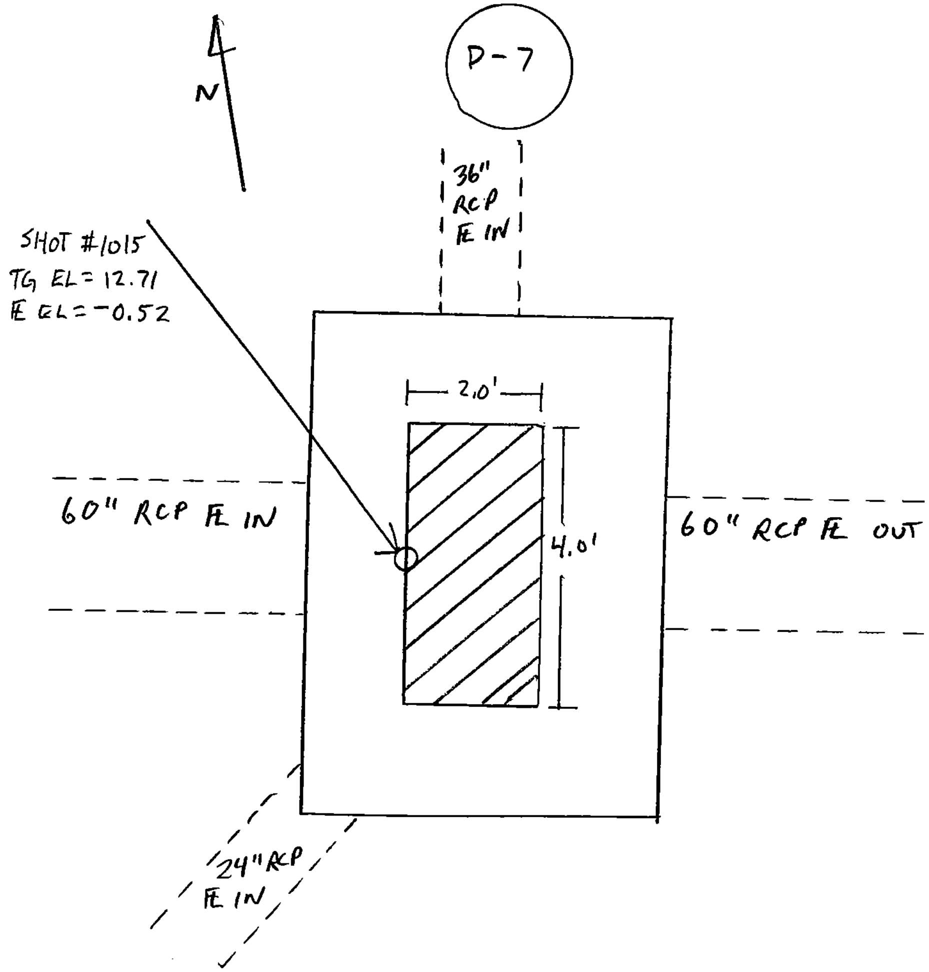
FILE: 13600HH-1.DC

SHEET NO. 15 OF 19 SHEETS

DATE: 9-9-05

JOB NO. 13600HH Ph. 154



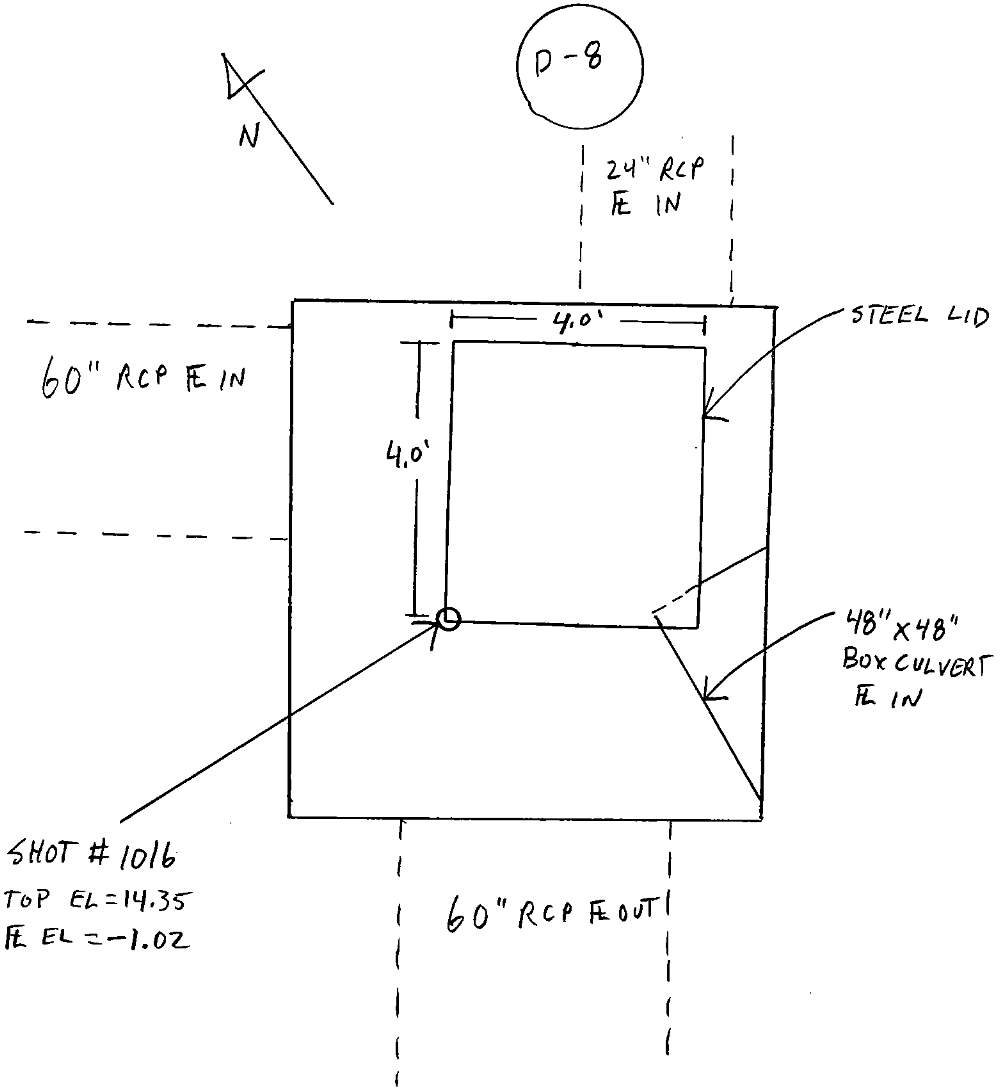


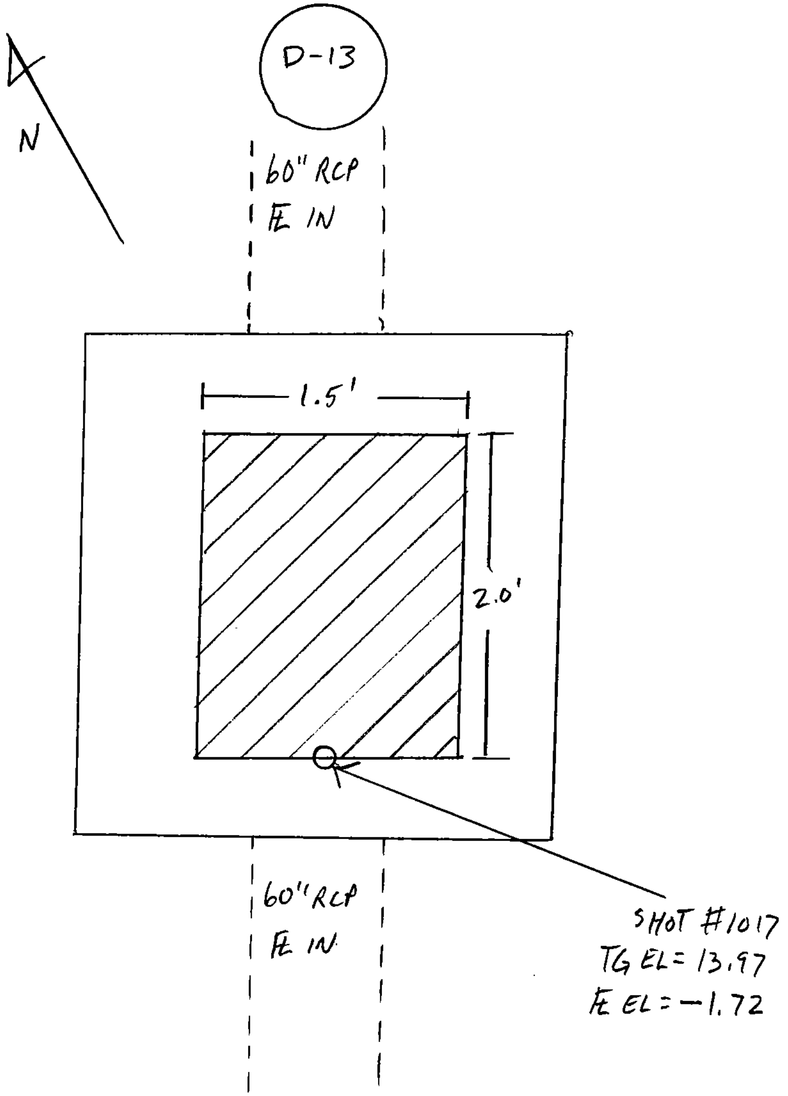
RICK™
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600 HH-1.DC

SHEET NO. 16 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600 HH Ph.154





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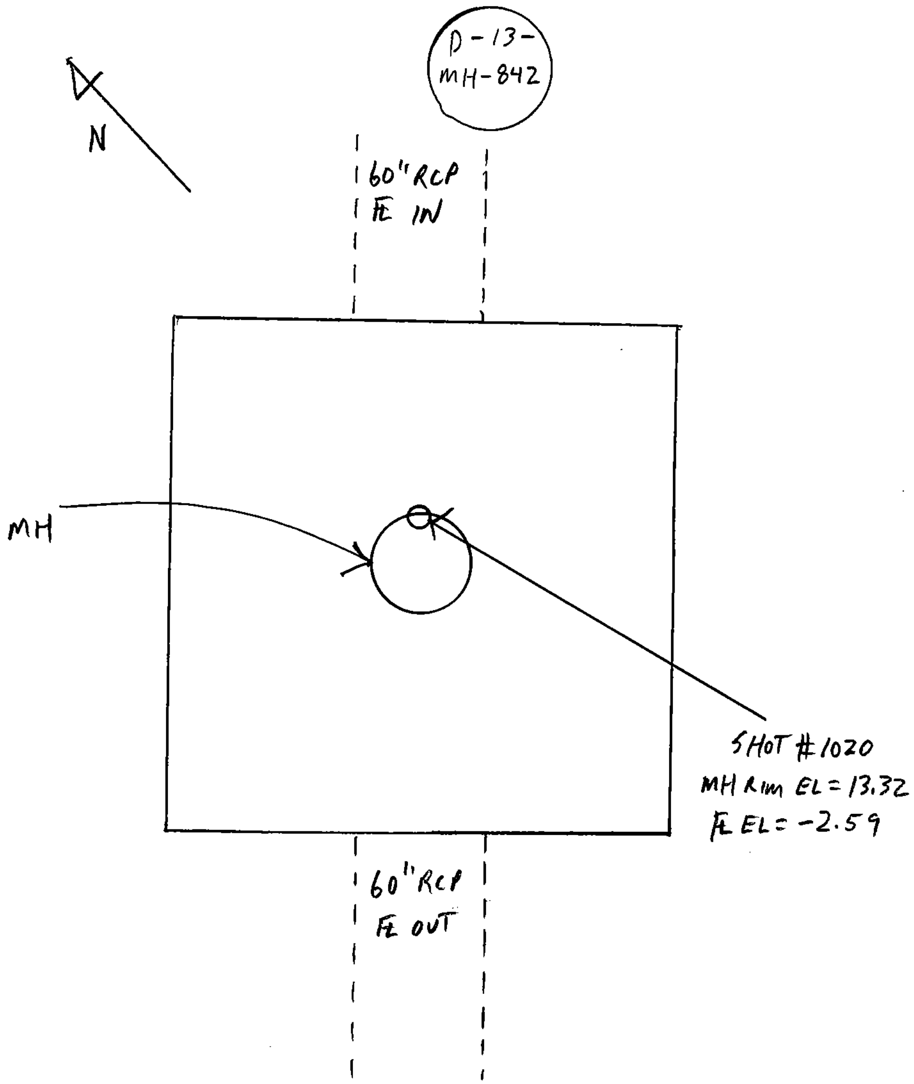
JOB DESCRIPTION AND LOCATION GEOSYNTEC, - AIRPORT

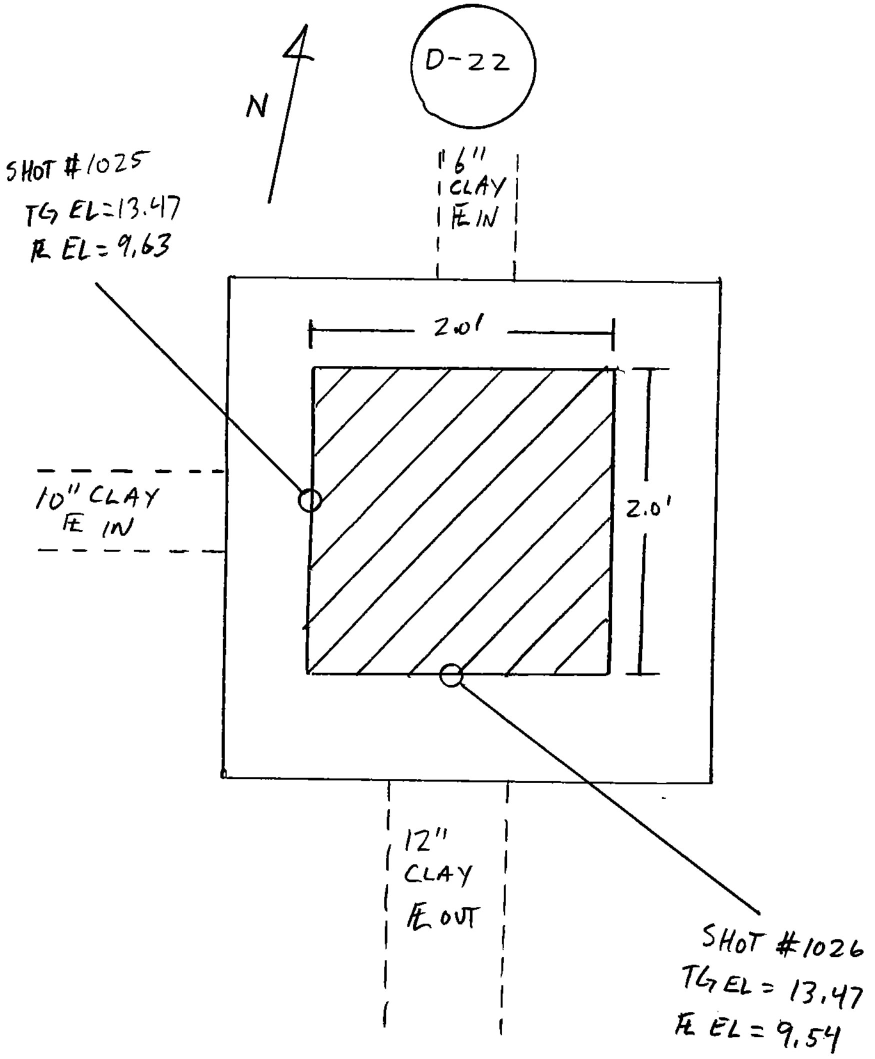
FILE: 13600.HH_1.DC

SHEET NO. 17 OF 19 SHEETS

DATE: 9-9-05

JOB NO. 13600HH Pk. 154



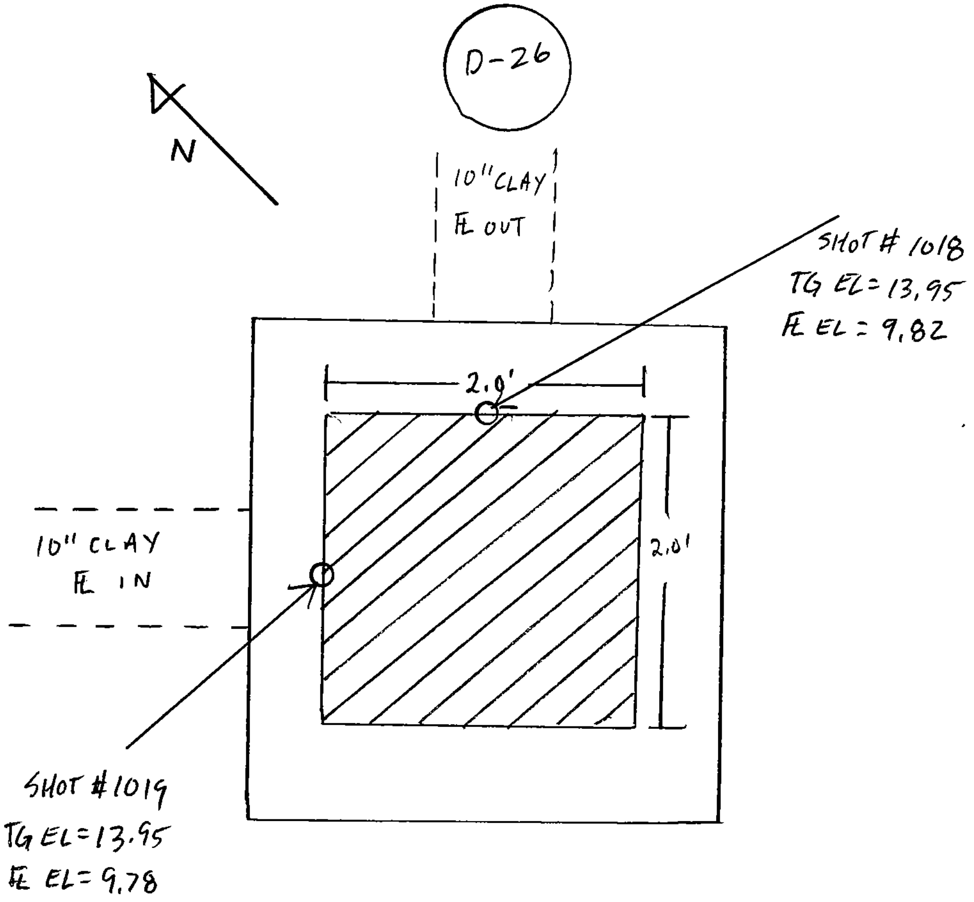


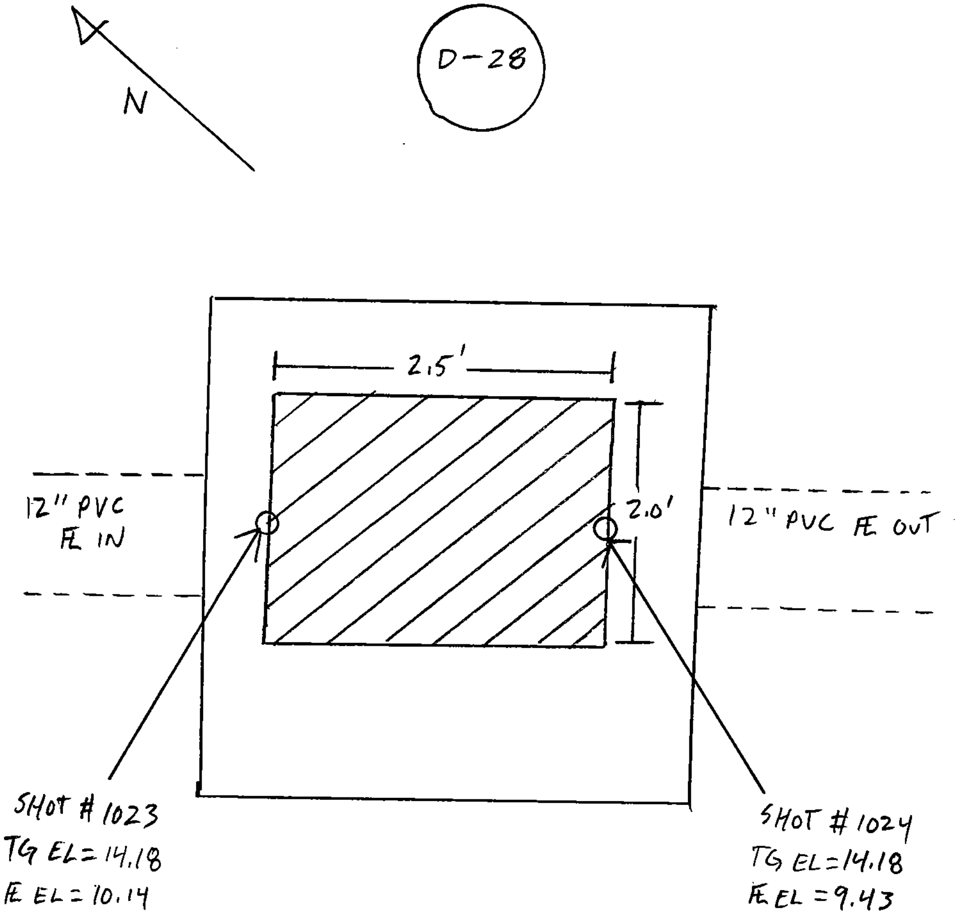
RICK™
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEOSYNTEC - AIRPORT
FILE: 13600HH_1.DC

SHEET NO. 18 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600HH Pk. 154



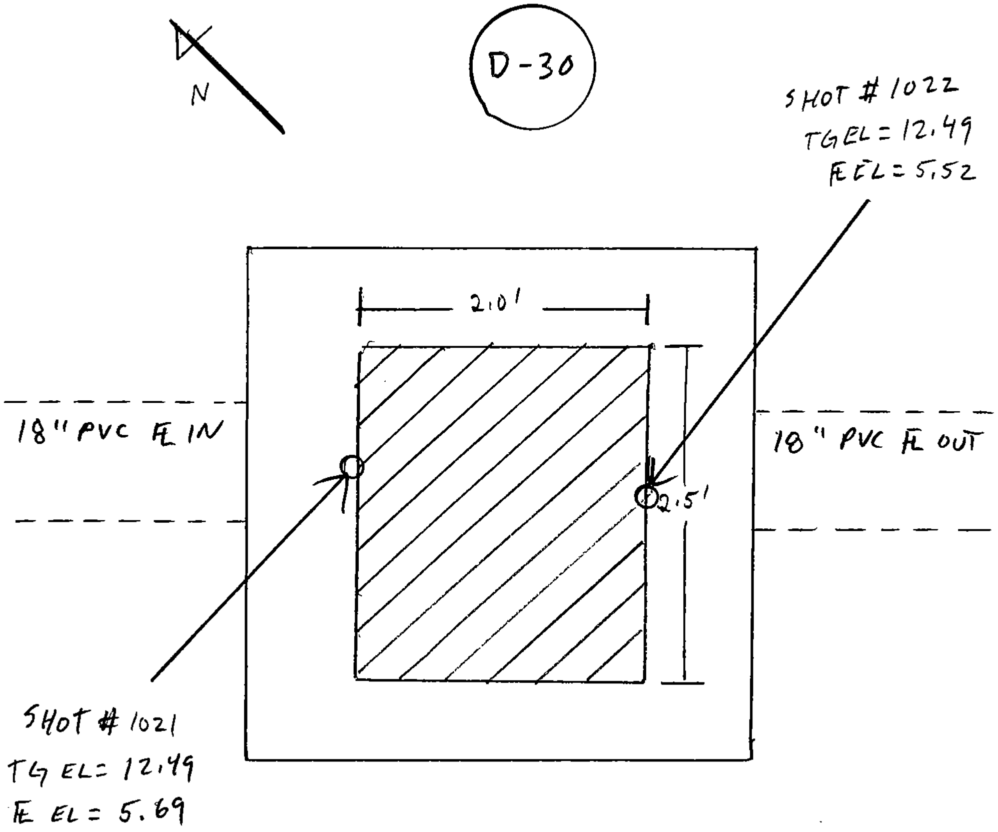


RICK
ENGINEERING COMPANY

CHIEF: RENNER
INSTR:
CHN: CALABRO
CHN:

JOB DESCRIPTION AND LOCATION GEO SYNTEC- AIRPORT
FILE: 13600HH_1.DC

SHEET NO. 19 OF 19 SHEETS
DATE: 9-9-05
JOB NO. 13600 HH Pk. 154



APPENDIX F
GEOPHYSICAL SURVEY REPORTS

SubSurface Surveys & Associates, Inc.
An Applied Geophysical Company

215 S. Hwy 101, Suite 203
Solana Beach, CA 92075

Office: (858) 481-8949
Fax: (858) 481-8998

August 31, 2005

GeoSyntec Consultants
11305 Rancho Bernardo Rd., Suite 101
San Diego, CA 92127

Project / Invoice Number: 05-255

Attn: **Mr. Brian Hitchens**

Re: **Geophysical Survey at Former Ryan Aeronautical Facility, 2701 N. Harbor Dr., San Diego, CA**

This brief letter report is to present the findings of our geophysical survey conducted within various areas of the former Ryan Aeronautical facility located at 2701 North Harbor Drive in San Diego, California (Fig. 1) on June 27th and July 8th, 2005. Based on information supplied by the client, the site was once utilized as an aircraft manufacturing facility (i.e. “Spirit of St. Louis”). At present the subject property is abandoned and undergoing various environmental sampling methodologies for site assessment. The purpose of the geophysical investigation was to examine various areas with a specific emphasis on the immediate vicinity of fifty-four (54) proposed borehole samples and monitoring wells.

At any given site the situation, geologic and cultural, may be such that one or more of the instruments may record excessive "noise", the ground may not provide sufficient contrasts, or there may be overlapping anomalies, for a given instrument to be effective. Summarily stated, there are generally instrumental limits and interpretational impediments.

Survey Design – Within each area to be investigated geophysical instrumentation was mobilized in order to detect any, or all, subsurface obstructions that could possibly impede the drilling and sampling operations to be performed by GeoSyntec Consultants. Additionally, some areas were investigated with the geophysical instruments in order to guide the planned sampling program near to a storm drain, but not too near so as to impact the subsurface storm drain(s).

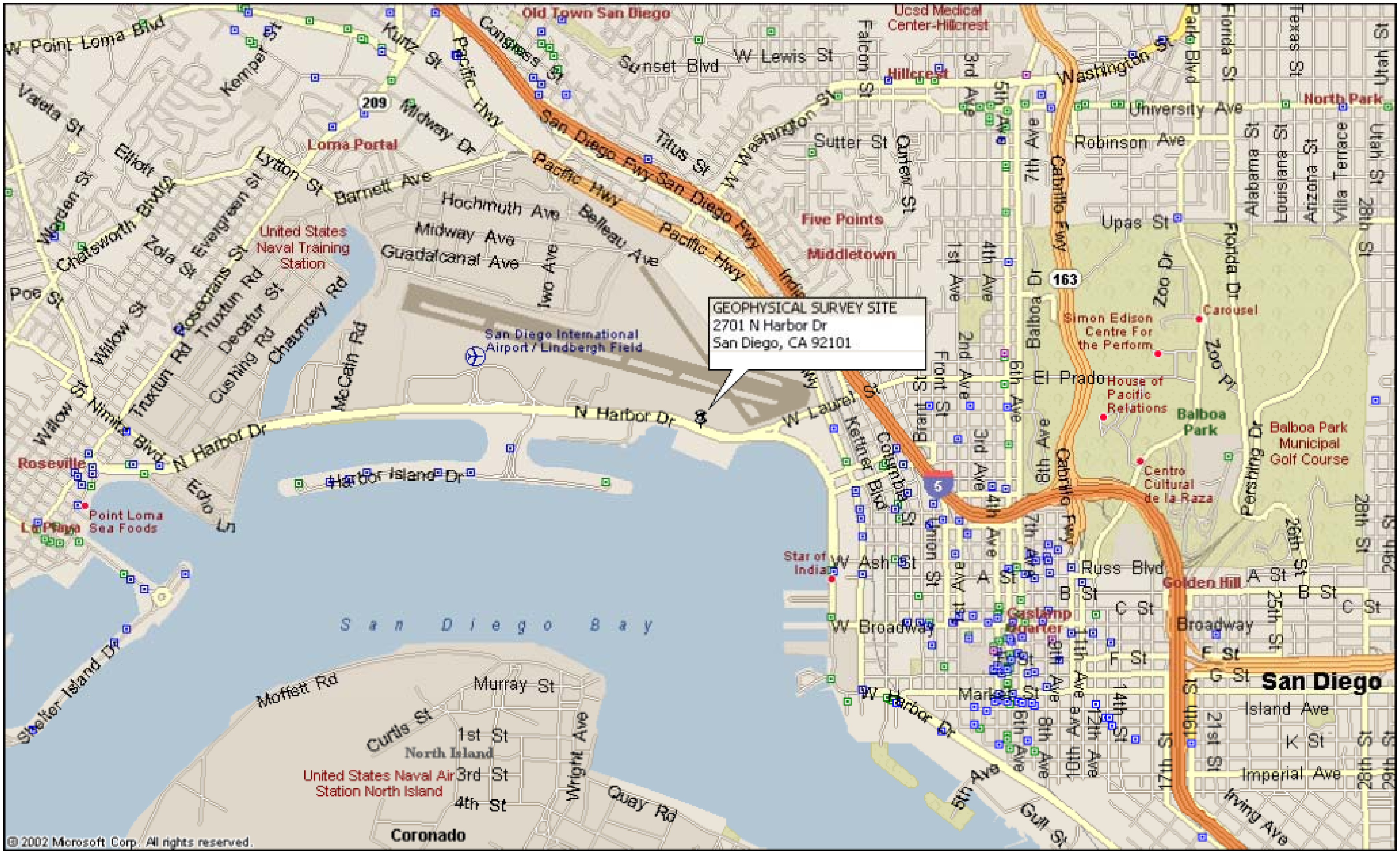
At each area, all utility risers that were accessible (without entering any building structures) were pulsed with a specific frequency in order to delineate, with a receiver, the exact route that the utility is laid in. This was of extreme importance due to the sometimes heavy concentration of proposed borehole and monitor well installations within the subject property.

Ground penetrating radar (GPR) was utilized in virtually all areas where sufficient space could be found to “scan” the subsurface for any possible obstructions to drilling operations.

A Sensors & Software Noggin Ground Penetrating Radar unit produced the radar images, a Geonics model EM-61 instrument was used for EM sampling, and the magnetic gradiometer was a Schonstedt, model GA-52C.

Sub Surface Surveys

SITE LOCATION MAP



GEOPHYSICAL SURVEY SITE
2701 N Harbor Dr
San Diego, CA 92101

FIGURE 1

Brief Description of the Geophysical Methods Applied – The EM-61 instrument is a high resolution, time-domain device for detecting buried conductive objects. It consists of a powerful transmitter that generates a pulsed primary magnetic field when its coils are energized, which induces eddy currents in nearby conductive objects. The decay of the eddy currents, following the input pulse, is measured by the coils, which in turn serve as receiver coils. The decay rate is measured for two coils, mounted concentrically, one above the other. By making the measurements at a relatively long time interval (measured in milliseconds) after termination of the primary pulse, the response is nearly independent of the electrical conductivity of the ground. Thus, the instrument is a super-sensitive metal detector. Due to its unique coil arrangement, the response curve is a single well-defined positive peak directly over a buried conductive object. This facilitates quick and accurate location of targets. Conductive objects, to a depth of approximately 11 feet can be detected.

The magnetic gradiometer has two fluxgate magnetic fixed sensors that are passed closely to and over the ground. When not in close proximity to a magnetic object, that is, only in the earth's field, the instrument emits a sound signal at a low frequency. When the instrument passes over a buried iron or steel object, so that the field is significantly different at the two sensors, and locally magnetic gradient, the frequency of the emitted sound increases. Frequency is a function of the gradient between the two sensors.

Where risers are present, the utility locator transmitter can be connected to the object, and a current with a sharp frequency, 82 kHz in this instance, is impressed on the conductor, pipe conduit, etc. The receiver unit is tuned to this same frequency, and it is used to trace the pipe's surface projection away from the riser.

The GPR instrument beams energy into the ground from its transducer/antenna, in the form of electromagnetic waves. A portion of this energy is reflected back to the antenna at any boundary in the subsurface across which there is an electrical contrast. The recorder continuously makes a record of the reflected energy as the antenna is traversed across the ground surface. The greater the electrical contrast, the higher the amplitude of the returned energy. The EM wave travels at a velocity unique to the material properties of the ground being investigated, and when these velocities are known, or closely estimated from ground conductivity values and other information, two-way travel times can be converted to depth.

Penetration into the ground and resolution of the GPR images produced are a function of ground electrical conductivity and dielectric constant. Images tend to be graphic, even at considerable depth, in sandy soils, but penetration and resolution may be limited in drastically more conductive clayey moist ground.

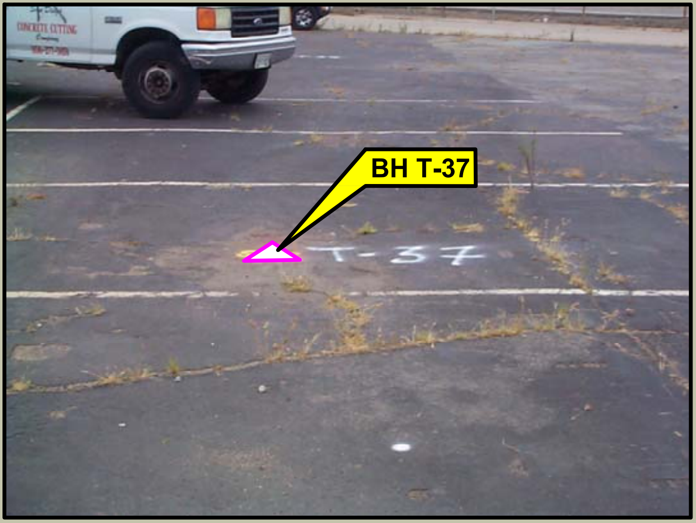
Interpretation & Conclusions - Interpretation took place in real time as the surveys progressed. Accordingly, the findings of our investigation were spray-painted (chalk spray) directly onto the rebar-reinforced concrete, asphalt, dirt and grass surfaces outdoors. In addition, digital photographs were taken of all areas investigated during this geophysical survey. The intent of this document is to demonstrate the procedure, and report the findings of the work.

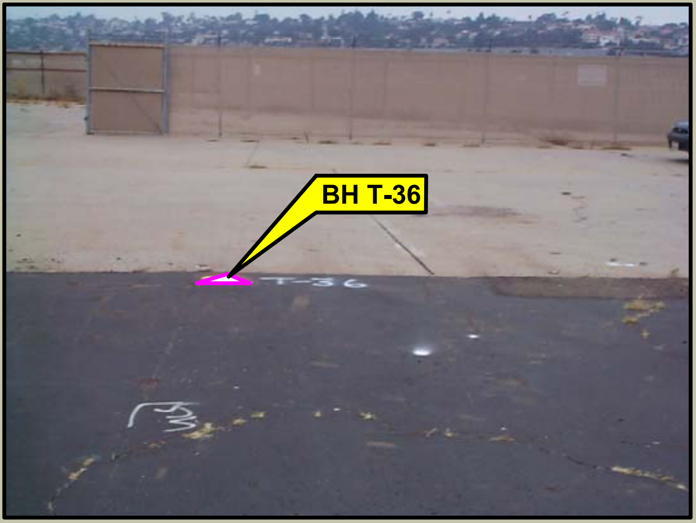
The area(s) to be searched were predetermined by the client and included areas measuring as much as 100' X 200' to as small as an individual borehole location.

Each of the following Figures (2 through 9) show the individual boreholes and/or monitor wells investigated. Wherever possible, the GeoSyntec Consultants identifying numbers are incorporated into the photographs for ease in identifying areas examined.

BOREHOLE PHOTOGRAPHS

2701 North Harbor Drive
San Diego, California





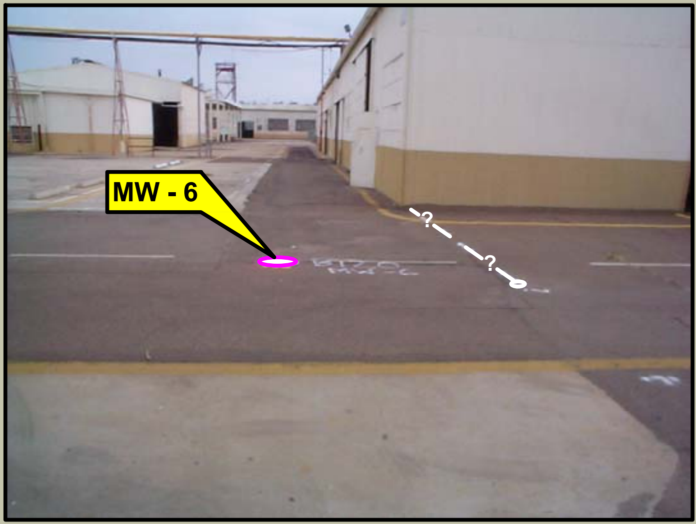


Figure 2

Sub
Surface
Surveys

BOREHOLE PHOTOGRAPHS

2701 North Harbor Drive
San Diego, California

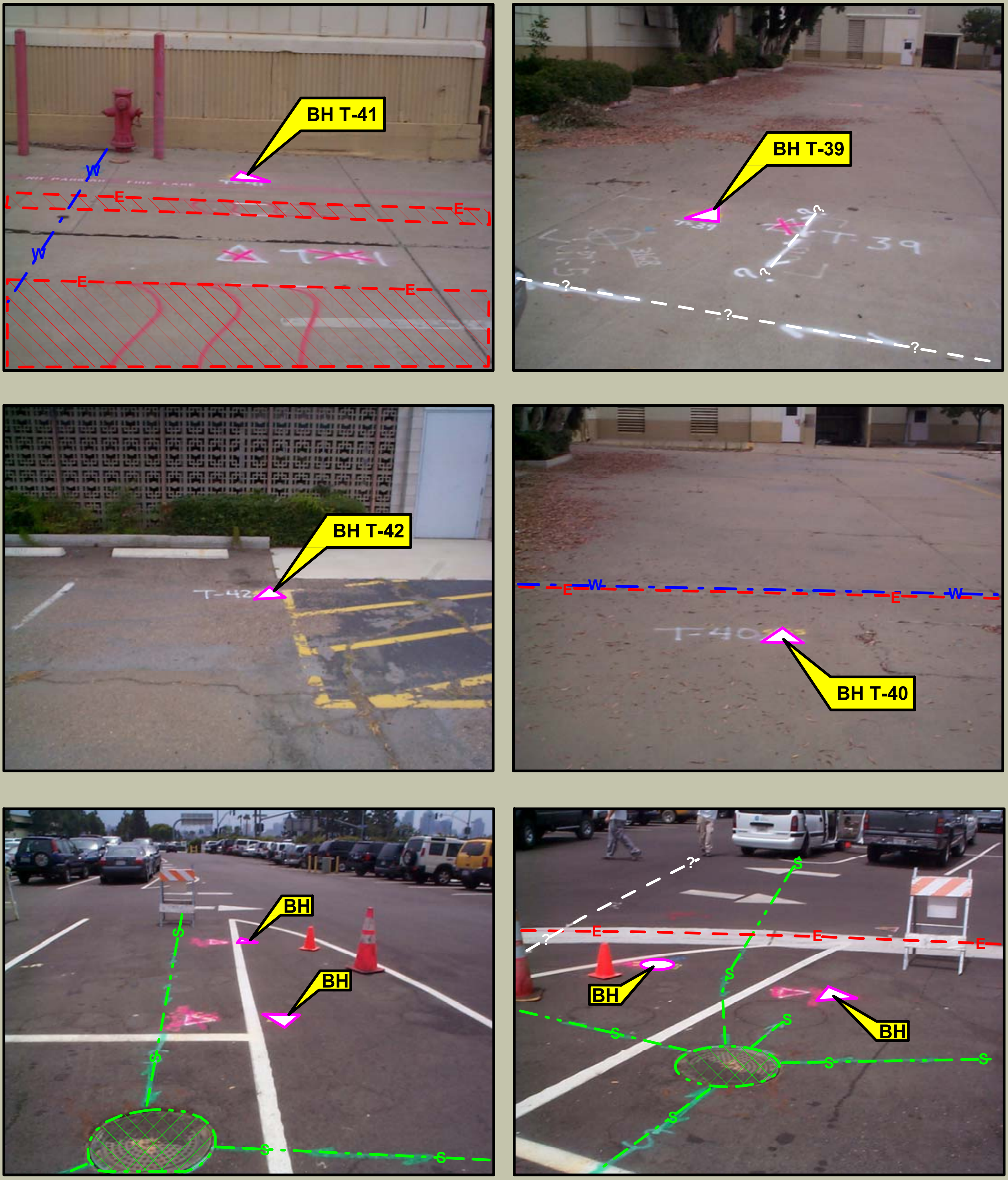
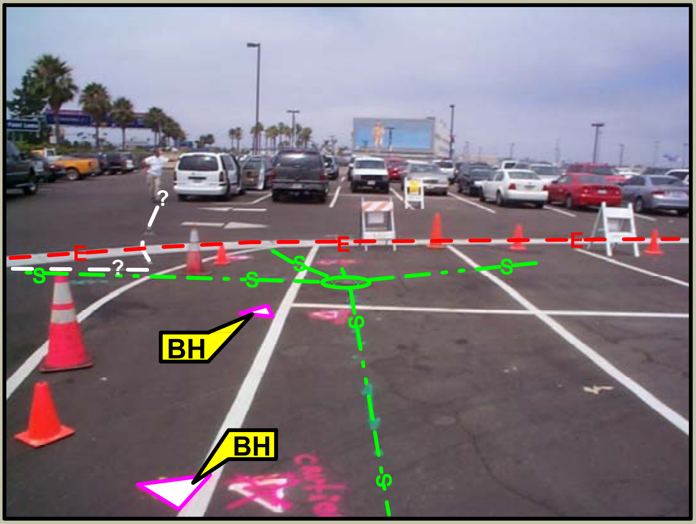


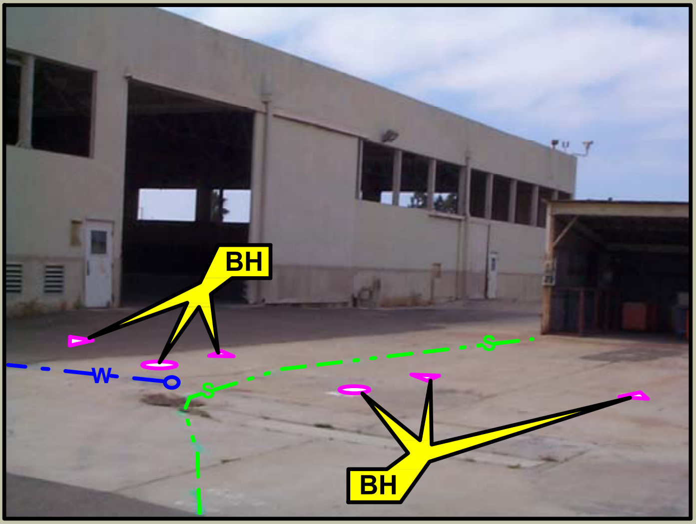
Figure 3

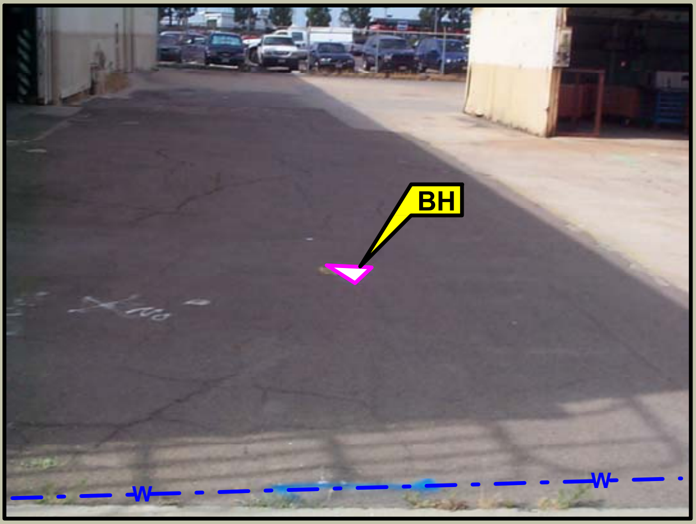
Sub Surface Surveys

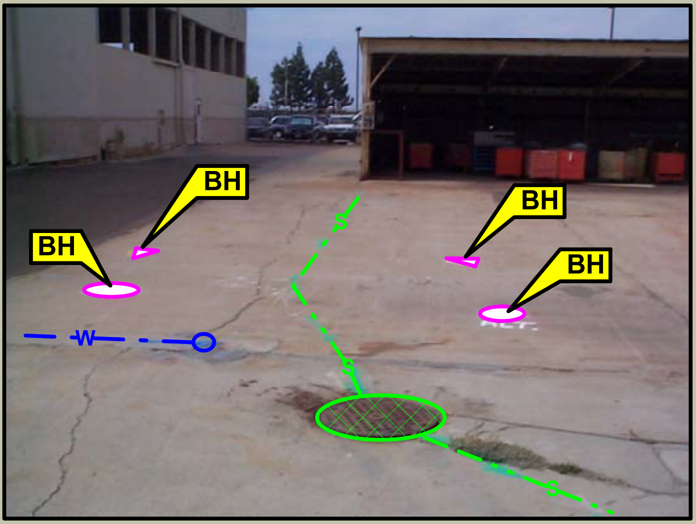
BOREHOLE PHOTOGRAPHS

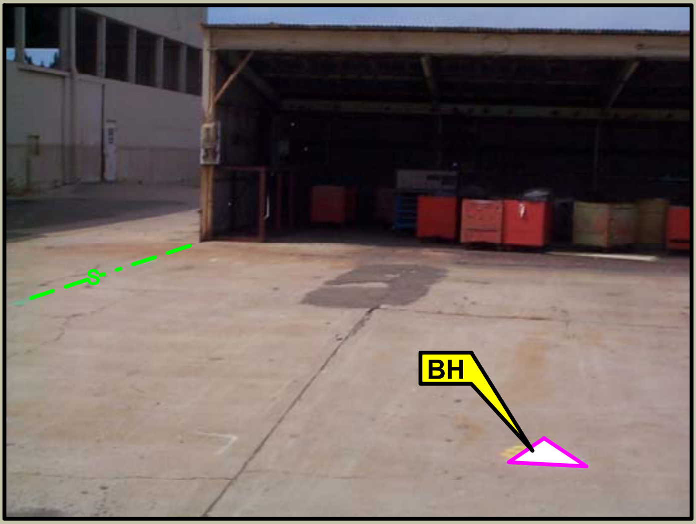
2701 North Harbor Drive
San Diego, California











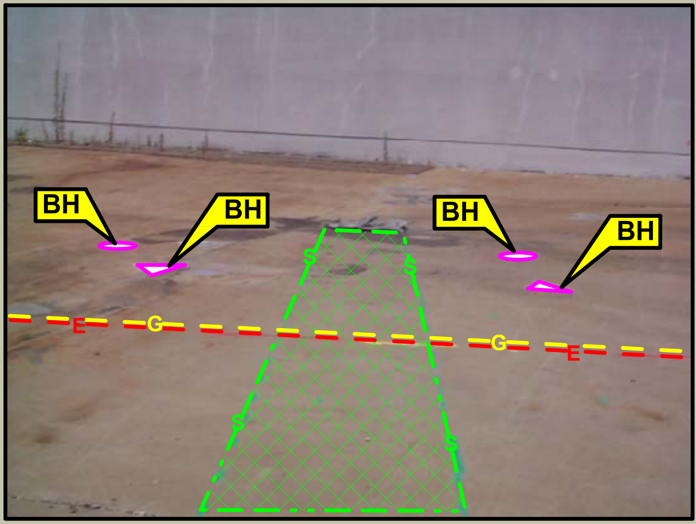
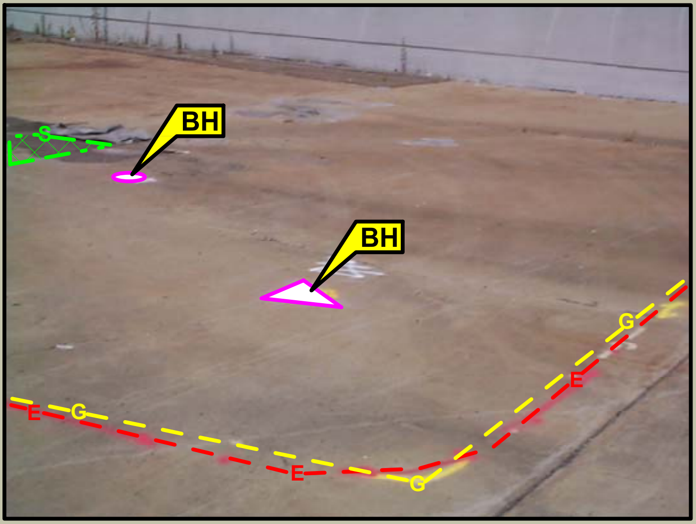
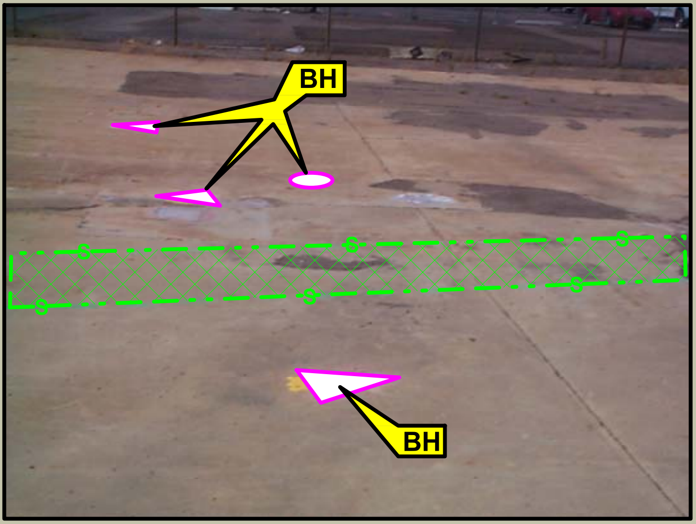


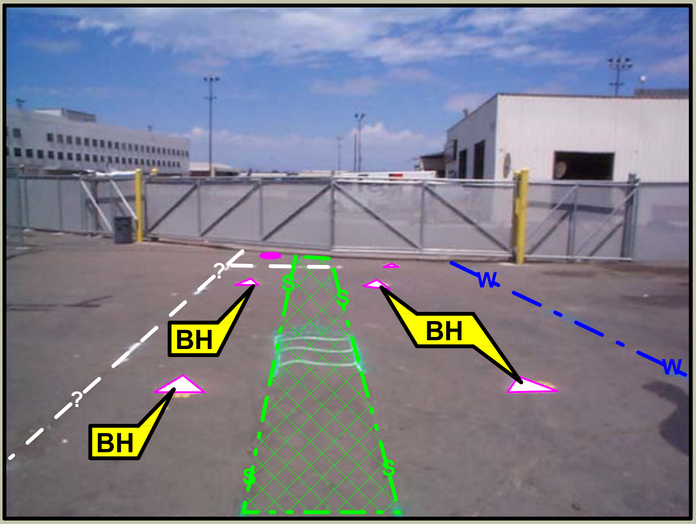
Figure 4

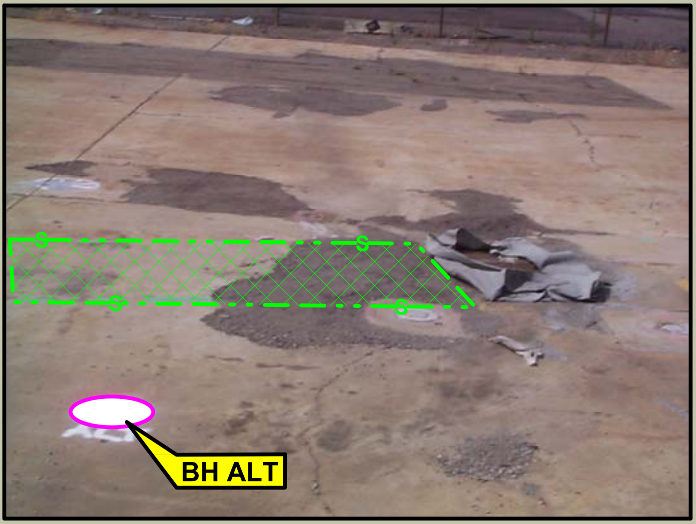
BOREHOLE PHOTOGRAPHS

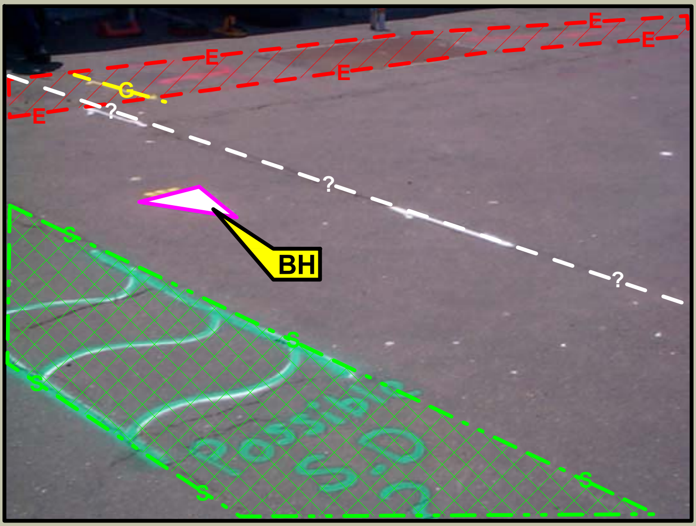
2701 North Harbor Drive
San Diego, California











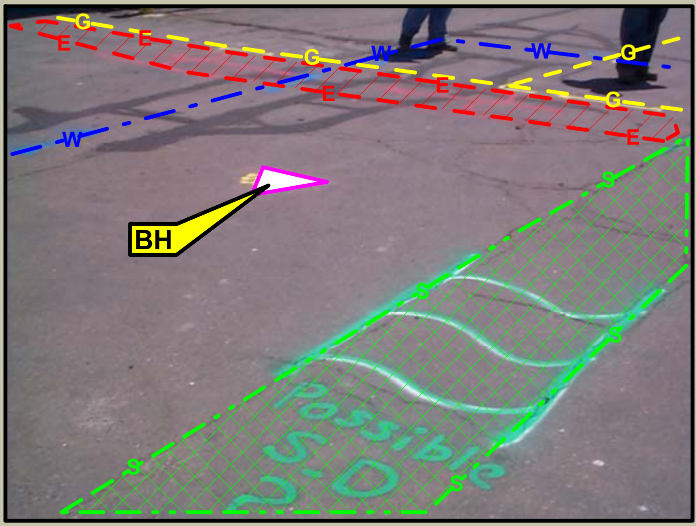
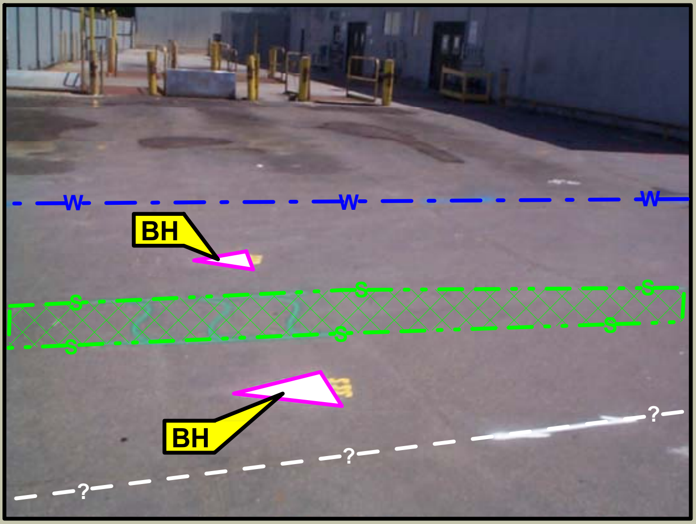


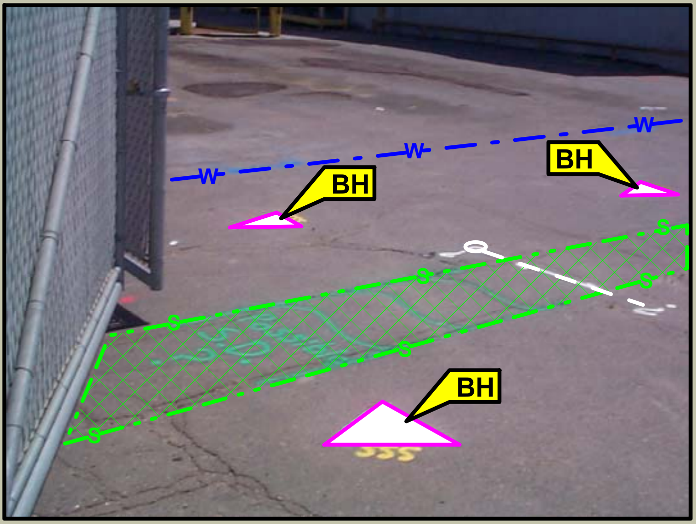
Figure 5

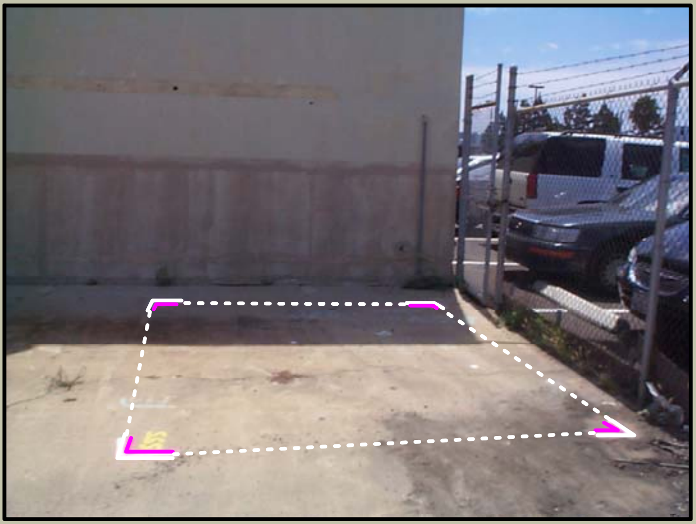
Sub Surface Surveys

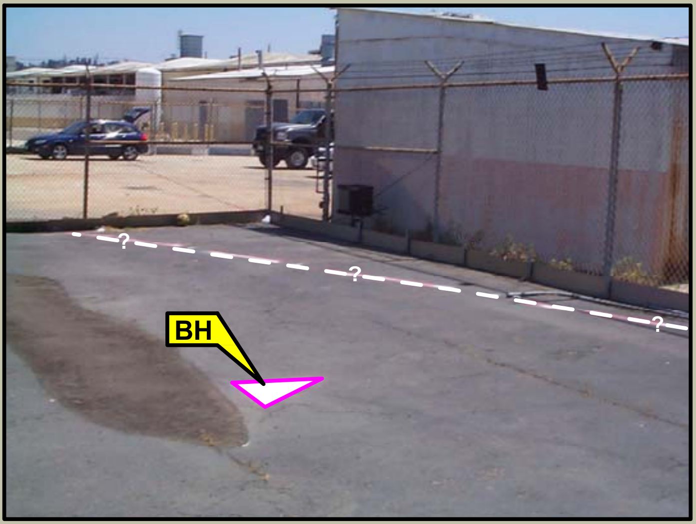
BOREHOLE PHOTOGRAPHS

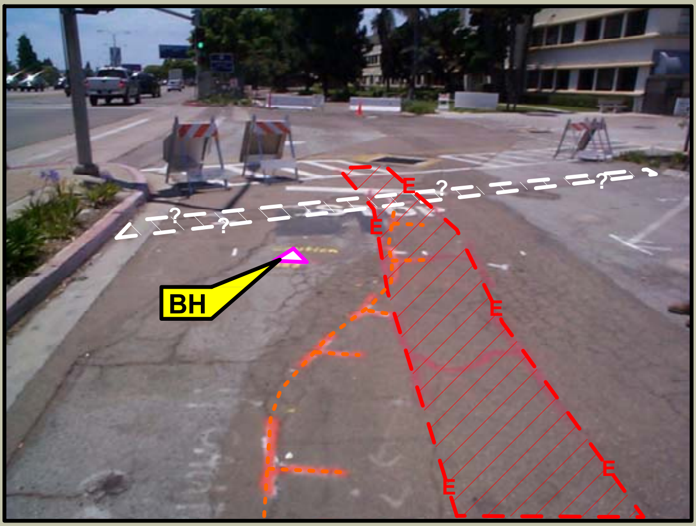
2701 North Harbor Drive
San Diego, California











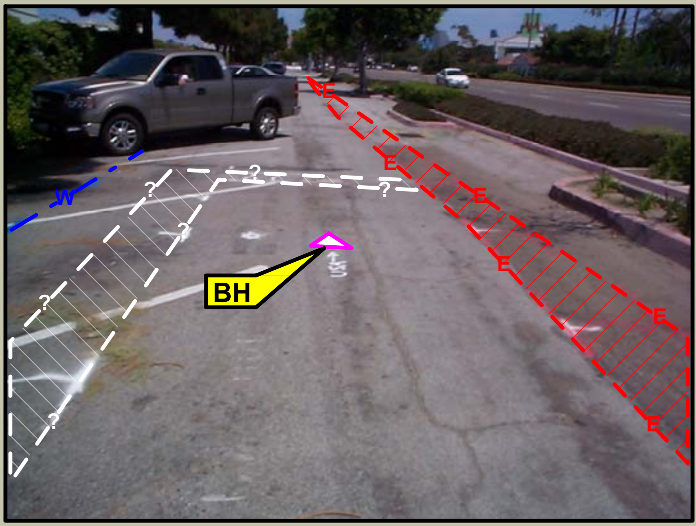
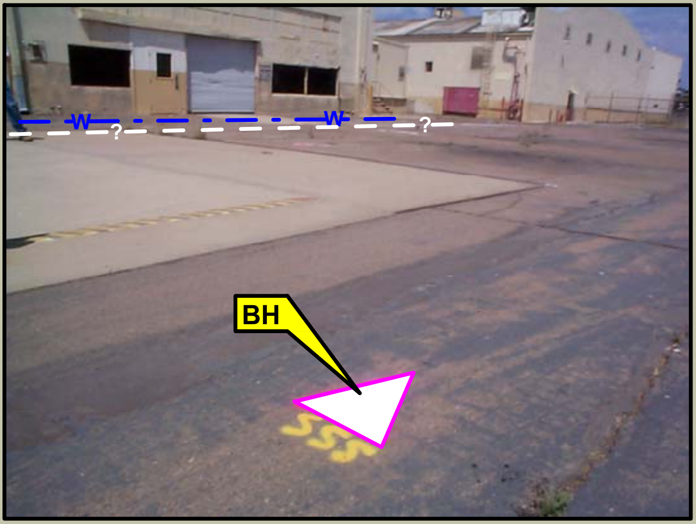


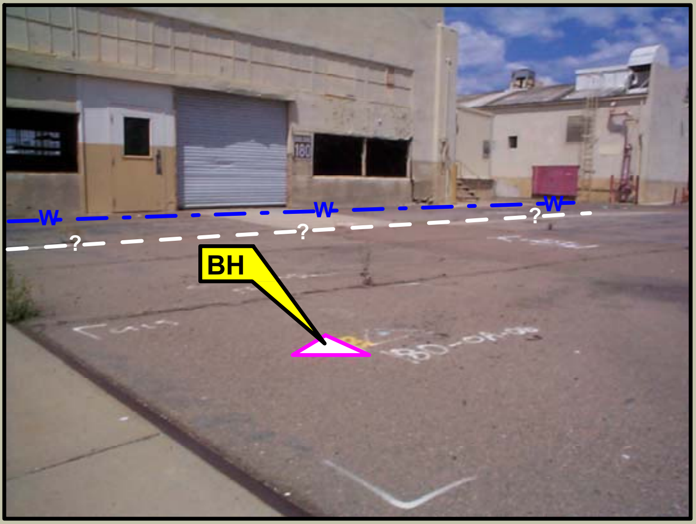
Figure 6

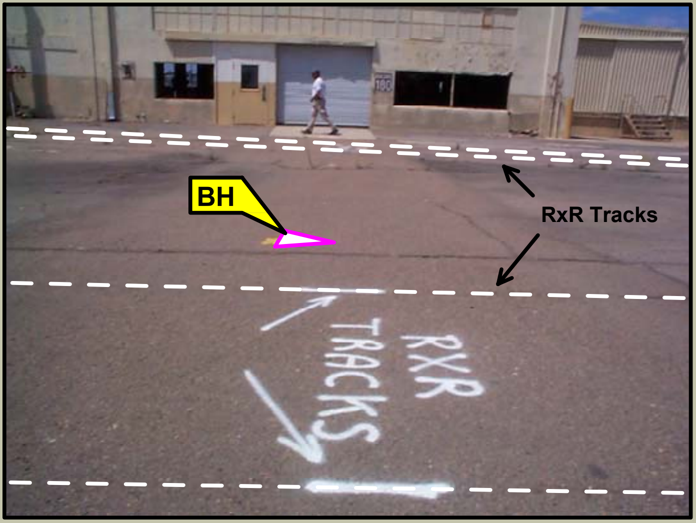
Sub Surface Surveys

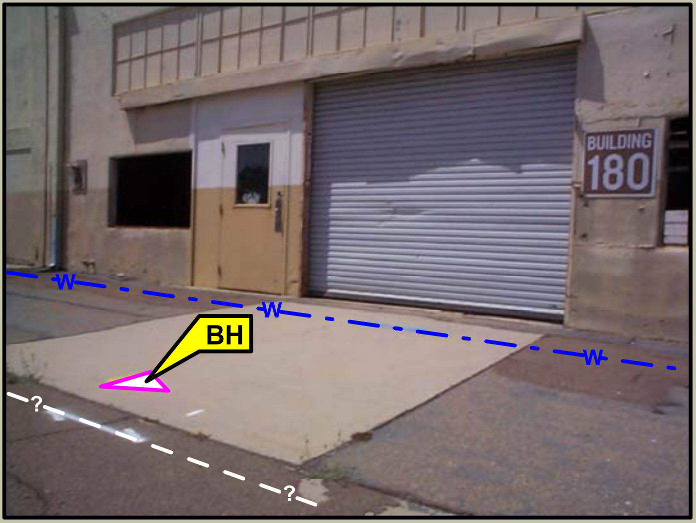
BOREHOLE PHOTOGRAPHS

2701 North Harbor Drive
San Diego, California









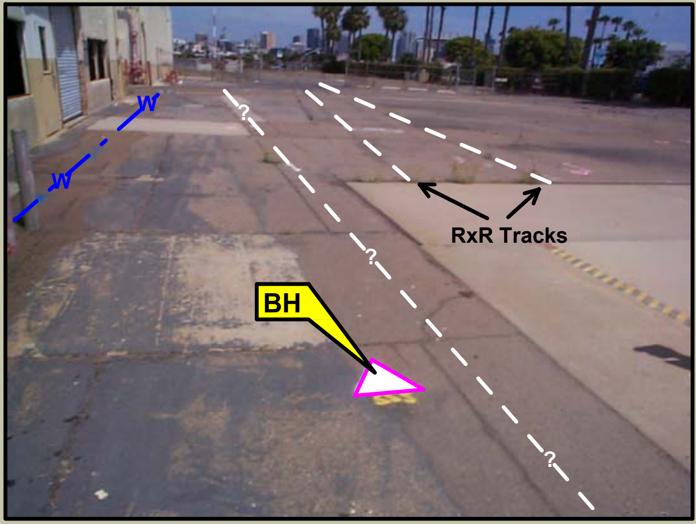
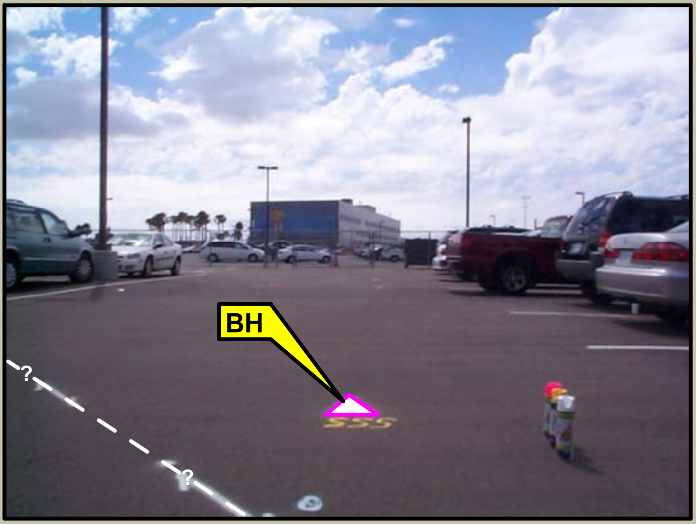


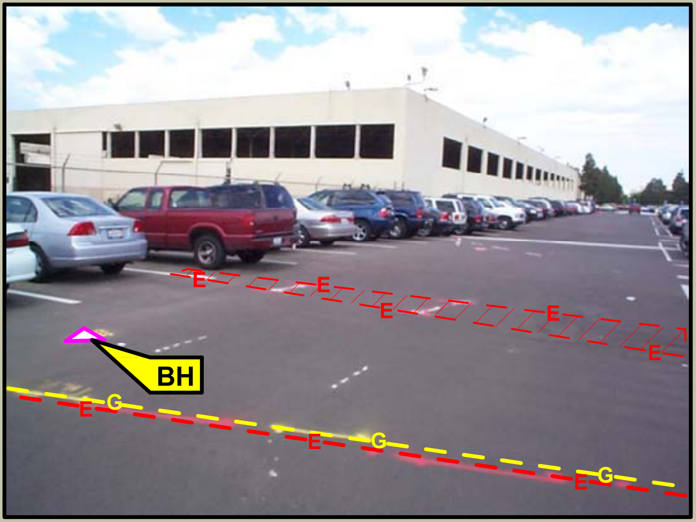
Figure 7

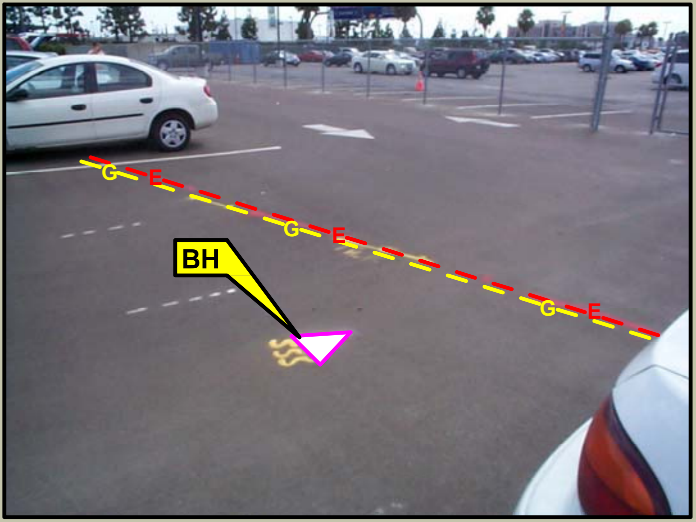
Sub Surface Surveys

BOREHOLE PHOTOGRAPHS

2701 North Harbor Drive
San Diego, California







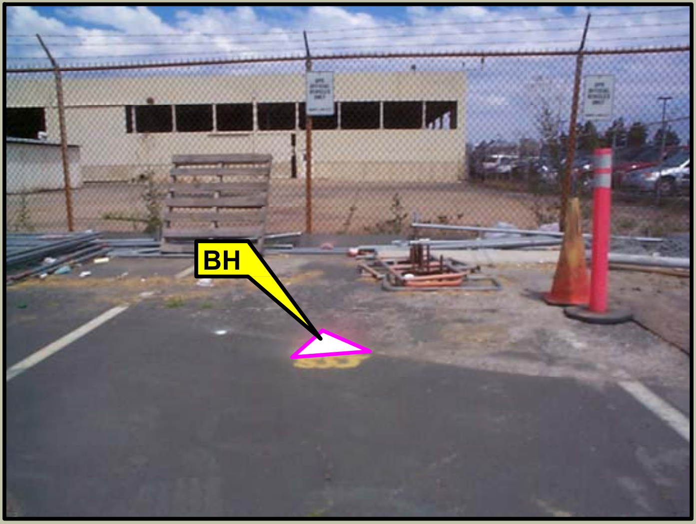
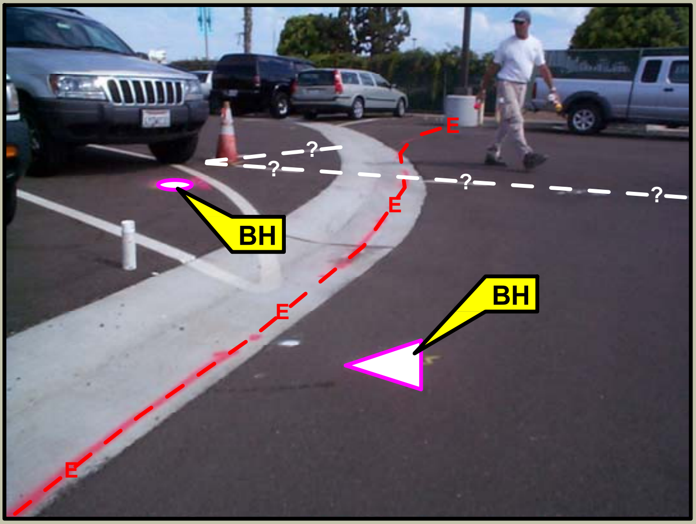


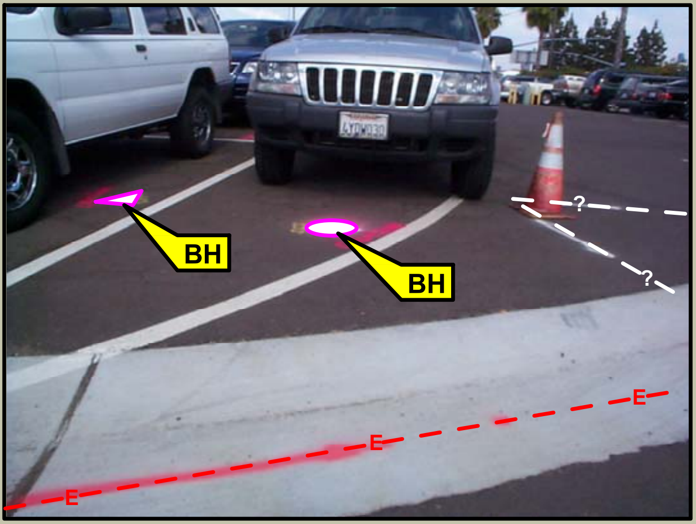
Figure 8

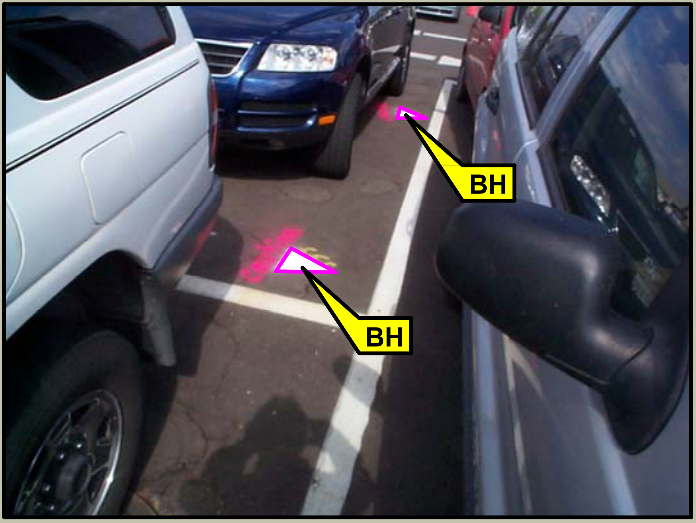
Sub
Surface
Surveys

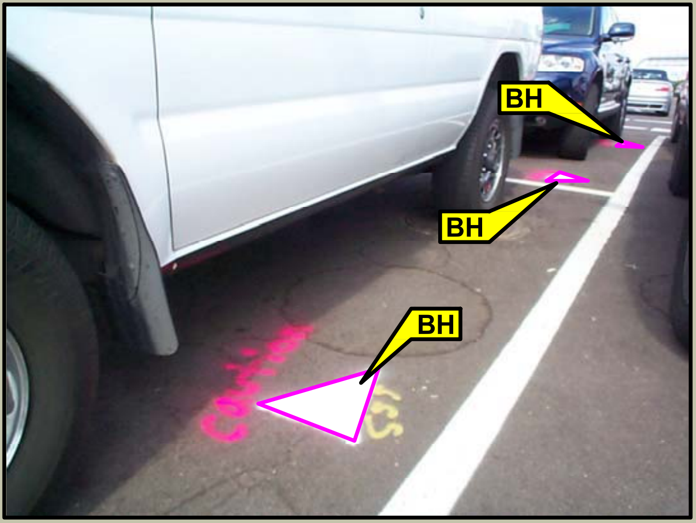
BOREHOLE PHOTOGRAPHS

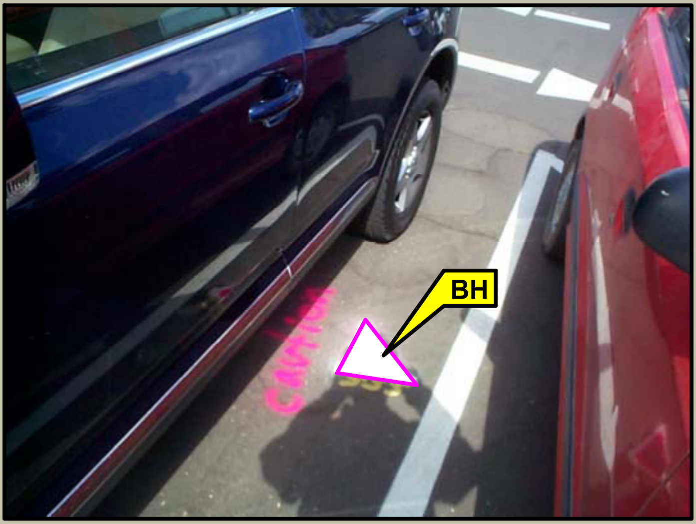
2701 North Harbor Drive
San Diego, California











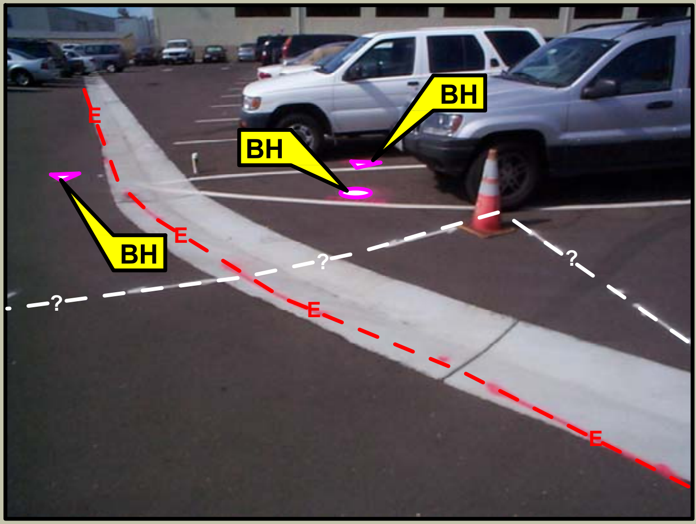


Figure 9

Each borehole or monitor well investigated during this geophysical survey was “cleared” only after a complete compliment of geophysical instruments was utilized in the immediate vicinity. After a prime location was decided upon, white paint was used to mark the location on the ground surface and a bright yellow “SSS” was then applied over the proposed borehole or monitor well location.

Hard copy of the EM and magnetic gradient data was not acquired, that is, discrete readings on the nodes of a grid were not recorded. Rather, the instrument’s meter was monitored continuously during traverses to detect excursions of the readouts that might have meaning in terms of buried objects. The lack of hard copy for the magnetic data set does not degrade the quality of the survey in any way. The higher sampling rate achieved with continuous monitoring of the instruments is the best way to attempt to discriminate buried features from surface metallic objects, in sites such as this one. The GPR output, of course, is in hard copy form, and position and direction of traverses were noted on the records as they were produced.

In some cases boreholes and/or monitor well locations were marked as “ALT” indicating that the location is an alternate to the primary borehole or monitor well.

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All data generated on this project are in confidential file in this office, and are available for review by authorized persons at any time. The opportunity to participate in this investigation is very much appreciated. Please call, if there are questions.

Gary W. Crosby

Leopold “Pol” Mairesse
V.P., Sr. Geophysicist

Gary W. Crosby, PhD, GP969
Chief Geophysicist

SubSurface Surveys & Associates, Inc.
An Applied Geophysical Company

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September 27, 2005

GeoSyntec Consultants
11305 Rancho Bernardo Road
Suite 101
San Diego, California 92127

Project No. 05-380

Attn: **Brian Hitchens**

Re: Geophysical Investigation, 6 Boreholes, Former Teledyne Ryan Aero, 2701 N Harbor Drive, San Diego

This report is to present the results of our geophysical survey carried out over portions of property at the former Teledyne Ryan Aero, located at 2701 North Harbor Drive in San Diego, California (Figure 1) on September 19, 2005. Purpose of the survey was to locate and identify, insofar as possible, piping, conduit, and other buried features that may exist within six areas designated for future drilling activities.

A combination of electromagnetic induction (EM), magnetometry, and ground penetrating radar (GPR) were applied to the search. A utility locator with line tracing capabilities was also brought to the field and used where risers exist onto which a signal could be impressed and traced.

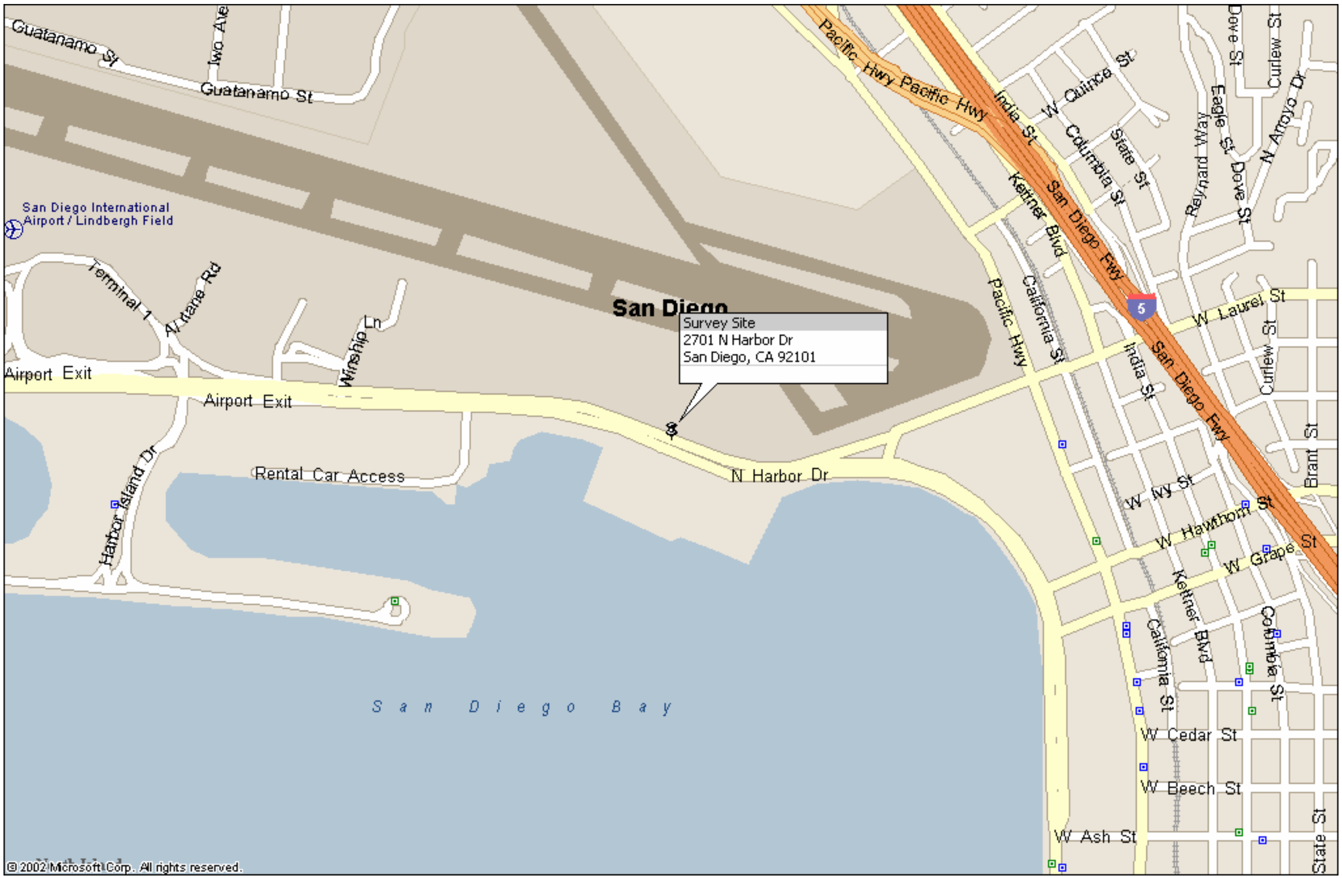

FIGURE 1 –Site Location Map

Multiple methods were utilized because each instrument senses different material properties of the ground and buried objects. At any given site the situation, geologic and cultural, may be such that one or more of the instruments may record excessive "noise", the ground may not provide sufficient contrasts, or there may be overlapping anomalies, for a given instrument to be effective. Summarily stated, there are generally instrumental limits and interpretational impediments.

Survey Design – The general areas to be surveyed, and the locations of the individual boreholes, were indicated in the field by the client and included numerous above-ground cultural objects that could potentially cause interference with the instruments should a formal rectilinear grid for data collection be established. In situations such as this, where cultural objects limit the use of a formal rectilinear grid, the best use of time is achieved by systematically free-traversing with the instruments while monitoring them continuously to determine which responses are significant and due to true subsurface targets, and which are due to above-ground features and must be ignored. The line tracer, M-scope, EM-61, magnetic gradiometer and GPR were traversed systematically over each of the areas along the eight lines of the standard search pattern (Figure 2), wherein, there are two sets of three parallel lines, mutually orthogonal, and two diagonals, all centered on the marked drill location. Adjacent parallel lines are approximately 5 feet apart, and each line is approximately 20 feet long, access permitting. Other traverses were taken, access permitting, for detailing and confirmation where anomalous conditions were found. Multiple GPR profiles were also collected throughout the area and in specific areas for confirmation where other instruments detected anomalies.

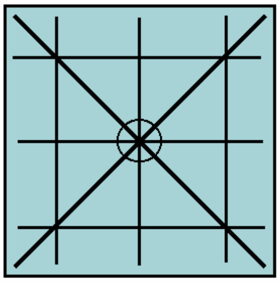

Figure 2: Standard search pattern around borehole

Hard copy of the EM data was not acquired, that is, discrete readings on the nodes of a grid were not recorded that could be put into a contoured map format. Rather, the instruments' meters were read continuously during traverses to detect excursions of the readouts that might have meaning in terms of buried objects. The lack of hard copy for EM data sets does not degrade the quality of the surveys in any way. Hard copy merely provides a basis for report documentation of these geophysical fields, if such documentation is needed.

A Fischer M-Scope was used for the EM sampling. A Sensors & Software Noggin Ground Penetrating Radar unit produced the radar images. The magnetic gradiometer was a Schonstedt GA-52, and a Metrotech 9890 utility locator rounded out the tools applied.

Brief Description of the Geophysical Methods Applied - The M-Scope device energizes the ground by producing an alternating primary magnetic field with AC current in a transmitting coil. If conducting materials are within the area of influence of the primary field, AC eddy currents are induced to flow in the conductors. A receiving coil senses the secondary magnetic field produced by these eddy currents, and outputs the response as anomalous conditions. The strength of the secondary field is a function of the conductivity of the object, say a pipe, tank or cluster of drums, its size, and its depth and position relative to the instrument's two coils. Conductive objects, to a depth of approximately 7 feet below ground surface (bgs) for the M-Scope are sensed. The device is also somewhat focused; that is, it is more sensitive to conductors below the instrument than they are to conductors off to the side.

The EM61 instrument is a high resolution, time-domain device for detecting buried conductive objects. It consists of a powerful transmitter that generates a pulsed primary magnetic field when its coils are energized, which induces eddy currents in nearby conductive objects. The decay of the eddy currents, following the input pulse, is measured by the coils, which in turn serve as receiver coils. The decay rate is measured for two coils, mounted concentrically, one above the other. By making the measurements at a relatively long time interval (measured in milliseconds) after termination of the primary pulse, the response is nearly independent of the electrical conductivity of the ground. Thus, the instrument is a super-sensitive metal detector. Due to its unique coil arrangement, the response curve is a single well-defined positive peak directly over a buried conductive object. This facilitates quick and accurate location of targets.

The magnetic gradiometer has two flux gate magnetic fixed sensors that are passed closely to and over the ground. When not in close proximity to a magnetic object, that is, only in the earth's field, the instrument emits a sound signal at a low frequency. When the instrument passes over a buried iron or steel object, so that locally there is a high magnetic gradient, the frequency of the emitted sound increases. The frequency is a function of the gradient between the two sensors.

The line locator is used to passively detect energized high voltage electric lines and electrical conduit (50-60 Hz), VLF signals (14-22 kHz), as well as to actively trace other utilities. Where risers are present, the utility locator transmitter can be connected directly to the object, and a signal (9.8-82 kHz) is sent traveling along the conductor, pipe, conduit, etc. In the absence of a riser, the transmitter can be used to impress an input signal on the utility by induction. In either case, the receiver unit is tuned to the input signal, and is used to actively trace the signal along the pipe’s surface projection.

The GPR instrument beams energy into the ground from its transducer/antenna, in the form of electromagnetic waves. A portion of this energy is reflected back to the antenna at a boundary in the subsurface across which there is an electrical contrast. The instrument produces a continuous record of the reflected energy as the antenna is traversed across the ground surface. The greater the electrical contrast, the higher the amplitude of the returned energy. The radar wave travels at a velocity unique to the material properties of the ground being investigated, and when these velocities are known, the two-way travel times can be converted to depth. The depth of penetration and image resolution produced are a function of ground electrical conductivity and dielectric constant.

<u>Interpretation and Conclusions</u> - The interpretation took place in real time as the survey progressed, and accordingly, the findings of our investigation were marked on the ground cover at the site, and further documented with site photographs of each of the boreholes (Figs 3-8).

The EM instruments were effective at locating and delineating metallic objects and utilities over the search areas. GPR was useful at detecting both metallic and non-metallic lines and utilities. According to principles of physics, radar penetration is a function of soil conductivity and dielectric constant. At this site, local conditions were reasonably favorable for radar penetration due to the nature of the soil and materials covering the survey areas. This resulted in radar penetration down to approximately 3.5 to 4.0 feet bgs.

The first three boring locations (Figure 3-5) were in the near vicinity to the parked vehicles which produced a lot of “noise” when using the EM instruments. These instruments did however detect a few unknown lines which were then confirmed using the Ground Penetrating Radar. The source of these lines is unknown. The white line in Figure 4 was detected along the original boring location. To avoid this anomaly we have repositioned the borehole 3 feet from this line.

The fourth boring location (Figure 6) was positioned over reinforced concrete. Due to the location of this boring the EM instruments could not be used as there were not enough contrasts to detect any anomalous condition. The GPR was able to detect a line which was marked on the ground cover with white water-based chalk. The boring location was moved approximately one foot to avoid this anomaly.

In Figure 7 there were no anomalous conditions within the vicinity of the proposed boring location. However, the fence was a limiting factor when using the EM instruments.

The last boring location had many anomalous conditions in the immediate surroundings. An electric corridor was detected along with a communications line and a corridor in which its functions were unknown. The borehole was repositioned from its original proposed location so it was at least 3 feet from this unknown anomaly.

Piping and utilities detected during the survey were marked with water-based chalk on the ground cover, using industry standard colors – red for electric, blue for water, green for sewer or storm drain, orange for communications and white for unknown. Once all detectable utilities and anomalies were accounted for, the proposed boreholes were marked in paint with a white circle and yellow “SSS”.

Subsurface Survey’s and Associates professional personnel are trained and experienced and have completed thousands of projects since the company’s inception in 1988. It is our policy to work diligently to bring this training and experience to bear to acquire quality data sets, which in turn, can provide clues useful in formulating our interpretations. Still, non-uniqueness of interpretations, methodological limitations, and non-target interferences are prevailing problems. Subsurface Surveys and Associates makes no guarantee either expressed or implied regarding the accuracy of the interpretations presented. And, in no event will Subsurface Surveys and Associates be liable for any direct, indirect, special, incidental, or consequential damages resulting from interpretations and opinions presented herewith.

All data acquired in these surveys are in confidential file in this office, and are available for review by your staff, or by us at your request, at any time. We appreciate the opportunity to participate in this project. Please call, if there are questions.

Gary W. Crosby

Bret Herman
Staff Geophysicist

Gary W. Crosby, PhD, GP# 960
Senior Geophysicist

Sub
Surface
Surveys

BOREHOLE PHOTOGRAPHS

Former Teledyne Ryan Aero
2701 North Harbor Drive
San Diego, California

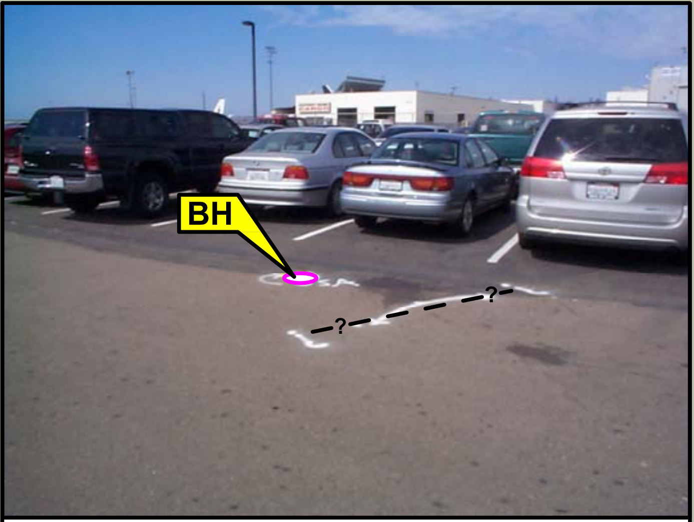

FIGURE 3

FIGURE 4

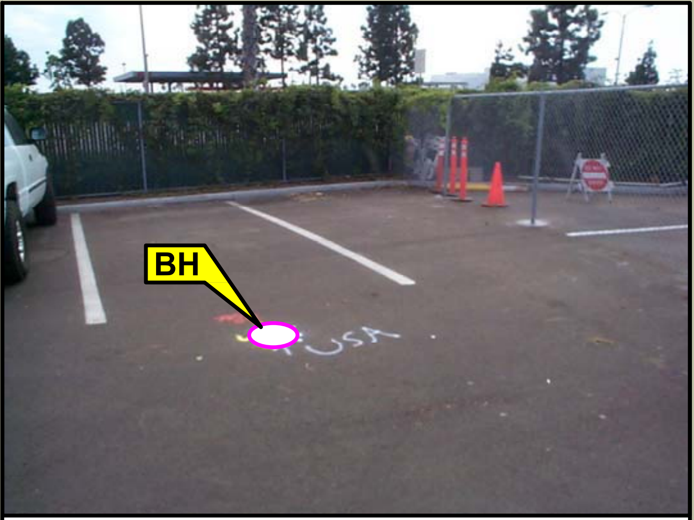

FIGURE 5

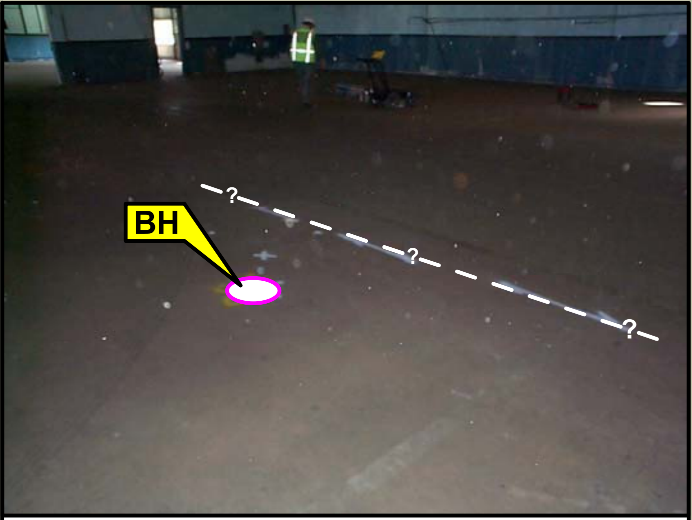

FIGURE 6

FIGURE 7

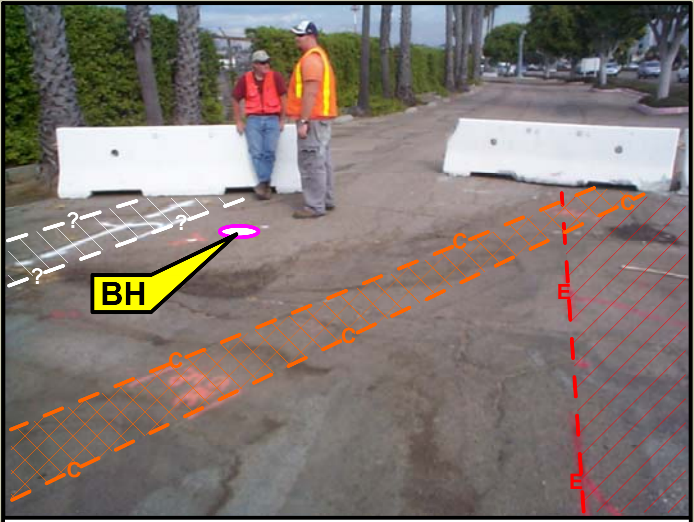

FIGURE 8

SubSurface Surveys & Associates, Inc.
An Applied Geophysical Company

215 S. Hwy 101, Suite 203
Solana Beach, CA 92075

Office: (858) 481-8949
Fax: (858) 481-8998

October 25, 2005

GeoSyntec Consultants
11305 Rancho Bernardo Road
Suite 101
San Diego, California 92127

Project No. 05-342

Attn: **Brian Hitchens**

Re: Geophysical Investigation, 1 Borehole, Former Teledyne Ryan Aero, 2701 N Harbor Drive, San Diego

This report is to present the results of our geophysical survey carried out over portions of property at the former Teledyne Ryan Aero, located at 2701 North Harbor Drive in San Diego, California (Figure 1) on September 19, 2005. Purpose of the survey was to locate and identify, insofar as possible, piping, conduit, and other buried features that may exist within one area designated for future drilling activities.

A combination of electromagnetic induction (EM), magnetometry, and ground penetrating radar (GPR) were applied to the search. A utility locator with line tracing capabilities was also brought to the field and used where risers exist onto which a signal could be impressed and traced.

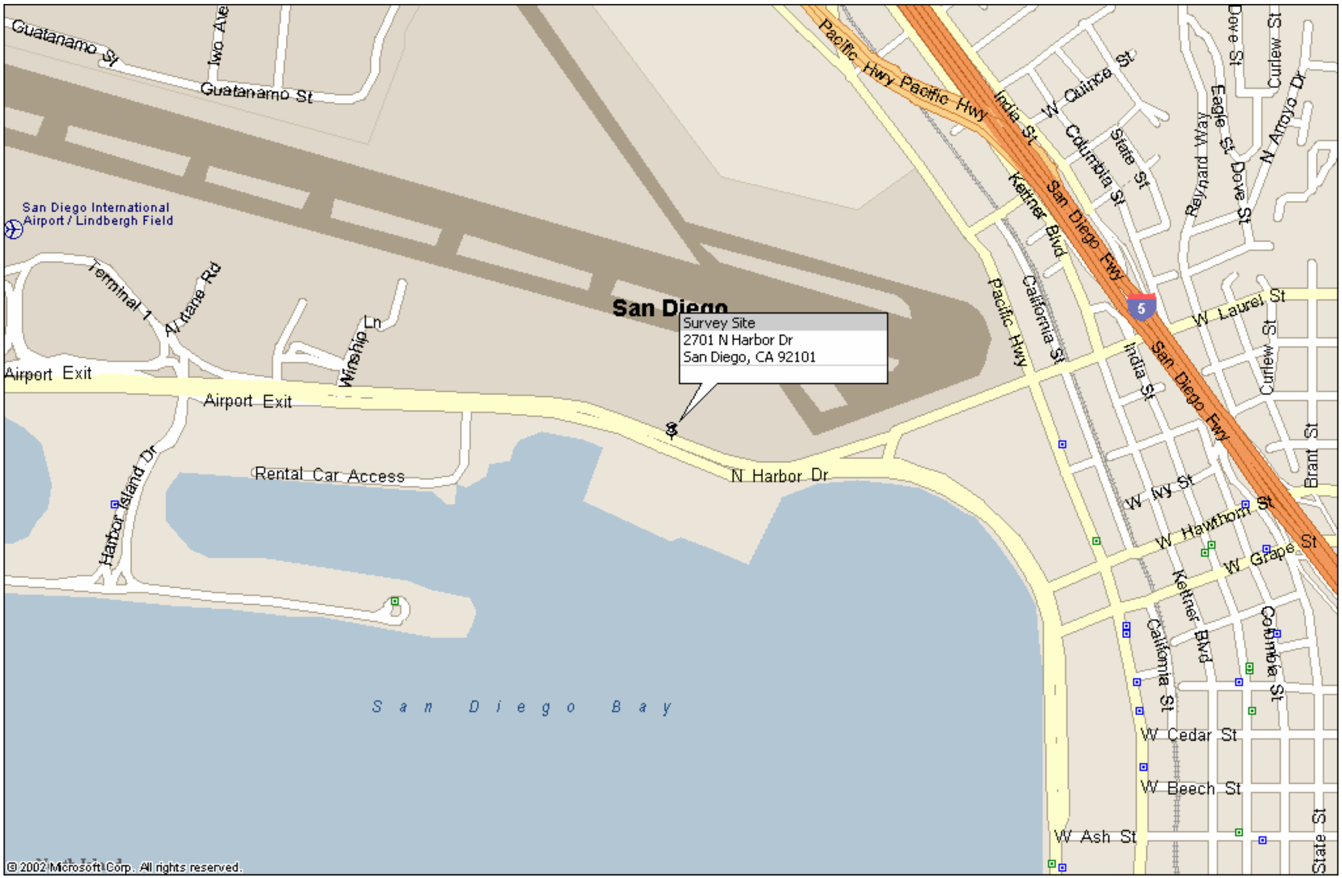

FIGURE 1 –Site Location Map

Multiple methods were utilized because each instrument senses different material properties of the ground and buried objects. At any given site the situation, geologic and cultural, may be such that one or more of the instruments may record excessive "noise", the ground may not provide sufficient contrasts, or there may be overlapping anomalies, for a given instrument to be effective. Summarily stated, there are generally instrumental limits and interpretational impediments.

Survey Design – The general area to be surveyed, and the location of the borehole, were indicated in the field by the client and included numerous above-ground cultural objects that could potentially cause interference with the instruments should a formal rectilinear grid for data collection be established. In situations such as this, where cultural objects limit the use of a formal rectilinear grid, the best use of time is achieved by systematically free-traversing with the instruments while monitoring them continuously to determine which responses are significant and due to true subsurface targets, and which are due to above-ground features and must be ignored. The line tracer, M-scope, EM-61, magnetic gradiometer and GPR were traversed systematically over each of the areas along the eight lines of the standard search pattern (Figure 2), wherein, there are two sets of three parallel lines, mutually orthogonal, and two diagonals, all centered on the marked drill location. Adjacent parallel lines are approximately 5 feet apart, and each line is approximately 20 feet long, access permitting. Other traverses were taken, access permitting, for detailing and confirmation where anomalous conditions were found. Multiple GPR profiles were also collected throughout the area and in specific areas for confirmation where other instruments detected anomalies.

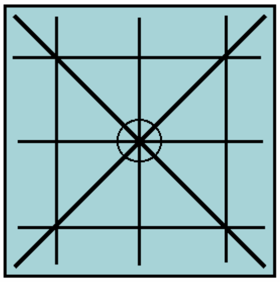

Figure 2: Standard search pattern around borehole

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A Fischer M-Scope and a Geonic's model EM61 were used for the EM sampling. A Sensors & Software Noggin Ground Penetrating Radar unit produced the radar images. The magnetic gradiometer was a Schonstedt GA-52, and a Metrotech 9890 utility locator rounded out the tools applied.

Brief Description of the Geophysical Methods Applied - The M-Scope device energizes the ground by producing an alternating primary magnetic field with AC current in a transmitting coil. If conducting materials are within the area of influence of the primary field, AC eddy currents are induced to flow in the conductors. A receiving coil senses the secondary magnetic field produced by these eddy currents, and outputs the response as anomalous conditions. The strength of the secondary field is a function of the conductivity of the object, say a pipe, tank or cluster of drums, its size, and its depth and position relative to the instrument's two coils. Conductive objects, to a depth of approximately 7 feet below ground surface (bgs) for the M-Scope are sensed. The device is also somewhat focused; that is, it is more sensitive to conductors below the instrument than they are to conductors off to the side.

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The GPR instrument beams energy into the ground from its transducer/antenna, in the form of electromagnetic waves. A portion of this energy is reflected back to the antenna at a boundary in the subsurface across which there is an electrical contrast. The instrument produces a continuous record of the reflected energy as the antenna is traversed across the ground surface. The greater the electrical contrast, the higher the amplitude of the returned energy. The radar wave travels at a velocity unique to the material properties of the ground being investigated, and when these velocities are known, the two-way travel times can be converted to depth. The depth of penetration and image resolution produced are a function of ground electrical conductivity and dielectric constant.

Interpretation and Conclusions - The interpretation took place in real time as the survey progressed, and accordingly, the findings of our investigation were marked on the ground cover at the site. The intent of this document is to demonstrate the procedure, and report the findings of the work.

The EM instruments were effective at locating and delineating metallic objects and utilities over the search areas. GPR was useful at detecting both metallic and non-metallic lines and utilities. According to principles of physics, radar penetration is a function of soil conductivity and dielectric constant. At this site, local conditions were relatively unfavorable for radar penetration due to the nature of the soil and materials covering the survey areas. This resulted in radar penetration down to approximately 2 feet bgs. It should be noted that due to the heterogeneous nature of the soils, the depth of radar penetration might vary from one area to another.

There were utilities detected in the vicinity of the proposed boring, therefore it was moved at least three feet from the detected objects.

Piping and utilities detected during the survey were marked with water-based chalk on the ground cover, using industry standard colors – red for electric, blue for water, green for sewer or storm drain, orange for communications and white for unknown. Once all detectable utilities and anomalies were accounted for, the proposed boreholes were marked in paint with a white circle and yellow "SSS".

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George E Herman

George E. Herman IV
Geophysicist

Gary W. Crosby

Gary W. Crosby, PhD, GP 969
Senior Geophysicist/Geologist

APPENDIX G
VIDEO SURVEY (DVD) AND REPORTS

APPENDIX H
LABORATORY ANALYTICAL REPORTS FOR 2005 INVESTIGATIONS AND DATABASE OF 2003 HISTORICAL RESULTS