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July 5, 2011

Ms. Barbara Jakub
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Site Investigation Report**

Site: **76 Station No. 6277**
15803 East 14th Street
San Leandro, California
Fuel Leak Case No. RO0002969

Dear Ms. Jakub;

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call:

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Platinum Energy
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Sincerely,

PLATINUM ENERGY

BRIAN WHALEN

Attachment

Site Investigation Report

76 Service Station No. 6277
15803 East 14th Street
San Leandro, CA
Alameda County LOP
Case No. RO0002969

GeoTracker Global ID No. T0619718179

Antea Group Project No. I40256277
July 5, 2011

Prepared for:
Ms. Barbara Jakub
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Site Investigation Report

76 Service Station No. 6277

1.0 INTRODUCTION

Antea Group has prepared this report describing the installation, development, surveying, and sampling of four monitoring wells at the site located at 15803 East 14th Street in San Leandro, California. This work was performed as indicated in the work plan submitted by Delta Consultants, (currently Antea Group) on December 20, 2010.

1.1 Site Description

The site is currently an operating 76 service station located at 15803 East 14th Street in San Leandro, California (**Figure 1**). Station facilities include two 12,000 gallon fuel underground storage tanks (USTs), a 520-gallon waste-oil UST, two dispenser islands and a service station building, containing three service bays (**Figure 2**).

1.2 Previous Assessment

1969 - Reported site history indicates the site was first developed as a gas station from an empty lot in 1969.

March 1989 - Two 10,000-gallon gasoline USTs, one 550-gallon waste-oil UST, and the product piping were removed from the site during UST replacement activities. Kaprealian Engineering Inc. (KEI) advanced two exploratory borings designated as EB-1 and EB-2 at the site. The borings were advanced at the request of Alameda County to assess the possible presence of hydrocarbon impact to the soil in the vicinity of the proposed UST excavation.

The borings were advanced to depths of 10.5 feet below ground surface (bgs) and 13.5 feet bgs. Ground water was encountered in the borings at depths of 11 to 12 feet bgs. The analytical results of the soil samples were as follows:

- At a depth of 5 feet bgs soil samples analyzed for total petroleum hydrocarbons as gasoline (TPHg) ranged from below the laboratory's indicated reporting limit in boring EB-2 to 2.1 parts per million (ppm) in boring EB-1.
- At a depth of 10 feet bgs TPHg concentrations ranged from 200 ppm in boring EB-1 to 620 ppm in boring EB-2.

Based on results of this preliminary investigation, KEI recommended that the contractor excavate the existing UST excavation to a depth of approximately 13 feet bgs. Water was encountered in the fuel UST excavation at a depth of approximately 11 feet bgs, thus prohibiting the collection of any soil samples from immediately beneath the USTs.

Six soil samples, labeled SW1 through SW6, were collected from the sidewalls of the fuel UST pit at depths of approximately 1 foot above the water table; and one soil sample, labeled W0-1, was collected from beneath the waste-oil UST at a depth of about 10 feet bgs. Based on observations in the field, it was decided to excavate additional soil from three of the four excavation sidewalls.

March 14, 1989: Four trenches were installed to assess the limits of additional soil excavation needed. Four soil samples were then collected at depths of approximately 10 feet bgs. The soil analytical results were as follows:

- In the fuel UST excavation, TPHg concentrations ranged from 24 ppm to 150 ppm.
- A sample collected adjacent to the existing station building indicated that TPHg was present at a concentration of 3,500 ppm.
- The soil sample collected after excavating 2 feet of sidewall toward the station building indicated that TPHg was present at a concentration of 100 ppm.
- Soil sample (SW-2) contained TPHg at a concentration of 390 ppm.
- The soil sample collected from the waste-oil UST excavation (WO-1) contained total oil and grease (TOG) at a concentration of 280 ppm. A side wall sample, SW-7 collected after excavating 14 feet of sidewall contained TOG at a concentration of 41 ppm.

The analytical results of the water sample (W1) collected from the waste-oil/fuel UST excavation contained TPHg at a concentration of 19,000 parts per billion (ppb) and benzene at a concentration of 230 ppb.

March 23, 1989: KEI returned to the site for pipe trench soil sampling. Six soil samples, labeled P1 through P6, were collected from beneath the product lines at depths of approximately 3 to 3.5 feet below grade. The analytical results of the soil samples P1 through P6 collected from the pipe trenches indicated concentrations of TPHg ranging from 1.1 ppm to 6.8 ppm.

The fuel UST pit and the waste-oil UST pit were over-excavated in order to remove hydrocarbon-impacted soil. The majority of the hydrocarbon-impacted soil appeared to have been removed from the site, except for the capillary fringe in the vicinity of the former UST pit and the building.

May 24, 1989: Four two-inch diameter monitoring wells, MW-1 through MW-4 were installed at the site. The four wells were installed to depths ranging from 24.5 to 25 feet bgs. Ground water was encountered at depths ranging from 11 to 12 feet bgs during drilling.

July 1989: The monitoring and sampling program was initiated.

February 1990: Monitoring well MW-2 was destroyed on February 1 in preparation for additional soil excavation in the vicinity of this well. Soil was excavated to a depth of approximately 6 to 12 inches below the level of the groundwater, which was encountered at a depth of about 11.5 feet below grade. After additional excavation, four soil samples were collected from the sidewalls of the excavation, each approximately 6 to 12 inches above ground water. Soil excavation activities were terminated due to the close proximity of the former and new UST excavations and the site's property line.

The analytical results of three soil samples indicated that TPHg was present at concentrations ranging from 140 ppm to 1,100 ppm, while concentrations of total petroleum hydrocarbons as diesel (TPHd) ranged from below the laboratory's indicated reporting limits to 280 ppm. The analytical results also indicated Environmental Protection Agency (EPA) Method 8010 constituents and TOG from each of the four samples were below the laboratory's indicated reporting limits, except in sample SW11A which contained TOG at a concentration of 210 ppm.

Over-excavation in the vicinity of monitoring well MW-2 was completed in April of 1990. Monitoring well MW-2 was then replaced with a new monitoring well (MW-2A) in March 1991.

1991: Due to the regular occurrence of tetrachloroethene (PCE), trichloroethene (TCE) and 1,2-dichlorethane (1,2-DCA) in sampled groundwater, a review of records documenting historic site activities was performed in 1991 to assess whether there were any up-gradient sources contributing to the impacted groundwater at the site. The file review was conducted by KEI at the Regional Water Quality Control Board (RWQCB).

The review focused on three sites with monitoring wells located within a half mile of the station. The Okada property, located at 16109 Ashland Avenue, a former USA Petroleum station located at 15120

Hesperian Boulevard, and Kaufman and Broad, located at 1620 162nd Avenue, approximately 1,800 feet east-southeast of the site. The file review is outlined in Delta's *Addendum to Additional Site Assessment Work Plan*, dated April 3, 2009.

December 1992: A file review was conducted at the ACHCSA. Four sites with existing or former USTs were located in the vicinity of the site during the file review. These sites are as follows: 1.) Nayou Properties, 1500 Thrush Avenue; 2.) ABC Auto Repair, 15960 East 14th Street; 3. Petsas Property, 16035 East 14th Street, and; 4.) SpeeDee Oil Change, 15900 East 14th Street.

1991-1993: The California EPA, Department of Toxic Substances Control (DTSC), identified regional chlorinated solvent contamination of the upper aquifer in the San Leandro area.

1993: Based on the results of the site history research, site reconnaissance, and file review, and based upon the fact that no evidence of an on-site solvent source area in the vicinity of monitoring wells MW-3 and MW-4 was found, it was concluded that there was no likely on-site source of the halogenated volatile organic compound (HVOC) impact.

The potential of an off-site HVOC source is further supported by the fact that the highest HVOC concentrations have been reported in samples collected from monitoring wells MW-3 and MW-4, located on the up-gradient side of the site. HVOC concentrations reported in the groundwater samples collected from these monitoring wells are likely coming from a source (E.G. reaching sanitary sewer lines, etc.) up-gradient of the site.

March 1993: Monitoring wells MW-5 and MW-6 were installed on March 9, 1993. These wells were monitored monthly and sampled on a quarterly basis until 1996. Groundwater flow predominantly ranged from southwest to north during the course of the investigation. Chlorinated solvents have consistently been reported in up-gradient wells MW-3 and MW-4, and it appears that the chlorinated solvent impact at the site may be due to an unidentified source (or sources) located up-gradient of the site, or is part of a regional chlorinated solvent plume. The perimeter monitoring wells, MW-5 and MW-6, have historically shown a maximum concentration of 72 micrograms per liter (µg/L) of TPHg and below the laboratory's indicated reporting limits for benzene, toluene, ethylbenzene, and total xylenes (BTEX).

March 1997: An off-site investigation was conducted in March 1997 to assess any impacts in the down-gradient direction from monitoring well MW-1. Monitoring well MW-1 is the most down-gradient of the

wells at the site and has historically contained the highest concentrations of petroleum hydrocarbons in groundwater throughout the duration of the site investigation.

Three direct push borings (EB-3, EB-4, and EB-5) were advanced through East 14th Street in a northerly transect from the site. The three borings were each advanced to total depths ranging from 11 to 15 feet below grade. Groundwater was encountered at depths ranging from 10.5 to 15 feet bgs during drilling. No reportable target compounds were identified in either soil or groundwater samples.

1998 – A *Case Closure Summary* was prepared by the Alameda County Environmental Protection Department. This document concluded that drinking water wells are not affected. It also documented the maximum contaminant concentrations – before and after cleanup as follows:

Contaminant	Soil (ppm)			Water (ppb)	
	Before	After		Before	After
TPHg	3,500	1,100		19,000	510
TPHd	ND	6.2		NA	NA
Benzene	40	8		230	72
Toluene	280	43		79	ND
Xylenes	600	230		1,300	17
Ethyl-benzene	100	37		ND	ND
Methyl tert-butyl ether (MTBE)	NA	NA		NA	390
TOG	7,700	1,300		NA	NA
Heavy Metals	NA	NA		NA	NA
Other HVOC TCE	0.063	ND	TCE	4.4	ND
			PCE	110	950
			1,2-DCA	2.8	ND

The *Case Closure Summary* concluded that "there are no known municipal or residential water wells or surface water bodies within 750 feet down-gradient of the subject site that would be impacted by shallow groundwater from this site".

December 2000: The ACHCSA issued a *Case Closure* letter dated December 26, 2000.

2003: Six groundwater monitoring wells (MW-1, MW-2A, and MW-3 through MW-6) destroyed. Groundwater was at 6-11 feet bgs.

September 2007: Six soil borings (ATC-1 through ATC-6) were advanced in the vicinity of the existing fuel and waste-oil USTs and dispensers on September 25 and 26, 2007. The borings were advanced to total depths of approximately 20 feet bgs (ATC-2, ATC-3, ATC-4, and ATC-5) and 25 feet bgs (ATC-1 and ATC-6). Groundwater was initially encountered at depths ranging from 14 feet bgs to 24 feet bgs during drilling activities.

Groundwater samples were collected from each of the six borings. A duplicate groundwater sample designated as "Duplicate B-1" was collected from boring ATC-1. Photo ionization detector (PID) readings from the screened soil samples ranged from 1.4 ppm to 2,272 ppm. The analytical results from the ATC Investigation are outlined in Delta's *Addendum to Additional Site Assessment Work Plan* dated April 3, 2009.

December 2009: Delta advanced six soil borings (B-1 through B-5, and B-7) to assess the extent of petroleum hydrocarbon impact to the soil and groundwater. The borings were advanced to total depths ranging from 24 to 32 feet bgs. First groundwater was encountered at depths ranging from 21 to 28.5 feet bgs during drilling activities.

Soil and groundwater samples were collected from each of the six borings. PID readings from the screened soil samples ranged from 0.2 ppm to 197 ppm. The analytical results indicated that TPHg was present in the soil at a maximum concentration of 603 mg/kg (B-1 at 12 feet) and in the groundwater at a maximum concentration of 2,110 µg/L (B-1). The analytical results from the December 2009 Investigation are outlined in Delta's *Subsurface Soil and Groundwater Investigation Report* dated March 23, 2010.

1.3 Sensitive Receptors

1991: The well survey performed by KEI focused on the area within a one-half mile radius of the subject site, and was based upon data obtained from the Alameda County Flood Control and Water Conservation District. The information revealed the presence of 15 producing wells designated as irrigation wells and had depths ranging from 20 to 440 feet bgs.

The Alameda County Flood Control and Water Conservation District records suggested that the status of many of the irrigation wells is unknown. In the 1991 survey, it was stated that "no producing wells that could possibly influence the groundwater flow direction at the subject site were located". The closest irrigation well (148 feet deep) installed in 1949 was noted in the north corner of East 14th Street and 159th Avenue.

2008: This survey entailed a request to the California Department of Water Resources (DWR) office in Sacramento to provide well log records. DWR well log records were reviewed in order to assess the location of any water-supply wells in the vicinity of the subject site. Using the DWR well logs, a total of five wells had verifiable addresses within a half-mile radius of the site.

Stains and spills have been documented at the adjacent site to the east, SpeeDee Oil Change shop, located at 15900 East 14th Street, including staining from leaking automobiles, spills not cleaned up immediately, a spill migrating toward a storm drain inlet, a spill in the driveway not cleaned up, and a spill beneath the waste-oil UST was not appropriately addressed. Moreover, it is documented that solvents were used at this adjacent site in 1993 and based on that site history; it appears that solvents have been used at that site for decades.

2.0 SITE GEOLOGY AND HYDROGEOLOGY

The site is located in the East Bay Plain Subbasin. The subbasin is an alluvial plain bounded by San Pablo bay to the north, the Franciscan Basement rock to the east, and the Niles Cone Groundwater Basin to the south. To the west the subbasin extends beneath the San Francisco Bay. Surface water collected in San Pablo Creek, Wildcat Creek, San Leandro Creek, and San Lorenzo Creek flow westward into the San Francisco and San Pablo bays. The San Francisco Bay is approximately 4 miles west of the site.

Based on soils observed during soil boring and monitoring well installation activities the site, the site is underlain by silty sand, gravelly sand, sandy gravel, gravelly clay, clay, silt, sandy silt, silt with sand, poorly graded sand, and sandy clay. Fine grain material such as clay and silt extend from just below ground surface to depths of 25 feet bgs. Discontinuous layers of sand and gravel appear at depths of approximately 15, 20, and 30 feet bgs. These layers range in thickness from inches to three feet. First encountered groundwater ranges in depth from 16 feet bgs to 28 feet bgs depending on lithology.

Static water levels in the wells are approximately nine to ten feet bgs. Based on depths to first encountered groundwater and static groundwater levels in on-site monitoring wells it appears that groundwater beneath the site is under confined conditions. Cross sections depicting the lithology beneath the site are presented on **Figure 3** and **Figure 4**.

3.0 WELL INSTALLATION ACTIVITIES

3.1 Permitting, Utility Notification, and Borehole Clearance

Before commencing field activities Antea Group prepared a Health and Safety Plan in accordance with state and federal requirements for use during investigation activities. Drilling permits were obtained for the well installation from the Alameda County Public Works Agency (**Appendix A**). Prior to drilling, Underground Service Alert (USA) was notified as required by law and a private utility locator was employed to clear the well boring locations for underground utilities. In addition, an air- knife was used to clear each well boring location to a depth of 5 feet bgs prior to borehole advancement.

3.2 Monitoring Well Installation

On April 5, 2011, Antea Group supervised the installation of four (4) monitoring wells (MW-7 through MW-10). Gregg Drilling and Testing, Inc. (Gregg) under the supervision of an Antea Group geologist installed the monitoring wells using a limited access rig equipped with 8-inch outside diameter hollow-stem augers. Soil samples were collected continuously beginning at a depth of approximately 5 feet bgs and logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of volatile organic compounds by headspace analysis using a pre-calibrated photo ionization detector (PID). The soil samples were collected using direct push technologies before the installation of the monitoring wells. Three soil samples from each boring were retained for laboratory analysis. The samples were chosen based on PID readings, changes in lithology, groundwater elevation, and the total depth of the borings.

The groundwater monitoring well casing was installed in the well borings while the augers were in place. The monitoring wells consist of 2-inch diameter schedule 40 poly vinyl chloride (PVC) well casing with a screen interval that was determined in the field based on the encountered lithology, depth to first encountered groundwater (if observed), and depth to static groundwater. Monitoring well MW-7 has a 10 foot screen interval, from 9 feet bgs to 19 feet bgs, monitoring well MW-8 has an 11 foot screen interval, from 9 feet bgs to 20 feet bgs, monitoring well MW-9 has a 15 foot screen interval, from 9 feet

bgs to 24 feet bgs, and monitoring well MW-10 has a 10 foot screen interval, from 10 feet bgs to 20 feet bgs. The perforation size in the screen interval is 0.020-inch. A sand pack consisting of RMC Lonestar #3 Sand was installed into the annular space and extends approximately one (1) foot above the top of the screen interval.

A one (1) foot thick bentonite seal was placed on top of the sand pack. The remainder of the annular space is filled with neat cement and the monitoring wells are fitted with a locking cap and encased in a traffic-rated protective vault placed at existing ground level.

Department of Water Resources (DWR) Well Completion Reports were prepared for each of the four (4) monitoring wells. Copies of the DWR Well Completion Reports are presented as **Appendix B**.

3.3 Soil Sampling

Soil samples retained for analysis were analyzed for TPHg by the California LUFT Method, BTEX, MTBE, tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary butyl alcohol (TBA), 1,2-DCA, ethylene dibromide (EDB), and ethanol by EPA Method 8260; residual range organics (RRO) by EPA Method 8015B; and total lead by EPA Method 6010. Additionally, the soil samples collected from the monitoring well MW-10 boring were also analyzed for diesel range organics (DRO) by EPA Method 8015B. The soil analytical results are presented in **Table 1**.

3.4 Well Development, Monitoring, and Sampling

The monitoring wells were developed a minimum of 72 hours after construction. A minimum of 10 casing volumes of groundwater were removed from each monitoring well during the development process. Copies of the well development logs are presented as **Appendix D**.

The monitoring wells were sampled on April 18, 2011 and the results of that sampling event are described in Section 4.0.

Groundwater samples collected for analysis from each monitoring well was analyzed for TPHg by the California LUFT Method, BTEX, MTBE, TAME, DIPE, ETBE, TBA, 1,2-DCA, EDB, and ethanol by EPA Method 8260.

3.5 Wellhead Survey

Following the completion of the new monitoring wells, a California licensed surveyor surveyed the northing and easting of the monitoring wells using Datum NAD 83. The monitoring well elevation was surveyed relative to mean sea level, with an accuracy of +/- 0.01 foot. A global positioning system (GPS) was also used to survey the latitude and longitude of each monitoring well to be uploaded into California's Geo Tracker database system. The survey of the monitoring well locations is to sub-meter accuracy.

3.6 Disposal of Drill Cuttings and Wastewater

Drill cuttings and well purge water generated during monitoring well installation and development activities was placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and are being temporarily stored on the station property. Samples of the drill cuttings and well purge water were collected, properly labeled, placed on ice, and submitted to a California-certified laboratory for analysis of TPHg by the CA LUFT Method, BTEX and MTBE by EPA Method 8260, and total lead by EPA Method 6010. Chain-of-custody documentation accompanied the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings and well purge water will be profiled, transported, and disposed of at an approved facility.

4.0 GROUNDWATER MONITORING ACTIVITIES

4.1 Groundwater Monitoring

For the April 2011 groundwater monitoring and sampling event, four wells were gauged, purged, and sampled by Blaine Tech per standard sampling protocol (**Appendix E**). Copies of Blaine Tech's field data sheets are presented as **Appendix F**. The recent gauging and sampling data are summarized below and in **Table 2**.

Well gauging and sampling date:	April 18, 2011
Wells gauged:	MW-7 through MW-10
Wells sampled:	MW-7 through MW-10
Purge method:	3 well casing volumes via electric, submersible pump
Sample collection method:	Disposable bailers

Groundwater parameters measured (**Attachment C**):	Temperature, pH, Conductivity, Oxidation-reduction potential (ORP), Turbidity, Dissolved Oxygen (DO)
Wells with measurable LNAPL:	None
Current depth to water range (ft below top of casing (BTOC)):	Min: 9.40 (MW-7 and MW-8) Max: 10.55 (MW-10)
Current groundwater elevation range (ft):	Min: 25.20 (MW-7) Max: 25.54 (MW-9)
Change in water depths from previous event (average change for all gauged wells):	Not Applicable
Groundwater flow direction and gradient in foot per foot (ft/ft):	North-Northwest at 0.003 ft/ft

4.1.1 Groundwater Flow Gradient and Direction

With the recent installation of four wells, this site now has four on-site monitoring wells. Monitoring wells MW-7 through MW-10 will be sampled on a quarterly basis. The second quarter 2011 groundwater monitoring and sampling event was performed by Blaine Tech on April 18, 2011. The average groundwater elevation was 25.41 feet above mean sea level. Depth to groundwater in the site monitoring wells ranged from 9.40 feet (MW-7 and MW-8) to 10.55 feet (MW-10) BTOC during the current event. The groundwater flow direction and gradient were interpreted to be to the north-northwest at 0.003 ft/ft during the current event. A groundwater contour map is presented on **Figure 5**.

4.1.2 Groundwater Quality Data

Groundwater samples collected during the second quarter 2011 were submitted with chain-of-custody documentation to Pace Analytical Services, Inc. (Pace), a state of California Environmental Laboratory Accreditation Program (ELAP) certified laboratory (Certification No. 01153CA). The complete analytical report and Antea Group's laboratory data validation checklist is presented as **Appendix C**. Groundwater samples were analyzed for one or more of the following:

- Total petroleum hydrocarbons as gasoline by CA LUFT Method;
- BTEX, MTBE, TBA, DIPE, ETBE, TAME, EDB, 1,2-DCA, and ethanol by EPA Method 8260;

Groundwater analytical results are presented in **Tables 2** (current) and **Tables 3** (historical grab samples). The following ranges of contaminant concentrations were reported in the specified site wells groundwater samples collected on April 18, 2011. Only the reported contaminants are listed in the table below.

Constituents	Number of Reported Samples Above LRL of the Samples Collected	Minimum Reported Concentration, in µg/L (Sample ID)	Maximum Reported Concentration, in µg/L (Sample ID)
TPHg	4 of 4	208 (MW-9)	2,420 (MW-7)
Benzene	2 of 4	1.4 (MW-8)	22.4 (MW-7)
Toluene	2 of 4	0.75 (MW-8)	12.4 (MW-7)
Ethylbenzene	3 of 4	2.8 (MW-8)	11.3 (MW-7)
Total Xylenes	3 of 4	14.2 (MW-8)	449 (MW-7)
MTBE	4 of 4	1.6 (MW-9)	152 (MW-7)
TBA	1 of 4	5.7 (MW-7)	5.7 (MW-7)

Explanations:
µg/L = Micrograms per liter LRL = Laboratory reporting limit

4.2 Waste Disposal Summary

Approximately 26 gallons of waste water were generated during well purging/sampling and equipment cleaning during the second quarter event. The waste water was transported to Blaine Tech's bulk facility in San Jose, California. After the batching process, the wastewater was transported to Seaport Environmental in Redwood City, California for disposal. A copy of the waste manifest is presented as **Appendix G.**

4.3 Quality Assurance / Quality Control

Antea Group's QA/QC measures included a detailed QA/QC data validation check on the Pace Laboratory analytical results for the April 2011 sampling event. Antea Group's laboratory data validation checklist and the Pace laboratory report are presented as **Appendix C**.

Laboratory QA/QC Performed:	Yes (validated by Antea Group)
Laboratory Data Qualifiers:	Yes – two qualifiers*
Are the data valid for their intended purpose?	Yes, the data are valid

*1n – The TPHg result for this sample did not match the laboratory standard for gasoline. This is likely due to the presence of tetrachoroethene in the sample.
*D6 –The relative percent difference between the sample and sample duplicate exceeded laboratory control limits.
Based on a review of the laboratory's analytical report, including their QA/QC procedures and those implemented by Antea Group, we conclude that the laboratory data obtained during this groundwater sampling event are valid for their intended purpose.

5.0 RESULTS OF THE INVESTIGATION

5.1 Soil Analytical Results

Analytical results of soil samples collected during the monitoring well installation reported TPHg concentrations ranging from 0.68 milligrams per kilogram (mg/kg) (MW-8d13) to 289 mg/kg (MW-7d9), benzene concentrations ranging from 0.016 mg/kg (MW-8d13) to 0.061 mg/kg (MW-7d9), toluene concentrations ranging from 0.034 mg/kg (MW-7d9) to 0.037 mg/kg (MW-7d16), ethylbenzene concentrations ranging from 0.0039 mg/kg (MW-10d15) to 4.3 mg/kg (MW-7d9), total xylenes concentrations ranging from 0.012 mg/kg (MW-10d15) to 8.4 mg/kg (MW-7d9), MTBE concentrations ranging from 0.013 mg/kg (MW-7d16) to 0.086 mg/kg (MW-8d9), TBA concentrations ranging from 0.018 mg/kg (MW-7d9) to 0.023 mg/kg (Mw-8d9), RRO concentrations ranging from 20.7 mg/kg (MW-7d9) to 852 mg/kg (MW-8d13), and lead concentrations ranging from 5.3 mg/kg (MW-9d2) to 15.7 mg/kg (MW-8d13). The soil analytical results are presented in **Table 1**. A copy of the laboratory report, chain-of-custody documentation, and a laboratory validation sheet are presented as **Appendix C**.

5.2 Groundwater Analytical Results

Analytical results of groundwater samples collected during the second quarter 2011 groundwater monitoring event reported TPHg concentrations ranging from 208 µg/L (MW-9) to 2,420 µg/L (MW-7), benzene concentrations ranging from 1.4 µg/L (MW-8) to 22.4 µg/L (MW-7), toluene concentrations ranging from 0.75 µg/L (MW-8) to 12.4 µg/L (MW-7), ethylbenzene concentrations from 2.8 µg/L (MW-8) to 11.3 µg/L (MW-7), total xylenes concentrations ranging from 14.2 µg/L (MW-8) to 449 µg/L (MW-7), MTBE concentrations ranging from 1.6 µg/L (MW-9) to 152 µg/L (MW-10), and a TBA concentration of 5.7 µg/L in monitoring well MW-7. The groundwater analytical results are presented in **Table 2** and **Table 3**. A copy of the laboratory report, chain-of-custody documentation, and a laboratory validation check lists are presented as **Appendix C**. Isonconcentration maps for TPHg, benzene, and MTBE are presented on **Figure 6**, **Figure 7**, and **Figure 8**, respectively.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of soil samples taken during the monitoring well installation activities and the groundwater samples collected on April 18, 2011 it appears that site conditions have remained consistent with conditions present when the site was granted closure in 2000. This appears to indicate that there has not been a new release since the site was granted closure. The case closure documents from 2000 are presented as **Appendix H**. It is Antea Group's recommendation to conduct groundwater

monitoring and sampling activities at the site for no less than two quarters to better assess if there has been a new release at the site.

7.0 REMARKS

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Prepared by:

Date: 7-5-11

Edward T. Weyrens, G.I.T.
Staff Geologist

Information, conclusions, and recommendations provided by Antea Group in this document regarding the site have been prepared under the supervision of and reviewed by the licensed professional whose signature appears below.

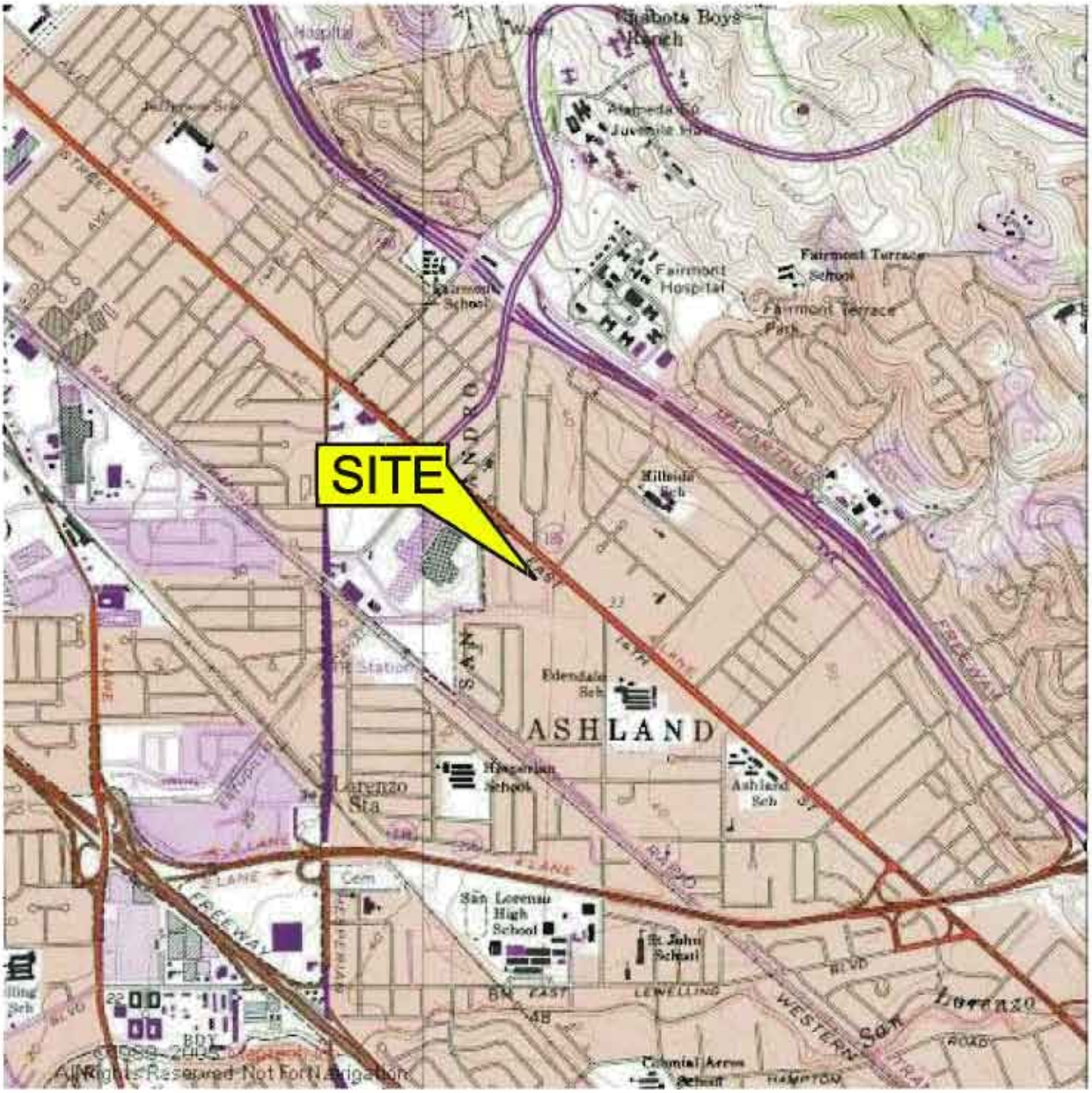
PROFESSIONAL GEOLOGIST
DENNIS SHANNON DETTLOFF
No. 7480
STATE OF CALIFORNIA

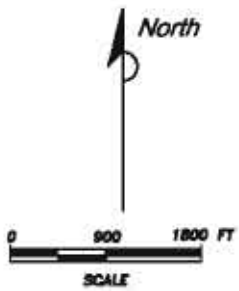
Licensed Approver:

Date: 7/5/11

Dennis S. Dettloff, P.G.
Project Manager
California Registered Professional Geologist No. 7480

Figures





SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE (1073)

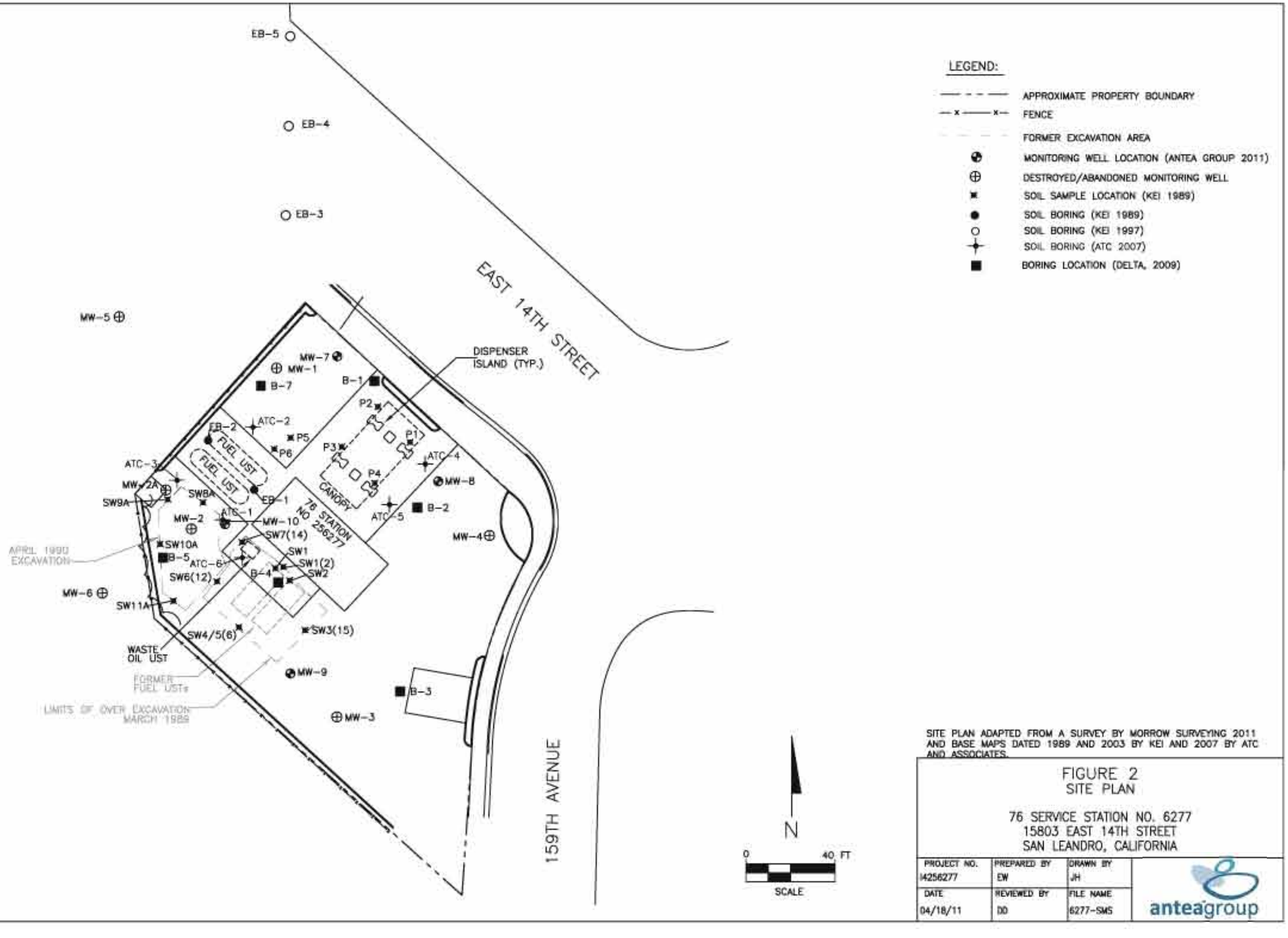
FIGURE 1

SITE LOCATION MAP

76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. 14256277	DRAWN BY JH 05/13/11
FILE NO. 6277-SiteLocator	PREPARED BY EW
REVISION NO.	REVIEWED BY

antea group



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- FORMER EXCAVATION AREA
- MONITORING WELL LOCATION (ANTEA GROUP 2011)
- DESTROYED/ABANDONED MONITORING WELL
- SOIL SAMPLE LOCATION (KEI 1989)
- SOIL BORING (KEI 1989)
- SOIL BORING (KEI 1997)
- SOIL BORING (ATC 2007)
- BORING LOCATION (DELTA, 2009)

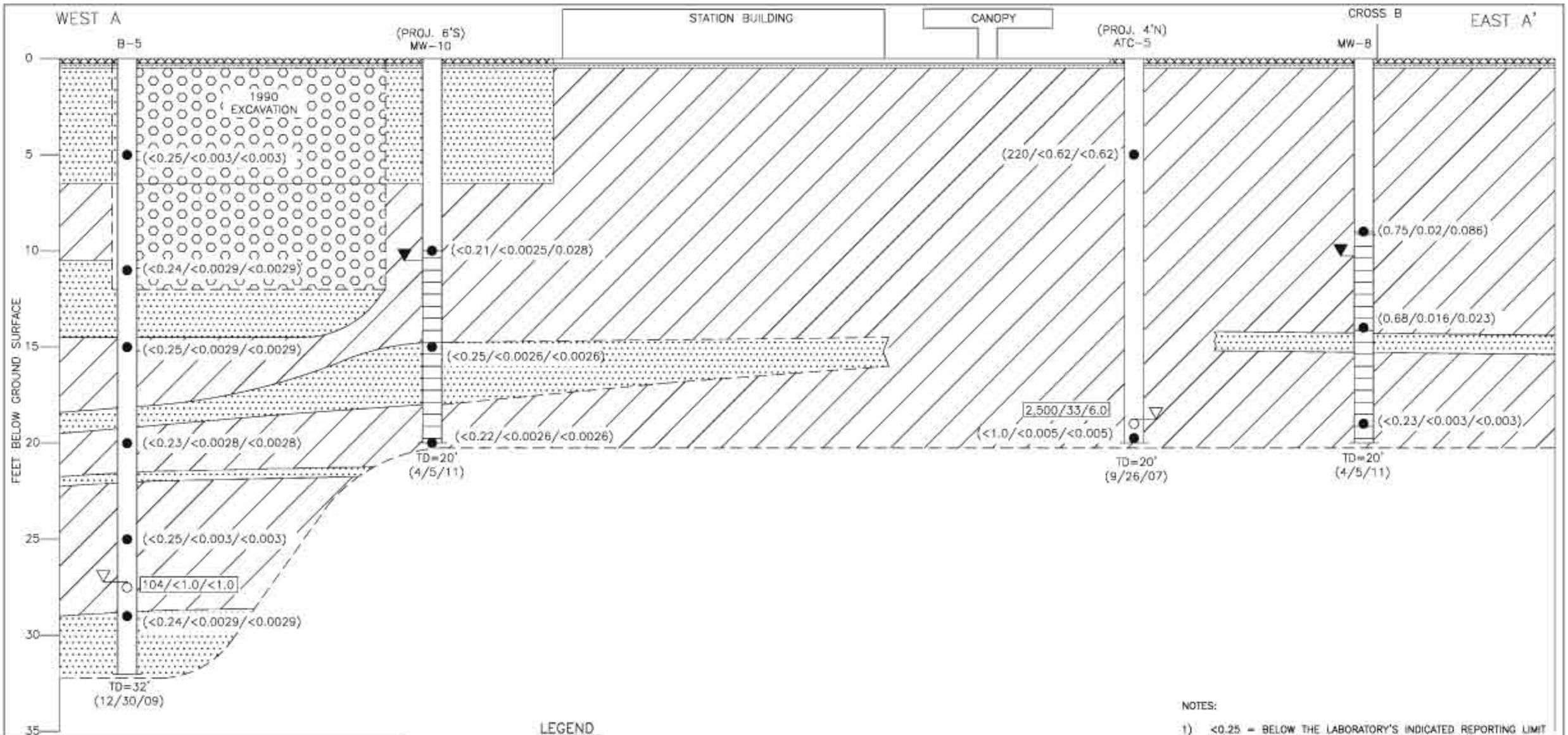
SITE PLAN ADAPTED FROM A SURVEY BY MORROW SURVEYING 2011 AND BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

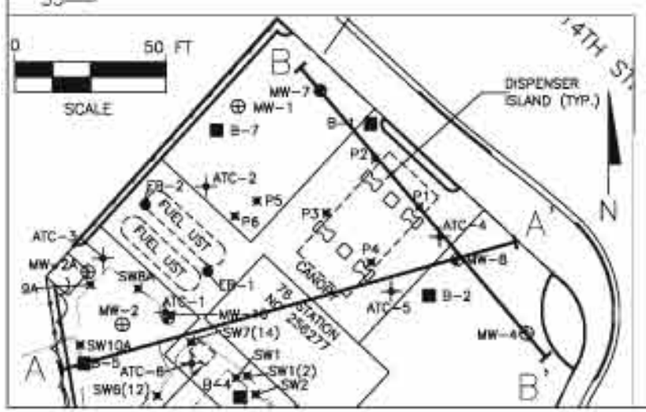
FIGURE 2
SITE PLAN

76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	EW	JH
DATE	REVIEWED BY	FILE NAME
04/18/11	DD	6277-SM5

antea group





LEGEND

- MW-10 — MONITORING WELL/BORING LOCATION
- EXPLORATORY BORING/WELL CASING
- (<0.25/<0.0026/<0.0026) — SOIL SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (mg/kg)
- DEPTH TO STATIC WATER LEVEL
- 104/<1.0/<1.0 — GRAB GROUNDWATER SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (µg/L)
- WELL SCREEN
- DEPTH TO FIRST ENCOUNTERED GROUNDWATER
- TD=20' (4/5/11) — TOTAL DEPTH / DATE INSTALLED

- CONCRETE
- CLASS II AB
- SAND
- ASPHALT
- FILL
- FINE GRAINED MATERIAL (CLAY, SILT, ETC)
- APPROXIMATE STRATIGRAPHIC BOUNDARY

0 10 SCALE IN FEET 5

NOTES:

1) <0.25 = BELOW THE LABORATORY'S INDICATED REPORTING LIMIT
   TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
   MTBE = METHYL-TERT-BUTYL ETHER
   mg/kg = MILLIGRAMS PER KILOGRAM
   µg/L = MICROGRAMS PER LITER
2) STRATIGRAPHY BETWEEN BORINGS IS INTERPRETIVE.

FIGURE 3
GEOLOGIC CROSS SECTION A – A'

76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
4256277	EW	JH
DATE	REVIEWED BY	FILE NAME
05/13/11	DD	6277-SM5

antea group

NORTHWEST B

SOUTHEAST B'

CANOPY

MW-7 | B-1 | ATC-4 | MW-8 | MW-4*

FEET BELOW GROUND SURFACE

0
5
10
15
20
25
30

(289/0.061/0.042)

(603/0.71/0.013)

(0.9/0.017/0.013)

(0.94/<0.0028/0.017)

(<0.24/<0.0029/0.019)

(<0.25/<0.003/0.080)

TD=20'
(4/5/11)

(1,000/<0.63/<0.63)

6,400/60/37

(<0.23/<0.0027/0.0087)

TD=20'
(9/25/07)

(0.75/0.02/0.086)

(0.68/0.016/0.023)

(<0.23/<0.0023/<0.0023)

TD=20'
(4/5/11)

(3.1/<0.05/NA)

(<1.0/<0.05/NA)

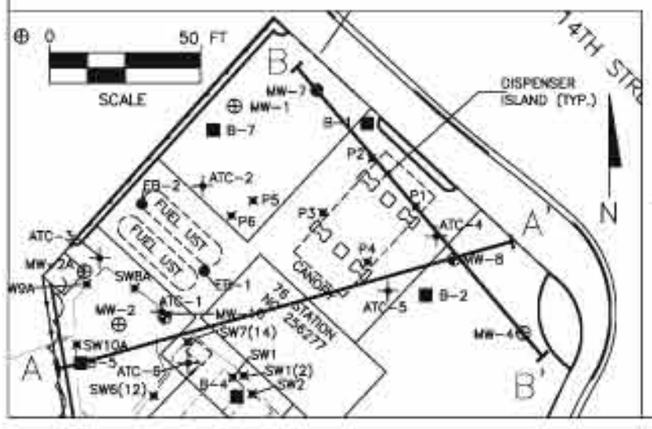
TD=25'
(5/24/89)

2,100/86.9/80.2

(<0.23/<0.0027/0.0087)

(<0.25/<0.003/<0.003)

TD=30'
(12/30/09)



LEGEND

MW-10 MONITORING WELL/BORING LOCATION

EXPLORATORY BORING/WELL CASING

(<0.25/<0.0026/<0.0026) SOIL SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (mg/kg)

DEPTH TO STATIC WATER LEVEL

104/<1.0/<1.0 GRAB GROUNDWATER SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (µg/L)

WELL SCREEN

DEPTH TO FIRST ENCOUNTERED GROUNDWATER

TD=20' TOTAL DEPTH
(4/5/11) DATE INSTALLED

CONCRETE

CLASS II AB

SAND

ASPHALT

FINE GRAINED MATERIAL (CLAY, SILT, ETC)

APPROXIMATE STRATIGRAPHIC BOUNDARY

0 10
SCALE IN FEET
5

NOTES:

1) <0.25 = BELOW THE LABORATORY'S INDICATED REPORTING LIMIT
TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
MTBE = METHYL-TERT-BUTYL ETHER
NA = NOT ANALYZED
mg/kg = MILLIGRAMS PER KILOGRAM
µg/L = MICROGRAMS PER LITER
* = DESTROYED

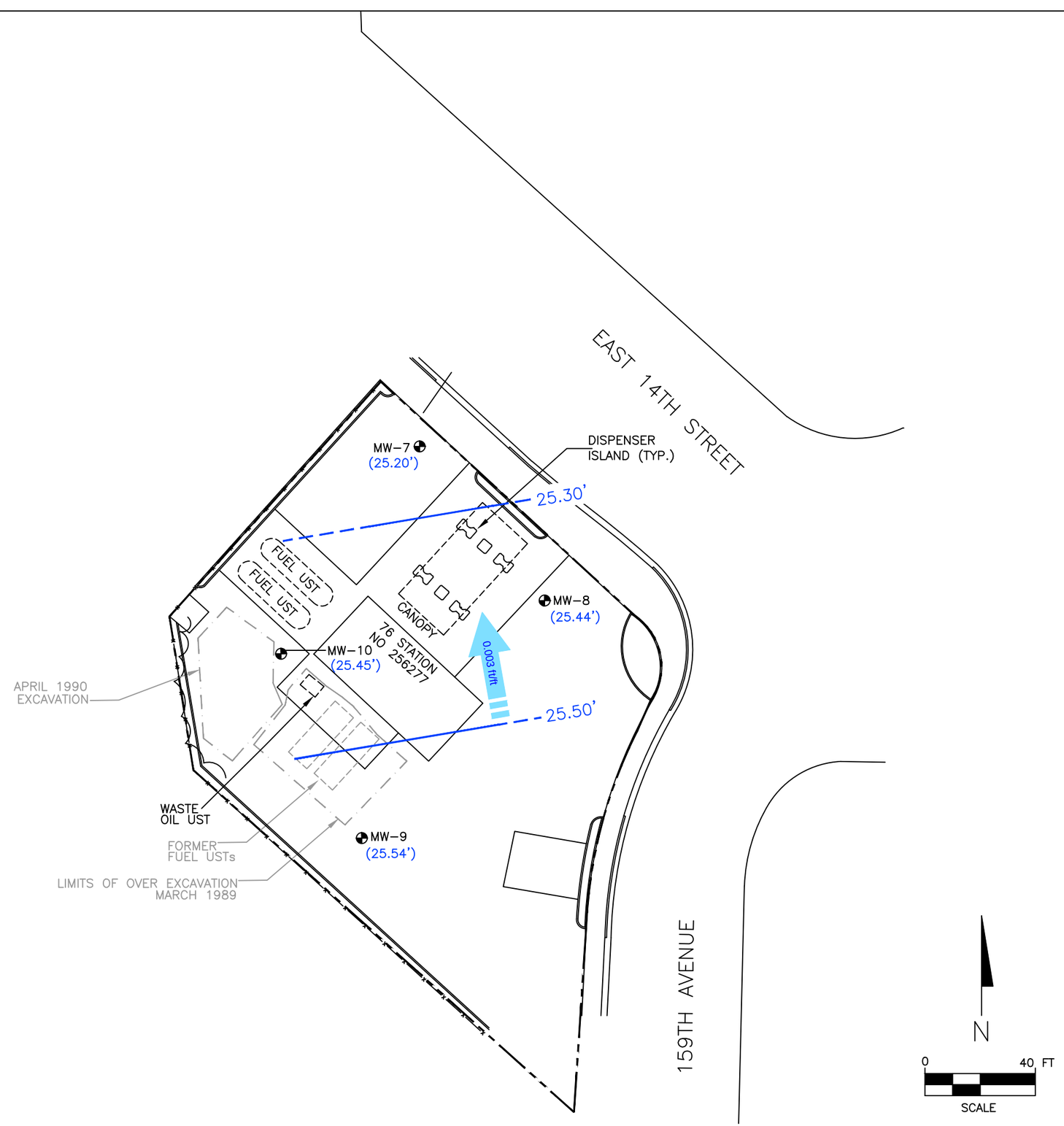
2) STRATIGRAPHY BETWEEN BORINGS IS INTERPRETIVE.

FIGURE 4
GEOLOGIC CROSS SECTION B – B'

76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
#256277	EW	JH
DATE	REVIEWED BY	FILE NAME
05/13/11	DD	6277-SM5

antea group



LEGEND:

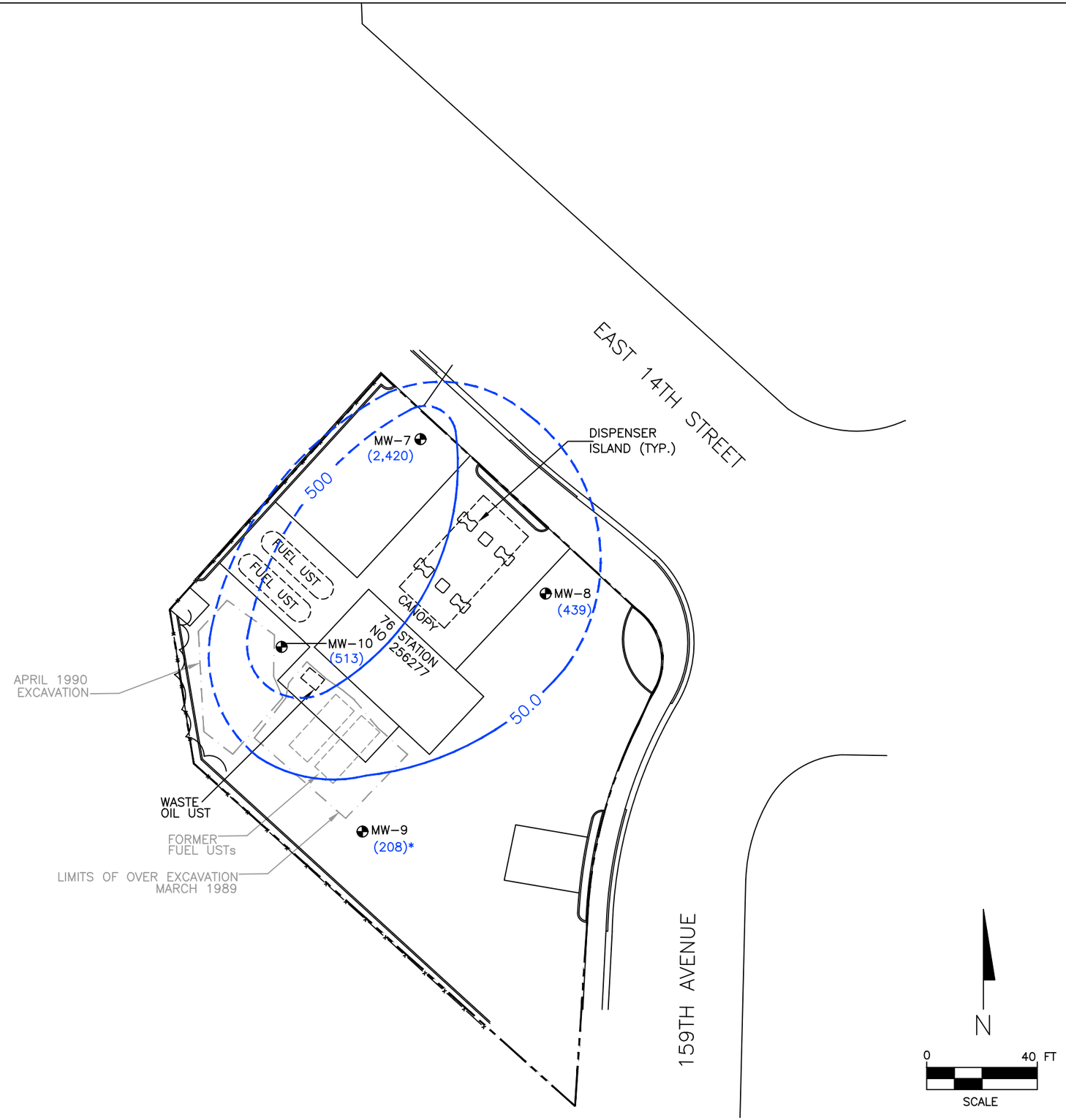
- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- FORMER EXCAVATION AREA
- MONITORING WELL LOCATION (ANTEA GROUP 2011)
- (25.20') GROUNDWATER ELEVATON IN FEET ABOVE MEAN SEA LEVEL (ft/msl)
- 25.30' GROUNDWATER ELEVATION CONTOUR LINE (ft/msl) –DASHED WHERE INFERRED (CONTOUR INTERVAL: 0.20 ft)
- 0.003 ft/ft GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT (ft/ft)

SITE PLAN ADAPTED FROM A SURVEY BY MORROW SURVEYING 2011 AND BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

FIGURE 5
GROUNDWATER ELEVATION CONTOUR MAP
APRIL 18, 2011
76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	EW	JH
DATE	REVIEWED BY	FILE NAME
6/30/11	DD	6277-SMS

antea group



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- FORMER EXCAVATION AREA
- MONITORING WELL LOCATION (ANTEA GROUP 2011)
- (513) DISSOLVED PHASE TPHg ISOCONCENTRATION (µg/L)
- 500 DISSOLVED PHASE TPHg ISOCONTOUR (µg/L) –DASHED WHERE INFERRED

NOTES:
TPHg = TOTAL PETROLEUM HYDROCABONS AS GASOLINE
µg/L = MICROGRAMS PER LITER
* = CONCENTRATION DID NOT MATCH STANDARD FOR TPHg

N

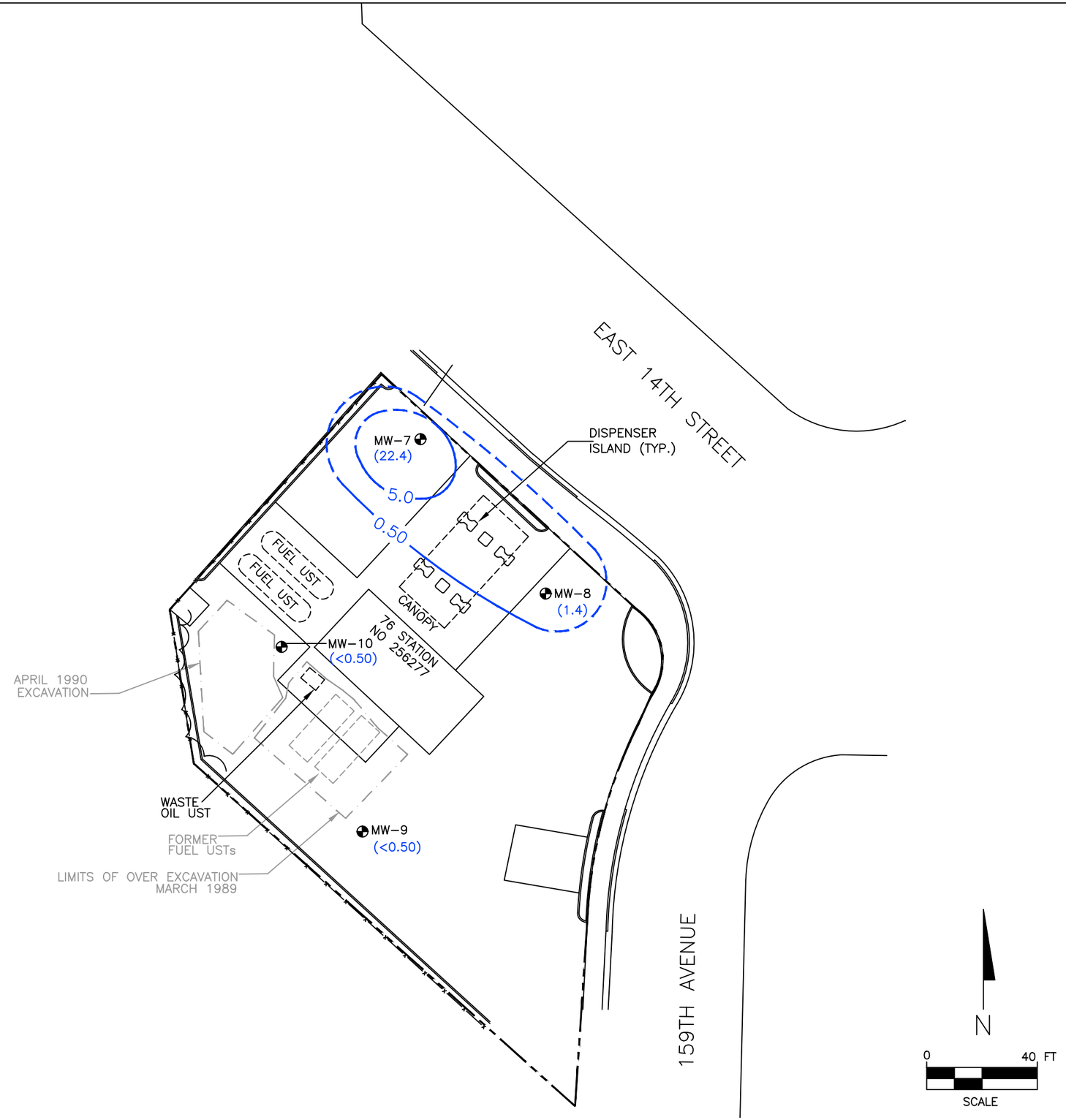
0 40 FT
SCALE

SITE PLAN ADAPTED FROM A SURVEY BY MORROW SURVEYING 2011 AND BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

FIGURE 6
DISSOLVED PHASE TPHg ISOCONCENTRATION MAP
APRIL 18, 2011
76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	EW	JH
DATE	REVIEWED BY	FILE NAME
6/30/11	DD	6277-SMS

antea group



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- FORMER EXCAVATION AREA
- MONITORING WELL LOCATION (ANTEA GROUP 2011)
- (22.4) DISSOLVED PHASE BENZENE ISOCONCENTRATION (µg/L)
- 5.0 DISSOLVED PHASE BENZENE ISOCONTOUR (µg/L)
  –DASHED WHERE INFERRED

NOTES:
µg/L = MICROGRAMS PER LITER
<0.50 = LESS THAN LABORATORY INDICATED REPORTING LIMITS

N

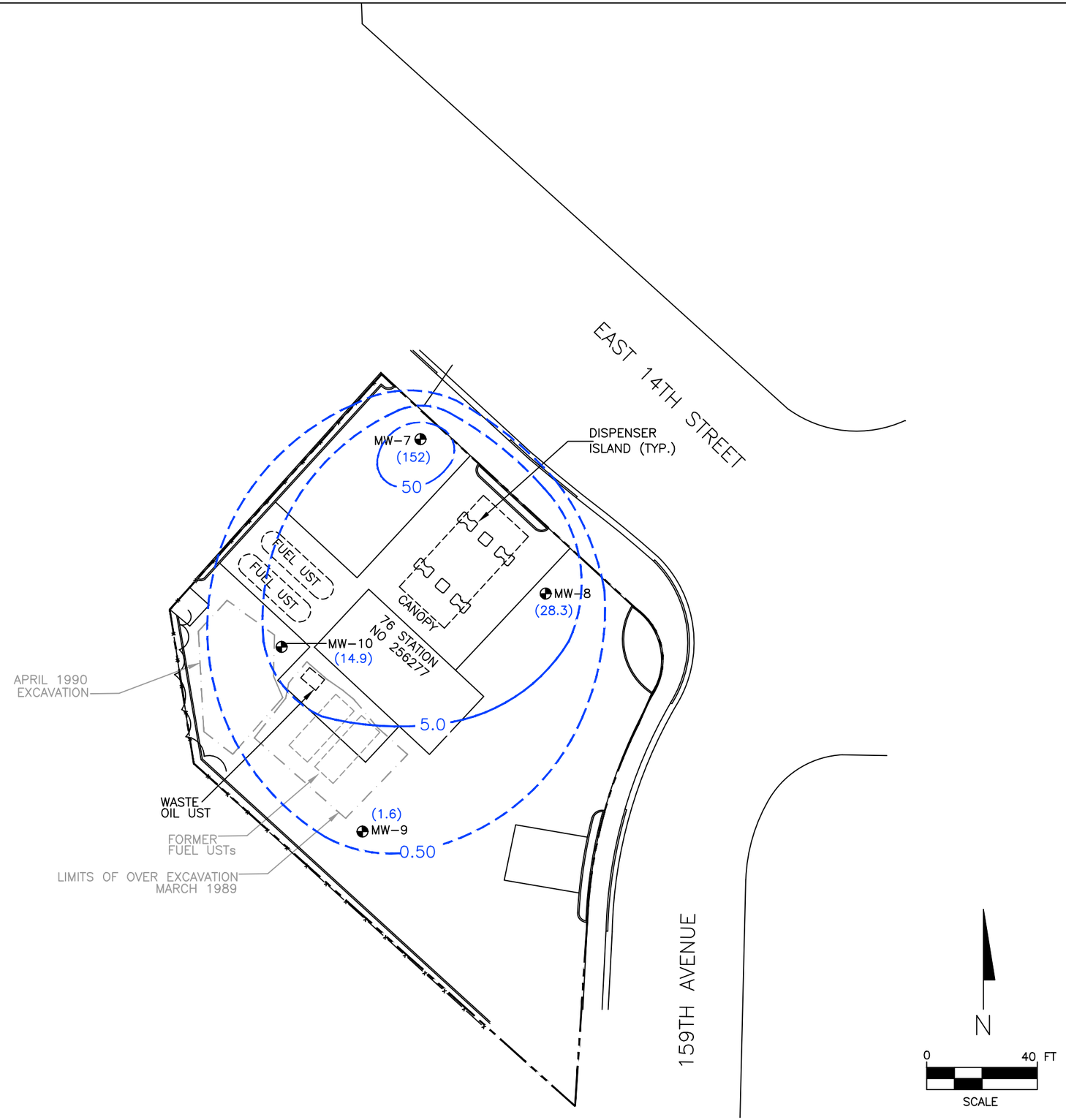
0 40 FT
SCALE

SITE PLAN ADAPTED FROM A SURVEY BY MORROW SURVEYING 2011 AND BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

FIGURE 7
DISSOLVED PHASE BENZENE ISOCONCENTRATION MAP
APRIL 18, 2011
76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	EW	JH
DATE	REVIEWED BY	FILE NAME
6/30/11	DD	6277-SMS

antea group



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- FORMER EXCAVATION AREA
- MONITORING WELL LOCATION (ANTEA GROUP 2011)
- (28.3) DISSOLVED PHASE MTBE ISOCONCENTRATION (µg/L)
- 5.0 DISSOLVED PHASE MTBE ISOCONTOUR (µg/L) –DASHED WHERE INFERRED

NOTES:
MTBE = METHYL TERTIARY BUTYL ETHER
µg/L = MICROGRAMS PER LITER
<0.50 = LESS THAN LABORATORY INDICATED REPORTING LIMITS

N

0 40 FT

SCALE

SITE PLAN ADAPTED FROM A SURVEY BY MORROW SURVEYING 2011 AND BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

FIGURE 8
DISSOLVED PHASE MTBE ISOCONCENTRATION MAP
APRIL 18, 2011
76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	EW	JH
DATE	REVIEWED BY	FILE NAME
6/30/11	DD	6277-SMS

antea group

Tables

Table 1

HISTORICAL SOIL ANALYTICAL RESULTS
76 Service Station No. 6277
15803 East 14th Street, San Leandro, CA

Sample ID	Date	Sample Depth (feet)	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	Ethanol (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	DRO (mg/kg)	RRO (mg/kg)	Lead (mg/kg)
ATC 2007																		
ATC-1d12.0	9/25/2007	12	**100**	<0.005	<0.005	**0.016**	**0.029**	**0.024**	**0.19**	<0.001	<0.001	<0.001	<0.10	--	--	**57**	--	**8.15**
ATC-1d20.0	9/25/2007	20	<1.0	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<12	--	**4.57**
ATC-2d12.0	9/25/2007	12	**560**	<0.62	<0.62	**8.8**	**48**	**0.83**	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	**51**	--	**7.62**
ATC-2d20.0	9/25/2007	20	<1.0	<0.005	<0.005	<0.005	<0.005	**0.011**	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<12	--	**3.57**
ATC-3d12.0	9/25/2007	12	**27**	<0.63	<0.63	**0.82**	**2.93**	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	**310**	--	**7.71**
ATC-3d18.0	9/25/2007	18	<1.0	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	**18**	--	**8.21**
ATC-4d5.0	9/26/2007	5	**1,000**	<0.63	<0.63	**11**	**43**	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	**170**	--	**6.48**
ATC-4d20.0	9/26/2007	20	<1.0	<0.005	<0.005	<0.005	<0.005	**0.015**	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<12	--	**2.85**
ATC-5d5.0	9/26/2007	5	**220**	<0.62	**1.2**	**6.2**	**25.2**	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<12	--	**6.27**
ATC-5d20.0	9/26/2007	20	<1.0	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<14	--	**2.59**
ATC-6d12.0	9/25/2007	12	**59**	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<12	--	**9.37**
ATC-6d15.0	9/25/2007	15	<1.0	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.10	<0.001	<0.001	<0.001	<0.10	--	--	<12	--	**5.27**
Delta 2009																		
B-1@12	12/29/2009	12	**603**	**0.71**	**12.3**	**19**	**103**	**0.013**	**0.021**	<0.0029	<0.0029	<0.0029	--	<0.0029	--	**16.3**	**55.2**	**7**
B-1@15	12/29/2009	15	**0.94**	<0.0028	**0.023**	**0.027**	**0.16**	**0.017**	<0.014	<0.0028	<0.0028	<0.0028	--	<0.0028	--	<2.0	<9.9	**6.2**
B-1@20	12/29/2009	20	<0.25	<0.0030	<0.0030	<0.0030	<0.0059	**0.021**	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**2.2**	<10	<4.7
B-1@24	12/29/2009	24	<0.23	<0.0027	<0.0027	<0.0027	<0.0054	**0.0087**	<0.014	<0.0027	<0.0027	<0.0027	--	<0.0027	--	<2.0	<10	<4.8
B-1@30	12/29/2009	30	<0.25	<0.0030	<0.0030	<0.0030	<0.0060	<0.0030	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	<2.0	<9.8	<4.3
B-2@5	12/29/2009	5	**2.8**	**0.1**	<0.0027	**0.488**	**0.22**	**0.058**	**0.034**	<0.0027	<0.0027	<0.0027	--	<0.0027	--	**9.2**	<10	**10.1**
B-2@10	12/29/2009	10	**1.5**	**0.073**	<0.0030	**0.014**	<0.0060	**0.13**	**0.04**	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**4**	<9.9	**6.3**
B-2@20	12/29/2009	20	<0.24	<0.0028	<0.0028	<0.0028	<0.0057	<0.0028	<0.014	<0.0028	<0.0028	<0.0028	--	<0.0028	--	<2.0	<10	**5.5**
B-2@24	12/29/2009	24	**42.2**	**0.027**	<0.0028	**0.94**	**2.3**	**0.031**	**0.017**	<0.0028	<0.0028	<0.0028	--	<0.0028	--	**27.2**	**79.8**	**7**
B-2@28	12/29/2009	28	<0.23	<0.0028	<0.0028	<0.0028	<0.0056	<0.0028	<0.014	<0.0028	<0.0028	<0.0028	--	<0.0028	--	<2.0	<9.8	**4.1**
B-3@5	12/29/2009	5	<0.24	<0.0029	<0.0029	<0.0029	<0.0057	**0.043**	**0.042**	<0.0029	<0.0029	<0.0029	--	<0.0029	--	**2.2**	<9.9	**19.7**
B-3@10	12/29/2009	10	<0.24	<0.0028	<0.0028	<0.0028	<0.0057	**0.044**	**0.023**	<0.0028	<0.0028	<0.0028	--	<0.0028	--	**2**	<10	**7.6**
B-3@15	12/29/2009	15	<0.22	<0.0026	<0.0026	<0.0026	<0.0052	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	--	<0.0026	--	<2.0	<9.9	**5.7**
B-3@20.5	12/29/2009	20.5	<0.25	<0.0030	<0.0030	<0.0030	<0.0060	**0.0081**	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**2.2**	**18.7**	**5.8**
B-3@24.5	12/29/2009	24.5	<0.25	<0.0030	<0.0030	<0.0030	<0.0059	**0.0071**	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**11.1**	**174**	**8.2**
B-3@28	12/29/2009	28	<0.23	<0.0027	<0.0027	<0.0027	<0.0055	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	--	<0.0027	--	<2.0	<9.8	**4.9**
B-4@5	12/30/2009	5	<0.25	<0.0030	<0.0030	<0.0030	<0.0060	<0.0030	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**22.5**	**379**	**37.9**
B-4@10	12/30/2009	10	<0.25	<0.0030	<0.0030	<0.0030	<0.0059	<0.0030	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**4**	**51.2**	**14.3**
B-4@20	12/30/2009	20	<0.25	<0.0029	<0.0029	<0.0029	<0.0059	<0.0029	<0.015	<0.0029	<0.0029	<0.0029	--	<0.0029	--	<2.0	<9.9	**4.9**
B-4@28	12/30/2009	28	<0.24	<0.0029	<0.0029	<0.0029	<0.0058	<0.0029	<0.015	<0.0029	<0.0029	<0.0029	--	<0.0029	--	<2.0	<9.9	**5.5**
B-5@5	12/30/2009	5	<0.25	<0.0030	<0.0030	<0.0030	<0.0059	<0.0030	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**3.6**	**40.1**	**15.4**
B-5@12	12/30/2009	12	<0.24	<0.0029	**0.0037**	<0.0029	<0.0058	<0.0029	<0.014	<0.0029	<0.0029	<0.0029	--	<0.0029	--	**11.6**	**247**	**8.4**
B-5@15	12/30/2009	15	<0.25	<0.0029	<0.0029	<0.0029	<0.0059	<0.0029	<0.015	<0.0029	<0.0029	<0.0029	--	<0.0029	--	<2.0	<9.9	**6.1**
B-5@20	12/30/2009	20	<0.23	<0.0028	<0.0028	<0.0028	<0.0056	<0.0028	<0.014	<0.0028	<0.0028	<0.0028	--	<0.0028	--	<2.0	<10	**6.5**
B-5@25	12/30/2009	25	<0.25	<0.0030	<0.0030	<0.0030	<0.0059	<0.0030	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	<2.0	<10	**5.2**
B-5@28	12/30/2009	28	<0.24	<0.0029	<0.0029	<0.0029	<0.0058	<0.0029	<0.015	<0.0029	<0.0029	<0.0029	--	<0.0029	--	**2.5**	**23.5**	**6.3**
B-7@5	12/30/2009	5	<0.25	<0.0029	<0.0029	<0.0029	<0.0059	<0.0029	<0.015	<0.0029	<0.0029	<0.0029	--	<0.0029	--	**63.7**	**582**	**22.1**
B-7@10	12/30/2009	10	**1.3**	**0.018**	<0.0030	**0.0035**	<0.0060	**0.21**	**0.093**	<0.0030	<0.0030	<0.0030	--	<0.0030	--	**5.7**	<9.8	**7.3**
B-7@20	12/30/2009	20	<0.25	<0.0030	<0.0030	<0.0030	<0.0059	**0.014**	<0.015	<0.0030	<0.0030	<0.0030	--	<0.0030	--	<2.0	<9.9	**5.8**
B-7@24	12/30/2009	24	<0.22	<0.0027	<0.0027	<0.0027	<0.0053	<0.0027	<0.013	<0.0027	<0.0027	<0.0027	--	<0.0027	--	<2.0	<10	<4.5
Antea Group 2011																		
MW-7d9	4/5/2011	9	**289**	**0.061**	**0.034**	**4.3**	**8.4**	**0.042**	**0.018**	<0.0024	<0.0024	<0.0024	<0.32	<0.0024	<0.0024	--	**20.7**	**8.9**
MW-7d16	4/5/2011	16	**0.9 M1**	**0.017**	**0.037**	**0.054**	**0.24**	**0.013**	<0.012	<0.0024	<0.0024	<0.0024	<0.32	<0.0024	<0.0024	--	**788**	**13.9**
MW-7d20	4/5/2011	20	<0.24	<0.0029	<0.0029	<0.0029	<0.0087	**0.019**	<0.015	<0.0029	<0.0029	<0.0029	<0.39	<0.0029	<0.0029	--	<9.9	**6.3**
MW-8d9	4/5/2011	9	**0.75**	**0.02**	<0.003	<0.003	<0.0089	**0.086**	**0.023**	<0.003	<0.003	<0.003	<0.39	<0.003	<0.003	--	<10	**9.9**
MW-8d13	4/5/2011	13	**0.68**	**0.016**	<0.0028	**0.024**	**0.06**	**0.023**	<0.014	<0.0028	<0.0028	<0.0028	<0.37	<0.0028	<0.0028	--	**852**	**15.7**
MW-8d20	4/5/2011	20	<0.23	<0.0023	<0.0023	<0.0023	<0.007	<0.0023	<0.012	<0.0023	<0.0023	<0.0023	<0.31	<0.0023	<0.0023	--	<10	<4.1
MW-9d8	4/5/2011	8	<0.22	<0.0026	<0.0026	<0.0026	<0.0078	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.35	<0.0026	<0.0026	--	<9.7	**8.9**
MW-9d20	4/5/2011	20	<0.24	<0.0028	<0.0028	<0.0028	<0.0085	<0.0028	<0.014	<0.0028	<0.0028	<0.0028	<0.38	<0.0028	<0.0028	--	<9.8	**5.3**
MW-9d24	4/5/2011	24	<0.21	<0.0027	<0.0027	<0.0027	<0.0082	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.36	<0.0027	<0.0027	--	<9.9	**6.4**
MW-10d10	4/5/2011	10	<0.21	<0.0025	<0.0025	<0.0025	<0.0075	**0.028**	<0.012	<0.0025	<0.0025	<0.0025	<0.33	<0.0025	<0.0025	<2.0	<10	**8.5**
MW-10d15	4/5/2011	15	<0.25	<0.0026	<0.0026	**0.0039**	**0.012**	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.34	<0.0026	<0.0026	<1.9	<9.7	**6.1**
MW-10d20	4/5/2011	20	<0.22	<0.0026	<0.0026	<0.0026	<0.0077	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.34	<0.0026	<0.0026	<2.0	<9.9	**5.8**

Notes:

TPHg=	total petroleum hydrocarbons as gasoline by CA LUFT
BTEX =	benzene, toluene, ethyl-benzene, total xylenes by EPA Method 8260
MTBE =	methyl tertiary butyl ether by EPA Method 8260
TBA =	tert butyl alcohol by EPA Method 8260
TAME =	tert amyl methyl ether by EPA Method 8260
DIPE =	Diisopropyl ether by EPA Method 8260
ETBE =	Ethyl-tert-butyl-ether by EPA Method 8260
1,2-DCA =	1,2-Dichloroethane by EPA Method 8260
EDB =	1,2-Dibromoethane by EPA Method 8260
DRO =	Diesel range organics by EPA Method 8015
RRO =	Residual range organics by EPA Method 8015
M1 =	Matrix Spike recovery exceeded QC limits. Batch accepted based on laboratory control sample recovery.
mg/kg =	milligrams per kilogram
< =	Below the laboratory's indicated reporting limit
Bold =	Above the laboratory's indicated reporting limit
-- =	Not analyzed
EPA =	US Environmental Protection Agency

Table 2
CURRENT GROUNDWATER GAUGING AND ANALYTICAL DATA
76 Service Station No. 6277
15803 EAST 14TH ST
SAN LEANDRO, CALIFORNIA

Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA												
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-7	4/18/2011	34.60	9.40	NP	25.20	**2420**	**22.4**	**12.4**	**11.3**	**449**	**152**	**5.7**	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-8	4/18/2011	34.85	9.40	NP	25.45	**439**	**1.4**	**0.75**	**2.8**	**14.2**	**28.3**	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-9	4/18/2011	35.09	9.55	NP	25.54	**208 1n**	<0.50	<0.50	<0.50	<1.5	**1.6**	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-10	4/18/2011	36.00	10.55	NP	25.45	**513**	<0.50	<0.50	**6.9**	**40.0**	**14.9**	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0

Gauging Notes:
TOC - Top of Casing
ft - Feet
NP - LNAPL not present
LNAPL - Light non-aqueous phase liquid
* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)
-- - No information available

Analytical Notes:
Bold - Above laboratory's indicated reporting limit
< - Below laboratory's indicated reporting limit
ug/L - micrograms/liter
TPHg- Total petroleum hydrocarbons as gasoline
MTBE- Methyl tertiary-butyl ether
TBA- Tertiary-butyl alcohol
DIPE- Di-isopropyl ether
ETBE- Ethyl tertiary-butyl ether
TAME- Tertiary-amyl methyl ether
1n - The TPHg result for this sample did not match the laboratory standard for gasoline. This is likely due to the presence of tetrachloroethene in the sample

Table 3

HISTORICAL GROUNDWATER ANALYTICAL DATA
76 Service Station No. 6277
15803 East 14th Street, San Leandro, California

Sample ID	Date	TPHg (µg/L)	DRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	DIPE (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
ATC 2007															
ATC-1	9/25/2007	**140**	**15,000**	<5.0	<5.0	<5.0	**7**	**7**	<10	<0.8	<0.8	<0.8	<50	<1.0	--
ATC-2	9/25/2007	**860**	**5,200**	**39**	<5.0	**27**	**117**	**210**	<10	<0.8	<0.8	<0.8	<50	<1.0	--
ATC-3	9/25/2007	**3,700**	**8,100**	<5.0	<5.0	**160**	**630**	<0.5	<10	<0.8	<0.8	<0.8	<50	<1.0	--
ATC-4	9/26/2007	**6,400**	**1,900**	**60**	**120**	**300**	**1,040**	**37**	<10	<0.8	<0.8	<0.8	<50	<1.0	--
ATC-5	9/26/2007	**2,500**	**810**	**33**	**64**	**110**	**400**	**6**	<10	<0.8	<0.8	<0.8	<50	<1.0	--
ATC-6	9/26/2007	**93**	**910**	<5.0	<5.0	<5.0	<5.0	<0.5	<10	<0.8	<0.8	<0.8	<50	<1.0	--
Delta 2009															
B-1	12/29/2009	**2,110**	**494**	**86.9**	**56**	**114**	**357**	**80.2**	<5.0	<1.0	<1.0	<1.0	--	--	--
B-2	12/29/2009	**858**	**372**	**25**	<1.0	**26.9**	**47.7**	**7.3**	<5.0	<1.0	<1.0	<1.0	--	--	--
B-3	12/29/2009	**254**	**311**	<1.0	<1.0	**1.2**	**3.2**	**5.8**	<5.0	<1.0	<1.0	<1.0	--	--	--
B-4	12/30/2009	**158**	**411**	<1.0	<1.0	<1.0	<3.0	**2**	<5.0	<1.0	<1.0	<1.0	--	--	--
B-5	12/30/2009	**104**	**188**	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<1.0	<1.0	<1.0	--	--	--
B-7	12/30/2009	**1,340**	**479**	**4.7**	**6.9**	**61.1**	**284**	**59.5**	<5.0	<1.0	<1.0	<1.0	--	--	--
Antea Group 2011															
MW-7	4/18/2011	**2,420**	--	**22.4**	**12.4**	**11.3**	**449**	**152**	**5.7**	<0.50	<0.50	<0.50	<250	<1.0	<1.0
MW-8	4/18/2011	**439**	--	**1.4**	**0.75**	**2.8**	**14.2**	**28.3**	<5.0	<0.50	<0.50	<0.50	<250	<1..0	<1.0
MW-9	4/18/2011	**208**	--	<0.50	<0.50	<0.50	<1.5	**1.6**	<5.0	<0.50	<0.50	<0.50	<250	<1.0	<1.0
MW-10	4/18/2011	**513**	--	<0.50	<0.50	**6.9**	**40**	**14.9**	<5.0	<0.50	<0.50	<0.50	<250	<1.0	<1.0

Notes:

TPHg =	total petroleum hydrocarbons as gasoline by CA LUFT
DRO =	Diesel range organics by EPA Method 8015B
BTEX =	benzene, toluene, ethyl-benzene, total xylenes by EPA Method 8260
MTBE =	Methyl t-butyl Ether by EPA Method 8260
TBA =	tert butyl alcohol by EPA Method 8260
TAME =	Tert-amylmethyl ether by EPA Method 8260
DIPE =	Diisopropyl ether by EPA Method 8260
ETBE =	Ethyl-tert-butyl-ether by EPA Method 8260
1,2-DCA =	1,2-Dichloroethane by EPA Method 8260
EDB =	1,2-Dibromoethane by EPA Method 8260
µg/L =	micrograms per liter
< =	Below the laboratory's indicated reporting limit
Bold =	Above the laboratory's indicated reporting limit
EPA =	US Environmental Protection Agency
-- =	Not analyzed

Appendix A

Well Installation Permit

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 03/16/2011 By jamesy

Permit Numbers: W2011-0153 to W2011-0156
Permits Valid from 04/04/2011 to 04/06/2011

Application Id: 1299779690663
City of Project Site: San Leandro
Site Location: 15803 E 14th St, San Leandro, CA
Project Start Date: 03/28/2011
Completion Date: 03/30/2011
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org
Extension Start Date: 04/04/2011
Extension End Date: 04/06/2011
Extension Count: 1
Extended By: vickyh1

Applicant: Antea Group - Ed Weyrens
11050 White Rock Rd, Ste 110, Rancho Cordova, CA 95670
Phone: 916-288-0154

Property Owner: Platinum Energy
30343 Canwood St, Ste 200, Agoura Hills, CA 91301
Phone: 818-206-5704

Client: ** same as Property Owner **

Total Due: $1588.00
Receipt Number: WR2011-0072 **Total Amount Paid:** $1588.00
Payer Name : Antea Group Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 4 Wells
Driller: Gregg Drilling - Lic #: 485165 - Method: hstem **Work Total: $1588.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2011-0153	03/16/2011	06/26/2011	MW10	8.00 in.	2.00 in.	13.00 ft	25.00 ft
W2011-0154	03/16/2011	06/26/2011	MW7	8.00 in.	2.00 in.	13.00 ft	25.00 ft
W2011-0155	03/16/2011	06/26/2011	MW8	8.00 in.	2.00 in.	13.00 ft	25.00 ft
W2011-0156	03/16/2011	06/26/2011	MW9	8.00 in.	2.00 in.	13.00 ft	25.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the

permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

6. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

8. Minimum surface seal thickness is two inches of cement grout placed by tremie

9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

Appendix B

Boring Logs and DWR Well Completion Reports

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

anteagroup

Project No:	140256277	Client:	COP-ELT
Logged By:	ETW	Location:	15803 East 14th Street
Driller:	Gregg	Date Drilled:	4/5/2011
Drilling Method:	HSA	Hole Diameter:	6"
Sampling Method:	Direct Push	Hole Depth:	20'
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	19'
Gravel Pack:	#3	▼ First Water Depth:	16'
		▽ Static Water Depth:	10'

Boring/Well No: MW-7
Page 1 of 1

Location Map

Elevation: | Northing: | Easting:

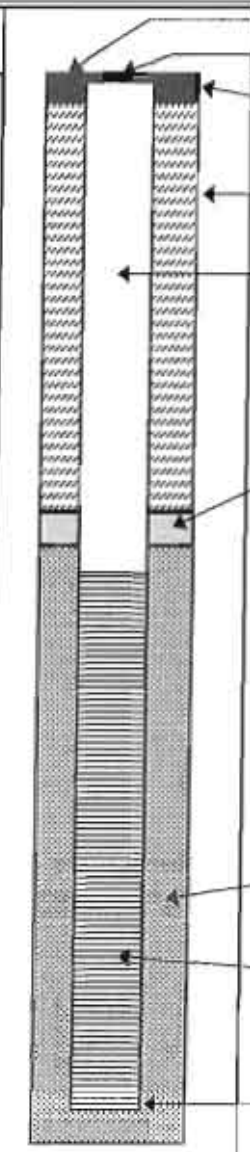
Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
									Asphalt (4 inches thick)
									Class II AB
		dry			1			SM	**Silty Sand**; 65% sand, 30% silt, 5% gravel (large), light brown to dark brown, dry, sand is fine to coarse grain
					2				
					3				
					4				
					5	X			
					6	X			
						X			
					7	X		ML	
		dry	1.4			X			**Silt**; 95% silt, 5% fine sand, olive green, dry
					8	X			
						X			
		dry	7.4	MW-7d9	9	X	O	CL	**Clay**, 95% clay, 5% fine sand, olive green, dry
	▽				10	X			
						X			
					11	X			
						X			
					12	X			
						X			
					13	X			
						X			
					14	X			
						X			
					15	X			
						X			
	▼				16	X	O	SW	**Well graded sand w/ gravel**; 80% sand, 15% gravel, 5% silt, dark brown, wet, sand is fine to coarse grain, gravel is small
		wet	5.1	MW-7d16		X			
		wet			17	X		CL	**Clay**; 95% clay, 5% sand, dark brown, wet
					18	X			
						X			
					19	X		ML	**Sandy silt**; 65% silt, 35% fine sand, pale grey, wet
		wet				X	O		
			0.6	MW-7d20	20				TD = 20 feet bgs
					21				
					22				

anteagroup

Project Name and Location:
76 Service Station No. 6277
Site Address: 15803 East 14th Street
City, State: San Leandro, California

MW-7 CONSTRUCTION DETAILS

DEPTH (ft bgs)	
0	GROUND SURFACE
1	
7	
8	
9	
19	
20	



Flush Mounted Well Box
Locking Well Cap
Concrete = 0 ft. to 1 ft.
Bentonite Grout = 1 ft. to 7 ft.
2" Sch. 40 blank PVC casing set from 0 ft. to 9 ft.
Bentonite Seal = 7 ft. to 8 ft.
RMC Lonestar Sand #3 Filter Pack set from 8 ft. to 20 ft.
2" Sch. 40, 0.02-inch slotted PVC screen set from 9 ft. to 19 ft.
Threaded PVC End Cap

Total Depth of boring at 20 feet below ground surface (bgs)

- Concrete
- Bentonite Grout
- Two inch diameter 0.02-inch Slotted PVC Screen
- Two inch diameter PVC well casing grouted in place
- RMC Lonestar Sand #3 Filter Pack
- Bentonite Chip Seal

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

anteagroup

Project No:	I40256277	Client:	COP-ELT
Logged By:	ETW	Location:	15803 East 14th Street
Driller:	Gregg	Date Drilled:	4/5/2011
Drilling Method:	HSA	Hole Diameter:	8"
Sampling Method:	Direct Push	Hole Depth:	20'
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	20'
Gravel Pack:	#3	▼ First Water Depth:	
		▽ Static Water Depth:	10.20'

Boring/Well No: MW-8
Page 1 of 1

Location Map

Elevation: Northing: Easting:

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
									Asphalt (4 inches thick)
									Class II AB
		dry			1			ML	**Sandy silt**; 65% silt, 30% fine sand, 5% gravel (large), olive green to black, dry
					2				
					3				
					4				
					5	X			
					6	X			
		dry			7	X			
					8	X			
			8.1		9	X			
		moist	5.6	MW-8d9		X	O	CL	**Clay**, 95% clay, 5% fine sand, olive green, moist
	▽				10	X			
					11	X			
					12	X			
					13	X			
		moist	2.2	MW-8d13		X	O	SW	**Well graded sand w/ gravel**; 80% sand, 15% gravel, 5% clay, brown, moist, sand is medium to coarse, gravel is small
		moist	1.2		14	X		CL	**Clay**; 95% clay, 5% fine sand, light brown, moist
					15	X			
					16	X			
					17	X			
					18	X			
					19	X		ML	**Silt w/ sand**; 85% silt, 15% fine sand, pale brown, moist
		moist	0.3	MW-8d20	20	X	O		TD = 20 feet bgs
					21				
					22				

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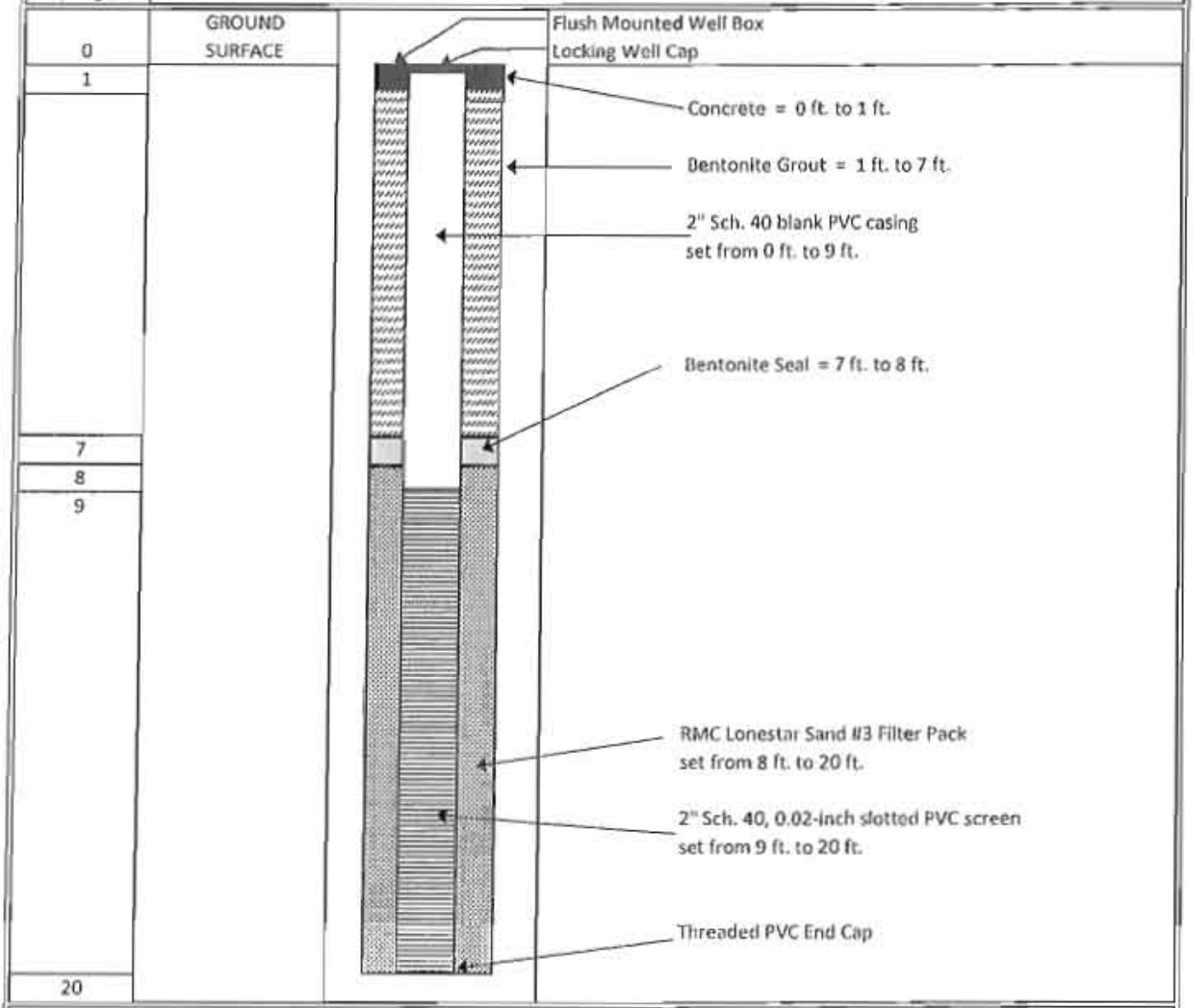
Project Name and Location:
76 Service Station No. 6277
Site Address: 15803 East 14th Street
City, State: San Leandro, California

DEPTH (ft bgs)	MW-8 CONSTRUCTION DETAILS



Total Depth of boring at 20 feet below ground surface (bgs)

- Concrete
- Bentonite Grout
- Two inch diameter 0.02-inch Slotted PVC Screen
- Two inch diameter PVC well casing grouted in place
- RMC Lonestar Sand #3 Filter Pack
- Bentonite Chip Seal

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

anteagroup

Project No:	I40256277	Client:	COP-ELT
Logged By:	ETW	Location:	15803 East 14th Street
Driller:	Gregg	Date Drilled:	4/5/2011
Drilling Method:	HSA	Hole Diameter:	8"
Sampling Method:	Direct Push	Hole Depth:	24
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	24'
Gravel Pack:	#3	First Water Depth:	22'
		Static Water Depth:	10.40'
Elevation:		Northing:	Easting:

Boring/Well No: MW-9
Page 1 of 2

Location Map

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
									Asphalt (4 inches thick)
									Class II AB
		dry			1			SW	**Well graded sand w/ gravel**; 75% sand, 25% gravel, brown, dry, sand is fine to coarse grain, gravel is small to large
					2				
					3				
					4				
					5	X			
						X			
		dry	0.3		6	X		ML	**Silt w/ sand**; 80% silt, 20% fine sand, grey, dry
					7	X			
						X			
		moist	0.8	MW-9d8	8	X	O	CL	**Clay**; 95% clay, 5% fine sand, dark brown, moist
					9	X			
						X			
	▽				10	X			
						X			
					11	X			
						X			
					12	X			
						X			
					13	X			Change color to brown
						X			
					14	X			
						X			
					15	X			
						X			
					16	X			
						X			
					17	X			
						X			
					18	X			
						X			
					19	X		CL	**Sandy lean clay**; 70% clay, 30% fine sand, pale brown, moist
		moist	0.7	MW-9d20		X	O		
					20	X			
						X			
					21	X			
						X			
	▼				22	X		SC	**Clayey sand**; 60% fine sand, 40% clay, brown, wet
		wet							

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Project No:	I40256277	Client:	COP-ELT
Logged By:	ETW	Location:	15803 East 14th Street
Driller:	Gregg	Date Drilled:	4/5/2011
Drilling Method:	HSA	Hole Diameter:	8"
Sampling Method:	Direct Push	Hole Depth:	24'
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	24'
Gravel Pack:	#3	First Water Depth:	22'
		Static Water Depth:	10.40'

Boring/Well No: MW-9

Location Map

Elevation: Northing: Easting:

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
					23	X			**Clayey sand**; 60% fine sand, 40% clay, brown, wet
		wet	0.7	MW-9d24		X			
					24	X	O		TD = 24 feet bgs
					25				
					26				
					27				
					28				
					29				
					30				
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

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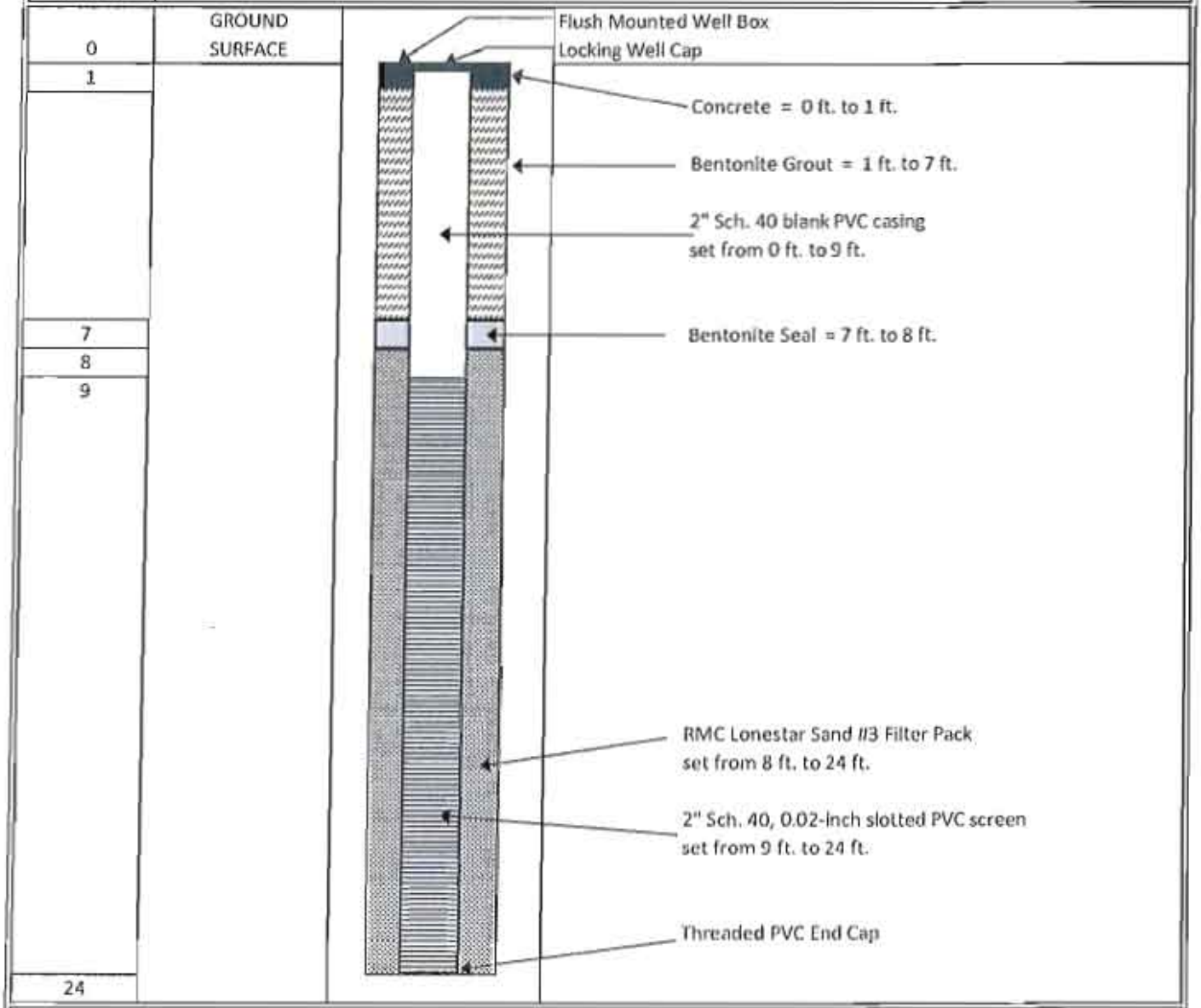
Project Name and Location:
76 Service Station No. 6277
Site Address: 15803 East 14th Street
City, State: San Leandro, California

DEPTH (ft bgs)	MW-9 CONSTRUCTION DETAILS



Total Depth of boring at 24 feet below ground surface (bgs)

- Concrete
- Bentonite Grout
- Two inch diameter 0.02-inch Slotted PVC Screen
- Two inch diameter PVC well casing grouted in place
- RMC Lonestar Sand #3 Filter Pack
- Bentonite Chip Seal

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

anteagroup

Project No:	140256277	Client:	COP-ELT
Logged By:	ETW	Location:	15803 East 14th Street
Driller:	Gregg	Date Drilled:	4/5/2011
Drilling Method:	HSA	Hole Diameter:	8"
Sampling Method:	Direct Push	Hole Depth:	20'
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	20'
Gravel Pack:	#3	First Water Depth:	
		Static Water Depth:	11.20'
Elevation:		Northing:	Easting:

Boring/Well No: MW-10
Page 1 of 1

Location Map

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
									Asphalt (4 inches thick)
									Class II AB
		dry			1			Fill	**Well graded gravel w/ sand**; 55% gravel, 45% sand, brown, dry, sand is fine to coarse grain, gravel is large, material is fill
					2				
					3				
					4				
					5	X			
						X			
		dry	5.7		6	X		CL	**Clay w/ sand**; 85% clay, 15% fine sand, black, dry
					7	X			
						X			
					8	X			
						X			
			0.7		9	X			Olive green
						X			
		moist	1	MW-10@10	10	X	O	CL	**Clay**; 95% clay, 5% fine sand, black, moist, strong odor
	▽				11	X			
						X			
					12	X			Dark brown
						X			
					13	X			
						X			
					14	X			
						X			
		moist	1.1	MW-10@15	15	X	O	SC	**Clayey sand**; 75% fine sand, 25% clay, light brown, moist
						X			
					16	X			
						X			
					17	X			
						X			
		moist			18	X		CL	**Clay**; 90% clay, 10% fine sand, brown, moist
						X			
					19	X			Dark brown
			0.9	MW-10@20	20	X	O		TD = 20 feet bgs
						X			
					21	X			
						X			
					22	X			

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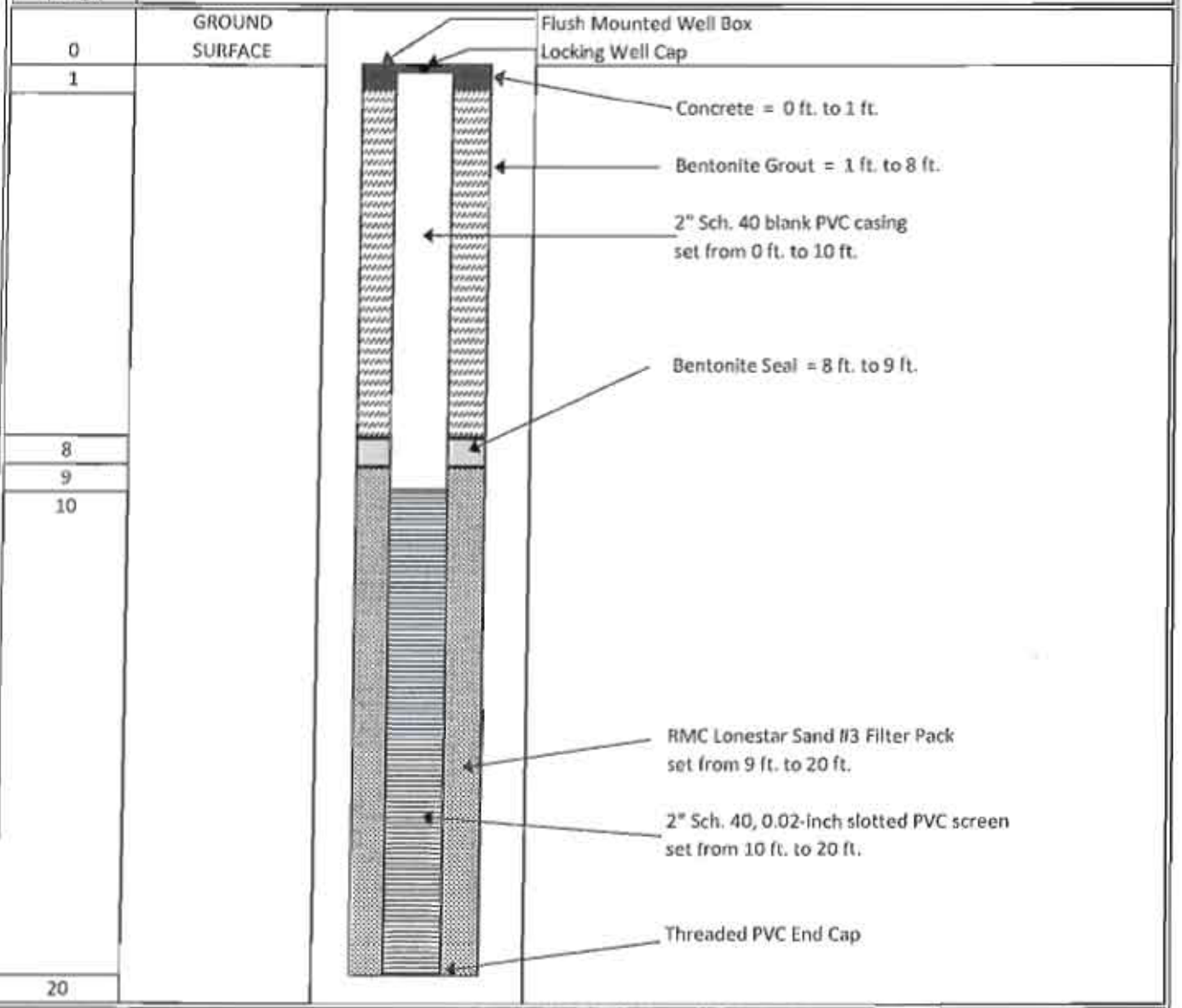
Project Name and Location:
76 Service Station No. 6277
Site Address: 15803 East 14th Street
City, State: San Leandro, California

DEPTH (ft bgs)	MW-10 CONSTRUCTION DETAILS



Total Depth of boring at 20 feet below ground surface (bgs)

- Concrete
- Bentonite Grout
- Two inch diameter 0.02-inch Slotted PVC Screen
- Two inch diameter PVC well casing grouted in place
- RMC Lonestar Sand #3 Filter Pack
- Bentonite Chip Seal

Appendix C

Certified Laboratory Analytical Reports and Data Validation Forms

Is the Data Set Valid? (circle)	Preservation Temperature (if Known): 3.2 °C
Yes / No	

Antea™Group Laboratory Data Validation Sheet

Project/Client: 76 Service Station # 6277 / COP-ELT
Project #: I40256277
Date of Validation: 4-26-11 **Date of Analysis:** 4/12/11 to 4/18/11
Sample Date: 4-5-11 **Completed By:** ETW
Signature:

Circle or Highlight Yes / No (below)

Analytical Lab Used and Report # (if any): 257254

1.	Were the analyses the ones requested?	Yes / No
2.	Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?	Yes / No
3.	Were samples prepared (extracted, filtered, etc.) within EPA holding times?	Yes / No
4.	Once prepared/extracted, were the samples analyzed within the EPA holding times?	Yes / No
5.	Were Laboratory blanks performed, if so, were they non-detect?	Yes / No
6.	Are the units correct? (i.e., soil samples in mg/kg or ug/g, water samples mg/L, ug/L, and air samples in volume mg/m^3,etc.)	Yes / No
7.	Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?	Yes / No
8.	In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?	Yes / No
9.	Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approximately 80-120%, depending on the analyte)?	Yes / No
10.	Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?	Yes / No
11.	Were Relative Percent Difference values within the acceptable range (i.e. ±25%)?	Yes / No

If any answer is no, explain why and what corrective action was taken (use additional sheet(s), as necessary):

6 Qualifiers reported: D6 ⇒ RPD exceeded control limits. M1 ⇒ Matrix spike recovery exceeded QC limits. M6 ⇒ MS & MSD not evaluated against control limits due to sample dilution. S0 ⇒ Surrogate recovery outside LCL. S2 ⇒ Surrogate recovery outside LCL due to matrix interferences. S4 ⇒ Surrogate recovery not evaluated due to sample dilution.

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Seattle, WA 98108
(206)767-5060

April 22, 2011

Dennis Dettloff
Antea USA
11050 White Rock Rd. #110
Rancho Cordova, CA 95670

RE: Project: 256277
Pace Project No.: 257254

Dear Dennis Dettloff:
Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Regina Ste. Marie

Regina SteMarie

regina.stemarie@pacelabs.com
Project Manager

Enclosures

cc: Tara Bosch, Antea USA
Jonathon Fillingame, Antea USA
Josh Mahoney, Antea USA
Tony Perini, Antea USA
Don Pinkerton, Antea USA
Doug Umland, Antea USA
Ed Weyrens, Antea USA

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CERTIFICATIONS

Project: 256277
Pace Project No.: 257254

Washington Certification IDs
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229

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SAMPLE ANALYTE COUNT

Project: 256277
Pace Project No.: 257254

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
257254001	MW-7d9	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	6	PASI-S
		EPA 8260	LPM	14	PASI-S
		CA LUFT	LPM	2	PASI-S
257254002	MW-7d16	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254003	MW-7d20	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254004	MW-8d9	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254005	MW-8d13	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254006	MW-8d20	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254007	MW-9d8	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254008	MW-9d20	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254009	MW-9d24	EPA 8015B	AY1	3	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S

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SAMPLE ANALYTE COUNT

Project: 256277
Pace Project No.: 257254

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
257254010	**MW-10d10**	EPA 8015B	AY1	4	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254011	**MW-10d15**	EPA 8015B	AY1	4	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S
257254012	**MW-10d20**	EPA 8015B	AY1	4	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 8260	LPM	16	PASI-S
		CA LUFT	LPM	2	PASI-S

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HITS ONLY

Project: 256277
Pace Project No.: 257254

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
257254001	**MW-7d9**					
EPA 8015B	TPH-RRO (C24-C40) SG	20.7	mg/kg	9.8	04/16/11 02:16	
EPA 6010	Lead	8.9	mg/kg	0.92	04/18/11 16:00	
EPA 8260	Ethylbenzene	4.3	mg/kg	0.045	04/18/11 11:34	
EPA 8260	Xylene (Total)	8.4	mg/kg	0.13	04/18/11 11:34	
EPA 8260	Benzene	0.061	mg/kg	0.0024	04/12/11 18:51	
EPA 8260	tert-Butyl Alcohol	0.018	mg/kg	0.012	04/12/11 18:51	
EPA 8260	Methyl-tert-butyl ether	0.042	mg/kg	0.0024	04/12/11 18:51	
EPA 8260	Toluene	0.034	mg/kg	0.0024	04/12/11 18:51	
CA LUFT	TPH-Gasoline (C05-C12)	289	mg/kg	2.2	04/18/11 11:34	
257254002	**MW-7d16**					
EPA 8015B	TPH-RRO (C24-C40) SG	788	mg/kg	99.2	04/16/11 00:19	
EPA 6010	Lead	13.9	mg/kg	0.85	04/18/11 16:04	
EPA 8260	Benzene	0.017	mg/kg	0.0024	04/12/11 19:10	
EPA 8260	Ethylbenzene	0.054	mg/kg	0.0024	04/12/11 19:10	
EPA 8260	Methyl-tert-butyl ether	0.013	mg/kg	0.0024	04/12/11 19:10	
EPA 8260	Toluene	0.037	mg/kg	0.0024	04/12/11 19:10	
EPA 8260	Xylene (Total)	0.24	mg/kg	0.0073	04/12/11 19:10	
CA LUFT	TPH-Gasoline (C05-C12)	0.90	mg/kg	0.20	04/12/11 19:10	M1
257254003	**MW-7d20**					
EPA 6010	Lead	6.3	mg/kg	4.5	04/18/11 17:15	
EPA 8260	Methyl-tert-butyl ether	0.019	mg/kg	0.0029	04/12/11 19:30	
257254004	**MW-8d9**					
EPA 6010	Lead	9.9	mg/kg	1.4	04/18/11 17:18	
EPA 8260	Benzene	0.020	mg/kg	0.0030	04/12/11 19:50	
EPA 8260	tert-Butyl Alcohol	0.023	mg/kg	0.015	04/12/11 19:50	
EPA 8260	Methyl-tert-butyl ether	0.086	mg/kg	0.0030	04/12/11 19:50	
CA LUFT	TPH-Gasoline (C05-C12)	0.75	mg/kg	0.25	04/12/11 19:50	
257254005	**MW-8d13**					
EPA 8015B	TPH-RRO (C24-C40) SG	852	mg/kg	99.5	04/16/11 01:30	
EPA 6010	Lead	15.7	mg/kg	1.8	04/18/11 17:21	
EPA 8260	Benzene	0.016	mg/kg	0.0028	04/12/11 20:09	
EPA 8260	Ethylbenzene	0.024	mg/kg	0.0028	04/12/11 20:09	
EPA 8260	Methyl-tert-butyl ether	0.023	mg/kg	0.0028	04/12/11 20:09	
EPA 8260	Xylene (Total)	0.060	mg/kg	0.0083	04/12/11 20:09	
CA LUFT	TPH-Gasoline (C05-C12)	0.68	mg/kg	0.23	04/12/11 20:09	
257254007	**MW-9d8**					
EPA 6010	Lead	8.9	mg/kg	0.92	04/18/11 16:27	
257254008	**MW-9d20**					
EPA 6010	Lead	5.3	mg/kg	0.96	04/18/11 16:30	
257254009	**MW-9d24**					
EPA 6010	Lead	6.4	mg/kg	0.92	04/18/11 16:33	

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HITS ONLY

Project: 256277
Pace Project No.: 257254

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
257254010	**MW-10d10**					
EPA 6010	Lead	8.5	mg/kg	0.99	04/18/11 16:37	
EPA 8260	Methyl-tert-butyl ether	0.028	mg/kg	0.0025	04/18/11 17:10	
257254011	**MW-10d15**					
EPA 6010	Lead	6.1	mg/kg	0.76	04/18/11 16:40	
EPA 8260	Ethylbenzene	0.0039	mg/kg	0.0026	04/13/11 16:57	
EPA 8260	Xylene (Total)	0.012	mg/kg	0.0077	04/13/11 16:57	
257254012	**MW-10d20**					
EPA 6010	Lead	5.8	mg/kg	0.69	04/18/11 16:44	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-7d9 **Lab ID: 257254001** Collected: 04/05/11 08:52 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	**20.7**	mg/kg	9.8	1	04/12/11 10:55	04/16/11 02:16		
o-Terphenyl (S) SG	95	%	50-150	1	04/12/11 10:55	04/16/11 02:16	84-15-1	
n-Octacosane (S) SG	108	%	50-150	1	04/12/11 10:55	04/16/11 02:16	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**8.9**	mg/kg	0.92	1	04/14/11 14:09	04/18/11 16:00	7439-92-1	
8260 MSV 5030 Med Level VOA	Analytical Method: EPA 8260 Preparation Method: EPA 5030							
Ethylbenzene	**4.3**	mg/kg	0.045	1	04/18/11 07:00	04/18/11 11:34	100-41-4	
Xylene (Total)	**8.4**	mg/kg	0.13	1	04/18/11 07:00	04/18/11 11:34	1330-20-7	
Dibromofluoromethane (S)	97	%	81-114	1	04/18/11 07:00	04/18/11 11:34	1868-53-7	
Toluene-d8 (S)	97	%	84-121	1	04/18/11 07:00	04/18/11 11:34	2037-26-5	
4-Bromofluorobenzene (S)	95	%	78-127	1	04/18/11 07:00	04/18/11 11:34	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	76-115	1	04/18/11 07:00	04/18/11 11:34	17060-07-0	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0024	1		04/12/11 18:51	994-05-8	
Benzene	**0.061**	mg/kg	0.0024	1		04/12/11 18:51	71-43-2	
tert-Butyl Alcohol	**0.018**	mg/kg	0.012	1		04/12/11 18:51	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0024	1		04/12/11 18:51	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0024	1		04/12/11 18:51	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0024	1		04/12/11 18:51	108-20-3	
Ethanol	ND	mg/kg	0.32	1		04/12/11 18:51	64-17-5	
Ethyl-tert-butyl ether	ND	mg/kg	0.0024	1		04/12/11 18:51	637-92-3	
Methyl-tert-butyl ether	**0.042**	mg/kg	0.0024	1		04/12/11 18:51	1634-04-4	
Toluene	**0.034**	mg/kg	0.0024	1		04/12/11 18:51	108-88-3	
Dibromofluoromethane (S)	96	%	80-136	1		04/12/11 18:51	1868-53-7	
Toluene-d8 (S)	109	%	80-120	1		04/12/11 18:51	2037-26-5	
4-Bromofluorobenzene (S)	94	%	72-122	1		04/12/11 18:51	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	80-143	1		04/12/11 18:51	17060-07-0	
CA LUFT MSV GRO Medium Soil	Analytical Method: CA LUFT Preparation Method: CA LUFT							
TPH-Gasoline (C05-C12)	**289**	mg/kg	2.2	1	04/18/11 07:00	04/18/11 11:34		
4-Bromofluorobenzene (S)	95	%	72-122	1	04/18/11 07:00	04/18/11 11:34	460-00-4	

Sample: MW-7d16 **Lab ID: 257254002** Collected: 04/05/11 09:05 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	**788**	mg/kg	99.2	10	04/12/11 10:55	04/16/11 00:19		
o-Terphenyl (S) SG	0	%	50-150	10	04/12/11 10:55	04/16/11 00:19	84-15-1	S4
n-Octacosane (S) SG	0	%	50-150	10	04/12/11 10:55	04/16/11 00:19	630-02-4	S4

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-7d15 **Lab ID: 257254002** Collected: 04/05/11 09:05 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**13.9**	mg/kg	0.85	1	04/14/11 14:09	04/18/11 16:04	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0024	1		04/12/11 19:10	994-05-8	
Benzene	**0.017**	mg/kg	0.0024	1		04/12/11 19:10	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.012	1		04/12/11 19:10	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0024	1		04/12/11 19:10	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0024	1		04/12/11 19:10	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0024	1		04/12/11 19:10	108-20-3	
Ethanol	ND	mg/kg	0.32	1		04/12/11 19:10	64-17-5	
Ethylbenzene	**0.054**	mg/kg	0.0024	1		04/12/11 19:10	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0024	1		04/12/11 19:10	637-92-3	
Methyl-tert-butyl ether	**0.013**	mg/kg	0.0024	1		04/12/11 19:10	1634-04-4	
Toluene	**0.037**	mg/kg	0.0024	1		04/12/11 19:10	108-88-3	
Xylene (Total)	**0.24**	mg/kg	0.0073	1		04/12/11 19:10	1330-20-7	
Dibromofluoromethane (S)	94	%	80-136	1		04/12/11 19:10	1868-53-7	
Toluene-d8 (S)	100	%	80-120	1		04/12/11 19:10	2037-26-5	
4-Bromofluorobenzene (S)	110	%	72-122	1		04/12/11 19:10	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	80-143	1		04/12/11 19:10	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	**0.90**	mg/kg	0.20	1		04/12/11 19:10		M1
4-Bromofluorobenzene (S)	110	%	72-122	1		04/12/11 19:10	460-00-4	

Sample: MW-7d20 **Lab ID: 257254003** Collected: 04/05/11 08:58 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	ND	mg/kg	9.9	1	04/12/11 10:55	04/15/11 20:01		
o-Terphenyl (S) SG	93	%	50-150	1	04/12/11 10:55	04/15/11 20:01	84-15-1	
n-Octacosane (S) SG	105	%	50-150	1	04/12/11 10:55	04/15/11 20:01	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**6.3**	mg/kg	4.5	5	04/14/11 14:09	04/18/11 17:15	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0029	1		04/12/11 19:30	994-05-8	
Benzene	ND	mg/kg	0.0029	1		04/12/11 19:30	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.015	1		04/12/11 19:30	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0029	1		04/12/11 19:30	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0029	1		04/12/11 19:30	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0029	1		04/12/11 19:30	108-20-3	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-7d20 **Lab ID: 257254003** Collected: 04/05/11 08:58 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030	Analytical Method: EPA 8260							
Ethanol	ND	mg/kg	0.39	1		04/12/11 19:30	64-17-5	
Ethylbenzene	ND	mg/kg	0.0029	1		04/12/11 19:30	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0029	1		04/12/11 19:30	637-92-3	
Methyl-tert-butyl ether	**0.019**	mg/kg	0.0029	1		04/12/11 19:30	1634-04-4	
Toluene	ND	mg/kg	0.0029	1		04/12/11 19:30	108-88-3	
Xylene (Total)	ND	mg/kg	0.0087	1		04/12/11 19:30	1330-20-7	
Dibromofluoromethane (S)	92	%	80-136	1		04/12/11 19:30	1868-53-7	
Toluene-d8 (S)	104	%	80-120	1		04/12/11 19:30	2037-26-5	
4-Bromofluorobenzene (S)	104	%	72-122	1		04/12/11 19:30	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-143	1		04/12/11 19:30	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.24	1		04/12/11 19:30		
4-Bromofluorobenzene (S)	104	%	72-122	1		04/12/11 19:30	460-00-4	

Sample: MW-8d9 **Lab ID: 257254004** Collected: 04/05/11 10:27 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	ND	mg/kg	10	1	04/12/11 10:55	04/15/11 20:25		
o-Terphenyl (S) SG	95	%	50-150	1	04/12/11 10:55	04/15/11 20:25	84-15-1	
n-Octacosane (S) SG	107	%	50-150	1	04/12/11 10:55	04/15/11 20:25	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**9.9**	mg/kg	1.4	2	04/14/11 14:09	04/18/11 17:18	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0030	1		04/12/11 19:50	994-05-8	
Benzene	**0.020**	mg/kg	0.0030	1		04/12/11 19:50	71-43-2	
tert-Butyl Alcohol	**0.023**	mg/kg	0.015	1		04/12/11 19:50	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0030	1		04/12/11 19:50	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0030	1		04/12/11 19:50	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0030	1		04/12/11 19:50	108-20-3	
Ethanol	ND	mg/kg	0.39	1		04/12/11 19:50	64-17-5	
Ethylbenzene	ND	mg/kg	0.0030	1		04/12/11 19:50	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0030	1		04/12/11 19:50	637-92-3	
Methyl-tert-butyl ether	**0.086**	mg/kg	0.0030	1		04/12/11 19:50	1634-04-4	
Toluene	ND	mg/kg	0.0030	1		04/12/11 19:50	108-88-3	
Xylene (Total)	ND	mg/kg	0.0089	1		04/12/11 19:50	1330-20-7	
Dibromofluoromethane (S)	96	%	80-136	1		04/12/11 19:50	1868-53-7	
Toluene-d8 (S)	104	%	80-120	1		04/12/11 19:50	2037-26-5	
4-Bromofluorobenzene (S)	100	%	72-122	1		04/12/11 19:50	460-00-4	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-8d9 **Lab ID: 257254004** Collected: 04/05/11 10:27 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030	Analytical Method: EPA 8260							
1,2-Dichloroethane-d4 (S)	100	%	80-143	1		04/12/11 19:50	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	**0.75**	mg/kg	0.25	1		04/12/11 19:50		
4-Bromofluorobenzene (S)	100	%	72-122	1		04/12/11 19:50	460-00-4	

Sample: MW-8d13 **Lab ID: 257254005** Collected: 04/05/11 10:32 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	**852**	mg/kg	99.5	10	04/12/11 10:55	04/16/11 01:30		
o-Terphenyl (S) SG	0	%	50-150	10	04/12/11 10:55	04/16/11 01:30	84-15-1	S4
n-Octacosane (S) SG	0	%	50-150	10	04/12/11 10:55	04/16/11 01:30	630-02-4	S4
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**15.7**	mg/kg	1.8	2	04/14/11 14:09	04/18/11 17:21	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0028	1		04/12/11 20:09	994-05-8	
Benzene	**0.016**	mg/kg	0.0028	1		04/12/11 20:09	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.014	1		04/12/11 20:09	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0028	1		04/12/11 20:09	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0028	1		04/12/11 20:09	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0028	1		04/12/11 20:09	108-20-3	
Ethanol	ND	mg/kg	0.37	1		04/12/11 20:09	64-17-5	
Ethylbenzene	**0.024**	mg/kg	0.0028	1		04/12/11 20:09	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0028	1		04/12/11 20:09	637-92-3	
Methyl-tert-butyl ether	**0.023**	mg/kg	0.0028	1		04/12/11 20:09	1634-04-4	
Toluene	ND	mg/kg	0.0028	1		04/12/11 20:09	108-88-3	
Xylene (Total)	**0.060**	mg/kg	0.0083	1		04/12/11 20:09	1330-20-7	
Dibromofluoromethane (S)	96	%	80-136	1		04/12/11 20:09	1868-53-7	
Toluene-d8 (S)	106	%	80-120	1		04/12/11 20:09	2037-26-5	
4-Bromofluorobenzene (S)	118	%	72-122	1		04/12/11 20:09	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-143	1		04/12/11 20:09	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	**0.68**	mg/kg	0.23	1		04/12/11 20:09		
4-Bromofluorobenzene (S)	118	%	72-122	1		04/12/11 20:09	460-00-4	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-8d20 **Lab ID: 257254006** Collected: 04/05/11 10:36 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	ND	mg/kg	10	1	04/12/11 10:55	04/15/11 20:48		
o-Terphenyl (S) SG	94	%	50-150	1	04/12/11 10:55	04/15/11 20:48	84-15-1	
n-Octacosane (S) SG	106	%	50-150	1	04/12/11 10:55	04/15/11 20:48	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	ND	mg/kg	4.1	5	04/14/11 14:09	04/18/11 17:25	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0023	1		04/12/11 20:29	994-05-8	
Benzene	ND	mg/kg	0.0023	1		04/12/11 20:29	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.012	1		04/12/11 20:29	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0023	1		04/12/11 20:29	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0023	1		04/12/11 20:29	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0023	1		04/12/11 20:29	108-20-3	
Ethanol	ND	mg/kg	0.31	1		04/12/11 20:29	64-17-5	
Ethylbenzene	ND	mg/kg	0.0023	1		04/12/11 20:29	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0023	1		04/12/11 20:29	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0023	1		04/12/11 20:29	1634-04-4	
Toluene	ND	mg/kg	0.0023	1		04/12/11 20:29	108-88-3	
Xylene (Total)	ND	mg/kg	0.0070	1		04/12/11 20:29	1330-20-7	
Dibromofluoromethane (S)	90	%	80-136	1		04/12/11 20:29	1868-53-7	
Toluene-d8 (S)	106	%	80-120	1		04/12/11 20:29	2037-26-5	
4-Bromofluorobenzene (S)	106	%	72-122	1		04/12/11 20:29	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	80-143	1		04/12/11 20:29	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.23	1		04/12/11 20:29		
4-Bromofluorobenzene (S)	106	%	72-122	1		04/12/11 20:29	460-00-4	

Sample: MW-9d8 **Lab ID: 257254007** Collected: 04/05/11 12:58 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	ND	mg/kg	9.7	1	04/12/11 10:55	04/15/11 21:12		
o-Terphenyl (S) SG	90	%	50-150	1	04/12/11 10:55	04/15/11 21:12	84-15-1	
n-Octacosane (S) SG	102	%	50-150	1	04/12/11 10:55	04/15/11 21:12	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	8.9	mg/kg	0.92	1	04/14/11 14:09	04/18/11 16:27	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0026	1		04/12/11 20:49	994-05-8	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-9d8 **Lab ID: 257254007** Collected: 04/05/11 12:58 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030	Analytical Method: EPA 8260							
Benzene	ND	mg/kg	0.0026	1		04/12/11 20:49	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.013	1		04/12/11 20:49	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0026	1		04/12/11 20:49	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0026	1		04/12/11 20:49	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0026	1		04/12/11 20:49	108-20-3	
Ethanol	ND	mg/kg	0.35	1		04/12/11 20:49	64-17-5	
Ethylbenzene	ND	mg/kg	0.0026	1		04/12/11 20:49	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0026	1		04/12/11 20:49	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0026	1		04/12/11 20:49	1634-04-4	
Toluene	ND	mg/kg	0.0026	1		04/12/11 20:49	108-88-3	
Xylene (Total)	ND	mg/kg	0.0078	1		04/12/11 20:49	1330-20-7	
Dibromofluoromethane (S)	93	%	80-136	1		04/12/11 20:49	1868-53-7	
Toluene-d8 (S)	107	%	80-120	1		04/12/11 20:49	2037-26-5	
4-Bromofluorobenzene (S)	106	%	72-122	1		04/12/11 20:49	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	80-143	1		04/12/11 20:49	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.22	1		04/12/11 20:49		
4-Bromofluorobenzene (S)	106	%	72-122	1		04/12/11 20:49	460-00-4	

Sample: MW-9d20 **Lab ID: 257254008** Collected: 04/05/11 13:05 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	ND	mg/kg	9.8	1	04/12/11 10:55	04/15/11 21:35		
o-Terphenyl (S) SG	93	%	50-150	1	04/12/11 10:55	04/15/11 21:35	84-15-1	
n-Octacosane (S) SG	105	%	50-150	1	04/12/11 10:55	04/15/11 21:35	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	5.3	mg/kg	0.96	1	04/14/11 14:09	04/18/11 16:30	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0028	1		04/12/11 21:08	994-05-8	
Benzene	ND	mg/kg	0.0028	1		04/12/11 21:08	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.014	1		04/12/11 21:08	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0028	1		04/12/11 21:08	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0028	1		04/12/11 21:08	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0028	1		04/12/11 21:08	108-20-3	
Ethanol	ND	mg/kg	0.38	1		04/12/11 21:08	64-17-5	
Ethylbenzene	ND	mg/kg	0.0028	1		04/12/11 21:08	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0028	1		04/12/11 21:08	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0028	1		04/12/11 21:08	1634-04-4	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-9d20 **Lab ID: 257254008** Collected: 04/05/11 13:05 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030	Analytical Method: EPA 8260							
Toluene	ND	mg/kg	0.0028	1		04/12/11 21:08	108-88-3	
Xylene (Total)	ND	mg/kg	0.0085	1		04/12/11 21:08	1330-20-7	
Dibromofluoromethane (S)	94	%	80-136	1		04/12/11 21:08	1868-53-7	
Toluene-d8 (S)	101	%	80-120	1		04/12/11 21:08	2037-26-5	
4-Bromofluorobenzene (S)	101	%	72-122	1		04/12/11 21:08	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-143	1		04/12/11 21:08	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.24	1		04/12/11 21:08		
4-Bromofluorobenzene (S)	101	%	72-122	1		04/12/11 21:08	460-00-4	

Sample: MW-9d24 **Lab ID: 257254009** Collected: 04/05/11 13:19 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-RRO (C24-C40) SG	ND	mg/kg	9.9	1	04/12/11 10:55	04/15/11 21:58		
o-Terphenyl (S) SG	103	%	50-150	1	04/12/11 10:55	04/15/11 21:58	84-15-1	
n-Octacosane (S) SG	115	%	50-150	1	04/12/11 10:55	04/15/11 21:58	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**6.4**	mg/kg	0.92	1	04/14/11 14:09	04/18/11 16:33	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0027	1		04/12/11 21:28	994-05-8	
Benzene	ND	mg/kg	0.0027	1		04/12/11 21:28	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.014	1		04/12/11 21:28	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0027	1		04/12/11 21:28	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0027	1		04/12/11 21:28	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0027	1		04/12/11 21:28	108-20-3	
Ethanol	ND	mg/kg	0.36	1		04/12/11 21:28	64-17-5	
Ethylbenzene	ND	mg/kg	0.0027	1		04/12/11 21:28	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0027	1		04/12/11 21:28	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0027	1		04/12/11 21:28	1634-04-4	
Toluene	ND	mg/kg	0.0027	1		04/12/11 21:28	108-88-3	
Xylene (Total)	ND	mg/kg	0.0082	1		04/12/11 21:28	1330-20-7	
Dibromofluoromethane (S)	91	%	80-136	1		04/12/11 21:28	1868-53-7	
Toluene-d8 (S)	95	%	80-120	1		04/12/11 21:28	2037-26-5	
4-Bromofluorobenzene (S)	105	%	72-122	1		04/12/11 21:28	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-143	1		04/12/11 21:28	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.21	1		04/13/11 15:58		

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-9d24 **Lab ID: 257254009** Collected: 04/05/11 13:19 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
CA LUFT MSV GRO	Analytical Method: CA LUFT							
4-Bromofluorobenzene (S)	103	%	72-122	1		04/13/11 15:58	460-00-4	

Sample: MW-10d10 **Lab ID: 257254010** Collected: 04/05/11 15:13 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO (C10-C24) SG	ND	mg/kg	2.0	1	04/12/11 10:55	04/15/11 22:22		
TPH-RRO (C24-C40) SG	ND	mg/kg	10	1	04/12/11 10:55	04/15/11 22:22		
o-Terphenyl (S) SG	96	%	50-150	1	04/12/11 10:55	04/15/11 22:22	84-15-1	
n-Octacosane (S) SG	107	%	50-150	1	04/12/11 10:55	04/15/11 22:22	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**8.5**	mg/kg	0.99	1	04/14/11 14:09	04/18/11 16:37	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0025	1		04/18/11 17:10	994-05-8	
Benzene	ND	mg/kg	0.0025	1		04/18/11 17:10	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.012	1		04/18/11 17:10	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0025	1		04/18/11 17:10	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0025	1		04/18/11 17:10	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0025	1		04/18/11 17:10	108-20-3	
Ethanol	ND	mg/kg	0.33	1		04/18/11 17:10	64-17-5	
Ethylbenzene	ND	mg/kg	0.0025	1		04/18/11 17:10	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0025	1		04/18/11 17:10	637-92-3	
Methyl-tert-butyl ether	**0.028**	mg/kg	0.0025	1		04/18/11 17:10	1634-04-4	
Toluene	ND	mg/kg	0.0025	1		04/18/11 17:10	108-88-3	
Xylene (Total)	ND	mg/kg	0.0075	1		04/18/11 17:10	1330-20-7	
Dibromofluoromethane (S)	103	%	80-136	1		04/18/11 17:10	1868-53-7	
Toluene-d8 (S)	94	%	80-120	1		04/18/11 17:10	2037-26-5	
4-Bromofluorobenzene (S)	103	%	72-122	1		04/18/11 17:10	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	80-143	1		04/18/11 17:10	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.21	1		04/18/11 17:10		
4-Bromofluorobenzene (S)	103	%	72-122	1		04/18/11 17:10	460-00-4	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-10d15 **Lab ID: 257254011** Collected: 04/05/11 15:17 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO (C10-C24) SG	ND	mg/kg	1.9	1	04/12/11 10:55	04/15/11 23:32		
TPH-RRO (C24-C40) SG	ND	mg/kg	9.7	1	04/12/11 10:55	04/15/11 23:32		
o-Terphenyl (S) SG	97	%	50-150	1	04/12/11 10:55	04/15/11 23:32	84-15-1	
n-Octacosane (S) SG	106	%	50-150	1	04/12/11 10:55	04/15/11 23:32	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**6.1**	mg/kg	0.76	1	04/14/11 14:09	04/18/11 16:40	7439-92-1	
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0026	1		04/13/11 16:57	994-05-8	
Benzene	ND	mg/kg	0.0026	1		04/13/11 16:57	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.013	1		04/13/11 16:57	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0026	1		04/13/11 16:57	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0026	1		04/13/11 16:57	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0026	1		04/13/11 16:57	108-20-3	
Ethanol	ND	mg/kg	0.34	1		04/13/11 16:57	64-17-5	
Ethylbenzene	**0.0039**	mg/kg	0.0026	1		04/13/11 16:57	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0026	1		04/13/11 16:57	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0026	1		04/13/11 16:57	1634-04-4	
Toluene	ND	mg/kg	0.0026	1		04/13/11 16:57	108-88-3	
Xylene (Total)	**0.012**	mg/kg	0.0077	1		04/13/11 16:57	1330-20-7	
Dibromofluoromethane (S)	90	%	80-136	1		04/13/11 16:57	1868-53-7	
Toluene-d8 (S)	103	%	80-120	1		04/13/11 16:57	2037-26-5	
4-Bromofluorobenzene (S)	104	%	72-122	1		04/13/11 16:57	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-143	1		04/13/11 16:57	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.25	1		04/18/11 18:09		
4-Bromofluorobenzene (S)	103	%	72-122	1		04/18/11 18:09	460-00-4	

Sample: MW-10d20 **Lab ID: 257254012** Collected: 04/05/11 15:23 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B CA Diesel Range Org SG	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO (C10-C24) SG	ND	mg/kg	2.0	1	04/12/11 10:55	04/15/11 23:56		
TPH-RRO (C24-C40) SG	ND	mg/kg	9.9	1	04/12/11 10:55	04/15/11 23:56		
o-Terphenyl (S) SG	96	%	50-150	1	04/12/11 10:55	04/15/11 23:56	84-15-1	
n-Octacosane (S) SG	107	%	50-150	1	04/12/11 10:55	04/15/11 23:56	630-02-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**5.8**	mg/kg	0.69	1	04/14/11 14:09	04/18/11 16:44	7439-92-1	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257254

Sample: MW-10d20 **Lab ID: 257254012** Collected: 04/05/11 15:23 Received: 04/08/11 08:15 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	mg/kg	0.0026	1		04/13/11 17:17	994-05-8	
Benzene	ND	mg/kg	0.0026	1		04/13/11 17:17	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.013	1		04/13/11 17:17	75-65-0	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0026	1		04/13/11 17:17	106-93-4	
1,2-Dichloroethane	ND	mg/kg	0.0026	1		04/13/11 17:17	107-06-2	
Diisopropyl ether	ND	mg/kg	0.0026	1		04/13/11 17:17	108-20-3	
Ethanol	ND	mg/kg	0.34	1		04/13/11 17:17	64-17-5	
Ethylbenzene	ND	mg/kg	0.0026	1		04/13/11 17:17	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0026	1		04/13/11 17:17	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0026	1		04/13/11 17:17	1634-04-4	
Toluene	ND	mg/kg	0.0026	1		04/13/11 17:17	108-88-3	
Xylene (Total)	ND	mg/kg	0.0077	1		04/13/11 17:17	1330-20-7	
Dibromofluoromethane (S)	90	%	80-136	1		04/13/11 17:17	1868-53-7	
Toluene-d8 (S)	102	%	80-120	1		04/13/11 17:17	2037-26-5	
4-Bromofluorobenzene (S)	103	%	72-122	1		04/13/11 17:17	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	80-143	1		04/13/11 17:17	17060-07-0	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	ND	mg/kg	0.22	1		04/13/11 17:17		
4-Bromofluorobenzene (S)	103	%	72-122	1		04/13/11 17:17	460-00-4	

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: OEXT/3558 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B CA TPH Silca Gel
Associated Lab Samples: 257254001, 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008, 257254009, 257254010, 257254011, 257254012

METHOD BLANK: 66591 Matrix: Solid
Associated Lab Samples: 257254001, 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008, 257254009, 257254010, 257254011, 257254012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO (C10-C24) SG	mg/kg	ND	2.0	04/15/11 19:14	
TPH-RRO (C24-C40) SG	mg/kg	ND	10.0	04/15/11 19:14	
n-Octacosane (S) SG	%	108	50-150	04/15/11 19:14	
o-Terphenyl (S) SG	%	94	50-150	04/15/11 19:14	

LABORATORY CONTROL SAMPLE: 66592

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C24) SG	mg/kg	83.3	80.4	97	56-124	
TPH-RRO (C24-C40) SG	mg/kg	83.3	85.1	102	50-150	
n-Octacosane (S) SG	%			112	50-150	
o-Terphenyl (S) SG	%			140	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66593 66594

Parameter	Units	257254002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
TPH-DRO (C10-C24) SG	mg/kg	68.1	83.2	83.1	157	147	107	95	56-124	7	
TPH-RRO (C24-C40) SG	mg/kg	788	83.2	83.1	973	821	223	40	50-150	17	M6
n-Octacosane (S) SG	%						0	0	50-150		S4
o-Terphenyl (S) SG	%						0	0	50-150		S4

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MPRP/2157 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 257254001, 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008, 257254009, 257254010, 257254011, 257254012

METHOD BLANK: 66918 Matrix: Solid
Associated Lab Samples: 257254001, 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008, 257254009, 257254010, 257254011, 257254012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/kg	ND	1.0	04/18/11 14:34	

LABORATORY CONTROL SAMPLE: 66919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/kg	25	26.2	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66920 66921

Parameter	Units	257220001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Lead	mg/kg	15.9	22.7	23.2	37.8	35.7	97	85	75-125	6	

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4278
QC Batch Method: EPA 5030
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5030 Medium Soil
Associated Lab Samples: 257254001

METHOD BLANK: 67066
Matrix: Solid
Associated Lab Samples: 257254001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	mg/kg	ND	0.050	04/18/11 10:54	
Xylene (Total)	mg/kg	ND	0.15	04/18/11 10:54	
1,2-Dichloroethane-d4 (S)	%	96	76-115	04/18/11 10:54	
4-Bromofluorobenzene (S)	%	95	78-127	04/18/11 10:54	
Dibromofluoromethane (S)	%	96	81-114	04/18/11 10:54	
Toluene-d8 (S)	%	97	84-121	04/18/11 10:54	

LABORATORY CONTROL SAMPLE: 67067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	mg/kg	1	1.1	108	74-120	
Xylene (Total)	mg/kg	3	3.2	106	76-120	
1,2-Dichloroethane-d4 (S)	%			96	76-115	
4-Bromofluorobenzene (S)	%			100	78-127	
Dibromofluoromethane (S)	%			99	81-114	
Toluene-d8 (S)	%			99	84-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67117 67118

Parameter	Units	257254001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Ethylbenzene	mg/kg	4.3	.9	.9	5.1	5.1	89	83	77-126	1	
Xylene (Total)	mg/kg	8.4	2.7	2.7	11.0	10.9	94	91	77-127	.7	
1,2-Dichloroethane-d4 (S)	%						93	98	76-115		
4-Bromofluorobenzene (S)	%						99	97	78-127		
Dibromofluoromethane (S)	%						98	99	81-114		
Toluene-d8 (S)	%						100	98	84-121		

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4244 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Volatile Organics
Associated Lab Samples: 257254001, 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008, 257254009

METHOD BLANK: 66690 Matrix: Solid
Associated Lab Samples: 257254001, 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008, 257254009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0030	04/12/11 15:13	
1,2-Dichloroethane	mg/kg	ND	0.0030	04/12/11 15:13	
Benzene	mg/kg	ND	0.0030	04/12/11 15:13	
Diisopropyl ether	mg/kg	ND	0.0030	04/12/11 15:13	
Ethanol	mg/kg	ND	0.40	04/12/11 15:13	
Ethyl-tert-butyl ether	mg/kg	ND	0.0030	04/12/11 15:13	
Ethylbenzene	mg/kg	ND	0.0030	04/12/11 15:13	
Methyl-tert-butyl ether	mg/kg	ND	0.0030	04/12/11 15:13	
tert-Amylmethyl ether	mg/kg	ND	0.0030	04/12/11 15:13	
tert-Butyl Alcohol	mg/kg	ND	0.015	04/12/11 15:13	
Toluene	mg/kg	ND	0.0030	04/12/11 15:13	
Xylene (Total)	mg/kg	ND	0.0090	04/12/11 15:13	
1,2-Dichloroethane-d4 (S)	%	96	80-143	04/12/11 15:13	
4-Bromofluorobenzene (S)	%	101	72-122	04/12/11 15:13	
Dibromofluoromethane (S)	%	94	80-136	04/12/11 15:13	
Toluene-d8 (S)	%	100	80-120	04/12/11 15:13	

LABORATORY CONTROL SAMPLE: 66691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	.05	0.057	115	71-123	
1,2-Dichloroethane	mg/kg	.05	0.056	112	70-124	
Benzene	mg/kg	.05	0.052	105	75-133	
Diisopropyl ether	mg/kg	.05	0.052	104	63-139	
Ethanol	mg/kg	1	1.0	103	53-134	
Ethyl-tert-butyl ether	mg/kg	.05	0.050	99	63-135	
Ethylbenzene	mg/kg	.05	0.050	100	68-131	
Methyl-tert-butyl ether	mg/kg	.05	0.052	103	52-143	
tert-Amylmethyl ether	mg/kg	.05	0.053	105	62-138	
tert-Butyl Alcohol	mg/kg	.25	0.27	109	35-151	
Toluene	mg/kg	.05	0.053	107	73-124	
Xylene (Total)	mg/kg	.15	0.16	104	68-130	
1,2-Dichloroethane-d4 (S)	%			99	80-143	
4-Bromofluorobenzene (S)	%			98	72-122	
Dibromofluoromethane (S)	%			98	80-136	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66777 66778

Parameter	Units	257305001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	mg/kg	ND	.05	.05	0.042	0.033	85	66	71-123	26	M1
1,2-Dichloroethane	mg/kg	ND	.05	.05	0.037	0.032	74	64	71-124	15	M1
Benzene	mg/kg	ND	.05	.05	0.042	0.038	84	77	68-124	9	
Diisopropyl ether	mg/kg	ND	.05	.05	0.041	0.035	83	71	20-160	15	
Ethanol	mg/kg	ND	1	1	0.58	0.78	58	78	60-140	30	M1
Ethyl-tert-butyl ether	mg/kg	ND	.05	.05	0.039	0.037	78	74	70-140	5	
Ethylbenzene	mg/kg	ND	.05	.05	0.044	0.047	87	94	63-131	8	
Methyl-tert-butyl ether	mg/kg	ND	.05	.05	0.038	0.043	75	85	68-139	13	
tert-Amylmethyl ether	mg/kg	ND	.05	.05	0.038	0.034	75	69	74-125	9	M1
tert-Butyl Alcohol	mg/kg	ND	.25	.25	0.12	0.14	47	54	49-122	14	M1
Toluene	mg/kg	ND	.05	.05	0.055	0.049	106	94	61-126	11	
Xylene (Total)	mg/kg	ND	.15	.15	0.13	0.13	80	86	68-129	6	
1,2-Dichloroethane-d4 (S)	%						90	74	80-143		S2
4-Bromofluorobenzene (S)	%						145	135	72-122		S2
Dibromofluoromethane (S)	%						90	71	80-136		S2
Toluene-d8 (S)	%						126	118	80-120		S2

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4247
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5030 Volatile Organics
Associated Lab Samples: 257254011, 257254012

METHOD BLANK: 66720
Matrix: Solid
Associated Lab Samples: 257254011, 257254012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0030	04/13/11 10:21	
1,2-Dichloroethane	mg/kg	ND	0.0030	04/13/11 10:21	
Benzene	mg/kg	ND	0.0030	04/13/11 10:21	
Diisopropyl ether	mg/kg	ND	0.0030	04/13/11 10:21	
Ethanol	mg/kg	ND	0.40	04/13/11 10:21	
Ethyl-tert-butyl ether	mg/kg	ND	0.0030	04/13/11 10:21	
Ethylbenzene	mg/kg	ND	0.0030	04/13/11 10:21	
Methyl-tert-butyl ether	mg/kg	ND	0.0030	04/13/11 10:21	
tert-Amylmethyl ether	mg/kg	ND	0.0030	04/13/11 10:21	
tert-Butyl Alcohol	mg/kg	ND	0.015	04/13/11 10:21	
Toluene	mg/kg	ND	0.0030	04/13/11 10:21	
Xylene (Total)	mg/kg	ND	0.0090	04/13/11 10:21	
1,2-Dichloroethane-d4 (S)	%	99	80-143	04/13/11 10:21	
4-Bromofluorobenzene (S)	%	105	72-122	04/13/11 10:21	
Dibromofluoromethane (S)	%	99	80-136	04/13/11 10:21	
Toluene-d8 (S)	%	103	80-120	04/13/11 10:21	

LABORATORY CONTROL SAMPLE: 66721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	.05	0.053	105	71-123	
1,2-Dichloroethane	mg/kg	.05	0.053	105	70-124	
Benzene	mg/kg	.05	0.056	112	75-133	
Diisopropyl ether	mg/kg	.05	0.060	120	63-139	
Ethanol	mg/kg	1	1.1	113	53-134	
Ethyl-tert-butyl ether	mg/kg	.05	0.056	111	63-135	
Ethylbenzene	mg/kg	.05	0.054	107	68-131	
Methyl-tert-butyl ether	mg/kg	.05	0.059	117	52-143	
tert-Amylmethyl ether	mg/kg	.05	0.057	113	62-138	
tert-Butyl Alcohol	mg/kg	.25	0.27	107	35-151	
Toluene	mg/kg	.05	0.060	121	73-124	
Xylene (Total)	mg/kg	.15	0.17	111	68-130	
1,2-Dichloroethane-d4 (S)	%			96	80-143	
4-Bromofluorobenzene (S)	%			94	72-122	
Dibromofluoromethane (S)	%			104	80-136	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67144 67145

Parameter	Units	257267001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	mg/kg	ND	.063	.063	0.063	0.064	100	102	71-123	2	
1,2-Dichloroethane	mg/kg	ND	.063	.063	0.064	0.060	101	95	71-124	6	
Benzene	mg/kg	ND	.063	.063	0.062	0.061	99	97	68-124	2	
Diisopropyl ether	mg/kg	ND	.063	.063	0.065	0.065	104	104	20-160	.1	
Ethanol	mg/kg	ND	1.3	1.3	1.3	1.1	101	87	60-140	15	
Ethyl-tert-butyl ether	mg/kg	ND	.063	.063	0.062	0.063	98	100	70-140	2	
Ethylbenzene	mg/kg	ND	.063	.063	0.060	0.060	95	95	63-131	.5	
Methyl-tert-butyl ether	mg/kg	ND	.063	.063	0.064	0.066	102	104	68-139	2	
tert-Amylmethyl ether	mg/kg	ND	.063	.063	0.063	0.064	99	102	74-125	2	
tert-Butyl Alcohol	mg/kg	ND	.32	.32	0.30	0.30	95	96	49-122	1	
Toluene	mg/kg	ND	.063	.063	0.064	0.065	101	102	61-126	1	
Xylene (Total)	mg/kg	ND	.19	.19	0.18	0.18	98	96	68-129	1	
1,2-Dichloroethane-d4 (S)	%						99	96	80-143		
4-Bromofluorobenzene (S)	%						101	101	72-122		
Dibromofluoromethane (S)	%						100	96	80-136		
Toluene-d8 (S)	%						102	104	80-120		

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4291
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5030 Volatile Organics
Associated Lab Samples: 257254010

METHOD BLANK: 67204
Matrix: Solid
Associated Lab Samples: 257254010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0030	04/18/11 09:33	
1,2-Dichloroethane	mg/kg	ND	0.0030	04/18/11 09:33	
Benzene	mg/kg	ND	0.0030	04/18/11 09:33	
Diisopropyl ether	mg/kg	ND	0.0030	04/18/11 09:33	
Ethanol	mg/kg	ND	0.40	04/18/11 09:33	
Ethyl-tert-butyl ether	mg/kg	ND	0.0030	04/18/11 09:33	
Ethylbenzene	mg/kg	ND	0.0030	04/18/11 09:33	
Methyl-tert-butyl ether	mg/kg	ND	0.0030	04/18/11 09:33	
tert-Amylmethyl ether	mg/kg	ND	0.0030	04/18/11 09:33	
tert-Butyl Alcohol	mg/kg	ND	0.015	04/18/11 09:33	
Toluene	mg/kg	ND	0.0030	04/18/11 09:33	
Xylene (Total)	mg/kg	ND	0.0090	04/18/11 09:33	
1,2-Dichloroethane-d4 (S)	%	95	80-143	04/18/11 09:33	
4-Bromofluorobenzene (S)	%	103	72-122	04/18/11 09:33	
Dibromofluoromethane (S)	%	100	80-136	04/18/11 09:33	
Toluene-d8 (S)	%	94	80-120	04/18/11 09:33	

LABORATORY CONTROL SAMPLE & LCSD: 67205 67206

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	.05	0.052	0.053	104	105	71-123	1	30	
1,2-Dichloroethane	mg/kg	.05	0.059	0.059	118	118	70-124	.4	30	
Benzene	mg/kg	.05	0.058	0.058	117	115	75-133	2	30	
Diisopropyl ether	mg/kg	.05	0.054	0.054	109	108	63-139	.1	30	
Ethanol	mg/kg	1	0.89	1.0	89	102	53-134	13	30	
Ethyl-tert-butyl ether	mg/kg	.05	0.054	0.054	108	108	63-135	.2	30	
Ethylbenzene	mg/kg	.05	0.049	0.049	98	98	68-131	.3	30	
Methyl-tert-butyl ether	mg/kg	.05	0.057	0.056	113	113	52-143	.6	30	
tert-Amylmethyl ether	mg/kg	.05	0.057	0.056	113	113	62-138	.8	30	
tert-Butyl Alcohol	mg/kg	.25	0.26	0.26	105	104	35-151	2	30	
Toluene	mg/kg	.05	0.055	0.055	110	109	73-124	.7	30	
Xylene (Total)	mg/kg	.15	0.16	0.16	104	103	68-130	1	30	
1,2-Dichloroethane-d4 (S)	%				99	99	80-143			
4-Bromofluorobenzene (S)	%				97	100	72-122			
Dibromofluoromethane (S)	%				103	104	80-136			
Toluene-d8 (S)	%				91	93	80-120			

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4277
QC Batch Method: CA LUFT
Analysis Method: CA LUFT
Analysis Description: CA LUFT MSV GRO
Associated Lab Samples: 257254001

METHOD BLANK: 67064
Matrix: Solid
Associated Lab Samples: 257254001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	ND	2.5	04/18/11 10:54	
4-Bromofluorobenzene (S)	%	95	72-122	04/18/11 10:54	

LABORATORY CONTROL SAMPLE & LCSD: 67065 67202

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	25	26.9	25.5	108	102	60-140	5	30	
4-Bromofluorobenzene (S)	%				95	94	72-122			

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4252 Analysis Method: CA LUFT
QC Batch Method: CA LUFT Analysis Description: CA LUFT MSV GRO
Associated Lab Samples: 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008

METHOD BLANK: 66792 Matrix: Solid
Associated Lab Samples: 257254002, 257254003, 257254004, 257254005, 257254006, 257254007, 257254008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	ND	0.25	04/12/11 15:13	
4-Bromofluorobenzene (S)	%	101	72-122	04/12/11 15:13	

LABORATORY CONTROL SAMPLE: 66793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	.5	0.48	97	60-140	
4-Bromofluorobenzene (S)	%			100	72-122	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67149 67150

Parameter	Units	257254002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
TPH-Gasoline (C05-C12)	mg/kg	0.90	.42	.36	1.4	0.97	121	19	60-140	37	D6,M1
4-Bromofluorobenzene (S)	%						125	116	72-122		S0

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4253 Analysis Method: CA LUFT
QC Batch Method: CA LUFT Analysis Description: CA LUFT MSV GRO
Associated Lab Samples: 257254009, 257254012

METHOD BLANK: 66794 Matrix: Solid
Associated Lab Samples: 257254009, 257254012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	ND	0.25	04/13/11 10:21	
4-Bromofluorobenzene (S)	%	105	72-122	04/13/11 10:21	

LABORATORY CONTROL SAMPLE: 66795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	.5	0.52	103	60-140	
4-Bromofluorobenzene (S)	%			104	72-122	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66981 66982

Parameter	Units	257350001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
TPH-Gasoline (C05-C12)	mg/kg	0.41	.39	.4	0.41	0.60	1	49	60-140	38	D6,M1
4-Bromofluorobenzene (S)	%						103	117	72-122		

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257254

QC Batch: MSV/4289
QC Batch Method: CA LUFT
Analysis Method: CA LUFT
Analysis Description: CA LUFT MSV GRO
Associated Lab Samples: 257254010, 257254011

METHOD BLANK: 67196
Matrix: Solid
Associated Lab Samples: 257254010, 257254011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	ND	0.25	04/18/11 16:31	
4-Bromofluorobenzene (S)	%	99	72-122	04/18/11 16:31	

LABORATORY CONTROL SAMPLE & LCSD: 67197 67198

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH-Gasoline (C05-C12)	mg/kg	.5	0.49	0.48	98	96	60-140	2	30	
4-Bromofluorobenzene (S)	%				102	99	72-122			

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QUALIFIERS

Project: 256277
Pace Project No.: 257254

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-S Pace Analytical Services - Seattle

BATCH QUALIFIERS

Batch: MSV/4277

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/4289

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/4290

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/4291

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
S0	Surrogate recovery outside laboratory control limits.
S2	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 256277
Pace Project No.: 257254

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
257254001	MW-7d9	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254002	MW-7d16	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254003	MW-7d20	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254004	MW-8d9	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254005	MW-8d13	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254006	MW-8d20	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254007	MW-9d8	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254008	MW-9d20	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254009	MW-9d24	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254010	MW-10d10	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254011	MW-10d15	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254012	MW-10d20	EPA 3546	OEXT/3558	EPA 8015B	GCSV/2418
257254001	MW-7d9	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254002	MW-7d16	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254003	MW-7d20	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254004	MW-8d9	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254005	MW-8d13	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254006	MW-8d20	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254007	MW-9d8	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254008	MW-9d20	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254009	MW-9d24	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254010	MW-10d10	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254011	MW-10d15	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254012	MW-10d20	EPA 3050	MPRP/2157	EPA 6010	ICP/2064
257254001	MW-7d9	EPA 5030	MSV/4278	EPA 8260	MSV/4281
257254001	MW-7d9	EPA 8260	MSV/4244		
257254002	MW-7d16	EPA 8260	MSV/4244		
257254003	MW-7d20	EPA 8260	MSV/4244		
257254004	MW-8d9	EPA 8260	MSV/4244		
257254005	MW-8d13	EPA 8260	MSV/4244		
257254006	MW-8d20	EPA 8260	MSV/4244		
257254007	MW-9d8	EPA 8260	MSV/4244		
257254008	MW-9d20	EPA 8260	MSV/4244		
257254009	MW-9d24	EPA 8260	MSV/4244		
257254010	MW-10d10	EPA 8260	MSV/4291		
257254011	MW-10d15	EPA 8260	MSV/4247		
257254012	MW-10d20	EPA 8260	MSV/4247		
257254001	MW-7d9	CA LUFT	MSV/4277	CA LUFT	MSV/4290
257254002	MW-7d16	CA LUFT	MSV/4252		
257254003	MW-7d20	CA LUFT	MSV/4252		
257254004	MW-8d9	CA LUFT	MSV/4252		
257254005	MW-8d13	CA LUFT	MSV/4252		
257254006	MW-8d20	CA LUFT	MSV/4252		
257254007	MW-9d8	CA LUFT	MSV/4252		
257254008	MW-9d20	CA LUFT	MSV/4252		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 256277
Pace Project No.: 257254

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
257254009	MW-9d24	CA LUFT	MSV/4253		
257254010	MW-10d10	CA LUFT	MSV/4289		
257254011	MW-10d15	CA LUFT	MSV/4289		
257254012	MW-10d20	CA LUFT	MSV/4253		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

257254

Page: 1 of 1

1241673

Section A Required Client Information:

Company: Anten Group
Address: 11050 White Rock Rd. Ste 110, Rancho Cordova CA 95670
Email To: dennis.dettloff@antengroup.com
Phone: 916-503-1261 Fax: 916-638-9385
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Dennis Dettloff
Copy To:
Purchase Order No.:
Project Name: I40256277
Project Number:

Section C Invoice Information:

Attention: Dennis Dettloff
Company Name: Anten Group
Address: 11050 White Rock Rd. Ste 110
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 21943/L1&L7

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: CA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test ↓: 8260- BTEX/8 Oxy's	8015- TPHmo	6010- Total Lead	CA LUFT- TPHg	8015- DRO										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-7d9		SL	G			4-5-11	8:52		1	X								X	X	X	X											
2	MW-7d16		SL	G			4-5-11	9:05		1	X								X	X	X	X											
3	MW-7d20		SL	G			4-5-11	8:58		1	X								X	X	X	X											
4	MW-8d9		SL	G			4-5-11	10:27		1	X								X	X	X	X											
5	MW-8d13		SL	G			4-5-11	10:32		1	X								X	X	X	X											
6	MW-8d20		SL	G			4-5-11	10:36		1	X								X	X	X	X											
7	MW-9d8		SL	G			4-5-11	12:58		1	X								X	X	X	X											
8	MW-9d20		SL	G			4-5-11	13:05		1	X								X	X	X	X											
9	MW-9d24		SL	G			4-5-11	13:19		1	X								X	X	X	X											
10	MW-10d10		SL	G			4-5-11	15:13		1	X								X	X	X	X	X										
11	MW-10d15		SL	G			4-5-11	15:17		1	X								X	X	X	X	X										
12	MW-10d20		SL	G			4-5-11	15:23		1	X								X	X	X	X	X										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
8 Oxy's - MTBE/TAME/	/Anten Group	4-7-11	14:00							
DIPE/ETBE/TBA/1,2-DCA/	FED EX	040811	0815	Cathy Wilshire /PACE	040811	0815	3.2	Y	Y	Y
EDB/Ethanol										

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ed Weyrens

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/7/11

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Container Count

CLIENT: Antea

Face Analytical

257254

COC PAGE 1 of 1
COC ID# 1241673

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU	plastic sleeves			Subsample/Comments/Info
1												1			1 x DG9M, 2 x VG9W, 1 x WGFU
2															+2 VG9W
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															Trip Blank? No

NJ3 04/08/11

AG1H	1 liter HCL amber glass		BP2S	500mL H2SO4 plastic		JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass		BP2U	500mL unpreserved plastic		R	terra core kit
AG2S	500mL H2SO4 amber glass		BP2Z	500mL NaOH, Zn Ac		U	Summa Can
AG2U	500mL unpreserved amber glass		BP3C	250mL NaOH plastic		VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass		BP3N	250mL HNO3 plastic		VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass		BP3S	250mL H2SO4 plastic		VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass		BP3U	250mL unpreserved plastic		VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic		DG9B	40mL Na Bisulfate amber vial		VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic		DG9H	40mL HCL amber voa vial		WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic		DG9M	40mL MeOH clear vial		WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac		DG9T	40mL Na Thio amber vial		ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic		DG9U	40mL unpreserved amber vial			
BP2O	500mL NaOH plastic		1	Wipe/Swab			

Sample Condition Upon Receipt

Pace Analytical

Client Name: Antea Project # 257254

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8704 9477 9315

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other plastic bags Temp. Blank Yes ____ No ✓

Thermometer Used 132013 or 101731 or 226093 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.2c Biological Tissue Is Frozen: Yes No Date and Initials of person examining contents: 04/08/11 CW

Temp should be above freezing ≤ 6°C Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.	
Follow Up / Hold Analysis Requested:	☐Yes ☑No ☐N/A	8.	
Sufficient Volume:	☑Yes ☐No ☐N/A	9.	
Correct Containers Used:	☑Yes ☐No ☐N/A	10. Rcvd in plastic sleeves	
-Pace Containers Used:	☐Yes ☑No ☐N/A		
Containers Intact:	☑Yes ☐No ☐N/A	11.	
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	12.	
Sample Labels match COC:	☑Yes ☐No ☐N/A	13.	
-Includes date/time/ID/Analysis Matrix: SV			
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	14.	
All containers needing preservation are found to be in compliance with EPA recommendation	☐Yes ☐No ☑N/A		
Exceptions: VOA, coliform, TOC, O&G		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	15	
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	16	
Trip Blanks Present:	☐Yes ☐No ☑N/A	17.	
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time _____

Comments/ Resolution: _____

Project Manager Review: RSM Date: 04/08/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Is the Data Set Valid?
(circle)
Yes / No

Preservation Temperature
(if Known): 4.3 °C

Antea™Group Laboratory Data Validation Sheet

Project/Client: 76 Service Station No. 6277 / COP-ELT
Project #: 240256277
Date of Validation: 6-16-11 **Date of Analysis:** 4/21/11
Sample Date: 4/18/11 **Completed By:** ETW
Signature:

Circle or Highlight Yes / No (below)

Analytical Lab Used and Report # (if any): PACE #:257356

1. Were the analyses the ones requested?	Yes / No
2. Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?	Yes / No
3. Were samples prepared (extracted, filtered, etc.) within EPA holding times?	Yes / No
4. Once prepared/extracted, were the samples analyzed within the EPA holding times?	Yes / No
5. Were Laboratory blanks performed, if so, were they non-detect?	Yes / No
6. Are the units correct? (i.e., soil samples in mg/kg or ug/g, water samples mg/L, ug/L, and air samples in volume mg/m^3,etc.)	Yes / No
7. Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?	Yes / No
8. In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?	Yes / No
9. Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approximately 80-120%, depending on the analyte)?	Yes / No
10. Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?	Yes / No
11. Were Relative Percent Difference values within the acceptable range (i.e. ±25%)?	Yes / No

If any answer is no, explain why and what corrective action was taken (use additional sheet(s), as necessary:

#11 The RPD for Ethanol was outside the laboratory control limits
Qualifier D6

Qualifier 1n noted on TPHg sample from MW-9: the TPHg result for the sample did not match the pattern of the laboratory standard for gasoline. This is likely due to the presence of tetrachloroethene in the sample.

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www.pacelabs.com

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940 South Harney
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(206)767-5060

April 26, 2011

Dennis Dettloff
Antea USA
11050 White Rock Rd. #110
Rancho Cordova, CA 95670

RE: Project: 256277
Pace Project No.: 257356

Dear Dennis Dettloff:
Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Regina Ste. Marie

Regina SteMarie

regina.stemarie@pacelabs.com
Project Manager

Enclosures

cc: Tara Bosch, Antea USA
Jonathon Fillingame, Antea USA
Lia Holden, Antea USA
Dan Keltner, Antea USA
Josh Mahoney, Antea USA
Tony Perini, Antea USA
Nicole Persaud, Antea USA
Don Pinkerton, Antea USA
Doug Umland, Antea USA
Ed Weyrens, Antea USA

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CERTIFICATIONS

Project: 256277
Pace Project No.: 257356

Washington Certification IDs
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229

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SAMPLE ANALYTE COUNT

Project: 256277
Pace Project No.: 257356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
257356001	MW-10_20110430	EPA 5030B/8260	CC	16	PASI-S
		CA LUFT	CC	2	PASI-S
257356002	MW-7_20110430	EPA 5030B/8260	CC	16	PASI-S
		CA LUFT	CC	2	PASI-S
257356003	MW-8_20110430	EPA 5030B/8260	CC	16	PASI-S
		CA LUFT	CC	2	PASI-S
257356004	MW-9_20110430	EPA 5030B/8260	CC	16	PASI-S
		CA LUFT	CC	2	PASI-S

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HITS ONLY

Project: 256277
Pace Project No.: 257356

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
257356001	**MW-10_20110430**					
EPA 5030B/8260	Ethylbenzene	6.9	ug/L	0.50	04/21/11 16:44	
EPA 5030B/8260	Methyl-tert-butyl ether	14.9	ug/L	0.50	04/21/11 16:44	
EPA 5030B/8260	Xylene (Total)	40.0	ug/L	1.5	04/21/11 16:44	
CA LUFT	TPH-Gasoline (C05-C12)	513	ug/L	50.0	04/21/11 16:44	
257356002	**MW-7_20110430**					
EPA 5030B/8260	Benzene	22.4	ug/L	0.50	04/21/11 17:04	
EPA 5030B/8260	tert-Butyl Alcohol	5.7	ug/L	5.0	04/21/11 17:04	
EPA 5030B/8260	Ethylbenzene	11.3	ug/L	0.50	04/21/11 17:04	
EPA 5030B/8260	Methyl-tert-butyl ether	152	ug/L	0.50	04/21/11 17:04	
EPA 5030B/8260	Toluene	12.4	ug/L	0.50	04/21/11 17:04	
EPA 5030B/8260	Xylene (Total)	449	ug/L	1.5	04/21/11 17:04	
CA LUFT	TPH-Gasoline (C05-C12)	2420	ug/L	50.0	04/21/11 17:04	
257356003	**MW-8_20110430**					
EPA 5030B/8260	Benzene	1.4	ug/L	0.50	04/21/11 17:24	
EPA 5030B/8260	Ethylbenzene	2.8	ug/L	0.50	04/21/11 17:24	
EPA 5030B/8260	Methyl-tert-butyl ether	28.3	ug/L	0.50	04/21/11 17:24	
EPA 5030B/8260	Toluene	0.75	ug/L	0.50	04/21/11 17:24	
EPA 5030B/8260	Xylene (Total)	14.2	ug/L	1.5	04/21/11 17:24	
CA LUFT	TPH-Gasoline (C05-C12)	439	ug/L	50.0	04/21/11 17:24	
257356004	**MW-9_20110430**					
EPA 5030B/8260	Methyl-tert-butyl ether	1.6	ug/L	0.50	04/21/11 17:44	
CA LUFT	TPH-Gasoline (C05-C12)	208	ug/L	50.0	04/21/11 17:44	1n

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257356

Sample: MW-10_20110430 Lab ID: **257356001** Collected: 04/18/11 14:10 Received: 04/19/11 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
tert-Amylmethyl ether	ND	ug/L	0.50	1		04/21/11 16:44	994-05-8	
Benzene	ND	ug/L	0.50	1		04/21/11 16:44	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5.0	1		04/21/11 16:44	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/21/11 16:44	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/21/11 16:44	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		04/21/11 16:44	108-20-3	
Ethanol	ND	ug/L	250	1		04/21/11 16:44	64-17-5	
Ethylbenzene	**6.9**	ug/L	0.50	1		04/21/11 16:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		04/21/11 16:44	637-92-3	
Methyl-tert-butyl ether	**14.9**	ug/L	0.50	1		04/21/11 16:44	1634-04-4	
Toluene	ND	ug/L	0.50	1		04/21/11 16:44	108-88-3	
Xylene (Total)	**40.0**	ug/L	1.5	1		04/21/11 16:44	1330-20-7	
4-Bromofluorobenzene (S)	97	%	80-120	1		04/21/11 16:44	460-00-4	
Dibromofluoromethane (S)	97	%	80-122	1		04/21/11 16:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%	80-124	1		04/21/11 16:44	17060-07-0	
Toluene-d8 (S)	95	%	80-123	1		04/21/11 16:44	2037-26-5	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	**513**	ug/L	50.0	1		04/21/11 16:44		
4-Bromofluorobenzene (S)	97	%	82-116	1		04/21/11 16:44	460-00-4	

Sample: MW-7_20110430 Lab ID: **257356002** Collected: 04/18/11 12:35 Received: 04/19/11 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
tert-Amylmethyl ether	ND	ug/L	0.50	1		04/21/11 17:04	994-05-8	
Benzene	**22.4**	ug/L	0.50	1		04/21/11 17:04	71-43-2	
tert-Butyl Alcohol	**5.7**	ug/L	5.0	1		04/21/11 17:04	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/21/11 17:04	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/21/11 17:04	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		04/21/11 17:04	108-20-3	
Ethanol	ND	ug/L	250	1		04/21/11 17:04	64-17-5	
Ethylbenzene	**11.3**	ug/L	0.50	1		04/21/11 17:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		04/21/11 17:04	637-92-3	
Methyl-tert-butyl ether	**152**	ug/L	0.50	1		04/21/11 17:04	1634-04-4	
Toluene	**12.4**	ug/L	0.50	1		04/21/11 17:04	108-88-3	
Xylene (Total)	**449**	ug/L	1.5	1		04/21/11 17:04	1330-20-7	
4-Bromofluorobenzene (S)	94	%	80-120	1		04/21/11 17:04	460-00-4	
Dibromofluoromethane (S)	96	%	80-122	1		04/21/11 17:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%	80-124	1		04/21/11 17:04	17060-07-0	
Toluene-d8 (S)	98	%	80-123	1		04/21/11 17:04	2037-26-5	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	**2420**	ug/L	50.0	1		04/21/11 17:04		

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257356

Sample: MW-7_20110430 Lab ID: 257356002 Collected: 04/18/11 12:35 Received: 04/19/11 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
CA LUFT MSV GRO	Analytical Method: CA LUFT							
4-Bromofluorobenzene (S)	94	%	82-116	1		04/21/11 17:04	460-00-4	

Sample: MW-8_20110430 Lab ID: 257356003 Collected: 04/18/11 13:10 Received: 04/19/11 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
tert-Amylmethyl ether	ND	ug/L	0.50	1		04/21/11 17:24	994-05-8	
Benzene	1.4	ug/L	0.50	1		04/21/11 17:24	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5.0	1		04/21/11 17:24	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/21/11 17:24	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/21/11 17:24	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		04/21/11 17:24	108-20-3	
Ethanol	ND	ug/L	250	1		04/21/11 17:24	64-17-5	
Ethylbenzene	2.8	ug/L	0.50	1		04/21/11 17:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		04/21/11 17:24	637-92-3	
Methyl-tert-butyl ether	28.3	ug/L	0.50	1		04/21/11 17:24	1634-04-4	
Toluene	0.75	ug/L	0.50	1		04/21/11 17:24	108-88-3	
Xylene (Total)	14.2	ug/L	1.5	1		04/21/11 17:24	1330-20-7	
4-Bromofluorobenzene (S)	94	%	80-120	1		04/21/11 17:24	460-00-4	
Dibromofluoromethane (S)	95	%	80-122	1		04/21/11 17:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	80-124	1		04/21/11 17:24	17060-07-0	
Toluene-d8 (S)	96	%	80-123	1		04/21/11 17:24	2037-26-5	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	439	ug/L	50.0	1		04/21/11 17:24		
4-Bromofluorobenzene (S)	94	%	82-116	1		04/21/11 17:24	460-00-4	

Sample: MW-9_20110430 Lab ID: 257356004 Collected: 04/18/11 13:45 Received: 04/19/11 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
tert-Amylmethyl ether	ND	ug/L	0.50	1		04/21/11 17:44	994-05-8	
Benzene	ND	ug/L	0.50	1		04/21/11 17:44	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5.0	1		04/21/11 17:44	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/21/11 17:44	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/21/11 17:44	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		04/21/11 17:44	108-20-3	
Ethanol	ND	ug/L	250	1		04/21/11 17:44	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		04/21/11 17:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		04/21/11 17:44	637-92-3	
Methyl-tert-butyl ether	1.6	ug/L	0.50	1		04/21/11 17:44	1634-04-4	
Toluene	ND	ug/L	0.50	1		04/21/11 17:44	108-88-3	

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ANALYTICAL RESULTS

Project: 256277
Pace Project No.: 257356

Sample: MW-9_20110430 **Lab ID: 257356004** Collected: 04/18/11 13:45 Received: 04/19/11 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Xylene (Total)	ND	ug/L	1.5	1		04/21/11 17:44	1330-20-7	
4-Bromofluorobenzene (S)	93	%	80-120	1		04/21/11 17:44	460-00-4	
Dibromofluoromethane (S)	93	%	80-122	1		04/21/11 17:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%	80-124	1		04/21/11 17:44	17060-07-0	
Toluene-d8 (S)	95	%	80-123	1		04/21/11 17:44	2037-26-5	
CA LUFT MSV GRO	Analytical Method: CA LUFT							
TPH-Gasoline (C05-C12)	**208**	ug/L	50.0	1		04/21/11 17:44		1n
4-Bromofluorobenzene (S)	93	%	82-116	1		04/21/11 17:44	460-00-4	

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257356

QC Batch: MSV/4301 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 257356001, 257356002, 257356003, 257356004

METHOD BLANK: 67314 Matrix: Water
Associated Lab Samples: 257356001, 257356002, 257356003, 257356004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/21/11 10:41	
1,2-Dichloroethane	ug/L	ND	1.0	04/21/11 10:41	
Benzene	ug/L	ND	0.50	04/21/11 10:41	
Diisopropyl ether	ug/L	ND	0.50	04/21/11 10:41	
Ethanol	ug/L	ND	250	04/21/11 10:41	
Ethyl-tert-butyl ether	ug/L	ND	0.50	04/21/11 10:41	
Ethylbenzene	ug/L	ND	0.50	04/21/11 10:41	
Methyl-tert-butyl ether	ug/L	ND	0.50	04/21/11 10:41	
tert-Amylmethyl ether	ug/L	ND	0.50	04/21/11 10:41	
tert-Butyl Alcohol	ug/L	ND	5.0	04/21/11 10:41	
Toluene	ug/L	ND	0.50	04/21/11 10:41	
Xylene (Total)	ug/L	ND	1.5	04/21/11 10:41	
1,2-Dichloroethane-d4 (S)	%	93	80-124	04/21/11 10:41	
4-Bromofluorobenzene (S)	%	93	80-120	04/21/11 10:41	
Dibromofluoromethane (S)	%	101	80-122	04/21/11 10:41	
Toluene-d8 (S)	%	93	80-123	04/21/11 10:41	

LABORATORY CONTROL SAMPLE: 67315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	16.7	83	73-124	
1,2-Dichloroethane	ug/L	20	18.1	90	78-125	
Benzene	ug/L	20	19.1	96	76-127	
Diisopropyl ether	ug/L	20	20.5	103	70-137	
Ethanol	ug/L	400	361	90	31-182	
Ethyl-tert-butyl ether	ug/L	20	19.5	97	70-137	
Ethylbenzene	ug/L	20	17.3	86	72-125	
Methyl-tert-butyl ether	ug/L	20	19.8	99	58-145	
tert-Amylmethyl ether	ug/L	20	20.5	103	71-133	
tert-Butyl Alcohol	ug/L	100	87.3	87	31-166	
Toluene	ug/L	20	15.9	79	69-125	
Xylene (Total)	ug/L	60	52.2	87	74-124	
1,2-Dichloroethane-d4 (S)	%			93	80-124	
4-Bromofluorobenzene (S)	%			94	80-120	
Dibromofluoromethane (S)	%			99	80-122	
Toluene-d8 (S)	%			96	80-123	

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940 South Harney
Seattle, WA 98108
(206)767-5060

QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67362 67363

Parameter	Units	257356001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	19.6	18.9	98	95	78-117	4	
1,2-Dichloroethane	ug/L	ND	20	20	21.8	21.2	109	106	73-127	3	
Benzene	ug/L	ND	20	20	24.8	23.9	122	117	75-124	4	
Diisopropyl ether	ug/L	ND	20	20	25.2	24.5	126	123	69-130	3	
Ethanol	ug/L	ND	400	400	344	524	86	131	36-177	41	D6
Ethyl-tert-butyl ether	ug/L	ND	20	20	23.5	23.4	117	117	67-131	.3	
Ethylbenzene	ug/L	6.9	20	20	27.7	27.6	104	104	76-124	.4	
Methyl-tert-butyl ether	ug/L	14.9	20	20	39.9	40.4	125	128	72-130	1	
tert-Amylmethyl ether	ug/L	ND	20	20	24.5	23.9	122	120	67-132	2	
tert-Butyl Alcohol	ug/L	ND	100	100	104	107	102	105	36-164	3	
Toluene	ug/L	ND	20	20	20.4	19.6	101	96	75-124	4	
Xylene (Total)	ug/L	40.0	60	60	104	103	107	105	76-123	.7	
1,2-Dichloroethane-d4 (S)	%						94	93	80-124		
4-Bromofluorobenzene (S)	%						94	96	80-120		
Dibromofluoromethane (S)	%						103	103	80-122		
Toluene-d8 (S)	%						94	93	80-123		

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QUALITY CONTROL DATA

Project: 256277
Pace Project No.: 257356

QC Batch: MSV/4302 Analysis Method: CA LUFT
QC Batch Method: CA LUFT Analysis Description: CA LUFT MSV GRO
Associated Lab Samples: 257356001, 257356002, 257356003, 257356004

METHOD BLANK: 67316 Matrix: Water
Associated Lab Samples: 257356001, 257356002, 257356003, 257356004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-Gasoline (C05-C12)	ug/L	ND	50.0	04/21/11 10:41	
4-Bromofluorobenzene (S)	%	93	82-116	04/21/11 10:41	

LABORATORY CONTROL SAMPLE: 67317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-Gasoline (C05-C12)	ug/L	500	504	101	60-140	
4-Bromofluorobenzene (S)	%			96	82-116	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67522 67523

Parameter	Units	257356002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
TPH-Gasoline (C05-C12)	ug/L	2420	500	500	2900	2810	97	77	60-140	3	
4-Bromofluorobenzene (S)	%						94	92	82-116		

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QUALIFIERS

Project: 256277
Pace Project No.: 257356

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-S	Pace Analytical Services - Seattle

ANALYTE QUALIFIERS

1n	The GRO result for this sample did not match the pattern of the laboratory standard for gasoline. This is likely due to the presence of tetrachloroethene in the sample.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

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Seattle, WA 98108
(206)767-5060

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 256277
Pace Project No.: 257356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
257356001	MW-10_20110430	EPA 5030B/8260	MSV/4301		
257356002	MW-7_20110430	EPA 5030B/8260	MSV/4301		
257356003	MW-8_20110430	EPA 5030B/8260	MSV/4301		
257356004	MW-9_20110430	EPA 5030B/8260	MSV/4301		
257356001	MW-10_20110430	CA LUFT	MSV/4302		
257356002	MW-7_20110430	CA LUFT	MSV/4302		
257356003	MW-8_20110430	CA LUFT	MSV/4302		
257356004	MW-9_20110430	CA LUFT	MSV/4302		

20110430 256277 WG_BM_201104 BO

257356

anteagroup

COP ELT CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Page: 1 of 1
Cooler # ____ of ____

2Q 2011 GW Event

22423/L1

Required Lab Information:		Required Project Information:				Required Invoice Information:					
Lab Name:	Pace-Seattle	Site ID #:	256277	Task:	WG_BM_201104	Send Invoice to:	Tara Bosch				
Address:		AnteaGrp proj#	140256277			Address:	11050 White Rock Road Suite 110				
940 S. Harney Street Seattle WA 98108		Site Address	15803 East 14th Street			City/State	Rancho Cordova CA 95670	Phone #:	916-503-1267		
Lab PM:	Regina Ste. Marie	City	San Leandro	State	CA	Reimbursement project?		Non-reimbursement project?	Y	Mark one	
Phone/Fax:	P: 206-957-2433 F: 206-767-5063	AG PM Name:	Dennis Dettloff			Send EDD to	copehdate@intelligentehs.com				
Lab PM email	Regina.SteMarie@pacelabs.com	Phone/Fax:	P: 916-503-1261 F: 916-638-8385			CC Hardcopy report to					
Applicable Lab Quote #:		AG PM Email:	Dennis.Dettloff@anteagroup.com			CC Hardcopy report to					

Turn around time (days): 10

QC level Required: Standard ____ Special ____ Mark one

NJ Reduced Deliverable Package? ____

MA MCP Cert? ____ CT RCP Cert? ____ Mark One

Lab Project ID (lab use) ____

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analyses: 8260 GC/MS GRO	8260/BtexMTBE/TOA/TCA	Comments/Lab Sample I.D.
1	MW-10_20110430	WG		4-18-11	1410	6	N				X					X	X	7 Oxy's = MTBE, DIPE, ETBE, TAME, TBA, Ethanol, 1,2DCA, and EDB
2	MW-7_20110430	WG		4-18-11	1235	6	N				X					X	X	
3	MW-8_20110430	WG		4-18-11	1310	10	N				X					X	X	
4	MW-9_20110430	WG		4-18-11	1345	6	N				X					X	X	
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Additional Comments/Special Instructions:

Global ID: T0619718179

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Matt Bostani Blaine Tech	4-18-11	1530			
Fedex	4/19/11	0850	Jyoti Sway/ACE	4/19/11	0855

Sample Receipt Conditions

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C: 4.3	(Y)N	(Y)N	Y/N
	Y/N	Y/N	Y/N
	Samples on Ice?	Sample intact?	Trip Blank?

SHIPPING METHOD: (mark as appropriate) UPS COURIER (FEDEX) US MAIL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Bostani

SIGNATURE of SAMPLER:

DATE Signed: 4-18-11 Time: 1530

Final 11/13/06 AMTait

Inogen

Sample Container Count

257356

CLIENT: Antea_CA

COC PAGE 1 of 1

COC ID# _____

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU				Comments
1	6														
2	6														
3	8														
4	6														
5															
6															
7															
8															
9															
10															
11															
12															Trip Blank? No

AG1H	1 liter HCL amber glass		BP2S	500mL H2SO4 plastic		JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass		BP2U	500mL unpreserved plastic		R	terra core kit
AG2S	500mL H2SO4 amber glass		BP2Z	500mL NaOH, Zn Ac		U	Summa Can
AG2U	500mL unpreserved amber glass		BP3C	250mL NaOH plastic		VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass		BP3N	250mL HNO3 plastic		VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass		BP3S	250mL H2SO4 plastic		VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass		BP3U	250mL unpreserved plastic		VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic		DG9B	40mL Na Bisulfate amber vial		VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic		DG9H	40mL HCL amber voa vial		WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic		DG9M	40mL MeOH clear vial		WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac		DG9T	40mL Na Thio amber vial		ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic		DG9U	40mL unpreserved amber vial			
BP2O	500mL NaOH plastic		I	Wipe/Swab			

Sample Condition Upon Receipt

Pace Analytical

Client Name: Antea Project # 257356

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8153 5531 8137

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or (101731882) or 226099 Type of Ice: (Wet) Blue None ☐ Samples on Ice, cooling process has begun

Cooler Temperature 4.3°C Biological Tissue is Frozen: Yes No

Temp should be above freezing ≤ 6°C

Date and Initials of person examining contents: NJS 04/19/11

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Follow Up / Hold Analysis Requested:	☐Yes	☑No	☐N/A
Sufficient Volume:	☐Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☑No	☐N/A
Containers Intact:	☐Yes	☑No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☐N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: Water			
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A
Exceptions: (VOA) coliform, TOC, O&G			
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A
Trip Blanks Present:	☐Yes	☑No	☐N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased):			

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11. 2/10 vials for MW-8 received broken.
12.
13.
14.

Initial when completed	Lot # of added preservative

15.
16.
17.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: RSM Date: 04/19/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix D

Well Development Logs

GREGG

MONITORING WELL DEVELOPMENT LOG

All measurements taken from: ☑ Top of Casing ☐ Protective Casing ☐ Ground Level

Sample ID _____

Qty. of Drilling Fluid Lost 0

Well Number MW-7
Date 4-11-11
Time Start: 12:40 End: 1:20
Client ANTEAGROUP
Project 76 GAS STATION
Job Number —
Installation Date —
Well Diameter 2"

Borehole Diameter 8"
Screen Length 10'
Measured Depth (pre-development) 18.70
Measured Depth (post-development) 18.70
Static Water Level (ft.) 9.38
Standing Water Column (ft.) 9.32
One Well Volume (gal.) 1.58
One Annulus Vol. (gal.) _____

Minimum Gal. to be Purged 16 Gallons
Development Method SURGE, BAIL & pump.
Purging Equipment 2" S.S. BAILER
Water Level Equipment SOLINST
pH/EC Meter HORIBA U-10
Turbidity Meter " "
Other _____

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
12:40	—	START	SURGING	2" WELL	—	—	—	—	HARD BOTTOM	
12:55	—	STOP SURGING	/ STOP	BAILING	—					
1:00	—	STOP	BAILING	/ BAIL	4	Gallons			SURGED WELL FOR 15 MIN	
1:02	—	START	PUMPING	AT	2	Gallons	per	MINUTE		
1:04	4/4	7.60	1.94	999	—	20.1	—	2 GPM / DTW=10.50		
1:06	4/8	7.50	1.84	999	—	20.1	—	2 GPM / DTW= 10.60		
1:08	4/12	7.23	1.83	809	—	20.0	—	2 GPM / DTW= 10.60		
1:10	4/16	7.25	1.82	622	—	19.9	—	2 GPM / DTW= 10.60		
1:12	4/20	7.23	1.81	447	—	20.0	—	2 GPM / DTW= 10.60		
1:20	—	TOTAL	GALLONS	PURGED	(24)		DTW=	9.40		

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

All measurements taken from: ☑ Top of Casing ☐ Protective Casing ☐ Ground Level

Sample ID _____

Qty. of Drilling Fluid Lost 0

Well Number MW-9 | Borehole Diameter 8" | Minimum Gal. to be Purged 18 Gallons

Date 4-11-11 | Screen Length 11' | Development Method SURGE, BAIL & PUMP

Time Start: 11:30 End: _____ | Measured Depth (pre-development) 19.50

Client ANTEA GROUP | Measured Depth (post-development) 19.50 | Purging Equipment 2" S.S. BAILER

Project – | Static Water Level (ft.) 9.40 | Water Level Equipment SOLINST

Job Number – | Standing Water Column (ft.) 10.10 | pH/EC Meter HORIBA U-10

Installation Date – | One Well Volume (gal.) 1.71 | Turbidity Meter " "

Well Diameter 2" | One Annulus Vol. (gal.) _____ | Other _____

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
11:40	–	START SURGING			2" WELL	–			HARD BOTTOM	
11:45	–	STOP SURGING/ START BAILING							SURGED WELL FOR 15 MIN	
12:00	–	STOP BAILING – TOTAL 5 Gallons								
2:05	–	START PUMPING AT 1 GPM								
2:08	2/2	7.53	1.79	999	–	21.2	–	1 gpm	DTW = 10.35	
2:10	2/4	7.08	1.67	999	–	21.4	–	1 gpm	DTW = 10.35	
2:12	2/6	7.10	1.68	999	–	21.4	–	1 gpm	DTW = 10.35	
2:14	2/8	6.99	1.69	999	–	21.3	–	1 gpm	DTW = 10.35	
2:16	2/10	6.93	1.69	999	–	21.4	–	1 gpm	DTW = 10.35	
2:18	2/12	6.92	1.67	999	–	21.3	–	1 gpm	DTW = 10.35	
2:20	3/15	6.90	1.68	999	–	21.3	–	2 gpm	DTW = 10.80	
FINAL FIELD PARAMETER MEASUREMENTS										
2:24	4/19	6.89	1.67	999	–	21.4	–	2 gpm	DTW = 10.80	

GREGG

MONITORING WELL DEVELOPMENT LOG

Page ______ of ______

All measurements taken from: ☐ Top of Casing ☐ Protective Casing ☐ Ground Level

Sample ID ______

Qty. of Drilling Fluid Lost ______

Well Number MW-9

Date 4-11-11

Time Start: 2:20 End: 3:30

Client [illegible]

Project [illegible] STATION

Job Number —

Installation Date ______

Well Diameter 2"

Borehole Diameter 8"

Screen Length 15'

Measured Depth (pre-development) 23.20

Measured Depth (post-development) 23.81

Static Water Level (ft.) 7.50

Standing Water Column (ft.) 14.30

One Well Volume (gal.) 2.45

One Annulus Vol. (gal.) ______

Minimum Gal. to be Purged 24.5

Development Method Surge, Bail & pump

Purging Equipment [illegible]

Water Level Equipment Solinst

pH/EC Meter Horiba U-10

Turbidity Meter [illegible]

Other ______

Time	Amount Purged (gal.)	Field Parameters Measured: pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.	Comments	Field Tech.
2:22	Start Surging			—					[illegible]	
3:04	10	6.91	1.75	>999	–	20.1	0.08	2.0/11.1	End Surge 2:45	
3:06	14	6.90	1.72	>999	–	20.3	0.08	2.0/11.65	Bail 2 Gal	
3:08	18	6.76	1.67	>999	–	20.4	0.07	2.0/10.26	Start [illegible] W.L. [illegible]	
3:10	22	6.90	1.68	>999	–	20.3	0.07	2.0/11.65	End W.L. 9.76	
3:13	26	6.88	1.67	>999	–	20.3	0.07	2.0/11.65		

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

All measurements taken from: ☑ Top of Casing ☐ Protective Casing ☐ Ground Level

Sample ID _____

Qty. of Drilling Fluid Lost 0

Well Number MW-10
Date 4-11-11
Time Start: 1:30 End: 2:10
Client ARTEAGROUP
Project 76 GAS STATION
Job Number —
Installation Date —
Well Diameter 2"

Borehole Diameter 8"
Screen Length 10'
Measured Depth (pre-development) 19.50
Measured Depth (post-development) 19.50
Static Water Level (ft.) 10.60
Standing Water Column (ft.) 8.90
One Well Volume (gal.) 1.51
One Annulus Vol. (gal.) _____

Minimum Gal. to be Purged 16 GALLONS
Development Method SURGE, BAIL & PUMP
Purging Equipment 2" S.S. BAILER
Water Level Equipment SOLINST
pH/EC Meter HORIBA U-10
Turbidity Meter " "
Other _____

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
1:30	—	START SURGING		—					HARD BOTTOM	
1:45	—	STOP SURGING / START BAILING								
1:55	—	STOP BAILING.		BAIL	4 GALLONS		—	DTW =	11.16	
1:56	—	START PUMPING			AT	2 GPM				
1.58	4/4	7.45	2.14	999	—	19.4	—	2 gpm / DTW = 12.40		
2:00	4/8	7.25	2.04	999	—	19.5	—	2 gpm / DTW = 12.40		
2:02	4/12	7.02	1.95	999	—	19.4	—	2 gpm / DTW = 12.60		
2:04	4/16	6.97	1.93	752	—	19.3	—	2 gpm / DTW = 12.70		
2:06	4/20	6.96	1.93	416	—	19.4	—	2 gpm / DTW 12.75		
2:08	4/24	6.97	1.92	238	—	19.4	—	2 gpm / DTW = 12.75		
2:12	TOTAL GALLONS			PURGED (28)			DTW =	10.60		

FINAL FIELD PARAMETER MEASUREMENTS

Appendix E

Blaine Tech Services Groundwater Sampling Procedures

BLAINE TECH SERVICES, INC.
METHODS AND PROCEDURES
FOR THE ROUTINE MONITORING OF
GROUNDWATER WELLS

SAMPLING PROCEDURES OVERVIEW

SAFETY

All groundwater monitoring assignments performed for DELTA comply with safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40 hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any DELTA COP/ELT site.

INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic sounders which are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of Immiscibles or sheen and when free product is suspected, it is confirmed using an electronic interface probe (e.g. MMC). No samples are collected from a well containing free product.

EVACUATION

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in some jurisdictions.
Well purging devices are selected on the basis of the well diameter and the total volume to be evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well. Small volumes of purgewater are often removed by hand bailing with a disposable bailer.

PARAMETER STABILIZATION

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less

than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewaters and does not recharge.

Wells known to dewater are evacuated as early as possible during each site visit in order to allow for the greatest amount of recovering. Any well that does not recharge to 80% of its original volume will be sampled prior to the departure of our personnel from the site in order to eliminate the need of a return visit.

In jurisdictions where a certain percentage of recovery is included in the local completion standard, our personnel follow the regulatory expectation.

PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non hazardous purgewater is transported under standard Bill of Lading or Non-Hazardous manifest to a Blaine Tech Services, Inc. facility before being transported to an approved disposal facility.

SAMPLE COLLECTION DEVICES

All samples are collected using disposable bailers.

SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory which will analyze the samples. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

TRIP BLANKS

Upon request, a Trip Blank is carried to each site and is kept inside the cooler for the duration of the sampling event. It is turned over to the laboratory for analysis with the samples from that site.

DUPLICATES

Upon request, one Duplicate sample is collected at each site. It is up to the Field Technician to choose the well at which the Duplicate is collected. Typically, a duplicate is collected from one of the most contaminated wells. The Duplicate sample is labeled DUP thus rendering the sample blind.

SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the analytical laboratory that will perform the intended analytical procedures. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

DOCUMENTATION CONVENTIONS

Each and every sample container has a label affixed to it. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the store number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time at which the sample was collected and the initials of the person collecting the sample are handwritten onto the label.

Chain of Custody records are created using client specific preprinted forms following USEPA specifications.

Bill of Lading records are contemporaneous records created in the field at the site where the non-hazardous purgewater is generated. Field Technicians use preprinted Bill of Lading forms.

DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is de-tuned to function as a hot pressure washer which is then operated with high quality deionized water which is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation that is incorporated in each sampling vehicle. The steam cleaner is used to decon reels, pumps

and bailers.

Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, sounder etc.) that cannot be washed using the hot high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

EXAMPLE: The sounder is cleaned between wells using the non-phosphate soap and deionized water solution followed by deionized water rinses. The sounder is then washed with the steam cleaner between sites or as necessitated by use in a particularly contaminated well.

DISSOLVED OXYGEN READINGS

All Dissolved Oxygen readings are taken using YSI meters (e.g. YSI Model 550 meter). These meters are equipped with membrane probe that enables them to collect accurate in-situ readings.

The probe and reel is decontaminated between wells as described above. The meter is calibrated as per the instructions in the operating manual. The probe is lowered into the water column allowed to stabilize before use.

OXYIDATON REDUCTION POTENTIAL READINGS

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual. In use the probe is placed in a cup of freshly obtained monitoring well water and allowed to stabilize.

Appendix F

Blaine Tech Services Groundwater Sampling Field Data Sheets

COP-ELT Well-Head Inspection & Well Gauging Form

Project No: 256277 Site Address: 15803 E 14th ST San Leandro

Field Technician: Matt Pestoni Date: 4-18-11 Weather: rain/cool

Sample Order	Field Point	Well Condition: Bolts	Seal	Lid Secure	Lock	Expanding Cap	Water in Well Box	Well Casing Dia.	Time Gauged	Depth to Water (Feet)	Depth to Bottom (Feet)	Depth to LNAPL (Feet)	LNAPL Thickness (Feet)	Comments
	MW-7	G	G	G	G	G	N	2	1140	9.40	18.90			New lock and cap.
	MW-8	G	G	G	G	G	N	2	1146	9.40	19.65			New lock and cap.
	MW-9	G	G	G	G	G	N	2	1156	9.55	23.95			New lock and cap.
	MW-10	G	G	G	G	G	N	2	1201	10.55	19.70			New lock and cap.

Notes:

** All well caps opened at least 15 minutes or longer before gauging wells:

CIRCLE ONE: (YES) or NO**

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Note: Use G=good and P=poor for well condition

COP-ELT Groundwater Sampling Form

Site Address:	15803 E 14th ST San Leandro CA		
Project No:	256277	Field Technician:	M. PesTani
Field Point:	MW-7	Date:	4-18-11
Depth to Water (DTW) (ft bgs):	9.40	Well Diameter (In):	(2) 4 6 8 ___
Depth to LNAPL (ft bgs):		Thickness of LNAPL (ft):	
Total Depth of Well (ft bgs):	18.90	Water Column Height (ft):	9.50

Purging Info and Calculations:

Purge Method:
Low-Flow
3 casing volumes
Other:_____

Purge Equipment:
Disposable Bailer
Electric Submersible
Peristaltic Pump
Bladder Pump
Other:_____

Sample Collection Method:
Disposable Bailer w/ B.E.D.
Extraction Port
Dedicated Tubing
Disposable Tubing
Other:_____

Water Column Height (ft): 9.50 X Conversion Factor (gal/ft): .17 = Casing Volume (gal): 1.7

Casing Volume (gal): 1.7 X Specified Volumes: 3 = Calculated Purge (gal): 4.9

Conversion Factors (gal/ft): 2" = 0.17 4" = 0.66 6" = 1.5 8" = 2.6 Other = radius² * 0.163

Purge: Start Time: 1202 Stop Time: 1227

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
Pre-Purge								
1222	19.6	6.0	853	-65.1	937	2.68	1.0	
1223	19.7	7.0	1447	-70.3	410	2.41	2.0	
1224	19.8	7.0	1395	-68.4	232	2.34	3.0	
1225	19.9	7.1	1380	-61.9	158	2.30	4.0	
1226	19.9	7.1	1372	-59.5	146	2.28	5.0	
1227	19.9	7.1	1369	-58.6	137	2.24	6.0	
Post-Purge								

Did Well dewater? Yes (No) Total Purge volume (gal): 6.0

Other Comments: Strong odor

80% = 11.30

DTW = 9.57

Sample Info:

Sample ID: MW-7_20110430 Sample Date and Time: 4-18-11 1235

Selected Analysis: GRO, BTEX, MTBE, 7 Oxy's

Signature: Matt Pestani Date: 4-18-11

Antea™Group, 1-800-477-7411

LNAPL= light non-aqueous phase liquids
bgs = below ground surface
ORP = Oxidation-Reduction Potential
D.O.= dissolved oxygen
gal = gallon/s
temp = temperature
NTU = Nephelometric Turbidity Units
mV = millivolts

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COP-ELT Groundwater Sampling Form

Site Address:	15803 E 14th ST San Leandro		
Project No:	256277	Field Technician:	M. Pestoni
Field Point:	MW-8	Date:	4-18-11
Depth to Water (DTW) (ft bgs):	9.40	Well Diameter (in):	(2) 4 6 8 ___
Depth to LNAPL (ft bgs):		Thickness of LNAPL (ft):	
Total Depth of Well (ft bgs):	19.65	Water Column Height (ft):	10.25

Purging Info and Calculations:

Purge Method: (Low-Flow) / 3 casing volumes / Other:

Purge Equipment: Disposable Bailer / Electric Submersible / Peristaltic Pump / Bladder Pump / Other:

Sample Collection Method: Disposable Bailer w/B.ED. / Extraction Port / Dedicated Tubing / Disposable Tubing / Other:

Water Column Height (ft): 10.25 X Conversion Factor (gal/ft): .17 = Casing Volume (gal): 1.74

Casing Volume (gal): 1.74 X Specified Volumes: 3 = Calculated Purge (gal): 5.3

Conversion Factors (gal/ft): 2" = 0.17 4" = 0.66 6" = 1.5 8" = 2.6 Other = radius² * 0.163

Purge: Start Time: 1253 Stop Time: 1259

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
Pre-Purge								
1254	19.2	7.1	1356	-17.4	>1000	2.84	1.0	
1255	20.1	7.3	1403	-14.2	170	2.01	2.0	
1256	20.9	7.2	1380	-18.0	149	1.59	3.0	
1257	21.0	7.2	1350	-18.5	132	1.48	4.0	
1258	21.1	7.2	1342	-19.1	129	1.41	5.0	
1259	21.1	7.2	1339	-19.6	126	1.39	6.0	
Post-Purge								

Did Well dewater? Yes (No) Total Purge Volume (gal): 6.0

Other Comments: 80% = 11.45

DTW: 9.60 MS/MSD (Extra 4 voa's)

Sample Info:

Sample ID:	MW-8_20110430	Sample Date and Time:	4/18/11 1310
Selected Analysis:	GRO BETEX MTBE 7 Oxy's		

Signature: [signature] Date: 4.18.11

Antea™Group, 1-800-477-7411

LNAPL= light non-aqueous phase liquids
bgs = below ground surface
ORP = Oxidation-Reduction Potential
D.O.= dissolved oxygen
gal = gallon/s
temp = temperature
NTU = Nephelometric Turbidity Units
mV = millivolts

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COP-ELT Groundwater Sampling Form

Site Address:	15803 E 14th ST San Leandro		
Project No:	256277	Field Technician:	M. Postoni
Field Point:	MW-9	Date:	4.18.11
Depth to Water (DTW) (ft bgs):	9.55	Well Diameter (in):	(2) 4 6 8 ___
Depth to LNAPL (ft bgs):		Thickness of LNAPL (ft):	
Total Depth of Well (ft bgs):	23.95	Water Column Height (ft):	14.40

Purging Info and Calculations:

Purge Method:
Low-Flow
3 casing volumes
Other:_____

Purge Equipment:
Disposable Bailer
Electric Submersible
Peristaltic Pump
Bladder Pump
Other:_____

Sample Collection Method:
Disposable Bailer w/B.E.D.
Extraction Port
Dedicated Tubing
Disposable Tubing
Other:_____

Water Column Height (ft): 14.4 X Conversion Factor (gal/ft): .17 = Casing Volume (gal): 2.5

Casing Volume (gal): 2.5 X Specified Volumes: 3 = Calculated Purge (gal): 7.4

Conversion Factors (gal/ft): 2" = 0.17 4" = 0.66 6" = 1.5 8" = 2.6 Other = radius^2 * 0.163

Purge: Start Time: 1325 Stop Time: 1331

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
Pre-Purge								
1326	19.1	7.2	1215	-9.4	>1000	2.95	1.5	
1327	19.0	7.3	1440	-0.7	>1000	2.85	2.5	
1328	19.2	7.3	1265	-4.2	847	1.69	4.0	
1329	19.3	7.3	1251	-6.4	760	1.30	5.5	
1330	19.3	7.3	1246	-7.1	743	1.19	7.0	
1331	19.3	7.3	1242	-8.3	731	1.16	8.5	
Post-Purge								

Did Well dewater? Yes (No) Total Purge volume (gal): 8.5

Other Comments: 80 6 12.43
DTW 10.00

Sample Info:

Sample ID: MW9-20110430 Sample Date and Time: 4-18-11 1345

Selected Analysis:

Signature: Matt Postoni Date: 4.18.11

Antea™Group, 1-800-477-7411

LNAPL= light non-aqueous phase liquids
bgs = below ground surface
ORP = Oxidation-Reduction Potential
D.O.= dissolved oxygen

gal = gallon/s
temp = temperature
NTU = Nephelometric Turbidity Units
mV = millivolts

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COP-ELT Groundwater Sampling Form

Site Address:	15803 E 14th ST San Leandro		
Project No:	256277	Field Technician:	M. Pestoni
Field Point:	MW-10	Date:	4-18-11
Depth to Water (DTW) (ft bgs):	10.55	Well Diameter (in):	(2) 4 6 8 ___
Depth to LNAPL (ft bgs):		Thickness of LNAPL (ft):	
Total Depth of Well (ft bgs):	19.70	Water Column Height (ft):	9.15

Purging Info and Calculations:

Purge Method:
Low-Flow
3 casing volumes
Other:_____

Purge Equipment:
Disposable Bailer
Electric Submersible
Peristaltic Pump
Bladder Pump
Other:_____

Sample Collection Method:
Disposable Bailer w/ B.E.D.
Extraction Port
Dedicated Tubing
Disposable Tubing
Other:_____

Water Column Height (ft): 9.15 X Conversion Factor (gal/ft): .17 = Casing Volume (gal): 1.56

Casing Volume (gal): 1.56 X Specified Volumes: 3 = Calculated Purge (gal): 4.7

Conversion Factors (gal/ft): 2" = 0.17 4" = 0.66 6" = 1.5 8" = 2.6 Other = radius^2 * 0.163

Purge: **Start Time:** 1350 **Stop Time:**

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
Pre-Purge								
1351	19.6	7.3	1612	12.8	>1000	3.34	1.0	
1352	19.2	7.3	1639	10.1	>1000	1.77	1.5	
1353	19.1	7.2	1610	6.3	231	1.35	2.0	
1354	19.1	7.1	1580	4.8	143	1.28	2.5	
1355	19.1	7.1	1550	2.3	130	1.20	3.0	
1356	19.1	7.1	1546	1.5	121	1.18	3.5	
1357	19.1	7.0	1542	1.2	116	1.14	4.0	
1358	19.1	7.0	1540	1.0	112	1.11	5.0	
Post-Purge								

Did Well dewater? Yes (No) Total Purge volume (gal): 5.0

Other Comments: 80% = ~~11.10~~ 12.38
DTW 11.25

Sample Info:

Sample ID:	MW-10_20110430	Sample Date and Time:	4.18.11 14:10
Selected Analysis:	GRO, BETEX, MTBE, 7OXY's		

Signature: Matt Pestoni Date: 4.18.11

Antea™Group, 1-800-477-7411

LNAPL= light non-aqueous phase liquids
bgs = below ground surface
ORP = Oxidation-Reduction Potential
D.O.= dissolved oxygen

gal = gallon/s
temp = temperature
NTU = Nephelometric Turbidity Units
mV = millivolts

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20110430 256277 WG_BM_201104 BO

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COP ELT CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Page: 1 of 1
Cooler # ____ of ____

2Q 2011 GW Event

Required Lab Information:		Required Project Information:		Required Invoice Information:	
Lab Name:	Pace-Seattle	Site ID #: 256277	Task: WG_BM_201104	Send Invoice to:	Tara Bosch
Address:		AnteaGrp proj#	140256277	Address:	11050 White Rock Road Suite 110
940 S. Harney Street Seattle WA 98108		Site Address	15803 East 14th Street	City/State	Rancho Cordova CA 95670 Phone #: 916-503-1267
Lab PM:	Regina Ste. Marie	City San Leandro	State CA	Reimbursement project?	Non-reimbursement project? Y
Phone/Fax:	P: 206-957-2433 F: 206-767-5063	AG PM Name:	Dennis Dettloff	Send EDD to	copeltdata@intelligentehs.com
Lab PM email	Regina.SteMarie@pacelabs.com	Phone/Fax:	P: 916-503-1261 F: 916-638-8385	CC Hardcopy report to	
Applicable Lab Quote #:		AG PM Email:	Dennis.Dettloff@anteagroup.com	CC Hardcopy report to	

Turn around time (days)	10
QC level Required: Standard	Special / Mark one
NJ Reduced Deliverable Package?	
MA MCP Cert?	CT RCP Cert? / Mark One
Lab Project ID (lab use)	

Valid Matrix Codes: DRINKING WATER DW; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE DW; AMBIENT AIR AA; SVE AIR AE; SOIL GAS GS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

SAMPLE ID: One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	8260 GC/MS GRO	8260Btex/MTBE/Oxy/CA	Comments/Lab Sample I.D.
1	MW-10_20110430	WG		4-18-11	1410	6	N				X					x	x	7 Oxy's = MTBE, DIPE, ETBE, TAME, TBA, Ethanol, 1,2DCA, and EDB
2	MW-7_20110430	WG		4-18-11	1235	6	N				X					x	x	
3	MW-8_20110430	WG		4-18-11	1310	10	N				X					x	x	
4	MW-9_20110430	WG		4-18-11	1345	6	N				X					x	x	
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Additional Comments/Special Instructions:

Global ID: T0619718179

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Matt Bestani BlaineTech	4-18-11	1530			

Sample Receipt Conditions

Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N

SHIPPING METHOD: (mark as appropriate) UPS COURIER (FEDEX circled) US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Matt Bestani
SIGNATURE of SAMPLER: [signature] DATE Signed: 4-18-11 Time: 1530

Final 11/13/06. AMTait

Inogen Environmental Alliance

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 15803 E 14th ST San Leandro PROJECT NUMBER 160418 wp 2

EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
~~Hydrometer~~ @	~~621423~~ @	~~1130~~ @ 4-18-11 @	~~PH~~ @ ~~cond~~ @				
Tur Bidometer	2100P	1133 4-18-11	800 NTU	796	yes	15°C	M
YSI 556	06F1362AT	1135 4-18-11	PH 4.7.10.	4.7.10.			
			cond 3900	3900			
			DO 100%	101.7			
			orp 244.0	244.0			

Appendix G

Waste Manifest

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. n/a

Manifest Document No. 250277-0511A

2. Page 1 of 1

3. Generator's Name and Mailing Address
Shane Nolan
Platinum Energy
30343 Canwood St 200
Agoura Hills, CA 91301

Site# 290277
15803 E. 14th street
San Leandro CA 94577

4. Generator's Phone (818) 206-5705

5. Transporter 1 Company Name: Blaine Tech Services

6. US EPA ID Number: ———

A. State Transporter's ID: ———

B. Transporter 1 Phone: 310-885-4455

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
Seaport Environmental
700 seaport blvd.
Redwood City CA 94063

10. US EPA ID Number: 000013572

E. State Facility's ID: ———

F. Facility's Phone: (650) 364-1024

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non hazardous waste liquid	1	TT	26	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Wear protective equipment while handling
Weights and volumes are approximate
24 hr emergency phone No. (310) 885-4455

Approval No. 510-1049
Direct bill Blaine Tech Services
Blaine Tech PO#110511-FS1

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.

(Antea Group)

Printed/Typed Name: Jerilyn Mendes on behalf of Plat. Energy

Signature: [signature]

Date: Month 4 Day 14 Year 11

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Matt Pestani

Signature: [signature]

Date: Month 4 Day 18 Year 11

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: Joaquin D. Camara

Signature: [signature]

Date: Month 05 Day 11 Year 11

GENERATOR / TRANSPORTER / FACILITY

NON-HAZARDOUS WASTE

Rev. 3/95

Appendix H

Case Closure Documents

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

December 26, 2000

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

STID 2422

Mr. David De Witt
Tosco Marketing Company
2000 Crow canyon Place, Ste. 400
San Ramon, CA 94583

RE: Unocal Service Station #6277, 15803 East 14th Street, San Leandro

Dear Mr. De Witt:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]) of the California Health and Safety Code. The State Water Resources Control Board (SWRCB) has required since March 1, 1997 that this agency use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at this site.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Up to 510 micrograms per liter (ug/l) Total Petroleum Hydrocarbons as Gasoline (TPH-G), 72 ug/l Benzene, and 390 ug/l MtBE are present in groundwater beneath the site.
- Up to 1100 milligrams per kilogram (mg/kg) TPH-G, 8 mg/kg Benzene, and 1300 mg/kg Oil & Grease are present in soil at depths between 5 and 15' below grade.

If you have any questions, please contact the undersigned at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

cc: Ariu Levi, Chief, Environmental Protection
Matthew Coelho, 18616 Hwy 33 East, Dos Palos, CA 93620-9620 **(w/attachment)**

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 26, 2000

STID 2422

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. David De Witt
Tosco Marketing Company,
2000 Crow Canyon Place, Ste. 400
San Ramon, CA 94583

RE: Unocal Service Station #6277, 15803 E. 14th Street, San Leandro

Dear Mr. De Witt:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health Services

c: Chuck Headlee, RWQCB
Allan Patton, SWRCB **(w/attachment)**
Matthew Coelho, 18616 Hwy 33 East, Dos Palos, CA 93620-9620 **(w/attachment)**
SOS/files

TOSCO
Marketing
Company

SOS

STID 2422

ENVIRONMENTAL
PROTECTION

00 JUN 19 AM 9:00

2000 Crow Canyon Place
Suite 400
San Ramon, CA 94583
925.277.2305
fax: 925.277.2361

**Environmental
Compliance
Department**

June 15, 2000

Mr. Thomas Peacock
Manager - LOP
Alameda County – Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: No Further Action
Tosco/76 Products Service Station # 6277
15803 East 14th Street
San Leandro, CA

Dear Mr. Peacock:

As requested in your June 12, 2000 letter, I certify that I have notified the fee title holder of the subject property of the proposed action by Alameda County. I have included a copy of the letter I sent to Matthew and Ellamae Coelho with regards to the proposed "No Further Action".

If you have any additional questions or concerns, please feel free to contact me at 925-277-2384.

Sincerely,

David B. De Witt
Environmental Project Manager

TOSCO
Marketing
Company

2000 Crow Canyon Place
Suite 400
San Ramon, CA 94583
925.277.2305
fax: 925.277.2361

**Environmental
Compliance
Department**

June 15, 2000

Matthew and Ellamae Coelho
18616 Hwy 33
Dos Palos, CA 93620-9620

Re: No Further Action
Tosco/76 Products Service Station # 6277
15803 East 14th Street
San Leandro, CA

Dear Matthew and Ellamae Coelho:

Alameda County Health Care Services – LOP has determined that Tosco Corporation has completed the necessary environmental work at this site and that a finding of "No Further Action" is being considered. I have attached a copy of this notification for your records. As required by the Health and Safety Code (Ch. 6.7 – section 25297.15), I am notifying you, as the fee title holder, of this proposed action.

If you have questions or concerns on this subject, please feel free to call me at 925-277-2384.

Sincerely,

David B. De Witt
Environmental Project Manager

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, *Agency Director*

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

June 12, 2000

STID 2422

Mr. David De Witt
Tosco Marketing Company
2000 Crow Canyon Place, Ste. 400
San Ramon, CA 94583

RE: Unocal Service Station #6277, 15803 E. 14th Street, San Leandro

INTENT TO MAKE A DETERMINATION THAT NO FURTHER ACTION IS REQUIRED

Dear Mr. De Witt:

This letter is to inform you that Alameda County Environmental Health Department, Local Oversight Program (LOP), intends to make a determination that no further action is required at the above site, as concurrence from the Regional Water Quality Control Board (RWQCB) has been received. Please notify this agency of any input and recommendations you may have on these proposed actions within 20 days of the date of this letter.

In accordance with section 25297.15 of Ch. 6.7 of the Health & Safety Code, you must provide certification to the local agency that all of the current record fee title owners have been informed of the proposed action. Please provide this certification to this office within 20 days of the date of this letter.

If you have any questions about these proposed actions, please contact Scott Seery at (510) 567-6783.

Sincerely,

Thomas Peacock
Manager, LOP

cc: Chuck Headlee, RWQCB
Scott Seery, ACDEH LOP

RB# 01-1577

ENVIRONMENTAL
PROTECTION

00 JUN -9 PM 4:19

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 04/29/98

Agency name: **Alameda County-EPD** Address: **1131 Harbor Bay Pkwy #250**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Scott Seery** Title: **Haz. Materials Spec.**

II. CASE INFORMATION

Site facility name: **Unocal Station #6277**
Site facility address: **15803 E.14th Street, San Leandro 94578**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **2422**
URF filing date: 03/16/89 SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Tosco Marketing Co. Attn: David deWitt	P.O. Box 5155 San Ramon, CA 94583	(925) 277-2384
Mathew & Ella Coelho	18616 Hwy 33 East Dos Palos, CA 93620-9620	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	gasoline	removed	03/13/89
2	10,000	"	"	"
3	550	waste oil	"	"

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: UNK (failed integrity test lead to UST removals)

Site characterization complete? YES

Date approved by oversight agency:

Monitoring Wells installed? YES Number: 7

Proper screened interval? YES

Highest GW depth below ground surface: 5.85' Lowest depth: 11.34' (stabilized)

Flow direction: predominately NW - N

Most sensitive current use: commercial (adjoined by apts.)

Are drinking water wells affected? NO Aquifer name: San Leandro cone

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Is surface water affected? NO Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NONE

Report(s) on file? **YES** Where is report filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	(2 x 10K; 1x 550 gal)	Disposal – UNK (but presumed to have gone to Erickson, Richmond, CA)	3/89
Piping	Unk	as above	
Free Product	NA		
Soil	162 tons	Disposal – Casmalia LF Casmalia, CA	4/14/89
	1000 yds^3	Disposal – Redwood LF Novato, CA	4/4/89 - 4/18/89
	218 tons	Disposal – Petroleum Waste Buttonwillow, CA	5/18/89
	1060 yds^3	Disposal – Mt. View dump Mt. View, CA	9/5/89 9/11/89
	2.4 tons	Disposal – GSX Services Buttonwillow, CA	11/1/89
	673 tons	Disposal – GSX Services Buttonwillow, CA	4/13/90 – 4/16/90
Groundwater	19,400 gal	Disposal – H& H Ship Svc. So. S.F., CA	3/21/89 & 4/2/90 – 4/5/90

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil[1] (ppm)		Water[2,3] (ppb)	
	Before	After	Before	After
TPH (Gas)	3500	1100	19,000	510
TPH (Diesel)	ND	6.2	NA	NA
Benzene	40	8	230	72
Toluene	280	43	79	ND
Xylene	600	230	1300	17

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant		Soil[1] (ppm) Before	After		Water[2,3] (ppb) Before	After
Ethylbenzene		100	37		ND	ND
MtBE		NA	NA		NA	390
Oil & Grease		*7700*	*1300*		NA	NA
Heavy metals		NA	NA		"	"
Other **HVOC**	*TCE*	0.063	ND	*TCE*	*4.4*	*ND*
				PCE	*110*	*950*
				DCA	*2.8*	*ND*

Note: 1) *All "before" soil results compiled from initial sidewall samples collected during March 1989 fuel UST closures, except for O&G, TCE and TPH-D results. O&G and TCE results from the 5' sample collected during advancement of well/boring MW-2 in May 1989. TPH-D result derived from a sample collected from the base of the waste oil UST pit following tank removal. All "after" soil results from sidewall samples collected after the 1990 over-excavation of the general area of former well MW-2, except for O&G. O&G result from the 5' soil sample collected from well/boring MW-2A in 1991.*

2) "Before" water results from sample collected from the fuel UST excavation during 1989 closures, except as otherwise indicated. All "after" water results reflect samples collected from well MW-1 in November 1996, except as otherwise indicated.

3) "Before" HVOC water results from initial sample collected from well MW-2 in June 1989. "After" water results from sample collected from well MW-3 in January 1996.

Comments (Depth of Remediation, etc.):

During March 1989 three (3) single wall steel USTs were removed from this site. Two 10,000 gasoline and one 550 gallon waste oil USTs were closed during this effort. The original USTs were replaced by double-wall tanks emplaced elsewhere at the site. Tank replacement appears to have been prompted by a series of failed integrity tests in the years and months preceding this effort.

Ground water was encountered in the fuel tank pit at a depth of ~11 feet BG. Consequently, sidewall samples, six in all, were initially collected from the excavation a foot above stabilized water level. A single soil sample was collected from the base of the shallower waste oil tank pit. In addition, soil samples were also collected from the product piping trenches.

Initial subjective evidence prompted the contractor to expand the fuel tank excavation laterally in two rounds, at which point additional sidewall samples were collected. This expanded excavation encroached on and engulfed the former waste oil UST location as well. Following the initial over-excavation effort, a reported ~5000 gallons of water was pumped from the excavation, and ~14,500 gallons during the second. A water sample was collected from ground water that collected in the expanded tank pit.

Initial soil samples from the fuel UST pit revealed up to 3500 ppm TPH-G and 40 ppm benzene, among other detected fuel compounds. Over-excavation samples demonstrated a marked reduction in contaminant concentrations, with a TPH-G high of 100 ppm and benzene high of 3.1 ppm. Although the initial waste oil UST pit sample identified the presence of TOG (280 ppm), no 8240 compounds were identified above laboratory detection limits. The water sample, however, revealed up to 19,000 ug/l TPH-G and 230 ug/l benzene, among other detected fuel components.

Significant soil was removed from the enlarged UST excavation and stockpiled on-site during the 1989 (and subsequent 1990) activities. All soil was eventually disposed of at various California waste facilities between April 1989 and April 1990. (*See*: Section III. Release and Site Characterization Information)

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

Does corrective action protect public health for current land use? YES
Site management requirements: NA

Should corrective action be reviewed if land use changes? YES

Monitoring wells Decommissioned: YES (1)

Number Decommissioned: 1 Number Retained: 6 (pending case closure)

List enforcement actions taken: NONE

List enforcement actions rescinded: NONE

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Scott Seery Title: Haz Mat Specialist
Signature: _____ Date: 4-21-00

Reviewed by
Name: Tom Peacock Title: Supervising Haz Mat Specialist
Signature: _____ Date: 4-21-00

Name: Eva Chu Title: Haz Mat Specialist
Signature: _____ Date: 4/20/00

VI. RWQCB NOTIFICATION

Date Submitted to RB: 4-21-00 RB Response: Concur Chuck Headlee
RWQCB Staff Name: Chuck Headlee Title: Eng. Assoc. Date: 4/28/00

VII. ADDITIONAL COMMENTS, DATA, ETC.

In preparation for the 1989 tank replacement project, exploratory borings were advanced in the area of the site chosen for the new USTs. Borings EB-1 and -2 were advanced up to 13.5' BG. Ground water was encountered between 11 and 12' BG. Soil samples collected at the 5 and 10' depths revealed some degree of impact by fuel compounds, most evident in the 10' samples, a depth consistent with that of ground water at the site.

Following UST closures, four (4) monitoring wells were installed at the site during May 1989. Total well depths ranged from 24.5 to 25' BG, with 19.5' well screens. Encountered sediments were primarily fine-grained to depths explored. Ground water stabilized between approximately 10 and 11' BG.

Elevated concentrations TOG (7700 ppm), benzene (13 ppm), as well as detectable concentrations of TCE (0.063 ppm) and other fuel components, were identified in the 5' soil sample collected from well boring MW-2.

Detectable fuel components were also identified in shallow soil samples collected from the other well borings, but were present at unremarkable concentrations.

Initial water samples identified detectable TPH-G in samples collected from each well; all BTEX components were "ND". However, detectable concentrations of PCE (110 ug/l), 1,2-DCA (2.8 ug/l), and TCE (4.4 ug/l) were noted in water sampled from MW-2.

As a consequence of soil contamination noted during advancement of well boring MW-2, this well was eventually destroyed and the area around it excavated in early 1990 to a depth of approximately 12' BG. Soil samples were collected from the sidewalls of the resultant excavation. Up to 1100 ppm TPH-G, 8 ppm benzene, and 210 ppm TOG, among other constituents, were identified in these samples, collected at the 10.5' depth. HVOC compounds were "ND".

Well MW-2 was eventually replaced by well MW-2A in a location 30' northwest of its original location. Up to 1300 ppm TOG was identified in the 5' sample collected during boring advancement.

Due to the regular occurrence of PCE, TCE and 1,2-DCA in sampled ground water, a review of records documenting historic site activities was performed in 1993. Reported site history indicates the site was first developed as a gas station from an empty lot in 1969. No likely on-site source of the HVOC impact was identified. The potential for an off-site HVOC source is further supported by the fact that the highest HVOC concentrations have been found in samples collected from wells MW-3 and -4, located on the upgradient side of the subject site, close to property margins. Hence, HVOCs detected in these wells are likely coming from a source (e.g., leaching sanitary sewer lines, etc.) upgradient of the site.

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

Following several quarters of ground water and sampling, two additional wells (MW-5 and -6) were installed in the adjoining apartment complex to assess potential off-site impacts from the UST release at this site. Some impact, albeit minor, was identified.

Well sampling continued through November 1996. Groundwater flow has predominantly ranged from SW to N during the course of the investigation.

Water sampled from well MW-1 continued to show the highest concentrations of fuel hydrocarbons throughout the duration of this investigation. As well MW-1 is the most downgradient of the wells at the site, an off-site study was conducted in March 1997 to assess any impacts in the downgradient direction. Three Geoprobe boreholes (EB-3, -4, and -5) were advanced through E. 14th Street in a northerly transect from the site. No detectable target compounds were identified in either soil or ground water samples.

This case appears be a "Low Risk Groundwater Case", as described in the January 5, 1996 San Francisco Bay Regional Water Quality Control memorandum entitled "*Regional Board Supplemental Instructions to State water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites,*" as follows:

1) **The leak has been stopped and ongoing sources, including free product, have been removed or remediated.**

The subject tanks were removed in 1989. Free product has not been known to occur at the site.

2) **The site has been adequately characterized.**

A 6-well network of wells was installed, monitored, and sampled over the course of several years. Additional sampling points were installed downgradient of the site. These points have allowed an adequate confirmation of underlying geology, groundwater flow, and contaminant extent.

3) **The dissolved hydrocarbon plume is not migrating.**

The plume appears stable. Hydrocarbon concentrations have attenuated over time, and appear limited in extent.

4) **No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted.**

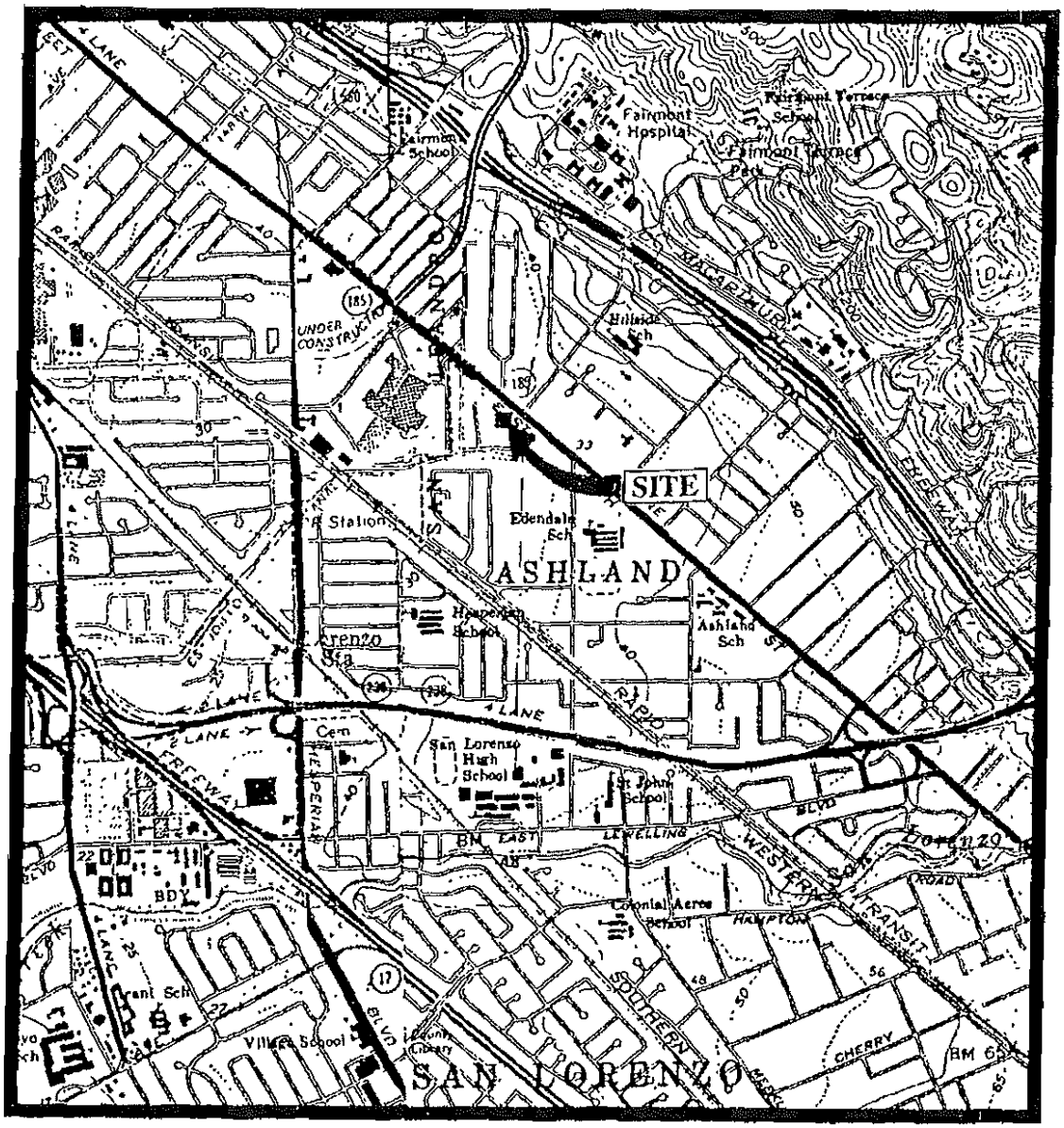
There are no known municipal or residential water wells or surface water bodies within 750' downgradient of the subject site that would be impacted by shallow groundwater from this site.

5) **The site presents no significant risk to human health.**

Comparison of ASTM E 1739-95 *Risk Based Screening Levels (RBSL)* with site-specific concentration and occurrence of risk-driving target compounds (e.g., benzene) in groundwater demonstrate that RBSL values are not exceeded for plausible exposure pathways at the 1E-05 risk level for a commercial/industrial site. Residual benzene soil concentrations (based on 1990 soil data) exceed RBSL values for the soil-vapor-intrusion-to-buildings exposure pathway at the 1E-04 risk level. However, default criteria used to calculate the published RBSLs use exceedingly conservative input parameters (e.g., sandy soil texture). Site-specific geology (clay) and asphalt cap are much less conducive to vertical vapor transport to potential receptor locations at the site.

6) **The site presents no significant risk to the environment.**

No environmental receptors are known or expected to be proximal to the site.

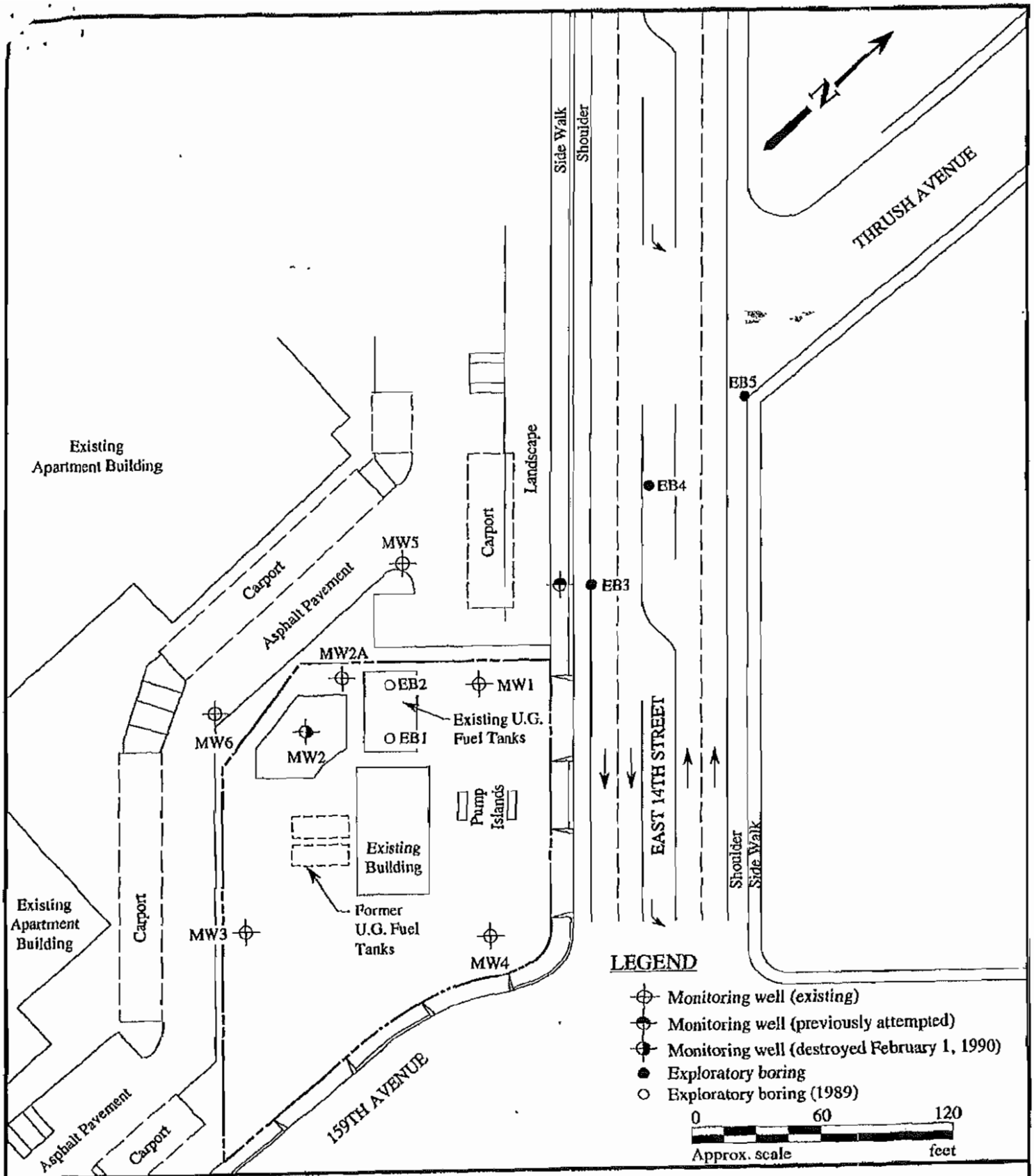


Base modified from 7.5 minute U.S.G.S.
Hayward and San Leandro Quadrangles
(both photorevised 1980)

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	UNOCAL SERVICE STATION #6277 15803 E. 14TH STREET SAN LEANDRO, CALIFORNIA	LOCATION MAP



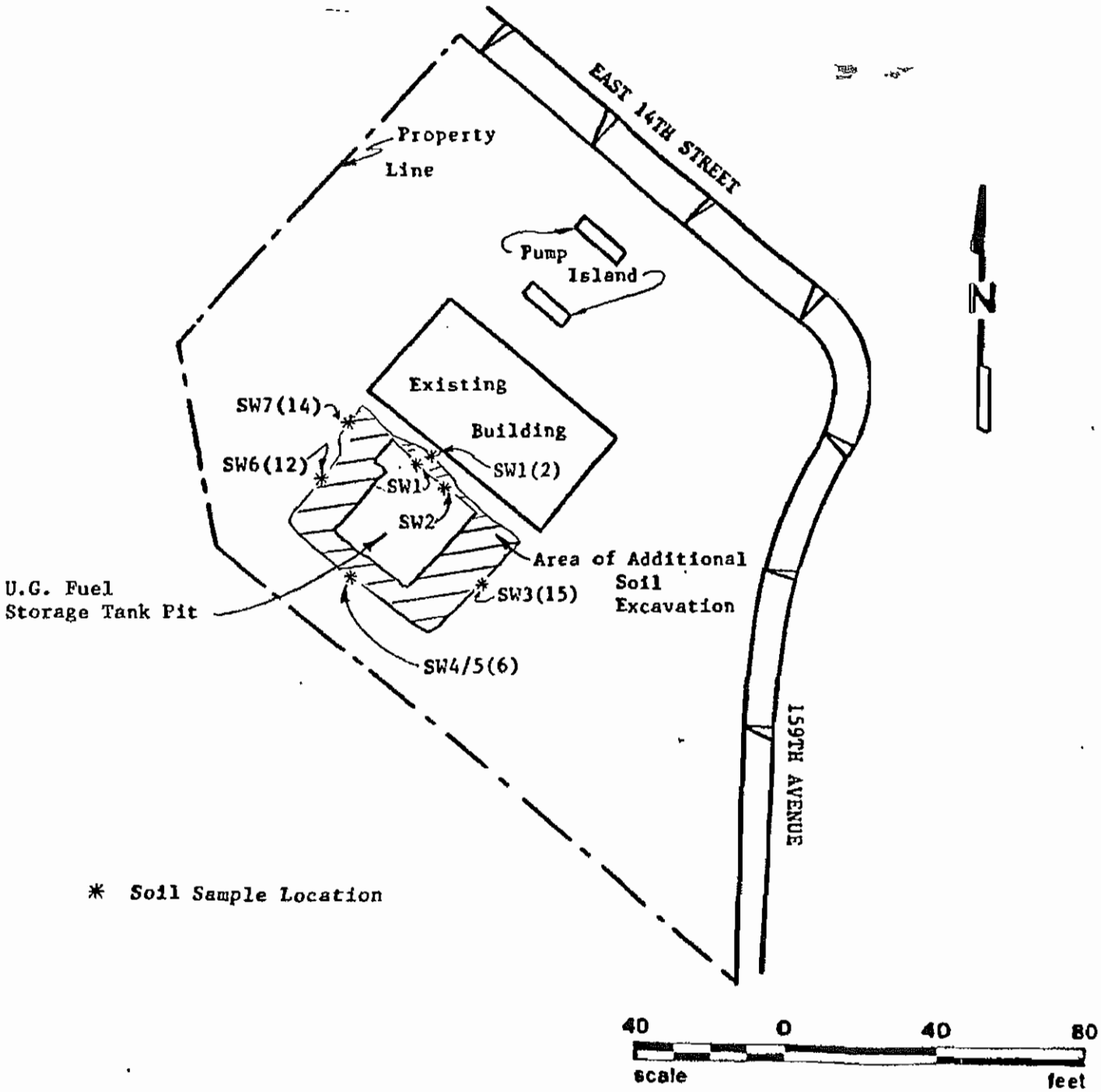
SITE VICINITY MAP

KAPREALIAN ENGINEERING
INCORPORATED

5/6/97 report
UNOCAL SERVICE STATION #6277
15803 E. 14TH STREET
SAN LEANDRO, CALIFORNIA

FIGURE
1

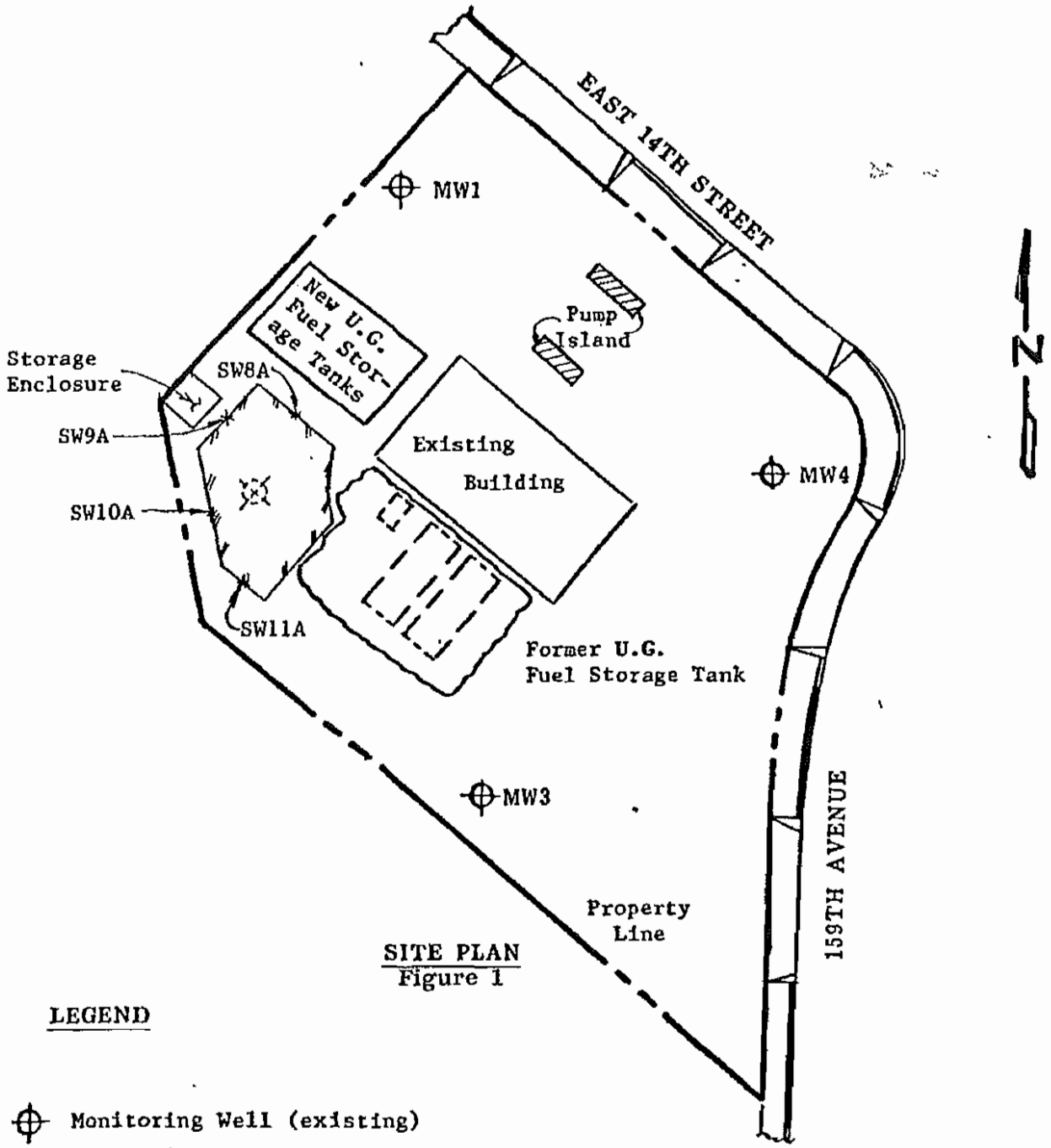
KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P. O. BOX 813
BENICIA, CA 94510
(415) 676-9100 (707) 746-8915



SITE PLAN
Figure 1

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581



SITE PLAN
Figure 1

LEGEND

- Monitoring Well (existing)
- Monitoring Well (abandoned)
- Area of Excavation
- * Sample Point Location

0 40 80
Approx. Scale feet

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

Table 1A

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW1	11/25/96	510♦	72	ND	ND	17	390
	7/1/96	ND	ND	ND	ND	ND	230
	4/8/96	2,100	43	27	7.4	21	480
	1/10/96	220	35	ND	2.0	7.6	†
	7/14/95	410	77	ND	7.4	30	--
	4/4/95	410♦	19	ND	ND	ND	--
	1/5/95	780	30	ND	ND	9.1	--
	10/6/94	970	19	ND	ND	13	--
	7/7/94	2,100♦♦	250	ND	57	200	--
	4/4/94	1,100	15	ND	ND	7.4	--
	1/6/94	260	21	ND	2.5	14	--
	10/6/93	1,200♦	36	ND	ND	23	--
	7/1/93	510	100	0.79	5.7	52	--
	4/2/93	690	94	0.73	5.3	39	--
	1/29/93	740♦♦	69	ND	3.8	43	--
	10/20/92	720	110	1.4	18	110	--
	7/20/92	630	100	2.8	6.3	52	--
	4/23/92	530	100	7.9	4.6	60	--
	1/13/92	450	240	4.6	8.6	73	--
	9/10/91	280	38	3.1	4.1	22	--
	6/10/91	310	1.5	ND	ND	0.31	--
	3/15/91	110	21	ND	ND	8.4	--
	12/14/90	450	150	6.8	0.28	49	--
	9/19/90	140	ND	ND	ND	3.5	--
	6/25/90	310	10	0.89	0.37	2.1	--
	3/29/90	320	12	1.6	0.31	3.5	--
	12/12/89	340	100	13	3.4	44	--
	9/13/89	550	32	17	3.4	52	--
	6/6/89	590	ND	ND	ND	ND	--
MW2A	11/25/96	86♦	0.82	ND	ND	ND	ND
	7/1/96	170	2.4	ND	0.65	2.0	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	89	1.2	ND	ND	0.58	--
	7/14/95	60	3.0	ND	1.3	2.4	--
	4/4/95	67♦	1.0	ND	ND	ND	--
	1/5/95	140♦	1.4	ND	ND	ND	--
	10/6/94	71	6.4	ND	2.1	2.4	--
	7/7/94	90	5.2	ND	1.5	2.2	--
	4/4/94	80	8.0	ND	1.4	1.5	--
	1/6/94	110	2.6	ND	1.6	1.7	--
	10/6/93	110♦	12	ND	7.4	1.4	--
	7/1/93	74♦	0.75	ND	ND	ND	--
	4/2/93	120	7.2	ND	5.8	1.2	--

Table

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW2A (Cont)	10/20/92	96	2.8	ND	1.8	1.6	--
	7/20/92	99	8.6	ND	2.4	0.95	--
	4/23/92	190	15	ND	15	2.0	--
	1/13/92	160	11	2.0	10	5.9	--
	9/10/91	180	8.7	0.93	15	13	--
	6/10/91	54	1.2	ND	ND	0.69	--
	3/15/91	160	2.5	ND	ND	51	--
MW2	12/12/89	660	220	6.6	13	36	--
	9/13/89	170	2.0	0.38	ND	9.5	--
	6/6/89	77	ND	ND	ND	ND	--
MW3	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	100♦	ND	ND	ND	ND	--
	7/14/95	130♦	ND	ND	1.3	4.2	--
	4/4/95	100♦	0.62	ND	ND	ND	--
	1/5/95	140♦	ND	ND	ND	ND	--
	10/6/94	93♦	ND	ND	ND	ND	--
	7/7/94	190♦	ND	ND	ND	ND	--
	4/4/94	170♦	ND	ND	ND	ND	--
	1/6/94	140♦	ND	ND	ND	ND	--
	10/6/93	140♦	ND	ND	ND	ND	--
	7/1/93	120♦	ND	ND	ND	ND	--
	4/2/93	130♦	ND	ND	ND	ND	--
	1/29/93	130♦	0.84	ND	ND	ND	--
	10/20/92	180♦	ND	ND	ND	ND	--
	7/20/92	120♦	ND	ND	ND	ND	--
	4/23/92	150♦	1.6	ND	ND	ND	--
	1/13/92	120♦	ND	ND	ND	ND	--
	9/10/91	170	ND	ND	ND	ND	--
	6/10/91	160	0.65	ND	ND	ND	--
	3/15/91	150	ND	ND	ND	0.45	--
	12/14/90	150	ND	ND	ND	ND	--
	9/19/90	74	0.74	ND	ND	ND	--
	6/25/90	190	1.5	0.68	ND	5.3	--
	3/29/90	85	ND	ND	ND	ND	--
	12/12/89	120	6.7	0.64	0.46	1.5	--
	9/13/89	76	ND	ND	ND	ND	--
	6/6/89	32	ND	ND	ND	ND	--

Table 1A

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
MW4	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	100♦	ND	ND	ND	1.8	--
	7/14/95	89♦	ND	ND	0.97	0.52	--
	4/4/95	82♦	ND	ND	ND	ND	--
	1/5/95	150♦	ND	ND	ND	ND	--
	10/6/94	78♦	ND	ND	ND	ND	--
	7/7/94	150♦	ND	ND	ND	ND	--
	4/4/94	120	0.76	0.76	ND	0.98	--
	1/6/94	100♦	ND	ND	ND	ND	--
	10/6/93	130♦	ND	ND	ND	ND	--
	7/1/93	91♦	ND	ND	ND	ND	--
	4/2/93	110♦	ND	ND	ND	ND	--
	1/29/93	130♦	0.95	ND	ND	ND	--
	10/20/92	110♦	ND	ND	ND	ND	--
	7/20/92	80♦	ND	ND	ND	ND	--
	4/23/92	120♦	ND	ND	ND	ND	--
	1/13/92	58♦	ND	ND	ND	ND	--
	9/10/91	56	ND	ND	ND	ND	--
	6/10/91	64	ND	ND	ND	ND	--
	3/15/91	53	ND	ND	ND	ND	--
	12/14/90	54	ND	ND	ND	ND	--
	9/19/90	61	ND	ND	ND	ND	--
	6/25/90	66	ND	ND	ND	ND	--
	3/29/90	120	0.39	ND	ND	ND	--
	12/12/89	97	4.6	ND	ND	ND	--
	9/13/89	77	ND	ND	ND	ND	--
	6/6/89	37	ND	ND	ND	ND	--
MW5	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	50♦	ND	ND	ND	ND	--
	7/14/95	ND	ND	0.91	ND	1.1	--
	4/4/95	ND	ND	ND	ND	ND	--
	1/5/95	ND	ND	ND	ND	ND	--
	10/6/94	ND	ND	ND	ND	ND	--
	7/7/94	72♦	ND	ND	ND	ND	--
	4/4/94	65♦	ND	ND	ND	ND	--
	1/6/94	62♦	ND	ND	ND	ND	--
	10/6/93	60♦	ND	ND	ND	ND	--
	7/1/93	54♦	ND	ND	ND	ND	--
	4/2/93	65♦	ND	ND	ND	ND	--

Table 1A

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW6	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	53♦	ND	ND	ND	ND	--
	7/14/95	ND	ND	ND	ND	ND	--
	4/4/95	ND	ND	ND	ND	ND	--
	1/5/95	ND	ND	ND	ND	ND	--
	10/6/94	ND	ND	ND	ND	ND	--
	7/7/94	ND	ND	ND	ND	ND	--
	4/4/94	57♦	ND	ND	ND	ND	--
	1/6/94	53♦	ND	ND	ND	ND	--
	10/6/93	ND	ND	ND	ND	ND	--
	7/1/93	ND	ND	ND	ND	ND	--
	4/2/93	ND	ND	ND	ND	ND	--

† Sequoia Analytical Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 µg/L in the sample collected from this well.

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

♦♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: - The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

- Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory is C6 - C12.

- Laboratory analyses data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

Table 1B

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel	Tetra-chloroethene	Trichloro-ethene	1,2-Dichloro-ethane	Cis-1,2-dichloro-ethene	Total Oil & Grease (mg/L)
MW1	4/04/94*	--	390	38	ND	17	--
	4/2/93	ND	--	--	--	--	--
	1/29/93	ND	300	ND	ND	ND	--
	10/20/92	ND	230	22	ND	16	--
	7/20/92	62♦	200	7.4	ND	ND	--
MW2	4/2/93	ND	--	--	--	--	--
	12/12/89	1,700	30	9.0	ND	ND	1.2
	9/13/89	ND	18	6.1	4.2	1.2	ND
	6/6/89	ND	110	4.4	2.8	ND	ND
MW2A	9/10/93	65	--	--	--	--	--
	1/29/93	ND	140	10	ND	ND	--
	10/20/92	ND	64	11	ND	ND	--
	7/20/92	ND	35	7.2	ND	4.8	ND
	4/23/92	ND	17	5.6	ND	1.9	ND
	1/13/92**	ND	33	ND	ND	2.1	ND
	6/10/91	100	150	10	ND	ND	ND
	3/15/91	ND	67	8.2	ND	2.6	ND
MW3	1/10/96	--	950	ND	ND	ND	--
	1/5/95	--	1,100	18	ND	6.2	--
	1/6/94	--	960	ND	ND	ND	--
	4/2/93	ND	--	--	--	--	--
	1/29/93	ND	980	ND	ND	ND	--
	10/20/92	ND	1,100	20	ND	ND	--
	7/20/92	ND	1,400	25	ND	ND	--
MW4	1/29/93	ND	950	ND	ND	ND	--
	7/20/92	ND	440	11	ND	ND	--
	4/2/93	ND	--	--	--	--	--
	10/20/92	ND	360	17	ND	ND	--
MW5	4/2/93	ND	190	ND	ND	ND	--
MW6	4/2/93	ND	71	ND	ND	ND	--

Table 1B

Summary of Laboratory Analyses
Water

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* All EPA method 8240 constituents were non-detectable, except for concentrations of benzene at 29 µg/L, ethylbenzene at 3.4 µg/L, total xylenes at 19 µg/L, and trans-1,2-dichloroethene at 2.4 µg/L.

** 1,1,2-trichloroethane was detected at a concentration of 9.9 µg/L.

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear be diesel.

ND = Non-detectable.

-- Indicates analysis was not performed.

mg/L = milligrams per liter.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: All EPA method 8010 constituents were non-detectable in all of the ground water samples, except as indicated.

Laboratory analyses data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

KEI-P89-0301.R1
March 13, 1989

TABLE 1 C

SUMMARY OF LABORATORY ANALYSES
SOIL

(Results in ppm)
(Collected on March 6, 1989)

Sample Number	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
EB1(5)	2.1	ND	0.11	ND	0.14
EB1(10)	200	2.3	7.7	5.7	33
EB2(5)	ND	ND	ND	ND	ND
EB2(10)	620	2.2	20	13	78

ND = Non-detected

KEI-P89-0301.R12
April 11, 1997

TABLE 1A.D

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
3/18/97	EB3(5)	ND	ND	ND	ND	ND	ND
	EB3(10)	ND	ND	ND	ND	ND	ND
	EB3(14.5)	ND	ND	ND	ND	ND	ND
	EB4(4.5)	ND	ND	ND	ND	ND	ND
	EB4(10)	ND	ND	ND	ND	ND	ND
	EB4(13)	ND	ND	ND	ND	ND	ND
	EB5(5)	ND	ND	ND	ND	ND	ND
	EB5(10)	ND	ND	ND	ND	ND	ND

NOTE: The soil samples were collected at the depths below grade indicated in the ( ) of the respective sample number.

ND = Non-detectable.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P89-0301.R12
April 11, 1997

TABLE 1.6

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Number	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
3/18/97	EB3	ND	ND	ND	ND	ND	ND
	EB4	ND	ND	ND	ND	ND	ND
	EB5	ND	ND	ND	ND	ND	ND

NOTE: Water samples were collected during drilling. The results of the analyses may not be representative of formation water, and should be used for comparative informational purposes only.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

KEI-P89-0301.R3
March 27, 1989

TABLE 2

SUMMARY OF LABORATORY ANALYSES *
WATER
(Results in ppb)

(Samples collected on March 19, 1989)

Sample #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
W-1	19,000	230	79	1,300	ND
Detection Limits	50	0.5	0.5	0.5	0.5

ND = Non-detectable

* Sample collected from UST pit during 1989 closures

KEI-P89-0301.R8
April 16, 1991

TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on March 12, 1991)

Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	TOG
MW2A(5)*	5	4.8	ND	ND	ND	ND	ND	1,300
MW2A(10)*	10	2.4	10	0.12	0.17	1.6	0.14	260
MW2A(14.5)*	14.5	ND	ND	ND	0.0080	0.036	ND	57
Detection Limits		1.0	1.0	0.0050	0.0050	0.0050	0.0050	30

* All EPA method 8010 constituents were non-detectable, except for 0.110 ppm of 1,2-dichlorobenzene, and 0.120 ppm of tetrachloroethene detected in sample MW2A(10).

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

KEI-P89-0301.R8
April 16, 1991

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Samples collected on April 3, 1990)

Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
SW8A*	10.5	62	260	1.4	8.0	40	7.0
SW9A*	10.5	ND	ND	0.017	0.041	0.033	0.0092
SW10A*	10.5	ND	140	0.085	0.12	5.0	1.4
SW11A**	10.5	280	1,100	8.0	43	230	37
Detection Limits		1.0	1.0	0.0050	0.0050	0.0050	0.0050

* TOG and all EPA method 8010 constituents were non-detectable for these samples.

** TOG showed 210 ppm, while all EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

KEI-P89-0301.R8
April 16, 1991

TABLE 5

SUMMARY OF LABORATORY ANALYSES
SOIL

Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
(Collected on March 6, 1989)						
EB1(5)	5	2.1	ND	0.11	ND	0.14
EB1(10)	10	200	2.3	7.7	5.7	33
EB2(5)	5	ND	ND	ND	ND	ND
EB2(10)	10	620	2.2	20	13	78
(Collected on March 13, 14 & 17, 1989)						
SW1	10	3,500	22	280	600	100
SW1(2)	10	100	1.3	6.6	16	2.9
SW2	10	390	40	4.3	71	10
SW3(15)	10	60	1.6	2.9	7.8	1.5
SW4/5(6)	10	24	2.6	1.7	2.7	0.56
SW6(12)	10	150	3.1	6.2	5.6	3.6
SW7(14)*	10	ND	0.3	ND	ND	ND
P1	3	2.3	ND	0.15	ND	ND
P2	3	1.5	ND	0.31	ND	ND
P3	3	1.1	ND	0.1	ND	ND
P4	3	5.6	ND	0.15	0.39	ND
P5	3	6.8	0.15	0.58	0.55	0.12
P6	3.5	5.5	0.06	0.18	0.15	ND
WO1**	10	15	ND	ND	0.21	0.88
(Collected on May 24, 1989)						
MW1(5)	5	2.3	0.08	ND	0.62	ND
MW1(10)	10	290	1.0	11	48	8.8
MW2(5)***	5	230	13	1.7	3.2	1.5
MW2(10)+	10	31	1.2	1.0	5.5	1.1
MW3(5)	5	3.2	0.29	0.1	0.7	ND
MW3(10)	10	4.6	ND	ND	0.44	0.3
MW4(5)	5	3.1	ND	0.11	ND	ND
MW4(10)	10	ND	ND	ND	ND	ND

TABLE 5 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

* TPH as diesel was 6.2 ppm; TOG was at 41 ppm; all 8240 constituents are non-detectable, except as noted above.

** TPH as diesel was non-detectable; TOG was at 280 ppm; all 8240 constituents are non-detectable, except as noted above.

*** TPH as diesel was non-detectable, TOG was 7,700 ppm, and trichloroethene at 0.063 ppm.

\+ TPH as diesel was non-detectable, TOG was 38 ppm, and trichloroethene at 0.065 ppm.

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	Doug Lee
Project Name Unocal San Leandro, E. 14th	**Well Head Elevation** N/A	**Date Drilled** 5/24/89
Boring No. MW1	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Silt, sand, gravel: fill.
10/15/17		5		Clay, high plasticity, stiff, moist, black, with gravel to 3/4" above 4'.
10/17/24	▼	10		Clay, as above.
			CH	Color change at 12' to dark grayish brown.
		15		
		20		Silty clay with sand, high plasticity, sand - medium to fine, firm, wet, dark olive brown, with moderate cementation.
		25		
		30		
				TOTAL DEPTH 24.5'

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	Doug Lee
Project Name Unocal San Leandro, E. 14th	**Well Head Elevation** N/A	**Date Drilled** 5/24/89
Boring No. MW2	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Silt, sand and gravel: fill.
22/24/28		5	GW	Sandy gravel with clay, hard, slightly moist, black.
9/11/26	▼	10		Clay, high plasticity, stiff, moist, black.
				Color change below 12' to dark grayish brown.
		15	CH	
		20	CL	Silty clay, low plasticity, 10% fine sand, hard, cemented, blocky, blocks are very strongly cemented, wet, white.
		25	CH	Silty clay, high plasticity, firm, wet, dark olive brown.
		30		
				TOTAL DEPTH 24.5'

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	W.W.
Project Name Unocal 15803 E. 14th San L	**Well Cover Elevation**	**Date Drilled** 3/12/91
Boring No. MW2A	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Asphalt pavement over sand and gravel.
			GC	Clayey gravel with sand and cobbles to 5" in diameter, moist, dense, strong brown, traces of dark grayish brown.
11/9/8		5		Clayey gravel fill with sand, as above, yellowish brown below 4'.
				Base of Fill
			CH	Clay, trace silt and sand, trace angular gravel to 1/2" diameter, moist, very stiff, very dark gray, trace rootlets.
7/9/13		10		Clay, high plasticity, porous, moist, very stiff, very dark gray.
5/8/15			CL/ CH	Clay, moist, very stiff, light brownish gray.
5/7/8	▼	15		Clay, very moist, saturated, stiff, light brownish gray.
5/7/		20		Clay with silt, very moist to saturated, stiff, trace caliche, trace coarse black sand, light brownish gray.

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	W.W.
Project Name Unocal 15803 E. 14th San L	**Well Cover Elevation**	**Date Drilled** 3/12/91
Boring No. MW2A	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description
/8			CL/ CH	Clay, with silt, as above.
3/5/6		25		Silty clay, trace fine-grained sand, saturated, stiff, light yellowish brown to light olive brown.
		30		
		35		
		40		TOTAL DEPTH: 25.5'

B O R I N G L O G

Project No. KEI-P89-0301	**Boring & Casing Diameter** 9" 2"	**Logged By** Doug Lee
Project Name Unocal San Leandro, E. 14th	**Well Head Elevation** N/A	**Date Drilled** 5/24/89
Boring No. MW3	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement
				Silt, sand and gravel: fill.
9/14/18		5		Clay, high plasticity, stiff, moist, black.
12/17/19	▼	10	CH	
				Color change below 12' to dark grayish brown.
		15		
			CL	Silty clay, 10% fine sand, stiff, cemented, blocky, wet, white, "hard pan".
		20		
			CH	Silty clay, firm, wet, dark olive brown.
		25		
		30		
				TOTAL DEPTH 24.5'

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	Doug Lee
Project Name Unocal San Leandro, E. 14th	**Well Head Elevation** N/A	**Date Drilled** 5/24/89
Boring No. MW4	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement
				Sand, gravel, silt: fill, with concrete blocks.
9/14/19		5		Gravelly clay with silt, high plasticity, firm, moist, very dark gray.
			CH	Clay, high plasticity, stiff, moist, with weak cementation below 9', black.
10/15/17	▼	10		Color change at 9' to very dark grayish brown.
				Color change at 11' to dark grayish brown.
		15		Clay, as above.
			CL	Silty clay with sand, low plasticity, hard, wet, strong cementation, blocky, white, "hard pan".
25/25/26		20		
			CH	Sandy clay, sand - medium to fine, firm, wet, light olive brown.
12/14/18		25		Silty clay, 10% fine sand, firm, very moist, light olive brown, blocky, blocks moderately cemented.
		30		
				TOTAL DEPTH 25'

BORING LOG

Project No. KEI-J89-0301	**Boring & Casing Diameter** 9" 2"	**Logged By** Doug Lee
Project Name Unocal, E. 14th, San Leandro	**Well Head Elevation** N/A	**Date Drilled** 3/6/89
Boring No. EB-1	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Asphalt & concrete pavement and gravel base
			GC	Clayey sandy gravel, reddish brown, very stiff to hard, moist, gravel to 2"
4/6/8		5	OH	Gravelly sandy clay, very dark gray, stiff, moist, high plasticity
4/6/8	▼	10	OH	Clay, some silt and sand, black, stiff, moist, high plasticity
3/6/9			CH	Clay, with silt, grayish brown, firm, very moist
		15		
		20		
		25		
		30		

TOTAL DEPTH 13.5'

BORING LOG

Project No. KEI-	Boring & Casing Diameter 9" 2"	Logged By Doug Lee
Project Name Unocal, E. 14th, San Leandro	Well Head Elevation N/A	Date Drilled 3/6/89
Boring No. EB-2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Asphalt & concrete pavement and gravel base
			GC	Clayey sandy gravel, reddish brown, very stiff, moist
4/9/8		5	OH	Gravelly clay, very dark gray, very stiff, moist, high plasticity
4/8/9		10	OH	Clay, some sand and silt, black, stiff, moist, high plasticity
		15		
		20		
		25		
		30		

TOTAL DEPTH 10.5'

BORING LOG

Project No. KEI-P89-0301.P6	**Boring Diameter** 1.375" / **Casing Diameter** N/A	**Logged By** D.L.
Project Name Unocal S/S #6277 15803 East 14th Street, San Leandro	**Well Cover Elevation** N/A	**Date Drilled** 3/18/97
Boring No. EB3	**Drilling Method** GeoProbe	**Drilling Company** Gregg Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel base.
No Data					Silty gravel with sand, very dense to hard, dry to slightly moist, brown (highly compacted roadbase).
				ML	Clayey silt, very stiff, moist, dark grayish brown and very dark brown, mottled.
		0.0	5	CL	Silty clay, trace sand, stiff, moist, black.
		0.0	10		Silty clay, stiff, moist, dark gray, with abundant caliche, grades to olive brown below 10 feet.
				ML	Clayey silt, stiff, moist, olive brown.
				CL	Silty clay, stiff, moist, very dark gray, with root holes and caliche.
		0.0		ML	Clayey silt, stiff, moist, dark olive brown.
	▽		15		TOTAL DEPTH:15'
			20		

BORING LOG

Project No. KEI-P89-0301.P6	**Boring Diameter** 1.375"	**Logged By** D.L.
	Casing Diameter N/A	
Project Name Unocal S/S #6277	**Well Cover Elevation**	**Date Drilled**
15803 East 14th Street, San Leandro	N/A	3/18/97
Boring No. EB4	**Drilling Method** GeoProbe	**Drilling Company** Gregg Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel base.
No Data					Silty gravel with sand, very dense, moist, dark yellowish brown, with asphalt and debris (fill).
					Pocketed clay, silt and sand, stiff, moist to wet, predominantly very dark grayish brown.
		No Data	5	ML	(Very poor recovery at 4.5 feet) Clayey silt, stiff, moist, dark grayish brown.
		0.0	10	CL	Silty clay, stiff, moist, olive gray to dark olive gray, with caliche grades to olive brown below 10 feet.
				ML	Clayey silt, stiff, moist, olive brown.
	▼	0.0			Clayey silt, firm to stiff, moist to very moist, olive brown, locally grades to silt estimated at 20-30% clay.
			15		TOTAL DEPTH:14.5'
			20		

BORING LOG

Project No. KEI-P89-0301.P6	**Boring Diameter** 1.375" **Casing Diameter** N/A	**Logged By** D.L.
Project Name Unocal S/S #6277 15803 East 14th Street, San Leandro	**Well Cover Elevation** N/A	**Date Drilled** 3/18/97
Boring No. EB5	**Drilling Method** GeoProbe	**Drilling Company** Gregg Drilling

Pene-tration blows/6"	G.W level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS		Description
			0			A.C. pavement over sand and gravel base.
						Sandy silt, with gravel and debris, firm to stiff, very moist, black and very dark grayish brown (fill).
			5			(Poor recovery at 4.5 feet)
		0.0		ML		Sandy silt, trace clay, sand is fine to medium-grained, stiff, moist, dark olive gray.
				CL		Silty clay, stiff, moist, olive brown.
	▼	0.0	10	ML		Sandy silt, trace clay, sand is very fine to fine-grained, stiff, moist, olive brown.
						TOTAL DEPTH: 11'
			15			
			20			

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

December 26, 2000

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

STID 2422

Mr. David De Witt
Tosco Marketing Company
2000 Crow canyon Place, Ste. 400
San Ramon, CA 94583

RE: Unocal Service Station #6277, 15803 East 14th Street, San Leandro

Dear Mr. De Witt:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]) of the California Health and Safety Code. The State Water Resources Control Board (SWRCB) has required since March 1, 1997 that this agency use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at this site.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Up to 510 micrograms per liter (ug/l) Total Petroleum Hydrocarbons as Gasoline (TPH-G), 72 ug/l Benzene, and 390 ug/l MtBE are present in groundwater beneath the site.
- Up to 1100 milligrams per kilogram (mg/kg) TPH-G, 8 mg/kg Benzene, and 1300 mg/kg Oil & Grease are present in soil at depths between 5 and 15' below grade.

If you have any questions, please contact the undersigned at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

cc: Ariu Levi, Chief, Environmental Protection
Matthew Coelho, 18616 Hwy 33 East, Dos Palos, CA 93620-9620 **(w/attachment)**

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 26, 2000

STID 2422

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. David De Witt
Tosco Marketing Company.
2000 Crow Canyon Place, Ste. 400
San Ramon, CA 94583

RE: Unocal Service Station #6277, 15803 E. 14th Street, San Leandro

Dear Mr. De Witt:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health Services

c: Chuck Headlee, RWQCB
Allan Patton, SWRCB **(w/attachment)**
Matthew Coelho, 18616 Hwy 33 East, Dos Palos, CA 93620-9620 **(w/attachment)**
SOS/files

TOSCO
Marketing
Company

505 STW 2422

ENVIRONMENTAL
PROTECTION

00 JUN 19 AM 9:00

2000 Crow Canyon Place
Suite 400
San Ramon, CA 94583
925.277.2305
fax: 925.277.2361

**Environmental
Compliance
Department**

June 15, 2000

Mr. Thomas Peacock
Manager - LOP
Alameda County – Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: No Further Action
Tosco/76 Products Service Station # 6277
15803 East 14th Street
San Leandro, CA

Dear Mr. Peacock:

As requested in your June 12, 2000 letter, I certify that I have notified the fee title holder of the subject property of the proposed action by Alameda County. I have included a copy of the letter I sent to Matthew and Ellamae Coelho with regards to the proposed "No Further Action".

If you have any additional questions or concerns, please feel free to contact me at 925-277-2384.

Sincerely,

David B. De Witt
Environmental Project Manager

TOSCO
Marketing
Company

2000 Crow Canyon Place
Suite 400
San Ramon, CA 94583
925.277.2305
fax: 925.277.2361

**Environmental
Compliance
Department**

June 15, 2000

Matthew and Ellamae Coelho
18616 Hwy 33
Dos Palos, CA 93620-9620

Re: No Further Action
Tosco/76 Products Service Station # 6277
15803 East 14th Street
San Leandro, CA

Dear Matthew and Ellamae Coelho:

Alameda County Health Care Services – LOP has determined that Tosco Corporation has completed the necessary environmental work at this site and that a finding of "No Further Action" is being considered. I have attached a copy of this notification for your records. As required by the Health and Safety Code (Ch. 6.7 – section 25297.15), I am notifying you, as the fee title holder, of this proposed action.

If you have questions or concerns on this subject, please feel free to call me at 925-277-2384.

Sincerely,

David B. De Witt
Environmental Project Manager

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, *Agency Director*

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

June 12, 2000

STID 2422

Mr. David De Witt
Tosco Marketing Company
2000 Crow Canyon Place, Ste. 400
San Ramon, CA 94583

RE: Unocal Service Station #6277, 15803 E. 14th Street, San Leandro

INTENT TO MAKE A DETERMINATION THAT NO FURTHER ACTION IS REQUIRED

Dear Mr. De Witt:

This letter is to inform you that Alameda County Environmental Health Department, Local Oversight Program (LOP), intends to make a determination that no further action is required at the above site, as concurrence from the Regional Water Quality Control Board (RWQCB) has been received. Please notify this agency of any input and recommendations you may have on these proposed actions within 20 days of the date of this letter.

In accordance with section 25297.15 of Ch. 6.7 of the Health & Safety Code, you must provide certification to the local agency that all of the current record fee title owners have been informed of the proposed action. Please provide this certification to this office within 20 days of the date of this letter.

If you have any questions about these proposed actions, please contact Scott Seery at (510) 567-6783.

Sincerely,

Thomas Peacock
Manager, LOP

cc: Chuck Headlee, RWQCB
Scott Seery, ACDEH LOP

RB# 01-1577

ENVIRONMENTAL PROTECTION

00 JUN -9 PM 4:19

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 04/29/98

Agency name: **Alameda County-EPD** Address: **1131 Harbor Bay Pkwy #250**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Scott Seery** Title: **Haz. Materials Spec.**

II. CASE INFORMATION

Site facility name: **Unocal Station #6277**
Site facility address: **16803 E.14th Street, San Leandro 94578**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **2422**
URF filing date: 03/16/89 SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Tosco Marketing Co. Attn: David deWitt	P.O. Box 5155 San Ramon, CA 94583	(925) 277-2384
Mathew & Ella Coelho	18616 Hwy 33 East Dos Palos, CA 93620-9620	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	gasoline	removed	03/13/89
2	10,000	"	"	"
3	550	waste oil	"	"

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: UNK (failed integrity test lead to UST removals)

Site characterization complete? YES

Date approved by oversight agency:

Monitoring Wells installed? YES Number: 7

Proper screened interval? YES

Highest GW depth below ground surface: 5.85' Lowest depth: 11.34' (stabilized)

Flow direction: predominately NW - N

Most sensitive current use: commercial (adjoined by apts.)

Are drinking water wells affected? NO Aquifer name: San Leandro cone

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Is surface water affected? NO Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NONE

Report(s) on file? **YES** Where is report filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	(2 x 10K; 1x 550 gal)	Disposal – UNK (but presumed to have gone to Erickson, Richmond, CA)	3/89
Piping	Unk	as above	
Free Product	NA		
Soil	162 tons	Disposal – Casmalia LF Casmalia, CA	4/14/89
	1000 yds^3	Disposal – Redwood LF Novato, CA	4/4/89 - 4/18/89
	218 tons	Disposal – Petroleum Waste Buttonwillow, CA	5/18/89
	1060 yds^3	Disposal – Mt. View dump Mt. View, CA	9/5/89 9/11/89
	2.4 tons	Disposal – GSX Services Buttonwillow, CA	11/1/89
	673 tons	Disposal – GSX Services Buttonwillow, CA	4/13/90 – 4/16/90
Groundwater	19,400 gal	Disposal – H& H Ship Svc. So. S.F., CA	3/21/89 & 4/2/90 – 4/5/90

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil[1] (ppm)		Water[2,3] (ppb)	
	Before	After	Before	After
TPH (Gas)	3500	1100	19,000	510
TPH (Diesel)	ND	6.2	NA	NA
Benzene	40	8	230	72
Toluene	280	43	79	ND
Xylene	600	230	1300	17

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil[1] (ppm)			Water[2,3] (ppb)	
	Before	After		Before	After
Ethylbenzene	100	37		ND	ND
MtBE	NA	NA		NA	390
Oil & Grease	*7700*	*1300*		*NA*	*NA*
Heavy metals	NA	NA		"	"
Other **HVOC** *TCE*	0.063	ND	*TCE*	*4.4*	*ND*
			PCE	*110*	*950*
			DCA	*2.8*	*ND*

Note: 1) *All "before" soil results compiled from initial sidewall samples collected during March 1989 fuel* UST closures, except for O&G, TCE and TPH-D results. O&G and TCE results from the 5' sample collected during advancement of well/boring MW-2 in May 1989. TPH-D result derived from a sample collected from the base of the waste oil UST pit following tank removal. All "after" soil results from sidewall samples collected after the 1990 over-excavation of the general area of former well MW-2, except for O&G. O&G result from the 5' soil sample collected from well/boring MW-2A in 1991.

2) "Before" water results from sample collected from the fuel UST excavation during 1989 closures, except as otherwise indicated. *All* "after" water results reflect samples collected from well MW-1 in November 1996, except as otherwise indicated.

3) "Before" HVOC water results *from* initial sample collected from well MW-2 in June 1989. "After" water results from sample collected from well MW-3 in January 1996.

Comments (Depth of Remediation, etc.):

During March 1989 three (3) single wall steel USTs were removed from this site. Two 10,000 gasoline and one 550 gallon waste oil USTs were closed during this effort. The original USTs were replaced by double-wall tanks emplaced elsewhere at the site. Tank replacement appears to have been prompted by a series of failed integrity tests in the years and months preceding this effort.

Ground water was encountered in the fuel tank pit at a depth of ~11 feet BG. Consequently, sidewall samples, six in all, were initially collected from the excavation a foot above stabilized water level. A single soil sample was collected from the base of the shallower waste oil tank pit. In addition, soil samples were also collected from the product piping trenches.

Initial subjective evidence prompted the contractor to expand the fuel tank excavation laterally in two rounds, at which point additional sidewall samples were collected. This expanded excavation encroached on and engulfed the former waste oil UST location as well. Following the initial over-excavation effort, a reported ~5000 gallons of water was pumped from the excavation, and ~14,500 gallons during the second. A water sample was collected from ground water that collected in the expanded tank pit.

Initial soil samples from the fuel UST pit revealed up to 3500 ppm TPH-G and 40 ppm benzene, among other detected fuel compounds. Over-excavation samples demonstrated a marked reduction in contaminant concentrations, with a TPH-G high of 100 ppm and benzene high of 3.1 ppm. Although the initial waste oil UST pit sample identified the presence of TOG (280 ppm), no 8240 compounds were identified above laboratory detection limits. The water sample, however, revealed up to 19,000 ug/l TPH-G and 230 ug/l benzene, among other detected fuel components.

Significant soil was removed from the enlarged UST excavation and stockpiled on-site during the 1989 (and subsequent 1990) activities. All soil was eventually disposed of at various California waste facilities between April 1989 and April 1990. (*See*: Section III. Release and Site Characterization Information)

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

Does corrective action protect public health for current land use? YES
Site management requirements: NA

Should corrective action be reviewed if land use changes? YES

Monitoring wells Decommissioned: YES (1)

Number Decommissioned: 1 Number Retained: 6 (pending case closure)

List enforcement actions taken: NONE

List enforcement actions rescinded: NONE

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Scott Seery Title: Haz Mat Specialist
Signature: Date: 4-21-00

Reviewed by
Name: Tom Peacock Title: Supervising Haz Mat Specialist
Signature: Date: 4-21-00

Name: Eva Chu Title: Haz Mat Specialist
Signature: Date: 4/20/00

Leaking Underground Fuel Storage Tank Program

VI. RWQCB NOTIFICATION

Date Submitted to RB: 4-21-00 RB Response: Concur Chuck Headlee
RWQCB Staff Name: Chuck Headlee Title: Eng. Assoc. Date: 4/28/00

VII. ADDITIONAL COMMENTS, DATA, ETC.

In preparation for the 1989 tank replacement project, exploratory borings were advanced in the area of the site chosen for the new USTs. Borings EB-1 and -2 were advanced up to 13.5' BG. Ground water was encountered between 11 and 12' BG. Soil samples collected at the 5 and 10' depths revealed some degree of impact by fuel compounds, most evident in the 10' samples, a depth consistent with that of ground water at the site.

Following UST closures, four (4) monitoring wells were installed at the site during May 1989. Total well depths ranged from 24.5 to 25' BG, with 19.5' well screens. Encountered sediments were primarily fine-grained to depths explored. Ground water stabilized between approximately 10 and 11' BG.

Elevated concentrations TOG (7700 ppm), benzene (13 ppm), as well as detectable concentrations of TCE (0.063 ppm) and other fuel components, were identified in the 5' soil sample collected from well boring MW-2.

Detectable fuel components were also identified in shallow soil samples collected from the other well borings, but were present at unremarkable concentrations.

Initial water samples identified detectable TPH-G in samples collected from each well; all BTEX components were "ND". However, detectable concentrations of PCE (110 ug/l), 1,2-DCA (2.8 ug/l), and TCE (4.4 ug/l) were noted in water sampled from MW-2.

As a consequence of soil contamination noted during advancement of well boring MW-2, this well was eventually destroyed and the area around it excavated in early 1990 to a depth of approximately 12' BG. Soil samples were collected from the sidewalls of the resultant excavation. Up to 1100 ppm TPH-G, 8 ppm benzene, and 210 ppm TOG, among other constituents, were identified in these samples, collected at the 10.5' depth. HVOC compounds were "ND".

Well MW-2 was eventually replaced by well MW-2A in a location 30' northwest of its original location. Up to 1300 ppm TOG was identified in the 5' sample collected during boring advancement.

Due to the regular occurrence of PCE, TCE and 1,2-DCA in sampled ground water, a review of records documenting historic site activities was performed in 1993. Reported site history indicates the site was first developed as a gas station from an empty lot in 1969. No likely on-site source of the HVOC impact was identified. The potential for an off-site HVOC source is further supported by the fact that the highest HVOC concentrations have been found in samples collected from wells MW-3 and -4, located on the upgradient side of the subject site, close to property margins. Hence, HVOCs detected in these wells are likely coming from a source (e.g., leaching sanitary sewer lines, etc.) upgradient of the site.

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

Following several quarters of ground water and sampling, two additional wells (MW-5 and -6) were installed in the adjoining apartment complex to assess potential off-site impacts from the UST release at this site. Some impact, albeit minor, was identified.

Well sampling continued through November 1996. Groundwater flow has predominantly ranged from SW to N during the course of the investigation.

Water sampled from well MW-1 continued to show the highest concentrations of fuel hydrocarbons throughout the duration of this investigation. As well MW-1 is the most downgradient of the wells at the site, an off-site study was conducted in March 1997 to assess any impacts in the downgradient direction. Three Geoprobe boreholes (EB-3, -4, and -5) were advanced through E. 14th Street in a northerly transect from the site. No detectable target compounds were identified in either soil or ground water samples.

This case appears be a "Low Risk Groundwater Case", as described in the January 5, 1996 San Francisco Bay Regional Water Quality Control memorandum entitled "*Regional Board Supplemental Instructions to State water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites,*" as follows:

1) **The leak has been stopped and ongoing sources, including free product, have been removed or remediated.**

The subject tanks were removed in 1989. Free product has not been known to occur at the site.

2) **The site has been adequately characterized.**

A 6-well network of wells was installed, monitored, and sampled over the course of several years. Additional sampling points were installed downgradient of the site. These points have allowed an adequate confirmation of underlying geology, groundwater flow, and contaminant extent.

3) **The dissolved hydrocarbon plume is not migrating.**

The plume appears stable. Hydrocarbon concentrations have attenuated over time, and appear limited in extent.

4) **No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted.**

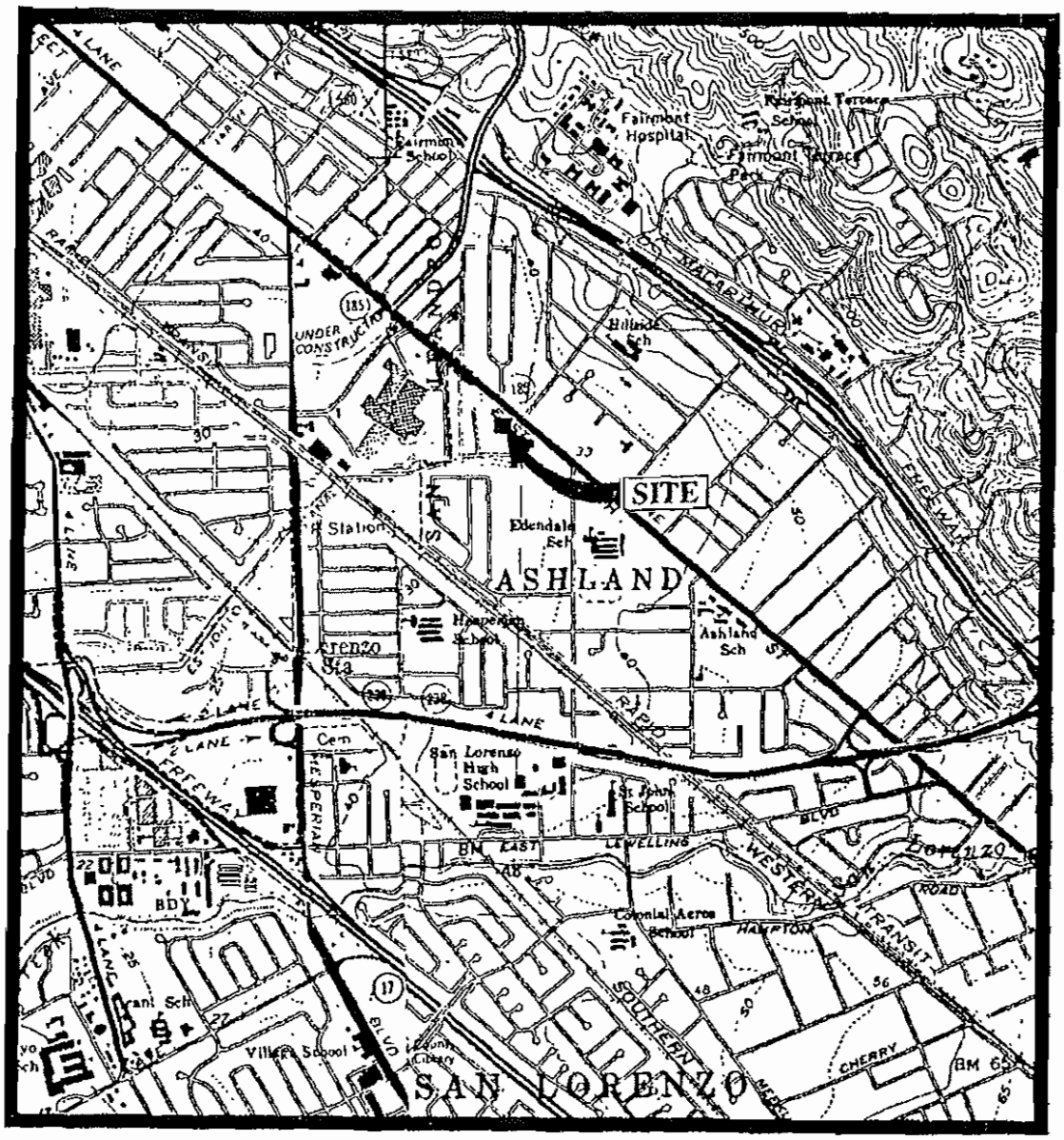
There are no known municipal or residential water wells or surface water bodies within 750' downgradient of the subject site that would be impacted by shallow groundwater from this site.

5) **The site presents no significant risk to human health.**

Comparison of ASTM E 1739-95 *Risk Based Screening Levels (RBSL)* with site-specific concentration and occurrence of risk-driving target compounds (e.g., benzene) in groundwater demonstrate that RBSL values are not exceeded for plausible exposure pathways at the 1E-05 risk level for a commercial/industrial site. Residual benzene soil concentrations (based on 1990 soil data) exceed RBSL values for the soil-vapor-intrusion-to-buildings exposure pathway at the 1E-04 risk level. However, default criteria used to calculate the published RBSLs use exceedingly conservative input parameters (e.g., sandy soil texture). Site-specific geology (clay) and asphalt cap are much less conducive to vertical vapor transport to potential receptor locations at the site.

6) **The site presents no significant risk to the environment.**

No environmental receptors are known or expected to be proximal to the site.



Base modified from 7.5 minute U.S.G.S. Hayward and San Leandro Quadrangles (both photorevised 1980)

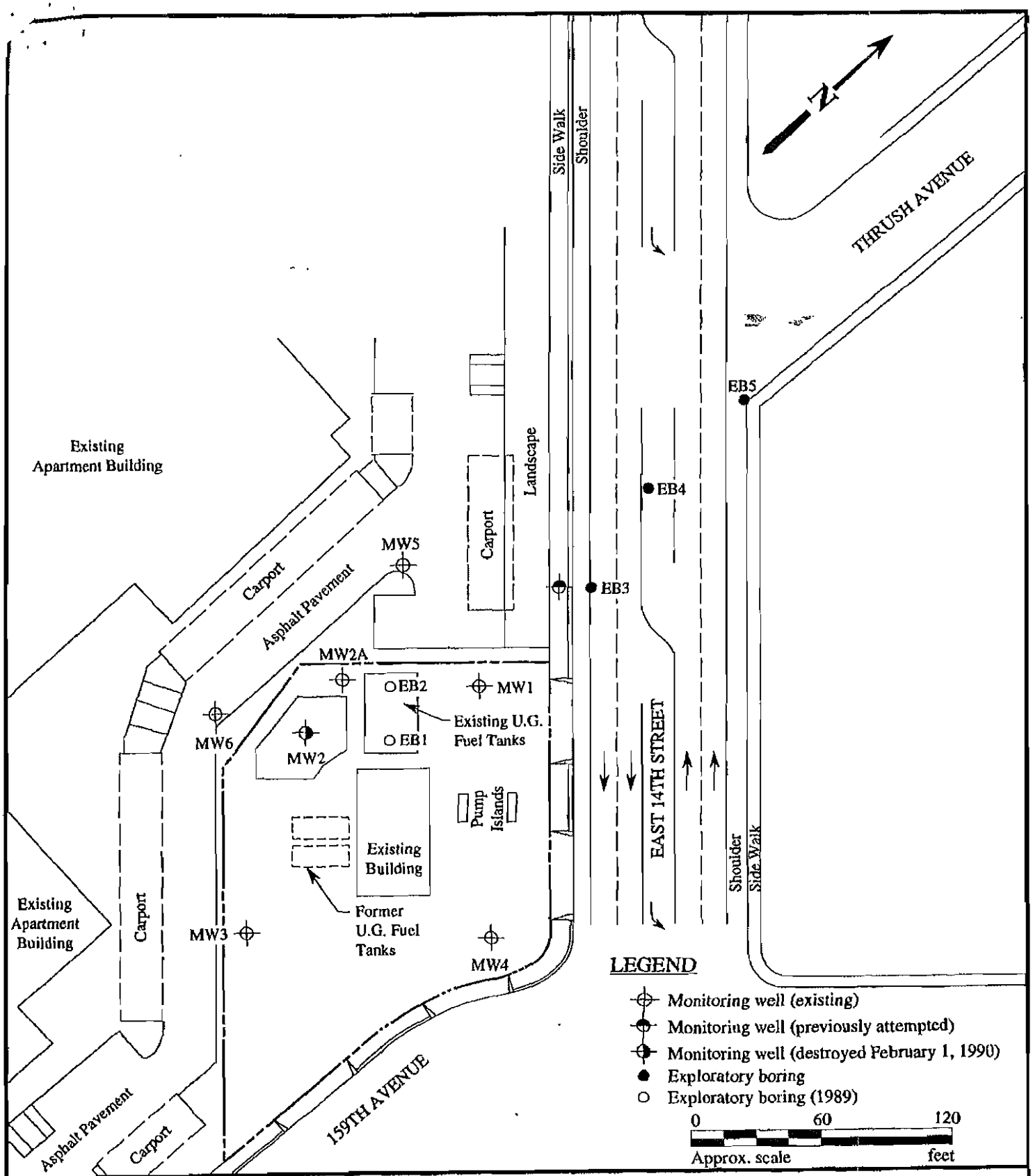
0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #6277
15803 E. 14TH STREET
SAN LEANDRO, CALIFORNIA

LOCATION MAP



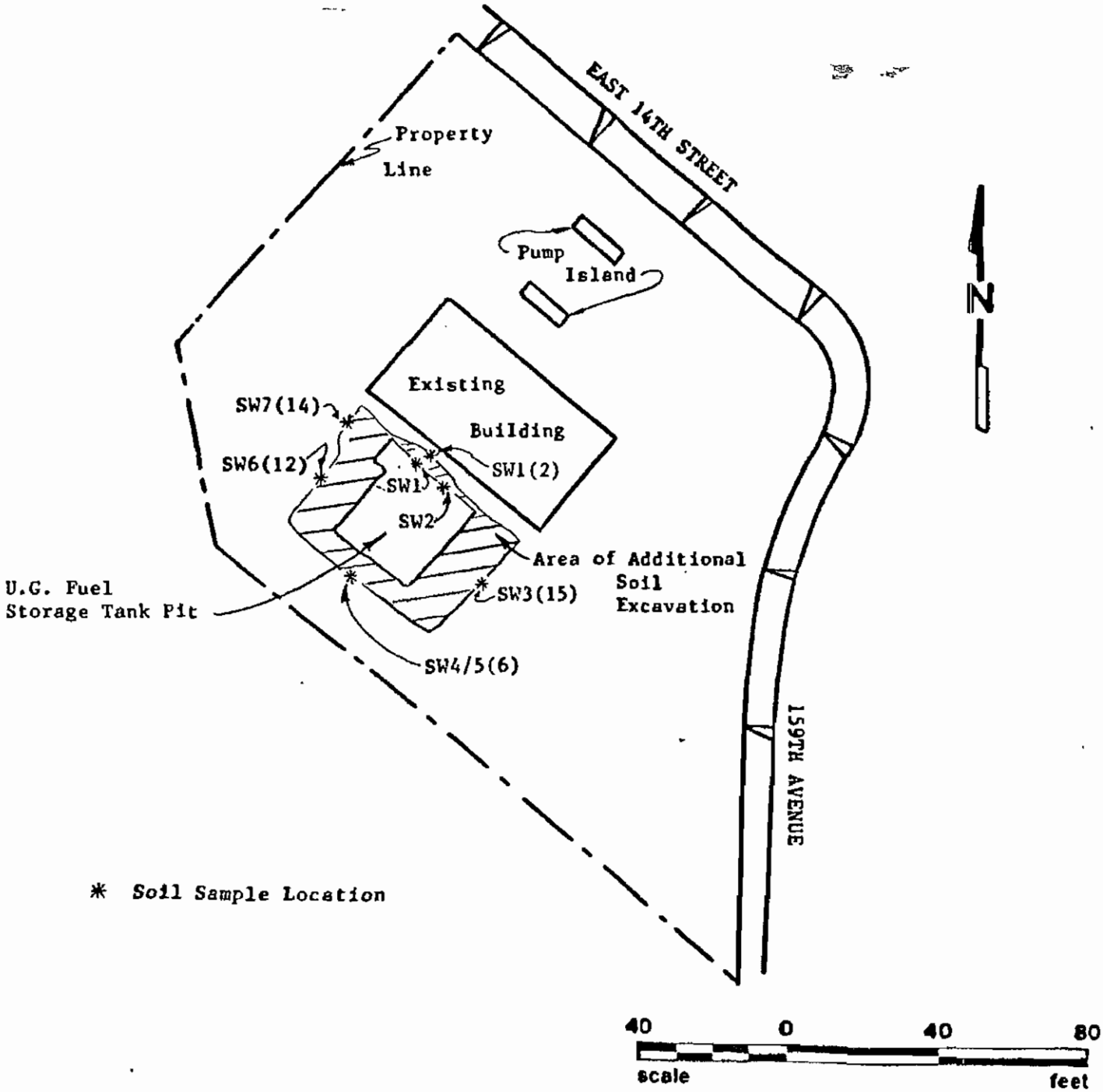
SITE VICINITY MAP

KAPREALIAN ENGINEERING
INCORPORATED

5/6/97 report
UNOCAL SERVICE STATION #6277
15803 E. 14TH STREET
SAN LEANDRO, CALIFORNIA

FIGURE
1

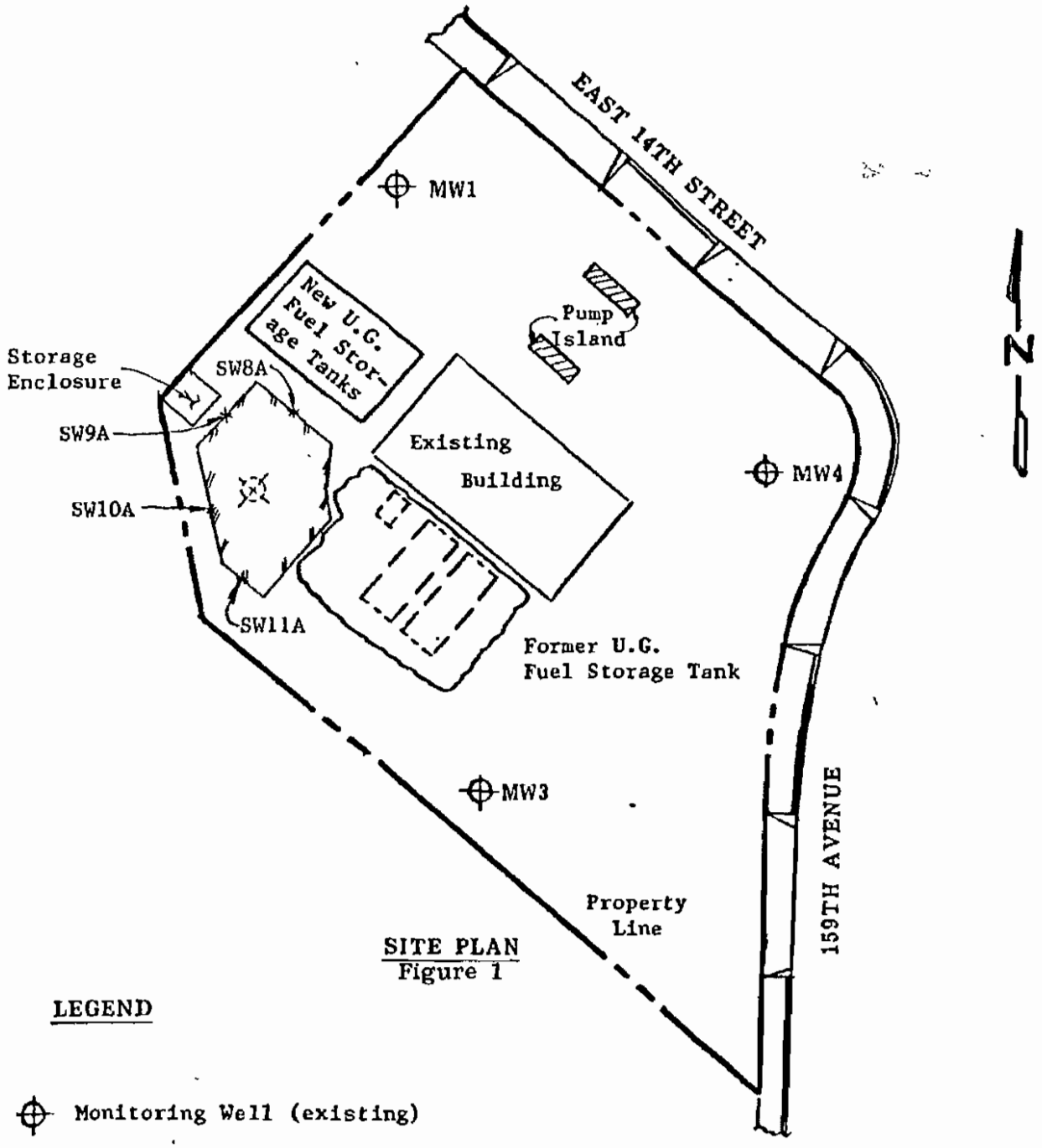
KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P. O. BOX 913
BENICIA, CA 94510
(415) 676-9100 (707) 745-6915



SITE PLAN
Figure 1

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581



SITE PLAN
Figure 1

LEGEND

- Monitoring Well (existing)
- Monitoring Well (abandoned)
- Area of Excavation
- * Sample Point Location

0 40 80
Approx. Scale feet

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

Table 1A

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW1	11/25/96	510♦	72	ND	ND	17	390
	7/1/96	ND	ND	ND	ND	ND	230
	4/8/96	2,100	43	27	7.4	21	480
	1/10/96	220	35	ND	2.0	7.6	†
	7/14/95	410	77	ND	7.4	30	--
	4/4/95	410♦	19	ND	ND	ND	--
	1/5/95	780	30	ND	ND	9.1	--
	10/6/94	970	19	ND	ND	13	--
	7/7/94	2,100♦♦	250	ND	57	200	--
	4/4/94	1,100	15	ND	ND	7.4	--
	1/6/94	260	21	ND	2.5	14	--
	10/6/93	1,200♦	36	ND	ND	23	--
	7/1/93	510	100	0.79	5.7	52	--
	4/2/93	690	94	0.73	5.3	39	--
	1/29/93	740♦♦	69	ND	3.8	43	--
	10/20/92	720	110	1.4	18	110	--
	7/20/92	630	100	2.8	6.3	52	--
	4/23/92	530	100	7.9	4.6	60	--
	1/13/92	450	240	4.6	8.6	73	--
	9/10/91	280	38	3.1	4.1	22	--
	6/10/91	310	1.5	ND	ND	0.31	--
	3/15/91	110	21	ND	ND	8.4	--
	12/14/90	450	150	6.8	0.28	49	--
	9/19/90	140	ND	ND	ND	3.5	--
	6/25/90	310	10	0.89	0.37	2.1	--
	3/29/90	320	12	1.6	0.31	3.5	--
	12/12/89	340	100	13	3.4	44	--
	9/13/89	550	32	17	3.4	52	--
	6/6/89	590	ND	ND	ND	ND	--
MW2A	11/25/96	86♦	0.82	ND	ND	ND	ND
	7/1/96	170	2.4	ND	0.65	2.0	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	89	1.2	ND	ND	0.58	--
	7/14/95	60	3.0	ND	1.3	2.4	--
	4/4/95	67♦	1.0	ND	ND	ND	--
	1/5/95	140♦	1.4	ND	ND	ND	--
	10/6/94	71	6.4	ND	2.1	2.4	--
	7/7/94	90	5.2	ND	1.5	2.2	--
	4/4/94	80	8.0	ND	1.4	1.5	--
	1/6/94	110	2.6	ND	1.6	1.7	--
	10/6/93	110♦	12	ND	7.4	1.4	--
	7/1/93	74♦	0.75	ND	ND	ND	--
	4/2/93	120	7.2	ND	5.8	1.2	--

Table

Summary of Laboratory Analyses

Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW2A (Cont)	10/20/92	96	2.8	ND	1.8	1.6	--
	7/20/92	99	8.6	ND	2.4	0.95	--
	4/23/92	190	15	ND	15	2.0	--
	1/13/92	160	11	2.0	10	5.9	--
	9/10/91	180	8.7	0.93	15	13	--
	6/10/91	54	1.2	ND	ND	0.69	--
	3/15/91	160	2.5	ND	ND	51	--
MW2	12/12/89	660	220	6.6	13	36	--
	9/13/89	170	2.0	0.38	ND	9.5	--
	6/6/89	77	ND	ND	ND	ND	--
MW3	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	100♦	ND	ND	ND	ND	--
	7/14/95	130♦	ND	ND	1.3	4.2	--
	4/4/95	100♦	0.62	ND	ND	ND	--
	1/5/95	140♦	ND	ND	ND	ND	--
	10/6/94	93♦	ND	ND	ND	ND	--
	7/7/94	190♦	ND	ND	ND	ND	--
	4/4/94	170♦	ND	ND	ND	ND	--
	1/6/94	140♦	ND	ND	ND	ND	--
	10/6/93	140♦	ND	ND	ND	ND	--
	7/1/93	120♦	ND	ND	ND	ND	--
	4/2/93	130♦	ND	ND	ND	ND	--
	1/29/93	130♦	0.84	ND	ND	ND	--
	10/20/92	180♦	ND	ND	ND	ND	--
	7/20/92	120♦	ND	ND	ND	ND	--
	4/23/92	150♦	1.6	ND	ND	ND	--
	1/13/92	120♦	ND	ND	ND	ND	--
	9/10/91	170	ND	ND	ND	ND	--
	6/10/91	160	0.65	ND	ND	ND	--
	3/15/91	150	ND	ND	ND	0.45	--
	12/14/90	150	ND	ND	ND	ND	--
	9/19/90	74	0.74	ND	ND	ND	--
	6/25/90	190	1.5	0.68	ND	5.3	--
	3/29/90	85	ND	ND	ND	ND	--
	12/12/89	120	6.7	0.64	0.46	1.5	--
	9/13/89	76	ND	ND	ND	ND	--
	6/6/89	32	ND	ND	ND	ND	--

Table 1A

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
MW4	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	100♦	ND	ND	ND	1.8	--
	7/14/95	89♦	ND	ND	0.97	0.52	--
	4/4/95	82♦	ND	ND	ND	ND	--
	1/5/95	150♦	ND	ND	ND	ND	--
	10/6/94	78♦	ND	ND	ND	ND	--
	7/7/94	150♦	ND	ND	ND	ND	--
	4/4/94	120	0.76	0.76	ND	0.98	--
	1/6/94	100♦	ND	ND	ND	ND	--
	10/6/93	130♦	ND	ND	ND	ND	--
	7/1/93	91♦	ND	ND	ND	ND	--
	4/2/93	110♦	ND	ND	ND	ND	--
	1/29/93	130♦	0.95	ND	ND	ND	--
	10/20/92	110♦	ND	ND	ND	ND	--
	7/20/92	80♦	ND	ND	ND	ND	--
	4/23/92	120♦	ND	ND	ND	ND	--
	1/13/92	58♦	ND	ND	ND	ND	--
	9/10/91	56	ND	ND	ND	ND	--
	6/10/91	64	ND	ND	ND	ND	--
	3/15/91	53	ND	ND	ND	ND	--
	12/14/90	54	ND	ND	ND	ND	--
	9/19/90	61	ND	ND	ND	ND	--
	6/25/90	66	ND	ND	ND	ND	--
	3/29/90	120	0.39	ND	ND	ND	--
	12/12/89	97	4.6	ND	ND	ND	--
	9/13/89	77	ND	ND	ND	ND	--
	6/6/89	37	ND	ND	ND	ND	--
MW5	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	50♦	ND	ND	ND	ND	--
	7/14/95	ND	ND	0.91	ND	1.1	--
	4/4/95	ND	ND	ND	ND	ND	--
	1/5/95	ND	ND	ND	ND	ND	--
	10/6/94	ND	ND	ND	ND	ND	--
	7/7/94	72♦	ND	ND	ND	ND	--
	4/4/94	65♦	ND	ND	ND	ND	--
	1/6/94	62♦	ND	ND	ND	ND	--
	10/6/93	60♦	ND	ND	ND	ND	--
	7/1/93	54♦	ND	ND	ND	ND	--
	4/2/93	65♦	ND	ND	ND	ND	--

Table 1A

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW6	11/25/96	120♦	ND	ND	ND	ND	ND
	7/1/96	ND	ND	ND	ND	ND	ND
	4/8/96	ND	ND	ND	ND	ND	ND
	1/10/96	53♦	ND	ND	ND	ND	--
	7/14/95	ND	ND	ND	ND	ND	--
	4/4/95	ND	ND	ND	ND	ND	--
	1/5/95	ND	ND	ND	ND	ND	--
	10/6/94	ND	ND	ND	ND	ND	--
	7/7/94	ND	ND	ND	ND	ND	--
	4/4/94	57♦	ND	ND	ND	ND	--
	1/6/94	53♦	ND	ND	ND	ND	--
	10/6/93	ND	ND	ND	ND	ND	--
	7/1/93	ND	ND	ND	ND	ND	--
	4/2/93	ND	ND	ND	ND	ND	--

† Sequoia Analytical Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 µg/L in the sample collected from this well.

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

♦♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: - The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

- Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory is C6 - C12.

- Laboratory analyses data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

Table 1B

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel	Tetra-chloroethene	Trichloro-ethene	1,2-Dichloro-ethane	Cis-1,2-dichloro-ethene	Total Oil & Grease (mg/L)
MW1	4/04/94*	--	390	38	ND	17	--
	4/2/93	ND	--	--	--	--	--
	1/29/93	ND	300	ND	ND	ND	--
	10/20/92	ND	230	22	ND	16	--
	7/20/92	62♦	200	7.4	ND	ND	--
MW2	4/2/93	ND	--	--	--	--	--
	12/12/89	1,700	30	9.0	ND	ND	1.2
	9/13/89	ND	18	6.1	4.2	1.2	ND
	6/6/89	ND	110	4.4	2.8	ND	ND
MW2A	9/10/93	65	--	--	--	--	--
	1/29/93	ND	140	10	ND	ND	--
	10/20/92	ND	64	11	ND	ND	--
	7/20/92	ND	35	7.2	ND	4.8	ND
	4/23/92	ND	17	5.6	ND	1.9	ND
	1/13/92**	ND	33	ND	ND	2.1	ND
	6/10/91	100	150	10	ND	ND	ND
	3/15/91	ND	67	8.2	ND	2.6	ND
MW3	1/10/96	--	950	ND	ND	ND	--
	1/5/95	--	1,100	18	ND	6.2	--
	1/6/94	--	960	ND	ND	ND	--
	4/2/93	ND	--	--	--	--	--
	1/29/93	ND	980	ND	ND	ND	--
	10/20/92	ND	1,100	20	ND	ND	--
	7/20/92	ND	1,400	25	ND	ND	--
MW4	1/29/93	ND	950	ND	ND	ND	--
	7/20/92	ND	440	11	ND	ND	--
	4/2/93	ND	--	--	--	--	--
	10/20/92	ND	360	17	ND	ND	--
MW5	4/2/93	ND	190	ND	ND	ND	--
MW6	4/2/93	ND	71	ND	ND	ND	--

Table 18
Summary of Laboratory Analyses
Water

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* All EPA method 8240 constituents were non-detectable, except for concentrations of benzene at 29 µg/L, ethylbenzene at 3.4 µg/L, total xylenes at 19 µg/L, and trans-1,2-dichloroethene at 2.4 µg/L.

** 1,1,2-trichloroethane was detected at a concentration of 9.9 µg/L.

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear be diesel.

ND = Non-detectable.

-- Indicates analysis was not performed.

mg/L = milligrams per liter.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: All EPA method 8010 constituents were non-detectable in all of the ground water samples, except as indicated.

Laboratory analyses data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

KEI-P89-0301.R1
March 13, 1989

TABLE 1 C

SUMMARY OF LABORATORY ANALYSES
SOIL

(Results in ppm)
(Collected on March 6, 1989)

Sample Number	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
EB1(5)	2.1	ND	0.11	ND	0.14
EB1(10)	200	2.3	7.7	5.7	33
EB2(5)	ND	ND	ND	ND	ND
EB2(10)	620	2.2	20	13	78

ND = Non-detected

KEI-P89-0301.R12
April 11, 1997

TABLE 1A,B

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
3/18/97	EB3(5)	ND	ND	ND	ND	ND	ND
	EB3(10)	ND	ND	ND	ND	ND	ND
	EB3(14.5)	ND	ND	ND	ND	ND	ND
	EB4(4.5)	ND	ND	ND	ND	ND	ND
	EB4(10)	ND	ND	ND	ND	ND	ND
	EB4(13)	ND	ND	ND	ND	ND	ND
	EB5(5)	ND	ND	ND	ND	ND	ND
	EB5(10)	ND	ND	ND	ND	ND	ND

NOTE: The soil samples were collected at the depths below grade indicated in the ( ) of the respective sample number.

ND = Non-detectable.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P89-0301.R12
April 11, 1997

TABLE 1.6

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Number	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
3/18/97	EB3	ND	ND	ND	ND	ND	ND
	EB4	ND	ND	ND	ND	ND	ND
	EB5	ND	ND	ND	ND	ND	ND

NOTE: Water samples were collected during drilling. The results of the analyses may not be representative of formation water, and should be used for comparative informational purposes only.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

KEI-P89-0301.R3
March 27, 1989

TABLE 2

SUMMARY OF LABORATORY ANALYSES *
WATER
(Results in ppb)

(Samples collected on March 19, 1989)

Sample #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
W-1	19,000	230	79	1,300	ND
Detection Limits	50	0.5	0.5	0.5	0.5

ND = Non-detectable

* Sample collected from UST pit during 1989 closures

KEI-P89-0301.R8
April 16, 1991

TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on March 12, 1991)

Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	TOG
MW2A(5)*	5	4.8	ND	ND	ND	ND	ND	1,300
MW2A(10)*	10	2.4	10	0.12	0.17	1.6	0.14	260
MW2A(14.5)*	14.5	ND	ND	ND	0.0080	0.036	ND	57
Detection Limits		1.0	1.0	0.0050	0.0050	0.0050	0.0050	30

* All EPA method 8010 constituents were non-detectable, except for 0.110 ppm of 1,2-dichlorobenzene, and 0.120 ppm of tetrachloroethene detected in sample MW2A(10).

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

KEI-P89-0301.R8
April 16, 1991

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Samples collected on April 3, 1990)

Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
SW8A*	10.5	62	260	1.4	8.0	40	7.0
SW9A*	10.5	ND	ND	0.017	0.041	0.033	0.0092
SW10A*	10.5	ND	140	0.085	0.12	5.0	1.4
SW11A**	10.5	280	1,100	8.0	43	230	37
Detection Limits		1.0	1.0	0.0050	0.0050	0.0050	0.0050

* TOG and all EPA method 8010 constituents were non-detectable for these samples.

** TOG showed 210 ppm, while all EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

KEI-P89-0301.R8
April 16, 1991

TABLE 5

SUMMARY OF LABORATORY ANALYSES
SOIL

Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
(Collected on March 6, 1989)						
EB1(5)	5	2.1	ND	0.11	ND	0.14
EB1(10)	10	200	2.3	7.7	5.7	33
EB2(5)	5	ND	ND	ND	ND	ND
EB2(10)	10	620	2.2	20	13	78
(Collected on March 13, 14 & 17, 1989)						
SW1	10	3,500	22	280	600	100
SW1(2)	10	100	1.3	6.6	16	2.9
SW2	10	390	40	4.3	71	10
SW3(15)	10	60	1.6	2.9	7.8	1.5
SW4/5(6)	10	24	2.6	1.7	2.7	0.56
SW6(12)	10	150	3.1	6.2	5.6	3.6
SW7(14)*	10	ND	0.3	ND	ND	ND
P1	3	2.3	ND	0.15	ND	ND
P2	3	1.5	ND	0.31	ND	ND
P3	3	1.1	ND	0.1	ND	ND
P4	3	5.6	ND	0.15	0.39	ND
P5	3	6.8	0.15	0.58	0.55	0.12
P6	3.5	5.5	0.06	0.18	0.15	ND
WO1**	10	15	ND	ND	0.21	0.88
(Collected on May 24, 1989)						
MW1(5)	5	2.3	0.08	ND	0.62	ND
MW1(10)	10	290	1.0	11	48	8.8
MW2(5)***	5	230	13	1.7	3.2	1.5
MW2(10)+	10	31	1.2	1.0	5.5	1.1
MW3(5)	5	3.2	0.29	0.1	0.7	ND
MW3(10)	10	4.6	ND	ND	0.44	0.3
MW4(5)	5	3.1	ND	0.11	ND	ND
MW4(10)	10	ND	ND	ND	ND	ND

TABLE 5 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

* TPH as diesel was 6.2 ppm; TOG was at 41 ppm; all 8240 constituents are non-detectable, except as noted above.

** TPH as diesel was non-detectable; TOG was at 280 ppm; all 8240 constituents are non-detectable, except as noted above.

*** TPH as diesel was non-detectable, TOG was 7,700 ppm, and trichloroethene at 0.063 ppm.

\+ TPH as diesel was non-detectable, TOG was 38 ppm, and trichloroethene at 0.065 ppm.

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

BORING LOG

Project No. KEI-P89-0301	Boring & Casing Diameter 9" 2"	Logged By Doug Lee
Project Name Unocal San Leandro, E. 14th	Well Head Elevation N/A	Date Drilled 5/24/89
Boring No. MW1	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Silt, sand, gravel: fill.
10/15/17		5		Clay, high plasticity, stiff, moist, black, with gravel to 3/4" above 4'.
10/17/24	▼	10		Clay, as above.
			CH	Color change at 12' to dark grayish brown.
		15		
		20		Silty clay with sand, high plasticity, sand - medium to fine, firm, wet, dark olive brown, with moderate cementation.
		25		
		30		
				TOTAL DEPTH 24.5'

B O R I N G L O G

Project No. KEI-P89-0301	**Boring & Casing Diameter** 9" 2"	**Logged By** Doug Lee
Project Name Unocal San Leandro, E. 14th	**Well Head Elevation** N/A	**Date Drilled** 5/24/89
Boring No. MW2	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Silt, sand and gravel: fill.
22/24/28		5	GW	Sandy gravel with clay, hard, slightly moist, black.
9/11/26	▼	10		Clay, high plasticity, stiff, moist, black.
				Color change below 12' to dark grayish brown.
		15	CH	
		20	CL	Silty clay, low plasticity, 10% fine sand, hard, cemented, blocky, blocks are very strongly cemented, wet, white.
		25	CH	Silty clay, high plasticity, firm, wet, dark olive brown.
		30		
				TOTAL DEPTH 24.5'

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	W.W.
Project Name Unocal 15803 E. 14th San L	**Well Cover Elevation**	**Date Drilled** 3/12/91
Boring No. MW2A	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Asphalt pavement over sand and gravel.
			GC	Clayey gravel with sand and cobbles to 5" in diameter, moist, dense, strong brown, traces of dark grayish brown.
				Clayey gravel fill with sand, as above, yellowish brown below 4'.
11/9/8		5		Base of Fill
			CH	Clay, trace silt and sand, trace angular gravel to 1/2" diameter, moist, very stiff, very dark gray, trace rootlets.
7/9/13		10		Clay, high plasticity, porous, moist, very stiff, very dark gray.
5/8/15			CL/ CH	Clay, moist, very stiff, light brownish gray.
5/7/8	▼	15		Clay, very moist, saturated, stiff, light brownish gray.
				Clay with silt, very moist to saturated, stiff, trace caliche, trace coarse black sand, light brownish gray.
5/7/		20		

BORING LOG

Project No. KEI-P89-0301	**Boring & Casing Diameter** 9" 2"	**Logged By** W.W.
Project Name Unocal 15803 E. 14th San L	**Well Cover Elevation**	**Date Drilled** 3/12/91
Boring No. MW2A	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
/8			CL/ CH	Clay, with silt, as above.
				Silty clay, trace fine-grained sand, saturated, stiff, light yellowish brown to light olive brown.
3/5/6		25		
		30		
		35		
		40		TOTAL DEPTH: 25.5'

BORING LOG

Project No. KEI-P89-0301	Boring & Casing Diameter 9" 2"	Logged By Doug Lee
Project Name Unocal San Leandro, E. 14th	Well Head Elevation N/A	Date Drilled 5/24/89
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Silt, sand and gravel: fill.
9/14/18		5		Clay, high plasticity, stiff, moist, black.
12/17/19	▼	10	CH	Color change below 12' to dark grayish brown.
		15		
		20	CL	Silty clay, 10% fine sand, stiff, cemented, blocky, wet, white, "hard pan".
			CH	Silty clay, firm, wet, dark olive brown.
		25		
		30		TOTAL DEPTH 24.5'

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0301	9" 2"	Doug Lee
Project Name Unocal San Leandro, E. 14th	**Well Head Elevation** N/A	**Date Drilled** 5/24/89
Boring No. MW4	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement
				Sand, gravel, silt: fill, with concrete blocks.
9/14/19		5		Gravelly clay with silt, high plasticity, firm, moist, very dark gray.
			CH	Clay, high plasticity, stiff, moist, with weak cementation below 9', black.
10/15/17	▼	10		Color change at 9' to very dark grayish brown.
				Color change at 11' to dark grayish brown.
		15		Clay, as above.
			CL	Silty clay with sand, low plasticity, hard, wet, strong cementation, blocky, white, "hard pan".
25/25/26		20		
			CH	Sandy clay, sand - medium to fine, firm, wet, light olive brown.
12/14/18		25		Silty clay, 10% fine sand, firm, very moist, light olive brown, blocky, blocks moderately cemented.
		30		
				TOTAL DEPTH 25'

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-J89-0301	9" 2"	Doug Lee
Project Name Unocal, E. 14th, San Leandro	**Well Head Elevation** N/A	**Date Drilled** 3/6/89
Boring No. EB-1	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Asphalt & concrete pavement and gravel base
			GC	Clayey sandy gravel, reddish brown, very stiff to hard, moist, gravel to 2"
4/6/8		5	OH	Gravelly sandy clay, very dark gray, stiff, moist, high plasticity
4/6/8	▼	10	OH	Clay, some silt and sand, black, stiff, moist, high plasticity
3/6/9			CH	Clay, with silt, grayish brown, firm, very moist
		15		
		20		
		25		
		30		
				TOTAL DEPTH 13.5'

BORING LOG

Project No. KEI-	Boring & Casing Diameter 9" 2"	Logged By Doug Lee
Project Name Unocal, E. 14th, San Leandro	Well Head Elevation N/A	Date Drilled 3/6/89
Boring No. EB-2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Asphalt & concrete pavement and gravel base
			GC	Clayey sandy gravel, reddish brown, very stiff, moist
4/9/8		5	OH	Gravelly clay, very dark gray, very stiff, moist, high plasticity
4/8/9		10	OH	Clay, some sand and silt, black, stiff, moist, high plasticity
		15		
		20		
		25		
		30		

TOTAL DEPTH 10.5'

BORING LOG

Project No. KEI-P89-0301.P6	**Boring Diameter** 1.375" **Casing Diameter** N/A	**Logged By** D.L.
Project Name Unocal S/S #6277 15803 East 14th Street, San Leandro	**Well Cover Elevation** N/A	**Date Drilled** 3/18/97
Boring No. EB3	**Drilling Method** GeoProbe	**Drilling Company** Gregg Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel base.
No Data					Silty gravel with sand, very dense to hard, dry to slightly moist, brown (highly compacted roadbase).
				ML	Clayey silt, very stiff, moist, dark grayish brown and very dark brown, mottled.
		0.0	5	CL	Silty clay, trace sand, stiff, moist, black.
		0.0	10	CL	Silty clay, stiff, moist, dark gray, with abundant caliche, grades to olive brown below 10 feet.
				ML	Clayey silt, stiff, moist, olive brown.
		0.0		CL	Silty clay, stiff, moist, very dark gray, with root holes and caliche.
	▼		15	ML	Clayey silt, stiff, moist, dark olive brown.
					TOTAL DEPTH:15'
			20		

BORING LOG

Project No. KEI-P89-0301.P6	**Boring Diameter** 1.375" **Casing Diameter** N/A	**Logged By** D.L.
Project Name Unocal S/S #6277 15803 East 14th Street, San Leandro	**Well Cover Elevation** N/A	**Date Drilled** 3/18/97
Boring No. EB4	**Drilling Method** GeoProbe	**Drilling Company** Gregg Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel base.
No Data					Silty gravel with sand, very dense, moist, dark yellowish brown, with asphalt and debris (fill).
					Pocketed clay, silt and sand, stiff, moist to wet, predominantly very dark grayish brown.
		No Data	5	ML	(Very poor recovery at 4.5 feet) Clayey silt, stiff, moist, dark grayish brown.
		0.0	10	CL	Silty clay, stiff, moist, olive gray to dark olive gray, with caliche grades to olive brown below 10 feet.
				ML	Clayey silt, stiff, moist, olive brown.
	▼	0.0			Clayey silt, firm to stiff, moist to very moist, olive brown, locally grades to silt estimated at 20-30% clay.
			15		TOTAL DEPTH:14.5'
			20		

BORING LOG

Project No. KEI-P89-0301.P6	**Boring Diameter** 1.375"	**Logged By** D.L.
	Casing Diameter N/A	
Project Name Unocal S/S #6277	**Well Cover Elevation**	**Date Drilled**
15803 East 14th Street, San Leandro	N/A	3/18/97
Boring No. EB5	**Drilling Method** GeoProbe	**Drilling Company** Gregg Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel base.
			5		Sandy silt, with gravel and debris, firm to stiff, very moist, black and very dark grayish brown (fill). (Poor recovery at 4.5 feet)
		0.0		ML	Sandy silt, trace clay, sand is fine to medium-grained, stiff, moist, dark olive gray.
				CL	Silty clay, stiff, moist, olive brown.
	▼	0.0	10	ML	Sandy silt, trace clay, sand is very fine to fine-grained, stiff, moist, olive brown.
					TOTAL DEPTH:11'
			15		
			20		