Roya Kambin
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6270
rklg@chevron.com

RECEIVED
By Alameda County Environmental Health at 10:54 am, Apr 17, 2013

April 16, 2013

Mr. Keith Nowell
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Oakland, CA 94502

Dear Mr. Nowell:

Attached for your review is the *Low-Threat Closure Request* for 376 Lewelling Boulevard in San Lorenzo, California (**ACEHS File No.:** RO0000344; **Case:** Unocal #5760). This report was prepared by Stantec Consulting Services Inc. (Stantec), upon whose assistance and advice I have relied. I declare under penalty of perjury that the information and/or recommendations contained in the attached report are true and correct, to the best of my knowledge.

If you should have any further questions, please do not hesitate to contact me or the Stantec project manager, Sean Coyle, at (916) 861-0400 Ext. 222 or sean.coyle@stantec.com.

Sincerely,

Roya Kambin
Project Manager

Low-Threat Closure Request

376 Lewelling Boulevard
San Lorenzo, California
ACEHS File No.: RO0000344
Case: Unocal #5760

Submitted to:
Mr. Keith Nowell
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Oakland, CA 94502

Prepared for:
Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583

Submitted by:
Stantec Consulting Services Inc.
15575 Los Gatos Blvd., Building C
Los Gatos, CA 95032

April 16, 2013

Table of Contents

FIGURES

TABLES

APPENDICES

1.0 Introduction

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), Stantec Consulting Services Inc. (Stantec) is pleased to submit this *Low-Threat Closure Request* for 376 Lewelling Boulevard, Alameda County, California (the Site; shown on ***Figure 1***) to the Alameda County Environmental Health Services (ACEHS) Department. This closure request addresses requirements listed under the Low-Threat Underground Storage Tank (UST) Case Closure Policy (LTCP) enacted by the California State Water Resources Control Board on August 17, 2012 under Resolution No. 2012-0016 (included in ***Appendix A***).

2.0 Site Description

2.1 SITE DESCRIPTION AND CURRENT OPERATION

The Site is an active 76-branded service station and auto repair shop located on the southeast corner at the intersection of Lewelling Boulevard and Usher Street in San Lorenzo, California. Current Site structures include two gasoline underground storage tanks (USTs) and one waste oil UST located in the southern portion of the Site, two fuel dispenser islands located in the northern portion of the Site, associated product piping, and a building housing two service bays. Land use near the Site consists of a mixture of commercial and residential properties. The Site is bounded on the north by Lewelling Boulevard, on the east by residential properties, on the south by a parking lot and an apartment building, and on the west by Usher Street (***Figure 2***).

Based on the zoning of the Site and properties to the west and northwest (Freeway Access [FA]), properties to the north and northeast (residential [R]), properties to the east, south, and southwest (residential/commercial [RC]) and its location at a major intersection, the Site will likely continue to be used for commercial purposes in the future (Alameda County Planning Department, 1995).

The present and expected future source of drinking water is supplied by the Alameda County Water District (ACWD). Drinking water supply is allocated from local groundwater and surface water, and imported water. Imported water is supplied to ACWD by the State Water Project (SWP) and the Bay Area Water Supply and Conservation Agency (BAWSCA). The SWP and BAWSCA supplies are imported through the South Bay Aqueduct and Hetch Hetchy Water System, respectively. Local supplies include fresh groundwater from the Niles Cone Groundwater Basin (underlying the ACWD service area), desalinated brackish groundwater from portions of the groundwater basin previously impacted by seawater intrusion, and surface water from the Del Valle Reservoir (ACWD, 2013).

2.2 PREVIOUS INVESTIGATION AND REMEDIATION ACTIVITIES

Soil analytical results from previous investigations are summarized in ***Table 1***, and current and historical groundwater analytical results are summarized in ***Table 2*** through ***Table 5***. A Site plan showing current and destroyed groundwater monitoring wells, GeoProbe®, cone penetrometer test (CPT) soil borings, former USTs, dispenser islands, and the area surrounding the Site is provided as ***Figure 2***. Borehole and well logs are included in ***Appendix B***. The following summary of previously performed environmental work is based on a review of documents available to Stantec.

In November and December 1987, Woodward-Clyde Consultants (WCC) oversaw the removal of two steel gasoline USTs, one waste-oil UST, and associated product piping; and the subsequent installation of two 12,000-gallon fiberglass USTs, one waste oil UST, and product piping (WCC, 1988; Pacific Environmental Group [PEG], 1994c). Soil beneath the former

gasoline USTs was excavated vertically to groundwater, ranging from approximately 18 to 20 feet below ground surface (bgs). Four soil samples (1 through 4) collected and analyzed from the limits of the excavation contained total petroleum hydrocarbons as gasoline range organics (TPH-GRO) ranging from 12.7 milligrams per kilogram (mg/kg) (soil sample 1, southeastern portion of UST pit at approximately 19 feet bgs) to 1,620 mg/kg (soil sample 4, northwestern portion of UST pit at approximately 20 feet bgs). The soil sample (WQ1) collected beneath the former waste oil UST did not report petroleum hydrocarbons above laboratory reporting limits (LRLs). A grab groundwater sample (WCC) collected from the UST excavation pit reported TPH-GRO at a concentration of 505,000 micrograms per liter (µg/L) (GeoStrategies, Inc. [GSI], 1994b; GEOTEST, 1987).

In February 1988, WCC oversaw Gettler-Ryan, Inc. (G-R) install groundwater monitoring well U-1 to a depth of approximately 30.5 feet bgs, immediately down-gradient of the USTs. Initial dissolved-phase TPH-GRO and benzene concentrations were detected in well U-1 at 93,000 µg/L and 3,600 µg/L, respectively (WCC, 1988).

In August 1990, GSI oversaw the installation of monitoring wells U-2 through U-4 to depths of 30, 25, and 28 feet bgs, respectively. The maximum concentrations of TPH-GRO and benzene in soil (640 mg/kg and 4.5 mg/kg, respectively) were detected in samples collected from borehole U-3 at a depth of 20 feet bgs (GSI, 1990).

During the Fourth Quarter 1990 Sampling Event conducted on December 5, 1990 a measurable amount of free product was reported in well U-1 and continued to be measured in the well until the First Quarter 1993 Sampling Event conducted on February 12, 1993 when the well was successfully sampled. Free product was also reported in well U-1 during the Fourth Quarter 1993 Sampling Event conducted on December 2, 1993. Free Product has not been measured in well U-1 or any other wells associated with the Site since First Quarter 1993.

In March 1992, GSI oversaw the installation of off-site monitoring wells U-5 (30 feet bgs), U-6 (28 feet bgs), U-7 (35 feet bgs), and U-8 (30 feet bgs). Petroleum hydrocarbons (TPH-GRO and benzene, toluene, ethylbenzene, and total xylenes [BTEX compounds]) were not detected above LRLs in soil samples collected from boreholes U-5 through U-8 (GSI, 1992).

In May 1993, GSI oversaw the installation of off-site monitoring well U-9 to a total depth of 28 feet bgs. Petroleum hydrocarbons (TPH-GRO and BTEX compounds) were not detected above LRLs in soil samples collected from borehole U-9 (GSI, 1993).

In February 1994, GSI conducted a three-day aquifer test at the Site. The aquifer test consisted of a three-hour step-drawdown and a 24-hour constant-rate discharge test utilizing well U-1 as the extraction well. The test was performed to assess the feasibility of utilizing groundwater extraction to achieve hydrodynamic control of groundwater for extraction of dissolved-phase petroleum hydrocarbons from the shallow groundwater zone beneath the Site. Results of the aquifer test indicated that a groundwater extraction remediation system was feasible for

remediation of the dissolved-phase petroleum hydrocarbon plume beneath the Site (GSI, 1994a).

In August 1994, GSI conducted a soil vapor extraction (SVE) feasibility test on Site. The SVE test included testing of monitoring wells U-1 and U-3 as extraction wells and utilized wells U-4, U-6, and U-8 as observation wells. Based on the results of the SVE test performed, GSI concluded SVE was an applicable technology for removal of petroleum hydrocarbons from soil and groundwater beneath the Site. The effective SVE radius of influence was approximately 11.0 feet for well U-1 and 20.5 feet for well U-3. Petroleum hydrocarbon removal rates observed during the test ranged from 3.4 to 5.0 pounds (lbs) TPH-GRO per day and 0.02 to 0.07 lbs benzene per day (GSI, 1994c).

From August to September 1995, PEG oversaw installation of a dual-phase SVE/groundwater extraction (GWE) system on Site. The remediation system operated from October 1995 to February 1997 and removed approximately 63 lbs TPH-GRO and 0.5 lbs benzene. Because the mass removal versus time trend for the remediation system indicated a diminishing incremental benefit from continued operation (system removed approximately 50 lbs TPH-GRO during the first 2,000 hours of operation, followed by removal of 13 lbs TPH-GRO during the following 1,600 hours operation), the remediation system was shut down February 1997 (PEG, 1997a & 1997b).

In November 2003, Delta oversaw the advancement of five direct push soil borings, GP-1 through GP-5, to a maximum depth of 20 feet bgs. Petroleum hydrocarbons (TPH-GRO, ethylbenzene, and total xylenes) were only detected in borehole GP-4 at 19.5 feet bgs (1,600 mg/kg, 26 mg/kg, and 130 mg/kg, respectively) (Delta, 2003).

In July 2007, Delta destroyed monitoring wells U-1 and U-3 and installed replacement wells U-1R and U-3R. Wells U-1 and U-3 were destroyed because Delta believed that hydrocarbon impacts observed in the wells originated at the surface and migrated down the well boring through poor surface seals (Delta, 2007).

In July 2010, Stantec oversaw the advancement of two soil borings (GP-6 and GP-7) advanced to maximum depths of 25 feet bgs using a direct push drill rig; and one soil boring (CPT-1) advanced to a total depth of 50 feet bgs using a CPT rig. Due to the presence of above-ground structures, CPT-1 could not be advanced where originally proposed. Following advancement of CPT-1 at the adjusted boring location, Stantec oversaw the advancement of soil boring CPT-1A at the originally proposed location utilizing a direct-push drill rig. Maximum TPH-GRO concentrations in soil were detected in boring CPT-1A at 470 mg/kg (19.5 feet bgs). Maximum dissolved-phase TPH-GRO concentrations were reported in boring CPT-1A (19 to 22 foot bgs interval) at 3,100 µg/L. Based on the soil and groundwater data from the soil borings, Stantec concluded the following:

- Remaining hydrocarbon impact was primarily restricted to groundwater beneath the Site, as the TPH-GRO impact to soil observed in boring CPT-1A was at a depth of

approximately 19.5 feet bgs, likely representative of dissolved-phase impact which had subsequently adsorbed to soil; and

- The groundwater analytical data indicated additional assessment down-gradient of the fuel dispensers was not warranted. While elevated dissolved-phase concentrations were observed in CPT-1A (up to 3,100 µg/L TPH-GRO), the concentrations were significantly lower than those observed in up-gradient (and most-impacted) well U-1R, which contained TPH-GRO at a concentration of 12,000 µg/L during the latest Sampling Event (First Quarter 2010) (Stantec, 2010).

In March 2010, Stantec submitted *Results of Flow and Transport Modeling and Off-Site Well Verification Activities* to ACEHS to assess the degradation of contaminants at or near the Site. The flow and transport model results supported the observed natural attenuation trends. In addition, results of the flow and transport model also indicated that while down-gradient migration may be occurring, the extent of down-gradient migration over a ten-year period would be limited (source-area impact estimated to migrate approximately 80 feet down-gradient of well U-1R). The model indicated concentrations of TPH-GRO in well U-1R would naturally attenuate to approximately 900 µg/L in 2017; concentrations of ethylbenzene in well U-1R would naturally attenuate to approximately 250 µg/L in 2017; and concentrations of total xylenes in well U-1R would naturally attenuate to non-detect by 2016 (Stantec, 2011).

Stantec has attempted to verify the existence of all previously identified wells determined as being located within 1,000 feet of the Site. Of the six irrigation wells identified in GSI's 1992 *Well Installation Report*, four wells were determined to be located within 1,000 feet of the Site. Stantec's well investigation performed between October and December 2010 indicated that three of the four identified wells were no longer present; while the one well whose fate could not be determined (S32W7F2 at 15594 Sharon Street) is located approximately 550 feet northeast (hydraulically up-gradient) of the Site. Stantec also determined that of the 39 water supply wells identified in Delta's 2006 *Sensitive Receptor Report*, only four of the wells were located within 0.5 miles of the Site, and none were located within 1,000 feet of the Site. Accordingly, Stantec concluded that none of the previously identified wells represented likely potential receptors to dissolved-phase petroleum hydrocarbons originating from the Site. Based on the results of the flow and transport modeling and the lack of nearby water supply wells, Stantec recommended natural attenuation with long-term groundwater monitoring as the preferred remedial approach, as proposed in Stantec's *Additional Assessment Report and Remedial Action Plan*, dated August 16, 2010 (Stantec, 2011).

2.3 SITE GEOLOGY AND HYDROGEOLOGY

2.3.1 Topographic Setting

The Site and surrounding area are relatively flat with an elevation of approximately 40 feet above mean sea level (msl). The United States Geological Survey (USGS) topographic map of the Site and adjoining quadrangle (7.5-minute quadrangle, Hayward, California, 2012; 7.5-

minute quadrangle, San Leandro, California, 2012) were reviewed to identify any surface water within a 0.5-mile radius of the Site. The nearest surface water body is San Lorenzo Creek, located approximately 500 feet southeast to southwest (down-gradient) of the Site. In the vicinity of the Site, San Lorenzo Creek is a concrete-lined channel (Stantec, 2010).

2.3.2 Geologic Setting

Generalized geologic cross-sections A-A' and B-B' are shown on ***Figure 3*** and ***Figure 4***, respectively. These cross-sections show Site lithology, groundwater elevation, soil sample depth locations; and TPH-GRO, benzene, and methyl tertiary-butyl ether (MtBE) analytical results for soil and groundwater samples.

The Site is located on the East Bay Plain, which gently slopes westward from the foothills to the east towards the San Francisco Bay. The area is underlain by Holocene-age alluvial deposits. Sand and gravel stream channel deposits are mapped along the alignment of San Lorenzo Creek, which is located approximately 500 feet south of the Site. As outlined in the California Department of Water Resources (DWR) 2003 *California Groundwater: Bulletin 118*, the Site lies within the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain of Quaternary Age, bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rocks, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Subbasin extends beneath San Francisco Bay to the west (Stantec, 2010).

Previous subsurface studies indicate that the Site is underlain by highly permeable soils to depths of 15 to 20 feet bgs. Underlying these soils are low permeability soils with occasional sand lenses to the maximum depth explored of approximately 30 feet bgs. Based on the July 2010 assessment activities conducted by Stantec, the subsurface generally consists of sands to depths of 12 feet bgs, with silt and clay layers being encountered beneath the sand layer to a depth of 21 to 24 feet bgs. Below these fine-grained layers, a sand layer was observed. In boring GP-7, a fat clay was observed below the sand layer at a depth of 24 feet bgs. Based on the electronic log generated in July 2010 during the advancement of boring CPT-1, the subsurface generally consists of clay/silt mixtures, with sand layers at depths of approximately 20 to 22 feet, 31 to 34 feet, and at 42 feet bgs (Stantec, 2010).

2.3.3 Hydrogeological Setting

The historical depth-to-groundwater (DTW) at the Site has ranged from 10.46 feet below top of casing (TOC) (U-7; First Quarter 1998) to 19.28 feet below TOC (U-2; Third Quarter 1994). Well construction details and the most recent DTW measurements (January 30, 2013) for each well are presented in ***Table 3***. The current DTW is measured across the screen interval in wells U-1R, U-3R, U-2, U-4, U-5, U-6, and U-9; and above the screen interval and submerging the screen in wells U-7 and U-8. Current and historical groundwater elevation data are presented in ***Table 4***. A groundwater elevation contour map (based on January 30, 2013 data) is shown on ***Figure 5***. During the most recent groundwater monitoring event, the predominant direction of

groundwater flow beneath the Site was to the southwest at an approximate hydraulic gradient of 0.002 to 0.004 feet per foot (ft/ft), and DTW ranged from 13.77 to 17.23 feet below TOC. This is consistent with the historical direction of groundwater flow, as shown by the Rose Diagram on ***Figure 6*** illustrating the generally southwest direction of groundwater flow from Fourth Quarter 2008 to present.

3.0 Constituents of Concern

Only contaminants historically analyzed and detected in Site-related soil or groundwater samples are considered constituents of concern (COCs): TPH-GRO, BTEX compounds, and MtBE.

3.1 CONSTITUENTS OF CONCERN IN SOIL

A Site plan showing current and destroyed groundwater monitoring wells, GeoProbe®, and CPT soil borings is provided as ***Figure 2***. Historical soil sample analytical results are presented in ***Table 1***. Maximum soil concentrations have been reported on Site in the vicinity of and down-gradient of the current and former USTs on the southwestern portion of the Site (soil sample 4; and boreholes GP-4, U-3, and CPT-1A). Off-site soil concentrations have all been reported below LRLs.

Maximum soil concentrations are presented in the following table:

Constituent of Concern	**Concentration**[1] (mg/kg)	**Soil Sample / Borehole**	**Depth** (feet bgs)
TPH-GRO	1,620[1] / 1,600[2]	4[1] / GP-4	20[1] / 19.5
Benzene	4.5[3]	U-3	20
Toluene	37[3]	U-3	20
Ethylbenzene	26[2]	GP-4	19.5
Total xylenes	130[2]	GP-4	19.5
MTBE	0.0032[4]	CPT-1A	39.5

[1] = Reported during a 1987 subsurface investigation (GEOTEST, 1987)
[2] = Reported during a 2003 subsurface investigation (Delta, 2003)
[3] = Reported during a 1990 subsurface investigation (GSI, 1990)
[4] = Reported during a 2010 subsurface investigation (Stantec, 2010)

Soil concentrations in soil samples 2 and 4; and boreholes U-3, GP-4, and CPT-1 exceeded California Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs) for shallow and deep soils (for commercial/industrial use) where groundwater is a current or potential source of drinking water. The remainder of petroleum hydrocarbon constituents in all other soil sample locations were detected below respective ESLs or not detected above LRLs.

3.2 CONSTITUENTS OF CONCERN IN GROUNDWATER

During the most recent groundwater monitoring event (First Quarter 2013), groundwater samples were collected and analyzed for the presence of TPH-GRO, BTEX compounds, and fuel oxygenates, including MtBE, *tertiary*-butyl alcohol (TBA), *tertiary*-amyl methyl ether (TAME), ethyl *tertiary*-butyl ether (EtBE), di-isopropyl ether (DIPE), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (1,2-DBA), and ethanol.

A summary of First Quarter 2013 groundwater analytical results follows:

- **TPH-GRO** was detected in one Site well this quarter, at a concentration of 11,000 µg/L (well U-1R), which is within historical limits for this well.
- **Benzene** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.
- **Toluene** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.
- **Ethylbenzene** was detected in one Site well this quarter, at a concentration of 830 µg/L (well U-1R), which is within historical limits for this well.
- **Total Xylenes** were not detected above the LRLs (1.0 µg/L and 12 µg/L) in any Site well sampled this quarter. The concentration in well U-1R (below the LRL of 12 µg/L) is a historical low.
- **MtBE** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.
- **TBA** was not detected above the LRLs (10 µg/L and 120 µg/L) in any Site well sampled this quarter.
- **TAME** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.
- **EtBE** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.
- **DIPE** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.
- **Ethanol** was not detected above the LRLs (250 µg/L and 3,100 µg/L) in any Site well sampled this quarter.
- **1,2-DCA** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.

- **1,2-DBA** was not detected above the LRLs (0.50 µg/L and 6.2 µg/L) in any Site well sampled this quarter.

- The elevated LRLs for benzene, toluene, total xylenes and MtBE were reported in well U-1R.

Current and historical groundwater analytical results are included in ***Table 2*** through ***Table 5***. A figure showing the latest groundwater analytical data plotted on a Site map is included as ***Figure 7***. A TPH-GRO isoconcentration map is shown on ***Figure 8***. Isoconcentration maps for benzene and MtBE were not created as concentrations were reported LRLs for both analytes. Hydrographs based on current and historical groundwater elevations and analytical results are included in ***Appendix C***. TPH-GRO, benzene, and MtBE are included on all hydrographs.

During First Quarter 2013, concentrations of TPH-GRO and ethylbenzene were reported above ESLs where groundwater is a current or potential source of drinking water as follows:

- TPH-GRO concentration exceeded the ESL of 100 µg/L in well U-1R (11,000 µg/L); and

- Ethylbenzene concentration exceeded the ESL of 30 µg/L in well U-1R (830 µg/L).

Maximum TPH-GRO and BTEX compound concentrations at the Site have historically been observed in wells U-1R and U-3R, which are located approximately 20 feet and 75 feet down-gradient of the current USTs, respectively. Current and historical groundwater quality data indicate that the dissolved-phase petroleum hydrocarbon plume at the Site is well defined and stable or decreasing in size and concentration, with a historical low observed for total xylenes in well U-1R and all other detections within historical limits (Stantec, 2013).

Based on recent groundwater monitoring events, the petroleum hydrocarbon plume is defined laterally by concentrations reported below LRLs in down-gradient monitoring wells U-3R, U-6, U-7, U-8, and U-9; and in cross-gradient well U-5 (***Figure 7*** and ***Figure 8***). The source of the dissolved-phase plume and remaining hydrocarbons appear to be isolated within a small area of low residual mass in the vicinity of well U-1R.

4.0 Extent of Petroleum Hydrocarbons

4.1 VERTICAL EXTENT OF PETROLEUM HYDROCARBONS

A Site plan showing current and destroyed groundwater monitoring wells, GeoProbe®, and CPT soil borings is provided as ***Figure 2***. Historical soil sample analytical results are presented in ***Table 1***. Geologic cross-Sections A-A' and B-B' are shown on ***Figure 3*** and ***Figure 4***, respectively. These cross sections show Site lithology, first-encountered DTW measurements during drilling, soil sample depths, and TPH-GRO, benzene, and MtBE analytical results for select soil and groundwater samples collected during historical assessments.

The vertical extent of petroleum hydrocarbons in soil is delineated in the vicinity of current and former USTs on the southwestern portion of the Site. Concentrations were reported below ESLs in samples from the greatest depths explored in on-site borings U-2 (1990), U-4 (1990), GP-1 through GP-3 (2003), GP-5 (2003), GP-6 (2010), and GP-7 (2010). Concentrations were also reported below ESLs in samples from greatest depths explored in off-site borings U-5 though U-8 (1992) and U-9 (1993). Although concentrations were reported above ESLs in one soil sample from greatest depth explored in on-site boring GP-4 (2003), the soil sample collected 19.5 feet bgs is representative of dissolved-phase impact which had subsequently adsorbed to soil. The depth of the soil source in the vicinity of and down-gradient of the current and former USTs on the southwestern portion of the Site is limited from approximately 19.5 to 20 feet bgs.

The vertical extent of the dissolved-phase petroleum hydrocarbon plume is delineated. During the First Quarter 2013 groundwater monitoring event, DTW was observed within all screen intervals with the exception of wells U-7 and U-8. Although DTW was observed above screen intervals in wells U-7 and U-8 (approximately 1.23 and 0.09 feet above the screen intervals, respectively) during the First Quarter 2013 groundwater monitoring event, groundwater concentrations have been reported below LRLs in wells U-7 and U-8 since Third Quarter 2005 (Stantec, 2013).

4.2 LATERAL EXTENT OF PETROLEUM HYDROCARBONS

The lateral extent of petroleum hydrocarbons in soil is delineated in the vicinity of and down-gradient of the current and former USTs. Soil concentrations were reported below ESLs to the north in borings GP-1 (2003), GP-2 (2003), and GP-6 (2010); to the east by concentrations below ESLs in borings U-2 (1990) and GP-3 (2003); to the south by concentrations below ESLs in boring U-8 (1992); to the southwest by concentrations below ESLs in borings U-6 (1992), U-7 (1992), and U-9 (1993); and to the west by concentrations below ESLs in boring U-5 (1992). Although petroleum hydrocarbons have been reported above ESLs on the southwestern portion of the Site, petroleum hydrocarbons were detected above ESLs at depths (19.5 to 20 feet bgs)

below current DTW and are considered representative of dissolved-phase impact, which had subsequently adsorbed to soil.

5.0 Groundwater Concentration Trends

5.1 NATURAL ATTENUATION EVALUATION

An evaluation of monitored natural attenuation (MNA) involves assessing a variety of physical, chemical, and biological processes that, under favorable conditions, may effectively reduce the mass, toxicity, mobility, volume, or concentration of constituents in soil or groundwater. For petroleum hydrocarbons, intrinsic biodegradation is typically the most important natural attenuation mechanism for the reduction of concentrations in groundwater. Intrinsic biodegradation involves the transfer of energy in the form of electrons by microorganisms in the subsurface. Bacteria use petroleum hydrocarbon constituents such as total petroleum hydrocarbons (TPH), BTEX compounds, and MtBE as electron donors while dissolved oxygen (DO), nitrate (NO_3^-), ferric iron (Fe^{3+}), sulfate (SO_4^{2-},) and carbon dioxide (CO_2), in order of preference, act as electron acceptors.

The geochemical parameters measured at the Site include DO; ferrous iron (Fe^{2+}), a metabolite of ferric iron (Fe^{3+}) reduction; NO_3^-; SO_4^{2-}; CH_4, a metabolite of CO_2 reduction; alkalinity; total sulfide, a metabolite of SO_4^{2-} reduction; and oxygen-reduction potential (ORP). These parameters provide lines of evidence for evaluating MNA and determining the most likely biodegradation mechanisms utilized within the plume (e.g., Fe^{3+} reduction, SO_4^{2-} reduction, etc.). MNA parameters are summarized in ***Table 6***.

During First Quarter 2013, DO levels (post-purge) in the sampled wells ranged between 0.80 milligrams per liter (mg/L; well U-1R) and 2.3 mg/L (well U-7). The one Site well within the dissolved-phase petroleum hydrocarbon plume (well U-1R) exhibited a DO level indicative of an anaerobic environment, while the remaining wells exhibited DO levels indicative of an anaerobic to slightly aerobic environment.

ORP levels (post-purge) ranged between 84 millivolts (mV; wells U-3R and U-8) and 118 mV (well U-6), which is indicative of oxidizing conditions.

Alkalinity levels ranged from 240 mg/L as calcium carbonate ($CaCO_3$; well U-8) to 570 mg/L as calcium carbonate ($CaCO_3$) (well U-1R). The enrichment of alkalinity in the one well within the plume (well U-1R) suggests dissolved-phase petroleum hydrocarbons are being utilized as electron donors in biodegradation.

Concentrations of NO_3^- ranged from 1.4 mg/L (well U-1R) to 100 mg/L (well U-5). Concentrations of SO_4^{2-} ranged from 3.4 mg/L (well U-1R) to 51 mg/L (well U-5). Lower NO_3^- and SO_4^{2-} concentrations were found in the one well within the plume (well U-1R; and vice versa in wells outside the plume such as wells U-5, U-7, and U-8), indicating that NO_3^- and SO_4^{2-} are likely being utilized as electron acceptors for biodegradation of dissolved-phase petroleum hydrocarbons by indigenous microbes.

Concentrations of Fe^{2+} ranged from below the LRL of 100 µg/L (wells U-5 and U-7 through U-9) to 5,900 µg/L (well U-1R). Concentrations of methane (CH_4) ranged from below the LRL of 0.0010 µg/L (wells U-6 through U-9) to 4.1 mg/L (well U-1R). Higher concentrations of metabolic by-products Fe^{2+} and CH_4 were found within the one well within the plume (well U-1R; and vice versa in wells outside the plume). This indicates that Fe^{3+} and CO_2 reduction may be occurring within the plume.

Total sulfate concentrations in all seven Site wells sampled this quarter were below the LRL of 0.10 mg/L. It is difficult to draw a conclusion with no detections, but this may indicate that SO_4^{2-} reduction has just begun to occur within the plume at the Site.

The results suggest that subsurface conditions are favorable for intrinsic biodegradation of petroleum hydrocarbons by anaerobic degradation, which is likely contributing to some reduction in petroleum hydrocarbon concentrations at the Site. It appears that oxygen has been nearly consumed as an electron acceptor, and NO_3^- and Fe^{3+} reduction have likely become the dominant biodegradation processes within the dissolved-phase petroleum hydrocarbon plume (Stantec, 2013).

5.2 PLUME STABILITY TEST

To determine the overall concentration trend for the Site, an analysis of plume stability was conducted on wells with concentrations reported greater than WQOs (U-1R and U-3R) within the last 4 quarterly sampling and monitoring events. TPH-GRO and ethylbenzene concentrations were reported greater than WQOs in well U-1R within the last 4 quarterly sampling and monitoring events, and TPH-GRO concentrations were reported greater than WQOs in well U-3R within the last 4 quarterly sampling and monitoring events; therefore, analyses were conducted for TPH-GRO and ethylbenzene concentrations in well U-1R, and for TPH-GRO concentrations in well U-3R. The plume stability analysis was conducted using the Mann-Kendall Statistical Test (Wisconsin Department of Natural Resources, 2004), which indicates if chemical concentrations over time are increasing, decreasing, or stable. Concentrations reported below LRLs were decreased by one-half (1/2) of the respective LRL values prior to being used as input data for the Mann-Kendall Test.

Plume stability test results are presented in the following table:

Well ID	TPH-GRO	Ethylbenzene
U-1R	Decreasing[1]	Decreasing[1]
U-3R	Non-Stable	NA[3]

1 = Trend ≥ 90% confidence level.
3 = Concentrations reported less than WQOs since Third Quarter 2007.

The Mann-Kendall Test indicated that the dissolved-phase concentrations of TPH-GRO were decreasing in well U-1R; and non-stable in well U-3R. Concentrations of ethylbenzene were

decreasing in well U-1R; and reported less than the respective WQO in well U-3R since Third Quarter 2007.

Mann-Kendall test results are presented in ***Appendix D***.

5.3 TIMEFRAME TO MEET WATER QUALITY OBJECTIVES

An analysis was conducted to determine the time it will take for the dissolved-phase petroleum hydrocarbon concentrations in the source area to meet the water quality objectives (WQOs).

5.3.1 Assumptions

Attenuation of dissolved-phase hydrocarbon concentrations at fuel hydrocarbon sites generally follows a first-order decay trend once the majority of hydrocarbon source material has been removed. As a result, decay rates can be estimated for wells within a plume using first-order trend graphs. The decay rates can then be subsequently used to estimate plume lifetime.

To be consistent with United States (US) Environmental Protection Agency (EPA) terminology, these decay rates will be referred to as point decay rate constants. A point decay rate is specific to the petroleum hydrocarbon and well for which it was calculated and should not be extrapolated to other wells at the Site or other petroleum hydrocarbons in any well. The point decay rate constant is the slope of the regression line, provided the slope is negative.

Point decay rates can be used to estimate how quickly WQOs will be met at a particular point within the plume. Although a single point decay rate cannot be used to estimate the trends (i.e., increasing or decreasing concentrations) or persistence of an entire plume, multiple point decay rates calculated for wells throughout the plume can be evaluated as a group to determine the general trend of the plume. Point decay rate constants represent the change in source strength over time (if the source is still present) with contribution from other attenuation processes such as dispersion and biodegradation (Newell et al., 2002).

5.3.2 Model Results

Hydrographs based on current and historical groundwater elevations and TPH-GRO, benzene, and MtBE analytical results for wells that were sampled during First Quarter 2013 are included in ***Appendix C***. The times remaining to reach WQOs for TPH-GRO and ethylbenzene in each well were calculated from the first-order decay equation, as shown in ***Appendix E***.

Timeframes were not calculated for wells with concentrations that exhibited increasing trends or did not exceed WQOs for TPH-GRO, BTEX compounds, and MtBE during First Quarter 2013, or in any of the three previous events. Concentrations reported below LRLs were decreased by 1/2 of the respective LRL values prior to being used as input data for the timeframe analysis.

To provide a range of timeframe estimates, calculations were performed using the mean concentration from the last four sampling events as well as the maximum concentration from the

last four sampling events. R^2 values provide an indication of the reliability of a relationship identified by regression analysis. The R^2 values for the analyses conducted at the Site ranged from 0.0284 to 0.6633.

A summary of the timeframe analysis results follows:

- TPH-GRO concentrations are estimated to reach WQOs in approximately 12.7 to 13.5 years in well U-1R, and 7.5 to 12.5 years in well U-3R.
- Ethylbenzene concentrations are estimated to reach WQOs in approximately 2.9 to 4.0 years in well U-1R.

As mentioned in Section 5.2, the Mann-Kendall Test indicated that the dissolved-phase concentrations of TPH-GRO were non-stable in well U-3R. However, using the point decay rate constant to estimate how quickly WQOs will be met at well U-3R, dissolved-phase concentrations of TPH-GRO are estimated to reach WQOs in approximately 7.5 to 12.5 years in well U-3R.

6.0 Potential Sensitive Receptors and Exposure Pathways

6.1 WATER SURVEY

6.1.1 Groundwater Wells

In 1992, GSI contacted the Alameda County Flood Control and Water Conservation District to identify water supply wells located within 0.5 miles of the Site. Of the six wells identified (all being classified as irrigation wells) as being located within 0.5-mile of the Site, five of the wells were determined to be located hydraulically up-gradient of the Site, while one well was determined to be located hydraulically cross-gradient of the Site. Of the up-gradient wells, one (identified in GSI's *Well Installation Report*, dated June 15, 1992 as well #1) appeared to be located immediately east of the Site (GSI, 1992).

In 2006, Delta conducted a sensitive receptor survey and reviewed DWR well completion logs to identify all wells located within 1 mile of the Site. Based on a review of Delta's reports, Delta appears to have identified 39 wells within 1 mile of the Site. The six wells identified by GSI in 1992 were not located during the 2006 review of DWR files. In addition, Delta mailed a Public Health Assessment Questionnaire to all properties, and owners of properties, located within 1,000 feet of the Site. Of the 164 questionnaires sent out, Delta received 13 responses and four returned by the United States Postal Service (USPS) due to invalid addresses. Of the 13 responses, none of the respondents indicated the presence of a sump on their properties (Delta, 2006).

Stantec has attempted to verify the existence of all previously identified wells determined as being located within 1,000 feet of the Site. Of the six irrigation wells identified in GSI's 1992 *Well Installation Report*, four wells were determined to be located within 1,000 feet of the Site. Stantec's well investigation activities performed between October and December 2010 indicated that three of the four identified wells were no longer present; while the one well whose fate could not be determined (S32W7F2 at 15594 Sharon Street) is located approximately 550 feet northeast (hydraulically up-gradient) of the Site. Stantec also determined that of the 39 water supply wells identified in Delta's 2006 *Sensitive Receptor Report*, only four of the wells were located within 0.5 miles of the Site, and none were located within 1,000 feet of the Site (Stantec, 2011).

6.1.2 Surface Water Bodies

The USGS topographic maps of the area (7.5-minute quadrangle, Hayward, California, 2012; 7.5-minute quadrangle, San Leandro, California, 2012) and aerial photos from Google Earth® were reviewed to identify any surface water within a 0.5-mile radius of the Site. The nearest surface water body is San Lorenzo Creek, located approximately 500 feet southeast to

southwest (down-gradient) of the Site. In the vicinity of the Site, San Lorenzo Creek is a concrete-lined channel (Stantec, 2010).

6.2 POTENTIALLY EXPOSED POPULATIONS

6.2.1 On-Site Potential Populations

Based on the current and likely future use of the Site as commercial, the current or future potentially exposed on-site populations include commercial workers, customers, and construction workers. Of these receptors, commercial workers would have the longest exposure duration; therefore, evaluation of risk to commercial workers is conservatively representative of risk to customers and construction workers. The RWQCB defines a commercial/industrial worker as an on-site full-time employee who spends most of the work day conducting maintenance or manual labor activities outside, or as a worker who regularly performs grounds-keeping activities. However, the Site is an active petroleum fueling service station and that in itself presents a greater risk to potential on-site receptors than the soil source area and dissolved-phase petroleum hydrocarbon plume.

6.2.2 Off-Site Potential Populations

Based on the current and likely future use of the area in the vicinity of the Site as commercial and residential, the current or future potentially exposed populations include commercial workers, customers, construction workers, and residents. Of these receptors, commercial workers, customers, and residents would have the longest exposure duration; therefore, evaluation of risk to commercial workers, customers, and residents is conservatively representative of risk to construction workers.

6.2.3 Potential Sensitive Populations

Stantec conducted a survey to determine if any potential sensitive populations were located in the vicinity of the Site. Sensitive populations are people who would potentially be more susceptible to risks resulting from exposure to Site-related petroleum hydrocarbons such as school-age children, medically-compromised people, and the elderly.

The potential sensitive populations located within a 0.5-mile radius of the Site are listed in the following table:

Potential Sensitive Population	Address	Distance from Site (miles)	Direction from Site
San Lorenzo Unified School	15510 Usher Street, San Lorenzo	0.15	N
San Lorenzo High School	50 East Lewelling Boulevard, San Lorenzo	0.23	E-NE
Hesperian Elementary School	620 Drew Street, San Lorenzo	0.42	NE
Grant Elementary School	879 Grant Avenue, San Lorenzo	0.45	SW
Colonial Acres Elementary School	17115 Meekland Avenue, Hayward	0.50	SE

Five potentially sensitive populations (schools) were identified within a 0.5-mile radius of the Site. Distances ranged between 0.15 and 0.5 miles in north, northeast, east-northeast, southeast, and southwest directions. Grant Elementary School is located approximately 0.45 miles southwest (down-gradient) of the Site. Based upon the extent of the petroleum hydrocarbon plume as defined by the monitoring well network and the down-gradient distance to an identified sensitive population (0.45 miles southwest), potentially sensitive receptors are not expected to be impacted by the dissolved-phase petroleum hydrocarbon plume associated with the Site (***Figure 7*** and ***Figure 8***).

6.3 COMPLETE AND POTENTIALLY COMPLETE EXPOSURE PATHWAYS

An exposure pathway is considered complete or potentially complete if it meets four basic requirements: 1) presence of chemical sources; 2) release and transport within an environmental medium; 3) an exposure route; and 4) a receptor. A graphical representation of the Site conceptual model (SCM) for the Site is shown on ***Figure 9.***

Incomplete pathways are justified as follows:

- All exposure pathways for current or future off-site residents are considered incomplete based on the location of the soil source area, the stable and/or shrinking plume, and the absence of any nearby down-gradient water supply wells.

- The ingestion and dermal contact surface soil exposure pathways are considered incomplete for all human receptors due to the depth of the soil source area observed during previous investigations (approximately 19.5 to 20 feet bgs).

- The ingestion, dermal contact, and inhalation of outdoor particulates from excavated soil exposure pathways are considered incomplete for all human receptors as future excavation work is unlikely while the service station is active.

- The ingestion of groundwater and dermal contact with groundwater exposure pathways are considered incomplete for all human receptors as there is no mechanism for deliberate public consumption of the groundwater (no Site or nearby down-gradient water supply wells) and because excavation at or below the groundwater table (during the First Quarter 2013 groundwater monitoring event, DTW ranged from 13.77 to 17.23 feet below top-of-casing [TOC]) is unlikely.

- The soil gas and groundwater emission pathways (inhalation of indoor and outdoor air) are considered incomplete for all human receptors as there were no historic shallow (less than 10 feet bgs) petroleum hydrocarbon detections above ESLs in soil, and most recent DTW (First Quarter 2013 groundwater monitoring event) ranged from 13.77 to 17.23 feet below TOC.

7.0 Risk Analysis

An accurate vapor intrusion evaluation cannot be completed at this time at the Site due to the operating service station. Background vapors associated with station operation and visiting vehicles would interfere with any evaluation of the soil gas emission pathways.

Stantec believes the current use of the Site (active service station) are low due to the depth to remaining petroleum hydrocarbon-impacted soil (maximum impacts were observed from 19.5 to 20 feet bgs) with no shallow (less than 10 feet bgs) petroleum hydrocarbon detections above ESLs in soil, the isolated area of residual mass within the southwestern portion of the Site, and historical groundwater analytical data indicating the dissolved phase plume is stable and decreasing in size and concentration. Furthermore, dissolved-phase petroleum hydrocarbon concentrations are expected to reach WQOs in a reasonable timeframe (2.9 to 13.5 years). Flow and transport modeling has also been conducted for the Site, and results support the observed natural attenuation trends. In addition, results of the flow and transport model have also indicated that while down-gradient migration of dissolved-phase petroleum hydrocarbons may be occurring, the extent of down-gradient migration over a ten-year period would be limited (source-area impact estimated to migrate approximately 80 feet down-gradient of well U-1R).

8.0 Low-Threat Closure Evaluation

8.1 GENERAL CRITERIA

The LTCP Policy provides general criteria and media-specific criteria that must be satisfied for a case to be considered for closure. The general criteria are addressed in the following table:

Low Threat Closure Policy General Criteria	Site-Specific Information
a. The unauthorized release is located within the service area of a public water system.	**Yes.** The present and expected future source of drinking water is supplied by ACWD. Drinking water supply is allocated from local groundwater and surface water, and imported water (ACWD, 2013).
b. The unauthorized release consists only of petroleum.	**Yes.** The COCs associated with the Site are petroleum hydrocarbons including TPH-GRO, BTEX compounds, and MtBE.
c. The unauthorized ("primary") release from the UST system has been stopped.	**Yes.** ACEHS opened Case #RO0000344 for the Site in February 1988 based on petroleum hydrocarbon impact observed during UST removal and replacement in November and December 1987. The USTs removed in 1987 were the likely source of unauthorized release at the Site, and their removal and replacement stopped the unauthorized release. Evidence of this includes the dissolved phase petroleum hydrocarbon concentrations at the Site are stable and decreasing, indicating that there is no longer a continuous petroleum hydrocarbon source at the Site.
d. Free product has been removed to the maximum extent practical.	**Yes.** During the Fourth Quarter 1990 Sampling Event conducted on December 5, 1990 a measurable amount of free product was reported in well U-1 and continued to be measured in the well until the First Quarter 1993 Sampling Event conducted on February 12, 1993 when the well was successfully sampled. Free product was also reported in well U-1 during the Fourth Quarter 1993 sampling event conducted on December 2,

	1993. Free Product has not been measured in well U-1 or any other wells associated with the Site since First Quarter 1993.
e. A conceptual site model that assesses the nature, extent and mobility of the release has been developed.	**Yes.** This Low Threat Closure Request report contains necessary components of a conceptual site model, including but not limited to the nature (Section 3.0), extent (Section 4.0), and mobility (Section 5.0) of the release.
f. Secondary source has been removed to the extent practicable.	**Yes.** Historical remedial efforts at the Site have consisted of the removal of an unknown quantity of impacted soil and over excavation from the source area (former and current UST pit) on the southwestern portion of the Site.
g. Soil or groundwater has been tested for MTBE and results reported in accordance with the Health and Safety Code section 25296.15.	**Yes.** Results of the First Quarter 2013 Groundwater Monitoring and Sampling event showed MtBE was reported below LRLs in all wells sampled.
h. Nuisance as defined by Water Code section §13050 does not exist at the Site. A nuisance is defined as (1) is injurious to health, or is indecent or offensive to the senses, (2) affects at the same time an entire community or neighborhood, and (3) occurs during, or as a result of, the treatment or disposal of wastes.	**Yes.** A nuisance as defined by Water Code section §13050 does not exist at the Site.

8.2 MEDIA-SPECIFIC CRITERIA

The Low Threat Closure Policy also contains media-specific criteria for evaluating sites for case closure. Groundwater-specific criteria, vapor intrusion scenarios, and criteria for direct contact and/or outdoor air exposure are described in the LTCP (SWRCB, 2012a).

8.2.1 Groundwater-Specific Criteria

Media-specific criteria for groundwater have been categorized based on:

1. The length of contaminant plume;

2. Presence of free product;

3. Distance to nearest existing supply well or surface water body; and

4. Dissolved concentrations of benzene and MtBE.

Based on this, the Site conditions meet the groundwater-specific criteria under scenario #2 of the Low Threat Closure Policy. This scenario states the following:

- "*The contaminant plume that exceeds water quality objectives is less than 250 feet in length.*"

- "*There is no free product.*"

- "*The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.*"

- "*The dissolved concentration of benzene is less than 3,000 µg/L, and the dissolved concentration of MTBE is less than 1,000 µg/L.*"

As depicted on ***Figure 8***, results of the First Quarter 2013 monitoring event indicate that the dissolved-phase hydrocarbon plume for TPH-GRO is less than 100 feet in length; however, a conservative estimate of the contaminant plume is less than 250 feet in length.

Dissolved-phase benzene and MtBE concentrations have been reported below ESLs in Site wells since First Quarter 2008 (***Table 4***).

Free Product has not been measured in well U-1 or any other wells associated with the Site since First Quarter 1993 (***Table 4***).

As described in Section 6.1.1, four water supply wells for drinking water purposes had been identified within 1,000 feet of the Site; however, Stantec's well investigation activities performed between October and December 2010 indicated that three of the four identified wells were no longer present; while the one well whose fate could not be determined (S32W7F2 at 15594 Sharon Street) is located approximately 550 feet northeast (hydraulically up-gradient) of the Site.

8.2.2 Petroleum Hydrocarbon Vapor Intrusion to Indoor Air

As depicted on ***Figure 7*** and ***Figure 8***, results of the First Quarter 2013 monitoring event indicate that the dissolved-phase hydrocarbon plume is less than 100 feet in length; however, a conservative estimate of the contaminant plume is less than 250 feet in length. In addition, the soil gas and groundwater emission pathways (inhalation of indoor and outdoor air) are considered incomplete for all human receptors as the depth of the soil source on the southwestern portion of the Site appears to be limited from approximately 19.5 to 20 feet bgs,

and current DTW (January 30, 2013) is 13.77 to 17.23 feet below TOC. Therefore, Site conditions demonstrate that human health is protected from potential vapor intrusion to indoor air scenarios.

8.2.3 Direct Contact and Outdoor Air Exposure

Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following requirements:

a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the LTCP Table 1 (shown below) for the specified depth bgs.

b. Maximum concentrations of petroleum constituents in soil are less than levels that a site-specific risk assessment demonstrates will have no significant risk of adversely affecting human health.

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Table 1

Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health

Chemical	Residential		Commercial/ Industrial		Utility Worker
	0 to 5 ft bgs mg/kg	Volatilization to outdoor air (5 to 10 ft bgs) mg/kg	0 to 5 ft bgs mg/kg	Volatilization to outdoor air (5 to 10 ft bgs) mg/kg	0 to 10 ft bgs mg/kg
Benzene	1.9	2.8	8.2	12	14
Ethylbenzene	21	32	89	134	314
Naphthalene	9.7	9.7	45	45	219
PAH[1]	0.0063	NA	0.68	NA	4.5

Notes:
1. Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent (BaPe). Sampling and analysis for PAH is only necessary where soil as affected by either waste oil or Bunker C fuel.
2. The area of impacted soil where a particular exposure occurs is 25 by 25 meters (approximately 82 by 82 feet) or less.
3. NA= not applicable
4. mg/kg= milligrams per kilogram

As shown in ***Table 1***, historical benzene and ethylbenzene concentrations in soil have never exceeded the residential or commercial direct contact screening levels shown in the LTCP Table 1. PAHs have not been historically analyzed; however, during 1987 waste oil UST

replacement activities, a soil sample collected beneath the former waste oil UST did not report petroleum hydrocarbons above LRLs (GeoStrategies, Inc. [GSI], 1994b; GEOTEST, 1987).

During historical Site assessment activities, it does not appear that on-site soil samples were analyzed for naphthalene. However, the naphthalene concentration that would potentially be present in shallow subsurface soil could be back calculated by using the maximum historical TPH-GRO concentration in soil and by using the LUFT Manual average gasoline composition (SWRCB, 2012b; Table 13-1) of 0.25 percent naphthalene by weight and converting it to a mole fraction (0.0025). Then, in order for naphthalene to exceed the 45 mg/kg in soil direct-contact and outdoor-air exposure criteria for Commercial/Industrial listed in the LTCP Table 1 above, there would need to be a TPH-GRO concentration of 18,000 mg/kg or greater remaining on Site [(0.0025)*(TPH-GRO) = 45 mg/kg]. Since the highest reported TPH-GRO concentration on Site was 1,620 mg/kg in soil sample 4 at 20 feet bgs, November 19, 1987 (see ***Table 1***), naphthalene, if present, would have no significant risk of adversely affecting human health due to concentration and depth. Therefore, this Site meets requirement 1 for media-specific criteria for direct contact and outdoor air exposure.

9.0 Conclusions and Recommendations

9.1 CONCLUSIONS

Based on an evaluation of Site-specific data, this Site does not appear to pose a significant threat to human health, safety, or the environment in regards to groundwater-specific criteria, petroleum vapor intrusion to indoor air, or direct contact and outdoor air exposure. Site conditions meet the general and media-specific criteria established in the LTCP; they satisfy the case-closure requirements of Health and Safety Code section 25296.10; and they are consistent with Resolution 92-49 that requires that cleanup goals be met within a reasonable timeframe.

9.2 RECOMMENDATIONS

Based on the results and conclusions presented herein, Stantec recommends that the Site be considered for approval of low-threat closure, immediately discontinue the respective Monitoring and Sampling Program, and evaluate the Site for case closure.

Upon approval of this low-threat closure request, Stantec recommends that the nine wells associated with the Site (U-1R, U-2, U-3R, and U-4 through U-9) be properly destroyed.

10.0 References

Alameda County Planning Department, 1995, *Ashland and Cherryland Business Districts Specific Plan*, June 1.

ACWD, 2013, *Your Water*, internet webpage http://www.valleywater.org/Services/WhereDoesYourWaterComeFrom.aspx, access on March 21, 2013.

Delta, 2003, *Baseline Assessment Report*, December 10.

Delta, 2006, *Sensitive Receptor Report*, August 22.

Delta, 2007, *Monitoring Well Abandonment and Replacement Report*, August 27.

GEOTEST, 1987, *Mobile Laboratory Results Report for Unocal Station #760, 376 Lewelling Blvd., San Lorenzo*, November.

GSI, 1990, *Monitoring Well Installation Report*, November 16.

GSI, 1992, *Well Installation Report*, June 15.

GSI, 1993, *Well Installation Report*, August 9.

GSI, 1994a, *Aquifer Test Report*, March 7.

GSI, 1994b, *Remedial Action Plan for Unocal Service Station No. 5760, 376 Lewelling Boulevard, San Lorenzo, California*, April 21.

GSI, 1994c, *Soil Vapor Extraction Feasibility Study*, September 22.

PEG, 1994a, *Unocal Service Station 5760, 376 Lewelling Boulevard, San Lorenzo, California*, June 20.

PEG, 1994b, *Remedial Action Implementation Plan*, *Unocal Service Station 5760, 376 Lewelling Boulevard, San Lorenzo, California*, August 12.

PEG, 1994c, *Soil Vapor Extraction Feasibility Study, Unocal Service Station 5760, 376 Lewelling Boulevard, San Lorenzo, California*, September 22.

PEG, 1997a, *Remedial Action Performance Summary – October through December 1996*, February 12.

PEG, 1997b, *Quarterly Summary Report*, April 18.

WCC, 1988, *Well Installation Report*, March 25.

Newell, Charles J., Rifal, Hanadi S., Wilson, John T., Connor, John A., Aziz, Julia A., Suarez, Monica P., 2002, *Ground Water Issue, Calculation and First Order Rate Constants for Monitored Natural Attenuation Studies, EPA Document No. EPA/540/S-02/500*, November.

Stantec, 2010, *Additional Assessment Report and Remedial Action Plan*, August 16.

Stantec, 2011, *Results of Flow and Transport Modeling and Off-Site Well Verification Activities*, *76 Station No. 5760, 376 Lewelling Boulevard, San Lorenzo, California*, January 7.

Stantec, 2013, *First Quarter 2013 Semi-Annual Groundwater Monitoring Report*, March 15.

SWRCB, 2012a, Low-Threat Underground Storage Tank Case Closure Policy, May 1.

SWRCB, 2012b, Leaking Underground Fuel Tank Guidance Manual, September 2012.

WCC, 1988, *Well Installation, Unocal Service Station, 376 Lewelling Boulevard (at Usher), San Lorenzo, California*, March 25.

Wisconsin Department of Natural Resources, 2004, *Mann-Kendall Test – How to Apply Results*, Originally Published in ReNews PUB-RR-716.

11.0 Limitations and Certification

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the Site. It was prepared for the exclusive use of EMC for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the Site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

Prepared by:

Clark Maki
Engineering Project Specialist

Reviewed by:

Sean Coyle
Project Manager

All information, conclusions, and recommendations provided by Stantec in this document regarding the Subject Property have been prepared under the supervision of and reviewed by the Licensed Professional whose signature appears below:

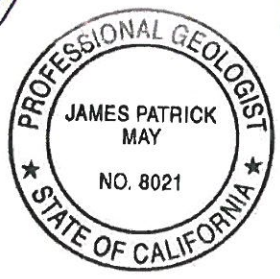
Licensed Approver:

Name: James May, P.G.

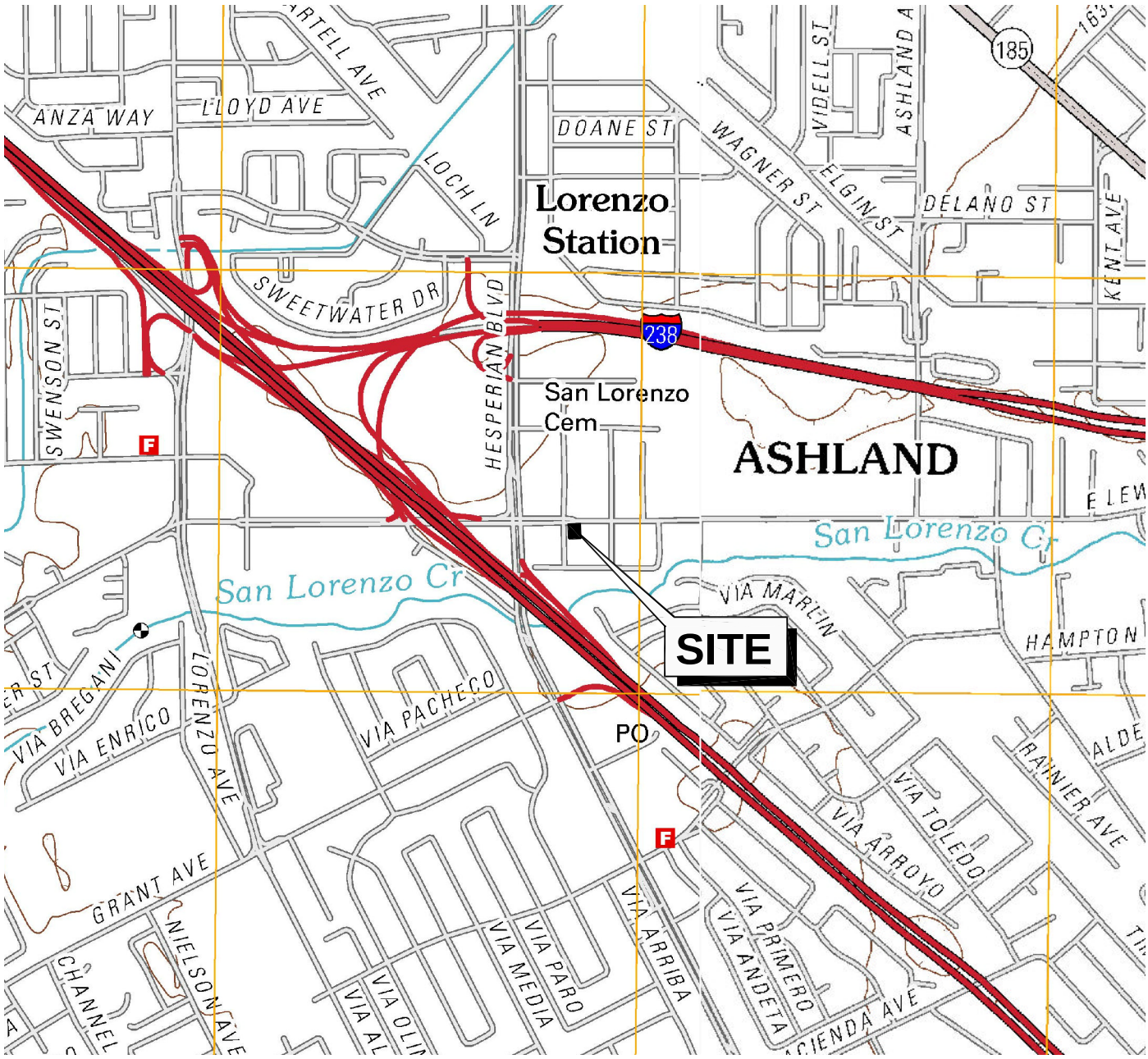
Signature: James P. May

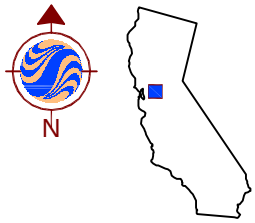
Date: 16 APRIL 2013

Stamp:



Figures





CALIFORNIA

1 1/2 0 1

SCALE IN MILES

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 MINUTE QUADRANGLES;
HAYWARD, CALIFORNIA; 2012 AND SAN LEANDRO, CALIFORNIA; 2012

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

FOR:			FIGURE:
376 LEWELLING BOULEVARD SAN LORENZO, CALIFORNIA		SITE LOCATION MAP	1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	EEO/MRK	SC	03/08/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\GWM\2013\1Q13\Figures\Cadd\351561 1Q13.dwg|jopalekopsahl|Mar 08, 2013 at 13:28|Layout: Fig 1_SLM

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- DESTROYED MONITORING WELL
- GEOPROBE SOIL BORING (APPROXIMATE LOCATION)
- EXCAVATION SOIL SAMPLE (APPROXIMATE LOCATION)
- CONE PENETRATION TEST (APPROXIMATE LOCATION)
- A — CROSS-SECTION LOCATOR

LEWELLING BOULEVARD

DRIVE

DRIVE

DRIVE

DRIVE

76-BRANDED SERVICE STATION #5760

CANOPY

DISPENSER ISLANDS

GP-1

GP-2

GP-6

STATION BUILDING

SP-1

SP-2

SP-3

SP-4

U-1R

U-2

U-3R

U-3

U-4

U-5

U-6

U-7

U-8

U-9

WO1

USTs

GP-3

GP-4

GP-5

GP-7

CPT-1

CPT-1A

U-1

PARKING

PLANTER

PARKING

A

A'

B

B'

PETE'S TRANSMISSION SERVICE

APARTMENT BUILDING

APARTMENT BUILDING

APARTMENT BUILDING

APARTMENT BUILDING

USHER STREET

RESIDENTIAL AREA

N

0 30 60

APPROXIMATE SCALE IN FEET

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

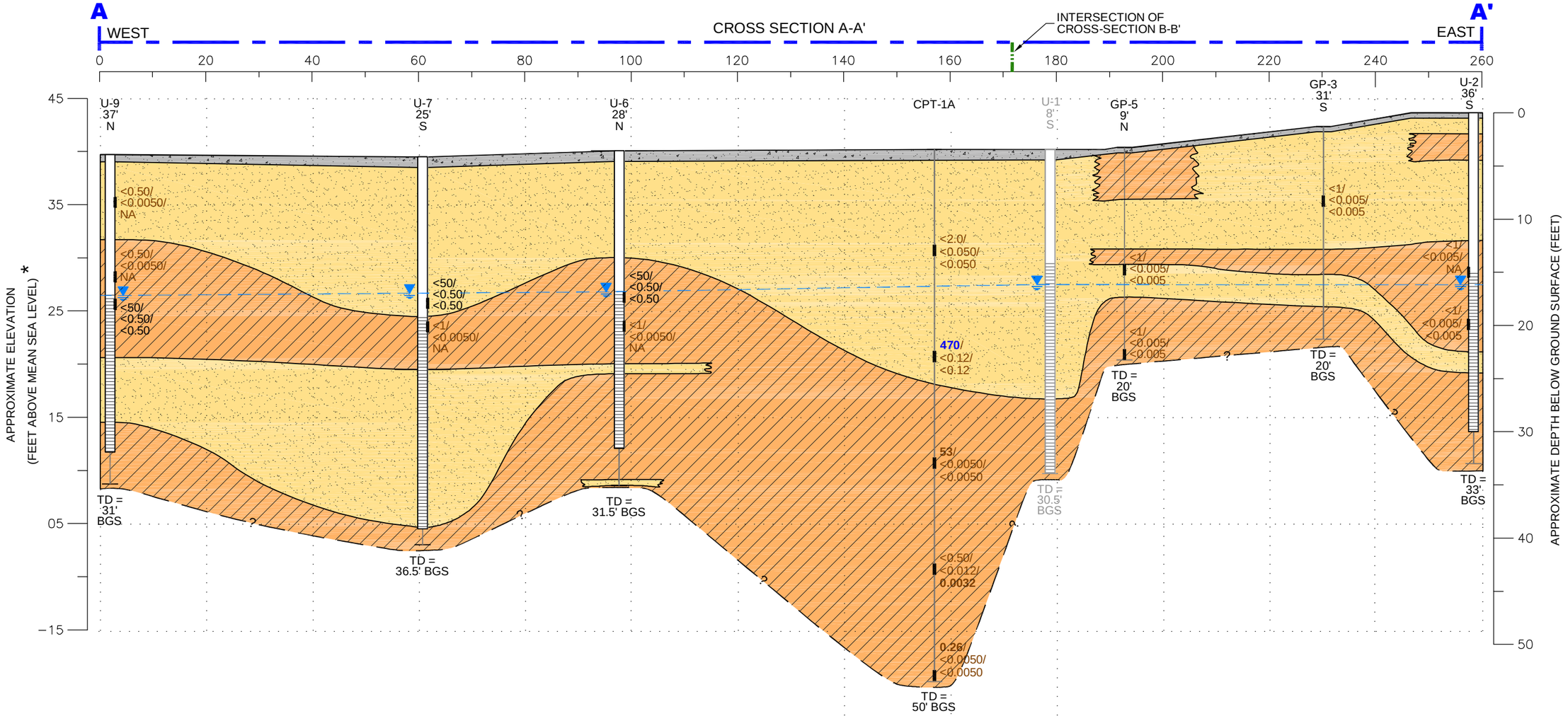
FOR:
376 LEWELLING BOULEVARD
SAN LORENZO, CALIFORNIA

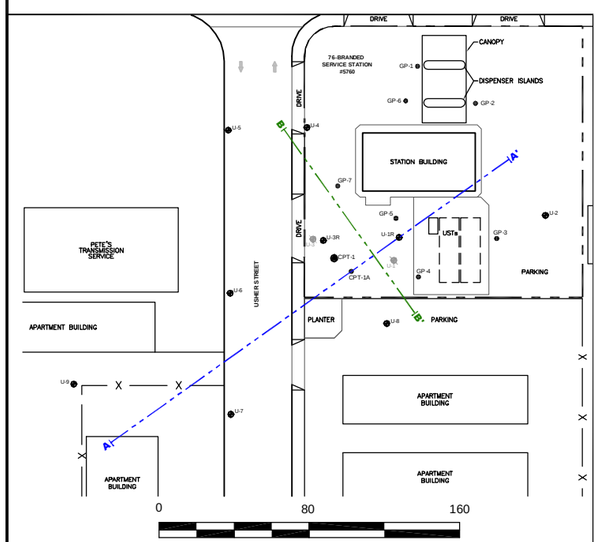
SITE PLAN SHOWING
CROSS-SECTION LOCATIONS

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	CM	SC	04/05/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\Figures\351561_2013.dwg|jopalekopsahl|Apr 16, 2013 at 15:05|Layout: Fig 2_SP





LEGEND

MONITORING WELL

U-9
37'
N

LOCATION NAME
PROJECTION DISTANCE
PROJECTION DIRECTION

BLANK CASING

DEPTH-TO-GROUNDWATER (01/30/2013)

<50/ <0.50/ <0.50

SCREEN INTERVAL

<0.50/ <0.0050/ NA

TPH-GRO/ BENZENE/ MtBE IN GROUNDWATER (µg/L)

TPH-GRO/ BENZENE/ MtBE IN SOIL (mg/kg)

SOIL BORING

GP-5
31'
N

<1.0/ <0.005/ <0.005

TD	TOTAL DEPTH
BGS	BELOW GROUND SURFACE
µg/L	MICROGRAMS PER LITER
mg/kg	MILLIGRAMS PER KILOGRAM
TPH-GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
MtBE	METHYL TERTIARY-BUTYL ETHER
?	UNCERTAINTY WITH DEPTH

CONCRETE/ ASPHALT

COARSE-GRAINED SOILS (SP, SW, SM, AND SC)

FINE-GRAINED SOILS (ML,CL, AND CH)

NOTES

BOLD TEXT DENOTES CONCENTRATIONS EXCEEDING LABORATORY REPORTING LIMITS (LRLs).

BLUE TEXT DENOTES DETECTED CONCENTRATIONS EXCEEDING ENVIRONMENTAL SCREENING LEVELS (ESLs).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD-SAN FRANCISCO BAY REGION ESLs FOR COMMERCIAL-INDUSTRIAL LAND USE:
100 µg/L (TPH-GRO)/ 1 µg/L (BENZENE) / 5 µg/L (MtBE)
83 mg/kg (TPH-GRO)/ 0.044 mg/kg (BENZENE) / 0.023 mg/kg (MtBE)

0 10
0 20
APPROXIMATE SCALE IN FEET

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX: (916) 861-0430

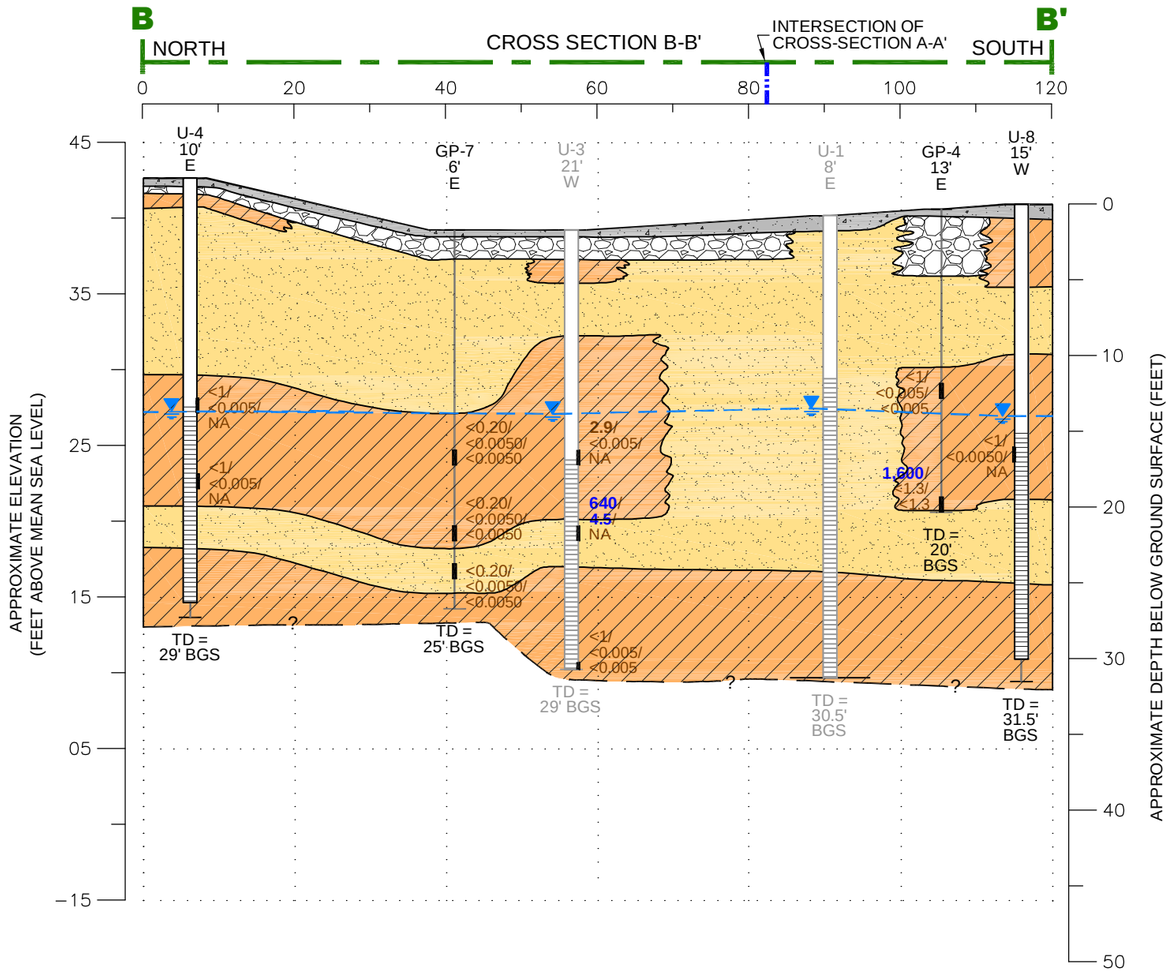
FOR: 376 LEWELLING BOULEVARD SAN LORENZO, CALIFORNIA

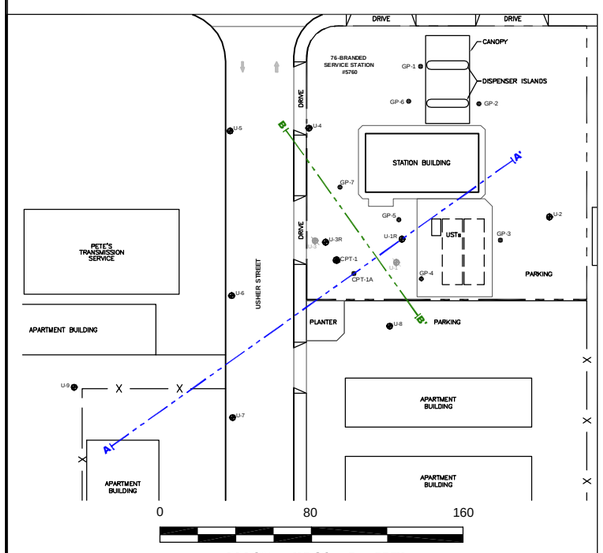
GENERALIZED GEOLOGIC CROSS-SECTION A-A'

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	CM	SC	04/05/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\Figures\351561_XS-2013.dwg|jopalekopsahl|Apr 16, 2013 at 15:06|Layout: Fig 3_XS-A





LEGEND

MONITORING WELL

U-8
15'
W

LOCATION NAME
PROJECTION DISTANCE
PROJECTION DIRECTION

BLANK CASING

DEPTH-TO-GROUNDWATER (01/30/2013)

SCREEN INTERVAL

<50/ <0.50/ <0.50

<1/ <0.050/ NA

TPH-GRO/ BENZENE/ MtBE IN GROUNDWATER (µg/L)

TPH-GRO/ BENZENE/ MtBE IN SOIL (mg/kg)

SOIL BORING

GP-7
6'
E

<0.20/ <0.0050/ <0.0050

CONCRETE/ ASPHALT

COARSE-GRAINED SOILS (SP, SW, SM, AND SC)

FINE-GRAINED SOILS (ML,CL, AND CH)

FILL

TD	TOTAL DEPTH
BGS	BELOW GROUND SURFACE
µg/L	MICROGRAMS PER LITER
mg/kg	MILLIGRAMS PER KILOGRAM
TPH-GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
MtBE	METHYL TERTIARY-BUTYL ETHER
?	UNCERTAINTY WITH DEPTH

NOTES

BOLD TEXT DENOTES CONCENTRATIONS EXCEEDING LABORATORY REPORTING LIMITS (LRLs).

BLUE TEXT DENOTES DETECTED CONCENTRATIONS EXCEEDING ENVIRONMENTAL SCREENING LEVELS (ESLs).

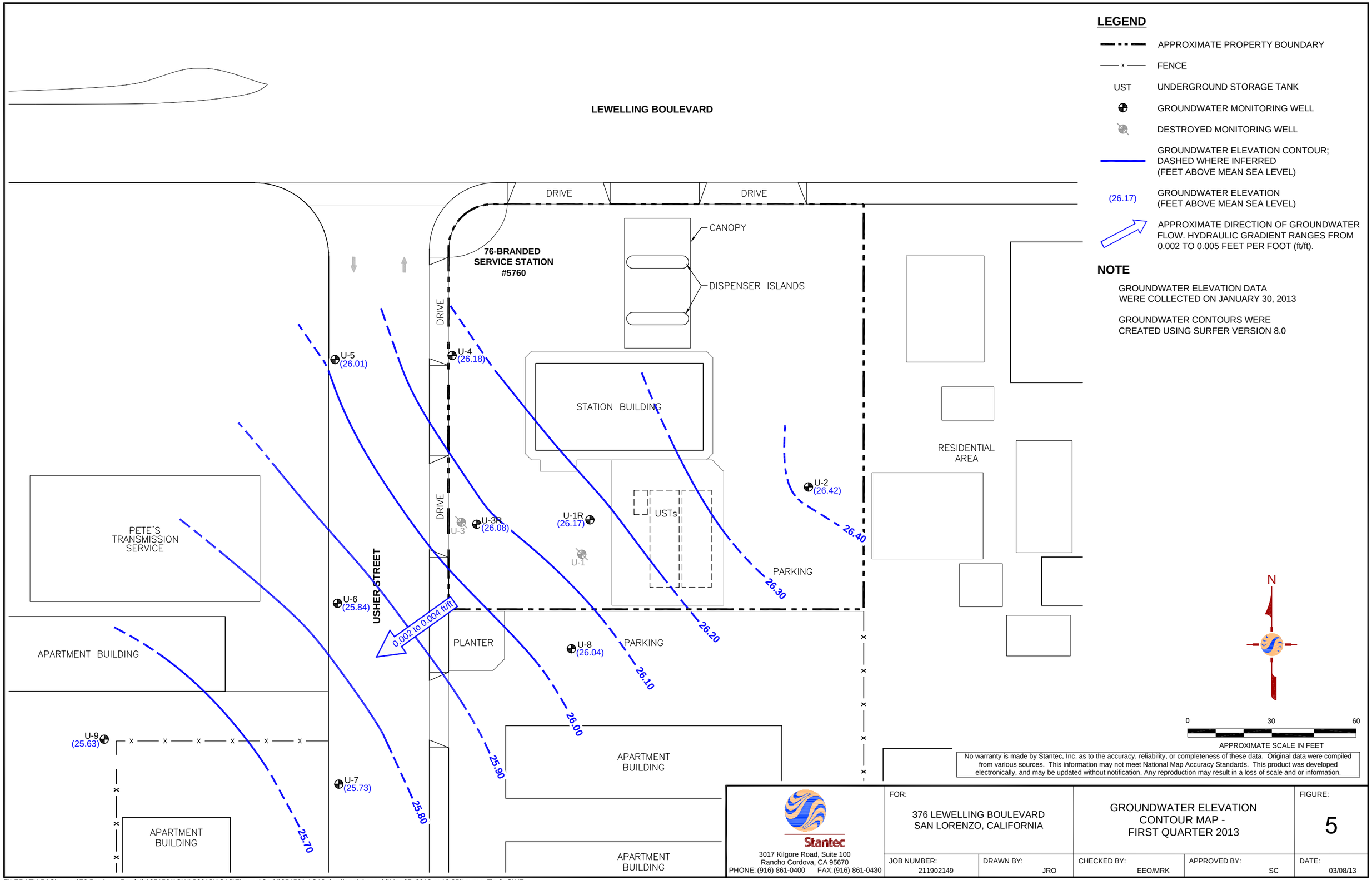
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD-SAN FRANCISCO BAY REGION ESLs FOR COMMERCIAL-INDUSTRIAL LAND USE:
100 µg/L (TPH-GRO)/ 1 µg/L (BENZENE) / 5 µg/L (MtBE)
83 mg/kg (TPH-GRO)/ 0.044 mg/kg (BENZENE) / 0.023 mg/kg (MtBE)

0 10
0 20
APPROXIMATE SCALE IN FEET

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

FOR:			FIGURE:
376 LEWELLING BOULEVARD SAN LORENZO, CALIFORNIA		GENERALIZED GEOLOGIC CROSS-SECTION B-B'	4
JOB NUMBER: 211902149	DRAWN BY: JRO	CHECKED BY: CM	APPROVED BY: SC	DATE: 04/05/13

FILEPATH:P:\Chevron\76 Products Portfolio\251561\Figures\251561_XS 2013 dwglionalekonsahl|Apr 16, 2013 at 15:06|Layout: Fig 4_XS B



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- DESTROYED MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR; DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)
- (26.17) — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW. HYDRAULIC GRADIENT RANGES FROM 0.002 TO 0.005 FEET PER FOOT (ft/ft).

NOTE

GROUNDWATER ELEVATION DATA WERE COLLECTED ON JANUARY 30, 2013

GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 8.0

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

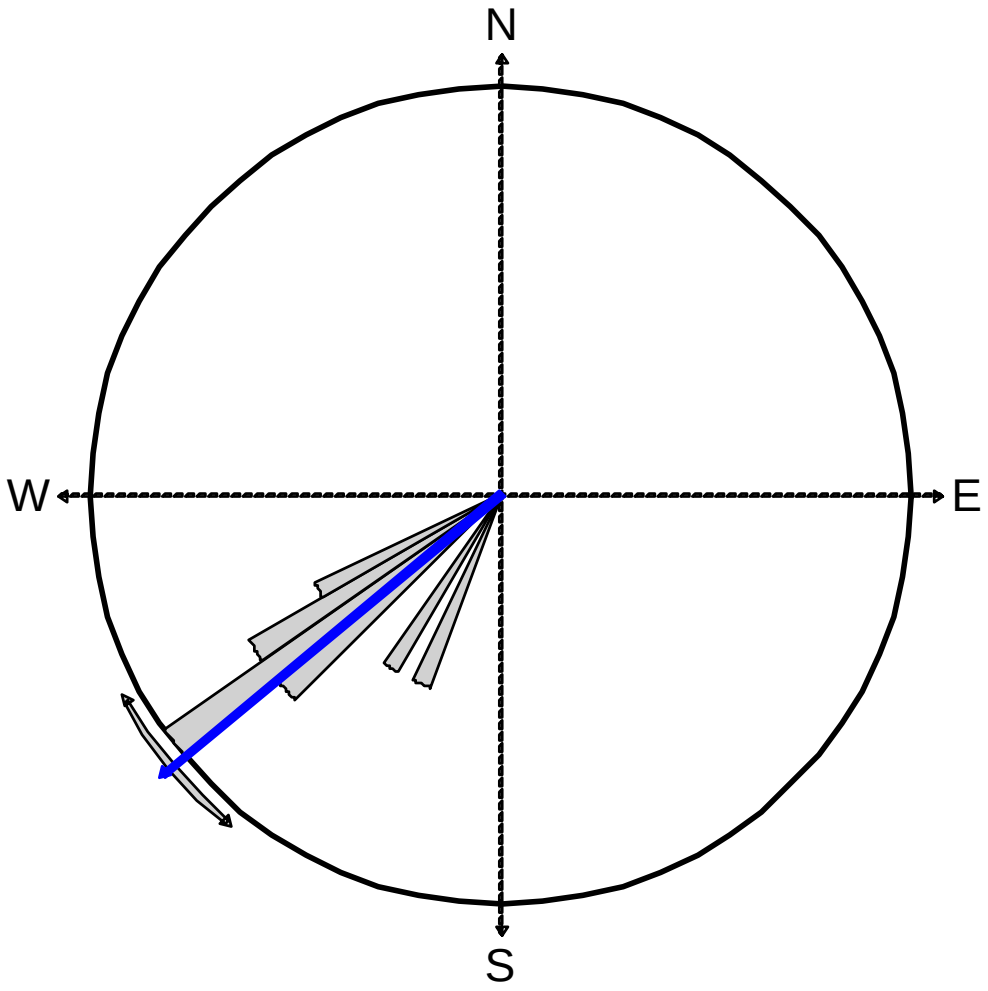
FOR: 376 LEWELLING BOULEVARD SAN LORENZO, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP - FIRST QUARTER 2013

FIGURE: 5

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	EEO/MRK	SC	03/08/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\GWM\2013\1Q13\Figures\Cadd\351561 1Q13.dwg|jopalekopsahl|Mar 07, 2013 at 12:25|Layout: Fig 2_GWE



Equal Area Plot

Number of Points	11
Class Size	5
Vector Mean	230.19
Vector Magnitude	10.78
Consistency Ratio	0.98

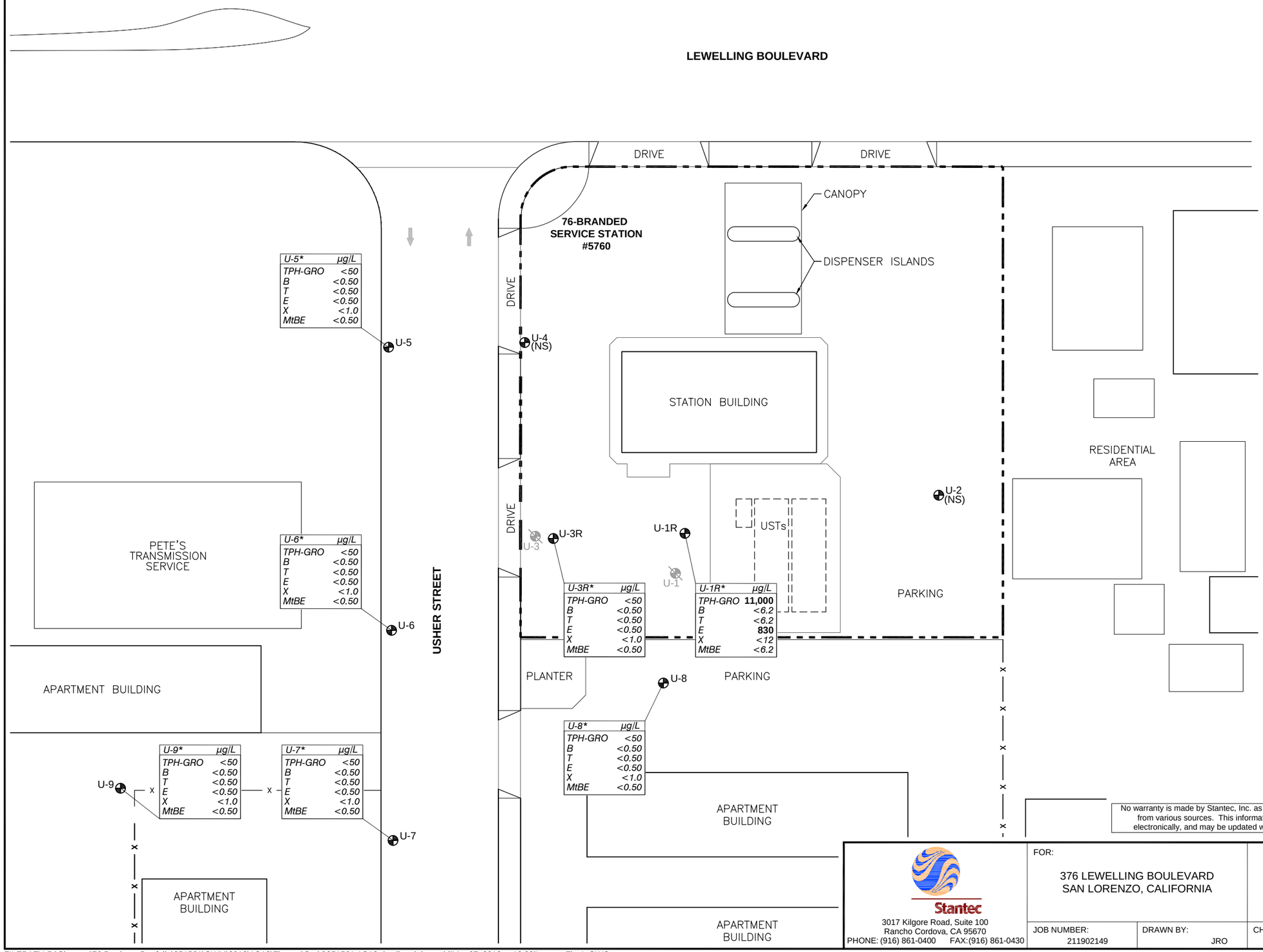
NOTE: ROSE DIAGRAM IS BASED ON THE DIRECTION OF GROUNDWATER FLOW BEGINNING FOURTH QUARTER 2008.

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

FOR:			FIGURE:
376 LEWELLING BOULEVARD SAN LORENZO, CALIFORNIA		ROSE DIAGRAM - FIRST QUARTER 2013	6

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	EEO/MRK	SC	03/08/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\GWM\2013\1Q13\Figures\Cadd\351561 1Q13.dwg|jopalekopsahl|Mar 07, 2013 at 12:40|Layout: Fig 3_ROSE



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- DESTROYED MONITORING WELL
- (NS) — NOT SAMPLED

ANALYTES

- *TPH-GRO* — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
- *B* — BENZENE
- *T* — TOLUENE
- *E* — ETHYLBENZENE
- *X* — TOTAL XYLENES
- *MtBE* — METHYL TERTIARY-BUTYL ETHER

* = ADDITIONAL ANALYSES WERE RUN AND COMPLETE RESULTS ARE PRESENTED IN TABLES 3 & 4 AND ATTACHMENT B

µg/L = MICROGRAMS PER LITER

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

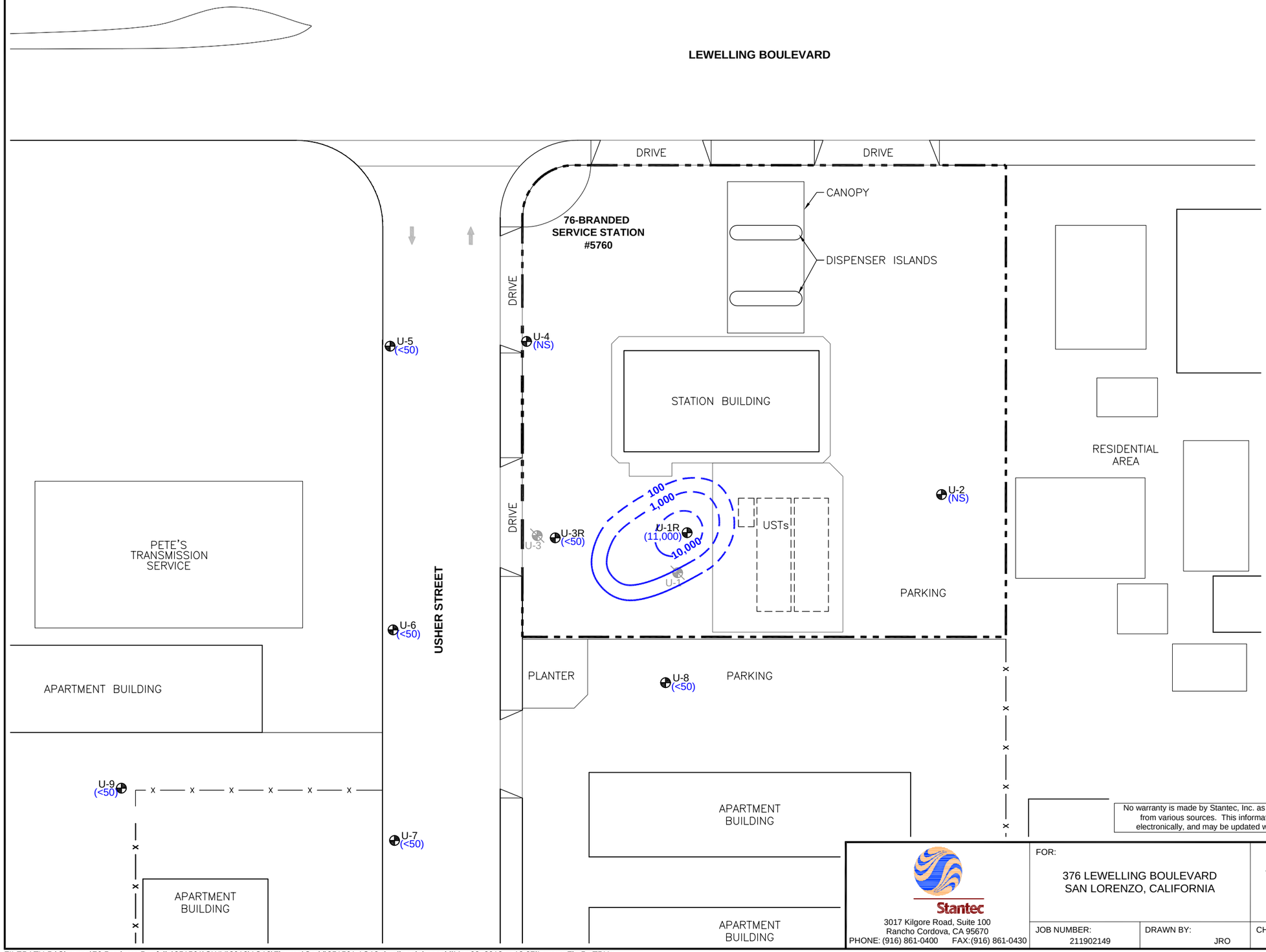
FOR:
376 LEWELLING BOULEVARD
SAN LORENZO, CALIFORNIA

SITE PLAN SHOWING GROUNDWATER CONCENTRATIONS - FIRST QUARTER 2013

FIGURE: 7

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	EEO/MRK	SC	03/08/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\GWM\2013\1Q13\Figures\Cadd\351561 1Q13.dwg|jopalekopsahl|Mar 07, 2013 at 13:32|Layout: Fig 4_GWC



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- DESTROYED MONITORING WELL
- (11,000) — TPH-GRO CONCENTRATION (µg/L)
- TPH-GRO CONTOUR; DASHED WHERE INFERRED
- (NS) — NOT SAMPLED
- TPH-GRO — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
- (µg/L) — MICROGRAMS PER LITER

N

0 40 80

APPROXIMATE SCALE IN FEET

Stantec
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
PHONE: (916) 861-0400 FAX:(916) 861-0430

FOR:
376 LEWELLING BOULEVARD
SAN LORENZO, CALIFORNIA

TPH-GRO ISOCONCENTRATION MAP - FIRST QUARTER 2013

FIGURE: 8

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211902149	JRO	EEO/MRK	SC	03/08/13

FILEPATH:P:\Chevron\76 Products Portfolio\351561\GWM\2013\1Q13\Figures\Cadd\351561 1Q13.dwg|jopalekopsahl|Mar 08, 2013 at 13:27|Layout: Fig 5 _TPHg

PRIMARY SOURCE	PRIMARY TRANSPORT MECHANISM	SECONDARY SOURCE	SECONDARY TRANSPORT MECHANISM	TERTIARY SOURCE	TERTIARY TRANSPORT MECHANISM	QUATERNARY SOURCE	EXPOSURE ROUTE	POTENTIALLY EXPOSED HUMAN RECEPTORS		
								Current or Future On-Site Commercial / Industrial Worker[1]	Current or Future Off-Site Commercial / Industrial Worker[1]	Current or Future Off-site Resident
Contaminants in Soil	Direct Soil Contact	Surface Soils (0-3 ft bgs)					Ingestion			
							Dermal Contact			
		Excavated Soils (Subsurface to Surface Soils)					Ingestion			
							Dermal Contact			
	Wind or Excavation Activities	Outdoor Air (Particulates)					Inhalation			
	Soil Gas Emission	Indoor Air (Volatiles)					Inhalation			
		Outdoor Air (Volatiles)					Inhalation			
	Infiltration and Percolation by Surface Water (e.g., rain, snow), Leading to Leaching, Solubilization, and Suspension	Groundwater					Ingestion			
							Dermal Contact			
			Volatilization	Air (Volatiles)			Inhalation			
			Surface Discharge	Surface Water			Ingestion			
							Dermal Contact			
					Volatilization	Air (Volatiles)	Inhalation			
					Fish Uptake	Fish	Ingestion			
				Sediments			Ingestion			
							Dermal Contact			
	Stormwater Runoff	Surface Water					Ingestion			
							Dermal Contact			
			Volatilization	Air (Volatiles)			Inhalation			
			Fish Uptake	Fish			Ingestion			
		Sediments					Ingestion			
							Dermal Contact			
Contaminants in Groundwater	Direct Groundwater Contact						Ingestion			
							Dermal Contact			
	Volatilization	Indoor Air (Volatiles)					Inhalation			
		Outdoor Air (Volatiles)					Inhalation			
	Surface Discharge	Surface Water					Ingestion			
							Dermal Contact			
			Volatilization	Air (Volatiles)			Inhalation			
			Fish Uptake	Fish			Ingestion			
		Sediments					Ingestion			

NOTES

1. Exposure pathway evaluations involving commercial/industrial workers are protective of construction workers because the duration of work for a construction worker would be significantly less than for a commercial/industrial worker.

LEGEND

- Exposure pathway is complete or potentially complete.
- Exposure pathway is incomplete.

DATE: 03/25/2013
DRAWN BY: CM
APPROVED BY: SC

376 Lewelling Boulevard
San Lorenzo, California

FIGURE 9
SITE CONCEPTUAL MODEL

Tables

Table 1
Historical Soil Analytical Data
376 Lewelling Boulevard
San Lorenzo, California

Consultant	Sample ID	Depth (feet bgs)	Date Collected	TOG (mg/kg)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MtBE (mg/kg)	DIPE (mg/kg)	EtBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	Ethanol (mg/kg)	Lead (mg/kg)
WCC	1	19	11/19/1987	NA	**12.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2	20	11/19/1987	NA	**838**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3	18	11/19/1987	NA	**51.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4	20	11/19/1987	NA	**1,620**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	WO1	7	11/19/1987	NA	<1.0	<0.01	<0.01	<0.05	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-2	15	8/6/1990	NA	<1	<0.005	<0.005	<0.005	**0.006**	NA	NA	NA	NA	NA	NA	NA	NA	NA
		20		NA	<1	<0.005	<0.005	<0.005	**0.006**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-3	15	8/6/1990	NA	**2.9**	<0.005	<0.005	**0.29**	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
		20		NA	**640**	**4.5**	**37**	**22**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA
		29		NA	<1	<0.005	**0.017**	**0.009**	**0.045**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-4	15	8/6/1990	NA	<1	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
		20		NA	<1	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-5	16.5	3/12/1992	NA	<1	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-6	16.5	3/13/1992	NA	<1	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-7	16	3/13/1992	NA	<1	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-8	16.5	3/12/1992	NA	<1	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-9	4.5	5/25/1993	NA	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11.5		NA	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta	GP-1	20	11/7/2003	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.010	NA	NA	<0.10	NA
	GP-2	19.5	11/7/2003	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.010	NA	NA	<0.10	NA
	GP-3	7	11/7/2003	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.010	NA	NA	<0.10	NA
	GP-4	12	11/7/2003	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.010	NA	NA	<0.10	NA
		19.5		NA	**1,600**	<1.3	<1.3	**26**	**130**	<1.3	<2.5	<1.3	<1.3	<6.3	NA	NA	<63	NA
	GP-5	11.5	11/7/2003	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.010	NA	NA	<0.10	NA
		19.5		<50	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.010	NA	NA	<0.10	<5.0

Table 1
Historical Soil Analytical Data
376 Lewelling Boulevard
San Lorenzo, California

Consultant	Sample ID	Depth (feet bgs)	Date Collected	TOG (mg/kg)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MtBE (mg/kg)	DIPE (mg/kg)	EtBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	Ethanol (mg/kg)	Lead (mg/kg)
Stantec	GP-6	6	7/8/2010	NA	<0.20	**0.0025**	**0.0026**	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
		21.5		NA	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
		24		NA	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
	GP-7	15	7/8/2010	NA	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
		20		NA	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
		22.5		NA	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
	CPT-1A	9.5	7/9/2010	NA	<2.0	<0.050	<0.050	<0.050	<0.010	<0.050	ND	ND	ND	ND	ND	ND	ND	ND
		19.5		NA	**470**	<.12	<0.12	**0.75**	**1.6**	<0.12	ND	ND	ND	ND	ND	ND	ND	ND
		29.5		NA	**53**	<0.0050	<0.0050	**0.76**	**1.5**	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
		39.5		NA	<0.50	<0.012	<0.012	<0.012	<0.025	**0.0032**	ND	ND	ND	ND	ND	ND	ND	ND
		49.5		NA	**0.26**	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	ND	ND	ND	ND	ND	ND	ND	ND
ESLs[1] - Shallow (≤ 3 m bgs)				**NS**	**83**	**0.044**	**2.9**	**3.3**	**2.3**	**0.023**	**NS**	**NS**	**NS**	**0.075**	**NS**	**0.0045**	**NS**	**320**
ESLs[2] - Deep (> 3 m bgs)				**NS**	**83**	**0.044**	**2.9**	**3.3**	**2.3**	**0.023**	**NS**	**NS**	**NS**	**0.075**	**NS**	**0.0045**	**NS**	**320**

Notes:
[1] California Regional Water Quality Control Board, San Francisco Bay Region, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Table A (shallow soils[≤ 3 m bgs]), February 2013.
[2] California Regional Water Quality Control Board, San Francisco Bay Region, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater,and table B (deep soils[> 3 m bgs]), February 2013.
Both ESLs for commercial/industrial land use only.
Bold text denotes detected concentrations.
Detected concentrations above ESLs are noted in **blue/bold** text

Abbreviations:
mg/kg = milligrams per kilogram
feet bgs = feet below ground surface
m bgs = meters below ground surface
NA = not analyzed
NS = no standard
TPH-GRO = total petroleum hydrocarbons as gasoline range organics
TOG = total oil and grease
MtBE = methyl *tertiary*-butyl ether
DIPE = di-isopropyl ether
EtBE = ethyl *tertiary*-butyl ether
TAME = *tertiary*-amyl methyl ether
TBA = tertiary-butyl alcohol
EDB = ethylene dibromide
1,2-DCA = 1,2-dichloroethane

Table 2
Historical Grab Groundwater Analytical Data
376 Lewelling Boulevard
San Lorenzo, California

Consultant	Sample ID	Depth (feet bgs)	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)
WCC	WO1	Unknown	11/19/1987	**505,000**	**18**	**3.4**	**13.5**	**135.2**	NA[1]
Stantec	GP-6	24-28	7/8/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50[2]
	GP-7	25-29	7/8/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50[2]
	CPT-1	19-22	7/9/2010	**3,100**	<1.0	<1.0	**150**	**130**	<1.0[2]
	DUP-1 (duplicate)	19-22	7/9/2010	**2,600**	<2.5	<2.5	**160**	**120**	<2.5[2]
	CPT-1	30-34	7/9/2010	**83**	<0.50	<0.50	**4.3**	**2.8**	<0.50[2]
	CPT-1	41-45	7/9/2010	**870**	**0.31**	**0.40**	**29**	**46**	<0.50[2]
ESLs[3]				**100**	**1.0**	**40**	**30**	**20**	**20**

Notes:
[1]Analyzed for halogenated volatile organics and were reported as non-detect.
[2]Analyzed for fuel oxygenates TBA, DIPE, TAME, ETBE, and ethanol, lead scavengers EDB and 1,2-DCA and were reported as non-detect.
[3]California Regional Water Quality Control Board, San Francisco Bay Region, 2013 Tier 1 ESLs, February 2013.
Bold text denotes detected concentrations.
Detected concentrations above ESLs are noted in **blue/bold** text

Abbreviations:
µg/L = micrograms per liter
TPH-GRO = total petroleum hydrocarbons as gasoline range organics
MtBE = methyl tertiary-butyl ether
NA = not analyzed

Table 3
Well Details / Screen Interval Assessment
First Quarter 2013
376 Lewelling Boulevard
San Lorenzo, California

Well ID	Date Installed	Well Type	Casing Diameter (inches)	Top of Casing (feet above msl)	Construction Well Depth (feet bgs)	Current Well Depth[1] (feet bgs)	Current Depth to Groundwater[1] (feet below TOC)	Screen Interval (feet bgs)	Screen Interval Assessment
U-1R	7/2007	Monitoring	2	42.65	25.00	24.58	16.48	10-25	Depth-to-groundwater within screen interval.
U-2	8/1990	Monitoring	3	43.65	30.00	29.83	17.23	15-30	Depth-to-groundwater data only. Depth-to-groundwater within screen interval.
U-3R	7/2007	Monitoring	2	41.58	25.00	24.62	15.50	10-25	Depth-to-groundwater within screen interval.
U-4	8/1990	Monitoring	3	42.69	28.00	24.85	16.51	15-28	Depth-to-groundwater data only. Depth-to-groundwater within screen interval.
U-5	3/1992	Monitoring	2	41.74	30.00	28.52	15.73	15-30	Depth-to-groundwater within screen interval.
U-6	3/1992	Monitoring	2	40.07	28.00	28.31	14.23	13-28	Depth-to-groundwater within screen interval.
U-7	3/1992	Monitoring	2	39.50	35.00	34.80	13.77	15-35	Depth-to-groundwater above screen interval.
U-8	3/1992	Monitoring	2	40.95	30.00	28.79	14.91	15-30	Depth-to-groundwater above screen interval.
U-9	5/1993	Monitoring	2	39.72	28.00	28.10	14.09	13-28	Depth-to-groundwater within screen interval.

Notes:
bgs = below ground surface
msl = mean sea level
TOC = top of casing
[1] = As measured prior to groundwater sampling on January 30, 2013.

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-1R														
7/6/2007	42.65	17.24	0	25.41	--	--	36000	7.2	8.3	2200	10000	--	ND<0.50	Gauged and sampled on 8/10/07
1/7/2008	42.65	16.51	0	26.14	0.73	--	28000	ND<12	ND<12	1900	7300	--	ND<12	
6/24/2008	42.65	17.56	0	25.09	-1.05	--	29000	ND<25	ND<25	2400	7900	--	ND<25	
8/29/2008	42.65	17.68	0	24.97	-0.12	--	35000	ND<25	ND<25	3000	8900	--	ND<25	
11/17/2008	42.65	18.10	0	24.55	-0.42	--	24000	ND<25	ND<25	2200	6300	--	ND<25	
3/13/2009	42.65	16.40	0	26.25	1.70	--	20000	ND<12	ND<12	1800	4400	--	ND<12	
5/1/2009	42.65	16.89	0	25.76	-0.49	--	17000	ND<12	ND<12	1600	3400	--	ND<12	
7/2/2009	42.65	17.35	0	25.30	-0.46	--	21000	ND<25	ND<25	1800	3500	--	ND<25	
1/18/2010	42.65	17.48	0	25.17	-0.13	--	12000	ND<12	ND<12	1200	1200	--	ND<12	
9/27/2010	42.65	17.42	0	25.23	0.06	--	11000	ND<12	ND<12	1200	970	--	ND<12	
3/8/2011	42.65	16.03	0	26.62	1.39	--	6000	ND<6.2	ND<6.2	750	270	--	ND<6.2	
8/24/2011	42.65	16.67	0	25.98	-0.64	--	8500[1]	ND<0.50	ND<0.50	990[1]	280[1]	--	ND<0.50	
2/16/2012	42.65	17.41	0	25.24	-0.74	--	2200[1]	0.55	ND<0.50	240[1]	140	--	ND<0.50	
8/6/2012	42.65	16.97	0	25.68	0.44	--	11000[1]	ND<2.5[1]	ND<2.5[1]	820[1]	58[1]	--	ND<2.5[1]	
1/30/2013	**42.65**	**16.48**	**0**	**26.17**	**0.49**	**--**	**11000[1]**	**ND<6.2[1]**	**ND<6.2[1]**	**830[1]**	**ND<12[1]**	**--**	**ND<6.2[1]**	
U-2														
8/23/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/5/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
3/4/1991	--	--	--	--	--	ND	--	ND	0.9	ND	2.6	--	--	
6/3/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
9/19/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/4/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
3/5/1992	--	--	--	--	--	ND	--	ND	0.36	ND	ND	--	--	
4/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
8/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
2/12/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/4/1993	41.62	17.59	0	24.03	--	ND	--	ND	ND	ND	ND	--	--	
9/9/1993	41.62	18.68	0	22.94	-1.09	ND	--	ND	ND	ND	ND	--	--	
12/2/1993	41.26	19.23	0	22.03	-0.91	ND	--	ND	ND	ND	ND	--	--	
3/9/1994	41.26	18.05	0	23.21	1.18	62	--	1.1	5.4	1.1	9.7	--	--	
4/13/1994	41.26	18.18	0	23.08	-0.13	ND	--	ND	ND	ND	ND	--	--	
6/9/1994	41.26	18.26	0	23.00	-0.08	ND	--	ND	ND	ND	ND	--	--	
9/7/1994	41.26	19.28	0	21.98	-1.02	ND	--	ND	0.63	ND	0.61	--	--	
12/5/1994	41.26	18.82	0	22.44	0.46	ND	--	ND	ND	ND	ND	--	--	
3/9/1995	41.26	16.96	0	24.30	1.86	ND	--	ND	ND	ND	ND	ND	--	
6/13/1995	41.26	16.71	0	24.55	0.25	ND	--	ND	ND	ND	ND	ND	--	
9/12/1995	41.26	17.80	0	23.46	-1.09	ND	--	ND	ND	ND	ND	ND	--	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-2 continued														
12/14/1995	41.26	18.18	0	23.08	-0.38	ND	--	ND	ND	ND	ND	ND	--	
3/20/1996	41.26	15.02	0	26.24	3.16	--	--	--	--	--	--	--	--	
9/24/1996	41.26	17.90	0	23.36	-2.88	--	--	--	--	--	--	--	--	
3/27/1997	41.26	16.45	0	24.81	1.45	ND	--	ND	ND	ND	ND	ND	--	
9/23/1997	41.26	18.40	0	22.86	-1.95	--	--	--	--	--	--	--	--	
3/10/1998	41.26	13.79	0	27.47	4.61	ND	--	ND	ND	ND	ND	ND	--	
9/4/1998	41.26	17.98	0	23.28	-4.19	--	--	--	--	--	--	--	--	
3/4/1999	41.26	14.96	0	26.30	3.02	ND	--	ND	ND	ND	ND	ND	--	
9/13/1999	41.26	18.25	0	23.01	-3.29	--	--	--	--	--	--	--	--	
3/21/2000	41.26	15.54	0	25.72	2.71	ND	--	ND	ND	ND	ND	ND	--	
9/18/2000	41.26	17.55	0	23.71	-2.01	--	--	--	--	--	--	--	--	
3/16/2001	41.26	17.06	0	24.20	0.49	--	--	--	--	--	--	--	--	
9/4/2001	41.26	18.39	0	22.87	-1.33	--	--	--	--	--	--	--	--	
3/18/2002	41.26	16.87	--	24.39	1.52	--	--	--	--	--	--	--	--	
9/17/2002	41.26	18.33	0	22.93	-1.46	--	--	--	--	--	--	--	--	
3/28/2003	41.26	16.95	0	24.31	1.38	--	--	--	--	--	--	--	--	
9/5/2003	41.26	18.00	0	23.26	-1.05	--	--	--	--	--	--	--	--	Monitored Only
3/4/2004	41.26	16.17	0	25.09	1.83	--	--	--	--	--	--	--	--	Monitored Only
9/9/2004	41.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible-car parked on well
3/1/2005	41.26	--	--	--	--	--	--	--	--	--	--	--	--	Car parked on well
8/2/2005	41.26	16.62	0	24.64	--	--	--	--	--	--	--	--	--	Monitored only
1/20/2006	41.26	16.24	0	25.02	0.38	--	--	--	--	--	--	--	--	Monitored only
7/11/2006	41.26	16.15	0	25.11	0.09	--	--	--	--	--	--	--	--	Monitored Only
3/9/2007	41.26	16.71	0	24.55	-0.56	--	--	--	--	--	--	--	--	Monitored Only
7/6/2007	43.65	17.80	0	25.85	1.30	--	--	--	--	--	--	--	--	Monitored Only
1/7/2008	43.65	17.73	0	25.92	0.07	--	--	--	--	--	--	--	--	Monitored Only
6/24/2008	43.65	18.00	0	25.65	-0.27	--	--	--	--	--	--	--	--	Monitored Only
8/29/2008	43.65	17.93	0	25.72	0.07	--	--	--	--	--	--	--	--	Monitored only
11/17/2008	43.65	18.85	0	24.80	-0.92	--	--	--	--	--	--	--	--	Monitored only
3/13/2009	43.65	17.20	0	26.45	1.65	--	--	--	--	--	--	--	--	Monitored only
5/1/2009	43.65	17.57	0	26.08	-0.37	--	--	--	--	--	--	--	--	Monitored only
7/2/2009	43.65	18.08	0	25.57	-0.51	--	--	--	--	--	--	--	--	Monitored only
1/18/2010	43.65	18.24	0	25.41	-0.16	--	--	--	--	--	--	--	--	Gauged only
9/27/2010	43.65	18.20	0	25.45	0.04	--	--	--	--	--	--	--	--	Gauge only
3/8/2011	43.65	16.92	0	26.73	1.28	--	--	--	--	--	--	--	--	Gauge only
8/24/2011	43.65	17.04	0	26.61	-0.12	--	--	--	--	--	--	--	--	Gauge only
2/16/2012	43.65	18.20	0	25.45	-1.16	--	--	--	--	--	--	--	--	Gauge only
8/6/2012	43.65	17.86	0	25.79	0.34	--	--	--	--	--	--	--	--	Gauge only
1/30/2013	**43.65**	**17.23**	**0**	**26.42**	**0.63**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**Gauge only**

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-3R														
7/6/2007	41.58	16.29	0	25.29	--	--	290	ND<0.50	ND<0.50	ND<0.50	0.99	--	ND<0.50	Gauged and sampled on 8/10/07
1/7/2008	41.58	15.46	0	26.12	0.83	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/24/2008	41.58	16.30	0	25.28	-0.84	--	99	ND<0.50	ND<0.50	11	2.5	--	ND<0.50	
8/29/2008	41.58	16.74	0	24.84	-0.44	--	1500	ND<0.50	ND<0.50	100	51	--	ND<0.50	
11/17/2008	41.58	17.13	0	24.45	-0.39	--	740	ND<0.50	ND<0.50	67	17	--	ND<0.50	
3/13/2009	41.58	15.40	0	26.18	1.73	--	1300	ND<0.50	ND<0.50	100	22	--	ND<0.50	
5/1/2009	41.58	15.81	0	25.77	-0.41	--	290	ND<0.50	ND<0.50	26	2.6	--	ND<0.50	
7/2/2009	41.58	16.35	0	25.23	-0.54	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/18/2010	41.58	16.50	0	25.08	-0.15	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2010	41.58	16.45	0	25.13	0.05	--	480	ND<0.50	ND<0.50	33	ND<1.0	--	ND<0.50	
3/8/2011	41.58	15.07	0	26.51	1.38	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/24/2011	41.58	15.71	0	25.87	-0.64	--	670	ND<0.50	ND<0.50	28	ND<1.0	--	ND<0.50	
2/16/2012	41.58	16.45	0	25.13	-0.74	--	440	ND<0.50	ND<0.50	18	ND<1.0	--	ND<0.50	
8/6/2012	41.58	16.00	0	25.58	0.45	--	120	ND<0.50	ND<0.50	3.6	ND<1.0	--	ND<0.50	
1/30/2013	**41.58**	**15.50**	**0**	**26.08**	**0.50**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	
U-4														
8/23/1990	--	--	--	--	--	ND	--	ND	1.0	ND	1.8	--	--	
12/5/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
1/18/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
3/4/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/3/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
9/19/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/4/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
3/5/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
8/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/1992	--	--	--	--	--	ND	--	ND	2.5	ND	ND	--	--	
2/12/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/4/1993	40.53	16.73	0	23.80	--	ND	--	ND	ND	ND	ND	--	--	
9/9/1993	40.53	16.89	0	23.64	-0.16	ND	--	ND	ND	ND	ND	--	--	
12/2/1993	40.25	18.46	0	21.79	-1.85	ND	--	ND	ND	ND	2.6	--	--	
3/9/1994	40.25	17.30	0	22.95	1.16	ND	--	1.4	4.7	1.1	8.1	--	--	
4/13/1994	40.25	17.44	0	22.81	-0.14	ND	--	ND	ND	ND	ND	--	--	
6/9/1994	40.25	17.53	0	22.72	-0.09	ND	--	ND	ND	ND	ND	--	--	
9/7/1994	40.28	18.52	0	21.76	-0.96	ND	--	ND	1.1	ND	1.0	--	--	
12/5/1994	40.28	18.08	0	22.20	0.44	ND	--	ND	ND	ND	ND	--	--	
3/9/1995	40.28	16.16	0	24.12	1.92	ND	--	ND	ND	ND	ND	ND	--	
6/13/1995	40.25	15.95	0	24.30	0.18	ND	--	ND	ND	ND	ND	2.7	--	
9/12/1995	40.25	17.10	0	23.15	-1.15	ND	--	ND	ND	ND	ND	ND	--	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-4 continued														
12/14/1995	40.25	17.43	0	22.82	-0.33	ND	--	ND	ND	ND	ND	1.3	--	
3/20/1996	40.25	14.93	0	25.32	2.50	--	--	--	--	--	--	--	--	
9/24/1996	40.25	17.19	0	23.06	-2.26	--	--	--	--	--	--	--	--	
3/27/1997	40.25	15.66	0	24.59	1.53	ND	--	ND	ND	ND	ND	ND	--	
9/23/1997	40.25	17.69	0	22.56	-2.03	--	--	--	--	--	--	--	--	
3/10/1998	40.25	12.99	0	27.26	4.70	ND	--	ND	ND	ND	ND	ND	--	
9/4/1998	40.25	17.28	0	22.97	-4.29	--	--	--	--	--	--	--	--	
3/4/1999	40.25	14.17	0	26.08	3.11	ND	--	ND	ND	ND	ND	ND	--	
9/13/1999	40.25	17.55	0	22.70	-3.38	--	--	--	--	--	--	--	--	
3/21/2000	40.25	14.74	0	25.51	2.81	ND	--	ND	ND	ND	ND	ND	--	
9/18/2000	40.25	16.88	0	23.37	-2.14	--	--	--	--	--	--	--	--	
3/16/2001	40.25	16.32	0	23.93	0.56	--	--	--	--	--	--	--	--	
9/4/2001	40.25	17.70	0	22.55	-1.38	--	--	--	--	--	--	--	--	
3/18/2002	40.25	16.08	--	24.17	1.62	--	--	--	--	--	--	--	--	
9/17/2002	40.25	16.56	0	23.69	-0.48	--	--	--	--	--	--	--	--	
3/28/2003	40.25	16.15	0	24.10	0.41	--	--	--	--	--	--	--	--	
9/5/2003	40.25	17.20	0	23.05	-1.05	--	--	--	--	--	--	--	--	Monitored Only
3/4/2004	40.25	15.39	0	24.86	1.81	--	--	--	--	--	--	--	--	Monitored Only
9/9/2004	40.25	16.98	0	23.27	-1.59	--	--	--	--	--	--	--	--	Monitored Only
3/1/2005	40.25	14.97	0	25.28	2.01	--	--	--	--	--	--	--	--	Monitor Only
8/2/2005	40.25	15.82	0	24.43	-0.85	--	--	--	--	--	--	--	--	Monitored Only
1/20/2006	40.25	15.04	0	25.21	0.78	--	--	--	--	--	--	--	--	Monitored only
7/11/2006	40.25	15.38	0	24.87	-0.34	--	--	--	--	--	--	--	--	Monitored Only
3/9/2007	40.25	16.00	0	24.25	-0.62	--	--	--	--	--	--	--	--	Monitored Only
7/6/2007	42.69	17.15	0	25.54	1.29	--	--	--	--	--	--	--	--	Monitored Only
1/7/2008	42.69	16.65	0	26.04	0.50	--	--	--	--	--	--	--	--	Monitored Only
6/24/2008	42.69	17.40	0	25.29	-0.75	--	--	--	--	--	--	--	--	Monitored Only
8/29/2008	42.69	17.62	0	25.07	-0.22	--	--	--	--	--	--	--	--	Monitored only
11/17/2008	42.69	18.20	0	24.49	-0.58	--	--	--	--	--	--	--	--	Monitored only
3/13/2009	42.69	16.30	0	26.39	1.90	--	--	--	--	--	--	--	--	Monitored only
5/1/2009	42.69	16.86	0	25.83	-0.56	--	--	--	--	--	--	--	--	Monitored only
7/2/2009	42.69	17.20	0	25.49	-0.34	--	--	--	--	--	--	--	--	Monitored only
1/18/2010	42.69	17.55	0	25.14	-0.35	--	--	--	--	--	--	--	--	Gauged only
9/27/2010	42.69	17.51	0	25.18	0.04	--	--	--	--	--	--	--	--	Gauge only
3/8/2011	42.69	16.12	0	26.57	1.39	--	--	--	--	--	--	--	--	Gauge only
8/24/2011	42.69	16.74	0	25.95	-0.62	--	--	--	--	--	--	--	--	Gauge only
2/16/2012	42.69	17.51	0	25.18	-0.77	--	--	--	--	--	--	--	--	Gauge only
8/6/2012	42.69	16.83	0	25.86	0.68	--	--	--	--	--	--	--	--	Gauge only
1/30/2013	**42.69**	**16.51**	**0**	**26.18**	**0.32**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**Gauge only**

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-5														
4/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
8/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
2/12/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/4/1993	39.61	16.05	0	23.56	--	ND	--	ND	ND	ND	ND	--	--	
9/9/1993	39.61	16.90	0	22.71	-0.85	ND	--	ND	ND	ND	ND	--	--	
12/2/1993	39.31	17.66	0	21.65	-1.06	ND	--	ND	ND	ND	ND	--	--	
3/9/1994	39.31	16.45	0	22.86	1.21	71	--	1.7	6.3	1.5	10	--	--	
4/13/1994	39.31	16.64	0	22.67	-0.19	ND	--	ND	ND	ND	ND	--	--	
6/9/1994	39.31	16.70	0	22.61	-0.06	ND	--	ND	ND	ND	ND	--	--	
9/7/1994	39.31	17.73	0	21.58	-1.03	ND	--	ND	0.73	ND	0.84	--	--	
12/5/1994	39.31	17.23	0	22.08	0.50	ND	--	ND	ND	ND	ND	--	--	
3/9/1995	39.31	15.35	0	23.96	1.88	ND	--	ND	ND	ND	ND	ND	--	
6/13/1995	39.31	15.16	0	24.15	0.19	ND	--	ND	ND	ND	ND	0.87	--	
9/12/1995	39.31	16.30	0	23.01	-1.14	ND	--	ND	ND	ND	ND	ND	--	
12/14/1995	39.31	16.56	0	22.75	-0.26	ND	--	ND	ND	ND	ND	ND	--	
3/20/1996	39.31	14.07	0	25.24	2.49	--	--	--	--	--	--	--	--	
9/24/1996	39.31	16.55	0	22.76	-2.48	--	--	--	--	--	--	--	--	
3/27/1997	39.31	14.85	0	24.46	1.70	ND	--	ND	ND	ND	ND	ND	--	
9/23/1997	39.31	16.90	0	22.41	-2.05	--	--	--	--	--	--	--	--	Sampled annually
3/10/1998	39.31	12.21	0	27.10	4.69	ND	--	ND	ND	ND	ND	ND	--	
9/4/1998	39.31	16.57	0	22.74	-4.36	--	--	--	--	--	--	--	--	
3/4/1999	39.31	13.42	0	25.89	3.15	ND	--	ND	0.67	ND	ND	ND	--	
9/13/1999	39.31	17.02	0	22.29	-3.60	--	--	--	--	--	--	--	--	
3/21/2000	39.31	13.93	0	25.38	3.09	ND	--	ND	ND	ND	ND	ND	--	
9/18/2000	39.31	16.17	0	23.14	-2.24	--	--	--	--	--	--	--	--	
3/16/2001	39.31	15.51	0	23.80	0.66	ND	--	ND	ND	ND	ND	ND	--	
9/4/2001	39.31	16.88	0	22.43	-1.37	--	--	--	--	--	--	--	--	
3/18/2002	39.31	15.25	--	24.06	1.63	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
9/17/2002	39.31	16.71	0	22.60	-1.46	--	--	--	--	--	--	--	--	Sampled annually
3/28/2003	39.31	15.21	0	24.10	1.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/5/2003	39.31	16.26	0	23.05	-1.05	--	--	--	--	--	--	--	--	Sampled annually
3/4/2004	39.31	14.79	0	24.52	1.47	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/9/2004	39.31	16.30	0	23.01	-1.51	--	--	--	--	--	--	--	--	Monitored Only
3/1/2005	39.31	14.38	0	24.93	1.92	--	ND<50	ND<0.50	ND<0.50	0.53	2.0	--	ND<0.50	
8/2/2005	39.31	15.02	0	24.29	-0.64	--	--	--	--	--	--	--	--	Sampled Annually
1/20/2006	39.31	14.23	0	25.08	0.79	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/11/2006	39.31	14.60	0	24.71	-0.37	--	--	--	--	--	--	--	--	Sampled Q1 only
3/9/2007	39.31	15.10	0	24.21	-0.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
7/6/2007	41.74	16.23	0	25.51	1.30	--	--	--	--	--	--	--	--	Sampled Q1 only

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-5 continued														
1/7/2008	41.74	15.81	0	25.93	0.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/24/2008	41.74	16.51	0	25.23	-0.70	--	--	--	--	--	--	--	--	Sampled Q1 only
8/29/2008	41.74	16.98	0	24.76	-0.47	--	--	--	--	--	--	--	--	Sampled Q1 only
11/17/2008	41.74	17.25	0	24.49	-0.27	--	--	--	--	--	--	--	--	Sampled Q1 only
3/13/2009	41.74	15.78	0	25.96	1.47	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
5/1/2009	41.74	16.04	0	25.70	-0.26	--	--	--	--	--	--	--	--	Sampled Q1 only
7/2/2009	41.74	16.53	0	25.21	-0.49	--	--	--	--	--	--	--	--	Sampled Q1 only
1/18/2010	41.74	16.73	0	25.01	-0.20	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2010	41.74	16.69	0	25.05	0.04	--	--	--	--	--	--	--	--	Sampled Q1 only
3/8/2011	41.74	15.36	0	26.38	1.33	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/24/2011	41.74	15.89	0	25.85	-0.53	--	--	--	--	--	--	--	--	Sampled Q1 only
2/16/2012	41.74	16.71	0	25.03	-0.82	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/6/2012	41.74	16.04	0	25.70	0.67	--	--	--	--	--	--	--	--	Sampled Q1 only
1/30/2013	**41.74**	**15.73**	**0**	**26.01**	**0.31**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	
U-6														
4/7/1992	--	--	--	--	--	6600	--	90	ND	820	1200	--	--	
8/6/1992	--	--	--	--	--	9200	--	160	ND	360	150	--	--	
11/20/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
2/12/1993	--	--	--	--	--	2600	--	27	ND	120	51	--	--	
6/4/1993	37.94	14.45	0	23.49	--	13000	--	100	38	450	320	--	--	
9/9/1993	37.94	15.56	0	22.38	-1.11	6300	--	29	ND	120	34	--	--	
12/2/1993	37.68	16.08	0	21.60	-0.78	2100	--	12	1.6	21	1.1	--	--	
3/9/1994	37.68	14.90	0	22.78	1.18	2200	--	11	8.2	24	16	--	--	
6/9/1994	37.68	15.18	0	22.50	-0.28	2600	--	16	ND	29	ND	--	--	
9/7/1994	37.68	16.20	0	21.48	-1.02	16004	--	ND	ND	ND	ND	--	--	
12/5/1994	37.68	15.60	0	22.08	0.60	450	--	ND	ND	ND	ND	--	--	
3/9/1995	37.68	13.74	0	23.94	1.86	2500	--	29	ND	70	120	320	--	
6/13/1995	37.68	13.73	0	23.95	0.01	1300	--	ND	ND	20	46	5400	--	
9/12/1995	37.68	14.85	0	22.83	-1.12	ND	--	ND	ND	ND	ND	6600	--	
12/14/1995	37.68	14.89	0	22.79	-0.04	760	--	ND	ND	7	8.4	1100	--	
3/20/1996	37.68	12.41	0	25.27	2.48	52	--	1.1	0.98	ND	0.75	1200	--	
9/24/1996	37.68	15.06	0	22.62	-2.65	ND	--	ND	ND	ND	ND	750	--	
3/27/1997	37.68	13.48	0	24.20	1.58	ND	--	ND	ND	ND	ND	150	--	
9/23/1997	37.68	15.36	0	22.32	-1.88	66	--	0.81	ND	ND	ND	150	--	
3/10/1998	37.68	10.90	0	26.78	4.46	ND	--	ND	ND	ND	ND	18	--	
9/4/1998	37.68	14.85	0	22.83	-3.95	ND	--	ND	ND	ND	ND	ND	--	
3/4/1999	37.68	12.10	0	25.58	2.75	ND	--	ND	ND	ND	ND	6.5	--	
9/13/1999	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
3/21/2000	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-6 continued														
9/18/2000	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
3/16/2001	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/4/2001	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
3/18/2002	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/17/2002	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/5/2003	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
3/4/2004	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
9/9/2004	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
3/1/2005	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate-Paved over
9/8/2005	37.68	13.98	0	23.70	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	Paved over on 8/2/05
1/20/2006	37.68	12.76	0	24.92	1.22	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/11/2006	37.68	13.23	0	24.45	-0.47	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/9/2007	37.68	13.67	0	24.01	-0.44	--	140	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
7/6/2007	40.07	14.76	0	25.31	1.30	--	79	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
1/7/2008	40.07	14.02	0	26.05	0.74	--	65	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/24/2008	40.07	14.98	0	25.09	-0.96	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
8/29/2008	40.07	15.42	0	24.65	-0.44	--	120	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/17/2008	40.07	--	--	--	--	--	--	--	--	--	--	--	--	Car parked over well
3/13/2009	40.07	14.10	0	25.97	--	--	100	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
5/1/2009	40.07	14.52	0	25.55	-0.42	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
7/2/2009	40.07	15.10	0	24.97	-0.58	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/18/2010	40.07	15.14	0	24.93	-0.04	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2010	40.07	15.17	0	24.90	-0.03	--	120	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/8/2011	40.07	13.76	0	26.31	1.41	--	67	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/24/2011	40.07	14.42	0	25.65	-0.66	--	67	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
2/16/2012	40.07	15.15	0	24.92	-0.73	--	67	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/6/2012	40.07	14.72	0	25.35	0.43	--	63	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/30/2013	**40.07**	**14.23**	**0**	**25.84**	**0.49**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	
U-7														
4/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
8/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
2/12/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/4/1993	37.49	14.17	0	23.32	--	ND	--	ND	ND	ND	ND	--	--	
9/9/1993	37.49	15.23	0	22.26	-1.06	ND	--	ND	ND	ND	ND	--	--	
12/2/1993	37.11	15.61	0	21.50	-0.76	ND	--	ND	ND	ND	ND	--	--	
3/9/1994	37.11	14.45	0	22.66	1.16	ND	--	1.4	4.4	0.96	7.5	--	--	
4/13/1994	37.11	14.63	0	22.48	-0.18	ND	--	ND	ND	ND	ND	--	--	
6/9/1994	37.11	14.70	0	22.41	-0.07	ND	--	ND	ND	ND	ND	--	--	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-7 continued														
9/7/1994	37.11	15.72	0	21.39	-1.02	ND	--	ND	ND	ND	ND	--	--	
12/5/1994	37.11	15.10	0	22.01	0.62	ND	--	ND	ND	ND	ND	--	--	
3/9/1995	37.11	13.36	0	23.75	1.74	ND	--	ND	ND	ND	ND	ND	--	
6/13/1995	37.11	13.33	0	23.78	0.03	ND	--	ND	ND	ND	ND	3.5	--	
9/12/1995	37.11	14.40	0	22.71	-1.07	ND	--	ND	ND	ND	ND	ND	--	
12/14/1995	37.11	14.39	0	22.72	0.01	ND	--	ND	ND	ND	ND	1.4	--	
3/20/1996	37.11	11.96	0	25.15	2.43	--	--	--	--	--	--	--	--	
9/24/1996	37.11	14.59	0	22.52	-2.63	--	--	--	--	--	--	--	--	
3/27/1997	37.11	13.08	0	24.03	1.51	ND	--	ND	ND	ND	ND	ND	--	
9/23/1997	37.11	14.90	0	22.21	-1.82	--	--	--	--	--	--	--	--	
3/10/1998	37.11	10.46	0	26.65	4.44	ND	--	ND	ND	ND	ND	ND	--	
9/4/1998	37.11	14.42	0	22.69	-3.96	--	--	--	--	--	--	--	--	
3/4/1999	37.11	11.64	0	25.47	2.78	ND	--	ND	ND	ND	ND	6.6	--	
9/13/1999	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
3/21/2000	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/18/2000	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
3/16/2001	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/4/2001	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/17/2002	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
9/5/2003	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
3/4/2004	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
9/9/2004	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
3/1/2005	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate-Paved over
9/8/2005	37.11	13.59	0	23.52	--	--	ND<50	ND<0.50	0.89	ND<0.50	1.7	--	ND<0.50	Paved over on 8/2/05
1/20/2006	37.11	12.33	0	24.78	1.26	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/11/2006	37.11	12.84	0	24.27	-0.51	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/9/2007	37.11	13.25	0	23.86	-0.41	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
7/6/2007	39.50	--	--	--	--	--	--	--	--	--	--	--	--	Car over well
1/7/2008	39.50	13.50	0	26.00	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/24/2008	39.50	14.05	0	25.45	-0.55	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
8/29/2008	39.50	--	--	--	--	--	--	--	--	--	--	--	--	Car parked over well
11/17/2008	39.50	--	--	--	--	--	--	--	--	--	--	--	--	Car parked over well
3/13/2009	39.50	13.60	0	25.90	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
5/1/2009	39.50	14.88	0	24.62	-1.28	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
7/2/2009	39.50	--	--	--	--	--	--	--	--	--	--	--	--	Car parked over well
1/18/2010	39.50	14.45	0	25.05	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/30/2010	39.50	14.53	0	24.97	-0.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/8/2011	39.50	13.22	0	26.28	1.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/24/2011	39.50	13.97	0	25.53	-0.75	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-7 continued														
2/16/2012	39.50	14.65	0	24.85	-0.68	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/6/2012	39.50	14.20	0	25.30	0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/30/2013	**39.50**	**13.77**	**0**	**25.73**	**0.43**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	
U-8														
4/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
8/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
2/12/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/4/1993	38.94	15.26	0	23.68	--	ND	--	ND	ND	ND	ND	--	--	
9/9/1993	38.94	16.38	0	22.56	-1.12	ND	--	ND	ND	ND	ND	--	--	
12/2/1993	38.57	16.80	0	21.77	-0.79	ND	--	ND	ND	ND	ND	--	--	
3/9/1994	38.57	15.62	0	22.95	1.18	ND	--	1.2	3.7	0.79	6.1	--	--	
4/13/1994	38.57	15.80	0	22.77	-0.18	ND	--	ND	0.78	ND	0.98	--	--	
6/9/1994	38.57	15.86	0	22.71	-0.06	ND	--	ND	ND	ND	ND	--	--	
9/7/1994	38.57	16.87	0	21.70	-1.01	ND	--	ND	ND	ND	ND	--	--	
12/5/1994	38.57	16.32	0	22.25	0.55	ND	--	ND	ND	ND	ND	--	--	
3/9/1995	38.57	14.56	0	24.01	1.76	ND	--	ND	ND	ND	ND	ND	--	
6/13/1995	38.57	14.40	0	24.17	0.16	ND	--	ND	ND	ND	ND	ND	--	
9/12/1995	38.57	15.50	0	23.07	-1.10	ND	--	ND	ND	ND	ND	ND	--	
12/14/1995	38.57	15.67	0	22.90	-0.17	ND	--	ND	ND	ND	ND	ND	--	
3/20/1996	38.57	13.25	0	25.32	2.42	--	--	--	--	--	--	--	--	
9/24/1996	38.57	15.75	0	22.82	-2.50	--	--	--	--	--	--	--	--	
3/27/1997	38.57	14.18	0	24.39	1.57	ND	--	ND	ND	ND	ND	ND	--	
9/23/1997	38.57	16.05	0	22.52	-1.87	--	--	--	--	--	--	--	--	Sampled annually
3/10/1998	38.57	11.63	0	26.94	4.42	ND	--	ND	ND	ND	ND	ND	--	
9/4/1998	38.57	15.81	0	22.76	-4.18	--	--	--	--	--	--	--	--	
3/4/1999	38.57	12.81	0	25.76	3.00	ND	--	ND	ND	ND	ND	ND	--	
9/13/1999	38.57	16.37	0	22.20	-3.56	--	--	--	--	--	--	--	--	
3/21/2000	38.57	13.25	0	25.32	3.12	ND	--	ND	ND	ND	ND	ND	--	
9/18/2000	38.57	15.31	0	23.26	-2.06	--	--	--	--	--	--	--	--	
3/16/2001	38.57	14.71	0	23.86	0.60	ND	--	ND	ND	ND	ND	ND	--	
9/4/2001	38.57	16.01	0	22.56	-1.30	--	--	--	--	--	--	--	--	
3/18/2002	38.57	14.46	--	24.11	1.55	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
9/17/2002	38.57	15.93	0	22.64	-1.47	--	--	--	--	--	--	--	--	Sampled annually
3/28/2003	38.57	14.40	0	24.17	1.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/5/2003	38.57	15.46	0	23.11	-1.06	--	--	--	--	--	--	--	--	Sampled annually
3/4/2004	38.57	13.98	0	24.59	1.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/9/2004	38.57	15.53	0	23.04	-1.55	--	--	--	--	--	--	--	--	Monitored Only
3/1/2005	38.57	13.56	0	25.01	1.97	--	ND<50	ND<0.50	ND<0.50	0.80	2.8	--	ND<0.50	
8/2/2005	38.57	14.31	0	24.26	-0.75	--	--	--	--	--	--	--	--	Sampled annually

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-8 continued														
1/20/2006	38.57	13.51	0	25.06	0.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/11/2006	38.57	13.94	0	24.63	-0.43	--	--	--	--	--	--	--	--	Sampled Q1 only
3/9/2007	38.57	14.40	0	24.17	-0.46	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
7/6/2007	40.95	15.44	0	25.51	1.34	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
1/7/2008	40.95	14.79	0	26.16	0.65	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/24/2008	40.95	15.67	0	25.28	-0.88	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
8/29/2008	40.95	16.11	0	24.84	-0.44	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/17/2008	40.95	16.48	0	24.47	-0.37	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
3/13/2009	40.95	14.78	0	26.17	1.70	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
5/1/2009	40.95	15.20	0	25.75	-0.42	--	--	--	--	--	--	--	--	Sampled Q1 and Q3 only
7/2/2009	40.95	15.75	0	25.20	-0.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/18/2010	40.95	15.85	0	25.10	-0.10	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2010	40.95	15.82	0	25.13	0.03	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/8/2011	40.95	14.45	0	26.50	1.37	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/24/2011	40.95	15.09	0	25.86	-0.64	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
2/16/2012	40.95	15.82	0	25.13	-0.73	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/6/2012	40.95	15.42	0	25.53	0.40	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/30/2013	**40.95**	**14.91**	**0**	**26.04**	**0.51**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	
U-9														
6/4/1993	37.88	14.67	0	23.21	--	2100	--	ND	ND	ND	ND	--	--	
9/9/1993	37.88	15.79	0	22.09	-1.12	1200	--	ND	ND	ND	ND	--	--	
12/2/1993	37.31	15.93	0	21.38	-0.71	ND	--	ND	ND	ND	ND	--	--	
3/9/1994	37.31	14.74	0	22.57	1.19	5700	--	ND	ND	ND	ND	--	--	
4/13/1994	37.31	14.96	0	22.35	-0.22	ND	--	ND	ND	ND	ND	--	--	
6/9/1994	37.31	15.05	0	22.26	-0.09	2900	--	ND	ND	ND	ND	--	--	
9/7/1994	37.31	16.06	0	21.25	-1.01	2700	--	ND	ND	ND	ND	--	--	
12/5/1994	37.31	15.43	0	21.88	0.63	3700	--	ND	ND	ND	ND	--	--	
3/9/1995	37.31	13.50	0	23.81	1.93	2500	--	ND	ND	ND	ND	5800	--	
6/13/1995	37.31	13.63	0	23.68	-0.13	ND	--	ND	ND	ND	ND	1200	--	
9/12/1995	37.31	14.73	0	22.58	-1.10	ND	--	ND	ND	ND	ND	1600	--	
12/14/1995	37.31	14.67	0	22.64	0.06	ND	--	ND	ND	ND	ND	4400	--	
3/20/1996	37.31	12.27	0	25.04	2.40	ND	--	ND	ND	ND	ND	480	--	
9/24/1996	37.31	14.92	0	22.39	-2.65	ND	--	ND	ND	ND	ND	ND	--	
3/27/1997	37.31	13.36	0	23.95	1.56	ND	--	ND	ND	ND	ND	42	--	
9/23/1997	37.31	15.28	0	22.03	-1.92	ND	--	ND	ND	ND	ND	ND	--	
3/10/1998	37.31	10.86	0	26.45	4.42	ND	--	ND	ND	ND	3.1	ND	--	
9/4/1998	37.31	15.03	0	22.28	-4.17	ND	--	ND	ND	ND	ND	ND	--	
3/4/1999	37.31	11.95	0	25.36	3.08	ND	--	ND	ND	ND	ND	ND	--	
9/13/1999	37.31	15.61	0	21.70	-3.66	ND	--	ND	1.67	ND	1.01	7.85	--	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-9 continued														
3/21/2000	37.31	12.38	0	24.93	3.23	ND	--	ND	ND	ND	ND	ND	--	
9/18/2000	37.31	14.87	0	22.44	-2.49	ND	--	ND	1.42	ND	1.06	ND	--	
3/16/2001	37.31	13.85	0	23.46	1.02	ND	--	ND	ND	ND	ND	ND	--	
9/4/2001	37.31	15.22	0	22.09	-1.37	--	--	--	--	--	--	--	--	Sampled annually
3/18/2002	37.31	13.56	--	23.75	1.66	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
9/17/2002	37.31	15.14	0	22.17	-1.58	--	--	--	--	--	--	--	--	Sampled annually
3/28/2003	37.31	13.61	0	23.70	1.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/5/2003	37.31	14.64	0	22.67	-1.03	--	--	--	--	--	--	--	--	Sampled annually
3/4/2004	37.31	13.07	0	24.24	1.57	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/9/2004	37.31	14.75	0	22.56	-1.68	--	--	--	--	--	--	--	--	Monitored Only
3/1/2005	37.31	12.68	0	24.63	2.07	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.1	
8/2/2005	37.31	13.47	0	23.84	-0.79	--	--	--	--	--	--	--	--	Sampled annually
1/20/2006	37.31	12.61	0	24.70	0.86	--	ND<50	ND<0.50	ND<0.50	0.78	2.8	--	ND<0.50	
7/11/2006	37.31	13.10	0	24.21	-0.49	--	--	--	--	--	--	--	--	Sampled Q1 only
3/9/2007	37.31	13.55	0	23.76	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
7/6/2007	39.72	14.63	0	25.09	1.33	--	--	--	--	--	--	--	--	Sampled Q1 only
1/7/2008	39.72	13.85	0	25.87	0.78	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/24/2008	39.72	14.89	0	24.83	-1.04	--	--	--	--	--	--	--	--	Sampled Q1 only
8/29/2008	39.72	15.32	0	24.40	-0.43	--	--	--	--	--	--	--	--	Sampled Q1 only
11/17/2008	39.72	15.70	0	24.02	-0.38	--	--	--	--	--	--	--	--	Sampled Q1 only
3/13/2009	39.72	13.90	0	25.82	1.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
5/1/2009	39.72	14.37	0	25.35	-0.47	--	--	--	--	--	--	--	--	Sampled Q1 only
7/2/2009	39.72	14.90	0	24.82	-0.53	--	--	--	--	--	--	--	--	Sampled Q1 only
1/18/2010	39.72	14.97	0	24.75	-0.07	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2010	39.72	15.02	0	24.70	-0.05	--	--	--	--	--	--	--	--	Sampled Q1 only
3/8/2011	39.72	13.60	0	26.12	1.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/24/2011	39.72	14.29	0	25.43	-0.69	--	--	--	--	--	--	--	--	Sampled Q1 only
2/16/2012	39.72	15.02	0	24.70	-0.73	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
8/6/2012	39.72	14.61	0	25.11	0.41	--	--	--	--	--	--	--	--	Sampled Q1 only
1/30/2013	**39.72**	**14.09**	**0**	**25.63**	**0.52**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	
U-1														
2/9/1988	--	--	--	--	--	93000	--	3600	11000	--	20000	--	--	
3/20/1990	--	--	--	--	--	36000	--	2100	5500	1900	9300	--	--	
6/5/1990	--	--	--	--	--	46000	--	2300	5500	2500	11000	--	--	
8/24/1990	--	--	--	--	--	27000	--	1200	1800	1400	5500	--	--	
12/5/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
3/4/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
6/3/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
9/19/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-1 continued														
12/4/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
3/5/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
4/7/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
8/6/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
11/20/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
2/12/1993	--	--	--	--	--	70000	--	2200	8400	3100	18000	--	--	
6/4/1993	40.51	16.72	0	23.79	--	35000	--	1300	5700	900	9200	--	--	
9/9/1993	40.51	17.77	0	22.74	-1.05	67000	--	2900	18000	6200	32000	--	--	
12/2/1993	40.20	18.36	0.01	21.85	-0.89	--	--	--	--	--	--	--	--	Not sampled due to free product
3/9/1994	40.20	17.20	0	23.00	1.15	45000	--	930	4100	2000	11000	--	--	
6/9/1994	40.20	17.42	0	22.78	-0.22	59000	--	5200	1300	5200	15000	--	--	
9/7/1994	40.20	18.17	0	22.03	-0.75	41000	--	1600	6200	3100	16000	--	--	
12/5/1994	40.20	16.67	0	23.53	1.50	1300	--	55	20	16	330	--	--	
3/9/1995	40.20	15.82	0	24.38	0.85	49000	--	860	3200	1900	10000	1500	--	
6/13/1995	40.20	14.70	0	25.50	1.12	53000	--	1400	5000	2500	14000	2800	--	
9/12/1995	40.01	16.77	0	23.24	-2.26	43000	--	910	2700	1700	9600	1400	--	
12/14/1995	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
3/20/1996	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
3/22/1996	40.20	--	--	--	--	13000	--	200	590	640	4000	790	--	
9/24/1996	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
3/27/1997	40.20	15.29	0	24.91	--	1300	--	8	ND	ND	400	ND	--	
9/23/1997	40.20	17.20	0	23.00	-1.91	2000	--	15	ND	ND	530	ND	--	
3/10/1998	40.20	12.68	0	27.52	4.52	2200	--	19	4.8	ND	980	38	--	
9/4/1998	40.20	16.84	0	23.36	-4.16	5300	--	53	ND	410	620	ND	--	
3/4/1999	40.20	13.04	0	27.16	3.80	1500	--	19	ND	56	110	310	--	
9/13/1999	40.20	17.14	0	23.06	-4.10	5850	--	32.7	ND	520	925	ND	--	
3/21/2000	40.20	14.36	0	25.84	2.78	4820	--	17.4	7.74	297	1370	ND	--	
9/18/2000	40.20	16.72	0	23.48	-2.36	647	--	6.44	ND	22.3	6.86	22.2	--	
10/13/2000	40.20	16.85	0	23.35	-0.13	--	--	--	--	--	--	--	29	
3/16/2001	40.20	15.84	0	24.36	1.01	4950	--	1.73	1.77	429	536	613	--	
9/4/2001	40.20	17.16	0	23.04	-1.32	11000	--	25	ND<10	1100	1800	370	--	
3/18/2002	40.20	15.60	--	24.60	1.56	8100	--	ND<20	ND<20	740	1300	ND<200	--	
9/17/2002	40.20	17.35	0	22.85	-1.75	--	4200	ND<2.5	ND<2.5	120	43	--	280	
3/28/2003	40.20	15.72	0	24.48	1.63	--	560	ND<0.50	ND<0.50	0.96	ND<1.0	--	69	
9/5/2003	40.20	16.77	--	23.43	-1.05	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2	
3/4/2004	40.20	14.64	0	25.56	2.13	--	20000	ND<20	ND<20	1900	8300	--	ND<80	
9/9/2004	40.20	16.64	0	23.56	-2.00	--	22000	ND<20	ND<20	1800	6100	--	ND<20	
3/1/2005	40.20	14.70	0	25.50	1.94	--	25000	ND<13	ND<13	1900	6800	--	ND<13	
8/2/2005	40.20	15.44	0	24.76	-0.74	--	11000	ND<10	ND<10	780	2600	--	ND<10	
1/20/2006	40.20	14.66	0	25.54	0.78	--	65000	5.0	ND<0.50	5000	18000	--	2.6	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-1 continued														
7/11/2006	40.20	15.01	0	25.19	-0.35	--	9200	ND<50	ND<50	680	2400	--	ND<50	
3/9/2007	40.20	15.52	0	24.68	-0.51	--	15000	6.7	ND<5.0	890	3200	--	ND<5.0	
7/6/2007	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Abandoned on 7/18/07
U-3														
8/23/1990	--	--	--	--	--	110000	--	4400	13000	2800	17000	--	--	
12/5/1990	--	--	--	--	--	69000	--	1900	3500	1600	9800	--	--	
1/18/1991	--	--	--	--	--	51000	--	1700	3100	1500	7500	--	--	
3/4/1991	--	--	--	--	--	84000	--	1400	10000	2900	17000	--	--	
6/3/1991	--	--	--	--	--	130000	--	5800	19000	4600	24000	--	--	
9/19/1991	--	--	--	--	--	61000	--	3300	9700	2800	15000	--	--	
12/4/1991	--	--	--	--	--	75000	--	2500	6100	1900	11000	--	--	
3/5/1992	--	--	--	--	--	160000	--	5300	15000	5400	26000	--	--	
4/7/1992	--	--	--	--	--	97000	--	6100	16000	5400	28000	--	--	
8/6/1992	--	--	--	--	--	140000	--	5100	13000	5000	23000	--	--	
11/20/1992	--	--	--	--	--	50000	--	3200	4700	1900	10000	--	--	
2/12/1993	--	--	--	--	--	80000	--	3700	9400	3700	18000	--	--	
6/4/1993	39.64	15.48	0	24.16	--	92000	--	2900	8700	4300	20000	--	--	
9/9/1993	39.64	17.04	0	22.60	-1.56	110000	--	2800	10000	6500	31000	--	--	
12/2/1993	39.26	17.55	0	21.71	-0.89	110000	--	3200	7700	5600	26000	--	--	
3/9/1994	39.26	16.35	0	22.91	1.20	120000	--	4500	8300	5600	28000	--	--	
6/9/1994	39.26	16.60	0	22.66	-0.25	120000	--	3300	6100	5200	26000	--	--	
9/7/1994	39.26	17.61	0	21.65	-1.01	100000	--	2400	4900	4200	21000	--	--	
12/5/1994	39.26	17.08	0	22.18	0.53	140000	--	3100	5100	4900	21000	--	--	
3/9/1995	39.26	15.20	0	24.06	1.88	100000	--	2300	3300	4800	21000	54000	--	
6/13/1995	39.26	15.11	0	24.15	0.09	64000	--	1700	1500	3800	18000	900	--	
9/12/1995	39.26	16.11	0	23.15	-1.00	69000	--	1700	820	4000	19000	29000	--	
12/14/1995	39.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
3/20/1996	39.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
3/22/1996	39.26	--	--	--	--	15000	--	150	490	480	3100	400	--	
9/24/1996	39.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
3/27/1997	39.26	14.77	0	24.49	--	110	--	ND	ND	ND	0.62	9.6	--	
9/23/1997	39.26	16.74	0	22.52	-1.97	ND	--	ND	ND	ND	ND	ND	--	
3/10/1998	39.26	12.18	0	27.08	4.56	ND	--	ND	ND	ND	3.1	ND	--	
9/4/1998	39.26	16.46	0	22.80	-4.28	ND	--	ND	ND	1.2	2.3	ND	--	
3/4/1999	39.26	13.48	0	25.78	2.98	ND	--	ND	ND	ND	ND	ND	--	
9/13/1999	39.26	16.71	0	22.55	-3.23	ND	--	ND	1.77	ND	1.06	9.08	--	
3/21/2000	39.26	13.87	--	25.39	2.84	18700	--	ND	ND	1290	4770	ND	--	
9/18/2000	39.26	16.12	0	23.14	-2.25	ND	--	ND	ND	ND	ND	ND	--	
3/16/2001	39.26	15.35	0	23.91	0.77	2310	--	ND	ND	184	618	ND	--	

Table 4
Groundwater Monitoring Data and Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TOC Elevation (feet amsl)	Depth to Water (feet bTOC)	LPH Thickness (feet)	Ground-Water Elevation (feet amsl)	Change in Elevation (feet)	TPH-GRO (8015B) (µg/L)	TPH-GRO (8260B) (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (8021B) (µg/L)	MtBE (8260B) (µg/L)	Comments
U-3 continued														
9/4/2001	39.26	16.71	0	22.55	-1.36	340	--	0.95	ND<0.50	8.1	18	ND<5.0	--	
3/18/2002	39.26	15.11	--	24.15	1.60	6500	--	ND<10	ND<10	390	1400	ND<100	--	
9/17/2002	39.26	17.67	0	21.59	-2.56	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.0	
3/28/2003	39.26	15.25	0	24.01	2.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
9/5/2003	39.26	16.30	0	22.96	-1.05	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
3/4/2004	39.26	14.11	0	25.15	2.19	--	14000	ND<10	ND<10	940	3500	--	ND<40	
9/9/2004	39.26	16.22	0	23.04	-2.11	--	1300	ND<2.5	ND<2.5	66	160	--	ND<2.5	
3/1/2005	39.26	14.18	0	25.08	2.04	--	14000	ND<5.0	ND<5.0	690	2000	--	ND<5.0	
8/2/2005	39.26	14.93	0	24.33	-0.75	--	6300	ND<2.5	ND<2.5	320	970	--	ND<2.5	
1/20/2006	39.26	14.14	0	25.12	0.79	--	7600	ND<0.50	ND<0.50	390	890	--	ND<0.50	
7/11/2006	39.26	14.52	0	24.74	-0.38	--	3800	ND<5.0	ND<5.0	190	420	--	ND<5.0	
3/9/2007	39.26	15.05	0	24.21	-0.53	--	3800	ND<2.5	ND<2.5	130	240	--	ND<2.5	
7/6/2007	39.26	16.17	0	23.09	-1.12	--	390	ND<0.50	ND<0.50	11	16	--	ND<0.50	Abandoned on 7/19/07
TRIP BLANK														
QA														
1/30/2013	**--**	**--**	**--**	**--**	**--**	**--**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<1.0**	**--**	**ND<0.50**	

Notes:
TOC = Top of Casing
amsl = Above Mean Sea Level
bTOC = Below Top of Casing
LPH = Liquid-Phase Hydrocarbon
TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics
MtBE = Methyl tertiary-butyl ether
µg/L = Micrograms per liter
-- = Not Measured/Not Analyzed

[1] = Laboratory report indicates PQL's and MDL's were raised due to sample dilution.

Table 5
Additional Groundwater Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TBA (8260B) (µg/L)	Ethanol (8260B) (µg/L)	1,2-DBA (8260B) (µg/L)	1,2-DBA (504) (µg/L)	1,2-DCA (8260B) (µg/L)	DIPE (8260B) (µg/L)	EtBE (8260B) (µg/L)	TAME (8260B) (µg/L)	1,1-DCA (µg/L)
U-1R									
7/6/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<6200	--	--	--	--	--	--	--
6/24/2008	--	ND<12000	--	--	--	--	--	--	--
8/29/2008	ND<500	ND<12000	ND<25	--	ND<25	ND<25	ND<25	ND<25	--
11/17/2008	ND<500	ND<12000	ND<25	--	ND<25	ND<25	ND<25	ND<25	--
3/13/2009	ND<250	ND<6200	ND<12	--	ND<12	ND<12	ND<12	ND<12	--
5/1/2009	ND<250	--	ND<12	--	ND<12	ND<12	ND<12	ND<12	--
7/2/2009	ND<500	ND<12000	ND<25	--	ND<25	ND<25	ND<25	ND<25	--
1/18/2010	ND<250	ND<6200	ND<12	--	ND<12	ND<12	ND<12	ND<12	--
9/27/2010	ND<250	ND<6200	ND<12	ND<0.010	ND<12	ND<12	ND<12	ND<12	--
3/8/2011	ND<120	ND<3100	ND<6.2	--	ND<6.2	ND<6.2	ND<6.2	ND<0.50	--
8/24/2011	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/6/2012[1]	ND<50	ND<1200	ND<2.5	--	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--
1/30/2013[1]	**ND<120**	**ND<3100**	**ND<6.2**	**--**	**ND<6.2**	**ND<6.2**	**ND<6.2**	**ND<6.2**	**--**
U-3R									
7/6/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<250	--	--	--	--	--	--	--
6/24/2008	--	ND<250	--	--	--	--	--	--	--
8/29/2008	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
11/17/2008	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/13/2009	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
5/1/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
7/2/2009	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/18/2010	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
9/27/2010	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/8/2011	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/24/2011	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/6/2012	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**
U-5									
3/4/2004	--	ND<500	--	--	--	--	--	--	--
3/1/2005	--	ND<50	--	--	--	--	--	--	--
1/20/2006	--	ND<250	--	--	--	--	--	--	--
3/9/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<250	--	--	--	--	--	--	--
3/13/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/18/2010	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/8/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**
U-6									
9/8/2005	--	ND<1000	--	--	--	--	--	--	--
1/20/2006	--	ND<250	--	--	--	--	--	--	--
7/11/2006	--	ND<250	--	--	--	--	--	--	--
3/9/2007	--	ND<250	--	--	--	--	--	--	--
7/6/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<250	--	--	--	--	--	--	--
8/29/2008	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/13/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
7/2/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/18/2010	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
9/27/2010	ND<10	--	ND<0.50	ND<0.010	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/8/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--

Table 5
Additional Groundwater Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TBA (8260B) (µg/L)	Ethanol (8260B) (µg/L)	1,2-DBA (8260B) (µg/L)	1,2-DBA (504) (µg/L)	1,2-DCA (8260B) (µg/L)	DIPE (8260B) (µg/L)	EtBE (8260B) (µg/L)	TAME (8260B) (µg/L)	1,1-DCA (µg/L)
U-6 continued									
8/24/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/6/2012	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**
U-7									
9/8/2005	--	ND<1000	--	--	--	--	--	--	--
1/20/2006	--	ND<250	--	--	--	--	--	--	--
7/11/2006	--	ND<250	--	--	--	--	--	--	--
3/9/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<250	--	--	--	--	--	--	--
3/13/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/18/2010	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
9/30/2010	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/8/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/24/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/6/2012	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**
U-8									
3/27/1997	--	--	--	--	--	--	--	--	--
3/4/2004	--	ND<500	--	--	--	--	--	--	--
3/1/2005	--	ND<50	--	--	--	--	--	--	--
1/20/2006	--	ND<250	--	--	--	--	--	--	--
3/9/2007	--	ND<250	--	--	--	--	--	--	--
7/6/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<250	--	--	--	--	--	--	--
8/29/2008	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/13/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
7/2/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/18/2010	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
9/27/2010	ND<10	--	ND<0.50	ND<0.010	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/8/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/24/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
8/6/2012	ND<10	ND<250	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**
U-9									
3/4/2004	--	ND<500	--	--	--	--	--	--	--
3/1/2005	--	ND<50	--	--	--	--	--	--	--
1/20/2006	--	ND<250	--	--	--	--	--	--	--
3/9/2007	--	ND<250	--	--	--	--	--	--	--
1/7/2008	--	ND<250	--	--	--	--	--	--	--
3/13/2009	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/18/2010	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
3/8/2011	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
2/16/2012	ND<10	--	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**
U-1									
10/13/2000	ND	ND	ND	--	--	ND	ND	ND	ND
9/17/2002	ND<500	ND<2500	ND<10	--	--	ND<10	ND<10	ND<10	ND<10
9/5/2003	--	ND<500	--	--	--	--	--	--	--
3/4/2004	--	ND<20000	--	--	--	--	--	--	--
9/9/2004	--	ND<2000	--	--	--	--	--	--	--
3/1/2005	--	ND<1300	--	--	--	--	--	--	--
8/2/2005	--	ND<1000	--	--	--	--	--	--	--

Table 5
Additional Groundwater Analytical Results
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	TBA (8260B) (µg/L)	Ethanol (8260B) (µg/L)	1,2-DBA (8260B) (µg/L)	1,2-DBA (504) (µg/L)	1,2-DCA (8260B) (µg/L)	DIPE (8260B) (µg/L)	EtBE (8260B) (µg/L)	TAME (8260B) (µg/L)	1,1-DCA (µg/L)
U-1 continued									
1/20/2006	--	ND<250	--	--	--	--	--	--	--
7/11/2006	--	ND<25000	--	--	--	--	--	--	--
3/9/2007	--	ND<2500	--	--	--	--	--	--	--
U-3									
9/5/2003	--	ND<500	--	--	--	--	--	--	--
3/4/2004	--	ND<10000	--	--	--	--	--	--	--
9/9/2004	--	ND<250	--	--	--	--	--	--	--
3/1/2005	--	ND<500	--	--	--	--	--	--	--
8/2/2005	--	ND<250	--	--	--	--	--	--	--
1/20/2006	--	ND<250	--	--	--	--	--	--	--
7/11/2006	--	ND<2500	--	--	--	--	--	--	--
3/9/2007	--	ND<1200	--	--	--	--	--	--	--
7/6/2007	--	ND<250	--	--	--	--	--	--	--
TRIP BLANK QA									
1/30/2013	**ND<10**	**ND<250**	**ND<0.50**	**--**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**

Notes:
TBA = Tertiary-Butyl Alcohol
1,2-DBA = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
DIPE = Di-Isopropyl Ether
EtBE = Ethyl Tertiary-Butyl Ether
TAME = Tertiary-Amyl Methyl Ether
1,1-DCA = 1,1-Dichloroethane
µg/L = Micrograms per liter
-- = Not Measured/Not Analyzed

[1] = Laboratory report indicates PQL's and MDL's were raised due to sample dilution.

Table 6
Monitored Natural Attenuation Parameters
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	Pre-purge DO (mg/L)	Post-purge DO (mg/L)	Pre-purge ORP (mV)	Post-purge ORP (mV)	Total Alkalinity as $CaCO_3$ (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Methane (mg/L)	Ferrous Iron (µg/L)	Total Sulfide (mg/L)
U-1R										
8/6/2012	0.52	0.55	238	218	550	12	11	14[1,2]	11000[1]	ND<0.10
1/30/2013	**0.90**	**0.80**	**121**	**110**	**570**	**1.4**	**3.4**	**4.1[1]**	**5900[1]**	**ND<0.10**
U-2										
3/27/1997	4.36	4.49	--	--	--	--	--	--	--	--
U-3R										
8/6/2012	1.58	1.08	243	249	390	46	40	0.067	490	ND<0.10
1/30/2013	**1.7**	**1.6**	**77**	**84**	**380**	**45**	**37**	**0.0070**	**210**	**ND<0.10**
U-4										
3/27/1997	3.32	3.26	--	--	--	--	--	--	--	--
U-5										
3/27/1997	3.74	3.77	--	--	--	--	--	--	--	--
1/30/2013	**2.3**	**2.1**	**98**	**108**	**390**	**100[1]**	**51**	**0.0013**	**ND<100**	**ND<0.10**
U-6										
3/20/1996	3.85	3.89	--	--	--	--	--	--	--	--
9/24/1996	3.73	3.81	--	--	--	--	--	--	--	--
3/27/1997	4.43	4.36	--	--	--	--	--	--	--	--
9/23/1997	--	4.14	--	--	--	--	--	--	--	--
3/10/1998	--	3.95	--	--	--	--	--	--	--	--
8/6/2012	1.61	0.70	173	148	410	3.2	12	0.58[1]	340	ND<0.10
1/30/2013	**1.9**	**1.7**	**106**	**118**	**400**	**8.0**	**17**	**ND<0.0010**	**230**	**ND<0.10**
U-7										
3/27/1997	3.29	3.38	--	--	--	--	--	--	--	--
8/6/2012	4.77	1.03	219	221	250	49	27	0.0012	ND<100	ND<0.10
1/30/2013	**2.5**	**2.3**	**82**	**92**	**260**	**41**	**25**	**ND<0.0010**	**ND<100**	**ND<0.10**
U-8										
3/27/1997	3.04	3.11	--	--	--	--	--	--	--	--
8/6/2012	1.42	0.59	228	210	220	70	29	0.0035	ND<100	ND<0.10
1/30/2013	**1.8**	**1.7**	**73**	**84**	**240**	**56**	**29**	**ND<0.0010**	**ND<100**	**ND<0.10**
U-9										
3/20/1996	4.02	4	--	--	--	--	--	--	--	--
9/24/1996	3.85	3.98	--	--	--	--	--	--	--	--

Table 6
Monitored Natural Attenuation Parameters
376 Lewelling Boulevard, San Lorenzo, CA

Date Sampled	Pre-purge DO (mg/L)	Post-purge DO (mg/L)	Pre-purge ORP (mV)	Post-purge ORP (mV)	Total Alkalinity as $CaCO_3$ (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Methane (mg/L)	Ferrous Iron (µg/L)	Total Sulfide (mg/L)
U-9 continued										
3/27/1997	3.65	3.57	--	--	--	--	--	--	--	--
9/23/1997	--	3.8	--	--	--	--	--	--	--	--
3/10/1998	--	3.62	--	--	--	--	--	--	--	--
1/30/2013	**2.1**	**1.9**	**78**	**86**	**390**	**14**	**24**	**ND<0.0010**	**ND<100**	**ND<0.10**
U-1										
3/27/1997	2.41	2.35	--	--	--	--	--	--	--	--
U-3										
3/27/1997	3.18	3.32	--	--	--	--	--	--	--	--

Notes:
DO = Dissolved Oxygen
ORP = Oxidation Reduction Potential
$CaCO_3$ = Calcium carbonate
mg/L = Milligrams per liter
mV = Millivolts
µg/L = Micrograms per liter
-- = Not Measured/Not Analyzed

[1] = Laboratory report indicates PQL's and MDL's were raised due to sample dilution.
[2] = Laboratory report indicates sample result is not within the quantitation range of the method.

Appendix A

Low-Threat Underground Storage Tank (UST) Case Closure Policy (LTCP)

Low-Threat Underground Storage Tank Case Closure Policy

Preamble

The State Water Resources Control Board (State Water Board) administers the petroleum UST (Underground Storage Tank) Cleanup Program, which was enacted by the Legislature in 1984 to protect health, safety and the environment. The State Water Board also administers the petroleum UST Cleanup Fund (Fund), which was enacted by the Legislature in 1989 to assist UST owners and operators in meeting federal financial responsibility requirements and to provide reimbursement to those owners and operators for the high cost of cleaning up unauthorized releases caused by leaking USTs.

The State Water Board believes it is in the best interest of the people of the State that unauthorized releases be prevented and cleaned up to the extent practicable in a manner that protects human health, safety and the environment. The State Water Board also recognizes that the technical and economic resources available for environmental restoration are limited, and that the highest priority for these resources must be the protection of human health and environmental receptors. Program experience has demonstrated the ability of remedial technologies to mitigate a substantial fraction of a petroleum contaminant mass with the investment of a reasonable level of effort. Experience has also shown that residual contaminant mass usually remains after the investment of reasonable effort, and that this mass is difficult to completely remove regardless of the level of additional effort and resources invested.

It has been well-documented in the literature and through experience at individual UST release sites that petroleum fuels naturally attenuate in the environment through adsorption, dispersion, dilution, volatilization, and biological degradation. This natural attenuation slows and limits the migration of dissolved petroleum plumes in groundwater. The biodegradation of petroleum, in particular, distinguishes petroleum products from other hazardous substances commonly found at commercial and industrial sites.

The characteristics of UST releases and the California UST Program have been studied extensively, with individual works including:

a. Lawrence Livermore National Laboratory report (1995)
b. SB1764 Committee report (1996)
c. UST Cleanup Program Task Force report (2010)
d. Cleanup Fund Task Force report (2010)
e. Cleanup Fund audit (2010)
f. State Water Resources Control Board site closure orders
g. State Water Resources Control Board Resolution 2009-0081

In general, these efforts have recognized that many petroleum release cases pose a low threat to human health and the environment. Some of these studies also recommended establishing “low-threat” closure criteria in order to maximize the benefits to the people of the State of California through judicious application of available resources.

The purpose of this policy is to establish consistent statewide case closure criteria for low-threat petroleum UST sites. The policy is consistent with existing statutes, regulations, State Water Board precedential decisions, policies and resolutions, and is intended to provide clear direction to responsible parties, their service providers, and regulatory agencies. The policy seeks to increase UST cleanup process efficiency. A benefit of improved efficiency is the preservation of limited resources for mitigation of releases posing a greater threat to human and environmental health.

This policy is based in part upon the knowledge and experience gained from the last 25 years of investigating and remediating unauthorized releases of petroleum from USTs. While this policy does not specifically address other petroleum release scenarios such as pipelines or above ground storage tanks, if a particular site with a different petroleum release scenario exhibits attributes similar to those which this policy addresses, the criteria for closure evaluation of these non-UST sites should be similar to those in this policy.

This policy is a state policy for water quality control and applies to all petroleum UST sites subject to Chapter 6.7 of Division 20 of the Health and Safety Code and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations. The term "regulatory agencies" in this policy means the State Water Board, Regional Water Quality Control Boards (Regional Water Boards) and local agencies authorized to implement Health and Safety Code section 25296.10. Unless expressly provided in this policy, the terms in this policy shall have the same definitions provided in Chapter 6.7 of Division 20 of the Health and Safety Code and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations.

Criteria for Low-Threat Case Closure

In the absence of unique attributes of a case or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, cases that meet the general and media-specific criteria described in this policy pose a low threat to human health, safety or the environment and are appropriate for closure pursuant to Health and Safety Code section 25296.10. Cases that meet the criteria in this policy do not require further corrective action and shall be issued a uniform closure letter consistent with Health and Safety Code section 25296.10. Annually, or at the request of the responsible party or party conducting the corrective action, the regulatory agency shall conduct a review to determine whether the site meets the criteria contained in this policy.

It is important to emphasize that the criteria described in this policy do not attempt to describe the conditions at all low-threat petroleum UST sites in the State. The regulatory agency shall issue a closure letter for a case that does not meet these criteria if the regulatory agency determines the site to be low-threat based upon a site specific analysis.

This policy recognizes that some petroleum-release sites may possess unique attributes and that some site specific conditions may make case closure under this policy inappropriate, despite the satisfaction of the stated criteria in this policy. It is impossible to completely capture those sets of attributes that may render a site ineligible for closure based on this low-threat policy. This policy relies on the regulatory agency's use of the conceptual site model to identify the special attributes that would require specific attention prior to the application of low-threat criteria. In these cases, it is the regulatory agency's responsibility to identify the conditions that make closure under the policy inappropriate.

General Criteria
General criteria that must be satisfied by all candidate sites are listed as follows:

a. The unauthorized release is located within the service area of a public water system;
b. The unauthorized release consists only of petroleum;
c. The unauthorized ("primary") release from the UST system has been stopped;
d. Free product has been removed to the maximum extent practicable;
e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed;
f. Secondary source has been removed to the extent practicable;
g. Soil or groundwater has been tested for methyl tert-butyl ether (MTBE) and results reported in accordance with Health and Safety Code section 25296.15; and
h. Nuisance as defined by Water Code section 13050 does not exist at the site.

a. The unauthorized release is located within the service area of a public water system
This policy is protective of existing water supply wells. New water supply wells are unlikely to be installed in the shallow groundwater near former UST release sites. However, it is difficult to predict, on a statewide basis, where new wells will be installed, particularly in rural areas that are undergoing new development. This policy is limited to areas with available public water systems to reduce the likelihood that new wells in developing areas will be inadvertently impacted by residual petroleum in groundwater. Case closure outside of areas with a public water system should be evaluated based upon the fundamental principles in this policy and a site specific evaluation of developing water supplies in the area. For purposes of this policy, a public water system is a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

b. The unauthorized release consists only of petroleum
For the purposes of this policy, petroleum is defined as crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means 60 degrees Fahrenheit and 14.7 pounds per square inch absolute, including the following substances: motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils, including any additives and blending agents such as oxygenates contained in the formulation of the substances.

c. The unauthorized release has been stopped
The tank, pipe, or other appurtenant structure that released petroleum into the environment (i.e. the primary source) has been removed, repaired or replaced. It is not the intent of this policy to allow sites with ongoing leaks from the UST system to qualify for low-threat closure.

d. Free product has been removed to the maximum extent practicable
At petroleum unauthorized release sites where investigations indicate the presence of free product, free product shall be removed to the maximum extent practicable. In meeting the requirements of this section:

(a) Free product shall be removed in a manner that minimizes the spread of the unauthorized release into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable laws;

(b) Abatement of free product migration shall be used as a minimum objective for the design of any free product removal system; and
(c) Flammable products shall be stored for disposal in a safe and competent manner to prevent fires or explosions.

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed

The Conceptual Site Model (CSM) is a fundamental element of a comprehensive site investigation. The CSM establishes the source and attributes of the unauthorized release, describes all affected media (including soil, groundwater, and soil vapor as appropriate), describes local geology, hydrogeology and other physical site characteristics that affect contaminant environmental transport and fate, and identifies all confirmed and potential contaminant receptors (including water supply wells, surface water bodies, structures and their inhabitants). The CSM is relied upon by practitioners as a guide for investigative design and data collection. Petroleum release sites in California occur in a wide variety of hydrogeologic settings. As a result, contaminant fate and transport and mechanisms by which receptors may be impacted by contaminants vary greatly from location to location. Therefore, the CSM is unique to each individual release site. All relevant site characteristics identified by the CSM shall be assessed and supported by data so that the nature, extent and mobility of the release have been established to determine conformance with applicable criteria in this policy. The supporting data and analysis used to develop the CSM are not required to be contained in a single report and may be contained in multiple reports submitted to the regulatory agency over a period of time.

f. Secondary source has been removed to the extent practicable

"Secondary source" is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. Unless site attributes prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable as described herein. "To the extent practicable" means implementing a cost-effective corrective action which removes or destroys-in-place the most readily recoverable fraction of source-area mass. It is expected that most secondary mass removal efforts will be completed in one year or less. Following removal or destruction of the secondary source, additional removal or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy.

g. Soil and groundwater have been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15

Health and Safety Code section 25296.15 prohibits closing a UST case unless the soil, groundwater, or both, as applicable have been tested for MTBE and the results of that testing are known to the Regional Water Board. The exception to this requirement is where a regulatory agency determines that the UST that leaked has only contained diesel or jet fuel. Before closing a UST case pursuant to this policy, the requirements of section 25296.15, if applicable, shall be satisfied.

h. Nuisance as defined by Water Code section 13050 does not exist at the site
Water Code section 13050 defines "nuisance" as anything which meets all of the following requirements:

(1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

(2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

(3) Occurs during, or as a result of, the treatment or disposal of wastes.

For the purpose of this policy, waste means a petroleum release.

Media-Specific Criteria
Releases from USTs can impact human health and the environment through contact with any or all of the following contaminated media: groundwater, surface water, soil, and soil vapor. Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

1. Groundwater
2. Vapor Intrusion to Indoor Air
3. Direct Contact and Outdoor Air Exposure

Candidate sites must satisfy all three of these media-specific criteria as described below.

1. Groundwater
This policy describes criteria on which to base a determination that threats to existing and anticipated beneficial uses of groundwater have been mitigated or are de minimis, including cases that have not affected groundwater.

State Water Board Resolution 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* is a state policy for water quality control and applies to petroleum UST cases. Resolution 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. Resolution No. 92-49 does not require that the requisite level of water quality be met at the time of case closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame.

Water quality control plans (Basin Plans) generally establish “background” water quality as a restorative endpoint. This policy recognizes the regulatory authority of the Basin Plans but underscores the flexibility contained in Resolution 92-49.

It is a fundamental tenet of this low-threat closure policy that if the closure criteria described in this policy are satisfied at a petroleum unauthorized release site, attaining background water quality is not feasible, establishing an alternate level of water quality not to exceed that prescribed in the applicable Basin Plan is appropriate, and that water quality objectives will be attained through natural attenuation within a reasonable time, prior to the expected need for use of any affected groundwater.

If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed below. A plume that is "stable or decreasing" is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.

Groundwater-Specific Criteria

(1) a. The contaminant plume that exceeds water quality objectives is less than 100 feet in length.
   b. There is no free product.
   c. The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary.

(2) a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
   b. There is no free product.
   c. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
   d. The dissolved concentration of benzene is less than 3,000 micrograms per liter (µg/l), and the dissolved concentration of MTBE is less than 1,000 µg/l.

(3) a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
   b. Free product has been removed to the maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site.
   c. The plume has been stable or decreasing for a minimum of five years.
   d. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
   e. The property owner is willing to accept a land use restriction if the regulatory agency requires a land use restriction as a condition of closure.

(4) a. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length.
   b. There is no free product.
   c. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
   d. The dissolved concentration of benzene is less than 1,000 µg/l, and the dissolved concentration of MTBE is less than 1,000 µg/l.

(5) a. The regulatory agency determines, based on an analysis of site specific conditions that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.

Sites with Releases That Have Not Affected Groundwater
Sites with soil that does not contain sufficient mobile constituents [leachate, vapors, or light non-aqueous-phase liquids (LNAPL)] to cause groundwater to exceed the groundwater criteria in this policy shall be considered low-threat sites for the groundwater medium. Provided the general criteria and criteria for other media are also met, those sites are eligible for case closure.

For older releases, the absence of current groundwater impact is often a good indication that residual concentrations present in the soil are not a source for groundwater pollution.

2. Petroleum Vapor Intrusion to Indoor Air
Exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. This policy describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks. In many petroleum release cases, potential human exposures to vapors are mitigated by bioattenuation processes as vapors migrate toward the ground surface. For the purposes of this section, the term "bioattenuation zone" means an area of soil with conditions that support biodegradation of petroleum hydrocarbon vapors.

The low-threat vapor-intrusion criteria described below apply to sites where the release originated and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or
(2) buildings for human occupancy are reasonably expected to be constructed in the future. Appendices 1 through 4 (attached) illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario. Petroleum release sites shall satisfy the media-specific criteria for petroleum vapor intrusion to indoor air and be considered low-threat for the vapor-intrusion-to-indoor-air pathway if:

a. Site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable, or all of the characteristics and criteria of scenario 4 as applicable; or

b. A site-specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency; or

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health.

Exception: Exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.

3. Direct Contact and Outdoor Air Exposure

This policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatized to outdoor air poses a low threat to human health. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, and inhalation of volatile soil emissions and inhalation of particulate emissions. The 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or

b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Table 1

Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health

Chemical	Residential		Commercial/ Industrial		Utility Worker
	0 to 5 feet bgs	Volatilization to outdoor air (5 to 10 feet bgs)	0 to 5 feet bgs	Volatilization to outdoor air (5 to 10 feet bgs)	0 to 10 feet bgs
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	1.9	2.8	8.2	12	14
Ethylbenzene	21	32	89	134	314
Naphthalene	9.7	9.7	45	45	219
PAH[1]	0.063	NA	0.68	NA	4.5

Notes:

1. Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. Sampling and analysis for PAH is only necessary where soil as affected by either waste oil or Bunker C fuel.
2. The area of impacted soil where a particular exposure occurs is 25 by 25 meters (approximately 82 by 82 feet) or less.
3. NA = not applicable
4. mg/kg = milligrams per kilogram

Low-Threat Case Closure

Cases that meet the general and media-specific criteria established in this policy pose a low threat to human health, safety and the environment and satisfy the case-closure requirements of Health and Safety Code section 25296.10, and case closure is consistent with State Water Board Resolution 92-49 that requires that cleanup goals and objectives be met within a reasonable time frame. If the case has been determined by the regulatory agency to meet the criteria in this policy, the regulatory agency shall notify responsible parties that they are eligible for case closure and that the following items, if applicable, shall be completed prior to the issuance of a uniform closure letter specified in Health and Safety Code section 25296.10. After completion of these items, and unless the regulatory agency revises its determination based on comments received on the proposed case closure, the regulatory agency shall issue a uniform closure letter within 30 days from the end of the comment period.

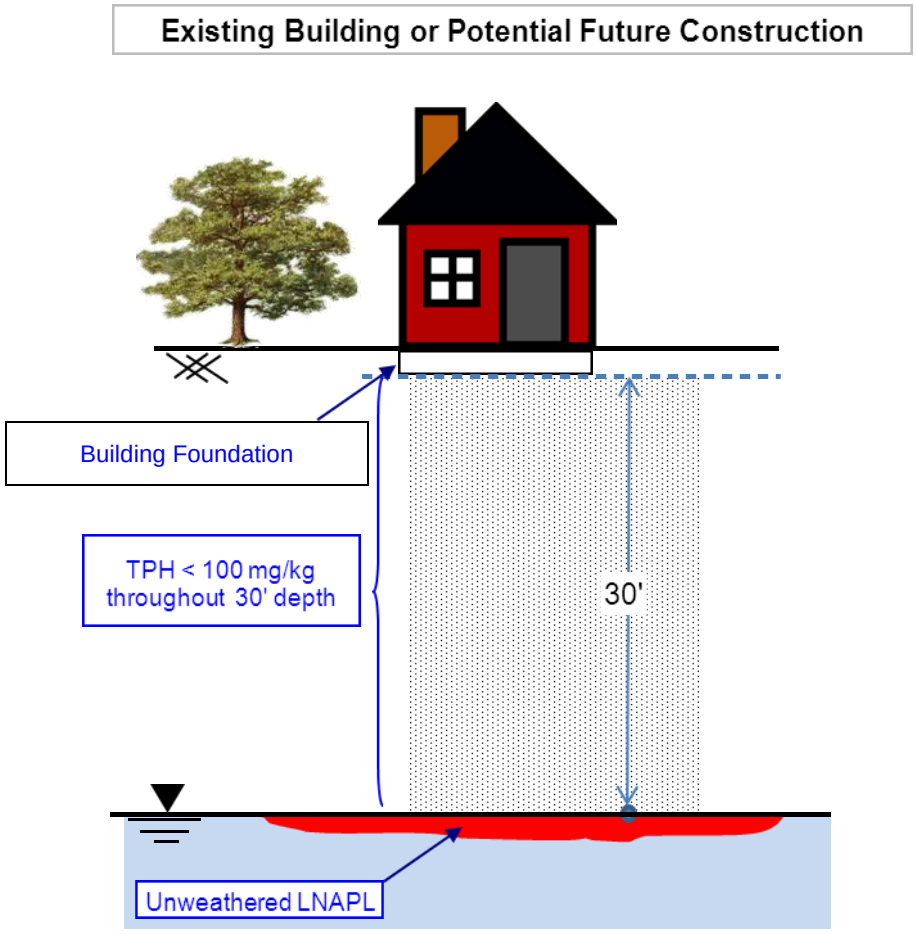
a. Notification Requirements – Municipal and county water districts, water replenishment districts, special act districts with groundwater management authority, agencies with authority to issue building permits for land affected by the petroleum release, owners and occupants of the property impacted by the petroleum release, and the owners and occupants of all parcels adjacent to the impacted property shall be notified of the proposed case closure and provided a 60 day period to comment. The regulatory agency shall consider any comments received when determining if the case should be closed or if site specific conditions warrant otherwise.

b. Monitoring Well Destruction – All wells and borings installed for the purpose of investigating, remediating, or monitoring the unauthorized release shall be properly destroyed prior to case closure unless a property owner certifies that they will keep and maintain the wells or borings in accordance with applicable local or state requirements.

c. Waste Removal – All waste piles, drums, debris and other investigation or remediation derived materials shall be removed from the site and properly managed in accordance with regulatory agency requirements.

Appendix 1
Scenario 1: Unweathered* LNAPL in Groundwater

Required Characteristics of the Bioattenuation Zone



Required Characteristics of the Bioattenuation Zone:

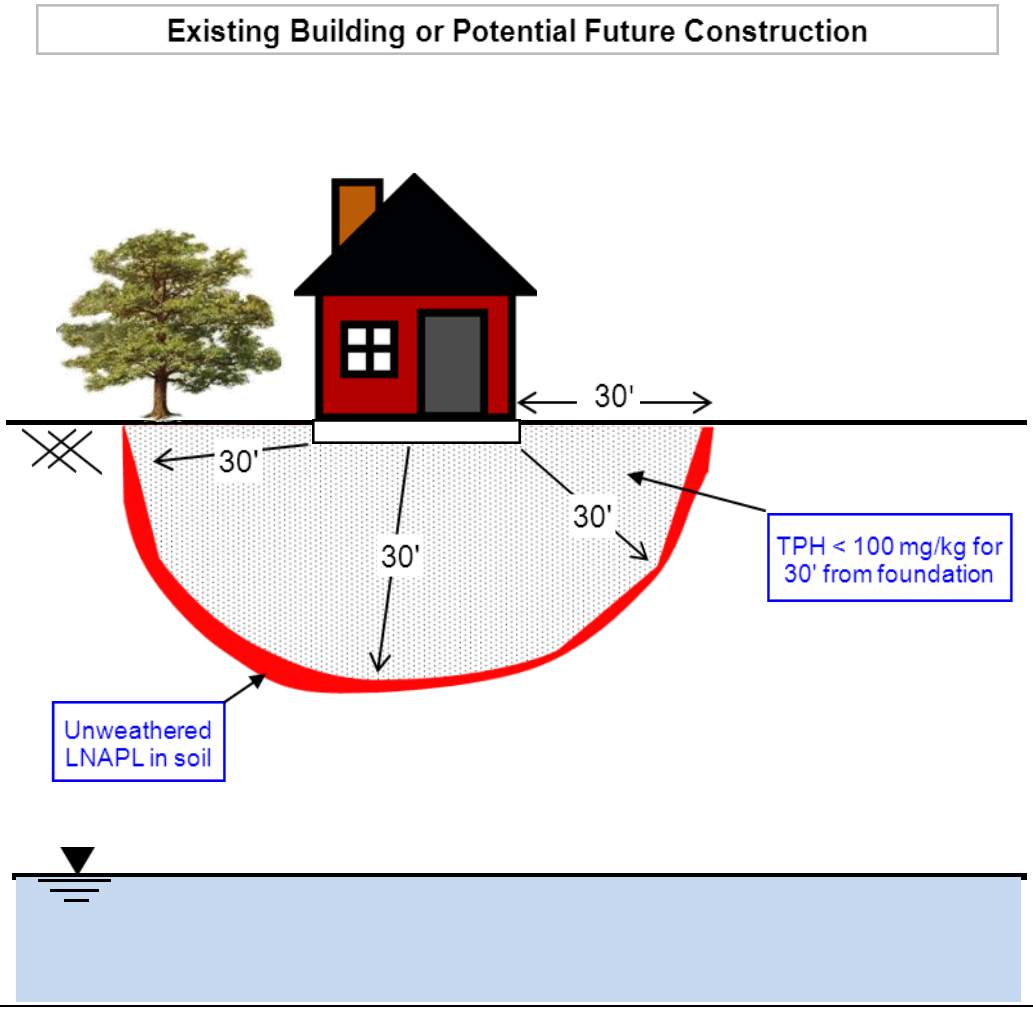
1. The bioattenuation zone shall be a continuous zone that provides a separation of at least 30 feet vertically between the LNAPL in groundwater and the foundation of existing or potential buildings; and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

TPH = total petroleum hydrocarbons
TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel

*As used in this context, unweathered LNAPL is generally understood to mean petroleum product that has not been subjected to significant volatilization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel).

Appendix 2
Scenario 2: Unweathered* LNAPL in Soil

Required Characteristics of the Bioattenuation Zone



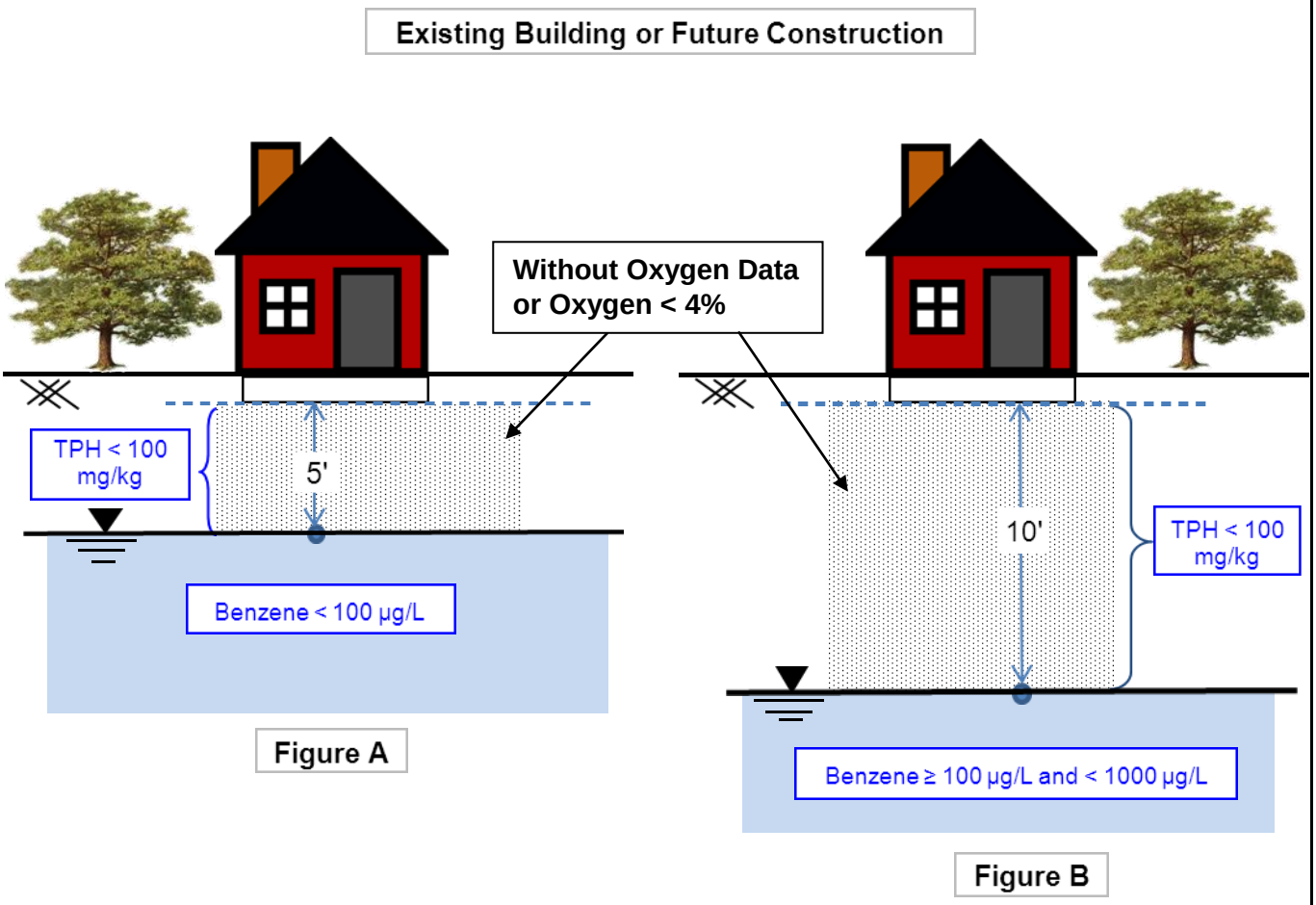
Required Characteristics of the Bioattenuation Zone:

1. The bioattenuation zone shall be a continuous zone that provides a separation of at least 30 feet both laterally and vertically between the LNAPL in soil and the foundation of existing or potential buildings, and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire lateral and vertical extent of the bioattenuation zone.

*As used in this context, unweathered LNAPL is generally understood to mean petroleum product that has not been subjected to significant volatilization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel).

Appendix 3
Scenario 3 - Dissolved Phase Benzene Concentrations in Groundwater
(Low concentration groundwater scenarios with or without oxygen data)
(1 of 2)

Defining the Bioattenuation Zone Without Oxygen Data or Oxygen < 4%



Required Characteristics of Bioattenuation Zone for Sites Without Oxygen Data or Where Oxygen is < 4%

Figure A: 1) Where benzene concentrations are less than 100 µg/L, the bioattenuation zone:

a) Shall be a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
b) Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Figure B: 1) Where benzene concentrations are equal to or greater than 100 µg/L but less than 1000 µg/L, the bioattenuation zone:

a) Shall be a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and b) Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Appendix 3
Scenario 3 - Dissolved Phase Benzene Concentrations in Groundwater
(Low concentration groundwater scenarios with or without oxygen data)
(2 of 2)

Defining the Bioattenuation Zone With Oxygen ≥ 4%

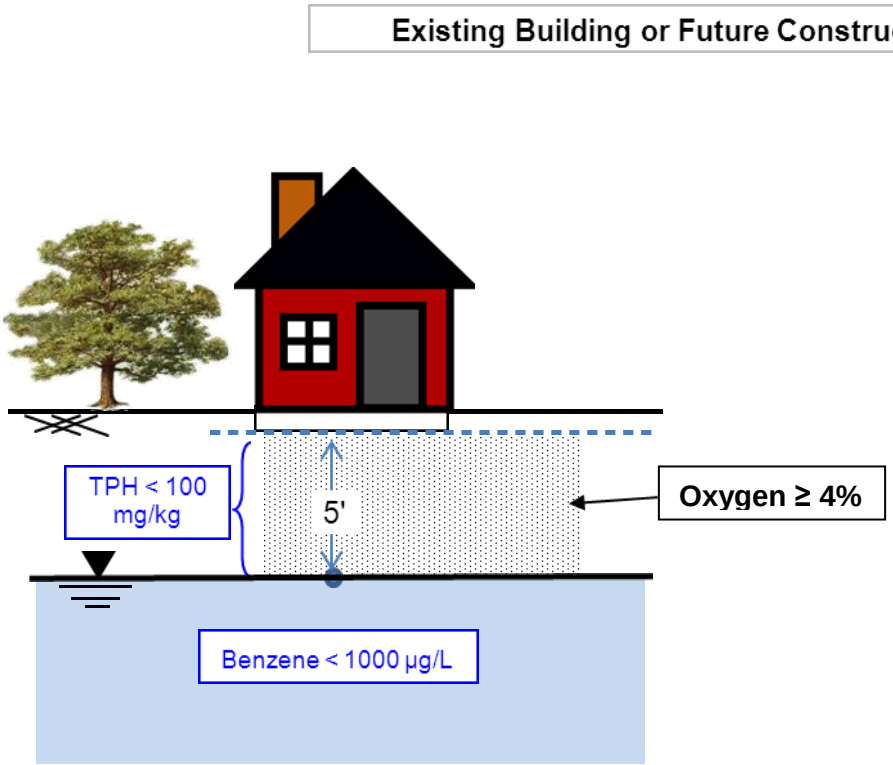


Figure C

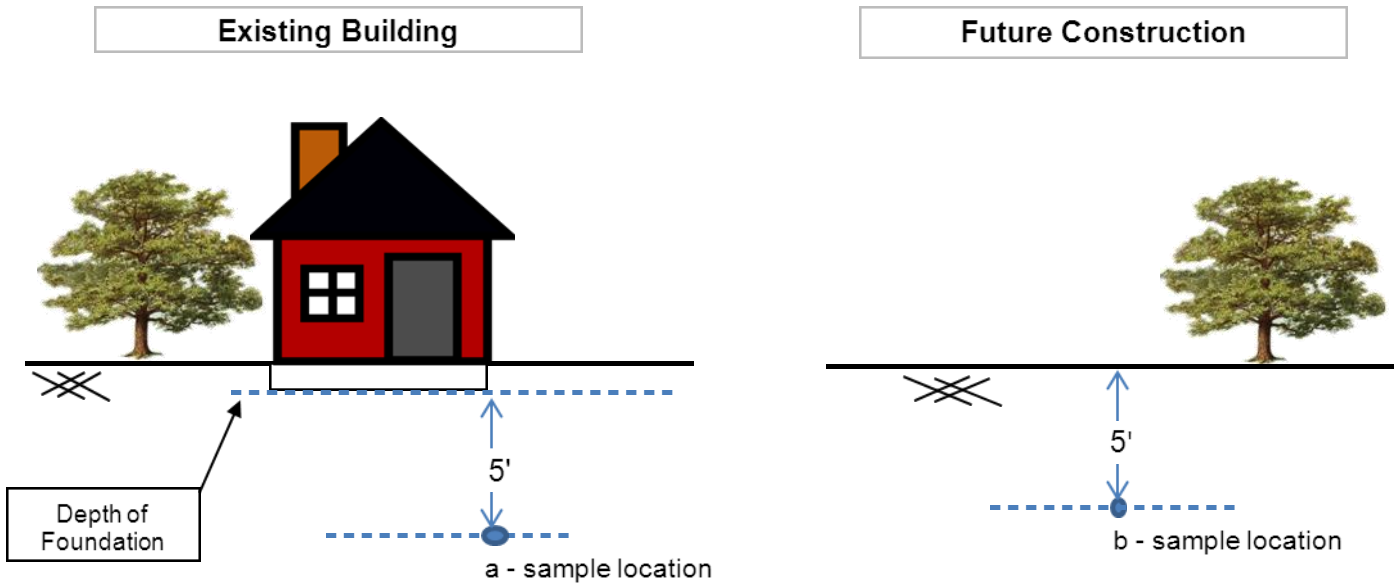
Required Characteristics of Bioattenuation Zone for Sites With Oxygen ≥ 4%

Where benzene concentrations are less than 1000 µg/L, the bioattenuation zone:

1. Shall be a continuous zone that provides a separation of least 5 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
2. Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Appendix 4
Scenario 4 - Direct Measurement of Soil Gas Concentrations
(1 of 2)

Soil Gas Sampling – No Bioattenuation Zone



The criteria in the table below apply unless the requirements for a bioattenuation zone, established below, are satisfied.

When applying the criteria below, the soil gas sample must be obtained from the following locations:

a. Beneath or adjacent to an existing building: The soil gas sample shall be collected at least five feet below the bottom of the building foundation.
b. Future construction: The soil gas sample shall be collected from at least five feet below ground surface.

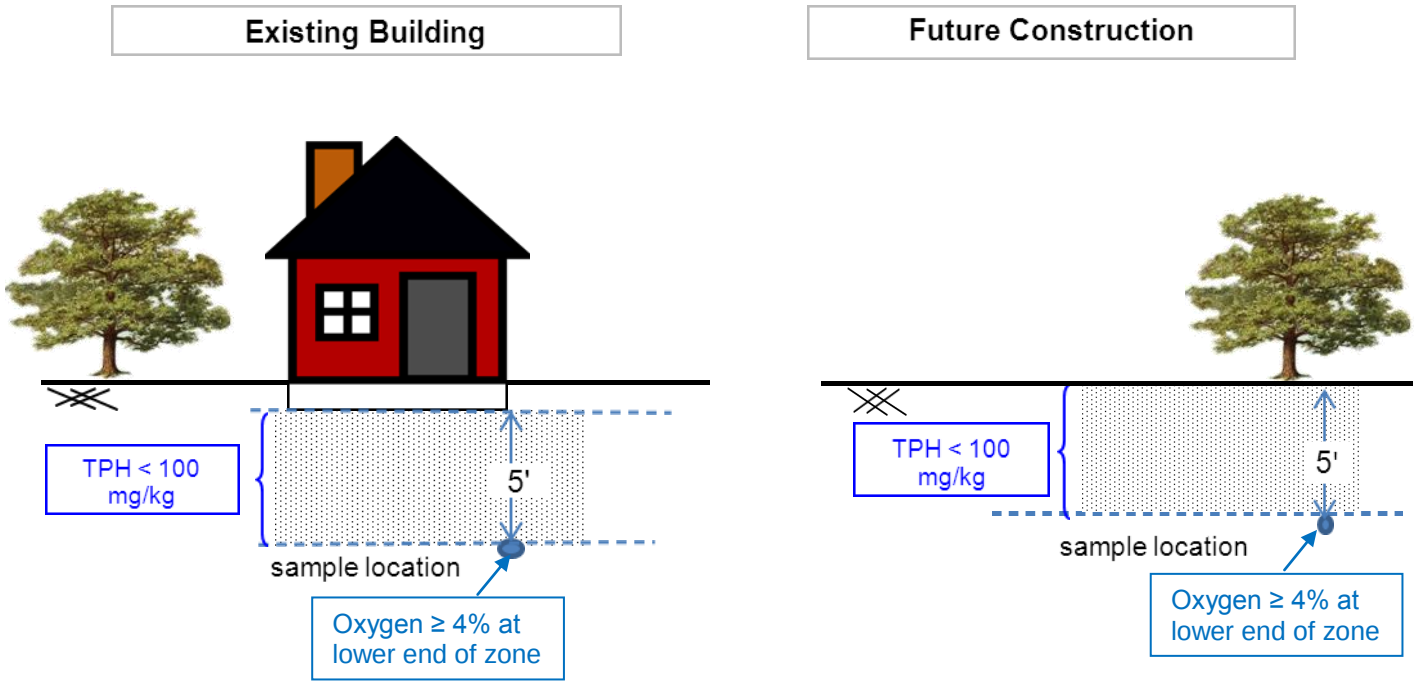
Soil Gas Criteria (µg/m^3)

	No Bioattenuation Zone*	
	Residential	**Commercial**
Constituent	Soil Gas Concentration (µg/m^3)	
Benzene	< 85	< 280
Ethylbenzene	<1,100	<3,600
Naphthalene	< 93	< 310

*For the no bioattenuation zone, the screening criteria are same as the California Human Health Screening Levels (CHHSLs) with engineered fill below sub-slab.

Appendix 4
Scenario 4 - Direct Measurement of Soil Gas Concentrations
(2 of 2)

Soil Gas Sampling – With Bioattenuation Zone



The criteria in the table below apply if the following requirements for a biattenuation zone are satisfied:

1. There is a minimum of five vertical feet of soil between the soil vapor measurement and the foundation of an existing building or ground surface of future construction.
2. TPH (TPHg + TPHd) is less than 100 mg/kg (measured in at least two depths within the five-foot zone.)
3. Oxygen is greater than or equal to four percent measured at the bottom of the five-foot zone.

Soil Gas Criteria (µg/m^3)

	With Bioattenuation Zone**	
	Residential	**Commercial**
Constituent	Soil Gas Concentration (µg/m^3)	
Benzene	< 85,000	< 280,000
Ethylbenzene	<1,100,000	<3,600,000
Naphthalene	< 93,000	< 310,000

**A 1000-fold bioattenuation of petroleum vapors is assumed for the bioattenuation zone.

Appendix B

Soil Borehole and Well Logs

Woodward-Clyde Consultants

PROJECT NAME Gettler-Ryan NO. 8820011A

MONITORING WELL LOCATION	376 Lewelling Blvd., San Lorenzo, CA						ELEVATION AND DATUM		
DRILLING AGENCY	Bay Land Drilling	DRILLER	Kurt				DATE STARTED / DATE FINISHED	2/1/88 / 2/1/88	
DRILLING EQUIPMENT	CME - 55						COMPLETION DEPTH	30.5'	SAMPLER: California Modified Sampler
DRILLING METHOD	8-inch Hollowstem Augers	DRILL BIT					NO. OF SAMPLES: DIST.	6	UNDIST. none
SIZE AND TYPE OF CASING	3-inch PVC						WATER LEVEL: FIRST	17.9'	COMPL. 24 HRS.
TYPE OF PERFORATION	0.020-inch slotted screen	FROM	30.5	TO	10.5	FT.	LOGGED BY: G. Heyman		CHECKED BY: M. Bonkowski
SIZE AND TYPE OF PACK	12/20 Monterey sand	FROM	30.5	TO	7	FT.			
TYPE OF SEAL NO. 1	Bentonite	FROM	7	TO	5.5	FT.			
TYPE OF SEAL NO. 2	Cement	FROM	5.5	TO	0.7	FT.			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION		USCS	Well Construction
			ASPHALTIC PAVEMENT			
5	1	Sampler Pushed @ 450 psi	SAND with CLAYEY SAND yellow-brown with dark gray brown clayey pockets, fine to medium grained, loose, moist, subrounded, moderately to poorly sorted, clayey sand is more common in samples C and D, contains organic fragments	No odor	SP-SC	
10	2	1 2 1	medium brown, fine to medium grained with little to some clay, very loose to loose, wet, subrounded, well to moderately sorted, fine organic fragments throughout	No odor	SP-SC	
15	3	3 5 3	SAND with interlayered CLAYEY SILT brown to dark brown, silt is dark gray, fine to very coarse grained sand, little gravel to 2x2x2.5 cm., little to some clay, medium dense, stiff, silt has low plasticity, wet, subrounded to subangular, silt layers are up to 3-inches thick in the B sample	Organic odor	SW & ML	
20	4	2 4 5	SAND dark gray, fine to medium grained, little to some clay, little gravel to 0.5x0.5x1cm., loose, saturated, subrounded to subangular, poorly sorted, homogeneous	Strong hydrocarbon odor Free product on sampler	SW	
			CLAY at 23.5 feet in cuttings			
25	5	3 5 7	SILTY CLAY and CLAY dark to medium gray brown, trace very fine to medium sand, one 2-inch layer of clayey sand, medium to high plasticity, stiff, saturated, homogeneous	Weak hydrocarbon odor	CH	
30	6	9 15 23	CLAY dark gray brown, little to some silt, occasionally little very fine to medium sand, very plastic, very stiff to hard, wet, homogeneous	Weak hydrocarbon odor	CH	
			BOTTOM OF BORING: 30.5'			

Field location of boring: (See Plate 2)	Project No.: 7809	Date: 08/06/90	Boring No.: U-2
	Client: UNOCAL #5760		
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 1 of 2
	Logged by: M.J.J.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow Stem Auger			
Hole diameter: 8-Inches	Top of Box Elevation: 41.62		Datum: MSL

Water Level	20.0'	21.52'
Time	10:30	16:02
Date	08/06/90	08/06/90

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				0				PAVEMENT SECTION - 0.5 feet
				1				FILL - Gravel with Sand (GW) - dark brown (7.5YR 3/4), loose, damp; 75% fine to coarse gravel; 20% sand; 5% silt; no chemical odor.
				2				
				3				SANDY SILT (ML) - very dark grayish brown (10YR 3/2), medium stiff, damp; 55% silt; 35% sand; 10% clay; no chemical odor.
				4				COLOR CHANGE to olive brown (2.5Y 4/4) at 3.0 feet; increasing sand at 3.0 feet.
	150	S&H		5				
0	150	push	U-2-5					
	150			6				SILTY SAND (SM) - olive brown (2.5Y 4/4), soft, damp; 60% fine sand; 40% silt; no chemical odor.
				7				
				8				
				9				
	150	S&H						
0	150	push	U-2-10	10				SAND (SP) - dark brown (10YR 3/3), loose, damp; 85% fine sand; 15% silt; no chemical odor.
	150							
				11				
				12				
				13				
				14				
	0							SILTY CLAY (CL/ML) - very dark grayish brown (10YR 3/2), soft, saturated; 50% clay; 40% silt; 10% fine sand; rootholes; no chemical odor.
0	0	S&H	U-2-15	15				
	4							
				16				
				17				
				18				
				19				

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. U-2

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CEG 1262	08/90		

Field location of boring: (See Plate 2)	Project No.: 7809	Date: 08/06/90	Boring No: U-2
	Client: UNOCAL #5760		
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 2 of 2
	Logged by: M.J.J.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow Stem Auger			
Hole diameter: 8-Inches	Top of Box Elevation:		Datum:
	Water Level		
	Time		
	Date		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	0			20		▽		SANDY SILT (ML) - dark brown (10YR 3/3), medium stiff, very moist; 70% silt; 30% fine sand; trace clay; no chemical odor.
0	2	S&H	U-2-20					
	3			21				
						▼		
				22				
				23				
				24				SAND (SP) - dark brown (10YR 3/3), loose, saturated; 100% fine to coarse sand; trace silt; no chemical odor.
	3							
0	4	S&H	U-2-25	25				
	3							
				26				CLAY (CL) - very dark grayish brown (2.5Y 3/2), medium stiff, moist; 55% clay; 40% silt; 5% very fine sand; no chemical odor.
				27				
				28				Hard drilling at 28.0 feet.
				29				Increasing clay at 29.0 feet.
	7							COLOR CHANGE to light olive brown (2.5Y 5/4), very stiff, damp; no chemical odor.
0	10	S&H	U-2-30	30				
	12							
				31				
	9			32				
0	11	S&H	U-2-33					no chemical odor.
	13			33				
								Bottom of sample at 33.0 feet.
				34				Bottom of boring at 33.0 feet.
								08/06/90
				35				
				36				
				37				
				38				
				39				

Remarks:

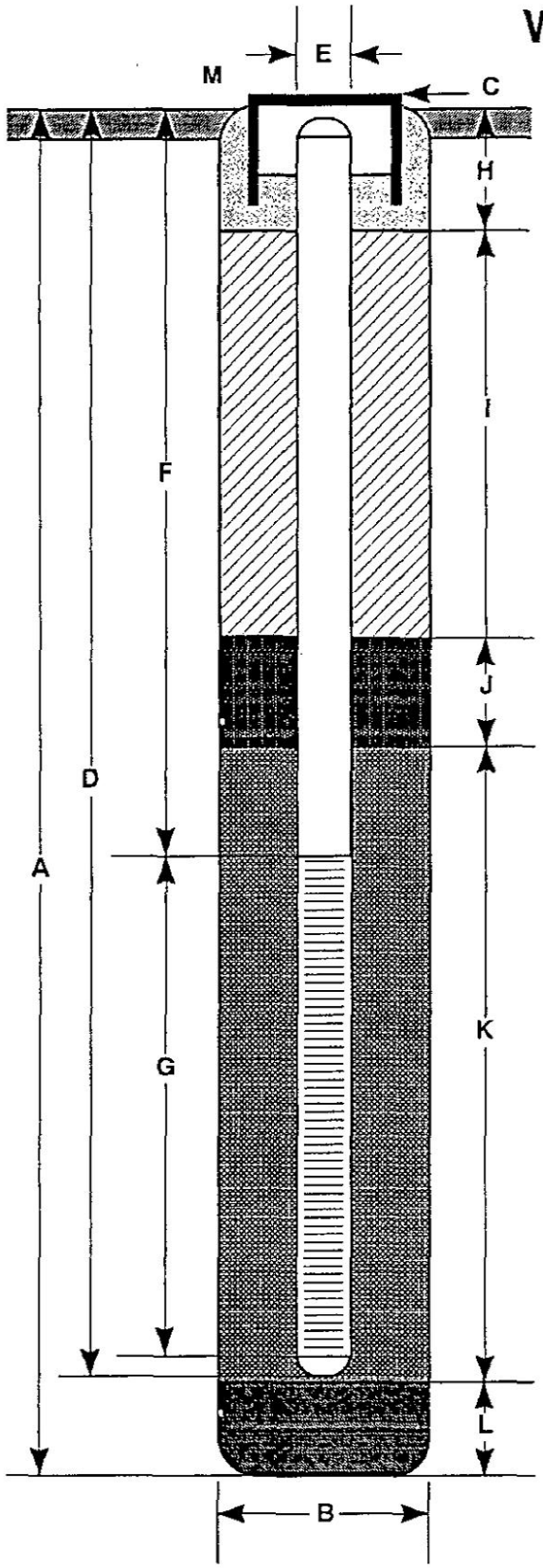
GeoStrategies Inc.

Log of Boring

BORING NO. U-2

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CMP CEG 12/92	08/90		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 33.0 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation 41.62 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 30.0 ft.
Material Schedule 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 15.0 ft.

G Perforated Length 15.0 ft.
Perforated Interval from 15.0 to 30.0 ft.
Perforation Type Machine Slot
Perforation Size 0.020 in.

H Surface Seal from 0.5 to 1.5 ft.
Seal Material Concrete

I Backfill from 1.5 to 11.0 ft.
Backfill Material Concrete Grout

J Seal from 11.0 to 13.0 ft.
Seal Material Bentonite

K Gravel Pack from 13.0 to 30.0 ft.
Pack Material #2/12 Graded Sand

L Bottom Seal 3.0 ft.
Seal Material 2 feet Slough/1 foot Bentonite

M *Waterproof vault with locking well cap and lock.*

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO. U-2

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CWP CEG 12/92	08/90		

Field location of boring: (See Plate 2)	Project No.: 7809	Date: 08/06/90	Boring No: U-3
	Client: UNOCAL #5760		
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 1 of 2
	Logged by: M.J.J.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow Stem Auger			
Hole diameter: 8-Inches	Top of Box Elevation: 39.64		Datum: MSL

Water Level	19.5'	20.80'
Time	14:25	16:05
Date	08/06/90	08/06/90

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								PAVEMENT SECTION - 0.5 feet
				1				
								FILL - Gravel (GW) - dark gray (2.5Y N9/0), loose, dry;
				2				85% fine to coarse gravel; 15% coarse sand; trace silt;
								no chemical odor.
				3				SANDY SILT (ML) - olive brown (2.5Y 4/4), medium stiff,
								damp; 70% silt; 30% fine sand; no chemical odor.
	175			4				SILTY SAND (SM) - light olive brown (2.5Y 5/6), loose,
0	175	S&H	U-3-5					damp; 60% fine sand; 35% silt; 5% clay; trace fine gravel;
	175	push		5				no chemical odor.
				6				
				7				
				8				Moist at 8.0 to 9.0 feet.
	150			9				
	150	S&H	U-3-10					SILTY CLAY (CL-ML) - dark grayish brown (2.5Y 4/2),
0.7	150	push		10				medium stiff, damp; 50% clay; 35% silt; 15% fine sand;
								no chemical odor.
				11				
				12				
				13				
	3			14				COLOR CHANGE to very dark gray (5Y 3/1) at 14.0 feet;
1.8	3	S&H	U-3-15					rootholes; 5% organic content; weak chemical odor.
	4			15				
				16				
				17				
				18				
	2			19				
235	4	S&H	U-3-20			▽		
	5			20				

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. U-3

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CEG 12/92	08/90		

Field location of boring: (See Plate 2)	Project No.: 7809	Date: 08/06/90	Boring No: U-3
	Client: UNOCAL #5760		
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 2 of 2
	Logged by: M.J.J.	Driller: Bayland	
Drilling method: Hollow Stem Auger	Casing installation data:		
Hole diameter: 8-Inches	Top of Box Elevation:	Datum:	

	Water Level			
	Time			
	Date			

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				21		▼		SAND with GRAVEL (SW) - very dark gray (2.5Y N3/0), loose, saturated; 80% medium to coarse sand; 20% fine to coarse gravel; strong chemical odor.
				22				
				23				
	3			24				
0.7	4	S&H	U-3-25					CLAY (CL) - light olive brown (2.5Y 5/4), stiff, damp, medium plasticity; 85% clay; 15% silt; trace sand; no chemical odor.
	9			25				
				26				
				27				
	4			28				
0	5	S&H	U-3-29					no chemical odor.
	5			29				
				30				Bottom of sample at 29.0 feet. Bottom of boring at 29.0 feet. 08/06/90
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				
				40				

Remarks:

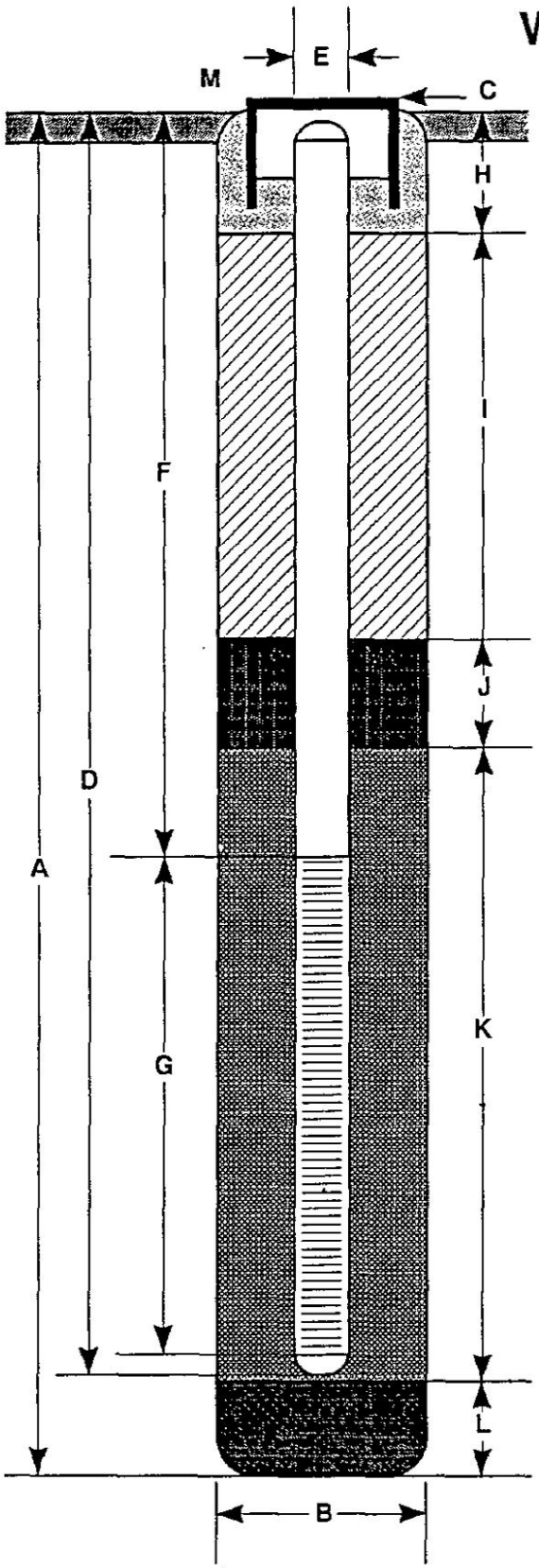
GeoStrategies Inc.

Log of Boring

BORING NO. U-3

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CEG 1262	08/90		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring: 29.0 ft.

B Diameter of Boring: 8 in.
Drilling Method: Hollow Stem Auger

C Top of Box Elevation: 39.64 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length: 25.0 ft.
Material: Schedule 40 PVC

E Casing Diameter: 3 in.

F Depth to Top Perforations: 15.0 ft.

G Perforated Length: 10.0 ft.
Perforated Interval from: 15.0 to 25.0 ft.
Perforation Type: Machine Slot
Perforation Size: 0.020 in.

H Surface Seal from: 0.5 to 1.5 ft.
Seal Material: Concrete

I Backfill from: 1.5 to 11.0 ft.
Backfill Material: Concrete Grout

J Seal from: 11.0 to 13.0 ft.
Seal Material: Bentonite

K Gravel Pack from: 13.0 to 25.0 ft.
Pack Material: #2/12 Graded Sand

L Bottom Seal: 4.0 ft.
Seal Material: Bentonite

M Waterproof vault with locking well cap and lock.

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO. **U-3**

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CWP CEG 1262	08/90		

Field location of boring: (See Plate 2)	Project No.: 7809	Date: 08/06/90	Boring No: U-4
	Client: UNOCAL #5760		
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 1 of 2
	Logged by: M.J.J.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow Stem Auger			
Hole diameter: 8-Inches	Top of Box Elevation: 40.53		Datum: MSL
	Water Level: 21.0'	20.33'	
	Time: 13:05	16:10	
	Date: 08/06/90	08/06/90	

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				0				PAVEMENT SECTION - 0.5 feet
				1				FILL - Gravel (GW) - dark brown (7.5YR 3/4), loose, damp; 100% fine to coarse gravel; no chemical odor.
				2				SANDY SILT (ML) - very dark grayish brown (10YR 3/2), medium stiff, damp; 60% silt; 35% fine sand; 5% clay; no chemical odor.
				3				SILTY SAND (SM) - olive brown (2.5Y 4/4), loose, damp; 60% fine sand; 35% silt; 5% clay; no chemical odor.
	100	S&H		4				
0	100	push	U-4-5					
	100			5				
				6				
				7				
				8				
	125	S&H		9				SAND (SP) - dark yellowish brown (10YR 3/4), loose, damp; 85% medium to coarse sand; 10-15% fine gravel; trace silt; no chemical odor.
0	125	push	U-4-10					
	125			10				
				11				
				12				
				13				
				14				
	3							
0	3	S&H	U-4-15	15				SILT with SAND (ML) - very dark brown (10YR 2/2), medium stiff, damp; 80% silt; 10% clay; 10% fine sand; trace fine gravel; no chemical odor.
	3							
				16				
				17				
				18				
				19				

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. U-4

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CEG 12/07	08/90		

Field location of boring:	Project No.: 7809	Date: 08/06/90	Boring No:
(See Plate 2)	Client: UNOCAL #5760		U-4
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 2
	Logged by: M.J.J.	Driller: Bayland	of 2
	Casing installation data:		
Drilling method: Hollow Stem Auger			
Hole diameter: 8-Inches	Top of Box Elevation:		Datum:
	Water Level		
	Time		
	Date		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	0							Moist at 20.0 feet.
0	0	S&H	U-4-20	20				Increasing sand at 20.0 feet; 70% silt; 25% sand; 5-10% clay; no chemical odor.
	4							
				21				
	6							
0	8	S&H	U-4-22	22				
	9							SAND with GRAVEL (SW) - dark brown (10YR 3/3), medium dense, saturated; 75% fine to coarse sand; 25% fine to coarse gravel; trace silt; no chemical odor.
				23				
				24				
				25				
				26				
	6							
0	8	S&H	U-4-27	27				CLAY (CL) - light olive brown (2.5Y 5/4), very stiff, damp, low to medium plasticity; 70% clay; 25% silt; 5% fine sand; no chemical odor.
	12							
	4			28				
0	10	S&H	U-4-29					
	14			29				
								Bottom of sample at 29.0 feet.
				30				Bottom of boring at 29.0 feet.
								08/06/90
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

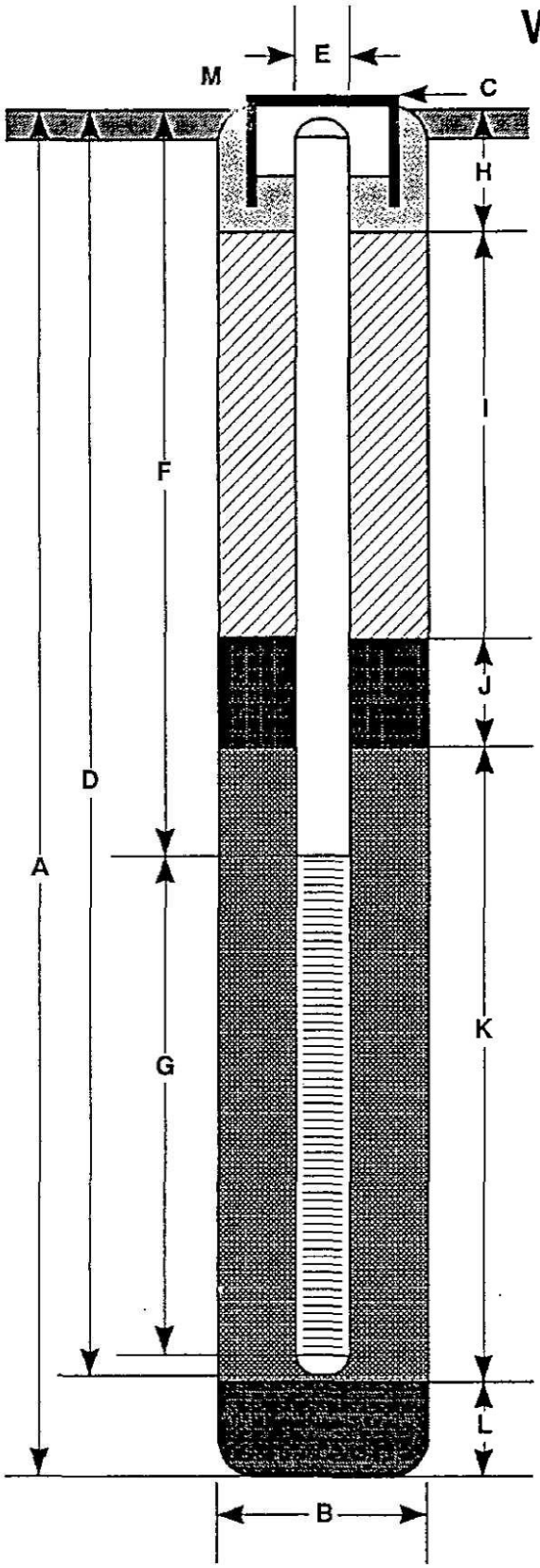
GeoStrategies Inc.

Log of Boring

BORING NO. U-4

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CEG 12/92	08/90		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring: 29.0 ft.

B Diameter of Boring: 8 in.
Drilling Method: Hollow Stem Auger

C Top of Box Elevation: 40.53 ft.
[X] Referenced to Mean Sea Level
[ ] *Referenced to Project Datum*

D Casing Length: 28.0 ft.
Material: Schedule 40 PVC

E Casing Diameter: 3 in.

F Depth to Top Perforations: 15.0 ft.

G *Perforated Length*: 13.0 ft.
Perforated Interval from: 15.0 to 28.0 ft.
Perforation Type: Machine Slot
Perforation Size: 0.020 in.

H Surface Seal from: 0.5 to 1.5 ft.
Seal Material: Concrete

I Backfill from: 1.5 to 11.0 ft.
Backfill Material: Concrete Grout

J Seal from: 11.0 to 13.0 ft.
Seal Material: Bentonite

K Gravel Pack from: 13.0 to 28.0 ft.
Pack Material: #2/12 Graded Sand

L Bottom Seal: 1.0 ft.
Seal Material: Native Material

M Waterproof vault with locking well cap and lock.

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO.

U-4

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7809	CMP CEG 1262	08/90		

Field location of boring:

(See Plate 2)

Project No.:	780902	Date: 3/12/92	Boring No: U-5
Client:	Unocal Service Station #5760		
Location:	376 Lewelling		
City:	San Lorenzo, California		Sheet 1 of 2
Logged by:	TDL	Driller: W. Hazmat	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 Inches

Top of Box Elevation: Datum:

Water Level	20.0 Ft	18.0 Ft		
Time	1:20	2:30		
Date	3/12	3/12		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				Pavement Section 1.0 feet
				2				SAND (SP) dark brown (10 YR 3/3) loose; damp; 100% fine sand; trace fines.
				3				
				4				
				5				
		S&H						Medium dense at 5.5 feet.
0	18			6				
				7				
				8				
				9				
				10				
		S&H						SAND WITH SILT (SW-SM) dark brown (10 YR 3/3)
0	12			11				medium dense; damp; 90% fine sand, 10% silt.
				12				
				13				
				14				
				15				
		S&H						SILT (ML) very dark grayish brown (10 YR 3/2) stiff;
0	9		U-5-16.5	16				damp; 90% silt; 10% fine sand; slightly clayey; rootholes
				17				
				18		▼		
				19				
				20		▽		

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. U-5

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/90		

Field location of boring: (See Plate 2)	Project No.: 780902	Date: 3/12/92	Boring No: U-5
	Client: Unocal Service Station #5760		
	Location: 376 Lewelling		
	City: San Lorenzo, California		Sheet 2 of 2
	Logged by: TDL	Driller: W. Hazmat	
Drilling method: Hollow Stem Auger	Casing installation data:		
Hole diameter: 8 inches	Top of Box Elevation:	Datum:	

								Water Level				
								Time				
								Date				
PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description				
		S&H						SAND WITH SILT (SW-SM) very dark gray (10 YR 3/1)				
0	15			21				medium dense; saturated; 90% fine sand, 10% silt.				
				22								
				23								
				24								
				25								
		S&H						CLAY (CL) dark gray (10 YR 4/1) very stiff; saturated;				
0	18			26				95% clay, 5% sand; slightly silty; mottling; nodules.				
				27								
				28								
				29								
				30								
		S&H						SILT WITH SAND (ML) brown (10 YR 4/3) stiff; saturated;				
0	8			31				85% silt, 15% fine sand; slightly clayey.				
				32								
				33				Bottom of boring 31.5 feet.				
				34				3/12/92				
				35								
				36								
				37								
				38								
				39								
				40								

Remarks: Quickly saw 2 blades, 9809

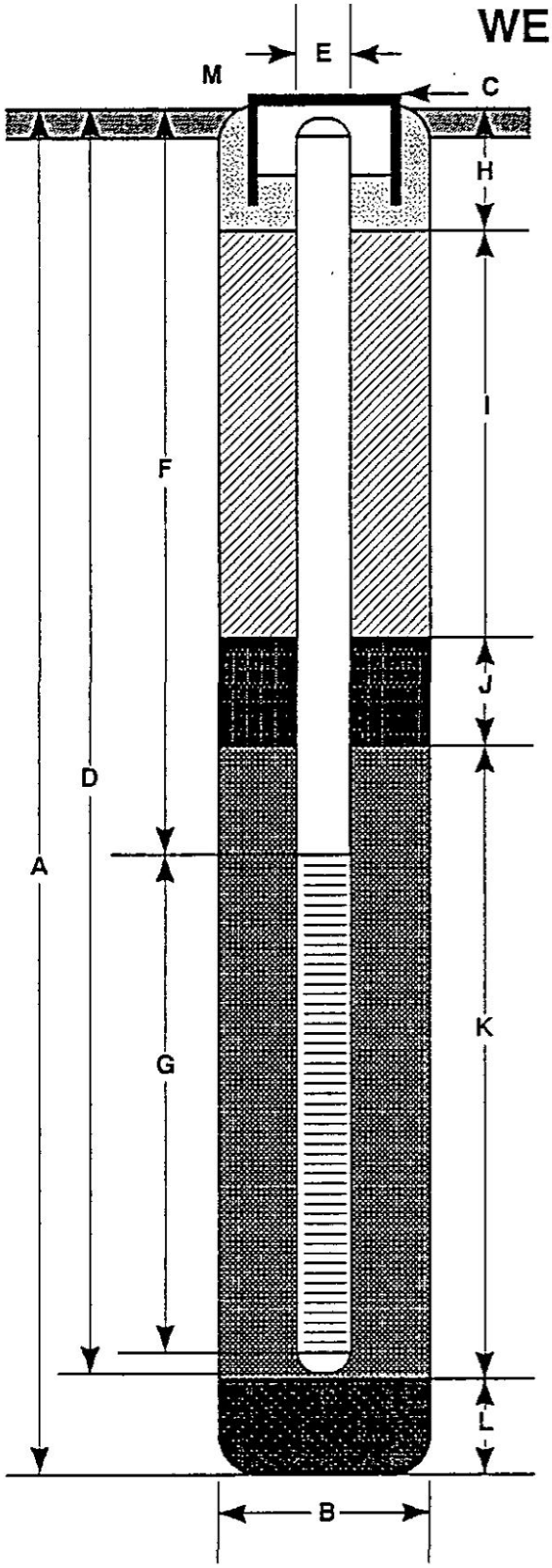
GeoStrategies Inc.

Log of Boring

BORING NO. U-5

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 31.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation 39.52 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 30 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth to Top Perforations 15 ft.

G Perforated Length 15 ft.
Perforated Interval from 15 to 30 ft.
Perforation Type Machine slot
Perforation Size 0.02 in.

H Surface Seal from 0 to 1 ft.
Seal Material Cement

I Backfill from 1 to 11 ft.
Backfill Material 11-Sack cement

J Seal from 11 to 13 ft.
Seal Material Bentonite

K Gravel Pack from 13 to 30 ft.
Pack Material Lone Star 2/12

L Bottom Seal None ft.
Seal Material

M Traffic-rated vault, locking cap and lock

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO.
U-5

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring:

(See Plate 2)

Project No.:	780902	Date: 3/13/92	Boring No: U-6
Client:	Unocal Service Station #5760		
Location:	376 Lewelling		
City:	San Lorenzo, California		Sheet 1 of 2
Logged by:	TDL	Driller: W. Hazmat	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 Inch

Top of Box Elevation: Datum:

Water Level	20.0 Ft.			
Time	10:40			
Date	3/13			

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				Pavement section 1.0 foot
		S&H		6				SAND (SP) brown (10 YR 4/3) loose; damp; 100% fine
0	5							sand; trace clay
		S&H		11				SILT (ML) dark gray (10 YR 4/1) stiff; damp; 90% silt,10%
0	11							fine sand, trace clay.
		S&H		16				Rootholes, mottling.
0	8		U-6-16.5					

Remarks:

* Converted to equivalent Standard Penetration blows/ft.

GeoStrategies Inc.

Log of Boring

BORING NO. U-6

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring:

(See Plate 2)

Project No.: 7809	Date: 3/13/92	Boring No: U-6	
Client: Unocal Service Station #5760			
Location: 376 Lewelling			
City: San Lorenzo, California		Sheet 2	
Logged by: TDL	Driller: W. Hazmat	of 2	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 Inches

Top of Box Elevation: Datum:

Water Level								
Time								
Date								

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
		S&H		21				SAND (SP) dark gray (5 YR 4/1) medium dense;
0	12							saturated; 100% fine sand.
				22				CLAY (CL) very dark gray (5 YR 3/1) stiff; saturated; 90%
								clay, 10% sand, trace silt.
				23				
				24				
				25				Color change to olive (5 YR 5/3) , very stiff; mottling at
0	26	S&H						25 feet.
				26				
				27				
				28				
				29				
				30				
		S&H						SILT (ML) brown (10 YR 5/3) very stiff; saturated; 80%
0	26			31				silt, 20% sand, slightly clayey; mottling.
								SAND (SP) brown (10 YR 4/3) dense; saturated; 100%
				32				fine sand, slightly clayey.
				33				
				34				
				35				Bottom of boring 31.5 feet.
				36				3/13/92
				37				
				38				
				39				
				40				

Remarks:

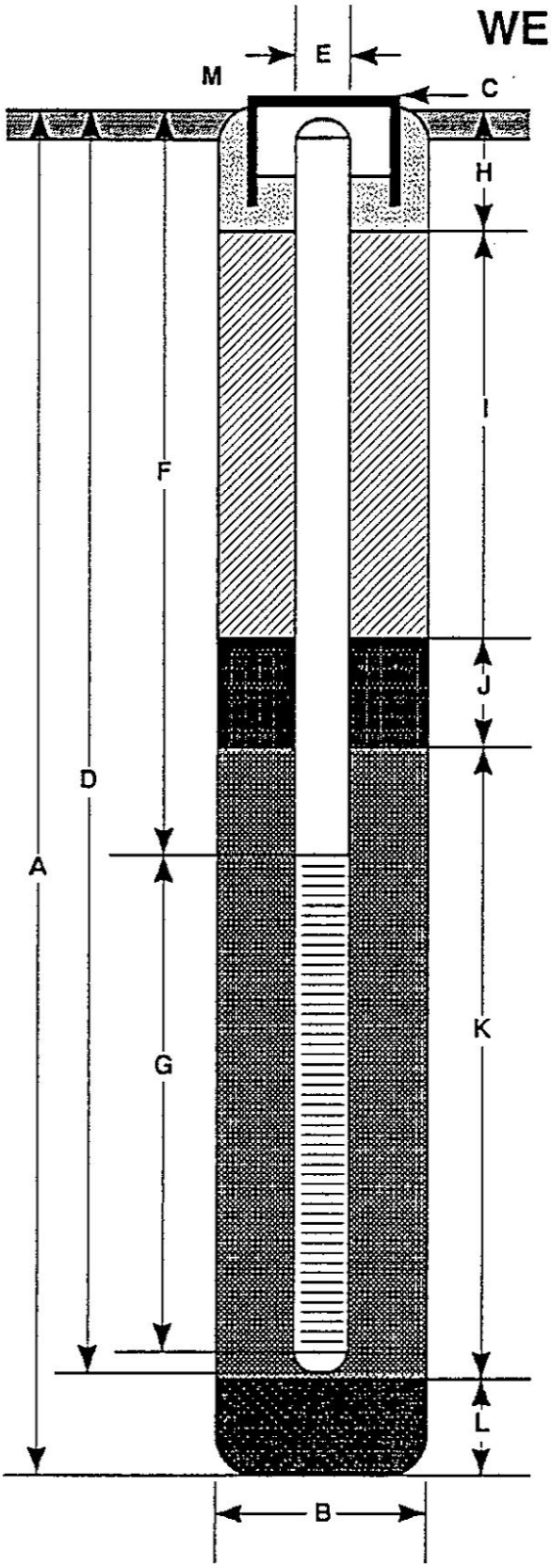
GeoStrategies Inc.

Log of Boring

BORING NO. U-6

JOB NUMBER	REVIEWED BY PG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 31.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation 37.80 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 28 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth to Top Perforations 13 ft.

G Perforated Length 15 ft.
Perforated Interval from 13 to 28 ft.
Perforation Type Factory Slot
Perforation Size 0.02 in.

H Surface Seal from 0 to 1 ft.
Seal Material Cement

I Backfill from 1 to 9 ft.
Backfill Material 11-Sack cement

J Seal from 9 to 11 ft.
Seal Material Bentonite

K Gravel Pack from 11 to 28 ft.
Pack Material Lonestar 2/12

L Bottom Seal 2 ft.
Seal Material Bentonite

M Traffic-rated vault, locking cap and lock

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO. U-6

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring:

(See Plate 2)

Project No.:	780902	Date: 3/13/92	Boring No: U-7
Client:	Unocal Service Station #5760		
Location:	376 Lewelling		
City:	San Lorenzo, California		Sheet 1 of 2
Logged by:	TDL	Driller: W. Hazmat	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8-inch

Top of Box Elevation: Datum:

Water Level	20.0 Ft.			
Time	1:40			
Date	3/13			

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								Pavement section 1.0 foot
				1				
								SAND (SP) brown (10 YR 4/3) loose; damp; 100% fine sand; roots
				2				
				3				
				4				
				5				Medium dense at 5 feet.
0	19	S&H		6				
				7				
				8				
				9				
				10				
		S&H						Color change to olive gray (5 YR 4/2); roots.
0	22			11				
				12				
				13				
				14				
				15				
		S&H	U-7-					CLAY (CL) very dark grayish brown (10 YR 3/2) stiff;
0	11		16.0	16				moist; trace sand.
				17				
				18				
				19				
				20		▽		Saturated at 20 feet.

Remarks:

* Converted to equivalent Standard Penetration blows/ft.

GSI GeoStrategies Inc.

Log of Boring

BORING NO. U-7

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring:

(See Plate 2)

Project No.:	780902	Date: 3/13/92	Boring No: U-7
Client:	Unocal Service Station #5760		
Location:	376 Lewelling		
City:	San Lorenzo, California		Sheet 2 of 2
Logged by:	TDL	Driller: W. Hazmat	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 Inches

Top of Box Elevation: Datum:

Water Level	20.0 Ft.			
Time	12:10			
Date	3/13			

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								No sample recovery (heaving sands)
				21				
				22				
				23				
				24				
				25				
		S&H						SAND (SP) dark gray (10 YR 4/1) medium dense;
0	23			26				saturated; 100% medium to coarse subrounded sand.
				27				
				28				
		S&H		29				
0	18			30				
				31				
				32				
				33				
				34				
				35				CLAY (CL) brown (10 YR 5/3) very stiff; saturated; 100%
0	19	S&H						fines, slightly silty.
				36				
								Bottom of boring 36.5 feet.
				37				
								3/13/92
				38				
				39				
				40				

Remarks:

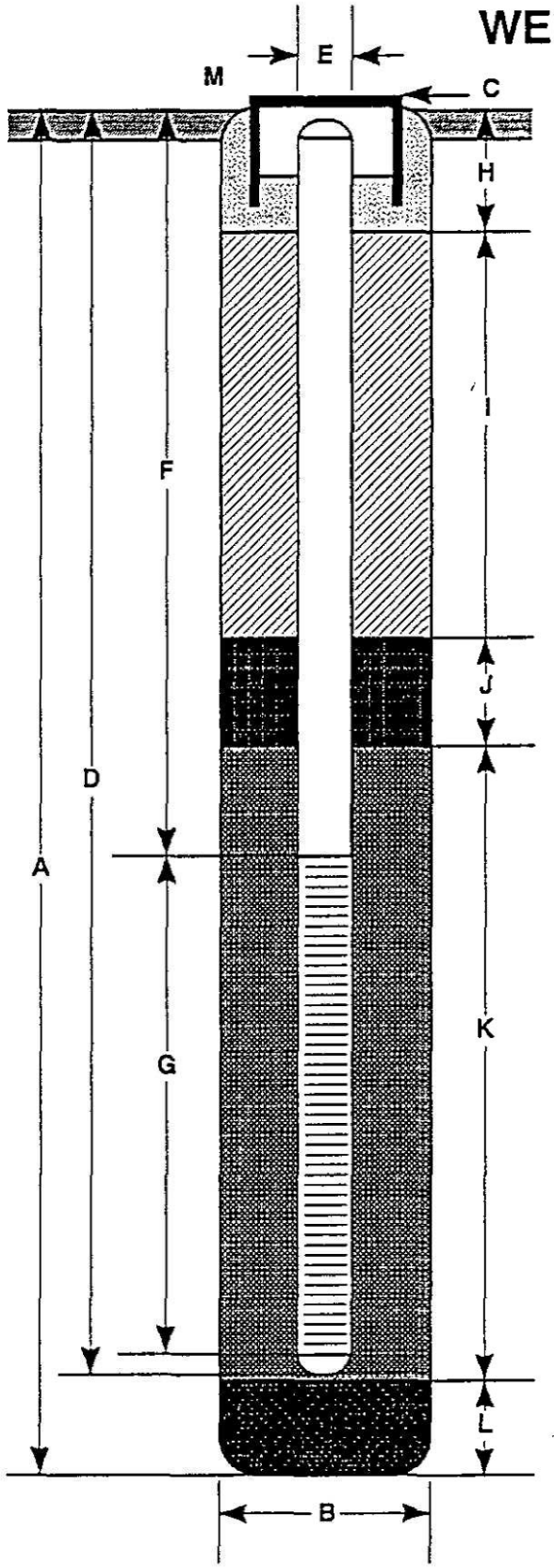
GeoStrategies Inc.

Log of Boring

BORING NO. U-7

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 36.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation 37.37 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 35 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth to Top Perforations 15 ft.

G Perforated Length 20 ft.
Perforated Interval from 15 to 35 ft.
Perforation Type Machine slot
Perforation Size 0.02 in.

H Surface Seal from 0 to 1 ft.
Seal Material Cement

I Backfill from 1 to 11 ft.
Backfill Material 11-Sack cement

J Seal from 11 to 13 ft.
Seal Material Bentonite

K Gravel Pack from 13 to 35 ft.
Pack Material Lonestar 2/12

L Bottom Seal none ft.
Seal Material

M Traffic-rated vault, locking cap and lock.

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO. U-7

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring:

(See Plate 2)

Project No.:	780902	Date: 3/12/92	Boring No: U-8
Client:	Unocal Service Station #5760		
Location:	376 Lewelling		
City:	San Lorenzo, California		Sheet 1 of 2
Logged by:	TDL	Driller: W. Hazmat	

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Casing installation data:

Top of Box Elevation: Datum:

Water Level	20 Ft.	17.5 Ft.		
Time	10:30	2:30		
Date	3/12	3/12		

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				Pavement section 1.0 foot
				2				SANDY CLAY (CL) very dark grayish brown (10 YR 3/2) soft; damp; 60% clay; 40% fine sand.
		S&H		5				SAND WITH SILT (SW-SM) dark brown (10 YR 3/3) loose;
0	7			6				damp; 90% fine sand; 10% silt.
		S&H		10				SANDY CLAY (CL) dark gray (10 YR 4/1) stiff; damp;
0	7			11				70% clay, 30% fine sand; mottled; rootholes.
		S&H		15				Decrease sand to 10%
0	12		U-8-16.5	16				
				18		▼		
				20		▽		

Remarks:

* Converted to equivalent Standard Penetration blows/ft.

GeoStrategies Inc.

Log of Boring

BORING NO. U-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring:

(See Plate 2)

Project No.:	780902	Date: 3/12/92	Boring No: U-8
Client:	Unocal Service Station #5760		
Location:	376 Lewelling		
City:	San Lorenzo, California		Sheet 2 of 2
Logged by:	TDL	Driller: W. Hazmat	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 Inches

Top of Box Elevation: Datum:

								Water Level				
PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Time				
								Date				
								Description				
		S&H						SAND (SP) brown (10 YR 4/3) medium dense; saturated;				
0	26			21				80% fine sand, 20% medium sand				
				22								
				23								
				24								
				25								
		S&H						CLAY (CL) very dark gray (10 YR 3/1) very stiff;				
0	24			26				saturated; 80% clay, 20% silt; trace firm sand.				
				27								
				28								
				29								
				30								
		S&H						SILT WITH SAND (ML) dark grayish brown (10 YR 4/2)				
0	23			31				very stiff; saturated; 75% silt; 25% fine sand,				
				32				moderately clay.				
				33								
				34				Bottom of boring 31.5 feet.				
				35				3/12/92				
				36								
				37								
				38								
				39								
				40								

Remarks:

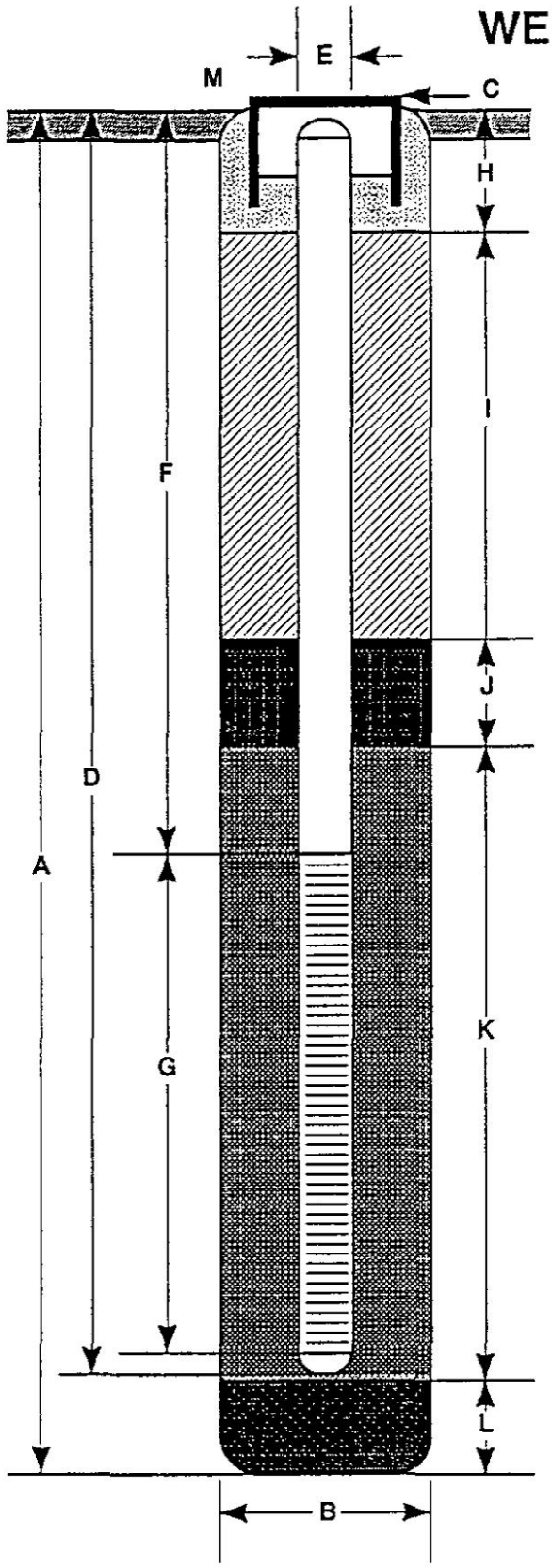
GeoStrategies Inc.

Log of Boring

BORING NO. U-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 31.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation 38.81 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 30 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth to Top Perforations 15 ft.

G Perforated Length 15 ft.
Perforated Interval from 15 to 30 ft.
Perforation Type Machine slot
Perforation Size 0.02 in.

H Surface Seal from 0 to 1 ft.
Seal Material Cement

I Backfill from 1 to 11 ft.
Backfill Material 11-Sack cement

J Seal from 11 to 13 ft.
Seal Material Bentonite

K Gravel Pack from 13 to 30 ft.
Pack Material Lone Star, 2/12

L Bottom Seal None ft.
Seal Material

M Traffic-rate vault, locking cap and lock

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO. U-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780902		3/92		

Field location of boring: (See Plate 2)	Project No.: 780907	Date: 5/25/93	Boring No: U-9		
	Client: UNOCAL Service Station #5760				
	Location: 376 Lewelling Boulevard				
	City: San Lorenzo, California		Sheet 1 of 2		
	Logged by: ECF	Driller: W. Hazmat			
	Casing installation data:				
Drilling method: Hollow Stem Auger					
Hole diameter: 8 inches	Top of Box Elevation:		Datum:		
	Water Level	15.0	14.5		
	Time	09:30	17:45		
	Date	5/25/93	5/25/93		

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Description
					PAVEMENT SECTION - 8 inches
				1	SILTY SAND (SM) - dark brown (7.5YR 3/2); loose, moist; 85% fine sand, 15% silt.
				2	
				3	
	>200	Push	U-9	4	Paper debris at 4.0 ft.
			4.5		SAND WITH SILT (SP-SM) - light olive brown (2.5Y 5/4);
				5	medium dense, moist; 90% medium sand, 10% silt, trace gravel.
				6	
				7	
				8	
				9	
				10	SILT WITH SAND (ML) - dark grayish brown (10YR 4/2);
		S&H			stiff, moist; 80% silt, 20% fine sand, trace coarse sand;
			U-9	11	medium plasticity.
0	10		11.5		
				12	
				13	
				14	
				15	Saturated at 15.0 ft.
		S&H	U-9		
0.2	10		16.0	16	
				17	
				18	
				19	
				20	

Remarks:

* Converted to equivalent Standard Penetration blows/ft.

GeoStrategies Inc.

Log of Boring

BORING NO. U-9

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780907	CEG, RG 5577	5/93		

Field location of boring: (See Plate 2)	Project No.: 780907	Date: 5/25/93	Boring No: U-9
	Client: UNOCAL Service Station #5760		
	Location: 376 Lewelling Boulevard		
	City: San Lorenzo, California		Sheet 2 of 2
	Logged by: ECF	Driller: W. Hazmat	
Drilling method: Hollow Stem Auger	Casing installation data:		
Hole diameter: 8 Inches	Top of Box Elevation:	Datum:	
	Water Level		
	Time		
	Date		

PID (ppm)	Blows/ft.* or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
		S&H						
			U-9	21				SAND (SP) - light olive brown (2.5Y 5/4); loose, saturated; 80% coarse sand, 10% fine sand, 5% gravel.
2.1	9		21.5					
				23				
				24				
				25				CLAY (CL) - light yellowish brown (2.5Y 6/4); hard, saturated; 95% clay, 5% coarse sand ; medium plasticity.
		S&H	U-9					
0.5	36		26.0	26				
				27				
				28				
				29				
				30				Consistency decreasing to very stiff at 30.0 ft.; trace gravel.
		S&H	U-9					
0	26		31.0	31				
				32				
				33				Bottom of boring at 31.0 ft. 5/25/93
				34				
				35				
				36				
				37				
				38				
				39				
				40				

Remarks:

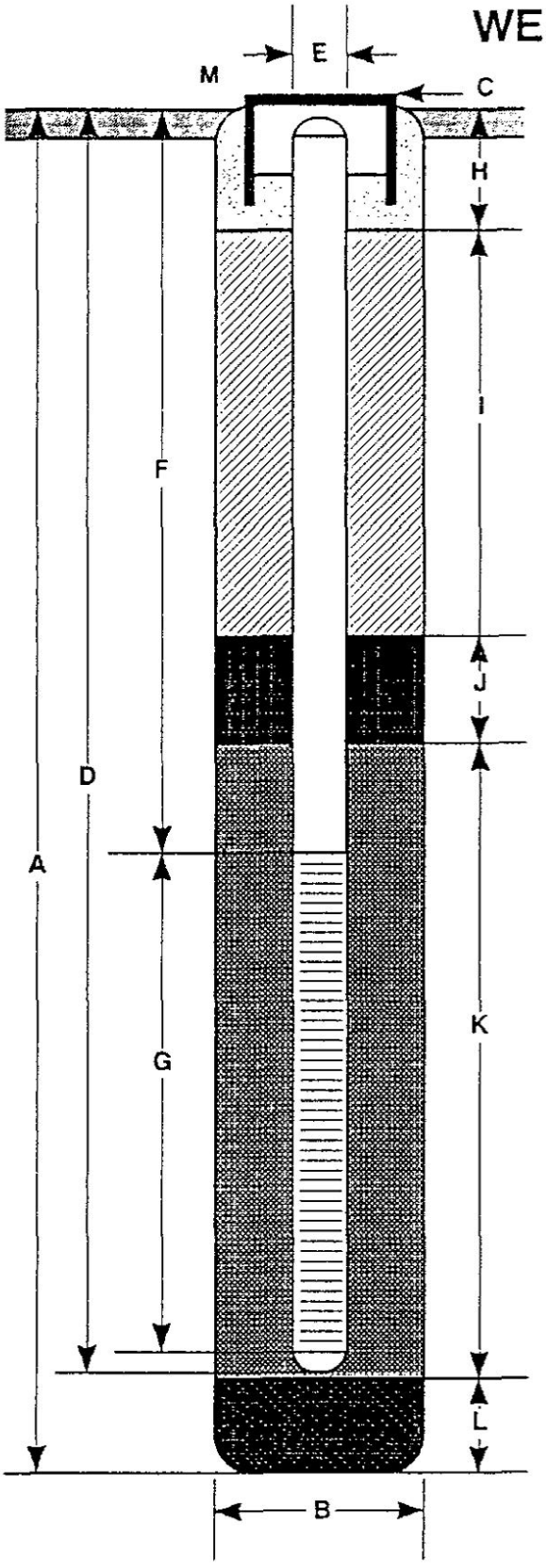
GeoStrategies Inc.

Log of Boring

BORING NO. U-9

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780907	RG 5577	5/93		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 31.0 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation 37.88 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 28 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth to Top Perforations 13.0 ft.

G Perforated Length 15.0 ft.
Perforated Interval from 13.0 to 28.0 ft.
Perforation Type Machine Slotted
Perforation Size 0.020 in.

H Surface Seal from 0 to 1.5 ft.
Seal Material Concrete

I Backfill from 1.5 to 9.0 ft.
Backfill Material Cement

J Seal from 9.0 to 11.0 ft.
Seal Material Bentonite

K Gravel Pack from 11.0 to 28.0 ft.
Pack Material Lonestar 2/12

L Bottom Seal Sluff 31.0-29.0 ft
Seal Material Bentonite 29.0-28.0 ft.

M Water-resistant vault box, locking waterproof well cap and lock.

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO. U-9

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
780907	RG 5577	5/93		

Delta Environmental Consultants, Inc.

BORING LOG

PROJECT NO.:
LOGGED BY: YANTIS
DRILLER: VIRONEX
DRILLING METHOD: GEO PROBE
SAMPLING METHOD: CONTINUOUS
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: COP
LOCATION: 376 LEWELLING
DATE DRILLED: 11/7/03
HOLE DIAMETER:
HOLE DEPTH: 20"
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

BORING/WELL NO.: GP-1
PAGE 1 OF 1

ELEVATION **NORTHING** **EASTING**

LOCUS

WELL COMPLETION (BACKFILL / CASING)	STATIC WATER LEVEL	PID READING (PPM)	PENETRATION (BLOWS/6")	DEPTH (FT.)	SAMPLE RECOVERY	SAMPLE INTERVAL	LITHOLOGY/ DESCRIPTION
	NOTE:						ASPHALT
	DID=~0.5			1			WATER KNIFED TO 5'
							GRAVEL AND SAND
				2			
				3			
				4			
				5			
	DAMP						**SW -** WELL GRADED SAND W/GRAVEL
				6			GRAVELLY SAND , MEDIUM
							BROWN, 60% FINE-MED SAND;
				7			DAMP, NO ODORS
				8			
	DAMP	0.5					
				9			@9' AS ABOVE, NO ODORS
				10			
				11			
	VERY						
	MOIST	0.1		12			
				13			
							CL - LEAN CLAY W/SAND
				14			
	MOIST-						BROWN; 85%
	WET						LOW MED. PLAST. FINES, 15% FINE SAND
				15			VERY FAINT FED MOTTLING;
							NO ODORS
				16			@16'; RARE WEATHERED ROOT
							INCREASE IN CLAY
				17			GRAVEL AND SAND
				18			@19' INCREASE IN ROOTHOLE DIAMETER
				19			
		0.1	∇				
				20			

Delta Environmental Consultants, Inc.

BORING LOG

PROJECT NO.:
LOGGED BY: YANTIS
DRILLER: VIRONEX
DRILLING METHOD: GEO PROBE
SAMPLING METHOD: CONTINUOUS
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: COP
LOCATION: 376 LEWELLING
DATE DRILLED: 11/7/03
HOLE DIAMETER: 2"
HOLE DEPTH: 20"
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

BORING/WELL NO.: GP-2
PAGE 1 OF 1

ELEVATION **NORTHING** **EASTING**

LOCUS

WELL COMPLETION (BACKFILL / CASING)	STATIC WATER LEVEL	PID READING (PPM)	PENETRATION (BLOWS/6")	DEPTH (FT.)	SAMPLE RECOVERY	SAMPLE INTERVAL	LITHOLOGY/ DESCRIPTION
	BACKGROUND						NOTE: WATER KNIFED SELECTED
	DID=~0.5			1			HOLE LOCATION; PEA GRAVEL
							+ 2" PIPE MOVED OUT
				2			10"
							SAND/GRAVEL/CLAY
				3			
				4			
				5			
				6			
							SM - SILTY SAND, YELLOWISH BROWN
				7			~ 30% NON-PLAST
	DAMP						FINES; 70% FINE SAND; NO ODORS
				8			
		0.1					
				9			**SP -** POORLY GRADED SAND, YELLOWISH BROWN <5%
	DAMP						FINES; ~98-100% FINE SAND;
				10			DAMP, NO ODORS
				11			
		0.1					
				12			
				13			
				14			
							CL - LEAN CLAY WI/SAND, YELLOWISH BROWN; 85%
				15			MED. PLAST. FINES, 15% FINE SAND
							ABUNDANT ROOTHOLES; FAINT
				16			MOTTLING; NO ODORS
		0.1					
	DAMP			17			
				18			
				19			
				20			TD=20'

Delta Environmental Consultants, Inc.

BORING LOG

PROJECT NO.:
LOGGED BY: YANTIS
DRILLER: VIRONEX
DRILLING METHOD: GEO PROBE
SAMPLING METHOD: CONTINUOUS
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: COP
LOCATION: 376 LEWELLING
DATE DRILLED: 11/7/03
HOLE DIAMETER: 2"
HOLE DEPTH: 20"
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

BORING/WELL NO.: GP-3
PAGE 1 OF 1

ELEVATION **NORTHING** **EASTING**

LOCUS

WELL COMPLETION (BACKFILL / CASING)	STATIC WATER LEVEL	PID READING (PPM)	PENETRATION (BLOWS/6")	DEPTH (FT.)	SAMPLE RECOVERY	SAMPLE INTERVAL	LITHOLOGY/ DESCRIPTION
	BACKGROUND						ASPHALT
	PID=0.1			1			WATER KNIFED TO 5'
				2			SAND AND GRAVEL
				3			
				4			
				5			**SW -** WELL GRADED SAND, YELLOWISH BROWN, <5% FINES, 95-100% FINE-MED
	DAMP			6			SAND; DAMP
		0.1		7			NO ODORS
				8			
				9			
				10			**SP -** POORLY GRADED SAND, 2-5% NON PLAST.
				11			FINES; ~95-98% FINE SAND;
		0.2		12			**CL -** LEAN CLAY YELLOWISH BROWN 95% MED. PLAST.
				13			FINES, MOIST
				14			**SW -** WELL GRADED SAND
			▽	15			95% FINE-MED SAND
	WET						**CL -** LEAN CLAY
		0.1		16			**SP -** POORLY GRADED SAND, 95% FINE SAND DK. BRN.
				17			**CL -** LEAN CLAY W/SAND ~85% MED. PLAST. FINES, 15% FINE SAND, ABUNDANT GRAY AND IRON OXIDE MOTTLING
				18			@17-20' ABUNDANT BRIGHT ORANGE
				19			15% FINE SAND, ABUNDANT GRAY AND MOTTLING AND ROOTS
	VERY MOIST-WET			20			TD=20'

Delta Environmental Consultants, Inc.

BORING LOG

PROJECT NO.:
LOGGED BY: YANTIS
DRILLER: VIRONEX
DRILLING METHOD: GEO PROBE
SAMPLING METHOD: CONTINUOUS
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: COP
LOCATION: 376 LEWELLING
DATE DRILLED: 11/7/03
HOLE DIAMETER: 2"
HOLE DEPTH: 20"
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

BORING/WELL NO.: GP-4
PAGE 1 OF 1

ELEVATION **NORTHING** **EASTING**

LOCUS

WELL COMPLETION (BACKFILL / CASING)	STATIC WATER LEVEL	PID READING (PPM)	PENETRATION (BLOWS/6")	DEPTH (FT.)	SAMPLE RECOVERY	SAMPLE INTERVAL	LITHOLOGY/ DESCRIPTION
	BACKGROUND						WATER KNIFED TO 5'
	PID=0.4			1			
				2			SAND AND GRAVEL
				3			
				4			
				5			**SW -** WELL GRADED SAND, YELLOWISH BROWN, <5% FINES, 95-100% FINE-MED SAND; DAMP NO ODORS
				6			
				7			
				8			**SP -** POORLY GRADED SAND, LIGHT BROWN 5% NON-PLASTIC FINES, 95%, FINE SAND, DAMP, NO ODORS
		0.1					
	DAMP			9			
				10			
				11			**CL -** SANDY LEAN CLAY, LIGHT BROWN, 60% LOW- MED. PLAST. FINES, 40% FINE SAND, FAINT MOTTLING, COMMON ROOTHOLES, NO ODORS
				12			
	MOIST			13			**CL -** LEAN CLAY, W/SAND, BROWN, 75-80% MED. PLAST. FINES, 20-25% FINE, SAND, VERY MOIST @13' PERVOSIVE BRIGHT ORANGE, WEATHER ROOTS, MOIST, NO ODORS
				14			
				15			
		0.1		16			
	VERY MOIST- WET			17			@17' COLOR CHANGE, GREY, NO MOTTLING ODORS AT 17'
				18			**SP -** POORLY GRADED SAND LENSE LEAN CLAY
				19			@20' ODORS
	VERY MOIST- WET	289		20			TD=20'

Delta Environmental Consultants, Inc.

BORING LOG

PROJECT NO.:
LOGGED BY: YANTIS
DRILLER: VIRONEX
DRILLING METHOD: GEO PROBE
SAMPLING METHOD: CONTINUOUS
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: COP
LOCATION: 376 LEWELLING
DATE DRILLED: 11/7/03
HOLE DIAMETER: 2"
HOLE DEPTH: 20"
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

BORING/WELL NO.: GP-5
PAGE 1 OF 1

ELEVATION **NORTHING** **EASTING**

LOCUS

WELL COMPLETION (BACKFILL / CASING)	STATIC WATER LEVEL	PID READING (PPM)	PENETRATION (BLOWS/6")	DEPTH (FT.)	SAMPLE RECOVERY	SAMPLE INTERVAL	LITHOLOGY/ DESCRIPTION
							CONCRETE
				1			WATER KNIFED TO 5'
				2			CLAY, BLACKISH GRAY
				3			
				4			
				5			**SW -** WELL GRADED SAND, YELLOWISH BROWN, 5% NON PLASTIC FINES, 95% FINE SAND, DAMP, NO ODORS
				6			
	DAMP			7			
		0.2		8			
				9			
				10			**CL -** LEAN CLAY @ 9.5', BROWN 95% MED. PLASTIC FINES, 5% SAND
	MOIST	0.1		11			**SC -** CLAYEY SAND/SANDY LEAN CLAY, YELLOWISH BRN., 45-55% MED. PLAST. FINES, 45-55% FINE SAND, MOIST, NO ODORS
				12			
				13			
				14			**SM -** SILTY SAND, YELLOWISH BROWN, 15% NON-LOW PLAST. FINES, 85% FINE SAND, WET, NO ODORS
				15			**CL -** @15' LEAN CLAY, BLACKISH GRAY, 95% MED-HIGH PLAST. FINES, 5% FINE SAND, WET, ABUNDANT BRIGHT ORANGE WEATHERED ROOTS
	WET		▽	16			
				17			@17' ABUNDANT DARK ORANGE WEATHERED ROOT, OPEN ROOT HOLES, VERY MOIST, SLIGHT ODORS
				18			
				19			
	VERY MOIST-	9.8		20			

PROJECT: **ConocoPhillips 76 Station No. 5760**
LOCATION: **376 Lewelling Blvd, San Lorenzo, California**
PROJECT NUMBER: **211302687**

WELL / PROBEHOLE / BOREHOLE NO: **CPT-1A**

DATE: STARTED **7/9/2010** COMPLETED: **7/9/2010**
TIME: STARTED COMPLETED:
DRILLING COMPANY: **WDC Drilling**
DRILLING EQUIPMENT: **Geoprobe Rig**
DRILLING METHOD: **Direct Push (Dual Wall)**
SAMPLING EQUIPMENT: **Acetate Tubing**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **25 7/9/10** BOREHOLE DEPTH (ft): **50.0**
STATIC DTW (ft): **N/A** WELL DEPTH (ft): **NA**
WELL CASING DIAM. (in): **---** BOREHOLE DIAM. (in): **3.5**
LOGGED BY: **K.Chuop** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
			4-inch asphalt layer							Concrete patch
5									5	
10			CPT-1A was not logged, for subsurface lithology, see CPT log for location CPT-1.		1105 CPT-1A, 9.5'			0.0	10	
15			NOTES:						15	
			-Static groundwater estimated to be at 17 feet based on a pore pressure dissipation test at Location CPT-1 by the CPT rig.							
20			-During backfilling with bentonite neat cement using a tremmie pipe, groundwater came to the surface and a petroleum sheen was observed along with a hydrocarbon odor.		1105 CPT-1A,19.5' 1125 PT-1A-W-19-22'			0.0	20	
25									25 ▽	Neat Bentonite Cement
					1105			0.0		

GEO FORM 304_STANTEC037 GP-6, GP-7, AND CPT-1A 2010.GPJ SECOR037.GDT 7/27/10

PROJECT: **ConocoPhillips 76 Station No. 5760**
LOCATION: **376 Lewelling Blvd, San Lorenzo, California**
PROJECT NUMBER: **211302687**

WELL / PROBEHOLE / BOREHOLE NO: **CPT-1A**

DATE: STARTED **7/9/2010** COMPLETED: **7/9/2010**
TIME: STARTED COMPLETED:
DRILLING COMPANY: **WDC Drilling**
DRILLING EQUIPMENT: **Geoprobe Rig**
DRILLING METHOD: **Direct Push (Dual Wall)**
SAMPLING EQUIPMENT: **Acetate Tubing**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **25 7/9/10** BOREHOLE DEPTH (ft): **50.0**
STATIC DTW (ft): **N/A** WELL DEPTH (ft): **NA**
WELL CASING DIAM. (in): **---** BOREHOLE DIAM. (in): **3.5**
LOGGED BY: **K.Chuop** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
					CPT-1A, 29.5'					
					1220 PT-1A-W-30-34'					
35									35	
					1105 CPT-1A, 39.5'			0.0		
40									40	
					1415 PT-1A-W-41-45'					
45									45	
					1105 CPT-1A, 49.5'			0.0		
50			Hole terminated at 50 feet.						50	
55									55	

PROJECT: **ConocoPhillips 76 Station No. 5760**
LOCATION: **376 Lewelling Blvd, San Lorenzo, California**
PROJECT NUMBER: **211302687**

WELL / PROBEHOLE / BOREHOLE NO: **GP-6**

DATE: STARTED **7/8/2010** COMPLETED: **7/8/2010**
TIME: STARTED COMPLETED:
DRILLING COMPANY: **WDC Drilling**
DRILLING EQUIPMENT: **Geoprobe Rig**
DRILLING METHOD: **Direct Push (Dual Wall)**
SAMPLING EQUIPMENT: **Acetate Tubing**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **25.0**
STATIC DTW (ft): **17 7/8/10** WELL DEPTH (ft): **NA**
WELL CASING DIAM. (in): **---** BOREHOLE DIAM. (in): **3.5**
LOGGED BY: **K.Chuop** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
			4-inch asphalt layer							Concrete patch
		SP	**SAND** ; SP; (10YR3/3) dark brown; fine to medium-grained; loose; moist		--			11.6		
5					0830 GP-6, 6'			1.0	5	
			2-inch layer of fine gravel							
		SW	S.A.A. color changes to (2.5Y4/3) olive brown; fine-grained							
			SAND SOME GRAVEL ; SW; (10YR5/3) brown; fine to coarse-grained; loose; moist; gravel up to 1-inch in diameter							
		SP	**SAND** ; SP; (10YR5/3) brown; fine to medium-grained; loose; moist		0835 --			0.2		
10			No recovery from 10 to 12 feet						10	
		CL	**SANDY CLAY WITH SILT** ; CL; (10YR5/3) brown; medium plasticity; soft; moist; 30% sand; 50% clay; 20%silt							Neat Bentonite Cement
		CL	**CLAY** ; CL; (10YR3/2) very dark grayish brown; medium plasticity; stiff; moist; 80%clay; 20%silt		-- 0845 --			0.0 0.2		
15			No recovery from 15 to 17 feet						15	
			Soft from 17 to 18.5 feet		-- --			0.0 0.2		
20			No recovery from 20 to 21.5 feet						20	
		CL	**CLAY** ; CL; (2.5Y4/2) dark grayish brown; medium plasticity; hard; moist		0910 GP-6, 21.5'			0.0		
		SP	**SAND** ; SP; (2.5Y4/3) olive brown; fine to medium-grained; loose; moist		0915 GP-6, 24..5'			0.0		
25			Hole terminated at 25 feet.		1055 GP-6 (water)				25	

GEO FORM 304_STANTEC037 GP-6, GP-7, AND CPT-1A 2010.GPJ SECOR037.GDT 7/27/10

PROJECT: **ConocoPhillips 76 Station No. 5760**
LOCATION: **376 Lewelling Blvd, San Lorenzo, California**
PROJECT NUMBER: **211302687**

WELL / PROBEHOLE / BOREHOLE NO: **GP-7**

DATE: STARTED **7/8/2010** COMPLETED: **7/8/2010**
TIME: STARTED COMPLETED:
DRILLING COMPANY: **WDC Drilling**
DRILLING EQUIPMENT: **Geoprobe Rig**
DRILLING METHOD: **Direct Push (Dual Wall)**
SAMPLING EQUIPMENT: **Acetate Tubing**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **25.0**
STATIC DTW (ft): **17 7/8/41** WELL DEPTH (ft): **NA**
WELL CASING DIAM. (in): **---** BOREHOLE DIAM. (in): **3.5**
LOGGED BY: **K.Chuop** CHECKED BY: **B. Chevlen**

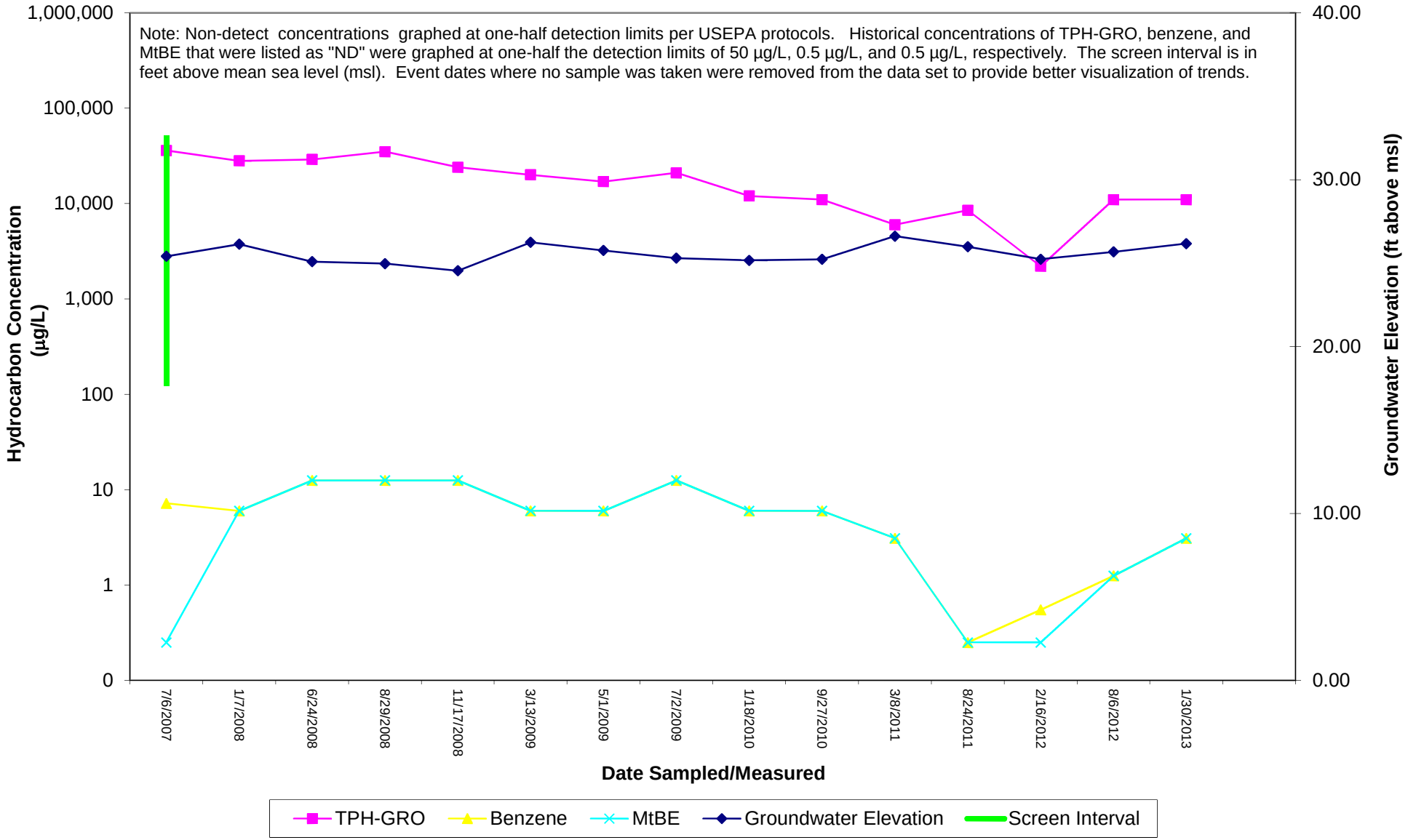
Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
			4-inch asphalt layer							Concrete patch
		SP	**SAND** ; SP; (10YR3/3) dark brown; fine to medium-grained; loose; moist		--			0.9		
5			No recovery from 5 to 6.5 feet Color change to (2.5Y3/3) dark olive brown		--			0.3	5	
					--			0.0		
		SM	**SANDY SILT SOME CLAY** ; SM; (10YR3/3) dark brown; low plasticity; loose; moist At 9 feet, color change to (10YR3/3) dark brown and 2-inch thick well-graded sand with fine gravel layer		--			0.0		
10			No recovery from 10 to 12 feet						10	
		ML	**SILT WITH CLAY LITTLE SAND** ; ML; (10YR4/3) brown; low plasticity; soft; moist; 10% sand; 20% clay; 70%silt		1245 --			1.4		Neat Bentonite Cement
		CL	**CLAY SOME SILT** ; CL; (10YR4/2) dark grayish brown; medium plasticity No recovery from 15 to 17 feet		1250 GP-7, 15'			1.6	15	
			Very stiff from 18 to 22 feet At 19 feet, 2-inch thick gravel and coarse sand layer		--			0.1		
20					1305 GP-7, 20'			1.2	20	
		SP	**SAND LITTLE CLAY** ; SP; (10YR4/2) dark grayish brown; loose; moist; little clay							
		SC	**SAND WITH GRAVEL** ; SC; (2.4Y4/3) olive brown; fine to coarse-grained; loose; wet; fine gravel up to 1-inch in diameter		1310 GP-7, 22.5'			0.0		
		CH	**FAT CLAY** ; CH; (10YR4/2) dark grayish brown; high plasticity; very stiff; moist		--			0.0		
25			Hole terminated at 25 feet.						25	
					1330 GP-7 (water)					

Appendix C

Hydrographs

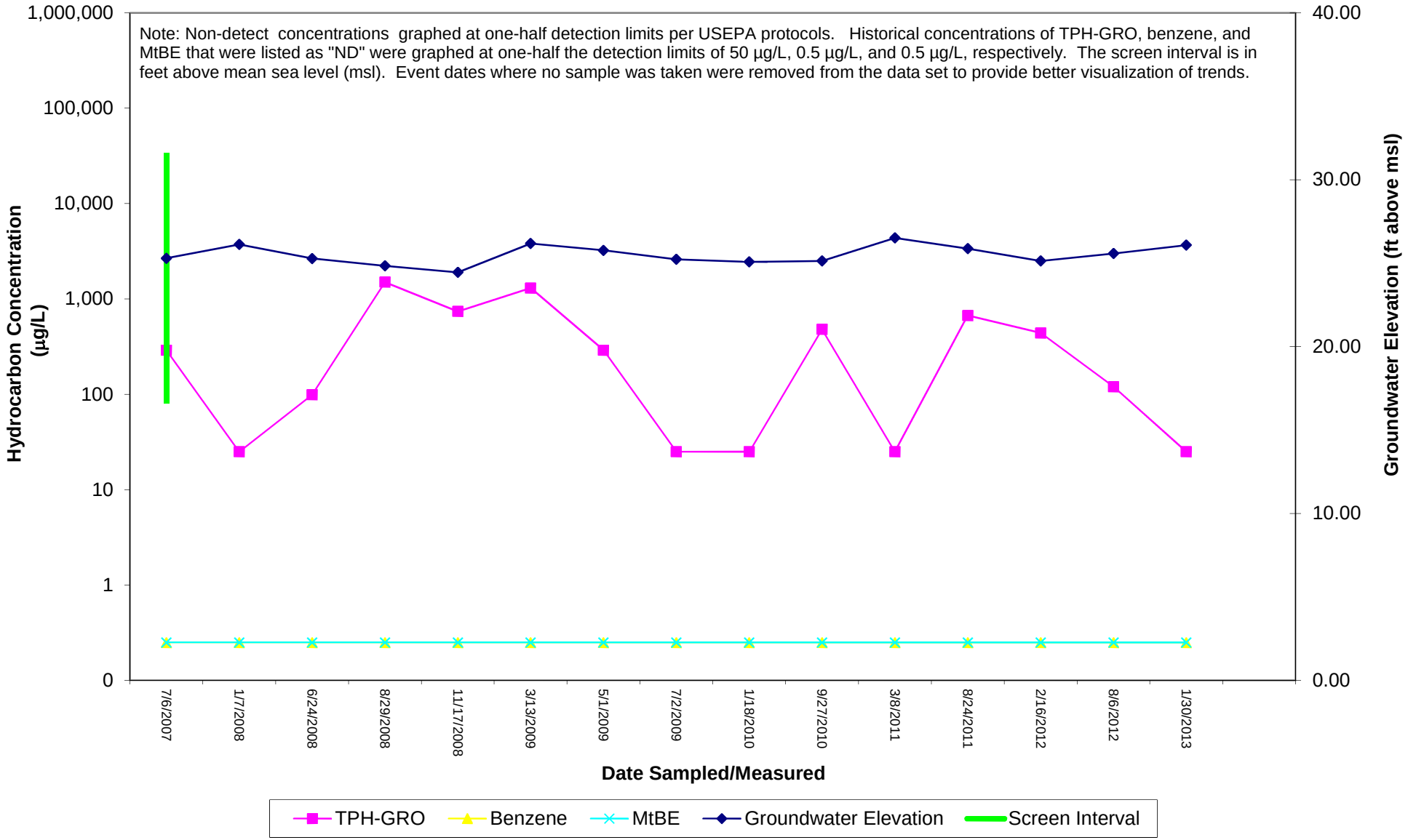
U-1R TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



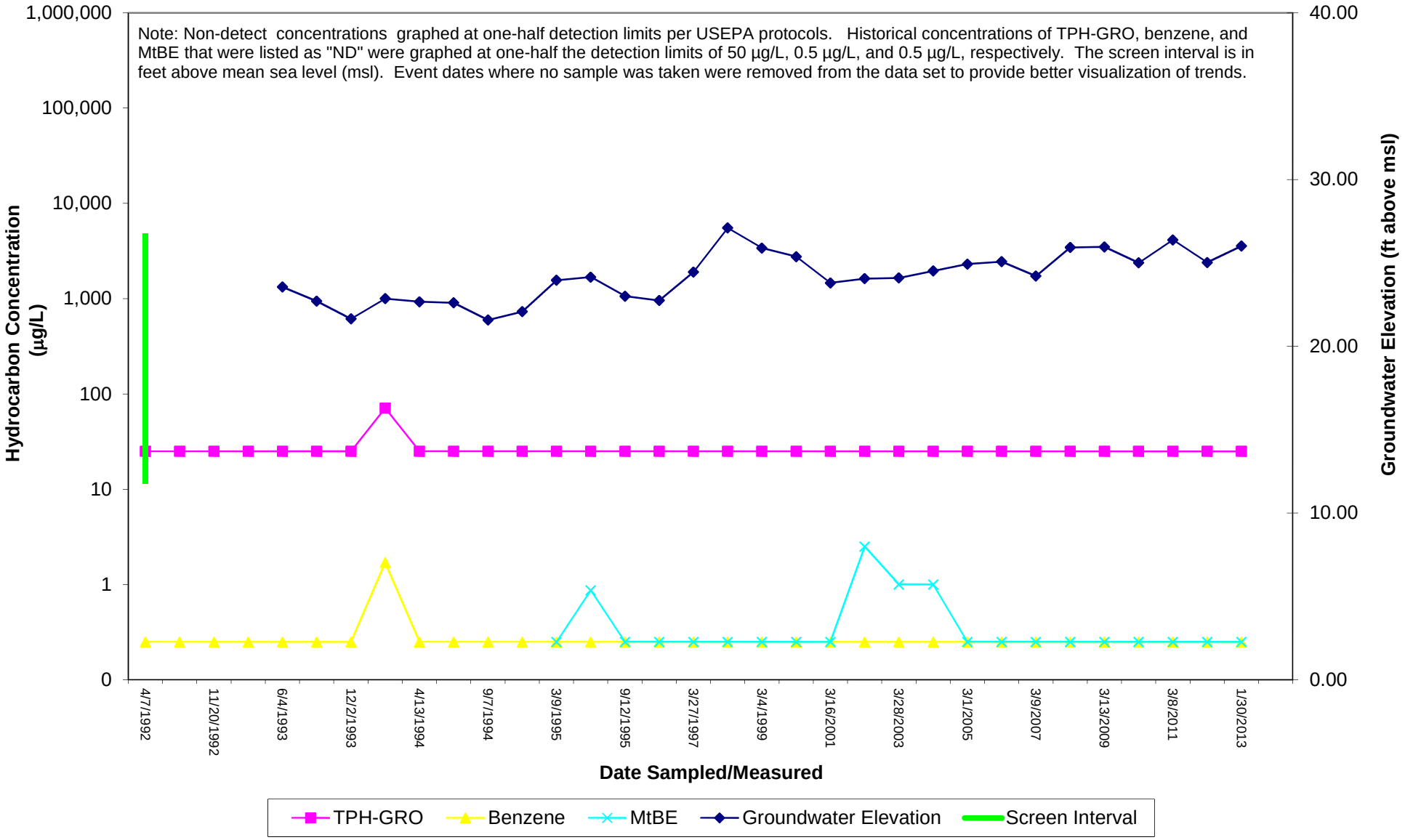
U-3R TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



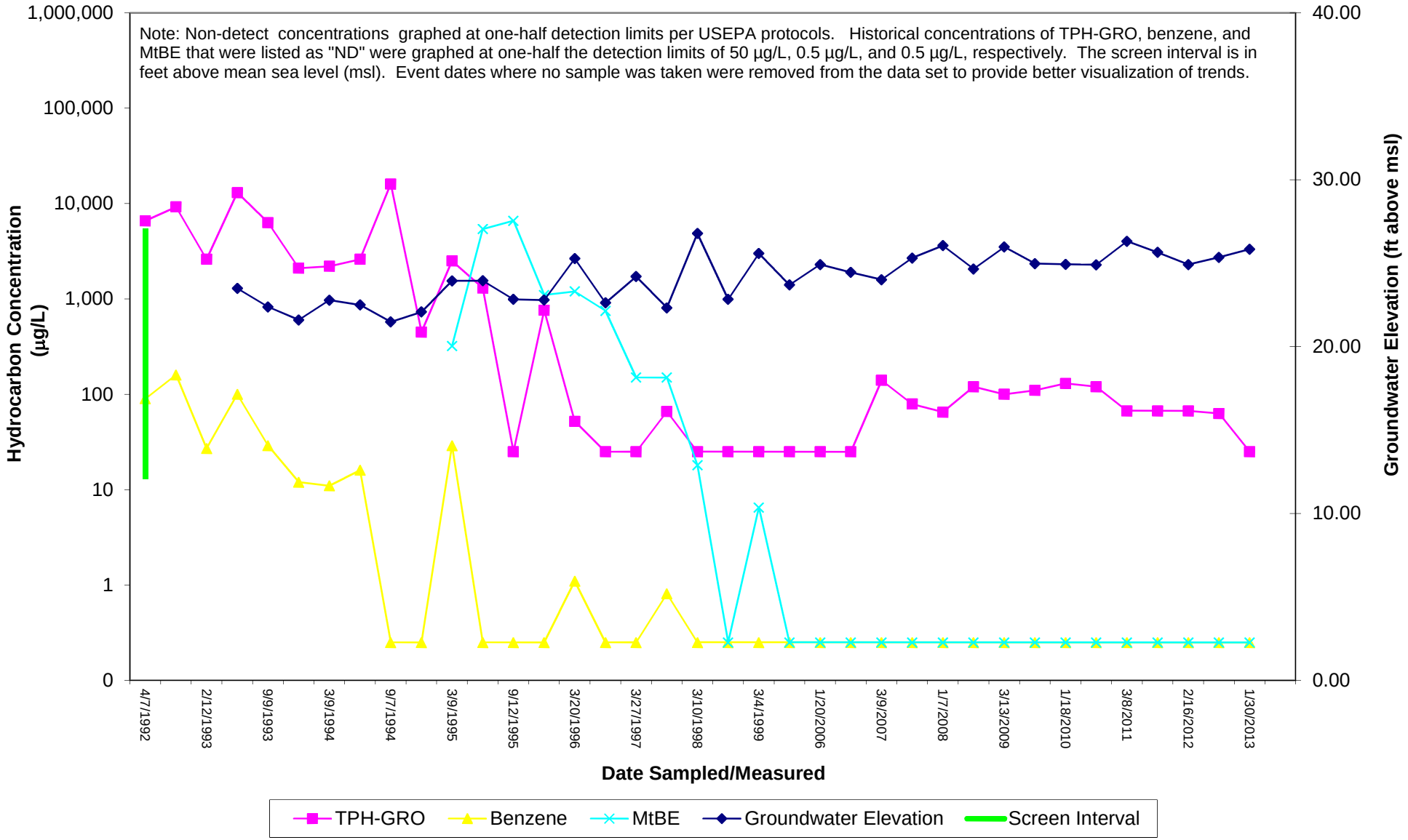
U-5 TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



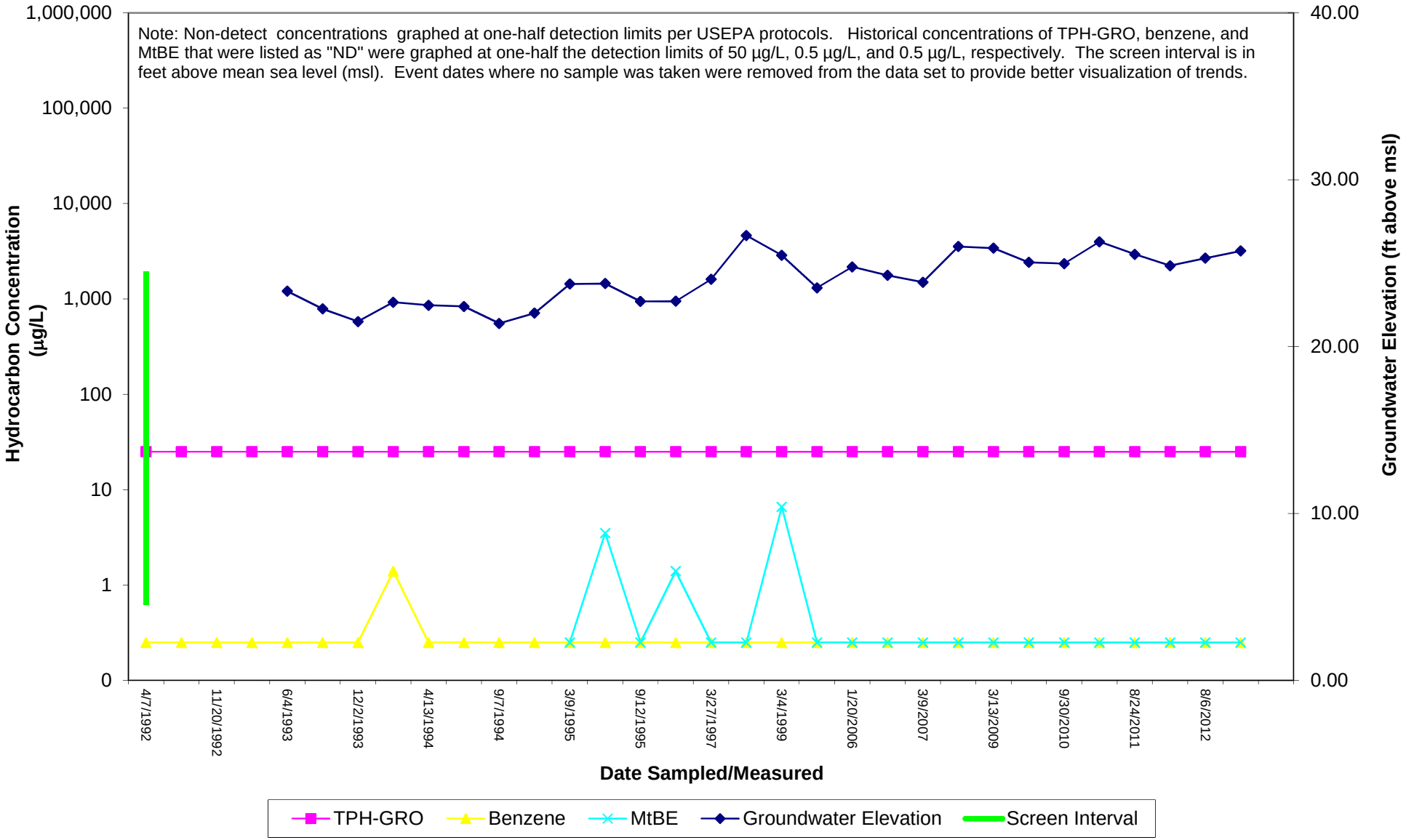
U-6 TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



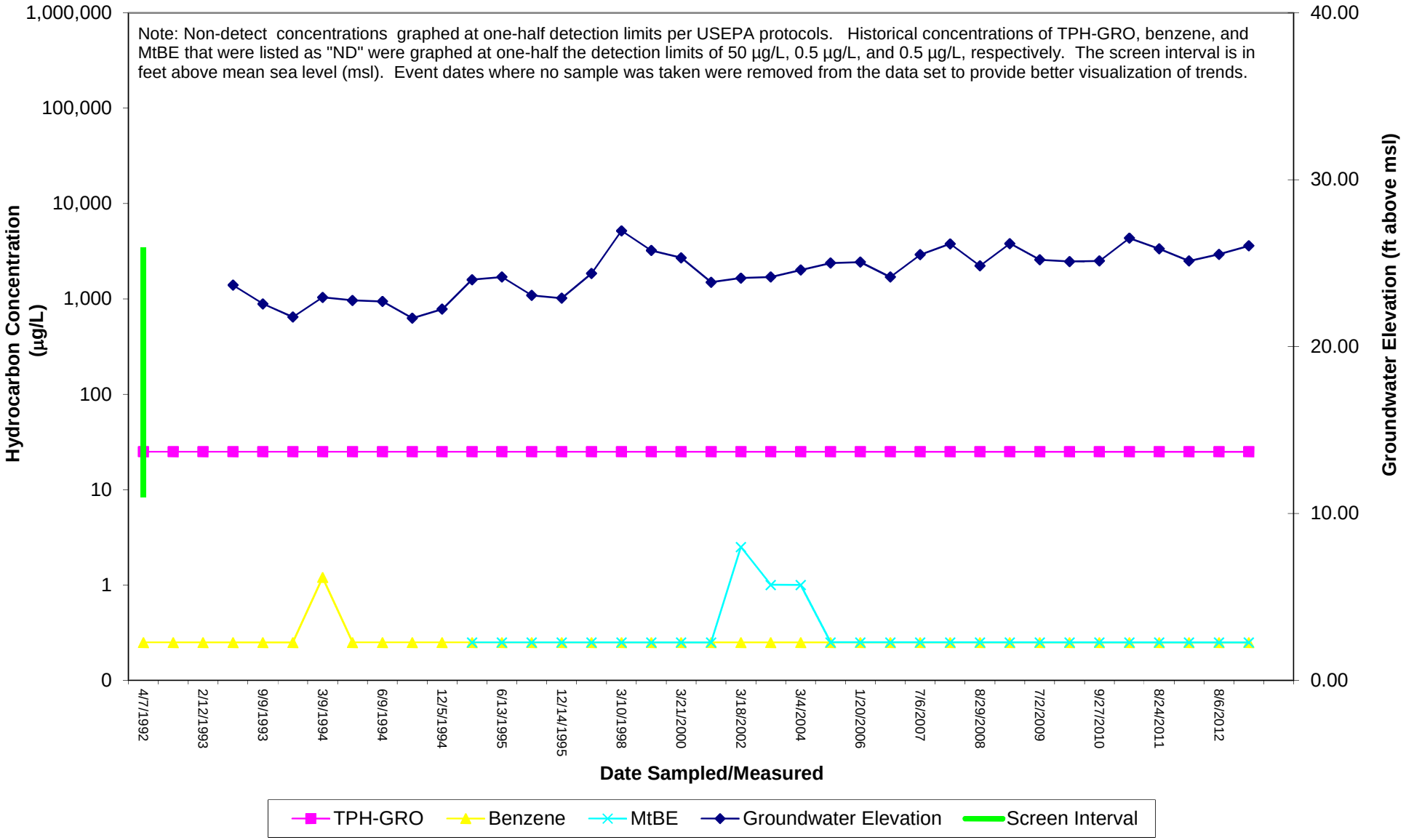
U-7 TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



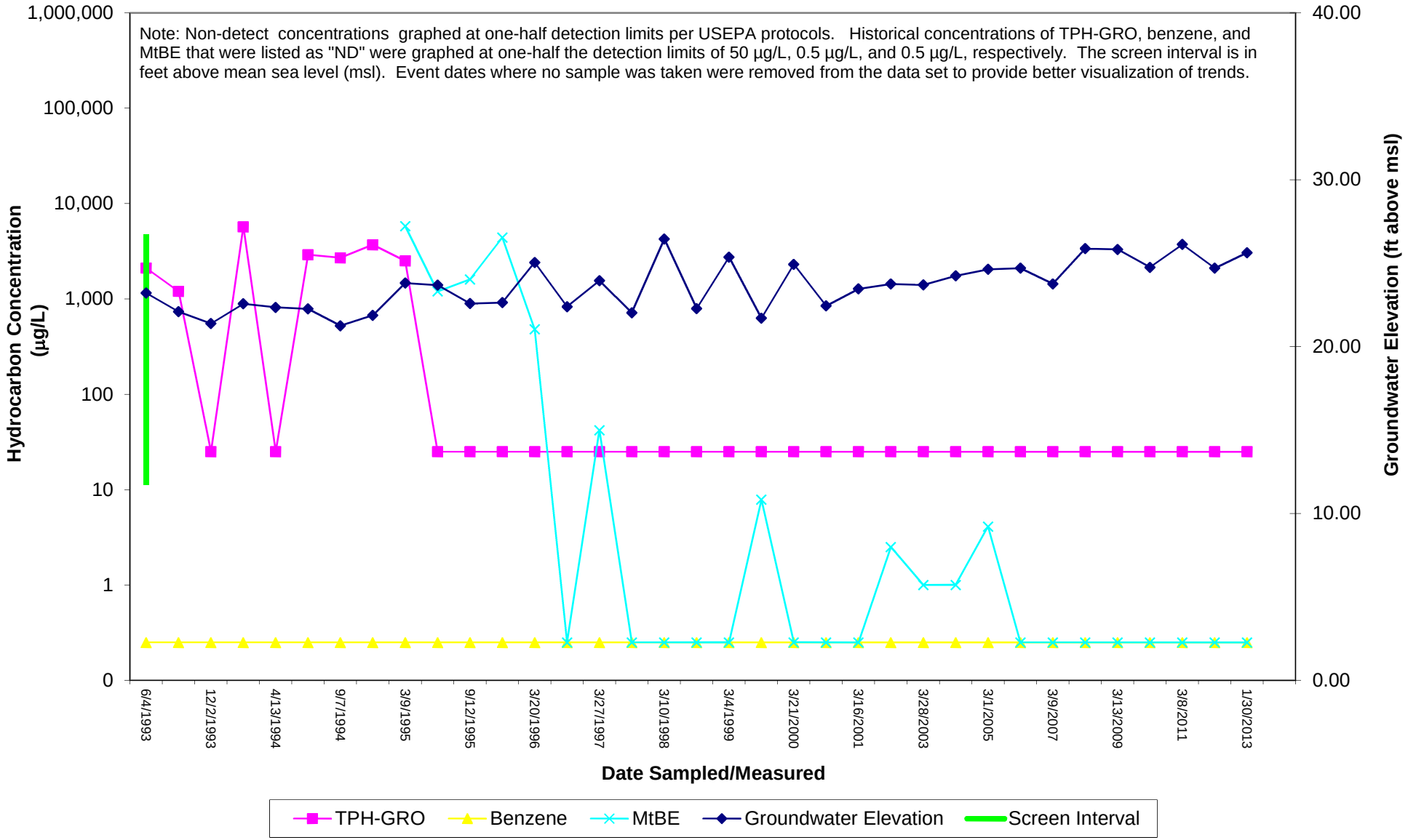
U-8 TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



U-9 TPH-GRO, Benzene & MtBE Concentrations and Groundwater Elevations vs. Time

376 Lewelling Boulevard
San Lorenzo, California



Appendix D

Mann-Kendall Test Results

State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program

Mann-Kendall Statistical Test
Form 4400-215 (2/2001)

Notice: This form is the DNR supplied spreadsheet referenced in Appendices A of Comm 46 and NR 746, Wis. Adm. Code. It is provided to consultants as an optional tool for groundwater contaminant trend analysis to support site closure requests under s. Comm 46.07, Comm 46.08, NR 746.07, NR 746.08, Wis. Adm. Code. Use this form or a manual method when seeking case closure under those rules. Earlier versions of this form should not be used.

Instructions: Do not change formulas or other information in cells with a blue background, only cells with a yellow background are used for data entry. To use the spreadsheet, provide at least four rounds and not more than ten rounds of data that is not seasonally affected. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" or "DATE ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at both 80 percent and 90 percent confidence levels. If a declining trend is present at 80 percent but not at 90 percent, a site is still eligible for closure under Comm 46 and NR 746 provided that other conditions in those rules are met. If an increasing or decreasing trend is not present, an additional coefficient of variation test is used to test for stability, as proposed by Wiedemeier et al, 1999. For additional information, refer to the Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name :	Chevron 351561		BRRTS No. =		Well Number =	U-1R	
	Compound ->	TPH-GRO	Ethylbenzene				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	3/13/2009	20000	1800				
2	5/1/2009	17000	1600				
3	7/2/2009	21000	1800				
4	1/18/2010	12000	1200				
5	9/27/2010	11000	1200				
6	3/8/2011	6000	750				
7	8/24/2011	8500	990				
8	2/16/2012	2200	240				
9	8/6/2012	11000	820				
10	1/30/2013	11000	830				
	Mann Kendall Statistic (S) =	-24.0	-29.0	0.0	0.0	0.0	0.0
	Number of Rounds (n) =	10	10	0	0	0	0
	Average =	11970.00	1123.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Standard Deviation =	5937.461	502.241	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Coefficient of Variation(CV)=	0.496	0.447	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		**DECREASING**	**DECREASING**	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		**DECREASING**	**DECREASING**	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4 n<4	n<4 n<4	n<4 n<4	n<4 n<4

Data Entry By =	CJM	Date =	19-Mar-13	Checked By =	SC

State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program

Mann-Kendall Statistical Test
Form 4400-215 (2/2001)

Notice: This form is the DNR supplied spreadsheet referenced in Appendices A of Comm 46 and NR 746, Wis. Adm. Code. It is provided to consultants as an optional tool for groundwater contaminant trend analysis to support site closure requests under s. Comm 46.07, Comm 46.08, NR 746.07, NR 746.08, Wis. Adm. Code. Use this form or a manual method when seeking case closure under those rules. Earlier versions of this form should not be used.

Instructions: Do not change formulas or other information in cells with a blue background, only cells with a yellow background are used for data entry. To use the spreadsheet, provide at least four rounds and not more than ten rounds of data that is not seasonally affected. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" or "DATE ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at both 80 percent and 90 percent confidence levels. If a declining trend is present at 80 percent but not at 90 percent, a site is still eligible for closure under Comm 46 and NR 746 provided that other conditions in those rules are met. If an increasing or decreasing trend is not present, an additional coefficient of variation test is used to test for stability, as proposed by Wiedemeier et al, 1999. For additional information, refer to the Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name :	Chevron 351561		BRRTS No. =		Well Number =	U-3R	
	Compound ->	TPH-GRO					
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	3/13/2009	1300					
2	5/1/2009	290					
3	7/2/2009	25					
4	1/18/2010	25					
5	9/27/2010	480					
6	3/8/2011	25					
7	8/24/2011	670					
8	2/16/2012	440					
9	8/6/2012	120					
10	1/30/2013	25					
	Mann Kendall Statistic (S) =	-9.0	0.0	0.0	0.0	0.0	0.0
	Number of Rounds (n) =	10	0	0	0	0	0
	Average =	340.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Standard Deviation =	409.322	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Coefficient of Variation(CV)=	1.204	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected			n<4	n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		No Trend	n<4	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		No Trend	n<4	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		**CV > 1 NON-STABLE**	n<4 n<4	n<4 n<4	n<4 n<4	n<4 n<4	n<4 n<4

Data Entry By =	CJM	Date =	19-Mar-13	Checked By =	SC

Appendix E

Point Decay Rate Constants and Timeframes to Achieve Water Quality Objectives

Point Decay Rate Constant & Timeframe to Achieve TPH-GRO Water Quality Objective in Well U-1R Based on Data Since 2007
376 Lewelling Boulevard, San Lorenzo, CA

Sampling Date	TPH-GRO (µg/L)	ln TPH-GRO (µg/L)	Elapsed time since 7/6/2007 (years)
7/6/2007	36,000	10.49	0.00
1/7/2008	28,000	10.24	0.51
6/24/2008	29,000	10.28	0.97
8/29/2008	35,000	10.46	1.15
11/17/2008	24,000	10.09	1.37
3/13/2009	20,000	9.90	1.69
5/1/2009	17,000	9.74	1.82
7/2/2009	21,000	9.95	1.99
1/18/2010	12,000	9.39	2.54
9/27/2010	11,000	9.31	3.23
3/8/2011	6,000	8.70	3.67
8/24/2011	8,500	9.05	4.14
2/16/2012	2,200	7.70	4.62
8/6/2012	11,000	9.31	5.09
1/30/2013	11,000	9.31	5.58
Mean Last 4 Events	8,175		

Formula

$t = -[\ln(C_{CL}/C_o)] / k_{point}$

where:

t = Time to achieve cleanup levels, years

C_{CL} = Cleanup level for contaminant of concern, µg/L

C_o = Initial concentration of contaminant of concern, µg/L

k_{point} = First-order decay rate constant at one monitoring point, years^{-1}

= slope of the line, y

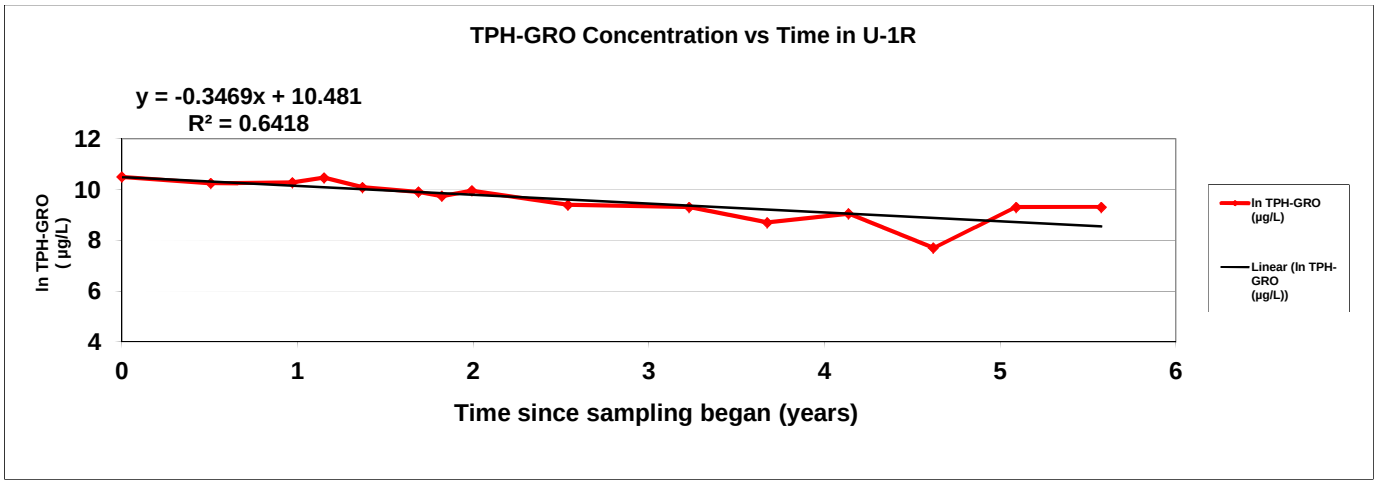
Solutions

C_{CL}	⇒	**100**	**Water Quality Objective (µg/L)**
C_o	⇒	**8,175**	**Mean Concentration Last 4 Sampling Events (µg/L)**
k_{point}	⇒	**0.3469**	**First Order Decay Rate (years^{-1})**
Time to reach cleanup level			**12.7 years**

C_{CL}	⇒	**100**	**Water Quality Objective (µg/L)**
C_o	⇒	**11,000**	**Maximum Concentration Last 4 Sampling Events (µg/L)**
k_{point}	⇒	**0.3469**	**First Order Decay Rate (years^{-1})**
Time to reach cleanup level			**13.5 years**

WQO = CA MCL, except for TPH-GRO, which is RWQCB ESL

Additional CA MCLs:
Ethylbenzene = 300
Toluene = 150
Total Xylenes = 1,750



Point Decay Rate Constant & Timeframe to Achieve Ethylbenzene Water Quality Objective in Well U-1R Based on Data Since 2007
376 Lewelling Boulevard, San Lorenzo, CA

Sampling Date	Ehtylbenzene (µg/L)	ln Ethylbenzene (µg/L)	Elapsed time since 7/6/2007 (years)
7/6/2007	2,200	7.70	0.00
1/7/2008	1,900	7.55	0.51
6/24/2008	2,400	7.78	0.97
8/29/2008	3,000	8.01	1.15
11/17/2008	2,200	7.70	1.37
3/13/2009	1,800	7.50	1.69
5/1/2009	1,600	7.38	1.82
7/2/2009	1,800	7.50	1.99
1/18/2010	1,200	7.09	2.54
9/27/2010	1,200	7.09	3.23
3/8/2011	750	6.62	3.67
8/24/2011	990	6.90	4.14
2/16/2012	240	5.48	4.62
8/6/2012	820	6.71	5.09
1/30/2013	830	6.72	5.58
Mean Last 4 Events	720		

Formula

$t = -[\ln(C_{CL}/C_o)] / k_{point}$

where:

t = Time to achieve cleanup levels, years

C_{CL} = Cleanup level for contaminant of concern, µg/L

C_o = Initial concentration of contaminant of concern, µg/L

k_{point} = First-order decay rate constant at one monitoring point, $years^{-1}$

= slope of the line, y

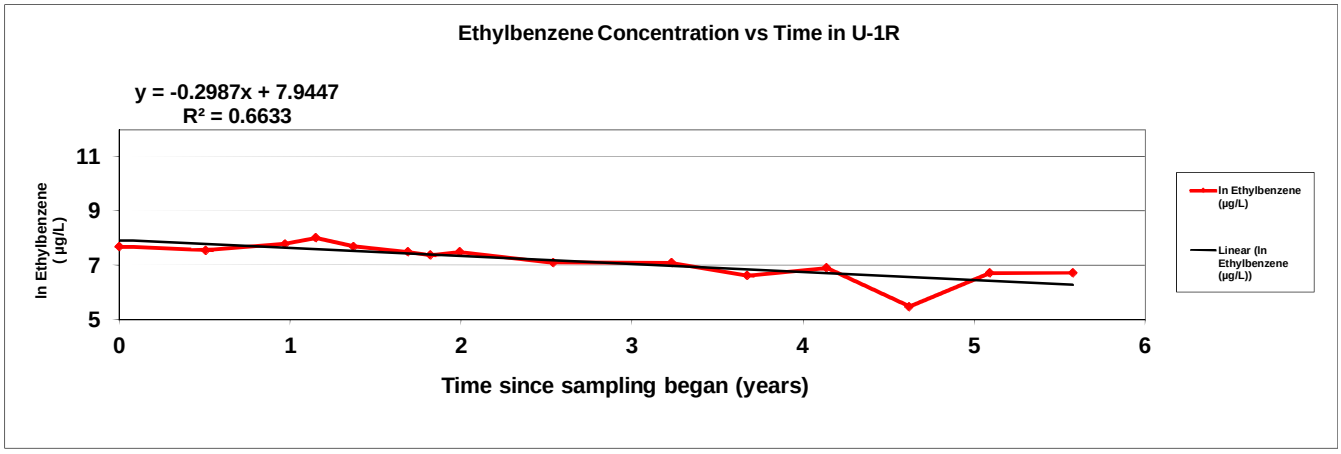
Solutions

C_{CL}	**300**	**Water Quality Objective (µg/L)**
C_o	**720**	**Mean Concentration Last 4 Sampling Events (µg/L)**
k_{point}	**0.2987**	**First Order Decay Rate ($years^{-1}$)**
Time to reach cleanup level		**2.9 years**

C_{CL}	**300**	**Water Quality Objective (µg/L)**
C_o	**990**	**Maximum Concentration Last 4 Sampling Events (µg/L)**
k_{point}	**0.2987**	**First Order Decay Rate ($years^{-1}$)**
Time to reach cleanup level		**4.0 years**

WQO = CA MCL, except for TPH-GRO, which is RWQCB ESL

Additional CA MCLs:
Ethylbenzene = 300
Toluene = 150
Total Xylenes = 1,750



Point Decay Rate Constant & Timeframe to Achieve TPH-GRO Water Quality Objective in Well U-3R Based on Data Since 2007
376 Lewelling Boulevard, San Lorenzo, CA

Sampling Date	TPH-GRO (µg/L)	ln TPH-GRO (µg/L)	Elapsed time since 7/6/2007 (years)
7/6/2007	290	5.67	0.00
1/7/2008	25	3.22	0.51
6/24/2008	99	4.60	0.97
8/29/2008	1,500	7.31	1.15
11/17/2008	740	6.61	1.37
3/13/2009	1,300	7.17	1.69
5/1/2009	290	5.67	1.82
7/2/2009	25	3.22	1.99
1/18/2010	25	3.22	2.54
9/27/2010	480	6.17	3.23
3/8/2011	25	3.22	3.67
8/24/2011	670	6.51	4.14
2/16/2012	440	6.09	4.62
8/6/2012	120	4.79	5.09
1/30/2013	25	3.22	5.58
Mean Last 4 Events	314		

Formula

$t = -[\ln(C_{CL}/C_o)] / k_{point}$

where:

t = Time to achieve cleanup levels, years

C_{CL} = Cleanup level for contaminant of concern, µg/L

C_o = Initial concentration of contaminant of concern, µg/L

k_{point} = First-order decay rate constant at one monitoring point, $years^{-1}$

= slope of the line, y

Solutions

C_{CL}	**100**	**Water Quality Objective (µg/L)**
C_o	**314**	**Mean Concentration Last 4 Sampling Events (µg/L)**
k_{point}	**0.1518**	**First Order Decay Rate ($years^{-1}$)**
Time to reach cleanup level		**7.5 years**

C_{CL}	**100**	**Water Quality Objective (µg/L)**
C_o	**670**	**Maximum Concentration Last 4 Sampling Events (µg/L)**
k_{point}	**0.1518**	**First Order Decay Rate ($years^{-1}$)**
Time to reach cleanup level		**12.5 years**

WQO = CA MCL, except for TPH-GRO, which is RWQCB ESL

Additional CA MCLs:
Ethylbenzene = 300
Toluene = 150
Total Xylenes = 1,750