CONESTOGA-ROVERS & ASSOCIATES

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TRANSMITTAL

DATE: November 14, 2012

REFERENCE NO.: 240467

PROJECT NAME: 1601 Webster Street, Alameda

TO: Barbara Jakub
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

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Alameda County
Environmental Health

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QUANTITY	DESCRIPTION
1	Site Conceptual Model and Closure Request

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

COMMENTS:
If you have any questions regarding the contents of this document, please call Peter Schaefer at (510) 420-3319.

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Completed by: Peter Schaefer Signed: Peter Schaefer

Filing: **Correspondence File**

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Barbara Jakub
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
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Re: Shell-branded Service Station
1601 Webster Street
Alameda, California
SAP Code 135032
Incident No. 97564701
ACEH Case No. RO0002745

Dear Ms. Jakub:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

Denis L. Brown
Senior Program Manager

SITE CONCEPTUAL MODEL AND CLOSURE REQUEST

SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

SAP CODE	135032
INCIDENT NO.	97564701
AGENCY NO.	RO0002745

Prepared by:
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EXECUTIVE SUMMARY

- This SCM is intended to address the deficiencies presented in the Closure Review posted on SWRCB's Geotracker website.
- Shell initiated this investigation in August 2004, due to a net loss of 2,084 gallons of gasoline which was discovered by manual tank gauging following re-installation of a fuel pump into a 10,000-gallon UST. Following the loss, GWE was conducted from the northernmost tank backfill well (TBW-N). Approximately 196,130 gallons of groundwater were removed by GWE along with an estimated 1,982 gallons of SPHs and 21.7 gallons of dissolved TPHg, resulting in recovery of 96% of the product released.
- Historical groundwater monitoring data adequately define TPHg, BTEX, MTBE, and TBA impacts horizontally and vertically in groundwater to below applicable RWQCB ESLs, demonstrating that the plume is not migrating and that COC trends are declining.
- Vadose zone soil analytical results are all below ESLs, with the exception of one soil sample collected from a piping trench adjacent to the dispensers. Since no vadose zone soil concentrations exceeded ESLs in other borings, soil impacts have been adequately delineated.
- The site is likely to remain in use as a service station.
- This site meets SWRCB criteria for a low-threat fuel site.
- Based on the above, on behalf of Shell, we respectfully request closure of this case. CRA requests that ACEH suspend the groundwater monitoring program requirement during the closure review.

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell). This evaluation and other information included in this report are intended to address the deficiencies identified in the State Water Resources Control Board's (SWRCB's) Geotracker website's Closure Review for the subject site.

The site is a Shell-branded service station located on the northwestern corner of Webster Street and Lincoln Avenue in a mixed commercial and residential area of Alameda, California (Figure 1). The site layout includes a station building, three gasoline underground storage tanks (USTs), and two dispenser islands (Figure 2).

A summary of previous work performed at the site is contained in Appendix A.

2.0 SITE CONCEPTUAL MODEL (SCM)

ITEM	*EVALUATION CRITERIA*	*COMMENTS/DISCUSSION*
2.1	**Hydrocarbon Source**	
2.1.1	Identify/Describe Release Source and Volume (if known)	In June 1987, a 550-gallon waste oil UST was removed. Holes were noted in the UST, and a hydrocarbon sheen was noted on the water in the excavation. During station upgrades in August 2004, a net loss of 2,084 gallons of gasoline was discovered by manual tank gauging following re-installation of a fuel pump into a 10,000-gallon UST.
2.1.2	Discuss Steps Taken to Stop Release	The waste oil UST was replaced in June 1987. Following the August 2004 product release, remaining fuel was removed from the damaged UST, and groundwater extraction (GWE) was conducted from the northernmost tank backfill well (TBW-N). From August 19 until August 23, 2004, groundwater was extracted several times per day. Then, daily GWE was conducted from August 24 until September 10, 2004. GWE was conducted weekly from September 13 through November 16, 2004, and GWE was

		subsequently conducted monthly through February 2006. Approximately 196,130 gallons of groundwater were removed by GWE along with an estimated 1,982 gallons of separate-phase hydrocarbons (SPHs) and 21.7 gallons of dissolved total petroleum hydrocarbons as gasoline (TPHg), resulting in the recovery of 96 percent (%) of the product released. Appendix B presents GWE data. In addition, the dispensers and product piping were upgraded in August 1997, the site's waste oil system was upgraded in November 1998, and the second-generation waste oil UST was removed in May 2006.
2.2	**Site Characterization**	
2.2.1	Current Site Use/Status	The site is a Shell-branded service station.
2.2.2	Soil Definition Status	All detections of TPHg, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) in the 9 vadose zone (less than 5 feet below grade [fbg], depth to groundwater is typically 5 to 8 fbg) soil samples analyzed are below the San Francisco Bay Regional Water Quality Control Board[1] (RWQCB) environmental screening level (ESL) for soils at sites with commercial land use, where groundwater is a potential source of drinking water, with the exception of 1,300 milligrams per kilograms (mg/kg) TPHg and 49 mg/kg total xylenes in soil sample P-3 at 3 fbg, It should be noted that the RWQCB advises that ESLs must be used in conjunction with ESLs for related chemicals (e.g. BTEX, polynuclear aromatic hydrocarbons, oxidizers, etc.)." In this case, BTEX and MTBE are the appropriate related chemicals. Since the detection of total xylenes which exceeds the ESL is in the area of the product piping adjacent to the dispensers and no vadose zone soil concentrations exceeded

1 *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater,* California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008]

		ESLs in other borings, soil impacts have been adequately delineated. Table 1 presents historical soil data.
2.2.3	SPH Definition Status	SPH has not been observed since November 2007.
2.2.4	Groundwater Definition Status (TPHg/BTEX)	For this environmental case, groundwater has been monitored at the site since the fourth quarter of 2004. During the third quarter 2012 groundwater monitoring event, TPHg, BTEX, and fuel oxygenate concentrations were below ESLs for groundwater where groundwater is a potential source of drinking water with the exception of up to 7,400 micrograms per liter (µg/L) TPHg and up to 1,100 µg/L benzene detected in wells S-6 through S-9 and TBW-N, and 100 µg/L ethylbenzene and 65 µg/L total xylenes detected in well TBW-N. The third quarter 2012 groundwater contour and chemical concentration map is included as Figure 3. As noted above, the RWQCB advises that TPH ESLs must be used in conjunction with ESLs for related chemicals (e.g. BTEX, polynuclear aromatic hydrocarbons, oxidizers, etc.)." In this case BTEX and fuel oxygenates are the appropriate related chemicals. BTEX concentrations in the shallow zone are defined to below ESLs down gradient by wells S-2 through S-5. Since all concentrations of constituents of concern (COCs) in deeper site well S-4B are below ESLs, groundwater impacts are adequately defined. Historical monitoring well groundwater data for the current environmental case (Alameda County Environmental Health [ACEH] No. RO0002745) are included in Table 2, and grab groundwater sampling data are presented in Table 3. Groundwater monitoring data from the previous environmental case (ACEH No. RO0001042) are included in Appendix C.

2.2.5	TPHg/BTEX Plume Stability and Concentration Trends	Quarterly groundwater monitoring data indicate that COC concentrations are declining. Trend graphs for COCs presented on Figures 4 through 9 predict that all COCs will reach ESLs by 2022.
2.2.6	Groundwater Definition Status (Oxygenates)	Fuel oxygenate concentrations in all wells are all below ESLs, with the exception of 17 µg/L tertiary-butyl alcohol (TBA) in tank backfill well TBW-N. Oxygenate detection limits are elevated in up-gradient wells S-7 through S-9; however, the horizontal extent of oxygenates are defined down gradient by well S-2 through S-6. The vertical extent of fuel oxygenates is defined by well S-4B.
2.2.7	Oxygenate Plume Stability and Concentration Trends	TBA, di-isopropyl ether, ethyl tertiary-butyl ether, and tertiary-amyl methyl ether were not detected in groundwater samples collected during the third quarter 2012 groundwater monitoring event, with the exception TBA in tank backfill well TBW-N. MTBE detections were below ESLs. Oxygenates are consistently not detected or detected at concentrations below ESLs.
2.2.8	Groundwater Flow Direction, Depth Trends and Gradient	Static groundwater depth has ranged from 3.49 to 9.20 fbg. Groundwater flow direction is generally northerly with a variable but generally shallow groundwater gradient. Groundwater depths are presented in the historical groundwater monitoring data table (Table 2).
2.2.9	Stratigraphy and Hydrogeology	Based on 34 site borings, the site is underlain by up to 3 feet of variable fill below which is predominately clayey sand, silty sand, sand with gravel, and sand with occasional, minor (up to 3-feet-thick) silt and clay lenses, to a depth of approximately 40 fbg. Boring logs are presented in Appendix D.
2.2.10	Preferential Pathways Analysis	In November 2004, Cambria Environmental Technology, Inc. (Cambria) submitted a preferential pathway analysis in their November 30, 2004 *Soil & Groundwater Investigation Work Plan and Agency Response.* Cambria reviewed: • City of Alameda Public Works

		sanitary sewer and storm drain maps, • Alameda Power & Telecom electricity and telephone utility maps, and • East Bay Municipal Utility District (EBMUD) water mains maps. Several utility lines were noted in the area of the site at depths of up to 9 fbg. Currently known or identified utilities are shown on Figure 2. Based on the available utility information, Cambia concluded that due to the range of historical groundwater depths, the potential exists for the water table to rise into certain sanitary sewer, storm drain and water main piping trenches. They noted that it appears that the north-flowing 8-inch sanitary sewer beneath Webster Street, adjacent to the site, is likely regularly submerged and that groundwater flow might be affected by the trench for this pipe. In addition, Cambria observed that during very high groundwater episodes, groundwater could rise into trenches for other sanitary sewers, storm drains, and water mains. As a result, they stated that there is a potential that the identified utilities may act occasionally as preferential pathways for groundwater flow. Grab groundwater data from subsequent borings SB-12 through SB-14 defined the petroleum hydrocarbon plume to the east and the southeastern edge of the MTBE plume. Groundwater monitoring data from the adjacent 76 station well MW-5 defines the down-gradient extent of the MTBE plume. This indicates that petroleum hydrocarbons from the Shell site are not reaching the utility trenches and that although the MTBE plume may be reaching the utility trenches, it is adequately defined down-gradient.
2.2.11	Other Pertinent Issues	In November 2004, Cambria conducted a sensitive receptor survey (SRS). The SRS targeted the following as potential sensitive receptors: basements within 200 feet, surface water and sensitive habitats within 500 feet,

		hospitals, educational, residential care and childcare facilities within 1,000 feet, and water-producing wells within one-half mile. Two possible partial basements were visually observed at residences at 628 Lincoln Avenue (across Lincoln Avenue, southwest of the site) and 632 Pacific Avenue (northwest of the site) at a distance of approximately 200 feet from the site. Cambria stated that the basements did not appear to be finished for living space, but rather may be used for storage or utility space. The existence of basements was not confirmed by contacting the residents. No surface waters or sensitive habitats were observed within 500 feet. No hospitals, schools, or childcare facilities were observed within 1,000 feet; however, one residential nursing home (Elders Inn) was identified at 1721 Webster Street, approximately 350 feet from the site.
2.3	**Remediation Status**	
2.3.1	Remedial Actions Taken	From March 1995 until March 1996 groundwater was remediated by injecting air into MW-2. Following the August 2004 product release, remaining fuel was removed from the damaged UST and GWE was conducted from the northern-most tank backfill well (TBW-N). Initially, groundwater was extracted several times per day from August 19 until August 23, 2004. Then, daily GWE was conducted from August 24 until September 10, 2004. From September 13 through November 16, GWE was conducted weekly and GWE was subsequently conducted monthly through February 2006. Approximately 196,130 gallons of groundwater were removed by GWE along with an estimated 1,982 gallons of SPHs and 21.7 gallons of dissolved TPHg. Appendix B presents GWE data. In addition, the dispensers and product piping were upgraded in August 1997, and the site's waste oil system was upgraded in November 1998 and subsequently removed

		in May 2006.
2.3.2	Area Remediated	The area south of the dispensers from March 1995 until March 1996 and the area of the UST complex from August to November 2004.
2.3.3	Remediation Effectiveness	A reported volume of 2,084 gallons of product was released during the August 2004 spill. Calculations show that 2004 gallons of product were recovered through remedial extraction efforts. Following this source removal, the plume is shrinking and declining trends are demonstrated for COCs.
2.4	**Well and Sensitive Receptor Survey**	
2.4.1	Designated Beneficial Water Use	The SWRCB's Geotracker website file for the environmental case at this site states that the "Groundwater at the site is considered suitable, or potentially suitable for municipal and domestic water supply (MUN) as designated in the San Francisco Bay Region Water Quality Control Board Basin Plan. However, the municipal and domestic water supply beneficial use is not currently being utilized in the area of the site." Groundwater in this area cannot be precluded from being a potential future source of drinking water.
2.4.2	Well Survey Results	In March 2004, Cambria performed a search of California Department of Water Resources (DWR) records and the SWRCB's Geotracker database to identify water producing wells within one-half mile of the site. No public water supply wells were identified from DWR records or the Geotracker database. Cambria found DWR records for one domestic well, four agricultural wells, one industrial well, and one well of unknown use within one-half mile of the site. The nearest identified well was located by address approximately 150 feet south of the site. The DWR well record was undated, and did not record the well's intended use. The address is currently occupied by a café, and Cambria could not find the well; therefore, the well is presumed to be abandoned. The next closest wells, irrigation wells installed in

		1977, are estimated to be about 525 and 800 feet northwest of the site, and drilled to 25 and 32 fbg, respectively. Cambria concluded that since groundwater is known to flow generally northward, these wells are cross gradient from the site and are therefore unlikely to be affected by impacted groundwater from the site. All other identified wells were located more than 1,000 feet to the southeast, south, and southwest (up gradient) of the site. The locations of the identified wells are shown on Figure 1, and well details are presented in Appendix E.
2.4.3	Likelihood of Impact to Wells	Due to the distance and direction to the identified water-producing wells and declining trends observed for COCs, it is unlikely they would be impacted.
2.4.4	Likelihood of Impact to Surface Water	San Francisco Bay is located approximately 2,100 feet southwest. Due to the distance and up-gradient direction to the bay, it is unlikely that surface water would be impacted.
2.5	**Risk Assessment**	
2.5.1	Site Conceptual Exposure Model (current and future uses)	The site is an active Shell-branded service station and is likely to remain in use as a service station. The site is surrounded by mixed residential and commercial properties. There is no indication that the land use in the site vicinity will change from commercial and residential land use in the near future.
2.5.2	Exposure Pathways	Potential exposure pathways include ingestion of impacted groundwater, exposure of on-site workers to impacted shallow soils, and intrusion of vapor to indoor air. Groundwater ingestion does not appear to be a completed pathway because there are no down-gradient water-producing wells or surface water in close proximity to the site. As discussed above, impacted soil is limited on site. Any work at this site would require contractors to have appropriate health and safety training. Workers doing trenching or excavating at an active gasoline station would be properly trained and prepared for

		encountering potentially impacted soil, and would follow appropriate safety procedures. Therefore, the residual impacted soils do not appear to pose a significant threat to construction workers who may occasionally come in contact with any residual impacted soils on site. At this time, no further investigation associated with the residual soil impact is recommended. Furthermore, the site is an active fueling facility, and there is no reasonable concern that subsurface contamination poses unacceptable indoor inhalation health risk.
2.5.3	Risk Assessment Status	Cambria's May 17, 2006 *Risk Evaluation and Work Plan* evaluated potential risks to human health or the environment posed by impacted soil and groundwater beneath the site. Cambria concluded that the residual impacts do not pose a risk to human health or the environment currently and will not in the foreseeable future, particularly given that the property use is anticipated to remain as a retail gasoline service station.
2.5.4	Identified Human Exceedances	NA
2.5.5	Identified Ecological Exceedances	NA
2.6	**Additional Recommended Data or Tasks**	
2.6.1	Well Destructions	

3.0 LOW-THREAT CLOSURE EVALUATION

Site data also demonstrate that the site conditions meet the low-threat UST case closure criteria outlined in the SWRCB's *Low-Threat Underground Storage Tank Case Closure Policy*. These criteria are addressed below.

3.1 GENERAL CRITERIA

3.1.1 THE UNAUTHORIZED RELEASE IS LOCATED WITHIN THE SERVICE AREA OF A PUBLIC WATER SYSTEM

EBMUD is the public water system for the site and the surrounding area.

3.1.2 THE UNAUTHORIZED RELEASE CONSISTS ONLY OF PETROLEUM

The site is Shell-branded service station. Soil and groundwater impacts identified in site investigations since 2004 consist only of petroleum hydrocarbons and fuel additives.

3.1.3 THE UNAUTHORIZED ("PRIMARY") RELEASE FROM THE UST SYSTEM HAS BEEN STOPPED

As stated above, during station upgrades in August 2004, a net loss of 2,084 gallons of gasoline was discovered by manual tank gauging following re-installation of a fuel pump into a 10,000-gallon UST. Following the August 2004 product release, remaining fuel was removed from the damaged UST, and GWE was conducted from the northern-most tank backfill well (TBW-N). Groundwater was extracted several times per day from August 19 until August 23, 2004. Then, daily GWE was conducted from August 24 until September 10, 2004. GWE was conducted weekly from September 13 through November 16, and GWE was subsequently conducted monthly through February 2006. Approximately 196,130 gallons of groundwater were removed by GWE along with a calculated 1,982 gallons of SPHs and 21.7 gallons of dissolved TPHg. Appendix B presents GWE data.

In addition, the dispensers and product piping were upgraded in August 1997, and the site's waste oil system was upgraded in November 1998 and subsequently removed in May 2006.

3.1.4 FREE PRODUCT HAS BEEN REMOVED TO THE MAXIMUM EXTENT PRACTICABLE

Remedial efforts were successful in recovering 96% of the product released in August 2004. No free product has been detected in site groundwater monitoring wells since November 2007.

3.1.5 A CONCEPTUAL SITE MODEL THAT ASSESSES THE NATURE, EXTENT, AND MOBILITY OF THE RELEASE HAS BEEN DEVELOPED

An SCM is presented in Section 2 above.

3.1.6 SECONDARY SOURCE HAS BEEN REMOVED TO THE EXTENT PRACTICABLE

As stated above, beginning in August 2004 GWE was conducted from the northernmost tank backfill well (TBW-N). Approximately 196,130 gallons of groundwater were removed by GWE along with an estimated 1,982 gallons of SPHs and 22.1 gallons of dissolved TPHg. Appendix B presents GWE data. Impacted soil constituting a significant secondary source has not been identified.

3.1.7 SOIL OR GROUNDWATER HAS BEEN TESTED FOR MTBE

Soil samples have been analyzed for MTBE in all investigations from August 1997 to the present. Groundwater samples have been analyzed for MTBE since April 1996. Analytical data have been reported to ACEH in investigation reports and periodic groundwater monitoring reports.

3.1.8 NUISANCE AS DEFINED BY WATER CODE SECTION 13050 DOES NOT EXIST AT THE SITE

Site conditions do not interfere with enjoyment of life or property, affect an entire community or neighborhood, or present a nuisance during or as a result of the treatment or disposal of wastes.

3.2 MEDIA-SPECIFIC CRITERIA

3.2.1 GROUNDWATER

The contaminant plume that exceeds water quality objectives is stable or decreasing in aerial extent, and this site meets the groundwater requirements specified for class 1 in the low-threat document:

- *The plume is less than 250 feet long:* The north-south length of the plume is less than 200 feet.
- *There is no free product:* As stated above, no free product has been detected in site groundwater monitoring wells since November 2007.
- *The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary:* As stated above, the nearest water supply well that appears to currently exist is approximately 525 feet northwest of the site.

3.2.2 VAPOR

The site is an active fueling facility, and there is no reasonable concern that subsurface contamination poses unacceptable indoor inhalation health risk.

3.2.3 DIRECT CONTACT AND OUTDOOR AIR EXPOSURE

This site meets the residential direct contact and outdoor air requirements for benzene and ethylbenzene in commercial soil specified in scenario 1 in the low-threat document:

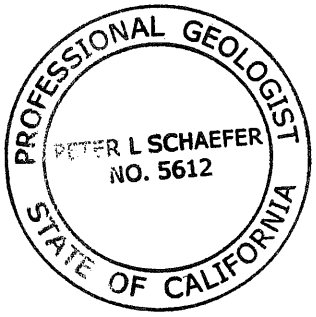
- *Benzene and ethylbenzene concentrations at 0 to 5 fbg are less than 8.2 mg/kg and 89 mg/kg, respectively:* No benzene or ethylbenzene has been detected in soil samples collected at a depth of less than 5 fbg.
- *Benzene and ethylbenzene concentrations at 5 to 10 fbg are less than 12 mg/kg kg and 134 mg/kg, respectively:* Soil samples collected from 5 to 10 fbg have contained up to 2.4 mg/kg benzene and 90 mg/kg ethylbenzene.

4.0 CLOSURE REQUEST

The site is likely to remain in use as a service station. Given the concentrations of COCs in site soil and groundwater compared to the ESLs as presented above, CRA concludes that the residual petroleum and fuel oxygenate impacts at this site pose very little or no risk to human health or the environment.

This site meets the SWRCB's low-threat UST closure policy requirements. Therefore, on behalf of Shell, we respectfully request closure of this case. CRA requests that ACEH suspend the groundwater monitoring program requirement during the closure review.

All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES



Peter Schaefer, CEG, CHG

for:

Diane Lundquist, P.E.

FIGURES

01/20/09

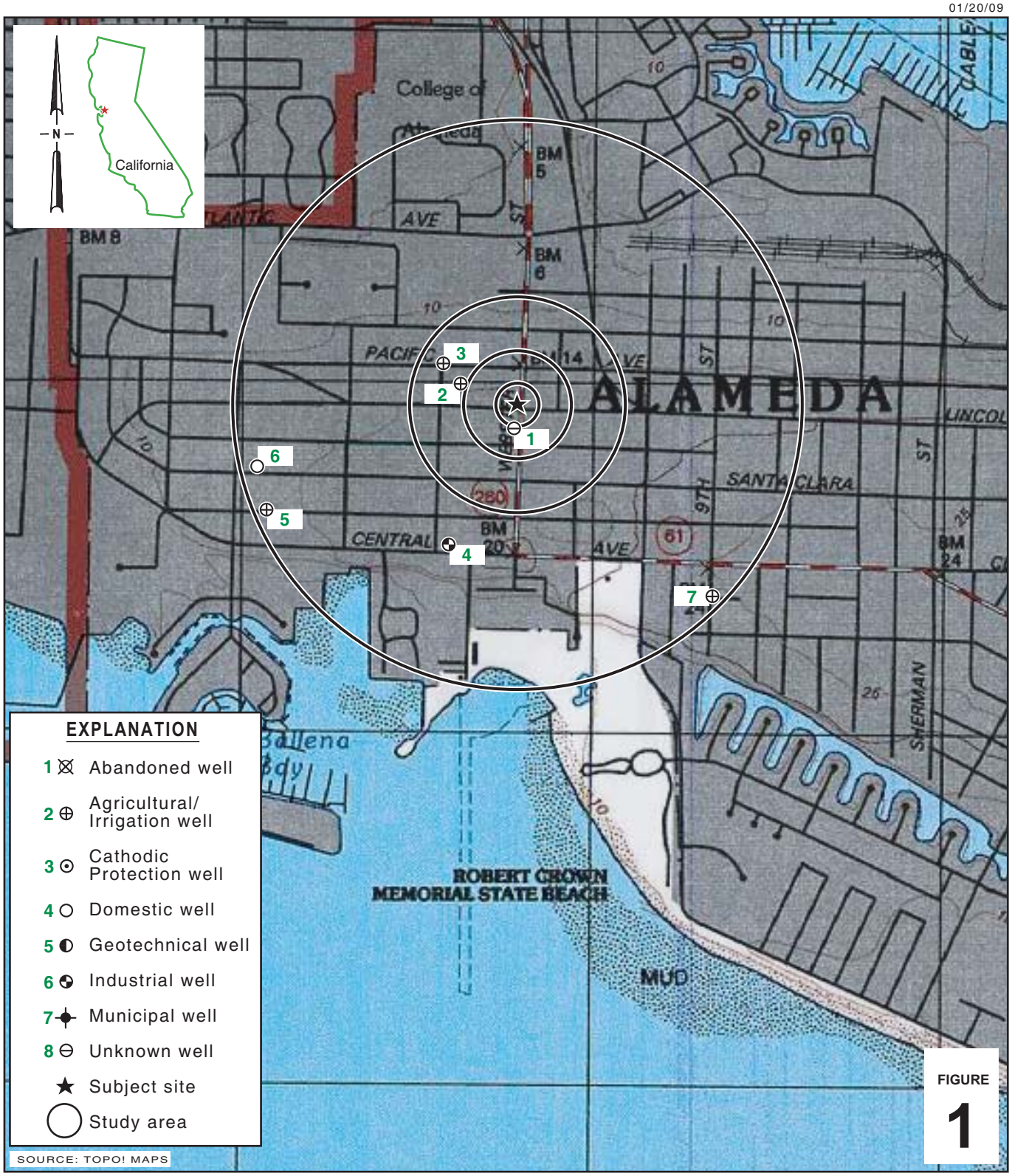


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FIGURE
1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Shell-branded Service Station

1601 Webster Street

Alameda, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

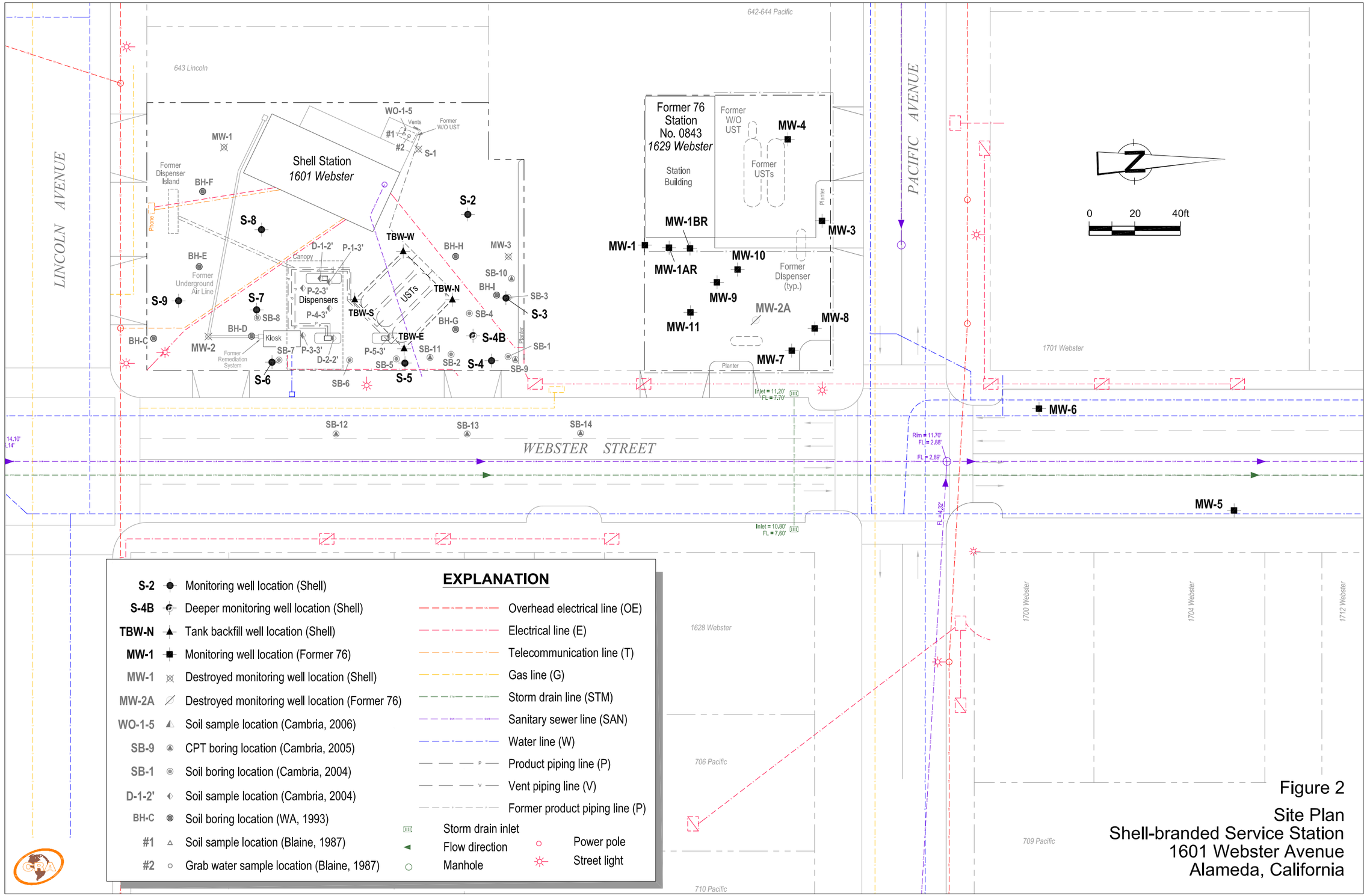


Figure 2

Site Plan
Shell-branded Service Station
1601 Webster Avenue
Alameda, California

I:\Shell\6-chars\2404--\240467-Alameda 1601 Webster St\240467-FIGURES\240467 SITE PLAN.DWG (06/20/2012)

11/09/2012

Groundwater Contour and Chemical Concentration Map

August 13, 2012

EXPLANATION

- **S-2** — Monitoring well location (Shell)
- **S-4B*** — Deeper monitoring well location (Shell) (not used in contouring)
- **TBW-N** — Tank backfill well location (Shell)
- **MW-1** — Monitoring well location (Former 76)
- **MW-1** (X) — Destroyed monitoring well location (Shell)
- **MW-2A** (X) — Destroyed monitoring well location (Former 76)
- P — Product piping line (P)
- P — Former product piping line (P)
- V — Vent piping line (V)
- x.xx — Groundwater flow direction and gradient
- XX.XX — Groundwater elevation contour, in feet above mean sea level (ft MSL)
- Well / ELEV / Benzene / MTBE — Well designation; Groundwater elevation, in ft MSL; Benzene and MTBE concentrations are in micrograms per liter

Notes:
ND = Not detected
NDa = Elevated reporting limit, see laboratory report for details

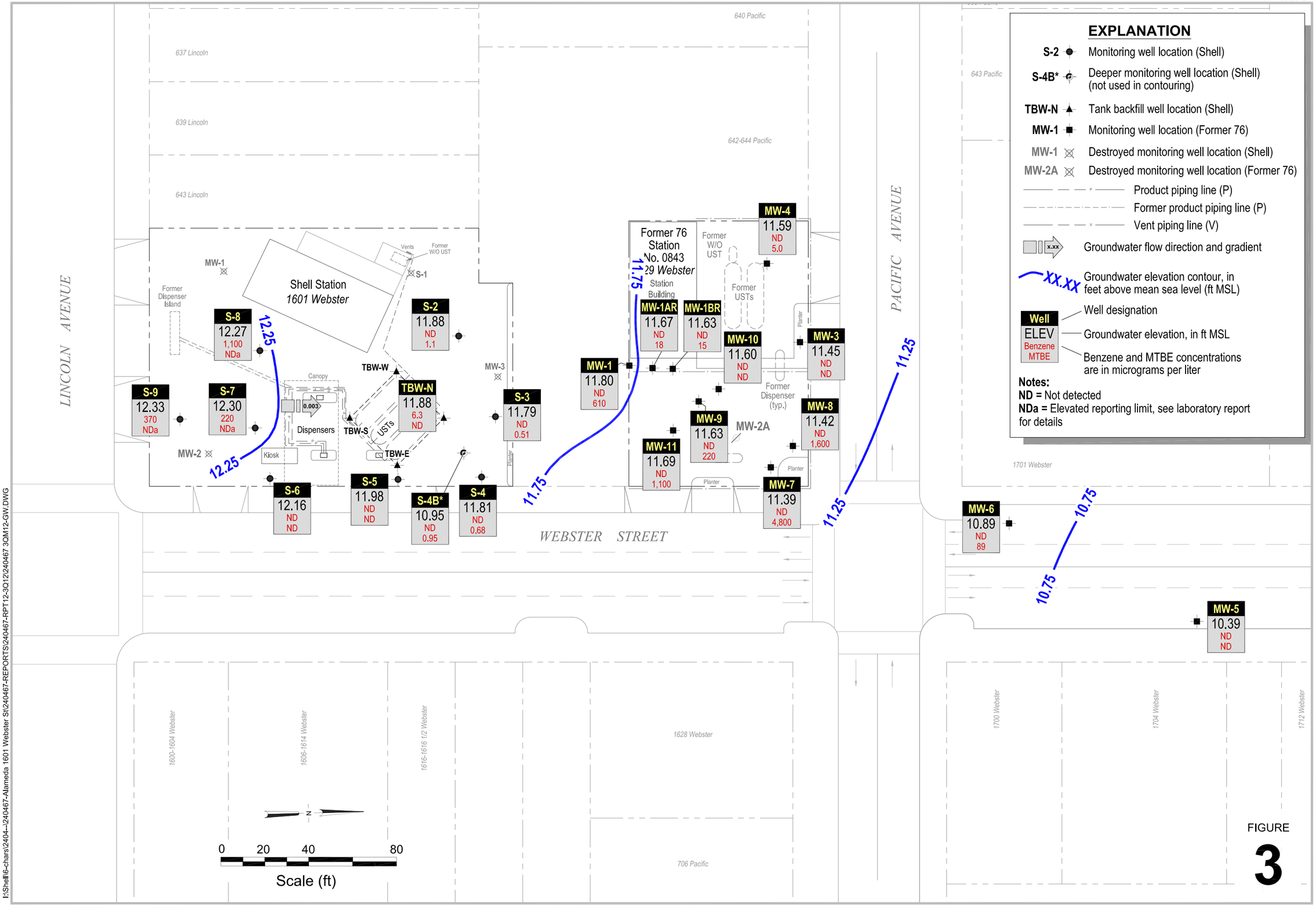


FIGURE **3**

Shell-branded Service Station
1601 Webster Avenue
Alameda, California

CONESTOGA-ROVERS & ASSOCIATES

I:\Shell\6-chars\2404--\2404467-Alameda 1601 Webster St\240467-REPORTS\240467-RPT12-3Q12\2404467 3QM12-GW.DWG

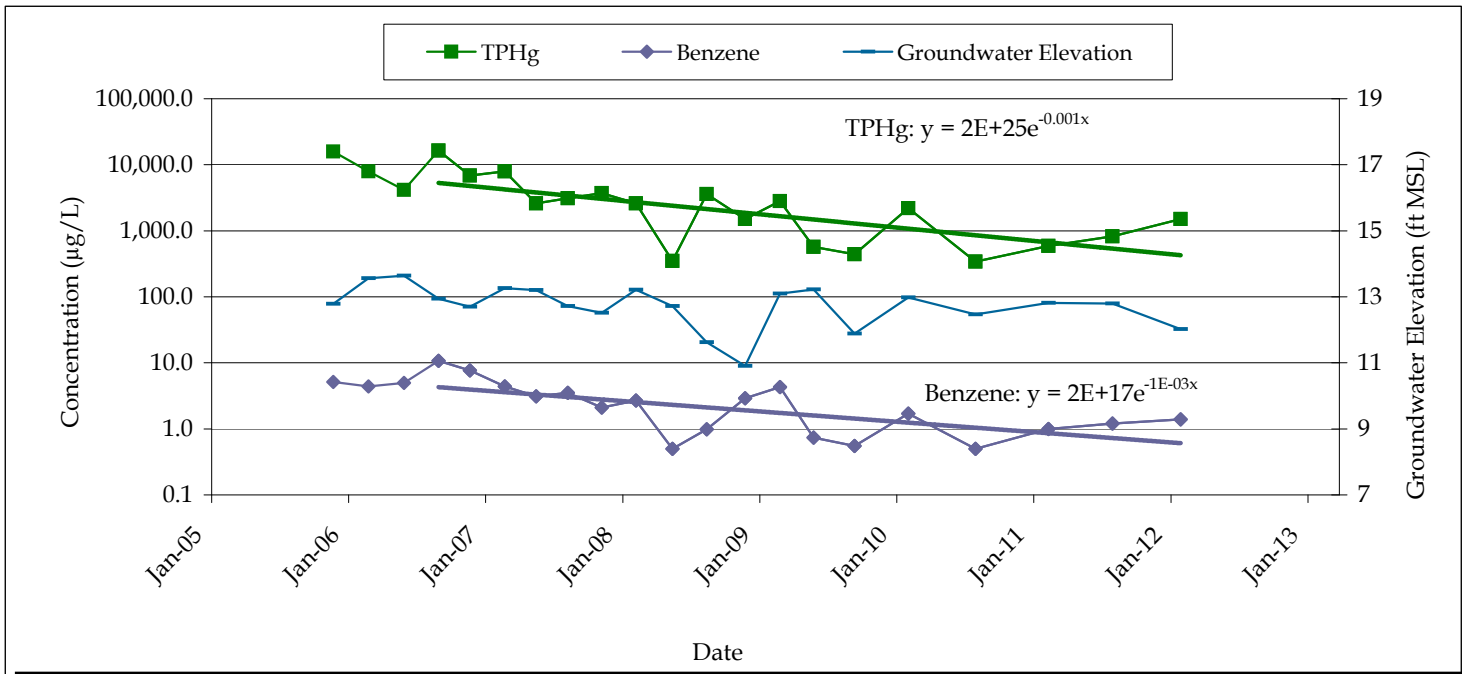
Figure 4: Predicted Time to Water Quality Objectives in Well S-6

Shell-Branded Service Station, 1601 Webster Street, Alameda, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L; b = concentration at time (x); a = decay constant; x = time (x) in days

		Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given				
Water Quality Objective (WQO):		y	100	1.0
Constant:		b	1.76E+25	2.01E+17
Constant:		a	-1.27E-03	-9.85E-04
Starting date for current trend:			8/30/2006	8/30/2006
Calculate				
Attenuation Half Life (years):	(-ln(2)/a)/365.25		1.49	1.93
Estimated Date to Reach WQO:	(x = ln(y/b) / a)		Mar 2015	Sep 2010



SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

S-6: TPHg AND BENZENE CONCENTRATIONS AND GROUNDWATER ELEVATION VS. TIME

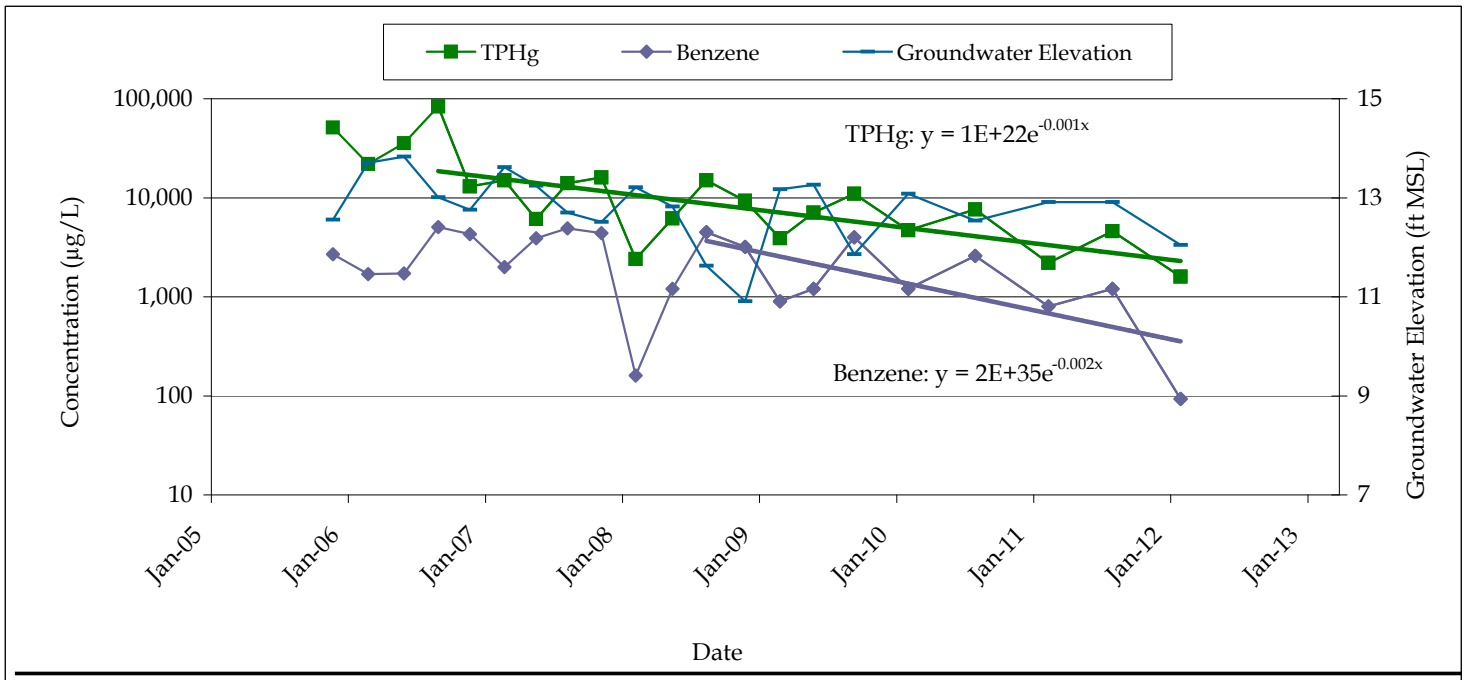
Figure 5: Predicted Time to Water Quality Objectives in Well S-7

Shell-Branded Service Station, 1601 Webster Street, Alameda, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L; b = concentration at time (x); a = decay constant; x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Water Quality Objective (WQO):	y	100	1.0
Constant:	b	1.30E+22	2.28E+35
Constant:	a	-1.05E-03	-1.85E-03
Starting date for current trend:		8/30/2006	8/15/2008
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	1.80	1.03
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Mar 2020	Oct 2020



SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

S-7: TPHg AND BENZENE CONCENTRATIONS AND GROUNDWATER ELEVATION VS. TIME

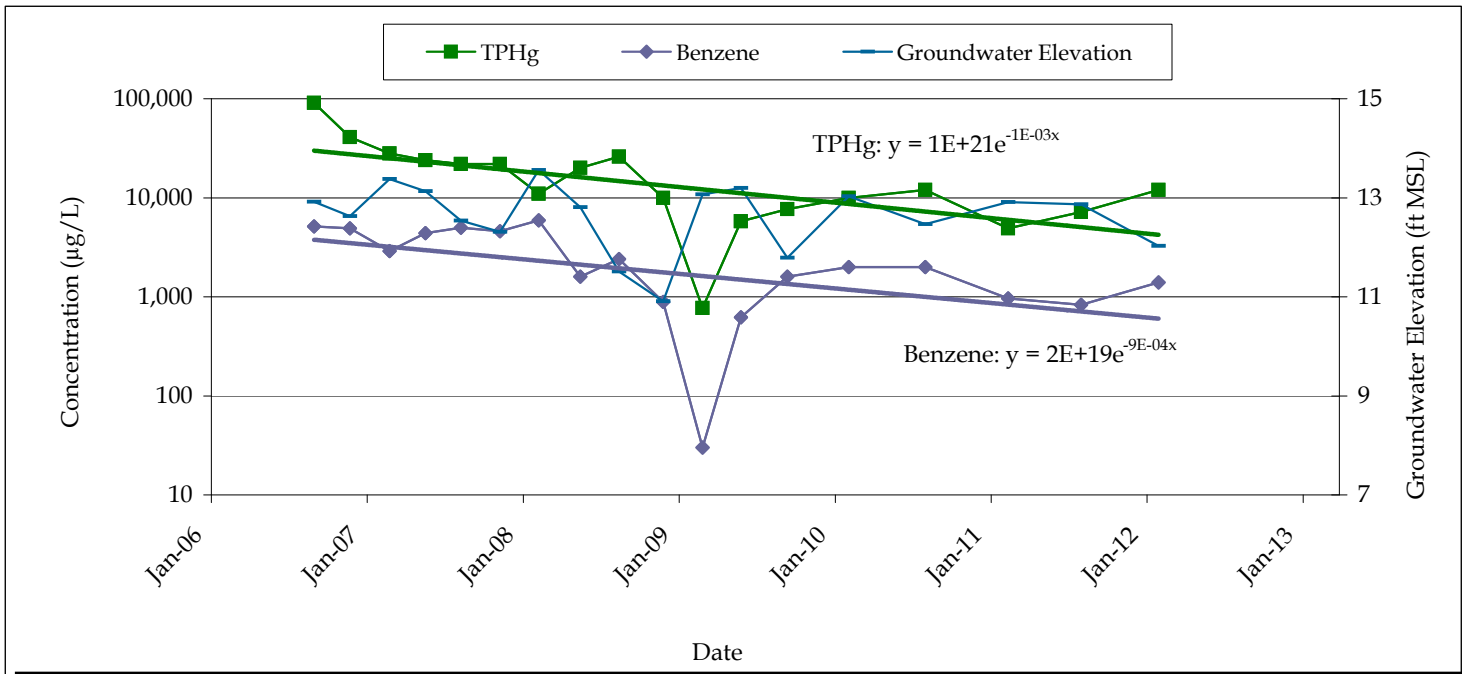
Figure 6: Predicted Time to Water Quality Objectives in Well S-8

Shell-Branded Service Station, 1601 Webster Street, Alameda, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L; b = concentration at time (x); a = decay constant; x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Water Quality Objective (WQO):	y	100	1.0
Constant:	b	1.48E+21	1.73E+19
Constant:	a	-9.87E-04	-9.26E-04
Starting date for current trend:		8/30/2006	8/30/2006
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	1.92	2.05
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Jun 2022	Jan 2031



SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

S-8: TPHg AND BENZENE CONCENTRATIONS AND GROUNDWATER ELEVATION VS. TIME

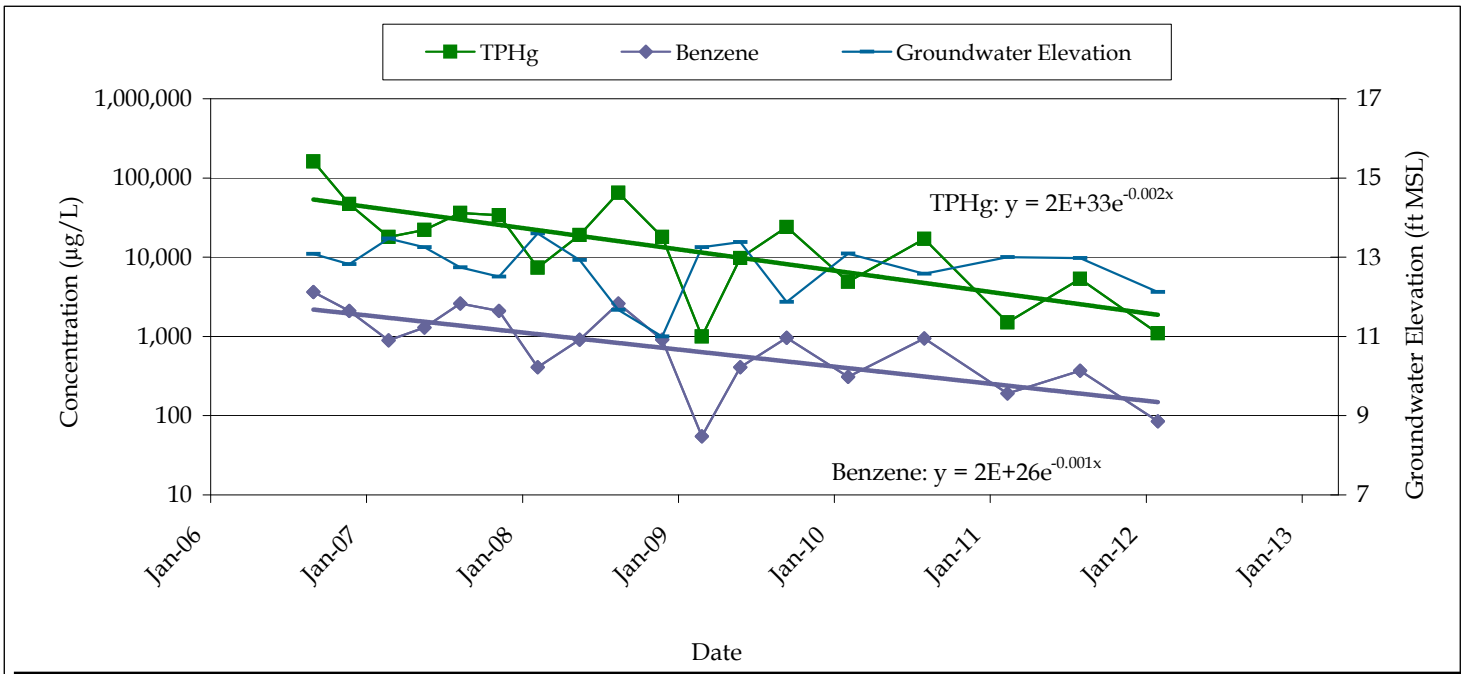
Figure 7: Predicted Time to Water Quality Objectives in Well S-9

Shell-Branded Service Station, 1601 Webster Street, Alameda, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L; b = concentration at time (x); a = decay constant; x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Water Quality Objective (WQO):	y	100	1.0
Constant:	b	2.18E+33	1.99E+26
Constant:	a	-1.69E-03	-1.36E-03
Starting date for current trend:		8/30/2006	8/30/2006
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	1.12	1.40
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Oct 2016	Mar 2022



SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

S-9: TPHg AND BENZENE CONCENTRATIONS AND GROUNDWATER ELEVATION VS. TIME

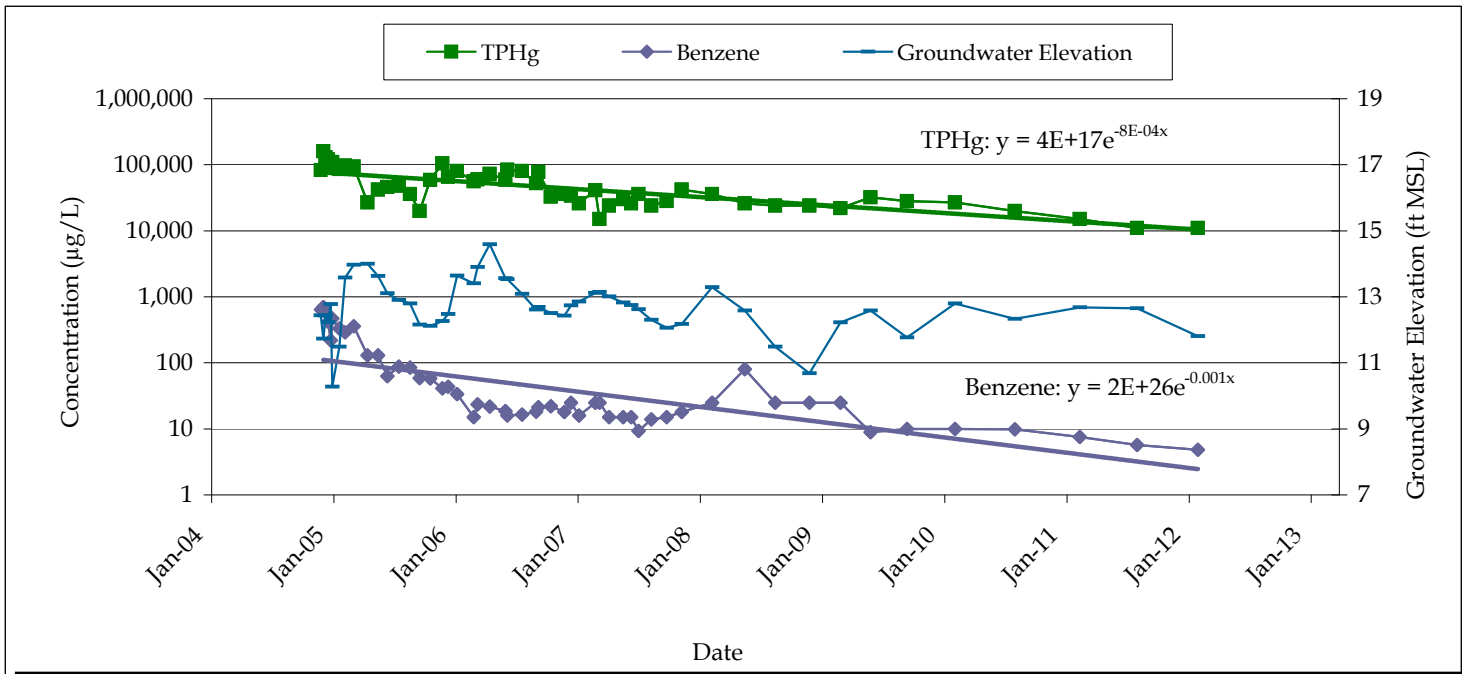
Figure 8: Predicted Time to Water Quality Objectives in Well TBW-N

Shell-Branded Service Station, 1601 Webster Street, Alameda, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L; b = concentration at time (x); a = decay constant; x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Water Quality Objective (WQO):	y	100	1.0
Constant:	b	3.57E+17	1.77E+26
Constant:	a	-7.61E-04	-1.45E-03
Starting date for current trend:		12/1/2004	12/1/2004
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	2.49	1.30
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Oct 2028	Oct 2013



SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

TBW-N: TPHg AND BENZENE CONCENTRATIONS AND GROUNDWATER ELEVATION VS. TIME

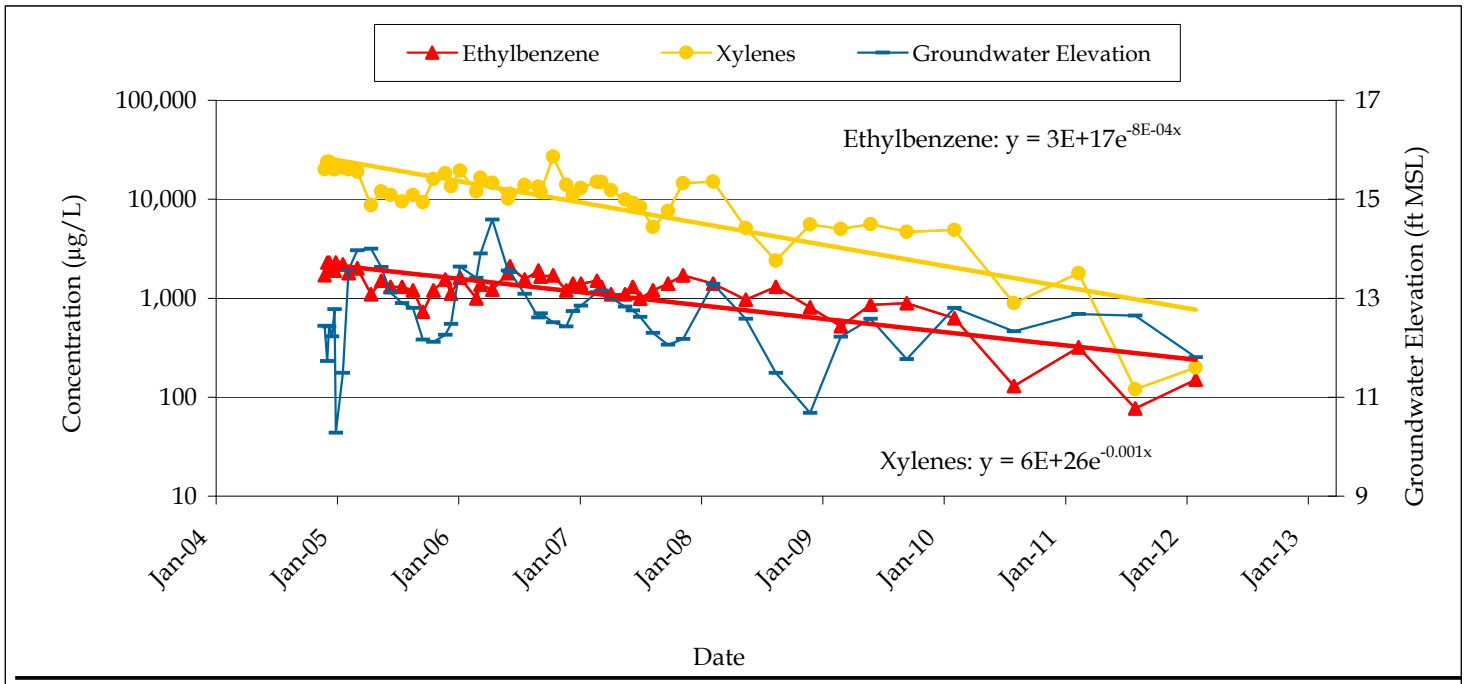
Figure 9: Predicted Time to Water Quality Objectives in Well TBW-N

Shell-Branded Service Station, 1601 Webster Street, Alameda, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

	Constituent	Ethylbenzene	Xylenes
Given			
Water Quality Objective (WQO):	y	30	20
Constant:	b	2.75E+17	6.38E+26
Constant:	a	-8.47E-04	-1.35E-03
Starting date for current trend:		12/7/2004	12/7/2004
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	2.24	1.41
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Oct 2018	Jul 2019



SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET
ALAMEDA, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

TBW-N: ETHYLBENZENE AND XYLENES CONCENTRATIONS AND GROUNDWATER ELEVATION VS. TIME

TABLES

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*O&G (mg/kg)*	*Non-Polar O&G (mg/kg)*	*TPHmo (mg/kg)*	*TPHd (mg/kg)*	*TPHg (mg/kg)*	*TPH Jet Fuel (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Ethanol (mg/kg)*	*1,1,1-Trichloro-ethane (mg/kg)*	*VOCs (mg/kg)*	*HVOCs (mg/kg)*	*Chlorinated Hydro-carbons (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*	*PNAs (mg/kg)*	*PCP (mg/kg)*	*Creosote (mg/kg)*	*PCBs (mg/kg)*
#1	6/26/1987	9.5	133	---	---	---	14 c	---	<0.05	<0.05	<0.05	---	---	---	---	---	---	---	---	---	**29.4**	---	---	ND h,i	---	---	---	---	---	---	---	---	---
S-1	9/4/1987	3.5-5	130	---	50 a	<10	---	<10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-1	9/4/1987	9-10.5	30	---	<10 a	<10	---	<10	<0.005 b	<0.005 b	<0.005 b	<0.005 b	---	---	---	---	---	<0.005 b	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---
S-1	9/4/1987	14-15.5	13	---	<10 a	<10	---	<10																---	---	---	---	---	---	---	---	---	---
BH-A (MW-1)	4/3/1990	4.8	---	---	---	---	<1 c	---	<0.0025	0.0032	<0.0025	0.0030	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BH-A (MW-1)	4/3/1990	7.8	<50	<100	<10	<1 c	<1 c	---	<0.0025	0.0029	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-A (MW-1)	4/3/1990	10.8	---	---	---	---	<1 c	---	0.0026	0.010	<0.0025	0.0037	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BH-B (MW-2)	4/3/1990	5.2	---	---	---	---	<1 c	---	<0.0025	0.0048	<0.0025	0.013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BH-B (MW-2)	4/3/1990	6.8	<50	<100	<10	<1 c	1.3 c	---	0.0034	0.017	0.010	0.079	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-B (MW-2)	4/3/1990	10.2	---	---	---	---	20 c	---	**0.53**	**3.8**	0.75	**4.0**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BH-B (MW-2)	4/3/1990	15.2	---	---	---	---	32 c	---	**0.15**	1.8	0.67	**2.6**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BH-B (MW-2)	4/3/1990	20.2	---	---	---	---	<1 c	---	0.0049	0.023	0.0047	0.029	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BH-C-5.5'	10/12/1992	5.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-C-11'	10/12/1992	11	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	e	---	---	---	---	---	---	---	---	---
BH-D-5.5'	10/12/1992	5.5	<30 d	---	---	---	**100**	---	<0.005	<0.005	1.8	**5.4**	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-D-10.5'	10/12/1992	10.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	0.007	0.032	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-E-5.5'	10/22/1992	5.5	<30 d	---	---	---	14	---	0.026	0.4	0.2	1.2	---	---	---	---	---	---	---	---	---	---	---	f	---	---	---	---	---	---	---	---	---
BH-E-10.5'	10/22/1992	10.5	110 d	---	---	---	**170**	---	<0.005	**3.0**	**3.6**	**22**	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-E-13.5'	10/22/1992	13.5	<30 d	---	---	---	0.87	---	**0.11**	0.097	0.019	0.089	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-F-5.5'	10/22/1992	5.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-F-10.5'	10/22/1992	10.5	47 d	---	---	---	26	---	0.065	0.27	0.65	**3.6**	---	---	---	---	---	---	---	---	---	---	---	g	---	---	---	---	---	---	---	---	---
BH-G-5.5'	10/22/1992	5.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-G-10'	10/22/1992	10	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-H-5.5'	10/22/1992	5.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-H-10'	10/22/1992	10	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-I-5.5'	10/22/1992	5.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-I-10.5'	10/22/1992	10.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-J-5.5' (MW-3)	2/19/1993	5.5	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
BH-J-10' (MW-3)	2/19/1993	10	<30 d	---	---	---	<0.5	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---
D-1	8/27/1997	5	---	---	---	---	**10,000**	---	<5.0	**12**	**81**	**700**	<25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
D-2	8/27/1997	5	---	---	---	---	**11,000**	---	**6.3**	**7.8**	**96**	**440**	<25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
D-2	8/27/1997	10	---	---	---	---	**760**	---	**2.4**	**4.1**	**10**	**66**	<6.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-1	8/27/1997	5	---	---	---	---	**140**	---	<0.25	0.91	0.82	**5.9**	<1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-2	8/27/1997	5	---	---	---	---	**3,600**	---	**1.9**	1.9	**36**	**220**	<6.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-3	8/27/1997	5	---	---	---	---	**1,700**	---	<1.2	<1.2	**4**	**23**	<6.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-4	8/27/1997	5	---	---	---	---	**230**	---	<0.25	<0.25	1.2	**3.4**	<1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-1-3'	8/11/2004	3	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*O&G (mg/kg)*	*Non-Polar O&G (mg/kg)*	*TPHmo (mg/kg)*	*TPHd (mg/kg)*	*TPHg (mg/kg)*	*TPH Jet Fuel (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Ethanol (mg/kg)*	*1,1,1-Trichloro-ethane (mg/kg)*	*VOCs (mg/kg)*	*HVOCs (mg/kg)*	*Chlorinated Hydro-carbons (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*	*PNAs (mg/kg)*	*PCP (mg/kg)*	*Creosote (mg/kg)*	*PCBs (mg/kg)*
P-2-3'	8/10/2004	3	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-3-3'	8/10/2004	3	---	---	---	---	**1,300**	---	<0.50	<0.50	<0.50	**49**	<0.50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-4-3'	8/10/2004	3	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-5-3'	8/10/2004	3	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	0.045	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
D-1-2'	8/10/2004	2	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
D-2-2'	8/10/2004	2	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-1-5'	11/30/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-1-6.5'	11/30/2004	6.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-2-5'	12/1/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-2-6.5'	12/1/2004	6.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	0.011	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-3-5'	12/1/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-3-6.5'	12/1/2004	6.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-4-5'	12/2/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-4-6.5'	12/2/2004	6.5	---	---	---	---	<50	---	<0.50	<0.50	<0.50	<0.50	**1.5**	<2.5	<1.0	<0.50	<0.50	<0.50	<0.50	<25	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-5-5'	11/30/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-5-6.5'	11/30/2004	6.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-6-5'	11/30/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-6-6.5'	11/30/2004	6.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	0.0099	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-7-5'	11/30/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-7-6.5'	11/30/2004	6.5	---	---	---	---	6.2	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-8-5'	12/2/2004	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-8-6.5'	12/2/2004	6.5	---	---	---	---	**740**	---	<1.0	**5.9**	**17**	**83**	<1.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	53	---	---	---	---	---	---	---	---	---	---	---	---	---
S-2-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-3-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-4-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-6-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-7-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-9-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-10-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-11-5.0	10/31/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-12-5.0	11/2/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-13-5.0	11/2/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	0.0080	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-14-5.0	11/2/2005	5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*O&G (mg/kg)*	*Non-Polar O&G (mg/kg)*	*TPHmo (mg/kg)*	*TPHd (mg/kg)*	*TPHg (mg/kg)*	*TPH Jet Fuel (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Ethanol (mg/kg)*	*1,1,1-Trichloro-ethane (mg/kg)*	*VOCs (mg/kg)*	*HVOCs (mg/kg)*	*Chlorinated Hydro-carbons (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*	*PNAs (mg/kg)*	*PCP (mg/kg)*	*Creosote (mg/kg)*	*PCBs (mg/kg)*
WO-1-5	5/25/2006	5	61 i	---	---	5.4 k	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	ND l	<0.500	26.4	2.24	18.1	16.6	ND	<2.5	<0.40	<0.50
S-4B-6.0	7/17/2006	6	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-4B-11.0	7/17/2006	11	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	**0.56**	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-4B-16.0	7/17/2006	16	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	**0.30 m**	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-4B-19.5	7/17/2006	19.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.010	**0.31 m**	**0.13 m**	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-8-8.0	7/17/2006	8	---	---	---	---	**3,700**	---	**1.0**	<0.25	**90**	**310 m**	<0.25	<2.5	<0.50	<0.25	<0.25	<0.25	<0.25	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-8-11.5	7/17/2006	11.5	---	---	---	---	<50	---	<0.25	<0.25	0.89	**2.5**	<0.25	<2.5	<0.50	<0.25	<0.25	<0.25	<0.25	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-9-5.0	7/17/2006	5	---	---	---	---	**110**	---	<0.25	<0.25	2.0	**3.5**	<0.25	<2.5	<0.50	<0.25	<0.25	<0.25	<0.25	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-9-11.5	7/17/2006	11.5	---	---	---	---	<1.0	---	<0.0050	<0.0050	<0.0050	0.010	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Shallow Soil (≤10 fbg) ESL":			NA	NA	NA	83	83	NA	0.044	2.9	3.3	2.3	0.023	0.075	NA	NA	NA	0.0045	0.00033	NA	7.8	Various	Various	Various	7.4	750	750	150	600	Various	9.0	NA	0.74
Deep Soil (>10 fbg) ESL":			NA	NA	NA	83	83	NA	0.044	2.9	3.3	2.3	0.023	0.075	NA	NA	NA	0.0045	0.00033	NA	7.8	Various	Various	Various	39	5,000	750	260	5,000	Various	99	NA	6.3

Notes:
O&G = Total oil and grease analyzed by EPA Method 3550 unless otherwise noted
TPHd = Total petroleum hydrocarbons as diesel analyzed by EPA Method 8015 unless otherwise noted
TPHmo = Total petroleum hydrocarbons as oil analyzed by EPA Method 3550 unless otherwise noted
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B: before 8/10/2004, analyzed by EPA Method 8015 unless otherwise noted.
TPH Jet Fuel = Total petroleum hydrocarbons as jet fuel analyzed by EPA Method 8015
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; before 8/10/2004, analyzed by EPA Method 8020 unless otherwise noted
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B; before 8/10/2004, analyzed by EPA Method 8020.
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B unless otherwise noted.
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B
Ethanol by EPA Method 6010B
1,1,1-Trichloroethane analyzed by EPA Method 8010
VOCs = Volatile organic compounds. See analytical report for specific constituents. Analytical method unknown.
HVOCs = Halogenated volatile organic compounds analyzed by EPA Method 8010. See analytical report for specific constituents. All detections noted.
Chlorinated hydrocarbons analyzed by EPA Method 8010 unless otherwise noted. See analytical report for specific constituents. All detections tabulated.
Cd = Cadmium analyzed by EPA Method 6010B
Cr = Chromium analyzed by EPA Method 6010B
Pb = Lead analyzed by EPA Method 6010B
Ni = Nickel analyzed by EPA Method 6010B
Zn = Zinc analyzed by EPA Method 6010B
PNAs = Polynuclear aromatics analyzed by EPA Method 8270C; see laboratory analytical report for a complete list of specific constituents
PCP = Pentachlorophenol analyzed by EPA Method 8270C
Creosote analyzed by EPA Method 8270C. It is reported as a combination of naphthalene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, 1-methylnaphthalene, and 2-methylnaphthalene.
PCBs = Polychlorinated biphenyls analyzed by EPA Method 8082; see laboratory analytical report for a complete list of specific constituents
fbg = Feet below grade
mg/kg = Milligrams per kilogram
<x = Not detected at reporting limit x
--- = Not analyzed
ND = Not detected
ESL = Environmental screening level
NA = No applicable ESL
Results in **bold** equal or exceed applicable ESL
Shading indicates that soil sample location was subsequently excavated; results are not representative of residual soil.

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*O&G (mg/kg)*	*Non-Polar O&G (mg/kg)*	*TPHmo (mg/kg)*	*TPHd (mg/kg)*	*TPHg (mg/kg)*	*TPH Jet Fuel (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Ethanol (mg/kg)*	*1,1,1-Trichloro-ethane (mg/kg)*	*VOCs (mg/kg)*	*HVOCs (mg/kg)*	*Chlorinated Hydro-carbons (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*	*PNAs (mg/kg)*	*PCP (mg/kg)*	*Creosote (mg/kg)*	*PCBs (mg/kg)*

a = Analyzed by EPA Method 8015
b = Analytical method unknown
c = Analyzed by EPA Method 3550
d = Analyzed by APHA Standard Method 503 D&E
e = Methylene chloride detected at 0.0017 mg/kg. No other constituents detected.
f = Methylene chloride detected at 0.0072 mg/kg. No other constituents detected.
g = Methylene chloride detected at 0.070 mg/kg. No other constituents detected.
h = Only chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene analyzed.
i = Analyzed by EPA Method 8020
j = Analyzed by EPA Method 1664 A (Modified)
k = Hydrocarbons reported as TPHd do not exhibit a typical Diesel chromatographic pattern. These hydrocarbons are higher boiling than typical diesel fuel.
l = Analyzed by EPA Method 8260B
m = The concentration indicated for this analyte is an estimated value above the calibration range on the instrument.
n = San Francisco Bay Regional Water Quality Control Board commercial/industrial ESL for soil where groundwater is a potential source of drinking water (Tables A and C of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008]).

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-2	11/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	19.73	7.60	---	12.13
S-2	11/22/2005	996	0.630	0.500	0.500	3.10	406	18.0	<0.500	<0.500	0.570	---	---	---	19.73	7.70	---	12.03
S-2	02/24/2006	<50 b	<0.50	<0.50	<0.50	<0.50	2.0	<5.0	<0.50	<0.50	<0.50	---	---	---	19.73	6.29	---	13.44
S-2	05/30/2006	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	---	---	---	19.73	6.14	---	13.59
S-2	08/30/2006	420	<0.500	<0.500	<0.500	<0.500	4.42	<10.0	<0.500	<0.500	<0.500	---	---	---	19.73	7.18	---	12.55
S-2	11/22/2006	110	<0.50	<0.50	<0.50	<1.0	62	<5.0	<2.0	<2.0	<2.0	---	---	---	19.73	7.55	---	12.18
S-2	02/23/2007	140	<0.50	<0.50	<0.50	<1.0	110	<5.0	<2.0	<2.0	<2.0	---	---	---	19.73	6.77	---	12.96
S-2	05/18/2007	<50 h	<0.50	<1.0	<1.0	<1.0	18	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.02	---	12.71
S-2	08/10/2007	<50 h	<0.50	<1.0	<1.0	<1.0	40	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.65	---	12.08
S-2	11/09/2007	130 h,i	<0.50	<1.0	<1.0	<1.0	190	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.87	---	11.86
S-2	02/08/2008	83 h,i	<1.0	<2.0	<2.0	<2.0	180	<20	<4.0	<4.0	<4.0	---	---	---	19.73	6.52	---	13.21
S-2	05/16/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.30	---	12.43
S-2	08/15/2008	<50	<0.50	<1.0	<1.0	<1.0	7.1	<10	<2.0	<2.0	<2.0	---	---	---	19.73	8.38	---	11.35
S-2	11/26/2008	<50	<0.50	<1.0	<1.0	<1.0	32	<10	<2.0	<2.0	<2.0	---	---	---	19.73	9.13	---	10.60
S-2	02/27/2009	90	<0.50	<1.0	<1.0	<1.0	85	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.05	---	12.68
S-2	05/28/2009	<50	<0.50	<1.0	<1.0	<1.0	8.0	<10	<2.0	<2.0	<2.0	---	---	---	19.73	6.93	---	12.80
S-2	09/14/2009	<50	<0.50	<1.0	<1.0	<1.0	17	<10	<2.0	<2.0	<2.0	---	---	---	19.73	8.20	---	11.53
S-2	02/05/2010	68	<0.50	<1.0	<1.0	<1.0	52	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.12	---	12.61
S-2	08/03/2010	<50	<0.50	<1.0	<1.0	<1.0	1.7	<10	<2.0	<2.0	<2.0	---	---	---	19.73	7.59	---	12.14
S-2	02/14/2011	<50	2.6	3.5	1.2	5.7	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	19.73	7.16	---	12.57
S-2	08/04/2011	<50	<0.50	<0.50	<0.50	<1.0	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	19.73	7.20	---	12.53
S-2	02/02/2012	<50	<0.50	<0.50	<0.50	<1.0	3.8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	---	19.73	8.00	---	11.73
S-2	**08/13/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.1**	**<10**	**---**	**---**	**---**	**---**	**---**	**---**	**19.73**	**7.85**	**---**	**11.88**
S-3	11/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	19.14	7.01	---	12.13
S-3	11/22/2005	3,900	<0.500	<0.500	<0.500	0.900	3,730	26.0	<0.500	<0.500	3.44	---	---	---	19.14	7.15	---	11.99
S-3	02/24/2006	580 b	<0.50	<0.50	<0.50	<0.50	360	<5.0	<0.50	<0.50	<0.50	---	---	---	19.14	5.95	---	13.19
S-3	05/30/2006	<50.0	<0.500	<0.500	<0.500	0.510	52.2	<10.0	<0.500	<0.500	<0.500	---	---	---	19.14	5.85	---	13.29
S-3	08/30/2006	2,910	<0.500	<0.500	<0.500	<0.500	882	<10.0	<0.500	<0.500	<0.500	---	---	---	19.14	6.71	---	12.43
S-3	11/22/2006	240	<0.50	<0.50	<0.50	<1.0	150	30	<2.0	<2.0	<2.0	---	---	---	19.14	7.05	---	12.09
S-3	02/23/2007	78	<0.50	<0.50	<0.50	<1.0	78	5.4	<2.0	<2.0	<2.0	---	---	---	19.14	6.30	---	12.84
S-3	05/18/2007	120 h,i	<0.50	<1.0	<1.0	<1.0	150	73	<2.0	<2.0	<2.0	---	---	---	19.14	6.58	---	12.56
S-3	08/10/2007	<50 h	<1.0	<2.0	<2.0	<2.0	200	21	<4.0	<4.0	<4.0	---	---	---	19.14	7.09	---	12.05
S-3	11/09/2007	69 h,i	<0.50	<1.0	<1.0	<1.0	100	<10	<2.0	<2.0	<2.0	---	---	---	19.14	7.28	---	11.86
S-3	02/08/2008	<50 h	<0.50	<1.0	<1.0	<1.0	8.5	<10	<2.0	<2.0	<2.0	---	---	---	19.14	6.06	---	13.08
S-3	05/16/2008	71	<0.50	<1.0	<1.0	<1.0	100	<10	<2.0	<2.0	<2.0	---	---	---	19.14	6.84	---	12.30

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-3	08/15/2008	<50	<0.50	<1.0	<1.0	<1.0	9.0	<10	<2.0	<2.0	<2.0	---	---	---	19.14	7.83	---	11.31
S-3	11/26/2008	<50	0.53	<1.0	<1.0	1.5	12	<10	<2.0	<2.0	<2.0	---	---	---	19.14	8.70	---	10.44
S-3	02/27/2009	<50	<0.50	<1.0	<1.0	<1.0	3.2	<10	<2.0	<2.0	<2.0	---	---	---	19.14	6.97	---	12.17
S-3	05/28/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.14	6.41	---	12.73
S-3	09/14/2009	<50	<0.50	<1.0	<1.0	<1.0	6.1	<10	<2.0	<2.0	<2.0	---	---	---	19.14	7.60	---	11.54
S-3	02/05/2010	<50	<0.50	<1.0	<1.0	<1.0	1.8	<10	<2.0	<2.0	<2.0	---	---	---	19.14	6.63	---	12.51
S-3	08/03/2010	<50	<0.50	<1.0	<1.0	<1.0	5.4	<10	<2.0	<2.0	<2.0	---	---	---	19.14	7.05	---	12.09
S-3	02/14/2011	<50	1.7	2.6	0.95	4.6	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	19.14	6.71	---	12.43
S-3	08/04/2011	<50	<0.50	<0.50	<0.50	<1.0	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	19.14	6.75	---	12.39
S-3	02/02/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	---	19.14	7.53	---	11.61
S-3	**08/13/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.51**	**<10**	**---**	**---**	**---**	**---**	**---**	**---**	**19.14**	**7.35**	**---**	**11.79**
S-4	11/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	18.16	6.00	---	12.16
S-4	11/22/2005	4,570	<0.500	<0.500	<0.500	0.660	3,450	26.0	<0.500	<0.500	3.57	---	---	---	18.16	6.10	---	12.06
S-4	02/24/2006	2,200 b	<0.50	<0.50	<0.50	<0.50	1,400	13 c	<0.50	<0.50	1.4	---	---	---	18.16	5.09	---	13.07
S-4	05/30/2006	1,100	<0.500	<0.500	<0.500	<0.500	1,060	87.5	<0.500	<0.500	1.04	---	---	---	18.16	5.00	---	13.16
S-4	08/30/2006	3,170	<0.500	<0.500	<0.500	<0.500	1,000	120	<0.500	<0.500	0.850	---	---	---	18.16	5.81	---	12.35
S-4	11/22/2006	520	<0.50	<0.50	<0.50	<1.0	480	5.2	<2.0	<2.0	<2.0	---	---	---	18.16	5.93	---	12.23
S-4	02/23/2007	180	<0.50	<0.50	<0.50	<1.0	130	9.6	<2.0	<2.0	<2.0	---	---	---	18.16	5.40	---	12.76
S-4	05/18/2007	220 h,i	<2.5	<5.0	<5.0	2.5 j	420	<50	<10	<10	<10	---	---	---	18.16	5.62	---	12.54
S-4	08/10/2007	98 h,i	<2.5	<5.0	<5.0	<5.0	540	29 j	<10	<10	<10	---	---	---	18.16	6.00	---	12.16
S-4	11/09/2007	190 h,i	<2.5	<5.0	<5.0	<5.0	350	<50	<10	<10	<10	---	---	---	18.16	6.20	---	11.96
S-4	02/08/2008	<50 h	<0.50	<1.0	<1.0	<1.0	13	<10	<2.0	<2.0	<2.0	---	---	---	18.16	5.47	---	12.69
S-4	05/16/2008	87	<0.50	<1.0	<1.0	<1.0	120	<10	<2.0	<2.0	<2.0	---	---	---	18.16	6.00	---	12.16
S-4	08/15/2008	<50	<0.50	<1.0	<1.0	<1.0	42	<10	<2.0	<2.0	<2.0	---	---	---	18.16	6.85	---	11.31
S-4	11/26/2008	140	<0.50	<1.0	<1.0	<1.0	140	<10	<2.0	<2.0	<2.0	---	---	---	18.16	7.62	---	10.54
S-4	02/27/2009	56	<0.50	<1.0	<1.0	<1.0	43	<10	<2.0	<2.0	<2.0	---	---	---	18.16	5.35	---	12.81
S-4	05/28/2009	<50	<0.50	<1.0	<1.0	<1.0	12	<10	<2.0	<2.0	<2.0	---	---	---	18.16	5.40	---	12.76
S-4	09/14/2009	<50	<0.50	<1.0	<1.0	<1.0	6.7	<10	<2.0	<2.0	<2.0	---	---	---	18.16	6.55	---	11.61
S-4	02/05/2010	<50	<0.50	<1.0	<1.0	<1.0	4.3	<10	<2.0	<2.0	<2.0	---	---	---	18.16	5.62	---	12.54
S-4	08/03/2010	<50	<0.50	<1.0	<1.0	<1.0	10	<10	<2.0	<2.0	<2.0	---	---	---	18.16	6.09	---	12.07
S-4	02/14/2011	<50	1.3	2.2	0.91	4.4	1.6	<10	<1.0	<1.0	<1.0	---	---	---	18.16	5.80	---	12.36
S-4	08/04/2011	<50	<0.50	<0.50	<0.50	<1.0	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	18.16	5.79	---	12.37
S-4	02/02/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	---	18.16	6.56	---	11.60
S-4	**08/13/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.68**	**<10**	**<0.50**	**<0.50**	**<0.50**	**---**	**---**	**---**	**18.16**	**6.35**	**---**	**11.81**

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-4B	08/21/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	18.78	6.14	---	12.64
S-4B	08/30/2006	3,630	<0.500	<0.500	5.32	<0.500	1,130	643	<0.500	<0.500	1.47	---	---	---	18.78	6.32	---	12.46
S-4B	11/22/2006	620	<0.50	<0.50	0.66	<1.0	580	680	<2.0	<2.0	<2.0	---	---	---	18.78	6.46	---	12.32
S-4B	02/23/2007	230	<1.0	<1.0	<1.0	<2.0	190	450	<4.0	<4.0	<4.0	---	---	---	18.78	6.64	---	12.14
S-4B	05/18/2007	200 h	<0.50	<1.0	<1.0	<1.0	130	360	<2.0	<2.0	<2.0	---	---	---	18.78	6.19	---	12.59
S-4B	08/10/2007	150 h	0.47 j	<1.0	<1.0	<1.0	67	230	<2.0	<2.0	<2.0	---	---	---	18.78	6.48	---	12.30
S-4B	11/09/2007	<50 h	<0.50	<1.0	<1.0	<1.0	32	67	<2.0	<2.0	<2.0	---	---	---	18.78	6.59	---	12.19
S-4B	02/08/2008	<50 h	<0.50	<1.0	<1.0	<1.0	5.3	<10	<2.0	<2.0	<2.0	---	---	---	18.78	6.12	---	12.66
S-4B	05/16/2008	<50	<0.50	<1.0	<1.0	<1.0	2.2	15	<2.0	<2.0	<2.0	---	---	---	18.78	6.45	---	12.33
S-4B	08/15/2008	<50	<0.50	<1.0	<1.0	<1.0	1.4	<10	<2.0	<2.0	<2.0	---	---	---	18.78	6.90	---	11.88
S-4B	11/26/2008	<50	<0.50	<1.0	<1.0	<1.0	2.5	<10	<2.0	<2.0	<2.0	---	---	---	18.78	8.19	---	10.59
S-4B	02/27/2009	<50	<0.50	<1.0	<1.0	<1.0	1.4	<10	<2.0	<2.0	<2.0	---	---	---	18.78	6.03	---	12.75
S-4B	05/28/2009	<50	<0.50	<1.0	<1.0	<1.0	2.0	<10	<2.0	<2.0	<2.0	---	---	---	18.78	6.01	---	12.77
S-4B	09/14/2009	<50	<0.50	<1.0	<1.0	<1.0	3.7	<10	<2.0	<2.0	<2.0	---	---	---	18.78	6.90	---	11.88
S-4B	02/05/2010	<50	<0.50	<1.0	<1.0	<1.0	2.0	<10	<2.0	<2.0	<2.0	---	---	---	18.78	7.23	---	11.55
S-4B	08/03/2010	<50	<0.50	<1.0	<1.0	<1.0	1.2	25	<2.0	<2.0	<2.0	---	---	---	18.78	6.64	---	12.14
S-4B	02/14/2011	<50	1.3	2.1	0.82	3.9	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	18.78	6.70	---	12.08
S-4B	08/04/2011	<50	<0.50	<0.50	<0.50	<1.0	1.1	22	<1.0	<1.0	<1.0	---	---	---	18.78	7.13	---	11.65
S-4B	02/02/2012	<50	<0.50	<0.50	<0.50	<1.0	1.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	---	18.78	6.57	---	12.21
S-4B	**08/13/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.95**	**<10**	**---**	**---**	**---**	**---**	**---**	**---**	**18.78**	**7.83**	**---**	**10.95**
S-5	11/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	18.68	6.33	---	12.35
S-5	11/22/2005	1,010	0.900	<0.500	1.79	4.91	302	397	<0.500	<0.500	<0.500	---	---	---	18.68	6.44	---	12.24
S-5	02/24/2006	<50 b	<0.50	<0.50	<0.50	<0.50	19	<5.0	<0.50	<0.50	<0.50	---	---	---	18.68	5.44	---	13.24
S-5	05/30/2006	2,000	4.13	0.670	<0.500	3.28	143	<10.0	<0.500	<0.500	<0.500	---	---	---	18.68	5.33	---	13.35
S-5	08/30/2006	1,380	<0.500	<0.500	1.43	<0.500	211	106	<0.500	<0.500	<0.500	---	---	---	18.68	6.16	---	12.52
S-5	11/22/2006	82	<0.50	<0.50	<0.50	<1.0	28	13	<2.0	<2.0	<2.0	---	---	---	18.68	6.28	---	12.40
S-5	02/23/2007	<50	<0.50	<0.50	<0.50	<1.0	1.2	<5.0	<2.0	<2.0	<2.0	---	---	---	18.68	5.68	---	13.00
S-5	05/18/2007	<50 h,i	<0.50	<1.0	<1.0	<1.0	2.6	<10	<2.0	<2.0	<2.0	---	---	---	18.68	5.91	---	12.77
S-5	08/10/2007	<50 h	<0.50	<1.0	<1.0	<1.0	1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	6.36	---	12.32
S-5	11/09/2007	<50 h	<0.50	<1.0	<1.0	<1.0	<10	<10	<2.0	<2.0	<2.0	---	---	---	18.68	6.47	---	12.21
S-5	02/08/2008	<50 h	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	5.52	---	13.16
S-5	05/16/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	6.22	---	12.46
S-5	08/15/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	7.26	---	11.42
S-5	11/26/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	8.03	---	10.65
S-5	02/27/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	5.83	---	12.85

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-5	05/28/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	5.73	---	12.95
S-5	09/14/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	6.95	---	11.73
S-5	02/05/2010	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	6.01	---	12.67
S-5	08/03/2010	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	18.68	6.46	---	12.22
S-5	02/14/2011	<50	3.9	3.8	1.2	5.3	1.8	<10	<1.0	<1.0	<1.0	---	---	---	18.68	6.20	---	12.48
S-5	08/04/2011	<50	<0.50	<0.50	<0.50	<1.0	1.8	<10	<1.0	<1.0	<1.0	---	---	---	18.68	6.15	---	12.53
S-5	02/02/2012	<50	<0.50	<0.50	<0.50	<1.0	0.75	<10	<0.50	<0.50	<0.50	<0.50	<0.50	---	18.68	6.87	---	11.81
S-5	**08/13/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<10**	**---**	**---**	**---**	**---**	**---**	**---**	**18.68**	**6.70**	**---**	**11.98**
S-6	11/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	19.32	6.36	---	12.96
S-6	11/22/2005	15,800	5.14	0.690	32.1	934	<0.500	14.2	<0.500	<0.500	<0.500	---	---	---	19.32	6.53	---	12.79
S-6	01/19/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	19.32	5.50	---	13.82
S-6	02/24/2006	7,900 b	4.4	<1.5	260	380	<1.5	<7.0	<1.5	<1.5	<1.5	---	---	---	19.32	5.76	---	13.56
S-6	05/30/2006	4,170	4.98	<0.500	76.6	44.2	<0.500	<10.0	<0.500	<0.500	<0.500	---	---	---	19.32	5.68	---	13.64
S-6	08/30/2006	16,400	10.7	<0.500	353	292	<0.500	<10.0	<0.500	<0.500	<0.500	---	---	---	19.32	6.38	---	12.94
S-6	11/22/2006	6,900	7.7	<2.5	250	450	<2.5	<25	<10	<10	<10	---	---	---	19.32	6.62	---	12.70
S-6	02/23/2007	7,900	4.4	<2.5	400	940	<2.5	<25	<10	<10	<10	---	---	---	19.32	6.06	---	13.26
S-6	05/18/2007	2,600 h	3.1	<1.0	85	147.3	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.12	---	13.20
S-6	08/10/2007	3,100 h	3.5	0.28 j	110	202	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.60	---	12.72
S-6	11/09/2007	3,700 h	2.1	0.34 j	160	335	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.80	---	12.52
S-6	02/08/2008	2,600 h	2.7	<1.0	72	156.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.11	---	13.21
S-6	05/16/2008	350	<0.50	<1.0	8.4	5.3	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.60	---	12.72
S-6	08/15/2008	3,600	0.99	<1.0	100	164.9	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	7.70	---	11.62
S-6	11/26/2008	1,500	2.9	<1.0	13	3.1	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	8.41	---	10.91
S-6	02/27/2009	2,800	4.3	<1.0	17	23	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.22	---	13.10
S-6	05/28/2009	570	0.74	<1.0	3.1	1.3	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.10	---	13.22
S-6	09/14/2009	440	0.55	<1.0	1.5	2.3	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	7.43	---	11.89
S-6	02/05/2010	2,200	1.7	<1.0	5.2	8.3	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.34	---	12.98
S-6	08/03/2010	340	<0.50	<1.0	<1.0	1.0	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.32	6.85	---	12.47
S-6	02/14/2011	590	1.0	1.0	1.4	3.7	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	19.32	6.50	---	12.82
S-6	08/04/2011	820	1.2	<0.50	1.7	1.2	<1.0	<10	<1.0	<1.0	<1.0	---	---	---	19.32	6.52	---	12.80
S-6	02/02/2012	1,500	1.4	<0.50	2.4	1.4	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	---	19.32	7.30	---	12.02
S-6	**08/13/2012**	**320**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<10**	**---**	**---**	**---**	**---**	**---**	**---**	**19.32**	**7.16**	**---**	**12.16**
S-7	11/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	19.44	6.76	---	12.68
S-7	11/22/2005	51,100	2,680	2,980	969	6,360	1.49	53.3	<0.500	<0.500	<0.500	---	---	---	19.44	6.88	---	12.56

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-7	02/24/2006	22,000 b/25,000 d	1,700	1,200	1,200	2,800	<2.5	58	<2.5	<2.5	<2.5	---	---	---	19.44	5.73	---	13.71
S-7	05/30/2006	35,600	1,720	641	1,600	3,630	2.83	<10.0	<0.500	<0.500	<0.500	---	---	---	19.44	5.61	---	13.83
S-7	08/30/2006	83,900	5,060	62.5	1,640	4,010	2.38	43.4	<0.500	<0.500	<0.500	---	---	---	19.44	6.43	---	13.01
S-7	11/22/2006	13,000	4,300	27	710	1,900	<2.5	54	<10	<10	<10	---	---	---	19.44	6.68	---	12.76
S-7	02/23/2007	15,000	2,000	43	1,100	3,300	<12	<120	<50	<50	<50	---	---	---	19.44	5.82	---	13.62
S-7	05/18/2007	6,100 h	3,900	22 j	520	2,010	<50	<500	<100	<100	<100	---	---	---	19.44	6.20	---	13.24
S-7	08/10/2007	14,000 h	4,900	19 j	670	2,046 j	<50	<500	<100	<100	<100	---	---	---	19.44	6.74	---	12.70
S-7	11/09/2007	16,000 h	4,400	21 j	550	2,052	<50	<500	<100	<100	<100	---	---	---	19.44	6.93	---	12.51
S-7	02/08/2008	2,400 h	160	<2.0	70	160	<2.0	<20	<4.0	<4.0	<4.0	---	---	---	19.44	6.23	---	13.21
S-7	05/16/2008	6,200	1,200	21	320	736.9	<2.0	<20	<4.0	<4.0	<4.0	---	---	---	19.44	6.62	---	12.82
S-7	08/15/2008	15,000	4,500	19	450	1,300	<10	<100	<20	<20	<20	---	---	---	19.44	7.81	---	11.63
S-7	11/26/2008	9,300	3,200	<25	77	250	<25	<250	<50	<50	<50	---	---	---	19.44	8.53	---	10.91
S-7	02/27/2009	3,900	900	<25	49	160	<25	<250	<50	<50	<50	---	---	---	19.44	6.27	---	13.17
S-7	05/28/2009	7,100	1,200	<10	81	600	<10	<100	<20	<20	<20	---	---	---	19.44	6.18	---	13.26
S-7	09/14/2009	11,000	4,000	19	73	66	<10	<100	<20	<20	<20	---	---	---	19.44	7.58	---	11.86
S-7	02/05/2010	4,700	1,200	<10	33	17	<10	<100	<20	<20	<20	---	---	---	19.44	6.36	---	13.08
S-7	08/03/2010	7,600	2,600	14	15	10	<10	<100	<20	<20	<20	---	---	---	19.44	6.90	---	12.54
S-7	02/14/2011	2,200	800	<10	<10	<20	<20	<200	<20	<20	<20	---	---	---	19.44	6.53	---	12.91
S-7	08/04/2011	4,600	1,200	16	<10	<20	<20	<200	<20	<20	<20	---	---	---	19.44	6.53	---	12.91
S-7	02/02/2012	1,600	93	4.7	4.0	7.4	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	---	19.44	7.39	---	12.05
S-7	**08/13/2012**	**3,000**	**220**	**14**	**8.9**	**15**	**<2.0**	**<40**	**<2.0**	**<2.0**	**<2.0**	**---**	**---**	**---**	**19.44**	**7.14**	**---**	**12.30**
S-8	08/21/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	20.11	7.02	---	13.09
S-8	08/30/2006	90,600	5,150	28.2	3,230	4,450	4.30	<10.0	<0.500	<0.500	<0.500	---	---	---	20.11	7.19	---	12.92
S-8	11/22/2006	41,000	4,900	58	3,300	7,200	2.6	<25	<10	<10	<10	---	---	---	20.11	7.48	---	12.63
S-8	02/23/2007	28,000	2,900	28	2,900	4,900	<25	<250	<100	<100	<100	---	---	---	20.11	6.73	---	13.38
S-8	05/18/2007	24,000 h	4,400	33 j	3,800	4,470	<50	<500	<100	<100	<100	---	---	---	20.11	6.98	---	13.13
S-8	08/10/2007	22,000 h	5,000	30 j	3,100	3,660	<50	<500	<100	<100	<100	---	---	---	20.11	7.57	---	12.54
S-8	11/09/2007	22,000 h	4,600	24 j	3,000	2,770	<50	<500	<100	<100	<100	---	---	---	20.11	7.80	---	12.31
S-8	02/08/2008	11,000 h	5,900	<50	410	310	<50	<500	<100	<100	<100	---	---	---	20.11	6.55	---	13.56
S-8	05/16/2008	20,000	1,600	32	2,300	2,136	<20	<200	<40	<40	<40	---	---	---	20.11	7.30	---	12.81
S-8	08/15/2008	26,000	2,400	20	4,900	2,432	<20	<200	<40	<40	<40	---	---	---	20.11	8.60	---	11.51
S-8	11/26/2008	10,000	890	6.6	790	302	<5.0	<50	<10	<10	<10	---	---	---	20.11	9.20	---	10.91
S-8	02/27/2009	770	30	<1.0	9.9	6.0	<1.0	12	<2.0	<2.0	<2.0	---	---	---	20.11	7.04	---	13.07
S-8	05/28/2009	5,800	620	3.1	390	380	<1.0	40	<2.0	<2.0	<2.0	---	---	---	20.11	6.91	---	13.20
S-8	09/14/2009	7,700	1,600	<10	110	750	<10	<100	<20	<20	<20	---	---	---	20.11	8.32	---	11.79

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-8	02/05/2010	10,000	2,000	<10	150	260	<10	<100	<20	<20	<20	---	---	---	20.11	7.08	---	13.03
S-8	08/03/2010	12,000	2,000	<20	47	82	<20	<200	<40	<40	<40	---	---	---	20.11	7.64	---	12.47
S-8	02/14/2011	4,900	960	<10	89	78	<20	<200	<20	<20	<20	---	---	---	20.11	7.20	---	12.91
S-8	08/04/2011	7,200	830	<5.0	26	13	<10	<100	<10	<10	<10	---	---	---	20.11	7.24	---	12.87
S-8	02/02/2012	12,000	1,400	4.0	29	9.8	<2.5	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	20.11	8.08	---	12.03
S-8	**08/13/2012**	**7,100**	**1,100**	**<5.0**	**55**	**21**	**<5.0**	**<100**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**20.11**	**7.84**	**---**	**12.27**
S-9	08/21/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	19.60	6.93	---	12.67
S-9	08/30/2006	162,000	3,620	5,040	3,810	22,500	<0.500	<10.0	<0.500	<0.500	<0.500	---	---	---	19.60	6.52	---	13.08
S-9	11/22/2006	47,000	2,100	840	3,000	12,000	<2.5	<25	<10	<10	<10	---	---	---	19.60	6.78	---	12.82
S-9	02/23/2007	18,000	890	120	1,800	3,600	<12	<120	<50	<50	<50	---	---	---	19.60	6.13	---	13.47
S-9	05/18/2007	22,000 h	1,300	630	2,400	7,300	<50	<500	<100	<100	<100	---	---	---	19.60	6.35	---	13.25
S-9	08/10/2007	36,000 h	2,600	920	4,200	14,900	<50	<500	<100	<100	<100	---	---	---	19.60	6.86	---	12.74
S-9	11/09/2007	34,000 h	2,100	320	3,700	12,000	<50	<500	<100	<100	<100	---	---	---	19.60	7.09	---	12.51
S-9	02/08/2008	7,400 h	410	51	1,100	1,620	<10	<100	<20	<20	<20	---	---	---	19.60	6.00	---	13.60
S-9	05/16/2008	19,000	910	230	1,600	4,200	<10	<100	<20	<20	<20	---	---	---	19.60	6.67	---	12.93
S-9	08/15/2008	65,000	2,600	540	5,200	19,000	<10	<100	<20	<20	<20	---	---	---	19.60	7.93	---	11.67
S-9	11/26/2008	18,000	910	<100	2,000	3,340	<100	<1,000	<200	<200	<200	---	---	---	19.60	8.60	---	11.00
S-9	02/27/2009	1,000	55	2.3	100	61	<1.0	<10	<2.0	<2.0	<2.0	---	---	---	19.60	6.35	---	13.25
S-9	05/28/2009	9,700	410	120	810	1,400	<10	<100	<20	<20	<20	---	---	---	19.60	6.22	---	13.38
S-9	09/14/2009	24,000	960	120	2,200	6,500	<5.0	<50	<10	<10	<10	---	---	---	19.60	7.73	---	11.87
S-9	02/05/2010	4,900	310	6.2	180	240	<5.0	<50	<10	<10	<10	---	---	---	19.60	6.51	---	13.09
S-9	08/03/2010	17,000	940	25	500	2,800	<2.0	29	<4.0	<4.0	<4.0	---	---	---	19.60	7.02	---	12.58
S-9	02/14/2011	1,500	190	3.6	11	38	<4.0	<40	<4.0	<4.0	<4.0	---	---	---	19.60	6.60	---	13.00
S-9	08/04/2011	5,300	370	18	53	370	<5.0	<50	<5.0	<5.0	<5.0	---	---	---	19.60	6.62	---	12.98
S-9	02/02/2012	1,100	85	2.1	3.4	2.9	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	---	19.60	7.48	---	12.12
S-9	**08/13/2012**	**4,200**	**370**	**18**	**48**	**66**	**<2.5**	**<50**	**---**	**---**	**---**	**---**	**---**	**---**	**19.60**	**7.27**	**---**	**12.33**
TBW-E	11/23/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.31	---	---
TBW-E	12/01/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	7.01	---	---
TBW-E	12/07/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.32	---	---
TBW-E	12/15/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.55	---	---
TBW-E	12/23/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.95	---	---
TBW-E	12/27/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.47	---	---
TBW-N	11/23/2004	83,000	640	27,000	1,700	20,000	2,300	1,300	<400	<400	<400	<100	<100	<10,000	---	5.64	---	---

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
TBW-N	12/01/2004	160,000	700	31,000	2,300	24,000	2,900	1,200	<400	<400	<400	<100	<100	<10,000	---	6.35	---	---
TBW-N	12/07/2004	130,000	590	29,000	2,300	24,000	2,700	1,300	<400	<400	<400	<100	<100	<10,000	---	5.65	---	---
TBW-N	12/15/2004	120,000	420	26,000	2,000	22,000	3,300	<1,000	<400	<400	<400	<100	<100	<10,000	---	5.85	---	---
TBW-N	12/23/2004	100,000	220	23,000	1,900	20,000	1,900	<1,000	<400	<400	<400	<100	<100	<10,000	---	5.30	---	---
TBW-N	12/27/2004	110,000	470	26,000	2,300	22,000	1,800	<1,000	<400	<400	<400	<100	<100	<10,000	---	7.80	---	---
TBW-N	01/17/2005	86,000	330	22,000	2,200	21,000	1,600	1,600	<400	<400	<400	<100	<100	<10,000	---	6.59	---	---
TBW-N	02/04/2005	97,000	290	23,000	1,800	20,000	1,900	<1,000	<400	<400	<400	<100	<100	<10,000	---	4.50	---	---
TBW-N	03/02/2005	94,000	360	24,000	2,000	19,000	1,200	<1,000	<400	<400	<400	<100	<100	<10,000	---	4.11	---	---
TBW-N	04/12/2005	27,000	130	9,300	1,100	8,700	1,400	390	<100	<100	<20	<25	<25	<2,500	---	4.08	---	---
TBW-N	05/13/2005	42,000	130	8,700	1,500	12,000	1,400	440	<100	<100	<100	<25	<25	<2,500	---	4.45	---	---
TBW-N	06/10/2005	46,000	63	5,500	1,300	11,000	500	<250	<100	<100	<100	<25	<25	<2,500	---	4.97	---	---
TBW-N	07/15/2005	48,000	88	8,400	1,300	9,500	660	310	<100	<100	<100	<25	<25	<2,500	---	5.18	---	---
TBW-N	08/17/2005	36,000 a	85 a	8,500 a	1,200 a	11,000 a	510 a	<500 a	<200 a	<200 a	<200 a	<50 a	<50 a	<5,000 a	18.08	5.28	---	12.80
TBW-N	09/15/2005	20,000	59	2,400	730	9,300	600	500	<40	<40	<40	---	---	<1,000	18.08	5.92	---	12.16
TBW-N	10/17/2005	59,000	58	4,900	1,200	16,000	490	<250	<100	<100	<100	<25	<25	<2,500	18.08	5.96	---	12.12
TBW-N	11/22/2005	105,000	41.3	8,750	1,550	18,300	443	248	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	5.82	---	12.26
TBW-N	12/09/2005	65,900	43.4	5,110	1,110	13,500	493	259	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	5.60	---	12.48
TBW-N	01/05/2006	80,100	33.8	4,910	1,620	19,400	410	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	4.44	---	13.64
TBW-N	02/24/2006	56,000 b/60,000 d	15	2,700	1,000	12,000	270	180	<15	<15	<15	<15	<15	<150	18.08	4.67	---	13.41
TBW-N	03/08/2006	60,200	23.4	3,820	1,370	16,500	293	93.8	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	4.18	---	13.90
TBW-N	04/13/2006	73,000	21.8	2,900	1,220	14,600	277	68.5	<0.500	<0.500	<0.500	<0.500	<0.500	<500	18.08	3.49	---	14.59
TBW-N	05/30/2006	59,300	18.7	1,170	1,800	10,200	119 e	<10.0	<0.500	<0.500	<0.500	0.860	<0.500	<50.0	18.08	4.52	---	13.56
TBW-N	06/05/2006	83,700	16.0	1,510	2,090	11,400	146 e	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	4.55	---	13.53
TBW-N	07/19/2006	80,100	16.4	632	1,550	13,900	85.7	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	4.99	---	13.09
TBW-N	08/30/2006	52,700	18.2	747	1,900	13,400	82.9	<100	<5.00	<5.00	<5.00	<5.00	<5.00	<500	18.08	5.47	---	12.61
TBW-N	09/06/2006	77,500	21.3	1,100	1,650	11,800	116	12.4	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0	18.08	5.39	---	12.69
TBW-N	10/13/2006	33,000	22	1,300	1,700	27,000	160	<50	<20	<20	<20	<5.0	<5.0	<500	18.08	5.57	---	12.51
TBW-N	11/22/2006	36,000	18	680	1,200	14,000	110	<50	<20	<20	<20	<5.0	<5.0	<500	18.08	5.65	---	12.43
TBW-N	12/12/2006	34,000	<25	330	1,400	11,000	89	<1,000	<25	<25	<25	<25	<25	<5,000	18.08	5.34	---	12.74
TBW-N	01/05/2007	26,000 g	16	450	1,400	13,000 f	96	<50	<20	<20	<20	<5.0	<5.0	<500	18.08	5.23	---	12.85
TBW-N	02/23/2007	41,000	<25	400	1,500	15,000	120	<250	<100	<100	<100	<25	<25	<2,500	18.08	4.96	---	13.12
TBW-N	03/08/2007	15,000	<25	320	1,300	15,000	110	<250	<100	<100	<100	<25	<25	<2,500	18.08	4.93	---	13.15
TBW-N	04/06/2007	24,000 h	15	360	1,100	12,300	130	<50	<10	<10	<10	<2.5	---	<500	18.08	5.07	---	13.01
TBW-N	05/18/2007	30,000 h	15 j	140	1,100	9,960	100	<50	<100	<100	<100	<25	<50	<5,000	18.08	5.25	---	12.83
TBW-N	06/11/2007	26,000 h	15 j	160	1,300	9,150	120	<500	<100	<100	<100	<25	<50	<5,000	18.08	5.33	---	12.75
TBW-N	07/03/2007	36,000 h	9.3 j	150	990	8,400	130	<500	<100	<100	<100	<25	<50	<5,000	18.08	5.46	---	12.62

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
TBW-N	08/10/2007	24,000 h	14	200	1,200	5,240	120	<200	<40	<40	<40	<10	<20	<2,000	18.08	5.78	---	12.30
TBW-N	09/25/2007	28,000 h	15	560	1,400	7,600	<20	160 j	<40	<40	<40	<10	<20	<2,000	18.08	6.02	---	12.06
TBW-N	11/09/2007	42,000 h	18	610	1,700	14,500	140	<250	<50	<50	<50	<12	<25	<2,500	18.08	5.91	0.01	12.18
TBW-N	02/08/2008	36,000 h	<25	450	1,400	15,100	97	<500	<100	<100	<100	<25	<50	<5,000	18.08	4.79	---	13.29
TBW-N	05/16/2008	26,000	80	99	970	5,130	130	<500	<100	<100	<100	---	---	---	18.08	5.50	---	12.58
TBW-N	08/15/2008	24,000	<25	1,300	1,300	2,400	90	<500	<100	<100	<100	<25	<50	<5,000	18.08	6.59	---	11.49
TBW-N	11/26/2008	24,000	<25	140	810	5,580	52	<500	<100	<100	<100	<25	<50	<5,000	18.08	7.40	---	10.68
TBW-N	02/27/2009	22,000	<25	110	520	5,000	<50	<500	<100	<100	<100	<25	<50	<5,000	18.08	5.86	---	12.22
TBW-N	05/28/2009	32,000	8.9	160	860	5,600	53	160	<10	<10	<10	---	---	---	18.08	5.50	---	12.58
TBW-N	09/14/2009	28,000	10	110	890	4,700	60	<200	<40	<40	<40	<10	<20	<2000	18.08	6.31	---	11.77
TBW-N	02/05/2010	27,000	<10	71	630	4,900	28	<200	<40	<40	<40	<10	<20	<2000	18.08	5.28	---	12.80
TBW-N	08/03/2010	20,000	9.8	46	130	890	64	<100	<20	<20	<20	<5.0	<10	<1000	18.08	5.75	---	12.33
TBW-N	02/14/2011	15,000	7.5	38	320	1,800	18	<10	<10	<10	<10	<5.0	<5.0	<1500	18.08	5.40	---	12.68
TBW-N	08/04/2011	11,000	5.7	26	77	120	21	12	<1.0	<1.0	<1.0	<0.50	<0.50	<150	18.08	5.43	---	12.65
TBW-N	02/02/2012	11,000	4.8	15	150	200	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	18.08	6.27	---	11.81
TBW-N	**08/13/2012**	**7,400**	**6.3**	**8.5**	**100**	**65**	**<0.50**	**17**	**---**	**---**	**---**	**<0.50**	**<0.50**	**<150**	**18.08**	**6.20**	**---**	**11.88**
TBW-S	11/23/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.18	---	---
TBW-S	12/01/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.87	---	---
TBW-S	12/07/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.15	---	---
TBW-S	12/15/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.38	---	---
TBW-S	12/23/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.81	---	---
TBW-S	12/27/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.35	---	---
TBW-W	11/23/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.14	---	---
TBW-W	12/01/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.86	---	---
TBW-W	12/07/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.13	---	---
TBW-W	12/15/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.37	---	---
TBW-W	12/23/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.79	---	---
TBW-W	12/27/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.32	---	---

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B unless otherwise noted.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*1,2-DCA (µg/L)*	*EDB (µg/L)*	*Ethanol (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*SPH Thickness (ft)*	*GW Elevation (ft MSL)*

DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B
EDB = Ethylene dibromide analyzed by EPA Method 8260B
Ethanol analyzed by EPA Method 8260B
TOC = Top of casing elevation, in feet relative to mean sea level
SPH = Separate-phase hydrocarbon
GW = Groundwater
µg/L = Micrograms per liter
<x = Not detected at reporting limit x
--- = Not analyzed or available

a = Extracted out of holding time.
b = Result with a carbon range of C4-C12.
c = Result may be biased slightly high. See lab report case narrative.
d = Result with a carbon range of C6-C12.
e = Secondary ion abundances were outside method requirements. Identification based on analytical judgment.
f = Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
g = Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the acceptance limits. A low bias to sample results is indicated.
h = Analyzed by EPA Method 8015B (M).
i = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.
j = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

Well TBW-N surveyed September 1, 2005 by Virgil Chavez Land Surveying
Wells S-2 through S-7 surveyed on November 30, 2005 by Virgil Chavez Land Surveying
Wells S-4B and S-7 through S-9 surveyed on August 17, 2006 by Virgil Chavez Land Surveying

TABLE 3

HISTORICAL GRAB GROUNDWATER ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*Total O&G (µg/L)*	*TPHd (µg/L)*	*TPHg (µg/L)*	*TPH (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*1,2-DCA (µg/L)*	*EDB (µg/L)*	*Ethanol (µg/L)*	*1,1,1-Trichloroethane (µg/L)*	*Methylene Chloride (µg/L)*	*HVOCs (µg/L)*	*Chlorinated Hydrocarbons (µg/L)*	*PNAs (µg/L)*	*PCP (µg/L)*	*Creosote (µg/L)*	*PCBs (µg/L)*
#2	6/26/1987	9.75	244,000	---	**1,600**	132,000	**3.7**	**45**	---	**200**	---	---	---	---	---	---	---	---	**10,550**	**58,730**	---	---	---	---	---	---
BH-C	10/12/1992	9.5	---	---	74	---	0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
BH-D	10/12/1992	9.5	---	---	**24,000**	---	**4,200**	<0.5	**4,400**	**2,800**	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
BH-E	10/22/1992	10	<7,000	---	**26,000**	---	**6,900**	**13,000**	**2,200**	**12,000**	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
BH-F	10/22/1992	10.5	<14,000	---	**3,100**	---	**170**	**110**	**310**	**550**	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
BH-G	10/22/1992	10.5	<6,000	---	**150**	---	**3.9**	9.8	3.8	13	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
BH-H	10/22/1992	10.5	<6,000	---	**26,000**	---	**1,600**	**280**	**1,900**	**2,800**	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
BH-I	10/22/1992	10.5	<8,000	---	53	---	**1.4**	1.3	3.1	3.4	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---
SB-1-W	11/30/2004	6.51 c	---	---	<2,500	---	<25	<25	<25	<50	**6,000**	<250	<100	<100	<100	<25	<25	<2,500	---	---	---	---	---	---	---	---
SB-1W-10'	11/30/2004	10	---	---	<250	---	<2.5	<2.5	<2.5	<5.0	**300**	<25	<10	<10	<10	<2.5	<2.5	<250	---	---	---	---	---	---	---	---
SB-1W-15'	11/30/2004	15	---	---	<13,000	---	<130	<130	<130	<250	**24,000**	**1,700**	<500	<500	<500	<130	<130	<13,000	---	---	---	---	---	---	---	---
SB-2-W	12/1/2004	6.95 c	---	---	<1,000	---	<10	<10	<10	<20	**3,000**	**500**	<40	<40	<40	<10	<10	<1,000	---	---	---	---	---	---	---	---
SB-2W-15'	12/1/2004	15	---	---	<1,300	---	<13	<13	<13	<25	**2,000**	**420**	<50	<50	<50	<13	<13	<13,000	---	---	---	---	---	---	---	---
SB-3-W	12/1/2004	7.01 c	---	---	<5,000	---	<50	<50	<50	<100	**9,000**	<500	<200	<200	<200	<50	<50	<5,000	---	---	---	---	---	---	---	---
SB-4-W	12/2/2004	7.85 c	---	---	<500	---	<5.0	<5.0	<5.0	<10	**4,400**	**1,100**	<20	<20	<20	<5.0	<5.0	<500	---	---	---	---	---	---	---	---
SB-4W-15'	12/2/2004	15	---	---	**520**	---	1.7	5.3	14	**62**	**2,900**	**2,000**	<2.0	<2.0	4.0	<0.50	<0.50	<50	---	---	---	---	---	---	---	---
SB-5-W	11/30/2004	7.21 c	---	---	<1,000	---	<10	<10	<10	<20	**1,900**	**190**	<40	<40	<40	<10	<10	<1,000	---	---	---	---	---	---	---	---
SB-5W-15'	11/30/2004	15	---	---	<1,000	---	<10	<10	<10	<20	**2,000**	**340**	<40	<40	<40	<10	<10	<1,000	---	---	---	---	---	---	---	---
SB-6-W	11/30/2004	7.01 c	---	---	**2,000**	---	0.61	0.88	**59**	**57**	**14**	5.5	<2.0	<2.0	<2.0	<0.50	<0.50	<50	---	---	---	---	---	---	---	---
SB-6W-15'	11/30/2004	15	---	---	<250	---	<2.5	<2.5	<2.5	<5.0	**540**	**92**	<10	<10	<10	<2.5	<2.5	<250	---	---	---	---	---	---	---	---
SB-7-W	11/30/2004	8.0 c	---	---	<500	---	<5.0	<5.0	<5.0	<10	**990**	**180**	<20	<20	<20	<5.0	<5.0	<500	---	---	---	---	---	---	---	---
SB-7W-15'	11/30/2004	15	---	---	**920**	---	0.54	1.1	28	19	**13**	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50	---	---	---	---	---	---	---	---
SB-8-W	12/2/2004	7.09 c	---	---	**17,000**	---	**250**	**660**	**840**	**3,700**	<10	<100	<40	<40	<40	<10	<10	<1,000	---	---	---	---	---	---	---	---
SB-8W-15'	12/2/2004	15	---	---	**270**	---	**5.3**	13	12	**47**	**11**	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50	---	---	---	---	---	---	---	---
SB-9-6.5W	11/3/2005	6-10	---	---	<1,300	---	<13	<13	<13	<25	**3,500**	<130	<50	<50	<50	---	---	---	---	---	---	---	---	---	---	---
SB-9-15W	11/3/2005	14-18	---	---	<2,500	---	<25	<25	<25	<50	**9,200**	<250	<100	<100	<100	---	---	---	---	---	---	---	---	---	---	---
SB-9-27W	11/3/2005	24-28	---	---	<2,500	---	<25	<25	<25	<50	**7,800**	<250	<100	<100	<100	---	---	---	---	---	---	---	---	---	---	---
SB-9-36W	11/3/2005	35-39	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	**87**	**21**	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-10-7W	11/2/2005	6-10	---	---	53	---	<0.50	<0.50	<0.50	<1.0	**3,000**	**1,300**	<2.0	<2.0	3.7	---	---	---	---	---	---	---	---	---	---	---

TABLE 3

HISTORICAL GRAB GROUNDWATER ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*Total O&G (µg/L)*	*TPHd (µg/L)*	*TPHg (µg/L)*	*TPH (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*1,2-DCA (µg/L)*	*EDB (µg/L)*	*Ethanol (µg/L)*	*1,1,1-Trichloroethane (µg/L)*	*Methylene Chloride (µg/L)*	*HVOCs (µg/L)*	*Chlorinated Hydrocarbons (µg/L)*	*PNAs (µg/L)*	*PCP (µg/L)*	*Creosote (µg/L)*	*PCBs (µg/L)*
SB-10-15W	11/2/2005	14-18	---	---	**500**	---	<5.0	<5.0	<5.0	<10	**690**	**2,200**	<20	<20	<20	---	---	---	---	---	---	---	---	---	---	---
SB-10-25W	11/2/2005	24-28	---	---	<1,300	---	<13	<13	<13	<25	**2,700**	<130	<50	<50	<50	---	---	---	---	---	---	---	---	---	---	---
SB-10-36W	11/2/2005	35-39	---	---	70	---	<0.50	<0.50	<0.50	<1.0	**76**	**68**	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-11-7W	11/3/2005	7-11	---	---	<1,300	---	<13	<13	<13	<25	**4,800**	**290**	<50	<50	<50	---	---	---	---	---	---	---	---	---	---	---
SB-11-15W	11/3/2005	14-18	---	---	<2,000	---	<20	<20	<20	<40	**2,200**	**740**	<80	<80	<80	---	---	---	---	---	---	---	---	---	---	---
SB-11-27W	11/3/2005	24-28	---	---	<1,000	---	<10	<10	<10	<20	**2,300**	<100	<40	<40	<40	---	---	---	---	---	---	---	---	---	---	---
SB-11-36W	11/3/2005	35-39	---	---	67	---	<0.50	<0.50	<0.50	<1.0	**23**	**22**	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-12-6.5W	11/2/2005	6-10	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	0.55	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-12-15W	11/2/2005	14-18	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-12-25W	11/2/2005	24-28	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-12-36W	11/2/2005	35-39	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-13-6.25W	11/2/2005	6-10	---	---	<2,500	---	<25	<25	<25	<50	**4,100**	<250	<100	<100	<100	---	---	---	---	---	---	---	---	---	---	---
SB-13-15W	11/2/2005	14-18	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	4.6	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-13-25W	11/2/2005	24-28	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	1.1	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-13-36W	11/2/2005	35-39	---	---	64	---	<0.50	<0.50	<0.50	<1.0	1.0	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-14-5.75W	11/3/2005	6-10	---	---	<1,300	---	<13	<13	<13	<25	**2,700**	<130	<50	<50	<50	---	---	---	---	---	---	---	---	---	---	---
SB-14-15W	11/3/2005	14-18	---	---	<2,500	---	<25	<25	<25	<50	**5,900**	<250	<100	<100	<100	---	---	---	---	---	---	---	---	---	---	---
SB-14-27W	11/3/2005	24-28	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	2.5	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
SB-14-36W	11/3/2005	35-39	---	---	<50	---	<0.50	<0.50	<0.50	<1.0	3.7	<5.0	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	---	---	---
WO-1-5	5/25/2006	5	2,600 d	**350 e**	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	ND	ND	<10	<10	<1.0
Groundwater (≤10 fbg) ESL[f]:			NA	100	100	NA	1.0	40	30	20	5.0	12	NA	NA	NA	0.50	0.050	NA	62	5.0	Various	Various	Various	1	NA	0.014

Notes:
Total O&G = Total oil and grease analyzed by EPA Method 3550 unless otherwise noted
TPHd = Total petroleum hydrocarbons as diesel analyzed by EPA Method 8015 (Modified)
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; before 11/30/2004, analyzed by EPA Method 8015B unless otherwise indicated
TPH = Total petroleum hydrocarbons. Analytical method unknown
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; before 11/30/2004, analyzed by EPA Method 8020 unless otherwise indicated
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B
Ethanol analyzed by EPA Method 6010B
1,1,1-Trichloroethane and methylene chloride analyzed by EPA Method 601
HVOCs = Halogenated volatile organic compounds analyzed by EPA Method 8010. See analytical report for specific constituents. All detections noted.
Chlorinated hydrocarbons by EPA Method 8260B; see laboratory analytical report for a complete list of specific constituents
PNAs = Polynuclear aromatics by EPA Method 8270C; see laboratory analytical report for a complete list of specific constituents

TABLE 3

HISTORICAL GRAB GROUNDWATER ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1601 WEBSTER STREET, ALAMEDA, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*Total O&G (µg/L)*	*TPHd (µg/L)*	*TPHg (µg/L)*	*TPH (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*1,2-DCA (µg/L)*	*EDB (µg/L)*	*Ethanol (µg/L)*	*1,1,1-Trichloro-ethane (µg/L)*	*Methylene Chloride (µg/L)*	*HVOCs (µg/L)*	*Chlorinated Hydro-carbons (µg/L)*	*PNAs (µg/L)*	*PCP (µg/L)*	*Creosote (µg/L)*	*PCBs (µg/L)*

PCP = Pentachlorophenol by EPA Method 8270C
Creosote analyzed by EPA Method 8270C. It is reported as a combination of naphthalene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, 1-methylnaphthalene, and 2-methylnaphthalene.
PCBs = Polychlorinated biphenyls analyzed by EPA Method 8082; see laboratory analytical report for a complete list of specific constituents
fbg = Feet below grade
µg/L = Micrograms per liter
<x = Not detected at reporting limit x
--- = Not analyzed
ND = Not detected
ESL = Environmental screening level
NA = No applicable ESL
Results in **bold** equal or exceed applicable ESL

a = Analyzed by EPA Method 602
b = Analyzed by APHA Standard Method 5030D&E
c = Sample collected at first-encountered groundwater/pieziometric surface
d = Analyzed by EPA Method 1664 A (Modified)
e = Hydrocarbons reported as TPHd do not exhibit a typical Diesel chromatographic pattern. These hydrocarbons are higher boiling than typical diesel fuel.
f = San Francisco Bay Regional Water Quality Control Board ESL for groundwater where groundwater is a source of drinking water (Tables A and C of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008]).

APPENDIX A

SITE HISTORY

SITE HISTORY

1987 Waste Oil Underground Storage Tank (UST) Removal: In June 1987, a 550-gallon waste oil UST that was installed in 1962 was removed. Blaine Tech Services, Inc. (Blaine) of San Jose, California observed more than 77 holes in the tank and noted hydrocarbon sheen on the water in the excavation. Soil samples collected from 9.5 feet below grade (fbg) in the excavation contained 133 milligrams per kilogram (mg/kg) total oil and grease (O&G), 14 mg/kg total petroleum hydrocarbons (TPH), and 0.0294 mg/kg 1,1,1-trichloroethane (TCA). A grab water sample collected from the water surface at about 12.5 fbg contained 244,000 micrograms per liter (µg/L) O&G, 132,000 µg/L TPH, 1,600 µg/L total petroleum hydrocarbons as gasoline (TPHg), 3.7 µg/L benzene, 45 µg/L toluene, 200 µg/L total xylenes, 10.55 µg/L TCA, and 58.73 µg/L methyl chloride. These results are reported in Blaine's July 16, 1987 *Field Sampling at Shell Station* letter report and in Blaine's June 26, 1989 letter report summarizing previously unpublished notes.

1987 Subsurface Investigation: In September 1987, Pacific Environmental Group (PEG) of Santa Clara, California installed one groundwater monitoring well (S-1) immediately down gradient of the former waste oil tank. Soil samples collected from the well boring contained up to 130 mg/kg O&G and 50 mg/kg total petroleum hydrocarbons as oil. PEG's October 23, 1987 letter report presents investigation results.

1990 Subsurface Investigation: In April 1990, Weiss Associates (WA) of Oakland, California installed two groundwater monitoring wells (MW-1 [BH-A] and MW-2 [BH-B]). Soil samples from the well borings contained up to 32 mg/kg TPHg, 0.53 mg/kg benzene, 3.8 mg/kg toluene, 0.75 mg/kg ethylbenzene, and 4.0 mg/kg total xylenes. WA's July 6, 1990 *Subsurface Investigation at Shell Service Station* report presents investigation details.

1992-1993 Subsurface Investigation: In October 1992 and February 1993, WA drilled eight soil borings (BH-C through BH-J) and one groundwater monitoring well (MW-3). Soil samples from the borings contained up to 110 mg/kg O&G, 170 mg/kg TPHg, 0.11 mg/kg benzene, 3.0 mg/kg toluene, 3.6 mg/kg ethylbenzene, and 22 mg/kg total xylenes. Grab groundwater samples contained up to 26,000 µg/L TPHg, 6,900 µg/L benzene, 13,000 µg/L toluene, 4,400 µg/L ethylbenzene, and 12,000 µg/L total xylenes. WA's April 16, 1993 *Subsurface Investigation Report* provides investigation details.

1995 and 1996 Groundwater Remediation: From March 1995 until March 1996 groundwater was remediated by injecting air into MW-2.

1997 Piping and Dispenser Upgrades: In August 1997, Cambria Environmental Technology, Inc. (Cambria) of Oakland, California conducted soil sampling under the product piping and below dispenser locations approximately 5 fbg. The soil samples contained up to 11,000 mg/kg TPHg, 6.3 mg/kg benzene, 7.8 mg/kg toluene, 96 mg/kg ethylbenzene and 700 mg/kg total xylenes. Cambria's October 8, 1997 *Pipeline and Dispenser Soil Sampling Report* presents the soil sampling results.

1998 Waste Oil Remote Fill Pipe Removal: In November 1998, Paradiso Mechanical Inc., of San Leandro, California upgraded the site's waste oil system and removed the remote fill pipe associated with the waste oil tank. No soil samples were collected. Cambria's December 1, 1998 *1998 Upgrade Site Inspection Report* presented the findings.

1999 Monitoring Well Destruction and Case Closure: In January 1999, Cambria oversaw the destruction of all four on-site monitoring wells (S-1 and MW-1 through MW-3) as a condition of case closure. Cambria's February 26, 1999 *Monitoring Well Abandonment Report* documents the well destructions. Alameda County Environmental Health's (ACEH's) March 15, 1999 *Remedial Action Completion Certification and Fuel Leak Site Case Closure* letter confirmed completion of site investigation and remedial action and granted leaking UST case closure for the site.

2004 Well Survey: In March 2004, Cambria performed a search of California Department of Water Resources (DWR) records and the California State Water Resources Control Board's Geotracker database for water producing wells within one-half mile of the site. No public water supply wells were identified from DWR records or from the Geotracker database. Cambria found DWR records for one domestic well, four agricultural wells, one industrial well, and one well of unknown use within one-half mile of the site.

The nearest identified well was located by address approximately 150 feet south of the site. The DWR well record was undated, and did not record the well's intended use. The address is currently occupied by a café, and Cambria could not field-verify the presence of the well; therefore, the well is presumed to be abandoned. The next closest wells, irrigation wells installed in 1977, are estimated to be about 525 and 800 feet northwest of the site, and drilled to 25 and 32 fbg, respectively. Since groundwater is known to flow generally northward, these wells are cross gradient from the site, and are therefore unlikely to be affected by impacted groundwater from the site. All other identified wells are located more than 1,000 feet to the southeast, south, and southwest (up gradient) of the site and therefore would not likely be affected by impacted groundwater from the site.

2004 Fuel System Upgrades: In August 2004, S.J. Weaver Contracting, Inc. (Weaver) of Signal Hill, California upgraded the station's fuel dispensers, piping, and vapor

recovery system. Due to the high water table, groundwater from the UST excavation was pumped into a storage tank periodically and off-hauled as non-hazardous waste to Shell's Martinez refinery for treatment. Cambria collected soil samples beneath removed dispensers and piping. Soil sample P-3-3' contained 1,300 mg/kg TPHg and 49 mg/kg total xylenes, and soil sample P-5-3' contained 0.045 mg/kg total xylenes. Based on these concentrations, Equilon Enterprises LLC dba Shell Oil Products US (Shell) submitted an Underground Storage Tank Unauthorized Release (Leak)/Site Contamination Report (Unauthorized Release Report) on August 11, 2004.

Following re-installation of a fuel pump into a 10,000-gallon UST, Weaver identified a product loss in one 10,000-gallon UST by manual tank gauging. This loss was estimated to be a volume of 2,084 gallons. Weaver pumped water from the tank excavation into an open-top storage tank on site. As fuel had leaked out of the damaged UST, the pumped water contained free product. The resulting gasoline vapor concentrations warranted site evacuation, cessation of work, and emergency response. As a result, Shell's contractors conducted emergency response and remediation. The remaining fuel in the damaged UST was removed by a tanker truck. As detailed below, Cambria initiated groundwater extraction (GWE) from tank backfill well TBW-N. The product loss, emergency response activities, and emergency remediation efforts associated with this event are presented in further detail in Cambria's November 30, 2004 *Soil & Groundwater Investigation Work Plan and Agency Response*. As a result of the product loss, Shell filed a second Unauthorized Release Report on August 19, 2004. In addition, the Alameda Fire Department filed a report with the California Governor's Office of Emergency Services. ACEH subsequently opened a new environmental case for the site on September 3, 2004.

2004-2006 GWE: Following the August 2004 product release at the site, Cambria initiated GWE from the northern-most tank backfill well (TBW-N) initially by pumping to a Baker tank and later using a vacuum truck. Groundwater was extracted several times per day from August 19 until August 23, 2004. Then, daily GWE was conducted from August 24 until September 10, 2004. GWE was conducted weekly from September 13 through November 16, 2004, and GWE was subsequently conducted monthly through February 2006. Approximately 196,130 gallons of groundwater were removed by GWE along with an estimated 1,982 gallons of separate-phase hydrocarbons and 21.7 gallons of dissolved TPHg. Product removal and GWE data are also presented in Cambria's November 30, 2004 *Soil & Groundwater Investigation Work Plan and Agency Response*. GWE was discontinued in February 2006.

2004 Subsurface Investigation: In November and December 2004, Cambria drilled eight soil borings (SB-1 through SB-8) to further assess the impacts of the August 2004 product loss event. Soil samples from the borings contained up to 740 mg/kg TPHg, 5.9 mg/kg toluene, 17 mg/kg ethylbenzene, 83 mg/kg total xylenes, 1.2 mg/kg methyl

tertiary-butyl ether (MTBE), and 53 mg/kg ethanol. Grab groundwater samples from the borings contained up to 17,000 µg/L TPHg, 250 µg/L benzene, 660 µg/L toluene, 840 µg/L ethylbenzene, 3,700 µg/L total xylenes, 24,000 µg/L MTBE, 2,000 µg/L tertiary-butyl alcohol (TBA), and 4.0 µg/L tertiary-amyl methyl ether (TAME). Cambria's February 18, 2005 *Soil and Groundwater Investigation Report* provides investigation details.

2005 Subsurface Investigation: In October and November 2005 Cambria installed six wells (S-2 through S-7) and drilled six cone penetrometer testing (CPT) borings (SB-9 through SB-14). The only constituent of concern detected in soil samples collected from the wells and soil borings was 0.0080 mg/kg total xylenes in boring SB-13 at 5 fbg. Four grab groundwater samples were collected from each of the CPT borings. The grab groundwater samples contained up to 500 µg/L TPHg, 9,200 µg/L MTBE, 2,200 µg/L TBA and 3.7 µg/L TAME. The results from this investigation are presented in Cambria's January 31, 2006 *Soil and Groundwater Investigation Report.*

2006 Risk Evaluation: Cambria's May 17, 2006 *Risk Evaluation and Work Plan* evaluated potential risks to human health or the environment posed by impacted soil and groundwater beneath the site. Cambria concluded that the residual impacts do not pose a risk to human health or the environment currently and will not in the foreseeable future, particularly given that the property use is anticipated to remain as a retail gasoline service station.

2006 Waste Oil UST Removal: In May 2006, Wayne Perry, Inc. (Wayne Perry) of Sacramento, California removed one 550-gallon dual-wall fiberglass waste oil UST. Cambria observed no cracks, holes, or corrosion in the UST upon removal. Cambria collected a soil sample (WO-1-5) from the sidewall of the UST excavation and a grab groundwater sample from the base of the excavation. The soil sample contained 61 mg/kg oil and grease, 5.4 mg/kg TPH as diesel (TPHd), 26.4 mg/kg chromium, 2.24 mg/kg lead, 18.1 mg/kg nickel, and 16.6 mg/kg zinc. The grab groundwater sample contained 2,600 µg/L O&G and 350 µg/L TPHd. Based on these concentrations, Shell submitted an Unauthorized Release Report on June 6, 2006. Cambria's August 2, 2006 *Underground Storage Tank Removal Report* provides the waste oil UST removal details.

2006 Subsurface Investigation: In July 2006, Cambria installed three groundwater monitoring wells (S-4B, S-8, and S-9). Soil samples collected from the well borings contained up to 3,700 mg/kg TPHg, 1.0 mg/kg benzene, 90 mg/kg ethylbenzene, 310 mg/kg total xylenes, 0.31 mg/kg MTBE, and 0.56 mg/kg TBA. Cambria's October 6, 2006 *Site Investigation Report* provides well installation details.

Groundwater Monitoring: Groundwater was monitored in well S-1 starting in September 1987 and later from wells MW-1 through MW-3 until April 1998 when ACEH granted case closure. For the current environmental case, groundwater has been monitored since October 2005. Groundwater gradient is consistently north-northwesterly to north-easterly. Depth to water has ranged from approximately 4.5 to 10.5 fbg at the site.

APPENDIX B

GROUNDWATER AND PRODUCT REMOVAL DATA

Table 1. Groundwater and Product Removal Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California.

Date	Total Volume Hauled (gals)	Cumulative Volume (gals)	Measured Product Thickness in Vacuum Truck (ft)	Dissolved TPHg Conc. (ppm)	Est pounds TPHg removed in Dissolved Phase (lbs)	Estimated Volume of Product Removed as SPH (gal)	Estimated Volume of Product Removed as dissolved phase (gal)	Comments
								FUEL RELEASE ESTIMATE: UST gaging by SJ Weaver on 8/18 read 71.5 inches = 8,340 gallons, per tank chart. On 8/19 gaging by SJ Weaver read 55 inches = 6,256 gallons, per tank chart. Net est. Loss = 8,340-6,256 = 2,084 gallons.
8/19/2004	2,168	2,168	NM	*120*	*2.17*		*0.36*	Pumped from well into open Baker tank. Then tank emptied by PSC vacuum truck
8/19/2004	2,535	4,703	NM	*120*	*2.54*	915	*0.42*	Pumped from well into open Baker tank. Also pumped directly into Vacuum Truck. Then open Baker tank emptied by PSC
8/20/2004	0	4,703	NM	*120*	*0.00*	--	*0.00*	Pumped into closed Baker tank - none hauled.
8/21/2004	4,369	9,072	NM	*120*	*4.37*	*50*	*0.72*	Pumped into closed Baker tank, then began emptying closed tank by vacuum truck. Estimated SPH volume from similar data.
8/21/2004	*3,654*	12,726	0.67	*120*	*3.66*	773	*0.60*	From closed Baker tank and well. Volumes based on verbal report - missing bills of lading
8/21/2004	*2,091*	14,817	0.04	*120*	*2.09*	57	*0.34*	From well and baker tank. Volumes based on verbal report - missing bills of lading
8/22/2004	319	15,136	NM	*120*	*0.32*	*NM*	*0.05*	Baker Tank cleaning water.
8/22/2004	2,285	17,421	0.11	*120*	*2.29*	150	*0.38*	
8/23/2004	1,947	19,368	0.01	*120*	*1.95*	13	*0.32*	
8/24/2004	1,013	20,381	0.01	*120*	*1.01*	12	*0.17*	
8/25/2004	4,026	24,407		*120*	*4.03*		*0.66*	
8/26/2004	3,839	28,246		82	2.63		0.43	
8/27/2004	3,882	32,128		82	2.66		0.44	
8/28/2004	2,770	34,898		100	2.31		0.38	
8/29/2004	3,834	38,732		100	3.20		0.53	
8/30/2004	3,376	42,108		91	2.56	*12*	0.42	Half UST cleaning water and half groundwater from well. SPH amount estimated from 0.02' SPH in UST gaged on 8/21/04
8/31/2004	3,249	45,357		91	2.47		0.41	
9/1/2004	3,832	49,189		110	3.52		0.58	
9/2/2004	2,151	51,340		110	1.97		0.32	
9/3/2004	3,136	54,476		99	2.59		0.43	
9/4/2004	3,671	58,147		99	3.03		0.50	
9/5/2004	3,395	61,542		66	1.87		0.31	
9/6/2004	2,948	64,490		66	1.62		0.27	
9/7/2004	3,285	67,775		66	1.81		0.30	
9/8/2004	3,128	70,903		66	1.72		0.28	
9/9/2004	3,902	74,805		67	2.18		0.36	water from TBW-N, TBW-S, & TBW-E
9/10/2004	2,989	77,794		67	1.67		0.27	water from TBW-N, TBW-S, & TBW-E
9/13/2004	2,807	80,601		61	1.43		0.23	70-barrel truck
9/20/2004	4,266	84,867		120	4.27		0.70	
9/28/2004	4,691	89,558		99	3.88		0.64	
10/4/2004	4,050	93,608		80	2.70		0.44	
10/11/2004	3,121	96,729		57	1.48		0.24	
10/18/2004	3,597	100,326		68	2.04		0.34	
10/25/2004	4,127	104,453		81	2.79			2,641 additional gallons from tank cleaning were disposed of on 10/25/04
11/1/2004	5,047	109,500		86	3.62		0.59	
11/8/2004	2,178	111,678		100	1.82		0.30	
11/16/2004	4,891	116,569		83	3.39		0.56	concentration based on 11/23/04 sample
11/29/2004	4,531	121,100		160	6.05		0.99	concentration based on 11/30/04 sample
12/13/2004	5,208	126,308		120	5.21		0.86	concentration based on 12/15/04 sample
12/27/2004	4,800	131,108		100	4.01		0.66	concentration based on 12/27/04 sample
1/17/2005	3,580	134,688		86	2.57		0.42	concentration based on 1/17/05 sample
2/7/2005	2,389	137,077		97	1.93		0.32	concentration based on 2/4/05 sample
3/8/2005	4,843	141,920		94	3.80		0.62	concentration based on 3/3/05 sample
4/6/2005	4,711	146,631		27	1.06		0.17	concentration based on 4/12/05 sample
5/2/2005	4,706	151,337		42	1.65		0.27	concentration based on 5/13/05 sample
6/6/2005	5,011	156,348		46	1.92		0.32	concentration based on 6/10/05 sample
7/11/2005	4,627	160,975		48	1.85		0.30	concentration based on 7/15/05 sample
8/8/2005	4,785	165,760		36	1.44		0.24	concentration based on 8/17/05 sample
9/12/2005	4,992	170,752		20	0.83		0.14	concentration based on 9/15/05 sample
10/10/2005	5,181	175,933		59	2.55		0.42	concentration based on 10/17/05 sample
11/7/2005	4,821	180,754		105	4.22		0.69	concentration based on 11/22/05 sample
12/12/2005	5,222	185,976		4.77	0.21		0.03	concentration based on 12/9/05 sample
1/9/2006	5,340	191,316		80.1	3.57		0.59	concentration based on 1/05/06 sample
2/7/2006	4,814	196,130		56	2.25		0.37	concentration based on 2/24/06 sample
TOTALS	**196,130**				**134.8**	**1,982.1**	**21.7**	
	(gallons) Total Estimated Volume of Liquid Removed				(pounds) Total estimated mass based on dissolved TPHg concentrations	(gallons) Total Estimated Volume accounted for as liquid SPH	(gallons) Total estimated equivalent volume based on dissolved TPHg concentrations	

NOTES:

Mass removal values are approximate only.

Pounds of TPHg/benzene/MTBE removal based on the calculation: (TPHg/benzene/MTBE concentration (ppb)) x gallons pumped x (8.3×10^{-9} (liters/galxpounds/μg))

APPENDIX C

GROUNDWATER DATA FOR ENVIRONMENTAL CASE RO0001042

Table 1. **Ground Water Elevations** - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Ground Water Elevation (ft above msl)
MW-1	04/11/90	13.80	8.22	5.58
	07/18/90		9.14	4.66
	10/18/90		10.37	3.43
	01/25/91		10.41	3.39
	04/11/91		7.37	6.43
	07/18/91		8.86	4.94
	10/17/91		10.47	3.33
	01/24/92		9.18	4.62
	04/23/92		6.95	6.85
	07/22/92		8.01	5.79
	10/02/92		9.81	3.99
	01/05/93		7.26	6.54
	04/08/93	13.80[a]	5.85	7.95
	07/20/93		6.83	6.97
	10/15/93		8.07	5.73
	01/07/94		7.82	5.98
	04/13/94		6.91	6.89
	07/26/94		7.51	6.29
	10/06/94		8.71	5.09
	01/26/95		5.43	8.37
	04/20/95		5.50	8.30
	07/12/95		6.48	7.32
	10/12/95		7.44	6.36
	01/11/96		6.95	6.85
	04/10/96		5.78	8.02
	07/12/96		6.65	7.15
	10/17/96		7.48	6.32
	04/08/97		6.16	7.64
	10/16/97		8.56	5.24
	04/17/98		**5.10**	**8.70**
MW-2	04/11/90	13.20	7.69	5.51
	07/18/90		8.56	4.64
	10/18/90		9.76	3.44
	01/25/91		9.78	3.42
	04/11/91		6.87	6.33
	07/18/91		8.27	4.93
	10/17/91		9.89	3.31
	01/24/92		8.60	4.60
	04/23/92		6.48	6.72
	07/02/92		7.37	5.83
	10/02/92		9.20	4.00
	01/05/93		6.80	6.40
	04/08/93	13.20[a]	5.40	7.80

Table 1. **Ground Water Elevations** - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Ground Water Elevation (ft above msl)
	07/20/93		6.05	7.15
	10/15/93		7.04	6.16
	01/07/94		6.99	6.21
	04/13/94		6.20	7.00
	07/26/94		6.63	6.57
	10/06/94		7.75	5.45
	01/26/95		4.49	8.71
	04/20/95		5.28	7.92
	07/12/95		5.84	7.36
	10/12/95		6.68	6.52
	01/11/96		6.29	6.91
	04/10/96		5.48	7.72
	07/12/96		6.02	7.18
	10/17/96		6.95	6.25
	04/08/97		5.83	7.37
	10/16/97		7.98	5.22
	04/17/98		**4.71**	**8.49**
MW-3	04/08/93	12.80	5.48	7.32
	07/20/93		6.38	6.42
	10/15/93		7.53	5.27
	01/07/94		7.38	5.42
	04/13/94		6.50	6.30
	07/26/94		7.00	5.80
	10/06/94		8.10	4.70
	01/26/95		5.00	7.80
	04/20/95		5.24	7.56
	07/12/95		6.10	6.70
	10/12/95		6.98	5.82
	01/11/96		6.48	6.32
	04/10/96		5.57	7.23
	07/12/96		6.23	6.57
	10/17/96		7.18	5.62
	04/08/97		5.75	7.05
	10/16/97		7.76	5.04
	04/17/98		**4.47**	**8.33**
S-1	09/11/89	13.77	9.82	3.95
	04/11/90		8.41	5.36
	07/18/90		9.31	4.46
	10/18/90		10.43	3.34
	01/25/91		10.49	3.28
	04/11/91		7.68	6.09
	07/18/91		8.95	4.82

Table 1. **Ground Water Elevations** - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Ground Water Elevation (ft above msl)
	10/17/91		10.62	3.15
	01/24/92		9.32	4.45
	04/23/92		7.27	6.50
	07/02/92		8.19	5.58
	10/02/92		9.95	3.82
	01/05/93		7.64	6.13
	04/08/93	13.74[a]	6.10	7.64
	07/20/93		7.18	6.56
	10/15/93		8.39	5.35
	01/07/94		8.19	5.55
	04/13/94		7.22	6.52
	07/26/94		7.82	5.92
	10/06/94		9.01	4.73
	01/26/95		5.65	8.09
	04/20/95		6.82	6.92
	07/12/95		6.74	7.00
	10/12/95		7.76	5.98
	01/11/96		7.24	6.50
	04/10/96		5.80	7.94
	07/12/96		6.60	7.14
	10/17/96		7.63	6.11
	04/08/97		6.00	7.74
	10/16/97		8.28	5.46
	04/17/98		**4.62**	**9.12**

Abbreviations and Notes:

a = Top of casing resurveyed on March 30, 1993
ft = Feet
msl = Mean sea level
TOC= Top-of-casing

Table 2. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
MW-1	04/11/90	8.22	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	---	---
(2nd Qtr)	07/18/90	9.14	<50	---	<0.5	<0.5	<0.5	<0.5	3	<0.5	<5,000	---	---
	10/18/90	10.37	<50	---	<0.5	<0.5	<0.5	<0.5	7.9	<0.5	<5,000	---	---
	01/25/91	10.41	<50	---	<0.5	<0.5	<0.5	<0.5	5.6	<0.5	---	---	---
	04/11/91	7.37	<50	---	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	---	---	---
	07/18/91	8.86	<50	---	<0.5	<0.5	<0.5	<0.5	4.4	<0.5	---	---	---
	10/17/91	10.47	<50	---	<0.5	<0.5	<0.5	<0.5	7.2	<0.5	---	---	---
	01/24/92	9.18	<50	---	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	---	---	---
	04/23/92	6.95	<50		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/02/92	8.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/02/92	9.81	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	---	---
	01/05/93	7.26	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	---	---
	04/08/93[a]	5.85	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/20/93[b]	6.83	<50	---	<0.5	<0.5	<0.5	<0.5	0.76	<0.5	---	---	---
	10/15/93	8.07	<50	---	<0.5	<0.5	<0.5	<0.5	0.71	<0.5	---	---	---
	01/07/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	3.1	0.85	---	---	5.5
	04/13/94	6.91	<50	---	<0.5	<0.5	<0.5	<0.5	3.6	0.95	---	---	---
	07/26/94	7.51	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	2.8
	10/06/94[c]	8.71	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	4.0
	04/20/95	5.50	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	---
	04/10/96	5.78	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.65	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.48	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.16	<1,000	---	<10	<10	<10	<10	<1.2	<1.2	---	3,000	2.6
	04/17/98	**5.10**	**<50**	**---**	**<0.50**	**<0.50**	**<0.50**	**1.3**	**<0.50**	**<0.50**	**---**	**<2.5(<2.0)**	**7.8**
MW-2	04/11/90	7.69	580	430	20	4.9	1.2	73	<0.5	1.1	<10,000	---	---
(2nd & 4th Qtr)	07/18/90	8.56	1,400	---	110	310	71	310	<0.5	0.7	<5,000	---	---
	10/18/90	9.76	1,900	1,300[d]	110	470	89	400	<0.5	0.9	<5,000	---	---
	01/25/91	9.78	8,100	---	430	1,200	480	2,600	<0.5	0.8	---	---	---
	04/11/91	6.87	2,600	---	130	150	250	330	<0.5	<0.5	---	---	---
	07/15/91	8.27	1,300	---	100	59	84	120	<0.5	0.8	---	---	---
	10/17/91	9.89	2,100	---	180	260	150	520	<0.5	0.6	---	---	---
	01/24/92	8.60	7,100	---	450	450	960	1,600	110	<0.5	---	---	---
	04/23/92	6.48	16,000	---	320	740	650	2,600	<2.5	<2.5	---	---	---
	07/02/92	7.37	33,000	---	2,500	3,700	2,000	9,600	<50	<50	---	---	---

Table 2. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	10/02/92	9.20	7,000	---	960	650	570	1,200	<50	<50	---	---	---
	01/05/93	6.80	8,900	---	550	500	600	1,900	<2	<2	---	---	---
	04/08/93	5.40	13,000	---	670	580	900	2,900	0.68	<0.5	---	---	---
	04/08/93^{dup}	5.40	13,000	---	830	740	1,100	3,700	0.64	<0.5	---	---	---
	07/20/93	6.05	10,000	---	1,200	630	1,100	4,000	0.87	<0.5	---	---	---
	07/20/93^{dup}	6.05	12,000	---	1,200	600	1,100	3,800	0.80	<0.5	---	---	---
	10/15/93	7.04	24,000	---	1,400	3,400	1,200	5,200	<0.5	<0.5	---	---	---
	10/15/93^{dup}	7.04	19,000	---	1,200	2,800	1,000	4,400	<0.5	<0.5	---	---	---
	01/07/94	6.99	27,000	---	1,300	2,700	1,900	7,900	<10	<10	---	---	3.6
	01/07/94^{dup}	6.99	33,000	---	1,100	2,300	1,700	6,900	<10	<10	---	---	3.6
	04/13/94	6.20	16,000	---	460	93	820	2,700	<25	<25	---	---	---
	04/13/94^{dup}	6.20	18,000	---	500	100	880	3,000	<25	<25	---	---	---
	07/26/94	6.63	25,000	---	1,600	1,500	1,500	6,800	<0.4	<0.4	---	---	3.2
	07/26/94^{dup}	6.63	28,000	---	1,700	1,600	1,600	7,300	<0.4	<0.4	---	---	3.2
	10/06/94	7.75	15,000	---	850	650	1,000	4,000	<0.4	<0.4	---	---	2.4
	10/06/94^{dup}	7.75	17,000	---	1000	630	1,200	4,500	<0.4	<0.4	---	---	2.4
	01/26/95	4.49	3,200	---	63	14	300	1,000	<0.4	<0.4	---	---	1.6
	01/26/95^{dup}	4.49	3,100	---	31	13	140	820	<0.4	<0.4	---	---	1.6
	04/20/95	5.28	<50	---	4.4	<0.5	1.3	3.3	<0.4	<0.4	---	---	---
	04/20/95^{dup}	5.28	<50	---	0.5	<0.5	0.6	3.3	<0.4	<0.4	---	---	---
	07/12/95	5.84	<50	---	1.1	1.1	<0.5	<0.5	---	---	---	---	10.4
	07/12/95^{dup}	5.84	<50	---	0.9	0.8	<0.5	<0.5	---	---	---	---	10.4
	10/12/95	6.68	370	---	20	3.0	8.2	92	<0.5	<0.4	---	---	6.4
	01/11/96	6.29	90	---	3.8	<0.5	3.5	3.0	0.6	<0.4	---	---	5.8
	04/10/96	5.48	61	---	9.9	<0.5	3.6	1.8	---	---	---	<2.5	---
	04/10/96^{dup}	5.48	54	---	10	<0.5	4.0	1.7	---	---	---	<2.5	---
	07/12/96	6.02	510	---	25	1.9	39	61	<1.0	<1.0	---	3.3	2.3
	07/12/96^{dup}	6.02	510	---	24	2.0	38	59	<1.0	<1.0	---	5.5	2.3
	10/17/96	6.95	4,100	---	130	13	280	590	0.52	<0.5	---	26	2.2
	10/17/96^{dup}	6.95	3,500	---	120	12	230	510	0.58	<0.5	---	(<20)	2.2
	04/08/97	5.83	1,500	---	77	19	120	32	0.59	<0.50	---	5.7	2.6
	10/16/97	7.98	4,000	---	160	<5.0	250	140	<2.5	<2.5	---	44	2.4
	10/16/97^{dup}	7.98	4,000	---	170	<5.0	270	98	<1.0	<1.0	---	<2.5	2.4

Table 2. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	04/17/98	4.71	3,800	---	190	5.0	260	340	<0.50	<0.50	---	<25(8.3)	1.8
	04/17/98[dup]	4.71	310	---	16	<0.50	<0.50	7.4	---	---	---	<2.5	1.8
MW-3 (2nd & 4th Qtr)	02/25/93	5.37	58	140	<0.5	<0.5	2.5	6.4	<0.5	1.5	<5,000	---	---
	04/08/93	5.48	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/20/93[e]	6.38	<50	---	1.2	<0.5	<0.5	<0.5	<0.5	2.8	---	---	---
	10/15/93[f]	7.53	60	---	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	---	---	---
	01/07/94	7.38	74	---	<0.5	<0.5	<0.5	0.76	<0.5	0.91	---	---	4.6
	04/13/94	6.50	<50	---	<0.5	<0.5	<0.5	<0.5	<1.3	<1.3	---	---	---
	07/26/94	7.00	750[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	1.7
	10/06/94	8.10	1,900[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	3.0
	01/26/95	5.00	580[g]	---	<0.5	<0.5	<0.5	1.3	<0.4	<0.4	---	---	1.3
	04/20/95	5.24	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	---
	07/12/95	6.10	50	---	4.2	2.9	<0.5	0.9	---	---	---	---	7.2
	10/12/95	6.98	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	7.1
	10/12/95[dup]	6.98	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	7.1
	01/11/96	6.48	50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	6.4
	01/11/96[dup]	6.48	50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	---
	04/10/96	5.57	200	---	<2.0	<2.0	<2.0	<2.0	---	---	---	670	---
	07/12/96	6.23	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	230	3.5
	10/17/96	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	3.0
	04/08/97	5.75	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	240	3.0
	10/16/97	7.76	<50	---	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	---	100	2.2
	04/17/98	4.47	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	<2.5	6.4
S-1 (2nd Qtr)	09/04/87[h]		---	---	<5	<5	<5	<5	<0.5	<0.5	---	---	---
	09/11/89[i]	9.82	<50	<100	<0.5	<1	<1	<3	<0.5	<0.5	<1,000	---	---
	04/11/90	8.41	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	---	---
	07/18/90	9.31	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	---	---
	10/18/90	10.43	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	---	---
	01/25/91	10.49	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/11/91	7.68	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/18/91	8.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/17/91	10.62	<50	---	<0.5	<0.5	<0.5	<5	---	---	---	---	---

Table 2. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	01/24/92	9.32	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/23/92	7.27	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/02/92	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/02/92	9.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/05/93	7.64	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/08/93	6.10	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/20/93	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/15/93	8.39	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/07/94	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	6.8
	04/13/94	7.22	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/26/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	2.6
	10/06/94	9.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	6.0
	04/20/95	6.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/10/96	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.60	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.63	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.00	<50	---	0.73	<0.50	<0.50	1.7	---	---	---	3.8	2.8
	04/08/97[dup]	6.00	<50	---	1.0	0.64	0.65	2.4	---	---	---	<2.5	2.8
	04/17/98	**4.62**	**86**	**---**	**3.2**	**3.8[J]**	**2.0**	**13**	**---**	**---**	**---**	**<2.5**	**7.1**
Trip Blank	07/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/25/91		<50	---	<0.5	<0.5	<0.5	0.8	---	---	---	---	---
	04/11/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/18/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/17/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/24/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/23/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/05/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/08/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/20/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/15/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/07/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

Table 2. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	04/13/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/26/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/06/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/26/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/20/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/12/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/12/95		<50	---	<0.5	<0.5	<0.5	---	---	---	---	---	---
	07/12/96		<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	---
	10/17/96		<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	---
MCLs			NE	NE	1	150	700	1,750	6.0	0.5	NE	NE	

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
B = Benzene by EPA Method 8020
T = Toluene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
X = Xylenes by EPA Method 8020
c-1,2-DCE = cis-1,2-dichloroethene by EPA Method 601
1,2-DCA = 1,2-dichloroethane by EPA Method 601
TOG = Total non-polar oil and grease by American Public Health Association Standard Method 503E
MTBE = Methyl tert-butyl ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260
DO = Dissolved oxygen
dup = Duplicate sample
ft = Feet
µg/L = Micrograms per liter
mg/L = Milligrams per liter
MCLs = California primary maximum contaminant level for drinking water (22 CCR 64444)
NE = MCLs not established

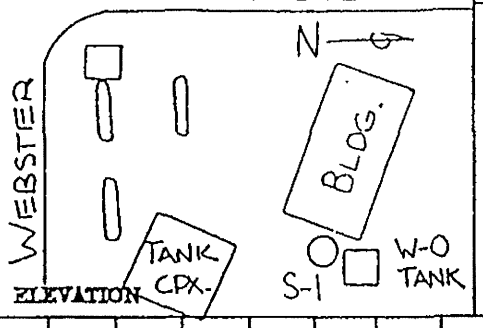
Notes:

a = Chloroform detected at 0.71 µg/L by EPA Method 8010
b = Chloroform detected at 1.1 µg/L by EPA Method 8010
c = Trichloroethylene detected at 1.7 µg/L
d = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
e = Chloroform detected at 1.5 µg/L by EPA Method 8010
f = Chloroform detected at 3.6 µg/L by EPA Method 8010
g = The result for gasoline is an unknown hydrocarbon which consists of a single peak
h = 0.12 mg/L acetone detected by EPA Method 624; no other volatile organic compounds detected
i = Metals detected by EPA Method 6010; 0.020 mg/L chromium, 0.060 mg/L lead and 0.030 mg/L zinc; no cadmium detected above detection limit of 0.010 mg/L; no PCBs or semi-volatile compounds detected by EPA Method 625
j = 0.51 µg/L toluene detected in equipment blank
<n = Not detected at detection limit of n µg/L
--- = Not analyzed/measured

APPENDIX D

BORING LOGS

LOCATION MAP LINCOLN

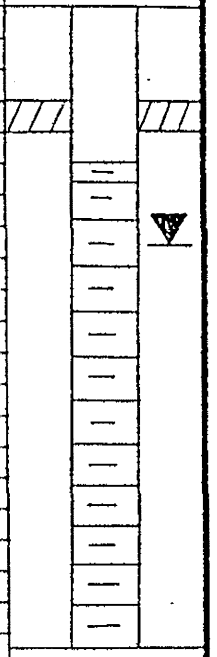


PACIFIC ENVIRONMENTAL GROUP, INC. | PAGE 1 OF 1

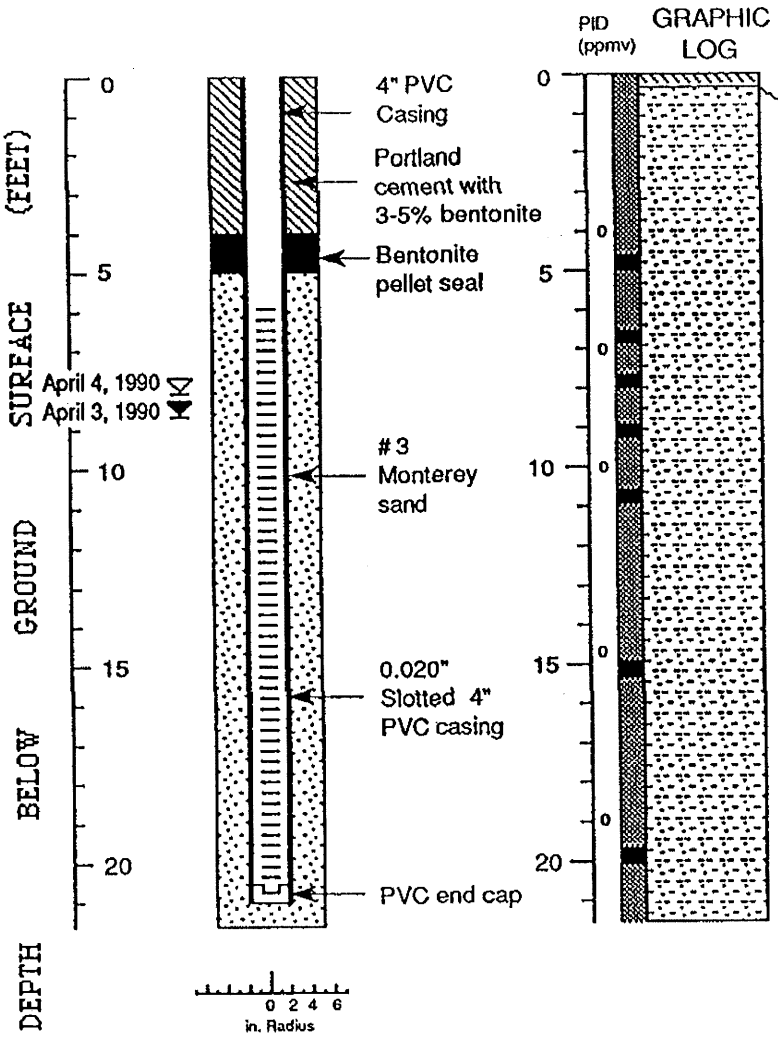
WELL/BORING NO. S-1 | PROJECT NO. 100-84.01
LOGGED BY: E.L. | CLIENT: G.R. SHELL
DRILLED BY: BAYLAND | DATE DRILLED: 9-4-87
DRILLING METHOD: HSA | LOCATION: WEBSTER & LINCOLN
SAMPLING METHOD: CAL MOD | HOLE DIAMETER: 8"
CASING TYPE: SCH 40 PVC | HOLE DEPTH: 20½'
WELL DEPTH: 20'
BLANK INTERVAL: 0-5' GRAVEL PACK: 12x20 SEAL: BENT-CONC.
SCREEN INTERVAL: 5-20' SCREEN DIAMETER: 3" SLOT SIZE: 0.020"

MOISTURE CONTENT	DENSITY		PENETRATION RESISTANCE (BLOWS/FT)	DEPTH	SAMPLE RECOVERY	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
				0				ASPHALT; GRAVEL-FILL
				2			CL	CLAY-FILL; MODERATE PLASTICITY; 20-30% FINE SAND TO FINE GRAVEL; NPO.
							SM	
Mst			P 350	4				SILTY SAND; DARK BROWN; 15-20% SILTY FINES; FINE GRAINED; NPO.
				6				@ 3½': AS ABOVE; NPO.
				8				
Mst	VD		13/25/45	10			CL SC-SP	@ 8½': DRILLER FELT CONTACT WITH CLAY. CLAY; YELLOWISH BROWN; LOW PLASTICITY; 20-30% FINE TO MEDIUM SAND; NPO.
				12				CLAYEY SAND TO SAND; REDDISH BROWN; 10-15% L.P. FINES; FINE TO MEDIUM GRAINED; FeO STAINING; NPO.
Wt	D		8/13/19	14				@ 14': AS ABOVE; MOTTLED GREY; NPO.
				16				
				18			SP	SAND; REDDISH BROWN; 5-10% L.P. FINES; FINE TO MEDIUM GRAINED; NPO.
Sat	VD		12/22/33	20				
				22				BOTTOM OF BORING AT 20½ FEET.
				24				
				26				
				28				
				30				
				32				
				34				
				36				
				38				
				40				

WELL COMPLETION



WELL MW-1 (BH-A)



EXPLANATION

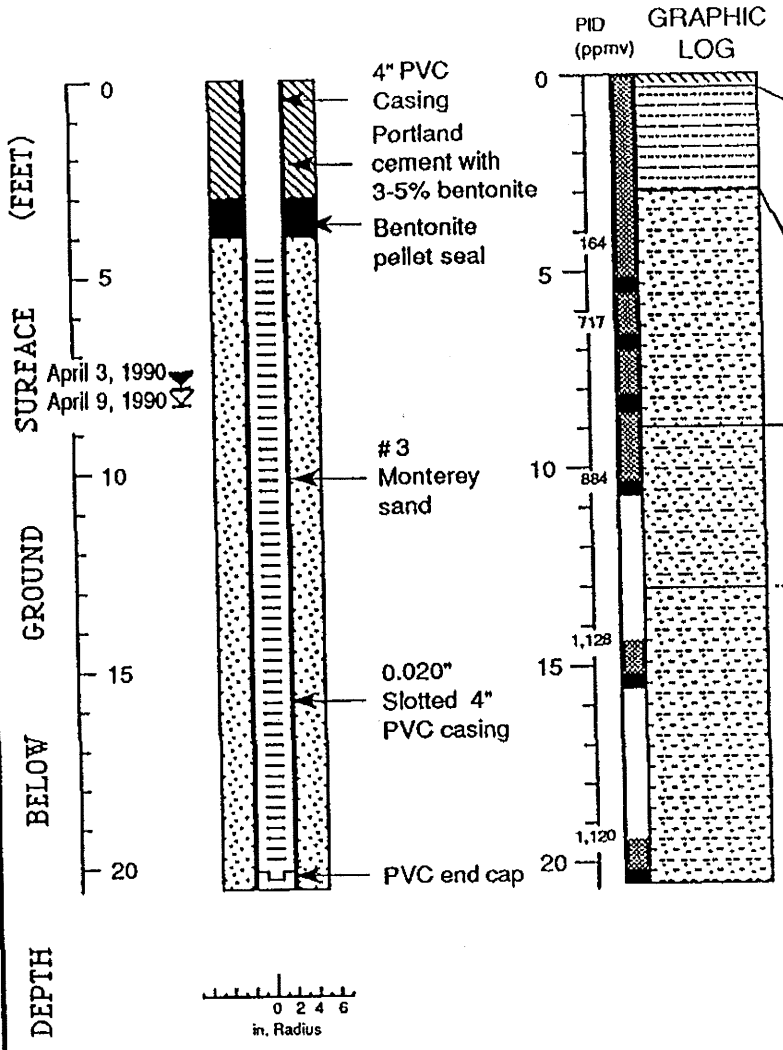
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Uncertain contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged by:	Robert Kitay
Supervisor:	Richard Weiss; EG 1112
Drilling Company:	Soils Exploration Services, Vacaville, CA
Driller:	Russ Ellis
Drilling Method:	Hollow stem auger
Date Drilled:	April 3, 1990
Well Head Completion:	4" Locking well plug, traffic-rated
Type of sampler:	Split-barrel (2")
Ground Surface Elevation:	14.15 ft above msl

Well Construction and Boring Log - Well MW-1 (BH-A)

Shell Service Station
1601 Webster Street
Alameda, California

WELL MW-2 (BH-B)



EXPLANATION

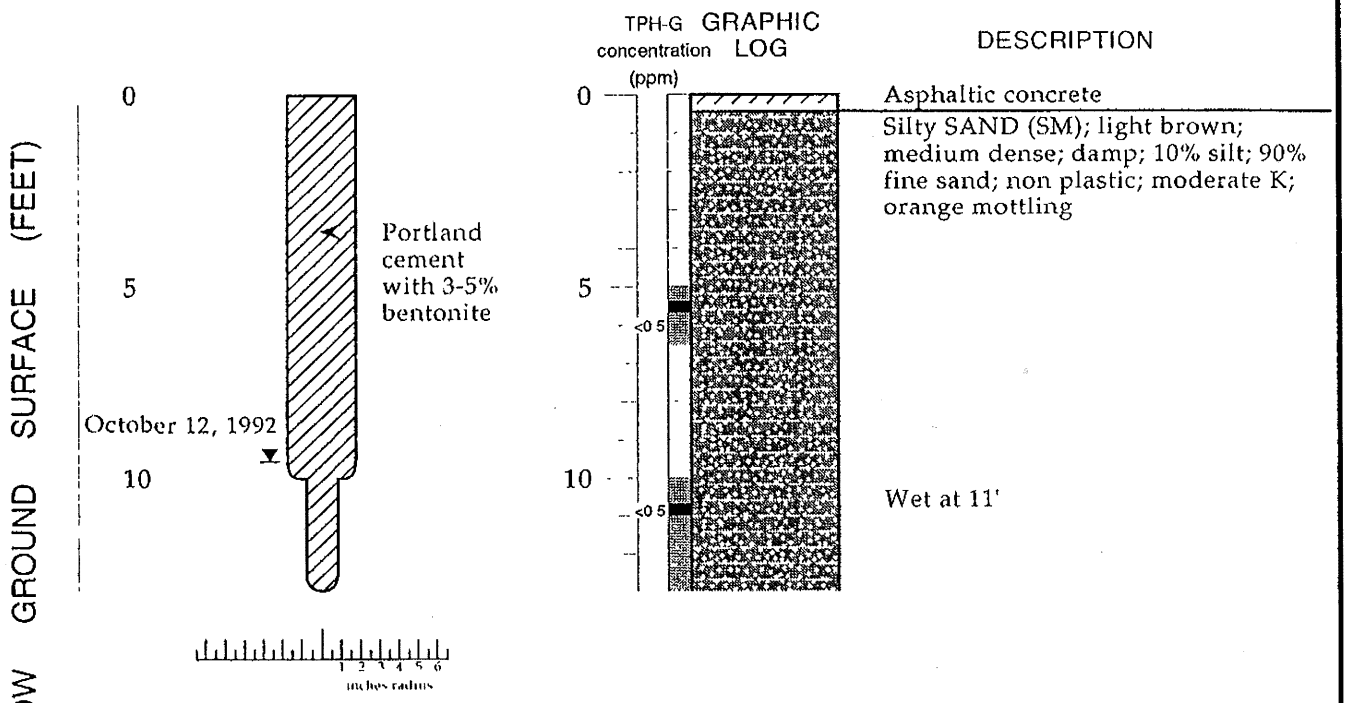
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Uncertain contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged by: Robert Kitay
Supervisor: Richard Weiss; EG 1112
Drilling Company: Soils Exploration Services, Vacaville, CA
Driller: Russ Ellis
Drilling Method: Hollow stem auger
Date Drilled: April 3, 1990
Well Head Completion: 4" Locking well plug, traffic-rated vault
Type of sampler: Split-barrel (2.0")
Ground Surface Elevation: 13.61 ft above msl

Well Construction and Boring Log - Well MW-2 (BH-B)

Shell Service Station
1601 Webster Street
Alameda, California

BORING BH-C



EXPLANATION

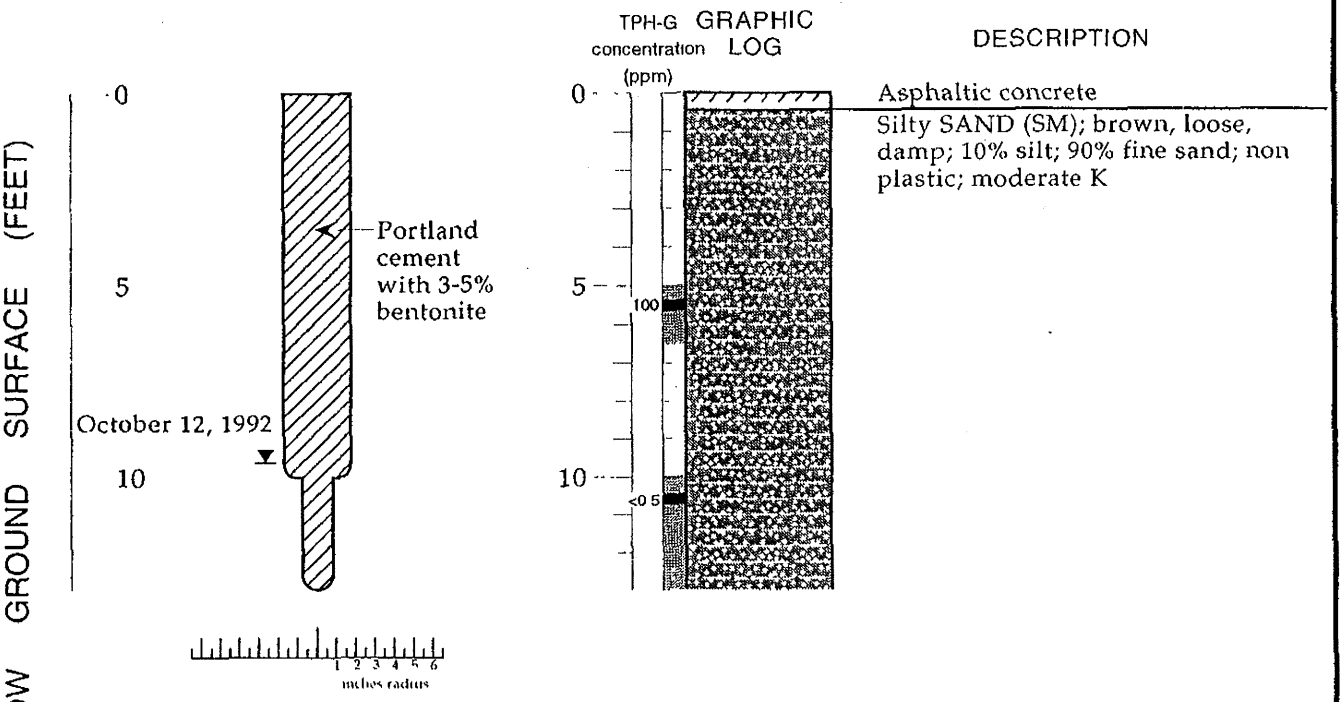
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Scott Fitchie & Chad Little
Drilling Method: Cuttingless system
Date Drilled: October 12, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-C - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-D



EXPLANATION

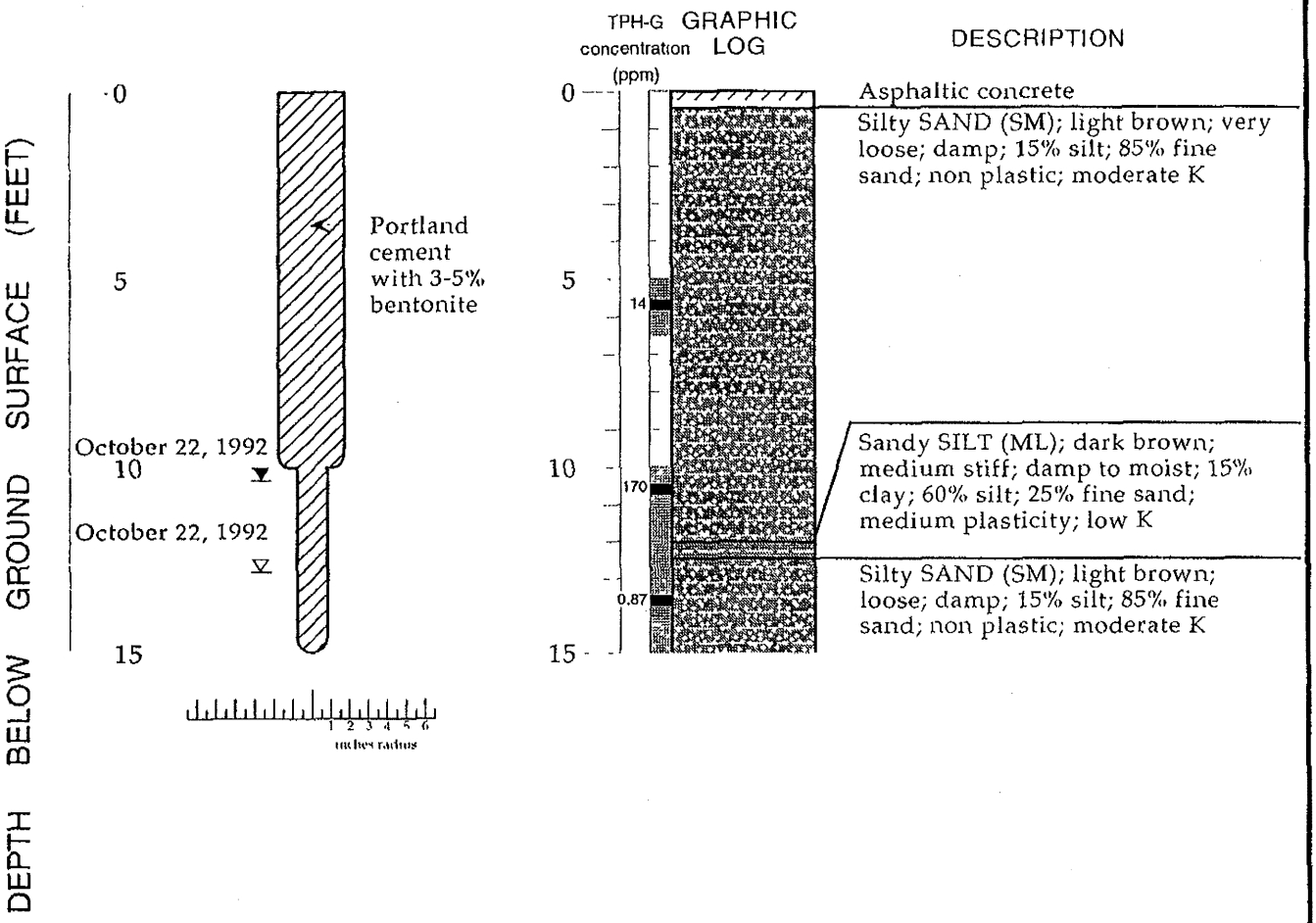
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- —?—?— Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number. C57-582696
Driller: Scott Fitchie & Chad Little
Drilling Method: Cuttingless system
Date Drilled: October 12, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-D - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-E



EXPLANATION

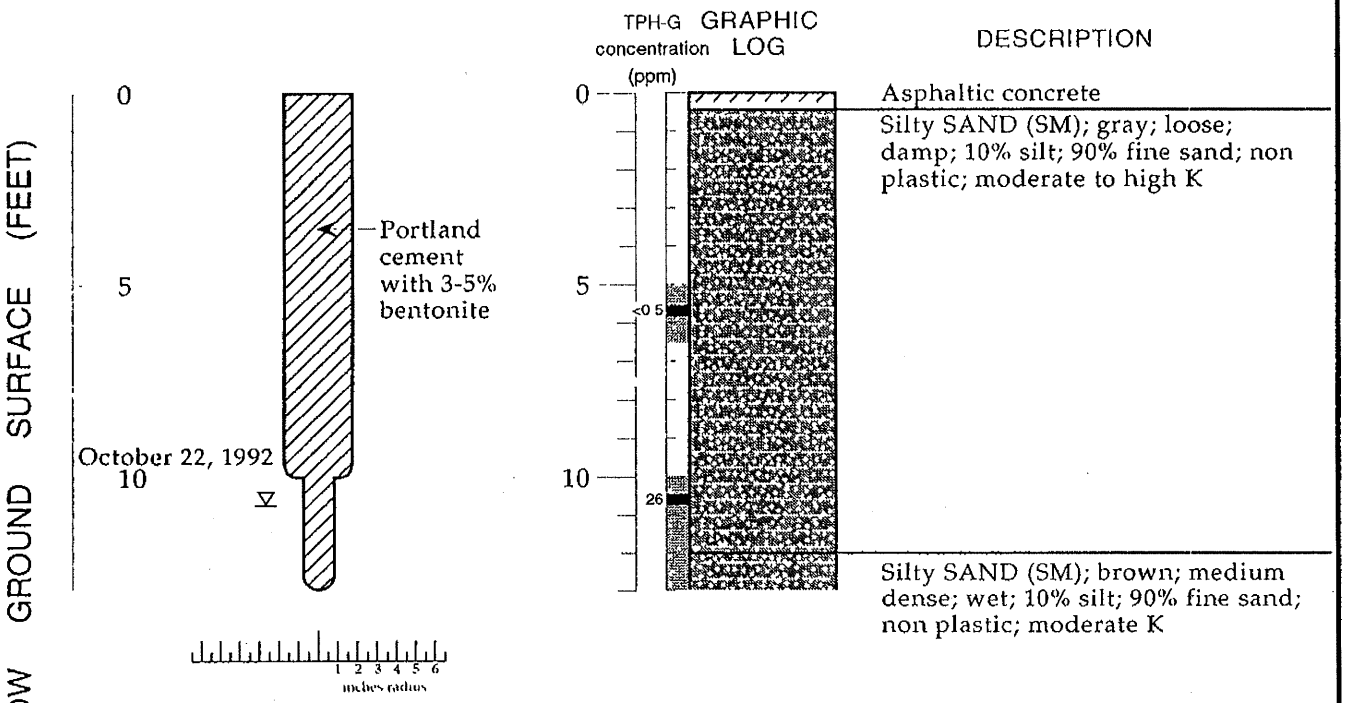
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——····—— Contact (dotted where approximate)
- —?—?— Uncertain contact
- //////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Cuttingless system
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-E - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-F



EXPLANATION

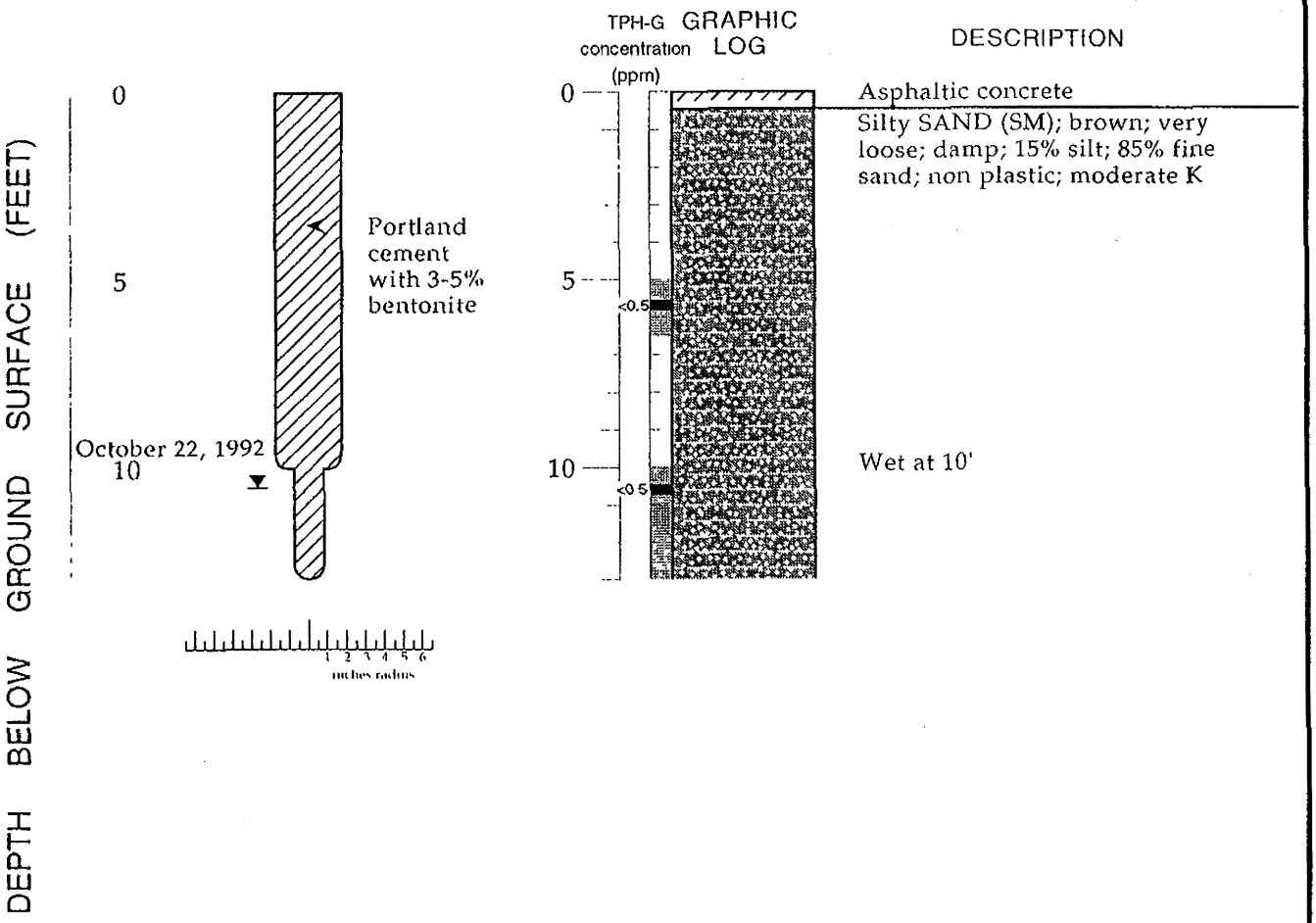
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Cuttingless system
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-F - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-G



EXPLANATION

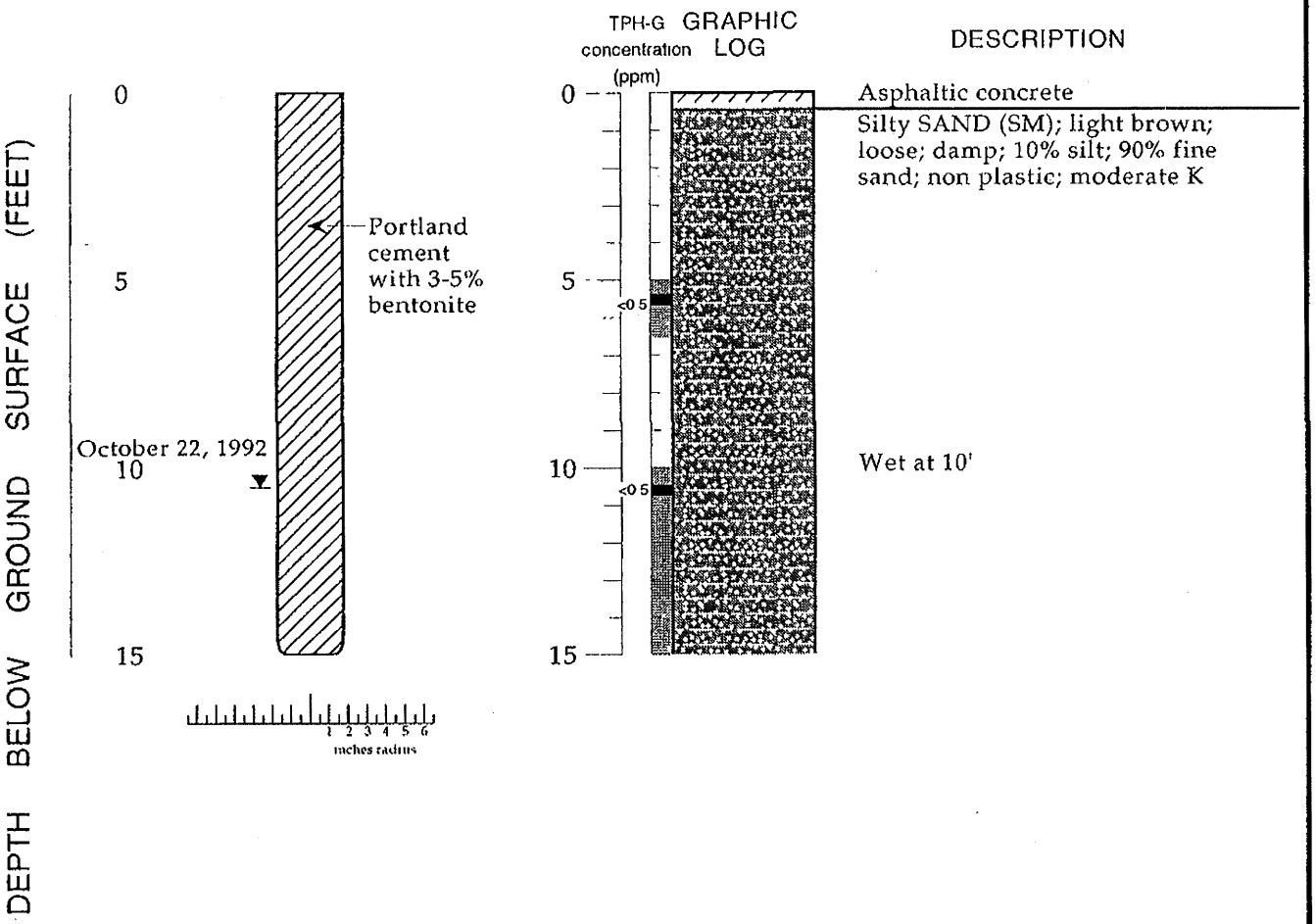
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Solid flight auger
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-G - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-H



EXPLANATION

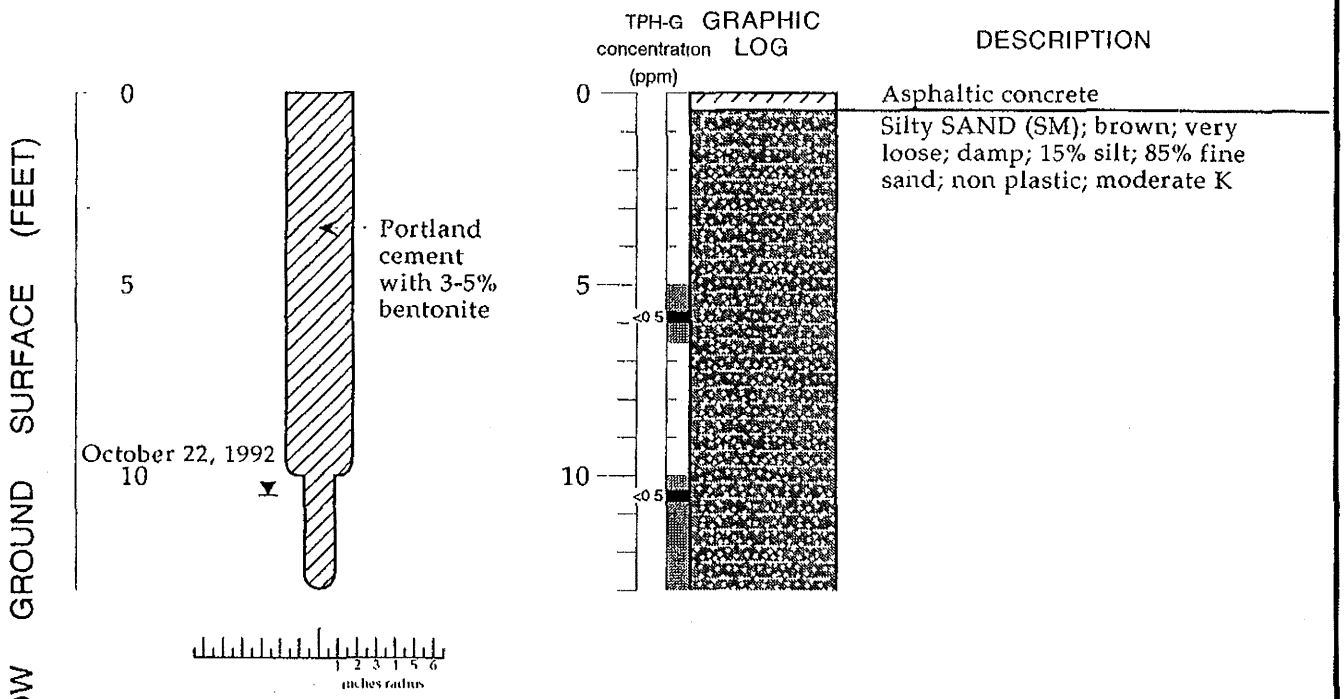
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——····—— Contact (dotted where approximate)
- —?—?— Uncertain contact
- //////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Solid flight auguer
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-H - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-I



EXPLANATION

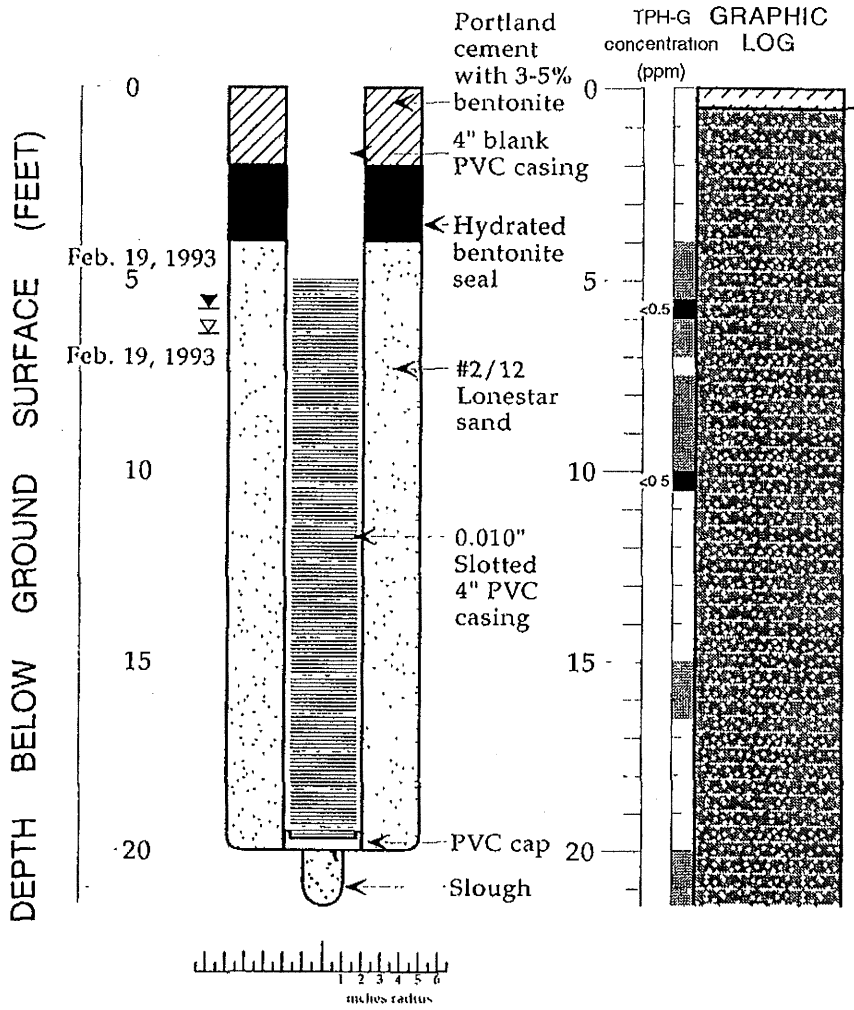
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Solid flight auger
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-I - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

WELL MW-3 (BH-J)



DESCRIPTION

Asphaltic concrete

Silty SAND (SM); dark brown; soft; damp; 5% clay; 25% silt; 70% fine sand with clasts up to 0.5"; moderate K

Light brown; very loose; moist; 10% silt; 90% medium sand; moderate to high K at 4.2'

Wet at 5.5'

Medium dense; 5% silt; 95% medium grain sand; high K at 10.0'

Orange and gray mottling; medium dense at 15.0'

Gray mottling; medium dense at 20.0'

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce Fremstad
Supervisor: N. Scott MacLeod; RG 5747
Drilling Company: Soils Exploration Services, Vacaville, CA
License Number: Lic. #C57-582696
Driller: Mike Duffy
Drilling Method: Hollow-stem auger
Date Drilled: February 19, 1993
Well Head Completion: 4" locking well-plug, traffic-rated vault
Type of Sampler: Split barrel (2" ID)
Ground Surface Elevation: feet above mean sea level
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Well MW-3 (BH-J) - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-1
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	30-Nov-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	30-Nov-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	6.5 ft (30-Nov-04)
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Asphalt	0.8	
						GW		**Well Graded GRAVEL with Sand**; (GW); Black to gray; loose; dry; 60% gravel, 40% sand. Base rock and fill material.	1.5	
								Very Fine, Poorly Graded SAND; (SP); Brown; loose; damp; 100% sand.		
								Reddish brown.		
								Two other attempts for SB-1. Refusal encountered at approximately 1.5 to 2.5 fbg.		
0.4			SB-1-5'		5			Poorly graded Sand with some fines; damp to moist; 10% silt, 90% sand. ▽		
0.6										
0.6			SB-1-6.5'							Portland Type I/II Cement
			SB-1-W			SP				
			SB-1-W10'		10			Medium dense; wet.		
			SB-1-W15'		15			Coarse Poorly Graded Sand; 100% sand.	15.0	Bottom of Boring @ 15 ft

WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINTALAMEDA.GPJ DEFAULT.GDT 2/7/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-2
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	01-Dec-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Dec-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.0 ft (01-Dec-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Asphalt	0.8	
						GW		**Well Graded GRAVEL with Sand**; (GW); Gray; loose; dry; 75% gravel, 25% sand. Baserock, fill material.	1.7	
								Very fine Poorly Graded SAND; (SP); Brown; loose; dry; 95% sand, 5% silt. Medium grained sand with fines and gravel, 85% sand, 10% silt, 5% gravel. One other attempt for SB-2. Refusal encountered at approximately 1 to 2 fbg.		
0.5			SB-2-5'		5					
0.4			SB-2-6.5'					Sand with silt; light brownish gray with reddish mottling; moist to wet; <15% silt, +85% sand. ▽		
			SB-2-W			SP				Portland Type I/II Cement
			NR		10			NR = No water sample recovery, attempted hydropunch location.		
			SB-2-W15'					Light gray with brown mottling to reddish brown; wet; 100% sand.		
					15				15.0	Bottom of Boring @ 15 ft

WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINTALAMEDA.GPJ DEFAULT.GDT 2/7/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-3
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	01-Dec-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Dec-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.0 ft (01-Dec-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Asphalt	0.8	
						GW		**Well Graded GRAVEL with Sand and Concrete Debris**; (GW); Grayish brown; loose; damp; 75% grave;, 15% sand, 10% silt. Baserock, fill material.	3.0	
								Poorly Graded Fine SAND; (SP); Brown; loose; damp; 95% sand, 5% silt.		
								Three other attempts for SB-3. Refusal encountered at approximately 2 to 3 fbg.		
0.6			SB-3-5'		5					
0.5			SB-3-6.5'					Sand with silt; light grayish brown; medium dnese; moist to wet; 85% sand, 15% silt. ▽		Portland Type I/II Cement
			SB-3-W			SP				
			NR		10			NR = No water sample recovery, attempted hydropunch location.		
								Coarse sand, 100%.		
			NR		15			NR = No water sample recovery, attempted hydropunch location.	15.0	Bottom of Boring @ 15 ft

WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINT\ALAMEDA.GPJ DEFAULT.GDT 2/7/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-4
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	02-Dec-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	02-Dec-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.9 ft (02-Dec-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Asphalt	0.8	
						GW		**Well graded GRAVEL with Sand**; (GW); Black; loose; dry; 10% silt, 10% sand, 10% gravel. Baserock, fill material.	1.7	
								Poorly Graded Fine SAND; (SP); Brown; loose; dry; 100% sand.		
								Three other attempts for SB-4. Refusal encountered at approximately 1 to 2 fbg.		
0.8			SB-4-5'		5			Medium dense; damp, 90% sand, 10% silt.		
0.4			SB-4-6.5'							
			SB-4-W			SP				Portland Type I/II Cement
			NR		10			NR = No water sample recovery, attempted hydropunch location.		
			SB-4-W15'					Grayish brown; loose; wet; 100% coarse sand.		
					15				15.0	Bottom of Boring @ 15 ft

WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINT\ALAMEDA.GPJ DEFAULT.GDT 2/7/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-5
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	30-Nov-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	30-Nov-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.2 ft (30-Nov-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Concrete	1.0	
						GW		**Well Graded GRAVEL with Silt and Sand**; (GW); Gray; loose; dry; 70% gravel, 15% silt, 15% sand. Baserock and fill material.	2.1	
								Poorly Graded fine SAND; (SP); Brown; loose; damp; 90% sand, 10% silt..		
0.4			SB-5-5'		5					
1.5			SB-5-6.5'					Sand with silt, brown; medium dense; moist to wet; 85% sand, 15% silt. ▽		Portland Type I/II Cement
			SB-5-W			SP				
			NR		10			NR = No water sample recovery, attempted hydropunch location.		
								Coarse sand; grayish brown; loose; wet; 100% sand.		
			SB-5-W15'							
					15				15.0	Bottom of Boring @ 15 ft

WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINTVALAMEDA.GPJ DEFAULT.GDT 2/7/05

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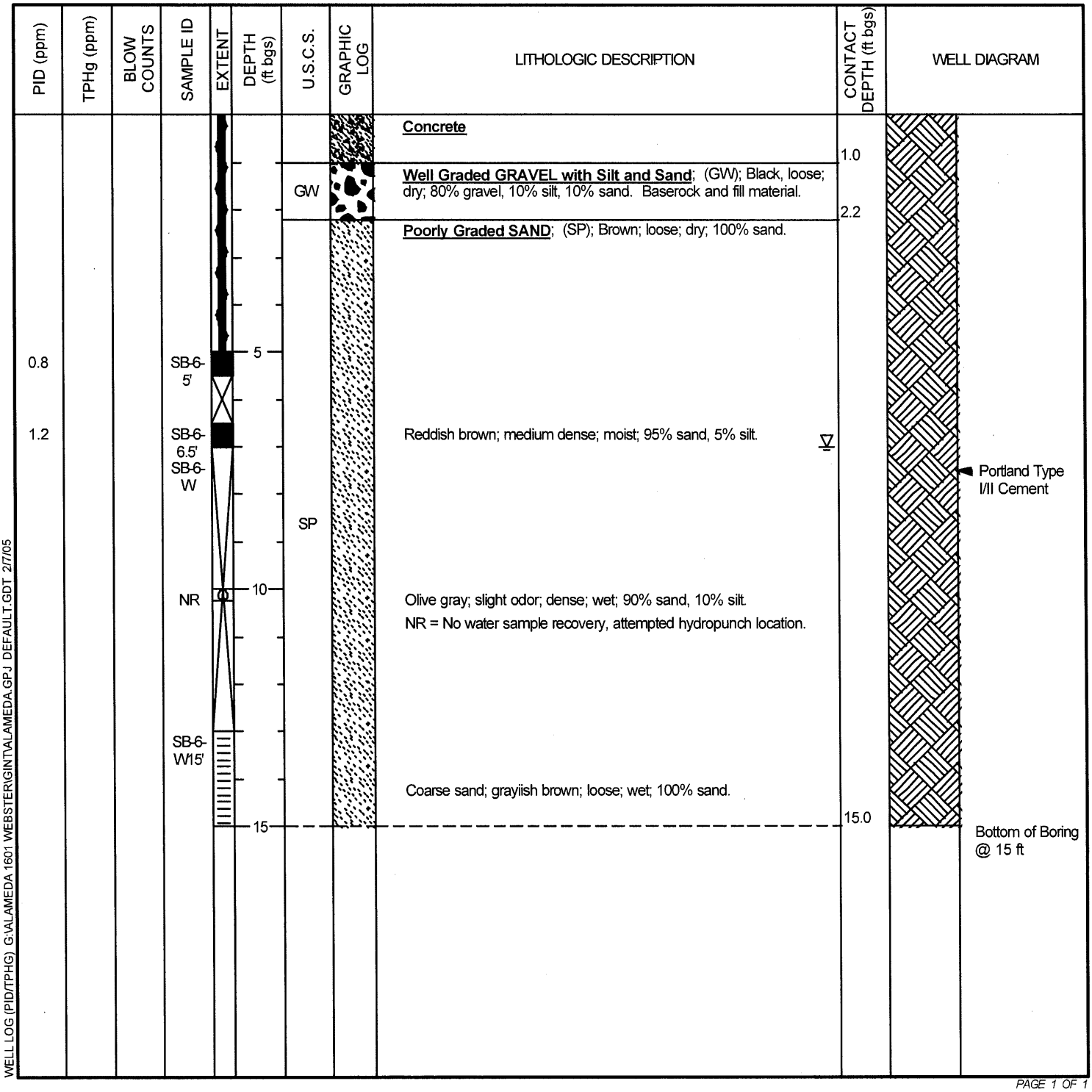
BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-6
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	30-Nov-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	30-Nov-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.0 ft (30-Nov-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		



WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINT\ALAMEDA.GPJ DEFAULT.GDT 2/7/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-7
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	30-Nov-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	30-Nov-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	8.0 ft (30-Nov-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Concrete	1.0	Portland Type I/II Cement
						GW		**Well Graded GRAVEL with Silt**; (GW); Black, loose; dry; 85% gravel, 15% silt. Baserock and fill material.	1.8	
								Poorly Graded fine SAND; (SP); Brownish gray; loose; dry; 100% sand.		
0.2			SB-7-5"		5					
0.2			SB-7-6.5'					Sand with silt; reddish brown; moist to wet; medium dense; 90% sand, 10% silt.		
			SB-7-W			SP				
			NR		10			NR = No water sample recovery, attempted hydropunch location.		
			SB-7-W15'					Coarse sand; olive gray; loose; wet; 100% sand.		
					15				15.0	Bottom of Boring @ 15 ft

WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINT\ALAMEDA.GPJ DEFAULT.GDT 2/7/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SB-8
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	02-Dec-04
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	02-Dec-04
PROJECT NUMBER	246-0467-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3.25"	**SCREENED INTERVAL**	NA
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.1 ft (02-Dec-04) ▽
REVIEWED BY	Matthew W. Derby P.E. C55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								Asphalt	0.9	
						GW		**Well Graded GRAVEL with Silt and Sand**; (GW); Black; loose; dry; 70% gravel, 15% silt, 15% sand. Baserock and fill material.	2.8	
								Poorly Graded SAND; (SP); Brown; medium dense; damp; 90% sand, 10% silt.		
								One other attempt for SB-8. Refusal encountered at approximately 1 to 2 fbg.		
0.5			SB-8-5'		5					
859			SB-8-6.5'					Sand with silt, olive gray, hydrocarbon odor; moist to wet; <15% silt, +85% sand. ▽		Portland Type I/II Cement
			SB-8-W			SP				
			NR		10			NR = No water sample recovery, attempted hydropunch location.		
								Olivve gray; coarse sand; medium dense to loose; wet; slight hydrocarbon odor; 100% sand.		
			SB-8-W15'							
					15				15.0	Bottom of Boring @ 15 ft

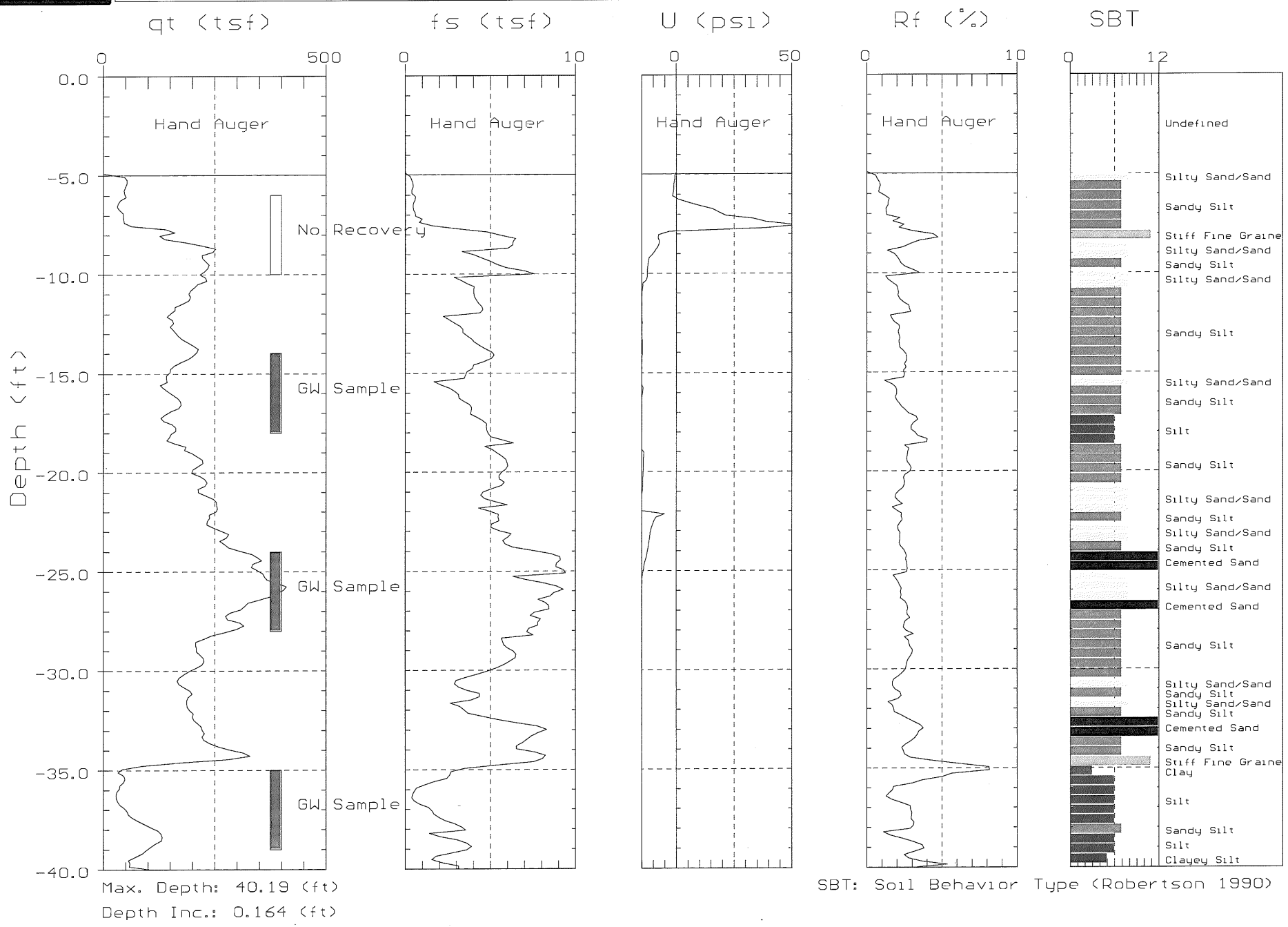
WELL LOG (PID/TPHG) G:\ALAMEDA 1601 WEBSTER\GINTVALAMEDA.GPJ DEFAULT.GDT 2/7/05

GREGG

CAMBRIA

Site: 1601 WEBSTER ST.
Location: CPT-SB09

Engineer: S.DALIEY
Date: 11:03:05 11:30



Max. Depth: 40.19 (ft)
Depth Inc.: 0.164 (ft)

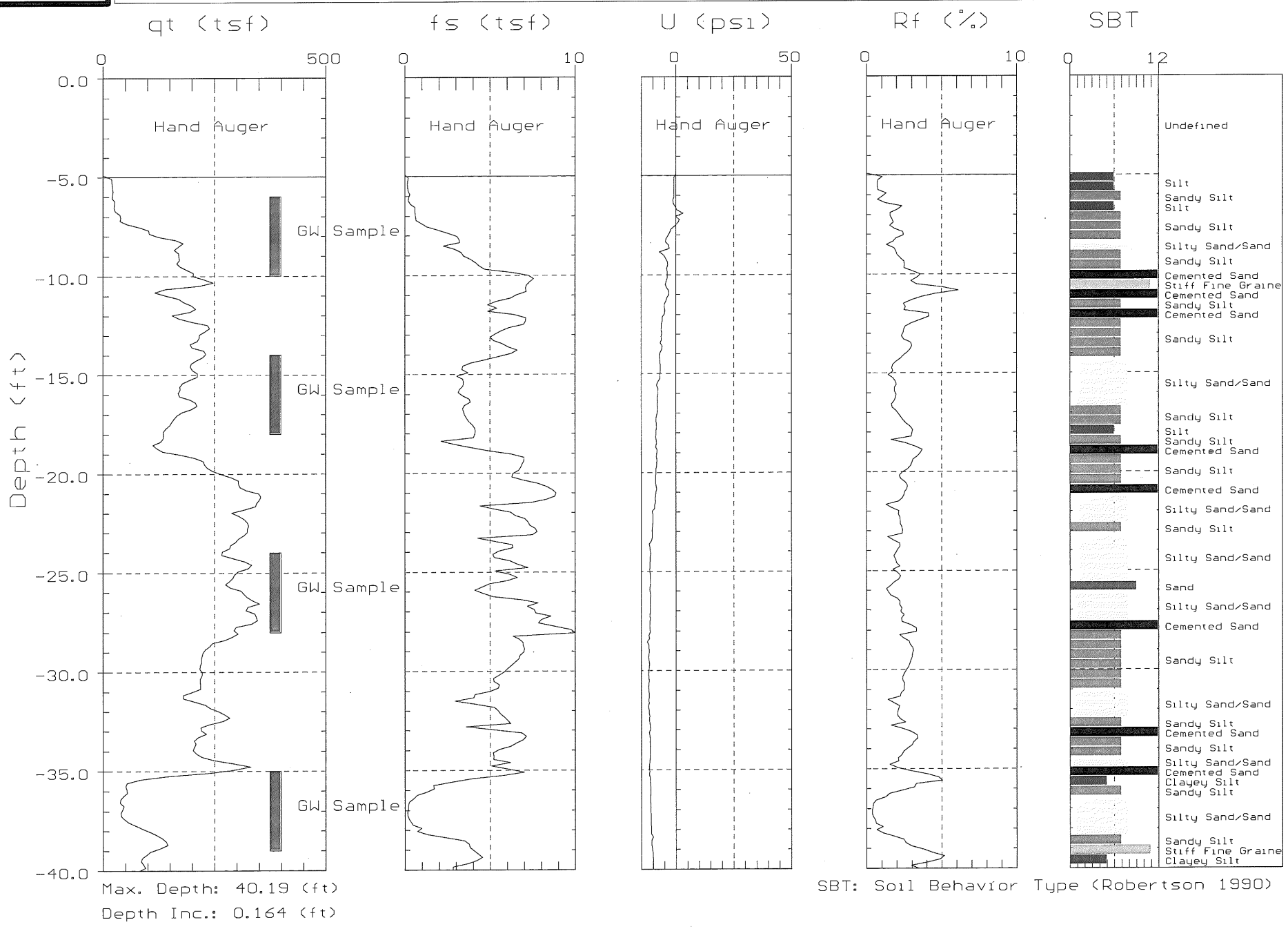
SBT: Soil Behavior Type (Robertson 1990)

GREGG

CAMBRIA

Site: 1601 WEBSTER ST.
Location: CPT-SB10

Engineer: S.DALIEY
Date: 11:02:05 16:24



Max. Depth: 40.19 (ft)
Depth Inc.: 0.164 (ft)

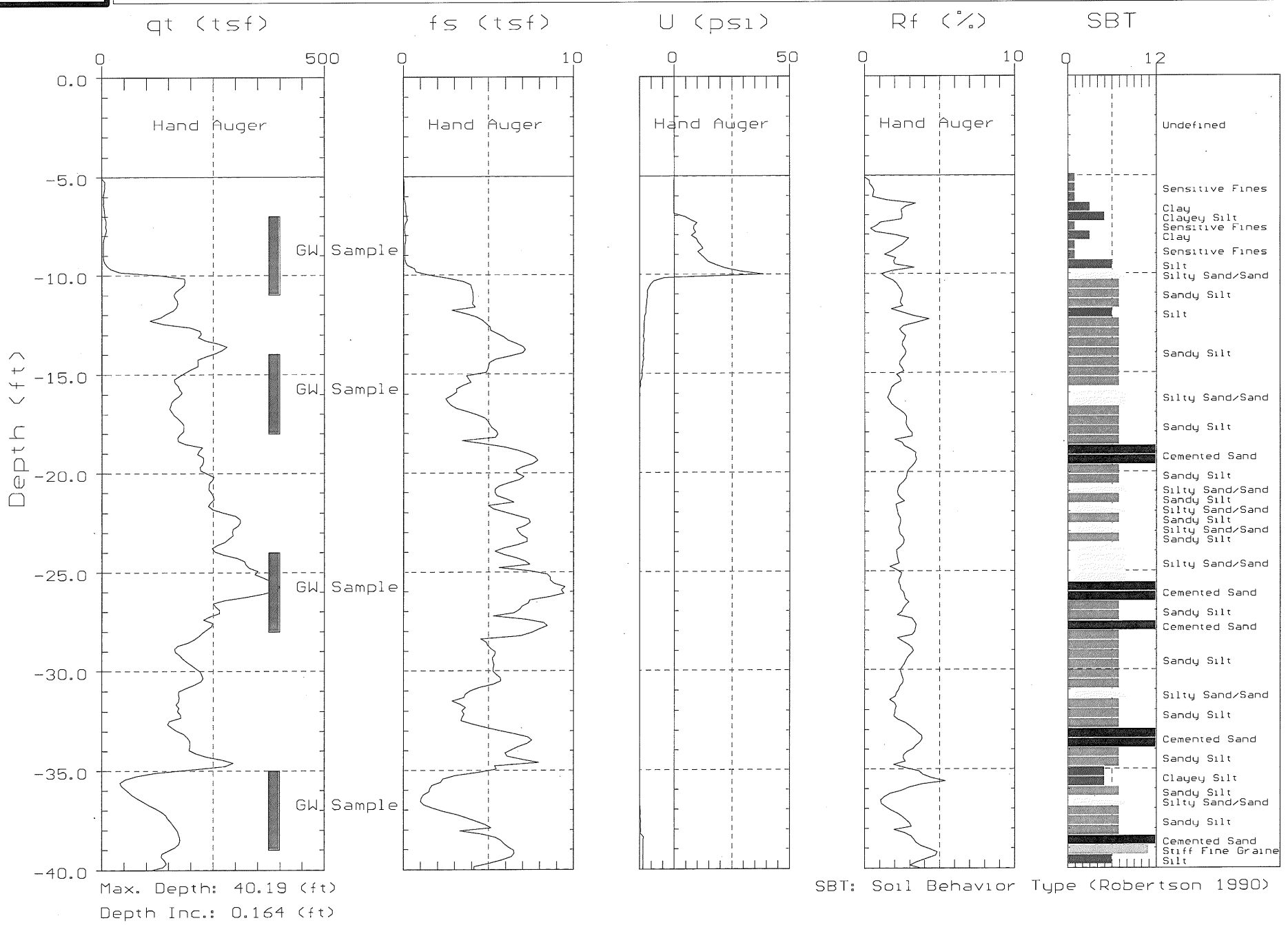
SBT: Soil Behavior Type (Robertson 1990)

GREGG

CAMBRIA

Site: 1601 WEBSTER ST.
Location: CPT-SB11

Engineer: S.DALIEY
Date: 11:03:05 14:22



Max. Depth: 40.19 (ft)
Depth Inc.: 0.164 (ft)

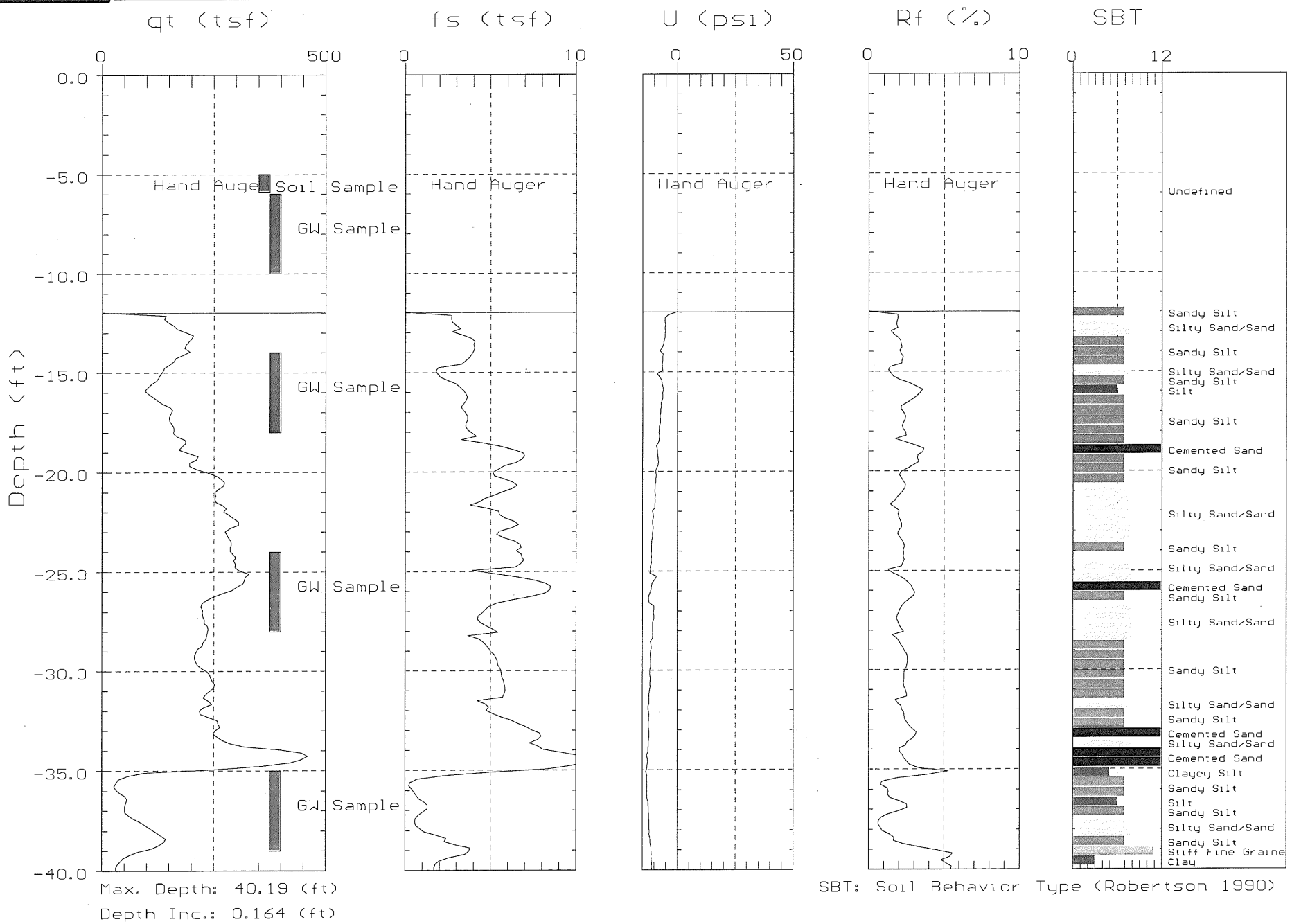
SBT: Soil Behavior Type (Robertson 1990)

GREGG

CAMBRIA

Site: 1601 WEBSTER ST.
Location: CPT-SB12

Engineer: S.DALIEY
Date: 11:02:05 13:59



Max. Depth: 40.19 (ft)
Depth Inc.: 0.164 (ft)

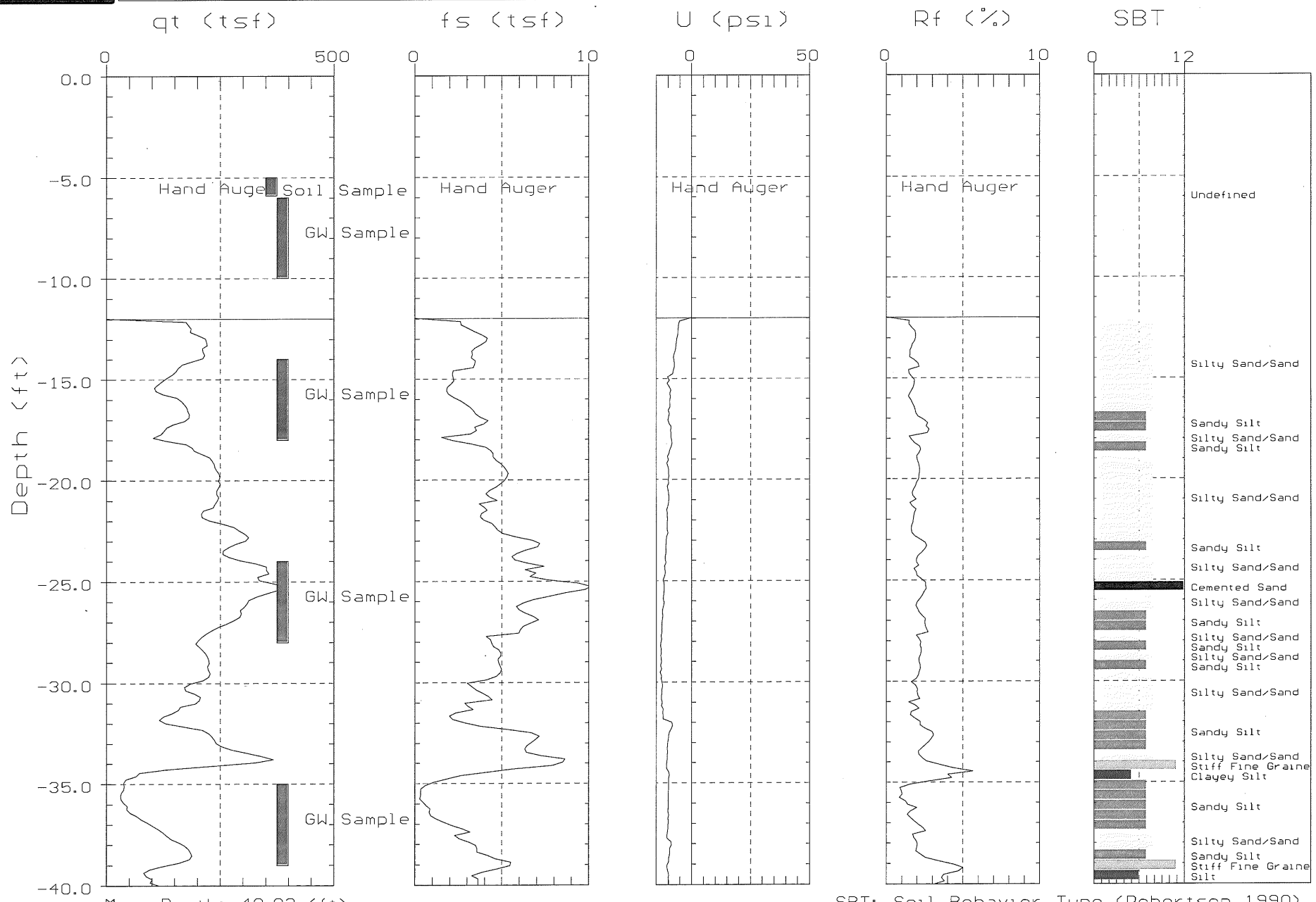
SBT: Soil Behavior Type (Robertson 1990)

GREGG

CAMBRIA

Site: 1601 WEBSTER ST.
Location: CPT-SB13

Engineer: S.DALIEY
Date: 11:02:05 11:20



Max. Depth: 40.03 (ft)
Depth Inc.: 0.164 (ft)

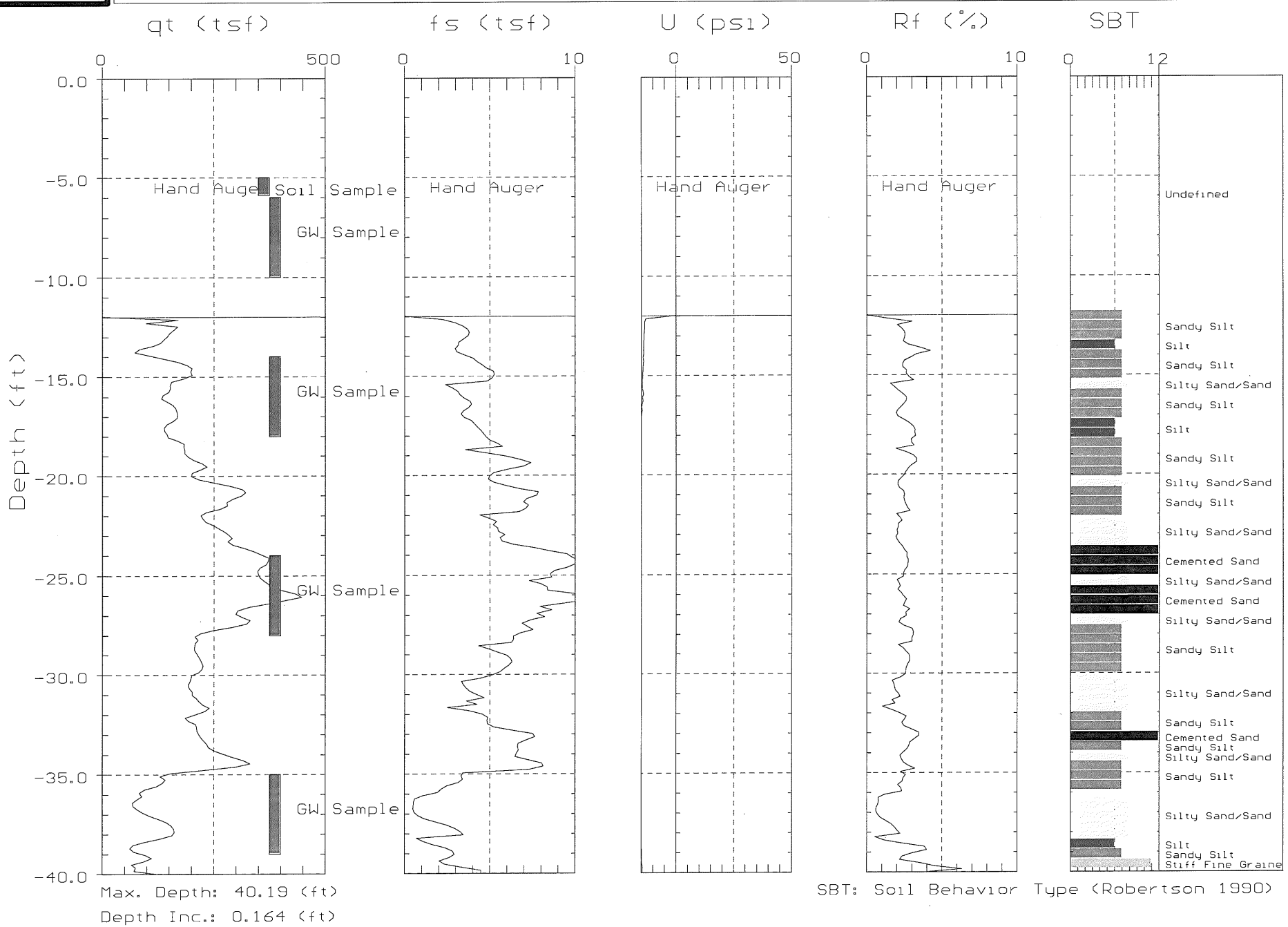
SBT: Soil Behavior Type (Robertson 1990)

GREGG

CAMBRIA

Site: 1601 WEBSTER ST.
Location: CPT-SB14

Engineer: S.DALIEY
Date: 11:03:05 09:49



Cambria Environmental Technology, Inc.
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Fax: 707-935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-2
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	31-Oct-05
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Nov-05
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	14-Nov-05 (26 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.99 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	19.73 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 fbg
LOGGED BY	Stewart A. Dalle IV	**DEPTH TO WATER (First Encountered)**	6.0 ft (01-Nov-05) ▽
REVIEWED BY	Ana Friel	**DEPTH TO WATER (Static)**	7.70 ft (22-Nov-05) ▼
REMARKS	Air knifed to 5 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.6	Portland Type I/II
					SC		**Clayey SAND (SC)**; brown (7.5YR 5/3); loose; moist; 15% clay, 85% fine sand; low plasticity.	2.0	Bentonite Seal
							SAND (SP) ; light brown (7.5YR 6/3); loose; moist; 100% fine sand.		Monterey Sand #2/12
0		S-2-5.0		5	SP				
0									
0							@ 8.5'- dark brown (7.5YR 3/3).		4"-diam., 0.020" Slotted Schedule 40 PVC
0				10					
0								12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\ALAMED~1\GINT\ALAMEDA.GPJ DEFAULT.GDT 12/19/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-3
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	31-Oct-05
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Nov-05
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	14-Nov-05 (30 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.43 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	19.14 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 fbg
LOGGED BY	Stewart A. Dalle IV	**DEPTH TO WATER (First Encountered)**	6.2 ft (01-Nov-05)
REVIEWED BY	Ana Friel	**DEPTH TO WATER (Static)**	7.15 ft (22-Nov-05)
REMARKS	Air knifed to 5 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.8	Portland Type I/II
							FILL ; brown (7.5YR 4/3); loose; moist; 50% silt, 20% sand, 30% gravel; misc brick & debris.	1.5	Bentonite Seal
							SAND (SP) ; light brown (7.5YR 3/2); loose; moist; 10% clay, 90% fine sand.		Monterey Sand #2/12
0		S-3-5.0		5	SP				
0									
0.8									4"-diam., 0.020" Slotted Schedule 40 PVC
1.0				10					
0.8								12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\ALAMED~1\GINT\ALAMEDA.GPJ DEFAULT.GDT 12/19/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-4
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	31-Oct-05
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Nov-05
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	14-Nov-05 (35 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	18.94 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	18.16 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 fbg
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	6.0 ft (01-Nov-05) ▽
REVIEWED BY	Ana Friel	**DEPTH TO WATER (Static)**	6.10 ft (22-Nov-05) ▼
REMARKS	Air knifed to 5 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.6	Portland Type I/II
							SAND (SP) ; dark brown (7.5YR 2.5/3); loose; moist; 10% clay, 90% fine sand		Bentonite Seal
									Monterey Sand #2/12
0		S-4-5.0		5	SP				
							@ 7' - 100% fine sand.		
0									4"-diam., 0.020" Slotted Schedule 40 PVC
0.1				10					
0.8								12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\ALAMED~1\GINT\ALAMEDA.GPJ DEFAULT.GDT 1/26/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-5
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	31-Oct-05
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Nov-05
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	14-Nov-05 (28.8 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.17 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	18.68 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 fbg
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	5.8 ft (01-Nov-05)
REVIEWED BY	Ana Friel	**DEPTH TO WATER (Static)**	6.44 ft (22-Nov-05)
REMARKS	Air knifed to 10 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.6	Portland Type I/II
							SAND (SP) ; dark brown (7.5YR 4/3); loose; moist; 10% clay, 90% fine sand.		Bentonite Seal
									Monterey Sand #2/12
0		S-5-5.0		5	SP				
									4"-diam., 0.020" Slotted Schedule 40 PVC
				10					
1.0									
1.5							@ 11' - 100% fine sand.	12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\ALAMED~1\GINT\ALAMEDA.GPJ DEFAULT.GDT 1/26/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-6
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	31-Oct-05
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	28-Nov-05
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	19-Jan-06 (24 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.56 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	19.32 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 fbg
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	6.8 ft (01-Nov-05) ▽
REVIEWED BY	Ana Friel	**DEPTH TO WATER (Static)**	5.50 ft (19-Jan-06) ▼
REMARKS	Air knifed to 5 fbg. Well S-6 initially installed on 11/1/05, found damaged. Replaced on 11/28//05.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SC		**ASPHALT**	0.4	Portland Type I/II
							Clayey SAND (SC) ; light brown (10YR 4/3); loose; moist; 15% clay; 85% fine to coarse sand.	1.5	Bentonite Seal
							SAND (SP) ; light brown (10YR 4/3); loose; moist; 10% clay, 90% fine sand.		Monterey Sand #2/12
1.2		S-6-5.0		5				▼	
					SP			▽	
0.8							@ 8' - grayish brown (10YR 5/2); 100% fine sand; odor.		4"-diam., 0.020" Slotted Schedule 40 PVC
				10					
31							@ 11' - dark gray (7.5YR 4/1); wet; 100% fine sand.	12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\ALAMED~1\GINTALAMEDA.GPJ DEFAULT.GDT 1/26/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-7
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	31-Oct-05
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	01-Nov-05
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	14-Nov-05 (19 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.90 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	19.44 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 fbg
LOGGED BY	Stewart A. Dalie IV	**DEPTH TO WATER (First Encountered)**	7.0 ft (01-Nov-05) ▽
REVIEWED BY	Ana Friel	**DEPTH TO WATER (Static)**	6.88 ft (22-Nov-05) ▼
REMARKS	Air knifed to 5 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.6	Portland Type I/II; Bentonite Seal; Monterey Sand #2/12; 4"-diam., 0.020" Slotted Schedule 40 PVC
20		S-7-5.0		5	SP		**SAND (SP)** ; greenish gray (5GY 5/1); loose; moist; 5% clay, 5% silt, 90% fine sand.		
203									
94				10					
415								12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\ALAMED~1\GINT\ALAMEDA.GPJ DEFAULT.GDT 1/26/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-4B/S-4B
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	17-Jul-06
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	17-Jul-06
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	15 to 20 ft bgs
LOGGED BY	J. Gerbrandt	**DEPTH TO WATER (First Encountered)**	5.0 ft (17-Jul-06)
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS	Air knifed to 5 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					GM		**ASPHALT**	0.3	
							Silty GRAVEL with Sand (GM); yellowish brown (10YR 5/6); dry; 5% clay, 25% silt, 25% fine to coarse sand, 45% fine gravel.	0.8	
					ML		**Sandy SILT (ML)**; yellowish brown (10YR 5/4); moist; 30% clay, 35% silt, 30% fine to coarse sand, 5% fine gravel.	2.0	
					SM		**Silty SAND (SM)**; very dark grayish brown (10YR 3/2); dry; 15% clay, 20% silt, 65% fine sand.		
	2 3 4			5			**SAND (SP)**; brown (10YR 4/3); mottling: brown (10YR 5/3); loose; wet; 5% silt, 95% fine sand.	5.0	
0.0		S-4B-6.0'							Portland Type I/II
	6 12 19			10	SP		@ 10.0' - yellowish brown (10YR 5/4); dense.		
0.0		S-4B-11.0'						12.0	
	11 11 13			15			@ 15.0' - brown (10YR 5/3); medium dense.		Bentonite Seal Monterey Sand #2/12
0.0		S-4B-16.0'							4"-diam., 0.020" Slotted Schedule 40 PVC
	13 15 16						@ 18.5' - dense.		
15.9		S-4B-19.5'		20					Bottom of Boring @ 20 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\ALAMEDA 1601 WEBSTER ST\GINT\ALAMEDA.GPJ DEFAULT.GDT 10/4/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-8/S-8
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	17-Jul-06
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	17-Jul-06
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 ft bgs
LOGGED BY	J. Gerbrandt	**DEPTH TO WATER (First Encountered)**	7.0 ft (17-Jul-06)
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS	Air knifed to 7 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.4	Portland Type I/II
					GM		**Silty GRAVEL with Sand (GM)**; dark yellowish brown (10YR 4/4); dry; 5% clay, 15% silt, 20% fine to coarse sand, 60% fine gravel.	0.8	
					ML		**Sandy SILT (ML)**; greenish gray (10Y 5/1); moist; 30% clay, 35% silt, 30% fine to coarse sand, 5% fine gravel.	3.0	Bentonite Seal
				5	SP		**SAND (SP)**; dark greenish gray (10Y 4/1); moist; 5% silt, 95% fine sand.		Monterey Sand #2/12
1,032	3 6 12						@ 7.0' - wet.	7.8	
324		S-8-8.0'			ML		**Sandy SILT (ML)**; dark greenish gray (5GY 4/1); very stiff; wet; 25% clay, 35% silt, 40% fine sand.	9.5	4"-diam., 0.020" Slotted Schedule 40 PVC
	12 19 15			10	SM		**Silty SAND (SM)**; dark greenish gray (5GY 4/1); dense; wet; 20% silt, 80% fine sand.		
15.9		S-8-11.5'						12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA\SHELL\ALAMEDA 1601 WEBSTER ST\GINT\ALAMEDA.GPJ DEFAULT.GDT 10/4/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-9/S-9
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	17-Jul-06
LOCATION	1601 Webster Street, Alameda, California	**DRILLING COMPLETED**	17-Jul-06
PROJECT NUMBER	0467	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	4 to 12 ft bgs
LOGGED BY	J. Gerbrandt	**DEPTH TO WATER (First Encountered)**	10.5 ft (17-Jul-06) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Air knifed to 5 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.3	Portland Type I/II
					GM		**Silty GRAVEL with Sand (GM)**; yellowish brown (10YR 5/6); dry; 5% clay, 25% silt, 25% fine to coarse sand, 45% fine gravel.	0.8	
					ML		**Sandy SILT (ML)**; yellowish brown (10YR 5/4); moist; 30% clay, 35% silt, 30% fine to coarse sand, 5% fine gravel.	2.0	Bentonite Seal
0.0					SM		**Silty SAND (SM)**; very dark grayish brown (10YR 3/2); dry; 15% clay, 20% silt, 65% fine sand. @ 3.0 - 5.0' - bricks present.		Monterey Sand #2/12
0.0	1 2 5	S-9-5.0'		5	SP		**SAND with Gravel (SP)**; very dark gray (2.5Y 3/1); loose; dry; 5% silt, 85% fine to medium sand, 5% fine gravel.	5.0	
								8.0	4"-diam., 0.020" Slotted Schedule 40 PVC
				10	SM		▽ **Silty SAND (SM)**; dark yellowish brown (10YR 4/4); medium dense; wet; 30% silt, 70% fine sand.		
197.7	6 9 11								
0.0		S-9-11.5'						12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA\SHELL\ALAMEDA 1601 WEBSTER ST\GINT\ALAMEDA.GPJ DEFAULT.GDT 10/4/06

APPENDIX E

WELL SURVEY RESULTS

Table 1. Well Survey Results - Shell-branded Service Station, 1601 Webster Street, Alamaeda, California

Map ID	State Well ID	Owner Well ID	Distance from Site (feet)	Direction From Site	Use	Well Status	Installation Date	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)	Comments
1	02S/04W-011M01		150	S	Unk*	Unknown	UNK	200	150-200	NA	*No well found during site recon - assumed destroyed
2	02S/04W-011E01		525	NW	AG	Unknown	6/19/1977	25	15-25	3 inches	
3	02S/04W-011D01		800	NW	AG	Unknown	7/11/1977	32	16-31	0-10	
4	02S/04W-011M01		1,450	SW	IND	Unknown	10/26/1977	88	40-84	0-28	
5	02S/04W-010H01		2,450	SW	AG	Unknown	5/12/1977	35.8	20.8-35.8	0-21	
6	02S/04W-010H02		2,475	SW	DOM	Unknown	5/1/1977	30	23-30	0-20	
7	02S/04W-011M02		2,500	SE	AG	Unknown	10/19/1987	70	24-70	0-20	

Notes and Abbreviations:

Well information provided by the California Department of Water Resources (DWR).

Map ID number refers to map location on Figure 1.

State Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California

Well locations are approximate and have not been field verified unless otherwise noted. The well locations are plotted on Figure 1 based on the information provided on the DWR form.

Well use is based on the information on the DWR form. This information may not be current. Unless otherwise noted, this information has not been confirmed by a field visit.

Monitoring wells were not included in the table or mapped.

fbg = feet below grade

AG = Agricultural

DOM = Domestic

GEO = Geotechnical

IND = Industrial

UNK = Unknown

NA = Not Available

G:\Alameda 1601 Webster\2004 Investigation\2004 Investigation Workplan\Tables\[Well Survey Table Template - v4.xls]Well Survey Table