Denis L. Brown

Shell Oil Products US
HSE – Environmental Services
20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
Fax (707) 865 2542
Email denis.l.brown@shell.com

Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Shell-branded Service Station
1784 150th Avenue
San Leandro, California
SAP Code 136019
Incident No. 98996068
ACHCSA Case No. 0367

Dear Mr. Wickham:

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
Project Manager

CAMBRIA

February 14, 2007

Mr. Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
2nd Floor, Room 250
Alameda, CA, 94502-6577

Re: **Agency Response with Proposed Future Actions**
Shell-branded Service Station
1784 150th Avenue
San Leandro, California
SAP Code 136019
Incident No. 98996068
ACEH File No. RO0000367

Dear Mr. Wickham:

Cambria Environmental Technology, Inc. (Cambria) prepared this document on behalf of Equilon Enterprises LLC, dba Shell Oil Products US (Shell) to respond to the Alameda County Environmental Health (ACEH) correspondence dated August 29, 2006. In this correspondence, the ACEH provided Technical Comments #1 through #4 and requested a response be included with the Quarterly Monitoring Report for the Third Quarter of 2006 due November 15, 2006. In a telephone conversation on November 8, 2006, and as presented in Cambria's November 15, 2006 *Groundwater Monitoring and Remediation Report – Third Quarter 2006*, a request for an extension of the submittal was made. In correspondence dated November 16, 2006, the ACEH granted the extension for the response to February 15, 2007.

SITE LOCATION AND DESCRIPTION

The site is an operating Shell-branded service station located at the southern corner of 150th Avenue and Freedom Avenue in San Leandro, California (Figure 1). The area surrounding the site is mixed commercial and residential. The site layout (Figure 2) includes a station building, two dispenser islands, and three fuel underground storage tanks (USTs). One waste oil UST was removed from the site on May 25, 2006.

A summary of previous work performed at the site and additional background information is contained in Attachment A with historical soil and grab groundwater data tables and the Fourth

Cambria Environmental Technology, Inc.

19449 Riverside Drive
Suite 230
Sonoma, CA 95476
Tel (707) 935-4850
Fax (707) 935-6649

Quarter 2006 groundwater monitoring data table. The historical sample locations are depicted on the site plan, Figure 2. The groundwater monitoring analytical and gradient data from the Fourth Quarter 2006 sample event is included as Figure 3.

CORRECTION TO PREVIOUS DATA TABLE

In Cambria's July 26, 2006 *Subsurface Investigation Report*, Table 1 presented Historical Soil Analytical Data. During the preparation of the cross sections and historical data review, Cambria identified an error in the most recent data on that table (May 2006 field activities). The Table 1 listed MW-12/SB-23 as one boring location and MW-13/SB-24 as another boring location. However, SB-23 was not the location of MW-12 or any other well, it was a boring installed near the UST complex and dispenser islands (see Figure 2). The data on Table 1 for MW-12/SB-23 should have been only for SB-23. MW-12 was installed as boring SB-24, and thus the samples listed as MW-13/SB-24 should have been listed as MW-12/SB-24. There were no soil samples obtained from the boring of monitoring well MW-13/SB-25. A corrected Table 1 is included in Attachment A. It should be noted that the analytical data presented on Figure 2 and as discussed in the text of the July 26, 2006 document are accurate.

AGENCY RESPONSE

In the August 29, 2006 correspondence, the ACEH itemized Technical Comments #1 through #4. On behalf of Shell, Cambria provides the following responses to each Technical Comment, as applicable.

Technical Comment #1 - Waste Oil Tank

The ACEH concurred with the recommendations in Cambria's August 4, 2006 *Underground Storage Tank Removal Report* which concluded that no further investigation of the waste oil tank was warranted. No response is warranted.

Technical Comment #2 – Hydrogeologic Cross Sections

Three cross sections were previously submitted to the ACEH in the August 28, 2003 *Soil and Water Investigation Report.* Of those three sections, the ACEH requested updating and expansion of two sections; A-A' and C-C'. Cambria prepared geologic cross section A-A'

(Figure 4), which extends from monitoring wells MW-9/MW-13 to SB-17, and geologic cross section C-C' (Figure 5), which extends from MW-5 to MW-10. Because the lithology on the boring logs varied significantly from geologist to geologist and many borings were sampled at 5 foot intervals, Cambria interpreted the lithologic information such that the cross sections depict primarily coarse-grained units and fine-grained units. Also, for MW-2, the boring log describes materials as primarily silts from 14 to 38 fbg; however, it includes up to 30% coarse sand in increasing percentage and coarseness with depth, including 1-1.5 inch gravel. The log then describes the lithology changing from silt to sand at 38 fbg and continuing to bottom of the boring at 45 fbg. Because the material was saturated from 24 fbg on, the cross sections depict the lithology as being coarse-grained from near the soil/water interface to the bottom of the boring at 45 fbg. Based on a comparison of the potentiometric surfaces for wells with short screened intervals across or near the soil/water interface with those of longer or deeper screens, a similar potentiometric surface is observed. In all cases, the aquifer is semi-confined, with potentiometric surfaces well above where groundwater was first observed in the well. This is due to the overlying clays and silts within the upper 20 to 25 fbg. Although some locations show a fine-grained lens separating two coarse-grained lenses, because the soil is saturated all the way through and because potentiometric surfaces are not varied, the finer-grained zone separating the two coarse-grained zones in some borings is not considered to be an aquitard. Thus, there does not appear to be two separate zones within the top 45 fbg monitored by the site wells.

All of the historical soil analytical data, historical grab groundwater or hydropunch groundwater data, and depth to first encountered water noted on the logs, are depicted on the cross sections. Further, the potentiometric surface measured during the fourth quarter groundwater monitoring event (including the separate phase hydrocarbons [SPH] observed in MW-1) and the analytical results from December 28, 2006 are presented.

Technical Comment #3 – Sampling Results for wells MW-12 and MW-13:

Monitoring wells MW-12 and MW-13 installed in February 2006 have been monitored for three quarterly events. As of the December 2006 sample event, concentrations of TPHg, benzene, and MTBE in well MW-12 were reported at 31,000, 2,400, and <2.5 µg/l, respectively. Thus, MW-12 is well positioned to monitor plume migration to the southwest. In the same three sample events, monitoring well MW-13 has reported no detectable concentrations of any of the constituents. Thus, data from MW-9 and MW-13 confirm that the previous concentrations reported in a grab sample from SB-14 are not present in these wells.

Based on a review of the soil and grab groundwater samples obtained from other locations on the same date as SB-14 (SB-11 and SB-12), Cambria suggests that grab groundwater samples from borings SB-11 and SB-14 may have been switched (either labeled incorrectly in the field, or mislabeled at the laboratory). Looking at the soil data from these two borings (Table 1 in Attachment A), the soil sample from 30 fbg in SB-11 suggests petroleum impact at the depth where groundwater was observed while the soil samples from SB-14 show no petroleum impact at any depth. Since monitoring wells MW-9 and MW-13 confirm the absence of significant impact near SB-14, and since SB-11 is closer to the site and more likely to have been impacted, reversing the grab groundwater data from those two locations makes more sense. A comparison of the grab groundwater sample from MW-7 during its' installation (Table 2 in Attachment A), shows concentrations in groundwater similar to what is reported for SB-14, and would be more likely to be from boring SB-11, instead of SB-14. Since this is conjecture, the data tables are not revised in any manner, and the cross sections show the data as originally reported.

Discussion of Delineation

Delineation of Impacted Soil: Elevated concentrations of petroleum constituents in the vadose zone soils have been found beneath dispensers and product piping, in boring SB-23 from five feet below grade to groundwater, and at lower concentrations around the tank complex in borings B-19, B-21, and B-21). Some vadose zone impact is also apparent at offsite boring MW-12. The other borings installed both on and off this site have not indicated vadose zone soil impact; rather, the soil impact observed is at the soil/water interface which is more representative of groundwater impact. Thus, impacted soil is adequately delineated and appears to be in close proximity to the fueling equipment at this site.

Delineation of Impacted Groundwater: As presented above, the grab groundwater samples reported for borings SB-11 and SB-14 appears to have been reversed. Comparing the soil concentrations from soil samples obtained at the soil/water interface with grab groundwater samples at this site supports this idea. Through the efforts involved in preparing this submittal, a study of the well screen intervals of the existing monitoring wells in relation to the first encountered groundwater and lithology of each location was performed. This study was used to evaluate the analytical data provided by each monitoring well. Further, the grab groundwater data was also studied. Horizontally, the first encountered groundwater at this site appears to be adequately defined by MW-5, BH-7, MW-4, MW-13, SB-13, BH-5, and SB-12 to the west, northwest, and north of the site. Further delineation is provided by SB-17, SB-18, MW-3, and

MW-10 to the south, southeast, and east. To the southwest, well MW-6 may be screened too shallow to be monitoring the same zone as the other wells and borings, and to the northeast boring SB-11 may have been more impacted than previously thought, if the data for SB-14 actually belonged to SB-11.

Vertical Delineation of Groundwater: Although monitoring wells MW-1 through MW-3 extend to 42 to 45 fbg, only monitoring well MW-9 is representative of just the deeper portion of the coarse-grained zone. Wells MW-1 through MW-3 have screens that extend through both the shallow and deeper coarse-zones. Although we discussed above that the shallower and deeper zones likely represent one aquifer, no discreet samples have been obtained with depth to provide vertical assessment of groundwater impact. Data from MW-9 shows that the deeper zone is not impacted to the northwest of the site.

RISK EVALUATION

The RWQCB Basin Plan designates the San Leandro Sub-Basin as existing municipal and domestic, agricultural, industrial, and process water supply beneficial uses. However, as stated in the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report,* (California Regional Water Quality Control Board – San Francisco Bay Region, June 1999), the city of San Leandro does not have "any plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity." Cambria asserts that drinking water ESLs do not apply to this for the following reasons:

- Monitoring wells MW-4, MW-5, MW-6, MW-9, and MW-13 define the petroleum plume in the groundwater to below drinking water ESLs, as do the grab groundwater samples from SB-17 and SB-18;
- No drinking water receptors are located within the area monitored by the site's well network or the borings referenced above;
- It is unlikely that a drinking water well would be installed at the subject gas station site;
- Based on poor or limited quantity of groundwater in San Leandro, it is unlikely that a drinking water well would be installed in this area in the foreseeable future.

In order to determine the level of activity warranted at this site, this section provides an evaluation (Tier 1) of the risk posed by the groundwater plume to potential offsite non-drinking water receptors using Table B of the ESLs published in San Francisco Bay RWQCB's *Screening*

For Environmental Concerns At Sites With Contaminated Soil and Groundwater (Interim Final – February 2005).

The chemicals of concern at this site are TPHg, BTEX, and MTBE. The ESLs listed on Table B of the above-referenced document for these constituents are shown in Table A, below. Also presented are the maximum groundwater concentrations (December 2006) for each constituent in the offsite well MW-12. MW-12 was selected because it is the most impacted offsite well.

TABLE A.

	Lowest Non-Drinking Water ESL (from Table B)	**Maximum Concentration in Offsite Monitoring Wells MW-12 (December 2006)**
Constituent	**Units reported in µg/l**	
TPHg	500	**31,000**
Benzene	46	**2,400**
Toluene	130	**1,100**
Ethyl benzene	290	**1,500**
Xylenes	100	**980**
MTBE	1,800	<2.5

As shown in bold on Table A, concentrations of TPHg and BTEX exceed the lowest ESLs established for the protection of non-drinking water receptors. Monitoring wells MW-7 and MW-8 located on either side of MW-12 also exceed several of these ESLs, but are at lower concentrations than MW-12. None of the other offsite wells (MW-4, MW-5, MW-6, MW-9, and MW-13) or offsite grab groundwater samples (except those beneath 150th Avenue) exceed any of the lowest non-drinking water ESLs. Thus, the groundwater plume beneath the site may pose a threat to receptors within about 100 feet of the site. The ESLs referenced above are based upon "chronic aquatic habitat goals". Since there are no surface water bodies near this site, further evaluation (Tier 2) of the potential risks to offsite receptors is presented below.

In addition to aquatic habitat goals, Table F-1b of the SFBRWQCB ESL document provides groundwater ESLs based on gross contamination ceiling value (odors, etc), and for potential vapor intrusion into buildings. The gross contamination ceiling values are not applicable to groundwater at MW-12 since there is no surface discharge of, or direct exposure to, that groundwater (with the exception of the sampling technicians who are trained to encounter

impacted groundwater). However, the potential vapor intrusion into offsite buildings warrants the Tier 2 evaluation. Table B, below, presents the Vapor Intrusion into Building ESLs (from Table F-1b of the SFBRWQCB ESL document), and the December 2006 concentrations from MW-12 for TPHg, benzene, toluene, ethyl benzene, and xylenes.

Table B

	Vapor Intrusion Into Buildings (Table F-1b)	MW-12 Concentrations December 2006
Constituent	**Units reported in µg/l**	
TPHg	Use soil gas samples	**31,000**
Benzene	540	**2,400**
Toluene	380,000	1,100
Ethyl benzene	17,000	1,500
Xylenes	160,000	980

The groundwater concentrations at MW-12 exceed the ESL for benzene, but not for toluene, ethyl benzene, and xylenes. Table F-1b does not list an ESL for potential vapor intrusion for TPHg, and the RWQCB ESL document recommends that soil gas samples be collected in order to directly evaluate the potential threat to indoor air. Historically, soil gas sampling has occurred at this site and the results have been presented in previous document submittals and described in Attachment A, hereto. Soil vapor sampling has been performed both onsite and offsite in 1996 and in 1998, with risk assessment evaluations performed on the data in 1997 and 1999, respectively. None of the results or risk evaluations found that the subsurface conditions at the time posed a threat to onsite or offsite indoor air.

Technical Comment #4 – Recommendations for Future Actions at Site

The ACEH requested that this submittal include recommendations for future site actions. Thus, on behalf of Shell, Cambria recommends performing CPT investigation on and offsite to provide consistent and continuous lithologic descriptions of soils to approximately 75 fbg, and depth discrete groundwater samples from the first encountered groundwater and from two deeper intervals. This will effectively complete the horizontal and vertical delineation of the impact. Also, since almost 9 years have passed since the soil gas sampling occurred, and since elevated petroleum concentrations have persisted for many years, further assessment of the vapor intrusion pathway is prudent. Cambria recommends that soil vapor monitoring probes be installed along the southwestern property boundary and near the onsite commercial building for

continued assessment of vapor migration through soil gas. Figure 6 depicts the proposed CPT boring (CPT-1 through CPT-6) and soil vapor probe (SVP-1 through SVP-4) locations.

The periodic GWE by VacOps that is being performed in monitoring well MW-11 should be discontinued as MTBE concentrations have been significantly reduced at this location. To eliminate the GWE from MW-1 for SPH removal, Cambria is looking into a passive SPH collection device to install into monitoring well MW-1 to remove the thin layer of SPH being observed periodically in this well.

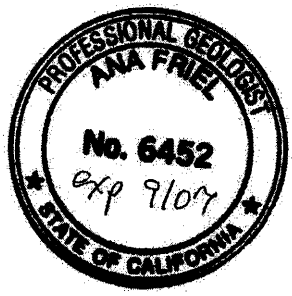
SCHEDULE

Upon receipt of agency comment on this submittal, a work plan detailing the proposed scope of work will be prepared.

CLOSING

If you have any questions regarding the contents of this document, please call Ana Friel at (707) 268-3812.

Sincerely,
Cambria Environmental Technology, Inc.



Ana Friel, PG
Associate Geologist

CAMBRIA

Figures: 1 - Vicinity Map
2 – Site Plan with Geologic Cross-Section Lines
3 – Groundwater Contour and Chemical Concentration Map – 12/28/06
4 – Geologic Cross Section A-A'
5 – Geologic Cross Section C-C'
6 – Proposed Boring Location Map

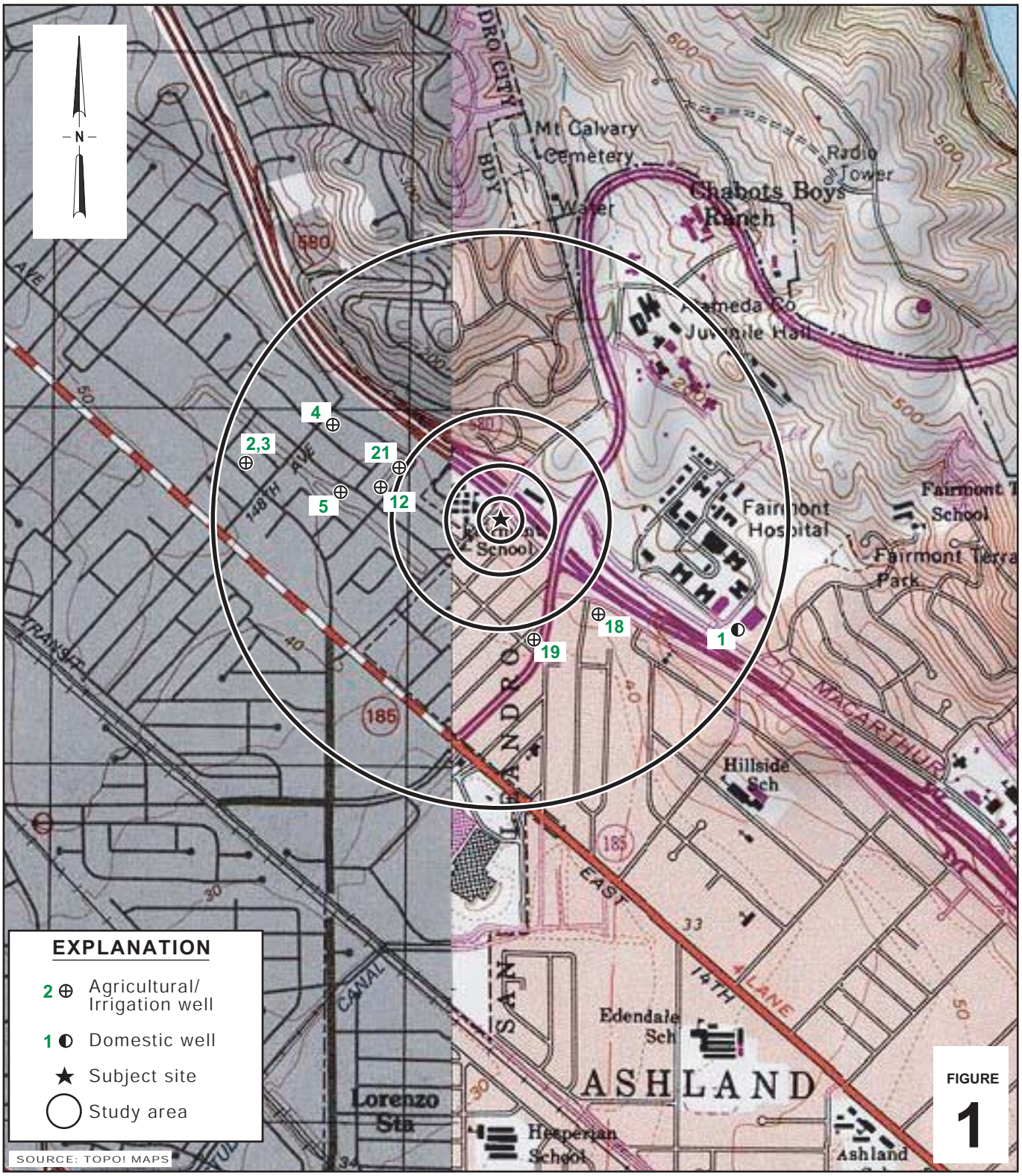
Tables: 1 – Boring/Well Data

Attachments: A - Site History

cc: Denis Brown, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810

K:\San Leandro 1784 150th\REPORTS\2007 February Agency Response\07Feb_Agency Response, RBCA, Recommendations.doc

10/12/06



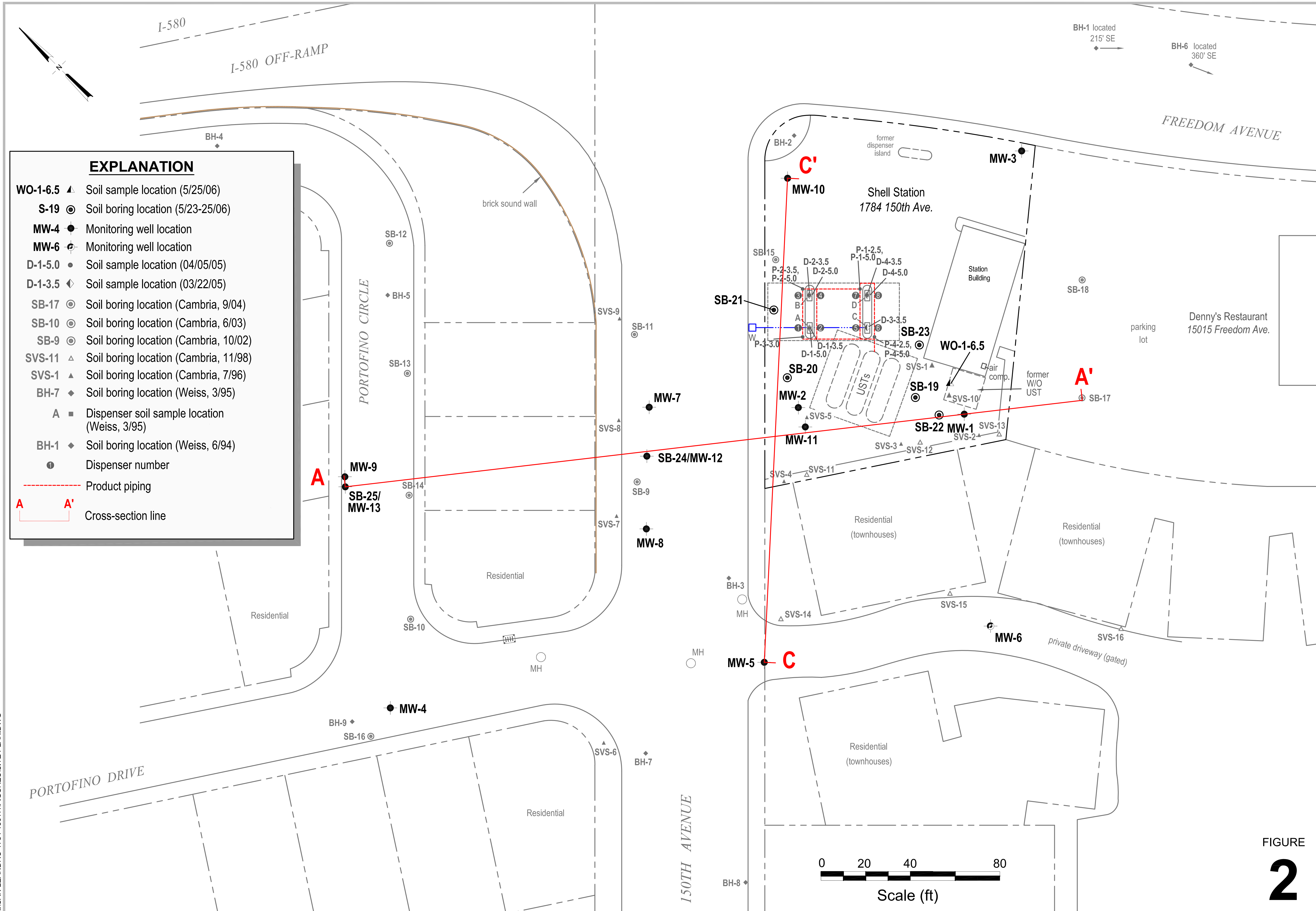
K:\SAN LEANDRO 1784 150TH\FIGURES\VICINITY.AI

FIGURE 1

Shell-branded Service Station
1784 150th Avenue
San Leandro, California

Vicinity Map

CAMBRIA


EXPLANATION
WO-1-6.5 Soil sample location (5/25/06)
S-19 Soil boring location (5/23-25/06)
MW-4 Monitoring well location
MW-6 Monitoring well location
D-1-5.0 Soil sample location (04/05/05)
D-1-3.5 Soil sample location (03/22/05)
SB-17 Soil boring location (Cambria, 9/04)
SB-10 Soil boring location (Cambria, 6/03)
SB-9 Soil boring location (Cambria, 10/02)
SVS-11 Soil boring location (Cambria, 11/98)
SVS-1 Soil boring location (Cambria, 7/96)
BH-7 Soil boring location (Weiss, 3/95)
A Dispenser soil sample location (Weiss, 3/95)
BH-1 Soil boring location (Weiss, 6/94)
Dispenser number
Product piping
A A' Cross-section line
I-580
I-580 OFF-RAMP
FREEDOM AVENUE
PORTOFINO CIRCLE
PORTOFINO DRIVE
150TH AVENUE
brick sound wall
Shell Station
1784 150th Ave.
Station Building
Denny's Restaurant
15015 Freedom Ave.
parking lot
former dispenser island
former W/O UST
air comp.
USTs
Residential
Residential (townhouses)
private driveway (gated)
BH-1 located 215' SE
BH-6 located 360' SE
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
SB-24/MW-12
SB-25/MW-13
SB-22 MW-1
SB-19
SB-20
SB-21
SB-23
WO-1-6.5
A
A'
C
C'
MH
Scale (ft)
0 20 40 80

01/04/07

Site Plan with Geologic Cross-Section Lines

Shell-branded Service Station
1784 150th Avenue
San Leandro, California

CAMBRIA

FIGURE
2

K:\SAN LEANDRO 1784 150TH\FIGURES\SITE PLAN.DWG

02/13/07

Groundwater Contour and Chemical Concentration Map

December 28, 2006

EXPLANATION

- WO-1-6.5 — Soil sample location (5/25/06)
- S-19 — Soil boring location (5/23-25/06)
- MW-4 — Monitoring well location
- MW-6** — Monitoring well location (not used for contouring)
- D-1-5.0 — Soil sample location (04/05/05)
- D-1-3.5 — Soil sample location (03/22/05)
- SB-17 — Soil boring location (Cambria, 9/04)
- SB-10 — Soil boring location (Cambria, 6/03)
- SB-9 — Soil boring location (Cambria, 10/02)
- SVS-11 — Soil boring location (Cambria, 11/98)
- SVS-1 — Soil boring location (Cambria, 7/96)
- BH-7 — Soil boring location (Weiss, 3/95)
- A — Dispenser soil sample location (Weiss, 3/95)
- BH-1 — Soil boring location (Weiss, 6/94)
- Dispenser number
- Product piping
- Groundwater flow direction and gradient
- XX.XX — Groundwater elevation contour, in feet above mean sea level (msl)

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in micrograms per liter

Notes:
NA = Not available
ND = Not detected
NS = Not sampled
SPH = Separate-phase hydrocarbons present, well not sampled

I-580
I-580 OFF-RAMP
FREEDOM AVENUE
PORTOFINO CIRCLE
PORTOFINO DRIVE
150TH AVENUE
brick sound wall
BH-1 located 215' SE
BH-6 located 360' SE
BH-2
BH-4
BH-5
BH-3
BH-7
BH-8
BH-9
SB-9
SB-10
SB-11
SB-12
SB-13
SB-14
SB-15
SB-16
SB-17
SB-18
SB-19
SB-20
SB-21
SB-22
SB-23
SVS-1
SVS-2
SVS-3
SVS-4
SVS-5
SVS-6
SVS-7
SVS-8
SVS-9
SVS-10
SVS-11
SVS-12
SVS-13
SVS-14
SVS-15
SVS-16
former dispenser island
Shell Station
1784 150th Ave.
Station Building
USTs
air comp.
former W/O UST
parking lot
Denny's Restaurant
15015 Freedom Ave.
Residential (townhouses)
Residential
MH
private driveway (gated)

Well	ELEV	Benzene	MTBE
MW-1	28.30	SPH	
MW-2	28.34	2,600	2,500
MW-3	28.24	NS	
MW-4	28.74	NS	
MW-5	28.21	ND	ND
MW-6	28.35	ND	ND
MW-7	28.23	4.8	ND
MW-8	28.12	54	ND
MW-9	28.42	ND	ND
MW-10	NA	NS	
MW-11	28.38	2,700	2,500
MW-12	28.25	2,400	ND
MW-13	28.47	ND	ND

28.30
28.50
28.70
0.004

Groundwater Flow Direction
(12/15/03 through 12/28/06)

0 20 40 80
Scale (ft)

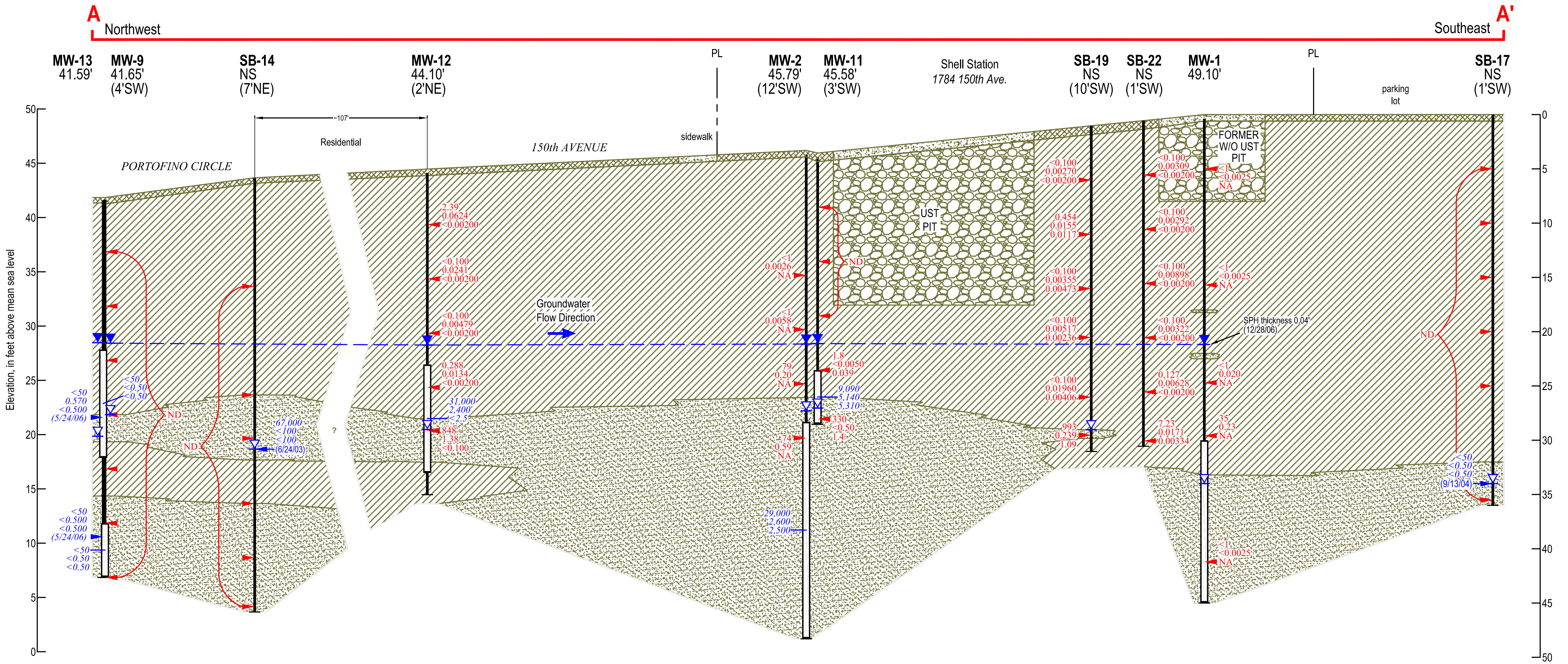
FIGURE
3

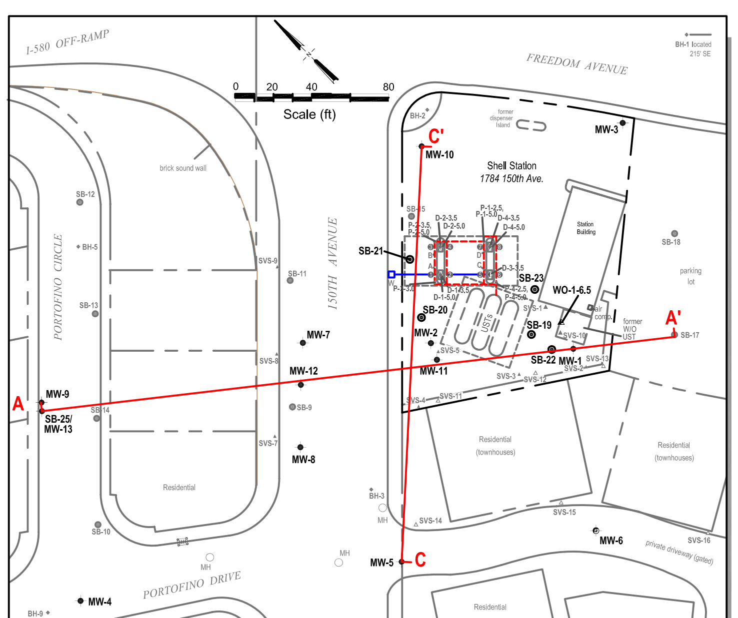
Shell-branded Service Station
1784 150th Avenue
San Leandro, California

CAMBRIA

K:\SAN LEANDRO 1784 150TH\FIGURES\4QM06.DWG

02/13/07





EXPLANATION

= Fine-Grained Soils

= Coarse-Grained Soils

= Fill (Tank Pit)

Approximate Soil Sample Location

Interval of Discrete Soil Sample Results (Grouped for Clarity)

NA — Not analyzed

ND — TPHg, benzene, and MTBE all not detected

TPHg / Benzene / MTBE — Concentrations in Soil, in mg/kg; (MTBE analyzed by EPA Method 8020 in parentheses, all others by EPA Method 8260 or NA)

Well ID — Well Designation

Elev. — TOC Elevation, in feet above msl (NS = Not Surveyed)

(offset) — Offset distance and direction to cross-section line

Groundwater Monitoring Well or Soil Boring

Well Screen Interval

Bottom of boring

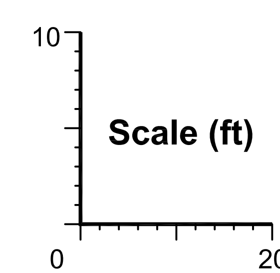
TPHg / Benzene / MTBE — Concentrations in Groundwater, in µg/L (12/28/06)

Depth of Groundwater (12/28/06)

Inferred Groundwater Depth

Grab Groundwater Sample Depth

(6/26/00) — Depth and Date of First Encountered Groundwater



Geologic Cross Section A-A'

CAMBRIA

FIGURE 4

Shell-branded Service Station
1784 150th Avenue
San Leandro, California

K:\SAN LEANDRO 1784 150th\FIGURES\X-SECT A-A'.DWG

02/13/07

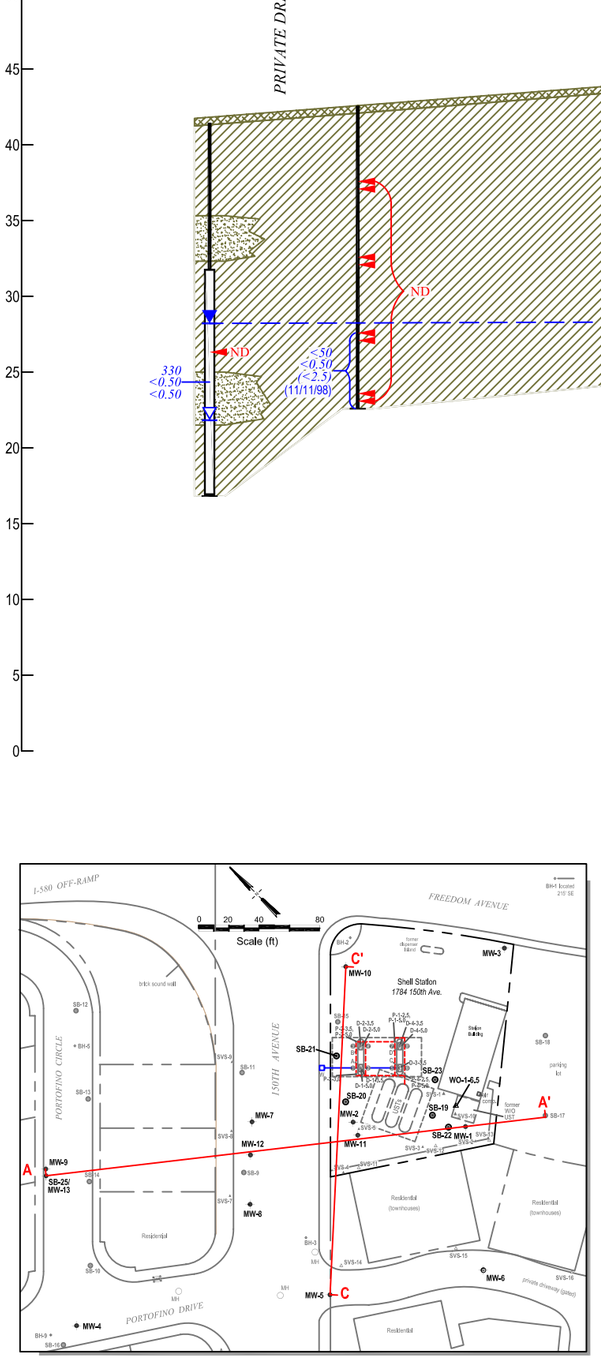
C Southwest — Northeast C'

MW-5 41.46' | SVS-14 NS (6'NW) | PL | SVS-11 NS (15'NW) | MW-11 45.58' (13'NW) | MW-2 45.79' (10'NW) | SB-20 NS (4'NW) | SB-21 NS (3'SE) | SB-15 NS (4'SE) | MW-10 50.64'

PRIVATE DRIVEWAY

Elevation, in feet above mean sea level

Approximate depth in feet below grade



EXPLANATION

- = Fine-Grained Soils
- = Coarse-Grained Soils
- Approximate Soil Sample Location
- Interval of Discrete Soil Sample Results (Grouped for Clarity)
- NA — Not analyzed
- ND — TPHg, benzene, and MTBE all not detected
- TPHg / Benzene / MTBE — Concentrations in Soil, in mg/kg; (MTBE analyzed by EPA Method 8020 in parentheses, all others by EPA Method 8260 or NA)

- Well ID — Well Designation
- Elev. — TOC Elevation, in feet above msl (NS = Not Surveyed)
- (offset) — Offset distance and direction to cross-section line
- Groundwater Monitoring Well or Soil Boring
- Well Screen Interval
- Bottom of boring
- TPHg / Benzene / MTBE — Concentrations in Groundwater, in µg/L (12/28/06)
- Depth of Groundwater (12/28/06)
- Inferred Groundwater Depth / Grab Groundwater Sample Depth
- (6/26/00) — Depth and Date of First Encountered Groundwater

Scale (ft) 0 10 20

FIGURE 5

Geologic Cross Section C-C'

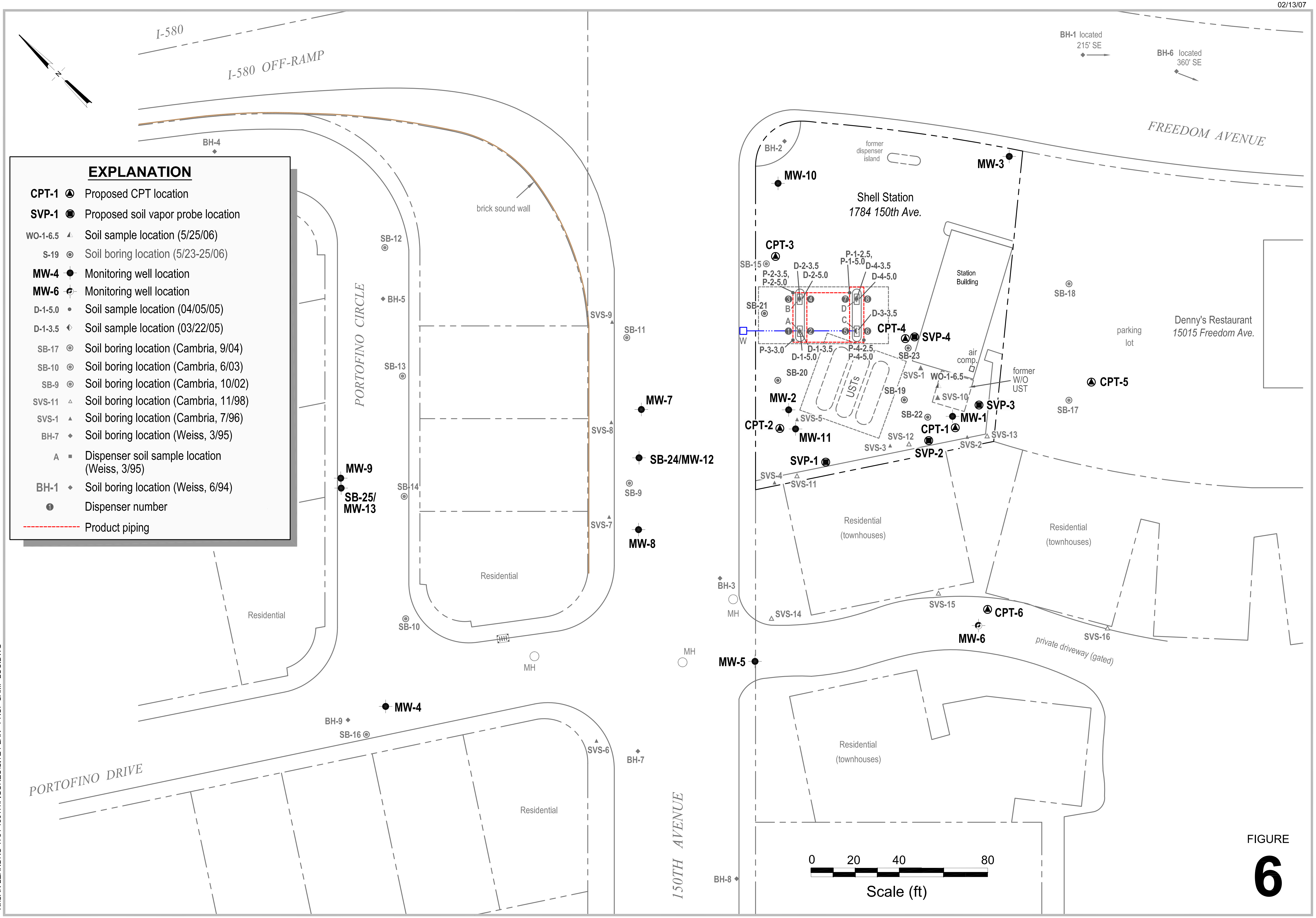
Shell-branded Service Station

1784 150th Avenue
San Leandro, California

CAMBRIA

K:\SAN LEANDRO 1784 150th\FIGURES\X-SECT C-C'.DWG

02/13/07


EXPLANATION
CPT-1 Proposed CPT location
SVP-1 Proposed soil vapor probe location
WO-1-6.5 Soil sample location (5/25/06)
S-19 Soil boring location (5/23-25/06)
MW-4 Monitoring well location
MW-6 Monitoring well location
D-1-5.0 Soil sample location (04/05/05)
D-1-3.5 Soil sample location (03/22/05)
SB-17 Soil boring location (Cambria, 9/04)
SB-10 Soil boring location (Cambria, 6/03)
SB-9 Soil boring location (Cambria, 10/02)
SVS-11 Soil boring location (Cambria, 11/98)
SVS-1 Soil boring location (Cambria, 7/96)
BH-7 Soil boring location (Weiss, 3/95)
A Dispenser soil sample location (Weiss, 3/95)
BH-1 Soil boring location (Weiss, 6/94)
Dispenser number
Product piping
I-580
I-580 OFF-RAMP
FREEDOM AVENUE
PORTOFINO CIRCLE
PORTOFINO DRIVE
150TH AVENUE
brick sound wall
Shell Station
1784 150th Ave.
Station Building
former dispenser island
USTs
air comp.
former W/O UST
parking lot
Denny's Restaurant
15015 Freedom Ave.
Residential
Residential (townhouses)
private driveway (gated)
BH-1 located 215' SE
BH-6 located 360' SE
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
SB-24/MW-12
SB-25/ MW-13
CPT-1
CPT-2
CPT-3
CPT-4
CPT-5
CPT-6
SVP-1
SVP-2
SVP-3
SVP-4
WO-1-6.5
MH
0 20 40 80
Scale (ft)

Proposed Sample Location Map

CAMBRIA

Shell-branded Service Station
1784 150th Avenue
San Leandro, California

FIGURE
6

K:\SAN LEANDRO 1784 150TH\FIGURES\SITE PLAN - PROP SAMP LOC.DWG

Table 1. Boring/Well Data, Shell-branded Service Station, 1784 150th Avenue, San Leandro, California

Well/ Boring ID	Boring Type	Completion Date	TOC Elev. (ft msl)	Total Depth (fbg)	Soil Sample Interval (ft)	GW Depth First (fbg)	GW Depth Static (fbg)	Screen Diam. (In)	Screen Depth Top	Screen Depth Bottom	
MW-1 (BH-A)	HSA	6-Mar-90	49.10	45.0	5'	33.5		4	30.0	45.0	
MW-2 (BH-B)	HSA	4-Feb-92	45.79	45.0	5'	24.00		4	25.0	45.0	
MW-3 (BH-C)	HSA	5-Feb-92	51.92	42.0	5'	29.00		4	22.0	42.0	
MW-4 (BH-10)	HSA	3-Mar-95	40.45	30.0	5'	23.0		2	5.0	27.0	grouted bottom from 27 to 30 fbg
MW-5	HSA	24-Oct-01	41.46	25.0	5'	20.0		2	10.0	25.0	
MW-6	HSA	24-Oct-01	41.50	20.0	5'	8.0		2	5.0	20.0	
MW-7	HSA	15-Mar-02	44.45	32.0	cont	24.5		2	22.0	27.0	
MW-8	HSA	4-Oct-02	43.27	27.5	cont	21.0		2	19.0	24.0	
MW-9	HSA	19-Nov-03	41.65	35.0	cont	20.0		2	30.0	35.0	
MW-10	HSA	20-Nov-03	50.64	32.0	cont	23.5		2	28.0	32.0	
MW-11	HSA	20-Nov-03	45.58	25.0	cont	23.5		2	15.0	25.0	
MW-12 (SB-24)	HSA	25-Feb-06	44.10	30.0	cont	24.0		2	18.0	28.0	
MW-13 (SB-25)	HSA	24-May-06	41.59	35	cont	22		2	14	24	hydropunch 20-24' & 31-35'
BH-1	HSA	6-Jun-94	NA	25.5	5'	24.0	NA	NA	NA	NA	hydropunch to 27.3'
BH-2	HSA	6-Jun-94	NA	34.0	5'	34.0	NA	NA	NA	NA	hydropunch 23-27'; no water
BH-3	HSA	6-Jun-94	NA	25.0	5'	25.0	NA	NA	NA	NA	hydropunch 18-22'; no water
BH-4	HSA	7-Jun-94	NA	30	5'	30	NA	NA	NA	NA	hydropunch 21.5-25'; no water
BH-5	HSA	7-Jun-94	NA	20.0	5'	20.00	NA	NA	NA	NA	hydropunch 20-24'
BH-6	HSA	7-Jun-94	NA	25.0	5'	24.50	NA	NA	NA	NA	hydropunch 25-27'
BH-7	GP	14-Feb-95	NA	20.0	cont.	17.0	NA	NA	NA	NA	hydropunch 17-20'
BH-8	GP	14-Feb-95	NA	25.0	cont.	None	NA	NA	NA	NA	hydropunch 16-20' & 20-25'; no water.
BH-9	GP	15-Feb-95	NA	23.0	cont.	19.5	NA	NA	NA	NA	hydropunch 20-23'
SB-10	GP	23-Jun-03	NA	40.0	cont.	25.0	13.3	NA	NA	NA	
SB-11	GP	24-Jun-03	NA	32.0	cont.	28.0	19.9	NA	NA	NA	
SB-12	GP	24-Jun-03	NA	40.0	cont.	25.0	10.8	NA	NA	NA	
SB-13	GP	25-Jun-03	NA	40.0	cont.	24.0	NA	NA	NA	NA	
SB-14	GP	24-Jun-03	NA	40.0	cont.	24.0	7.6	NA	NA	NA	

Table 1. Boring/Well Data, Shell-branded Service Station, 1784 150th Avenue, San Leandro, California

Well/ Boring ID	Boring Type	Completion Date	TOC Elev. (ft msl)	Total Depth (fbg)	Soil Sample Interval (ft)	GW Depth First (fbg)	GW Depth Static (fbg)	Screen Diam. (In)	Screen Depth Top	Screen Depth Bottom
SB-15	GP	26-Jun-03	NA	36.0	cont.	25.0	NA	NA	NA	NA
SB-16	GP	23-Jun-03	NA	40.0	cont.	24.0	14.2	NA	NA	NA
SB-17	GP	13-Sep-04	NA	36.0	cont.	34.0	28.5	NA	NA	NA
SB-18	GP	13-Sep-04	NA	32.0	cont.	32.0	27.6	NA	NA	NA
SB-19	GP	24-May-06	NA	30.0	cont.	28.0	NA	NA	NA	NA
SB-20	GP	25-May-06	NA	30.0	cont.	23.0	NA	NA	NA	NA
SB-21	GP	24-May-06	NA	28.0	cont.	27.0	NA	NA	NA	NA
SB-22	GP	25-May-06	NA	30.0	cont.	NA	NA	NA	NA	NA
SB-23	GP	24-May-06	NA	30.0	cont.	15.5	NA	NA	NA	NA

Abbreviations and Notes:

HSA = Hollow Stem Auger

GP = Geoprobe

Elev. = Elevation

TOC = Top of casing elevation relative to mean sea level

fbg = feet below grade

cont. = continuous sampling

5' = sample collection at 5 foot intervals

GW = Groundwater

NA = Not available or not analyzed

Attachment A

Site History

ATTACHMENT A

Site History
Shell-branded Service Station
1784 150th Avenue
San Leandro, California
SAP Code 135963, Incident # 98996068
ACEH File No. RO0000367

PREVIOUS WORK

1986 Waste Oil Tank Removal: According to an October 13, 1989 letter from Weiss Associates (Weiss) of Emeryville, California to Shell, Petroleum Engineering of Santa Rosa, California removed a 550-gallon waste-oil tank from the site in November 1986). Immediately following the tank removal, Blaine Tech Services, Inc. (Blaine) of San Jose, California collected soil samples (Soil #1 and Soil #2) beneath the former tank at 8 and 11 feet below grade (fbg). Soil #1 and Soil #2 contained petroleum oil and grease at 196 and 167 parts per million (ppm), respectively. The tank pit was over-excavated to a total depth of 16 fbg, but no additional soil samples were reportedly collected. Groundwater was not encountered in the tank excavation. A new 550-gallon fiberglass waste-oil tank was installed in the same location. Table 1 includes historical soil analytical results.

1990 Well Installation: In March 1990, Weiss advanced soil boring BH-A, which was converted to groundwater monitoring well MW-1, adjacent to the waste-oil tank (Figure 2). In a soil sample collected at 29 fbg, 35 ppm total petroleum hydrocarbons as gasoline (TPHg) and 0.23 ppm benzene were detected.

1992 Well Installations: In February 1992, Weiss advanced soil borings BH-B and BH-C, which were converted to monitoring wells MW-2 and MW-3. A soil sample collected near the water table from the boring for well MW-2 (21.5 fbg) contained 79 ppm TPHg. Soil samples from boring BH-C, which is located over 100 feet cross-gradient of the tanks, contained up to 68 ppm TPHg at 31.5 fbg.

1992 Well Survey: In 1992, Weiss reviewed the California Department of Water Resources (DWR) and Alameda County records to identify water wells within a ½-mile radius of the site. A total of 21 wells were identified: 12 monitoring wells, 8 irrigation wells and 1 domestic well. No municipal wells were identified. The 8 irrigation wells and 1 domestic well are more than 1,000 feet from the site.

1994 Subsurface Investigation: In June 1994, Weiss advanced six soil borings (BH-1 through BH-6) on and off site. No hydrocarbons were detected in soil samples from any borings, except for 0.013 ppm benzene in boring BH-3 at 16 fbg. No hydrocarbons were detected in grab groundwater samples from borings BH-1, BH-4, BH-5 and BH-6. The maximum concentrations of 120,000 parts per billion (ppb) TPHg and 25,000 ppb benzene were detected in the grab groundwater sample collected from boring BH-3. Table 2 presents historical grab groundwater analytical results.

1995 Well Installation: In February and March 1995, Weiss advanced four soil borings (BH-7 through BH-10) and converted BH-10 to monitoring well MW-4. No petroleum hydrocarbons were detected in any of the soil samples. Up to 100 ppb TPHg and 1.0 ppb benzene were detected in grab groundwater samples from BH-7 and BH-9. No TPHg or benzene was detected in the grab groundwater sample from BH-10. Groundwater was not encountered in soil boring BH-8.

1996 Soil Vapor Survey and Soil Sampling: In July 1996, Weiss conducted a subsurface investigation to obtain site-specific data for a risk-based corrective action (RBCA) evaluation of the site. Soil vapor and soil samples were collected from the vadose zone at 10 on- and off-site locations (SVS-1 through SVS-10). The highest soil vapor hydrocarbon concentrations were detected near the northwest corner of the UST complex (sample SVS-5 at 3.0 fbg, which contained 7,600 parts per million by volume [ppmv] benzene). No TPHg, benzene, toluene, ethylbenzene, and xylenes (BTEX), or methyl tertiary-butyl ether (MTBE) was detected in any of the soil samples except for 1.1 ppm TPHg detected in sample SVS-5 at 18 to 20 fbg. Weiss concluded that depleted oxygen concentrations and elevated carbon dioxide and methane concentrations in the vadose zone indicated that biodegradation was occurring.

1997 RBCA Evaluation: In 1997, Weiss prepared a RBCA evaluation for the site. RBCA analysis results indicated that BTEX, MTBE, 1,2-dichloroethane, and tetrachloroethylene concentrations detected in soil and groundwater beneath the site did not exceed a target risk level of 10^{-5} for residential indoor or outdoor air exposure pathways. However, a risk threshold exceedance was identified associated with ingestion of groundwater from a hypothetical well 25 feet downgradient of the source.

1997 Dispenser and Turbine Sump Upgrade: The dispensers and turbine sumps at the station were upgraded in December 1997. Cambria collected soil samples Disp-A through Disp-D from beneath the dispenser islands during upgrade activities. Up to 590 ppm TPHg (Disp-C at 4.5 fbg), 1.8 ppm benzene (Disp-C at 2.0 fbg) and 1.4 ppm MTBE (Disp-C at 2.0 fbg) were detected.

1998 Soil Vapor Survey and Soil Sampling: In November 1998, Cambria conducted a subsurface investigation to obtain site-specific data for an updated RBCA evaluation of the site. Soil samples, soil vapor samples, and grab groundwater samples were collected from the vadose zone at three on-site and three off-site locations (SVS-11 through SVS-16). In soil vapor, maximum concentrations of 2.7 ppmv TPHg (C5+ hydrocarbons) and 0.17 ppmv TPHg (C2-C4 hydrocarbons) were detected at 10 fbg in borings SVS-14 and SVS-15, respectively. A maximum concentration of 0.0099 ppmv benzene was detected in SVS-16 at 5 fbg. In soil, 1.6 ppm TPHg and 0.0050 ppm benzene were detected in boring SVS-11 at 19.5 fbg. No TPHg or benzene was detected in any other soil samples. MTBE was reported at 0.029 ppm in boring SVS-14 at 19 fbg using EPA Method 8020; however, MTBE was not detected in this sample using EPA Method 8260. TPHg and benzene were detected using EPA Method 8020 in groundwater from borings SVS-11 and SVS-12 at concentrations up to 130,000 ppb TPHg and 18,000 ppb benzene. MTBE was reported at a concentration of 1,500 ppb in boring SVS-11 by EPA Method 8020, but was not confirmed by EPA Method 8260.

1999 RBCA Evaluation: In September 1999, Cambria prepared a RBCA evaluation for the site. Cambria analyzed the following potential exposure pathways: off-site ingestion of groundwater, on-site ingestion of surficial soil, volatilization of benzene from soil or groundwater into on-site or off-site indoor air, and migration of benzene soil vapor to on-site or off-site outdoor air. Results of Tier 1 and Tier 2 RBCA analyses indicated that contaminants within soil and groundwater did not present significant health risks.

2001 Off-Site Monitoring Well Installation: Two monitoring wells (MW-5 and MW-6) were installed off site to the southwest. Soil sample results from this investigation indicated only minimal MTBE impact (0.012 ppm) to off-site soil southwest of the site. This finding was corroborated by Cambria's 1998 subsurface investigation, in which no TPHg or benzene and only low MTBE concentrations were detected in soil from three borings (SVS-14 through SVS-16) along the private driveway.

2002-2004 Mobile Groundwater Extraction (GWE): In July 2002, semi-monthly GWE was begun using monitoring well MW-2, and it continued on a monthly basis until March 2004. Beginning in March 2004, monthly GWE was performed using well MW-2 and MW-11 once per month each, so that GWE was conducted twice per month at the site. The GWE frequency was increased to weekly (from both MW-2 and MW-11) beginning in May 2004. Mobile GWE ceased on August 24, 2004. Approximately 19.6 pounds of TPHg, 3.45 pounds of benzene, and 5.12 pounds of MTBE had been removed during these activities.

2002 Off-Site Monitoring Well Installation: Two monitoring wells (MW-7 and MW-8) and one soil boring (SB-9) were installed off-site and northwest of the site in 150th Avenue. Soil sample results collected during this investigation indicated minimal TPHg and BTEX impact to off-site soil northwest of the site. Grab groundwater samples indicated elevated TPHg and benzene concentrations were present in groundwater northwest of the site beneath 150th Avenue.

2003 Soil and Groundwater Investigation: Six soil borings (SB-10 through SB-14 and SB-16) were advanced to the northwest of the site in both 150th Avenue and Portofino Circle; one boring (SB-15) was advanced on site (Figure 2). Initial groundwater was encountered between 24 and 28 fbg during drilling activities. During the investigation, MTBE was only detected in on-site grab groundwater sample SB-15-W at 40 ppb. The highest TPHg concentration was detected in SB-14-W at 67,000 ppb, and the highest benzene concentration was detected in SB-15-W at 530 ppb. TPHg was detected only in soil samples SB-11-30' and SB-15-36' at concentrations of 650 ppm and 1.4 ppm, respectively. Benzene was detected only in soil sample SB-15-35' at 0.10 ppm. Based on typical groundwater depths in nearby well MW-7, it was determined that samples SB-11-30' and SB-15-36' were saturated, and results may be more indicative of chemical concentrations in groundwater.

2003 Sensitive Receptor Survey (SRS): In October 2003, Cambria completed an SRS at Shell's request. The SRS targeted the following as potential sensitive receptors: basements within 200 feet, surface water and sensitive habitats within 500 feet, hospitals, residential care and childcare facilities within 1,000 feet, and water wells within ½ mile. No basements, surface water, sensitive habitats, or educational and childcare facilities were identified within the search radius. The Fairmont Hospital campus, located at 15400 Foothill Boulevard, is located approximately 1,100 feet from the site, just outside the target radius of 1,000 feet.

To update the 1992 well survey performed by Weiss, Cambria researched DWR records in September 2003 and located no additional well records for locations within ½ mile of the site. The closest identified water well potentially used for drinking water is a well installed in 1952 and listed as a "domestic well." This well is located at Fairmont Hospital, approximately 2,445 feet east-southeast of the site. The well is reportedly 138 feet deep and has a screened interval between 62 and 95 fbg. The well's status and operation frequency are unknown. Due to the well's distance from the site and the site's observed groundwater flow directions, it is unlikely that this well would be impacted by groundwater from the site.

2003 Monitoring Well Installation: On November 19 and 20, 2003, Cambria installed on-site and off-site wells MW-9, MW-10, and MW-11. Proposed off-site soil borings were not completed due to access agreement issues. MTBE was detected in two soil samples (MW-11-20'

and MW-11-24.5') at concentrations of 0.039 and 1.4 ppm, respectively. TPHg was detected in four soil samples (MW-10-30', MW-10-31.5', MW-11-20', and MW-11-24.5') at concentrations of 14, 230, 1.8, and 330 ppm, respectively. All soil samples with detectable hydrocarbon and MTBE concentrations were saturated soil samples, so identified results appeared more indicative of chemical concentrations in groundwater than soil.

September 2004 Off-Site Investigation: Two soil borings (SB-17 and SB-18) were installed southeast of the site. No TPHg, BTEX, or fuel oxygenates were detected in soil samples from the borings. Grab groundwater samples collected contained up to 55 ppb TPHg, and no benzene or fuel oxygenates. Results of the investigation are reported in Cambria's December 17, 2004 *Soil and Water Investigation Report.*

2004 Temporary GWE System Installation: On September 13, 2004, Cambria completed installation and began operation of a temporary GWE system. The temporary GWE system was installed as an interim remedial measure to address the elevated petroleum hydrocarbon and MTBE concentrations in groundwater near the west corner of the site. On November 8, 2004, Cambria stopped the temporary GWE system to conduct interim remediation by dual phase extraction (DPE). During these temporary GWE activities approximately 0.448 pounds of TPHg, 0.036 pounds of benzene, and 0.121 pounds of MTBE were removed from the subsurface.

2004 DPE: During the period November 8 through November 13, 2004, DPE was conducted in on-site wells MW-2 and MW-11 as an interim remedial action to reduce hydrocarbon concentrations in groundwater near the western corner of the site and to progress the site toward closure. Based on operating parameters and vapor sample analytical results, the total TPHg, benzene and MTBE vapor-phase masses removed from well MW-11 are estimated at 165 pounds, 0.291 pounds, and 0.063 pounds, respectively. The total TPHg, benzene, and MTBE vapor-phase masses removed from well MW-2 are estimated at 0.073 pounds, 0.0002 pounds, and 0.001 pounds, respectively. The total TPHg, benzene and MTBE liquid-phase masses removed from wells MW-2 and MW-11 during interim remediation are estimated at 5.31 pounds, 0.193 pounds, and 0.143 pounds, respectively.

2005 Temporary GWE System: Upon completing the interim remedial action, Cambria intended to immediately resume operating the temporary GWE system. However, the restart was delayed due to repaving the site's parking lot. The temporary GWE system operated between January 10 and April 13, 2005. Because detected TPHg and MTBE concentrations were higher in well MW-11 than in well MW-2, MW-11 was chosen for extraction. During these activities, approximately 19.04 pounds of TPHg, 1.69 pounds of benzene, and 3.94 pounds of MTBE were

removed from the subsurface. Because of facility upgrades work, Cambria removed the temporary GWE system between March and June 2005.

2005 Fuel System Upgrade: Under contract to Shell, Armer Norman of Pacheco, California replaced the fuel dispensers and piping and upgraded UST sumps between March and May 2005. On March 22 and April 4, 2005, soil samples were collected beneath each of the four dispensers and the product piping joints. TPHg was detected in 11 samples, with a maximum concentration of 4,100 ppm in sample P-4-5.0. Benzene was detected in six samples, with a maximum concentration of 11 ppm in sample P-4-2.5. MTBE was detected in five samples, with a maximum concentration of 0.18 ppm in sample D-1-3.5. Tertiary-butyl alcohol (TBA) was detected in sample D-3-3.5 at a concentration of 0.023 ppm. Lead was detected in four samples, with a maximum concentration of 75.7 ppm in sample D-1-3.5.

2005 Periodic GWE Restart: In September 2005, monthly GWE was re-instated using monitoring well MW-11, and because of the observed presence of SPH in well MW-1, bimonthly extraction from MW-1 was initiated in September 2006. These activities are ongoing as of December 2006 and are reported in the monitoring reports.

May 2006 Subsurface Investigation (SB-19 through SB-25; MW-12 & MW-13): The purpose of this investigation was to determine the vertical and horizontal extent of soil and groundwater impact. Seven soil borings were advanced, two of which were converted to groundwater monitoring wells. Shallow soil samples collected from borings SB-19, SB-20, SB-21, SB-22, and SB-24 did not contain TPHg or BTEX concentrations exceeding applicable published San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs). Up to 1,060 ppm TPHg and 1.38 ppb benzene were detected in soil samples collected from the capillary fringe zone in borings SB-19, SB-20, SB-21, SB-23, and SB-24. These detections are considered to be more indicative of groundwater conditions. Fuel oxygenate concentrations were near or below their respective reporting limits in all soil samples collected, and none of the low detections exceeded applicable ESLs. Based on this, the horizontal extent of petroleum hydrocarbons has been defined at the site, and the vertical extent has been defined to the typical groundwater table. TPHg, BTEX, and fuel oxygenate concentrations in grab groundwater samples collected from approximately 20 and 31 fbg in boring SB-25 were also near or below their respective reporting limits. None of the low detections in the grab groundwater samples collected exceed applicable ESLs. Based on this, the vertical extent of petroleum hydrocarbons in groundwater northwest of the site is defined.

Groundwater Monitoring Program: Groundwater quarterly groundwater sampling began in March 1990. Historically, the maximum concentrations of TPHg have been observed in well MW-1 (up to 790,000 ppb in June 1996); maximum concentrations of benzene have been observed in well MW-2 (up to 36,000 ppb in March 1993); and maximum concentrations of MTBE have been observed in well MW-2 (up to 32,000 ppb in February 2002). Separate phase hydrocarbons (SPH) have been observed intermittently in wells MW-1 and MW-2 historically; however, SPH re-occurred in well MW-1 in December 2005 and has been present in each monitoring event through December 2006. As of the December 28, 2006 sample event, the maximum dissolved phase concentrations of TPHg, benzene, and MTBE are observed in onsite well MW-11 at 75,000, 2,700, and 2,500 ppb, respectively.

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
			← (Concentrations in mg/kg) →															
1986 Waste Oil Tank Removal																		
Soil #1	11/7/1986	8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	196	---
Soil #2	11/11/1986	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	167.4	---
1990 Monitoring Well Installation																		
MW-1/BH-A[a,b]	3/5/1990	5	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-1/BH-A[a,b]	3/5/1990	15.7	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-1/BH-A[a,b,c]	3/5/1990	24.7	<1	0.020	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-1/BH-A[a,d]	3/5/1990	29.2	35	0.23	0.20	<0.0025	0.64	---	---	---	---	---	---	---	---	---	---	---
MW-1/BH-A[a,b]	3/5/1990	41.2	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
1992 MonitoringWell Installations																		
MW-2/BH-B[b]	2/4/1992	11.5	<1	0.0026	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-2/BH-B	2/4/1992	16.5	<1	0.0058	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-2/BH-B[b,e]	2/4/1992	21.5	79	0.20	0.60	1.0	4.1	---	---	---	---	---	---	---	---	---	---	---
MW-2/BH-B	2/4/1992	26.5	74	**0.59**	0.91	1.5	3.9	---	---	---	---	---	---	---	---	---	---	---
MW-3/BH-C[b]	2/5/1992	11.5	<1	0.0042	0.0029	0.0039	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-3/BH-C[b]	2/5/1992	21.5	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-3/BH-C[b,f]	2/5/1992	26.5	3.9	<0.0025	<0.0025	<0.0025	0.0054	---	---	---	---	---	---	---	---	---	---	---
MW-3/BH-C	2/5/1992	31.5	68	<0.05	<0.05	<0.05	0.17	---	---	---	---	---	---	---	---	---	---	---
1994 Subsurface Investigation																		
BH-1-21	6/6/1994	21	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
BH-2-20	6/6/1994	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
BH-3-16[g]	6/6/1994	16	<1.0	0.013	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
BH-4-20.6	6/7/1994	20.6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
BH-5-15.6	6/7/1994	15.6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
BH-6-20.5	6/7/1994	20.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
1995 Monitoring Well Installation																		
BH-7-15.8	2/14/1995	15.8	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
BH-8-16.0	2/14/1995	16	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
BH-9-19.5	2/14/1995	19.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---	---	---
MW-4/BH-10-15.2	3/3/1995	15.2	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---	---	---
1996 Subsurface Investigation																		

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
		(fbg)	← (Concentrations in mg/kg) →															
SVS-3	7/18-19/96	16-18	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-5	7/18-19/96	4-6	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-5	7/18-19/96	8-10	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-5	7/18-19/96	18-20	1.1	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-9	7/18-19/96	3-5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-9	7/18-19/96	8-10	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-9	7/18-19/96	16-18	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---	---	---
1997 Dispenser and Turbine Pump Upgrades																		
Disp-A	12/4/1997	2	3.1	<0.005	0.037	0.022	<0.01	0.019	---	---	---	---	---	---	---	---	---	---
Disp-A, 4.5	12/4/1997	4.5	6.3	0.096	0.012	0.46	0.037	0.056	---	---	---	---	---	---	---	---	---	---
Disp-B	12/4/1997	2	130	<1	<1	<1	<2	<1	---	---	---	---	---	---	---	---	---	---
Disp-B, 4.5	12/4/1997	4.5	1.0	0.045	<0.005	0.064	0.32	<0.03	---	---	---	---	---	---	---	---	---	---
Disp-C	12/4/1997	2	190	**1.8**	2.1	3.6	**20**	1.4	---	---	---	---	---	---	---	---	---	---
Disp-C, 4.5[h]	12/4/1997	4.5	**590**	<0.5	0.98	2.3	3.1	<0.5	---	---	---	---	---	---	---	---	---	---
Disp-D	12/4/1997	2	3.8	0.11	<0.005	0.15	0.17	0.11	---	---	---	---	---	---	---	---	---	---
Disp-D, 4.5	12/4/1997	4.5	1.4	0.027	<0.005	0.036	0.178	0.005	---	---	---	---	---	---	---	---	---	---
1998 Subsurface Investigation																		
SVS-11-5.5	11/10/1998	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-11-6	11/10/1998	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-11-9.5	11/10/1998	9.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-11-10	11/10/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
1998 Subsurface Investigation - cont.																		
SVS-11-15	11/10/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-11-15.5	11/10/1998	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-11-19	11/10/1998	19	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-11-19.5	11/10/1998	19.5	1.6	0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-5	11/11/1998	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-5.5	11/11/1998	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-10	11/11/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-10.5	11/11/1998	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-15	11/11/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-15.5	11/11/1998	15.5	<1.0	<0.0050	0.006	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-14-19	11/11/1998	19	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.029	<25	---	---	---	---	---	---	---	---	---
SVS-14-19.5	11/11/1998	19.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
			(Concentrations in mg/kg)															
SVS-15-4.5	11/11/1998	4.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-5	11/11/1998	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-10	11/11/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-10.5	11/11/1998	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-15	11/11/1998	15	<1.0	<0.0050	<0.0050	<0.0050	0.013	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-15.5	11/11/1998	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-19.5	11/11/1998	19.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-15-20	11/11/1998	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-16-5	11/11/1998	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-16-5.5	11/11/1998	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-16-10	11/11/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-16-10.5	11/11/1998	10.5	<1.0	<0.0050	<0.0050	<0.0050	0.0093	0.026	---	---	---	---	---	---	---	---	---	---
SVS-16-15	11/11/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
SVS-16-15.5	11/11/1998	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---	---	---
2001 Monitoring Well Installation																		
MW-5-15.5	10/24/2001	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-6-5.5	10/24/2001	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	0.012	---	---	---	---	---	---	---	---	---
2002 Monitoring Well Installation																		
MW7@5'	10/3/2002	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW7@10'	10/3/2002	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW7@15'	10/3/2002	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW7@20'	10/3/2002	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW7@25'	10/3/2002	25	11	<0.0050	0.0060	0.086	0.13	---	<0.5	---	---	---	---	---	---	---	---	---
MW7@30'	10/3/2002	30	68	<0.025	0.19	0.89	3.7	---	<0.5	---	---	---	---	---	---	---	---	---
MW7@32'	10/3/2002	32	1.2	<0.0050	0.0069	0.025	0.11	---	<0.5	---	---	---	---	---	---	---	---	---
MW8@5'	10/4/2002	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW8@10'	10/4/2002	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW8@15'	10/4/2002	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW8@20'	10/4/2002	20	1.2	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---	---	---
MW8@25'	10/4/2002	25	140	0.072	0.15	1.5	5.8	---	<0.5	---	---	---	---	---	---	---	---	---
SB9@22	10/4/2002	22	1.1	<0.0050	<0.0050	0.016	0.088	---	<0.5	---	---	---	---	---	---	---	---	---

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
			(Concentrations in mg/kg)															
2003 Subsurface Investigation																		
SB-10-10'	6/23/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-10-20'	6/23/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-10-22'	6/23/2003	22	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-10-25'	6/23/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-10-30	6/23/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-10-37'	6/23/2003	37	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-10-39.5'	6/23/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-11-10'	6/24/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-11-15'	6/24/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-11-20'	6/24/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
2003 Subsurface Investigation - cont.																		
SB-11-24'	6/24/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-11-28'	6/24/2003	28	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-11-30'	6/24/2003	30	**650**	<0.50	<0.50	3.5	9.9	---	<0.50	---	---	---	---	---	---	---	---	---
SB-12-10'	6/24/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-12-20'	6/24/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-12-25'	6/24/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-12-30'	6/24/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-12-35'	6/24/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-12-39.5'	6/24/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-13-10'	6/23/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-13-20'	6/23/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-13-24'	6/23/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-13-30'	6/23/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-13-35'	6/23/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-13-39.5'	6/23/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-14-10'	6/24/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-14-20'	6/24/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-14-24'	6/24/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-14-30'	6/24/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-14-35'	6/24/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-14-39.5'	6/24/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
		(fbg)	(Concentrations in mg/kg)															
SB-15-10'	6/26/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-15-15'	6/26/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-15-20'	6/26/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-15-22.5'	6/26/2003	22.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-15-35'	6/26/2003	35	1.4	0.10	<0.0050	0.030	0.0055	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-16-10'	6/23/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-16-20'	6/23/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-16-24'	6/23/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-16-28'	6/23/2003	28	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-16-35'	6/23/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
SB-16-39.5'	6/23/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
2003 Monitoring Well Installation																		
MW-9-5'	11/19/2003	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-9-10'	11/19/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-9-15'	11/19/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-9-20'	11/19/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-9-25'	11/19/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-9-30'	11/19/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-9-35'	11/19/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-10-5'	11/20/2003	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-10-10'	11/20/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-10-15'	11/20/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-10-20'	11/20/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-10-25'	11/20/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-10-30'	11/20/2003	30	14	<0.023	<0.023	<0.023	<0.023	---	<0.023	---	---	---	---	---	---	---	---	---
MW-10-31.5'	11/20/2003	31.5	230	<0.50	<0.50	2.2	1.5	---	<0.50	---	---	---	---	---	---	---	---	---
MW-11-5'	11/20/2003	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-11-10'	11/20/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-11-15'	11/20/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	---	---
MW-11-20'	11/20/2003	20	1.8	<0.0050	<0.0050	0.0084	0.013	---	0.039	---	---	---	---	---	---	---	---	---
MW-11-24.5'	11/20/2003	24.5	330	<0.50	1.6	4.8	**29**	---	1.4	---	---	---	---	---	---	---	---	---
2004 Subsurface Investigation																		
SB-17-5'	9/13/2004	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-17-10'	9/13/2004	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
		(fbg)	(Concentrations in mg/kg)															
SB-17-15'	9/13/2004	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-17-20'	9/13/2004	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-17-25'	9/13/2004	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-17-35.5'	9/13/2004	35.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-18-5'	9/13/2004	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-18-10'	9/13/2004	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-18-15'	9/13/2004	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-18-20'	9/13/2004	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-18-25'	9/13/2004	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
SB-18-30'	9/13/2004	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1	---	---
2005 Dispenser Upgrades																		
D-1-3.5	3/22/2005	3.5	**460**	**0.76**	0.17	16	8.1	---	0.18	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	---	---	75.7
D-1-5.0	4/4/2005	5	330	<0.50	0.75	3.2	0.91	---	<0.50	---	---	---	---	---	---	---	---	---
D-2-3.5	3/22/2005	3.5	**1,400**	**1.6**	**75**	18	**170**	---	0.066	<0.15	<0.25	<0.25	<0.25	<0.25	<0.25	---	---	2.06
D-2-5.0	4/4/2005	5	<50	<0.50	<0.50	<0.50	0.95	---	<0.50	---	---	---	---	---	---	---	---	---
D-3-3.5	3/22/2005	3.5	30	**0.78**	0.24	1.8	2.7	---	0.053	0.023	<0.050	<0.050	<0.050	<0.050	<0.050	---	---	5.19
D-4-3.5	3/22/2005	3.5	110	**0.52**	6.3	1.3	10	---	0.028	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	---	---	1.89
D-4-5.0	4/4/2005	5	290	<0.50	<0.50	6.3	3.6	---	<0.50	---	---	---	---	---	---	---	---	---
P-1-2.5	4/4/2005	2.5	<50	<0.50	<0.50	<0.50	0.87	---	<0.50	---	---	---	---	---	---	---	---	---
P-1-5.0	4/4/2005	5	69	<0.50	<0.50	1.1	5.0	---	<0.50	---	---	---	---	---	---	---	---	---
P-2-3.5	4/4/2005	3.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	0.013	---	---	---	---	---	---	---	---	---
P-2-5.0	4/4/2005	5	85	<0.50	<0.50	0.84	0.50	---	<0.50	---	---	---	---	---	---	---	---	---
P-3-3.0	4/4/2005	3	**2,300**	<1.0	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	---	---	---	---	---
P-4-2.5	4/4/2005	2.5	**3,700**	**11**	**83**	**42**	**280**	---	<1.0	---	---	---	---	---	---	---	---	---
P-4-5.0	4/4/2005	5	**4,100**	**10**	**23**	**48**	**240**	---	<2.5	---	---	---	---	---	---	---	---	---
2006 Subsurface Investigation																		
SB-19-5	5/23/2006	5	<0.100	0.00270	<0.00200	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-19-10	5/24/2006	10	0.454	0.0155	0.00411	<0.00200	<0.00500	---	0.0117	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-19-15	5/24/2006	15	<0.100	0.00355	<0.00200	<0.00200	<0.00500	---	0.00473	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-19-19.5	5/24/2006	19.5	<0.100	0.00517	<0.00200	<0.00200	<0.00500	---	0.00236	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-19-25	5/24/2006	25	<0.100	0.01960	0.00643	<0.00200	0.00619	---	0.00406	0.0668	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-19-28.5	5/24/2006	28.5	**993**	0.239	<0.100	8.52	**34.6**	---	1.09	<2.50	<0.250	<0.100	<0.100	<0.100	<0.100	---	---	---

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
		(fbg)	(Concentrations in mg/kg)															
SB-20-5	5/23/2006	5	61.1	0.0174	0.00952	0.00798	0.0170	---	<0.00200	0.0740	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-20-10	5/25/2006	10	3.48	0.0286	0.00982	<0.00200	<0.00500	---	<0.00200	0.0727	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-20-16.5	5/25/2006	16.5	1.27	0.00388	<0.00200	<0.00200	0.00576	---	0.00254	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-20-23.5	5/25/2006	23.5	**692**	0.0265	0.0772	6.48	**39.1**	---	0.142	0.177	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-21-5	5/23/2006	5	0.379	0.0133	0.00301	<0.00200	<0.00500	---	0.00520	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-21-10	5/24/2006	10	0.881	0.0273	0.0102	<0.00200	<0.00500	---	0.00347	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-21-15	5/24/2006	15	<0.100	0.00813	0.00286	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-21-20	5/24/2006	20	<0.100	0.00947	0.00330	<0.00200	<0.00500	---	0.00457	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-21-27.5	5/24/2006	27.5	**635**	0.0759	2.20	5.46	**27.5**	---	0.00963	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-22-5	5/23/2006	5	<0.100	0.00309	<0.00200	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-22-10	5/25/2006	10	<0.100	0.00292	<0.00200	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-22-15	5/25/2006	15	<0.100	0.00898	0.00279	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-22-20	5/25/2006	20	<0.100	0.00322	<0.00200	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-22-25	5/25/2006	25	0.127	0.00628	0.00226	<0.00200	<0.00500	---	<0.00200	0.0660	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-22-29.5	5/25/2006	29.5	7.23	0.0171	<0.00200	0.169	0.167	---	0.00334	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-23-5	5/23/2006	5	**517**	0.0654	0.100	3.34	7.71	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-23-10	5/24/2006	10	114	**1.49**	0.0582	1.22	0.468	---	0.00731	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-23-15	5/24/2006	15	102	0.458	0.0127	0.790	0.948	---	0.0118	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-23-20	5/24/2006	20	215	0.0154	0.00805	0.986	5.26	---	0.0490	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
SB-23-25	5/24/2006	25	**1,060**	0.498	4.77	8.99	**54.3**	---	<0.100	<2.50	<0.250	<0.100	<0.100	<0.100	<0.100	---	---	---
SB-23-29.5	5/24/2006	29.5	**526**	**0.716**	5.71	4.80	**27.9**	---	0.326	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
MW-12/SB-24-5	5/23/2006	5	2.39	0.0624	0.00307	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
MW-12/SB-24-10	5/26/2006	10	<0.100	0.0241	0.00776	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
MW-12/SB-24-15	5/26/2006	15	<0.100	0.00479	<0.00200	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
MW-12/SB-24-20	5/26/2006	20	0.288	0.0134	0.00609	<0.00200	<0.00500	---	<0.00200	<0.0500	<0.00500	<0.00200	<0.00200	<0.00200	<0.00200	---	---	---
MW-12/SB-24-24	5/26/2006	24	**848**	**1.38**	8.16	8.10	**41.5**	---	<0.100	<2.50	<0.250	<0.100	<0.100	<0.100	<0.100	---	---	---
Shallow Soil (≤10 fbg) ESL			100	0.38	9.3	30	11	5.6	5.6	110	NA	NA	NA	NA	0.020	45	1,000	750
Deep Soil (>10 fbg) ESL			100	0.51	9.3	32	11	5.6	5.6	110	NA	NA	NA	NA	0.020	45	1,000	750

Abbreviations:

TPHg = Total petroleum hydrocarbons as gasoline. From 1990 through 1998, analyzed by modified EPA Method 8015; from 2001 through 2006, analyzed by EPA Method 8260B.

Notes:

a = Petroleum oil and grease analyzed by American Public Health Association Standard Method 503E; no detections above 100 ppm detection limit. Total oil and grease analyzed by American Public Health Association Standard Method 503E; no

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th St., San Leandro, California

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	TOG	Lead
		(fbg)	(Concentrations in mg/kg)															

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8020 from 1990 through 1998; from 2001 through 2006, analyzed by EPA Method 8260B.
MTBE = Methyl tert-butyl ether analyzed by EPA Method 8020 or EPA Method 8260 (as indicated).
TBA = Tert-Butyl alcohol, analyzed by EPA Method 8260B.
ETBE = Ethyl tert butyl ether, analyzed by EPA Method 8260B.
DIPE = Di-isopropyl Ether, analyzed by EPA Method 8260B.
TAME = tert-Amyl methyl ether, analyzed by EPA Method 8260B.
1,2-DCA = 1,2-dichloroethane
EDB = Ethyl di-bromide, analyzed by EPA Method 8260B.
Ethanol analyzed by EPA Method 8260B.
fbg = Feet below grade
mg/kg = Milligrams per kilogram
<n = Below laboratory detection limit of n mg/kg
--- = Not analyzed

detections above 50 ppm detection limit.
b = Analyzed for halogenated volatile organic compounds by EPA Method 8010; none detected.
c = Total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) analyzed by modified EPA Method 8015; no TPHd detected at 1 ppm limit; no TPHmo detected at 10 ppm limit.
e = TPHd detected at 23 ppm by modified EPA Method 8015; lab characterized detected compounds as hydrocarbons lighter than diesel.
f = TPHd detected at 4.9 ppm by modified EPA Method 8015; lab characterized detected compounds as hydrocarbons lighter than diesel.
g = Analyzed for volatile organic compounds by EPA Method 8010; none detected above detection limits ranging from 0.005 to 0.050 ppm.
h = Sample saturated with perched water from beneath dispenser.
i = San Francisco Bay Regional Water Quality Control Board commercial/industrial Environmental Screening Level for soil where groundwater is not a source of drinking water

Table 2. Historical Grab Groundwater Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th Avenue, San Leandro, California

Sample ID	Sample Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME	1,2 DCA	EDB	Ethanol
		←						(ppb)						→
1994 Subsurface Investigation														
BH-1	6/6/1994	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---
BH-2	6/6/1994	**5,200 a**	**8.8**	<0.50	**9.1**	<0.50	---	---	---	---	---	---	---	---
BH-3	6/6/1994	**120,000 b**	**25,000**	**14,000**	**3,100**	**13,000**	---	---	---	---	---	---	---	---
BH-4	6/7/1994	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---
BH-5	6/7/1994	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---
BH-6	6/7/1994	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---
1995 Monitoring Well Installation														
BH-7-17-W	2/14/1995	**100**	**1.0**	**1.0**	<0.5	<0.5	---	---	---	---	---	---	---	---
BH-9-20-W	2/14/1995	**90**	**0.9**	**0.9**	<0.5	<0.5	---	---	---	---	---	---	---	---
1998 Subsurface Investigation														
SVS-11-W1	11/10/1998	**130,000**	**18,000**	**1,800**	**5,700**	**31,000**	**1,500**	---	---	---	---	---	---	---
SVS-12-W1	11/11/1998	**64,000**	**1,800**	**770**	**2,700**	**17,000**	<250	---	---	---	---	---	---	---
SVS-14-W1	11/11/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---
SVS-15-W1	11/11/1998	<50	<0.50	<0.50	<0.50	**0.80**	<2.5	---	---	---	---	---	---	---
SVS-16-W1	11/11/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---
2002 Monitoring Well Installation														
MW7-W	10/3/2002	**60,000**	**59**	**590**	**1,900**	**7,300**	<100	---	---	---	---	---	---	---
MW8-W	10/4/2002	**83,000**	**810**	**2,000**	**3,700**	**17,000**	<500	---	---	---	---	---	---	---
SB9-W	10/4/2002	**78,000**	**2,200**	**8,200**	**2,300**	**13,000**	<500	---	---	---	---	---	---	---
2003 Subsurface Investigation														
SB-10-W	6/23/2003	<50	**1.1**	**0.84**	<0.50	**1.7**	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50
SB-11-W	6/24/2003	**75**	**0.84**	**0.53**	**1.5**	**7.1**	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50
SB-12-W	6/24/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50
SB-13-W	6/23/2003	<50	**0.89**	**0.52**	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50
SB-14-W	6/24/2003	**67,000**	<100	**280**	**3,800**	**16,000**	<100	<1000	<400	<400	<400	<100	<100	<1000
SB-15-W	6/26/2003	**6,800**	**530**	<25	**380**	**560**	**40**	<250	<100	<100	<100	<25	<25	<2500
SB-16-W	6/23/2003	<50	**0.67**	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50

Table 2. Historical Grab Groundwater Analytical Data - Shell-branded Service Station, Incident No.98996068, 1784 150th Avenue, San Leandro, California

Sample ID	Sample Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME	1,2 DCA	EDB	Ethanol
		←						(ppb)						→
2004 Subsurface Investigation														
SB-17-W	9/13/2004	<50	<0.50	**4.2**	**2.0**	**7.9**	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50
SB-18-W	9/13/2004	**55**	<0.50	**5.5**	**2.5**	**10.0**	<0.50	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50
2006 Subsurface Investigation														
SB-25W-20	5/24/2006	<50.0	0.570	0.650	1.69	3.28	<0.500	<10.0	<0.500	<0.500	<0.500	2.96	<0.500	---
SB-25W-31	5/24/2006	<50.0	<0.500	<0.500	0.520	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	3.10	<0.500	---
[illegible]	[illegible]	500	46	150	290	400	1,800	18,000	NA	NA	NA	200	150	5,000

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015 in 1998, and by EPA Method 8260B thereafter
Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020 in 1998, and by EPA Method 8260B thereafter.
MTBE = Methyl tertiary butyl ether by EPA Method 8020 in 1998 and by EPA Method 8260B thereafter
TBA = Tert-Butyl alcohol, analyzed by EPA Method 8260B
ETBE = Ethyl tert butyl ether, analyzed by EPA Method 8260B
DIPE = Di-isopropyl Ether, analyzed by EPA Method 8260B
TAME = Tert-Amyl methyl ether, analyzed by EPA Method 8260B
1,2-DCA = 1,2-dichloroethane
EDB = Ethyl di-bromide, analyzed by EPA Method 8260B
Ethanol analyzed by EPA Method 8260B
ppb = Parts per billion
--- = Not analyzed
a = Chromatogram pattern as weathered gasoline
b = Chromatogram pattern as gasoline
c = San Francisco Bay Regional Water Quality Control Board Environmental Screening Level where groundwater is not a source of drinking water