

R0495



Denis L. Brown

November 10, 2005

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

Shell Oil Products US
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Re: Site Conceptual Model
Shell-branded Service Station
29 Wildwood Avenue
Piedmont, California
SAP Code 135765
Incident No. 98995822

Alameda County
NOV 10 2005

Dear Mr. Wickham:

Attached for your review and comment is a copy of the *Site Conceptual Model* for the above referenced site. 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
Sr. Environmental Engineer

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

Re: **Site Conceptual Model**
Shell-branded Service Station
29 Wildwood Avenue
Piedmont, California
SAP # 135765
Cambria Project #247-0687-007
ACEH Case #1107



Dear Mr. Wickham:

Cambria Environmental Technology, Inc. (Cambria) prepared this site conceptual model (SCM) at the request of Equilon Enterprises LLC dba Shell Oil Products US (Shell).

SITE BACKGROUND

Site Location: This Shell-branded station is located at the Wildwood and Grand Avenue intersection in Piedmont, California (Figure 1), at the border of the cities of Piedmont and Oakland. Three underground storage tanks (USTs) and one 550-gallon waste oil UST are located at the site. The site lies at the confluence of two topographic valleys. Five groundwater monitoring wells have been installed at the site: three wells are located on site (MW-1, MW-2, and MW-3) and two downgradient wells (MW-4 and MW-5) are located in Grand Avenue (Figure 2). One monitoring well (E-4) was installed and later abandoned due to flowing artesian groundwater conditions.

Summaries of historical investigations and activities at the site are provided below:


1984 Subsurface Investigation: In August 1984, EMCON Associates (EMCON) of San Jose, California advanced four soil borings (E-1 through E-4) and converted one boring (E-4) to a groundwater monitoring well following the removal of steel fuel tanks at the site. Hydrocarbons were detected at approximately 5 feet below grade (fbg) in three of the borings (E-1 through E-3) completed within the tank backfill, though no analytical data were included in the report. Boring locations are included on Figure 2. Details of the investigation are contained in EMCON's September 20, 1984 letter report to Gettler-Ryan Inc. of Hayward, California referencing *Subsurface Hydrogeologic Investigations*.

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1984 UST and Fuel Line Installation: New fuel lines and three fiberglass USTs were installed at the site in September 1984.

1987 Soil Sampling: In June 1987, a 550-gallon former waste oil tank was replaced at the site with a double-walled UST. During the tank replacement, Blaine Tech Services, Inc. (Blaine) of San Jose, California collected a water sample and two soil samples from within the excavation. Only one of the samples was submitted to the laboratory for analysis; no hydrocarbons or volatile organic compounds were detected in the sample. Blaine's June 26, 1987 *Sampling Report*, submitted to Shell Oil Company, contains details of the sampling.



1988 Soil Investigation: In August, 1988 ENSCO Environmental Services (ENSCO) advanced five shallow soil borings (B-1 through B-5) to maximum depths of 15.5 fbg adjacent to the existing USTs. Boring locations are included on Figure 2. Logs of the borings are included in Attachment A. Two borings were advanced on the assumed downgradient side of the USTs, two were advanced on the assumed upgradient side of the USTs, and one was advanced adjacent to an existing waste oil tank. Hydrocarbon odor was detected in soil cuttings from each of the borings, and a sheen was noted in soil collected in boring B-4 at 6 to 8 fbg. Soil samples were collected from the borings and field analyzed for total petroleum hydrocarbons as gasoline (TPHg). Samples containing greater than 100 parts per million (ppm) TPHg were also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Hydrocarbons were detected in samples collected from the upgradient borings (B-3 and B-4) at depths of between 5 and 10 fbg. TPHg was detected at a maximum concentration of 6,500 ppm in B-3 and 750 ppm in B-4. BTEX concentrations were also detected in samples from these borings. Soil analytical data from this investigation is included on Table 1. ENSCO's October 3, 1988 *Soil Investigation* report details the investigation.

1989 Well Installations: On September 12, 1989, Weiss Associates (Weiss) of Oakland, California submitted a *Well Construction Report* to the Alameda County Flood Control and Water Conservation District. The report contains the logs for six soil borings (BH-D through BH-I) and the logs and well completion details for three groundwater monitoring wells (MW-1 through MW-3) completed at the site. Boring locations are included on Figure 2. The boring logs are included in Attachment A.

TPHg was detected in soil samples collected from four of the borings, with a maximum concentration (710 ppm) detected at 3.5 fbg in the boring just west of the UST complex. Groundwater samples were collected from each well upon completion. Hydrocarbons were detected in the samples collected from wells MW-2 and MW-3. Maximum TPHG and benzene concentrations of 3,900 parts per billion (ppb) and 380 ppb, respectively, were detected in the sample collected from MW-3.

1990 Subsurface Investigation: In January 1990, Weiss advanced three soil borings (BH-J through BH-L) and installed two groundwater monitoring wells (MW-4 and MW-5) at the site. Figure 2 shows boring and well locations, and Attachment A includes the boring logs.

No hydrocarbons were detected in soil samples collected from the three borings. Weiss subsequently collected groundwater samples from the two new wells and four existing wells. Hydrocarbons were detected in the samples collected from wells MW-2 and MW-3. The maximum TPHg and benzene concentrations of 5,500 ppb and 440 ppb, respectively, were detected in the sample collected from MW-3. Details of the investigation are included in Weiss' June 21, 1990 *Subsurface Investigation and Ground Water Monitoring* report.

1995 Well Destruction: On June 16, 1995, Weiss oversaw the abandonment of monitoring well E-4 by overdrilling an additional 2 inches of soil from the borehole sidewalls, insuring that the filter pack and sanitary seal were completely removed, removing the well casing from the borehole, and backfilling the boring with neat cement grout. Well E-4 was a flowing artesian well screened in a deeper water-bearing zone than the other wells on the site. No hydrocarbons were detected in any samples collected from this well. Weiss submitted well abandonment details to the Alameda County Flood Control and Water Conservation District in an August 21, 1995 letter report titled *Ground Water Monitoring Well Abandonment*.

1998 Fueling System Upgrade Sampling: In March 1998 following an upgrade of the site's fueling system, Cambria collected soil samples from beneath the dispensers and from the sidewalls of the remote fill piping excavation. Petroleum hydrocarbons were detected in the soil sample collected beneath dispenser D-2 at 2 fbg (1,600 ppm TPHg and 6.3 ppm benzene). Total petroleum hydrocarbons as diesel (TPHd) were detected at 10 ppm in the sample collected from remote fill piping sample RF-1 at approximately 1.5 feet below the bottom of the pavement. Boring locations are included on Figure 2. Soil analytical data is included in Table 1. Sampling details are included in Cambria's April 6, 1998 *Dispenser Soil Sampling Report*.

2003 Conduit Study: In January 2003, Cambria performed a conduit study to determine the location of potential preferential pathways for groundwater migration in the site's vicinity. Natural conduits, such as former stream channels, as well as manmade conduits, were investigated (Figure 2). The study concluded that, based on the depth to groundwater at the site and the typical depth at which utility trenches are emplaced, utility trenches would likely act as preferential pathways for groundwater flow. The study further concluded that currently buried former creek channels are likely to act as natural barriers and conduits for groundwater flow and that it is likely that any shallow or deep groundwater leaving the site will be contained within the confines of the former creek channels. From this, groundwater is expected to flow towards Lake Merritt, which is consistent with groundwater monitoring results. Details of the conduit study are contained in Cambria's January 30, 2003 *Conduit Study Report*.

2003 Well Survey and SCM: In August 2003, Cambria reviewed California Department of Water Resources records to identify potential receptor wells within a ½-mile radius of the site. Cambria obtained a total of 73 well driller's reports for wells within the four township and range sections that encompass the survey area. From these records, Cambria located one water-producing well within the ½-mile radius. Figure 1 shows locations of wells identified in the well survey, and Table 2 presents well survey results.

The survey concluded that no potential receptor wells are located within ½ mile downgradient of the site. Due to distance and location upgradient of the site, it is unlikely that any known water producing well would be impacted by hydrocarbons or oxygenates originating from at the site. As the Alameda County Health Care Services Agency (ACHCSA) requested, Cambria also prepared a conceptual model for the site. The model included the following conclusions:

- Natural barriers (former creek channels, topography) serve to limit horizontal and vertical chemical migration downgradient of the site;
- At the time (third quarter 2003), only the groundwater TPHg concentration in well MW-3 exceeded the California Regional Water Quality Control Board's (RWQCB's) Environmental Screening Level (ESL); and
- Concentrations of all constituents of concern are declining with time, indicating that no further release has occurred and that natural attenuation processes are remediating the constituents detected in groundwater.

Details of the well survey and the SCM are included in Cambria's August 14, 2003 *Well Survey and Site Conceptual Model*.

2005 Fueling System Upgrade Sampling: During an upgrade of the site's fueling system in April 2005, Cambria collected soil samples from beneath each of the site's two dispensers and at selected piping locations. Two dispenser soil samples (D-1-3.0 and D-2-3.0) were collected at depths of 3 fbg, and three product piping soil samples (P-1-5 through P-3-5) were collected at depths of 5 fbg. Field indications of hydrocarbons, including staining and odor, were observed in both dispenser areas and at one piping sampling location. A pink-colored viscous product was also observed in one dispenser excavation. This pink liquid was not observed during piping sampling. Boring locations are included on Figure 2. Sampling results are included in Table 1.

TPHg was detected in three soil samples, with a maximum detected concentration of 610 ppm in soil sample P-2-5. TPHd was detected in two soil samples, with a maximum concentration of 890 ppm in sample D-1-3.0. The pink fluid was observed at this sample location during sampling activities. From field observations and laboratory analysis, the fluid composition remains unknown. Benzene was detected in sample D-1-3.0 at a concentration of 0.068 ppm. Ethylbenzene, total xylenes, and methyl tertiary butyl ether (MTBE) were detected at maximum concentrations of 8.0 ppm, 0.66 ppm, and 0.18 ppm, respectively, in sample D-1-3.0. Toluene

was not detected in any samples collected during these activities. Sampling details are included in Cambria's June 7, 2005 *Dispenser and Piping Upgrade Sampling Report*.

Groundwater Monitoring Program: Groundwater monitoring has been performed quarterly at the site since July 1989. Artesian conditions were seen at well E-4; depth to water in the remainder of the wells has ranged historically between 1.89 and 8.84 fbg. Historical groundwater elevations in site wells have ranged between 24.26 and 38.18 feet above mean sea level (msl). During the third quarter 2005 monitoring and sampling event, the depth to water in the wells ranged from 3.32 to 4.42 fbg, and the groundwater elevations ranged from 29.94 to 37.49 feet above msl. The groundwater flow direction, as calculated from depth to water measurements in on-site monitoring wells, is typically toward the west to northwest, but has occasionally ranged to the west-southwest. The off-site groundwater flow direction is to the southwest. Groundwater analytical and elevation data are included as Attachment B.

In response to an ACHCSA request in a April 8, 1998 letter, samples collected from monitoring wells MW-1 through MW-5 were analyzed for halogenated volatile organic compounds (HVOCs) beginning in May 1998.. The ACHCSA letter referenced a 1996 letter from Weiss which stated that HVOCs had been detected in wells MW-4 and MW-5. ACHCSA conceded that a dry cleaner, a more likely source of these contaminants, may be located near the station, but stated that the on-site waste oil tank was also a possible source. HVOCs were detected in samples collected from off-site wells MW-4 and MW-5, but there were no detections in on-site monitoring well samples. Cambria concluded that the relatively low off-site detections are apparently from an off-site source, and HVOC sampling ceased following the April 2001 sampling event. Attachment B includes results of HVOC analysis of groundwater samples.

Remediation Activities: Oxygen reducing compound (ORC) socks were installed in all wells during the fourth quarter 1997 monitoring event. The socks were removed from all site wells except MW-2 and MW-3 in August 2001. Due to the absence of an observable appreciable effect over the course of 13 quarters, ORC socks were removed from wells MW-2 and MW-3 in April 2005.

SCM

An updated SCM table and a conceptual figure are included as Attachment C.

CONCLUSIONS AND RECOMMENDATIONS

MTBE concentrations in groundwater in on-site monitoring wells MW-2 and MW-3 remain in excess of the San Francisco RWQCB's ESL of 5 ppb. This standard, however, applies to locations at which groundwater is a current or potential drinking water source. According to the June 1999 East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, the City of Piedmont does not have any plans to develop local groundwater resources for drinking water purposes. MTBE concentrations at MW-2 and MW-3 are well below the ESL of 1,800 ppb for locations at which groundwater is not a current or potential drinking water source.



TPHg and benzene concentrations in on-site monitoring well MW-3 remain in excess of their respective ESLs for sites at which groundwater is not a source of drinking water. Therefore, Cambria recommends the following:

- The groundwater sampling frequency be decreased from quarterly to annually for all site monitoring wells except MW-3.
- The groundwater sampling frequency be decreased from quarterly to semi-annually for monitoring well MW-3 until TPHg and benzene concentrations are shown to be below their respective ESLs; and
- Case closure should be considered once the above criterion is met.

CLOSING

If you have any questions regarding the contents of this document, please call David Gibbs at (510) 420-3363.

Sincerely,
Cambria Environmental Technology, Inc.



David M. Gibbs, P.G.
Project Geologist



for:
Matthew W. Derby, P.E.
Senior Project Engineer



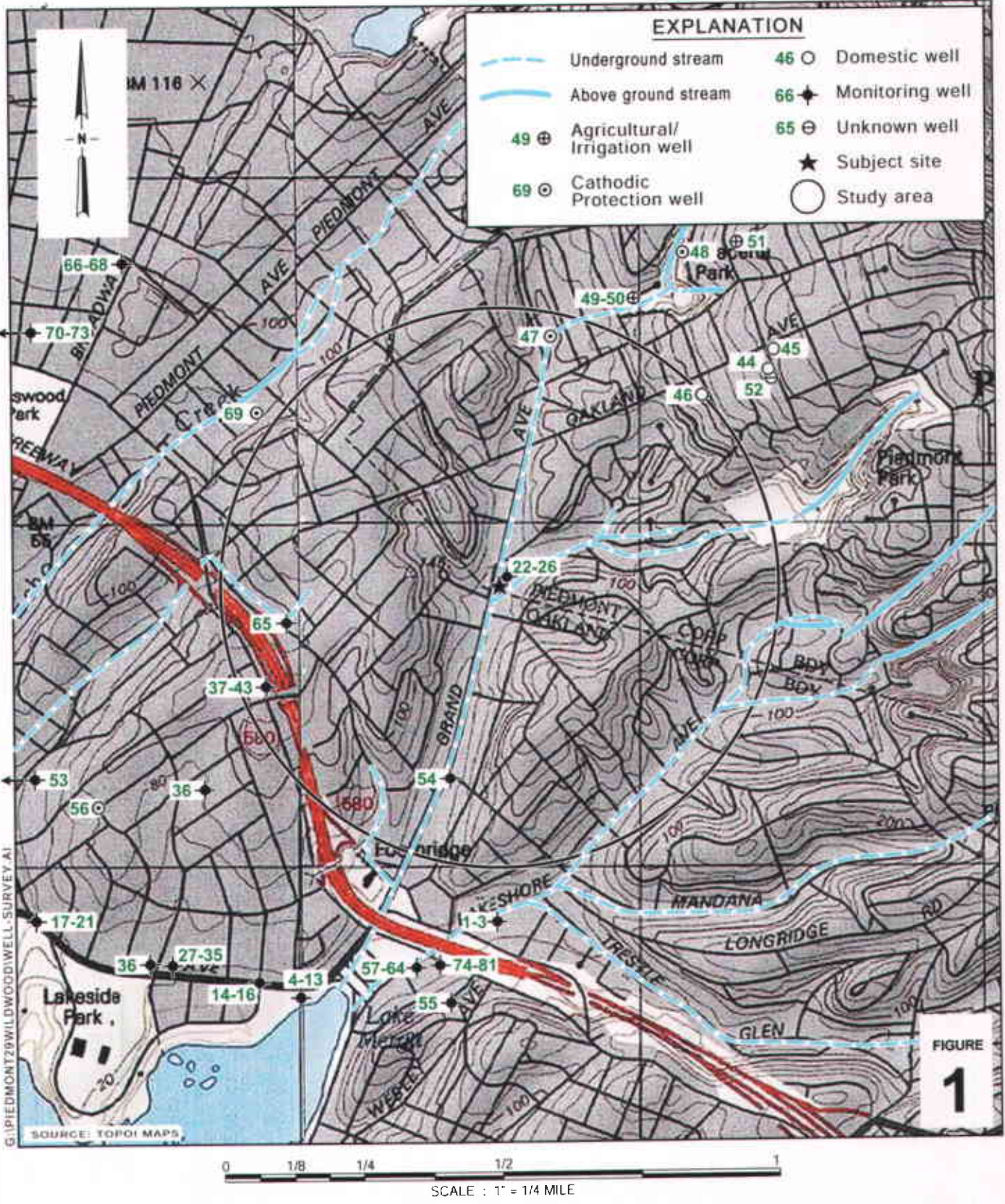
Figures: 1 - Vicinity Map/Area Well Survey
 2 - Site Plan

Tables: 1 - Historic Soil Analytical Data – TPHg, TPHd, BTEX and MTBE
 2 - Department of Water Resources Well Survey Results

Attachments: A - Boring Logs
 B - Groundwater Elevation and Analytical Data
 C - Site Conceptual Model Table and Figure

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

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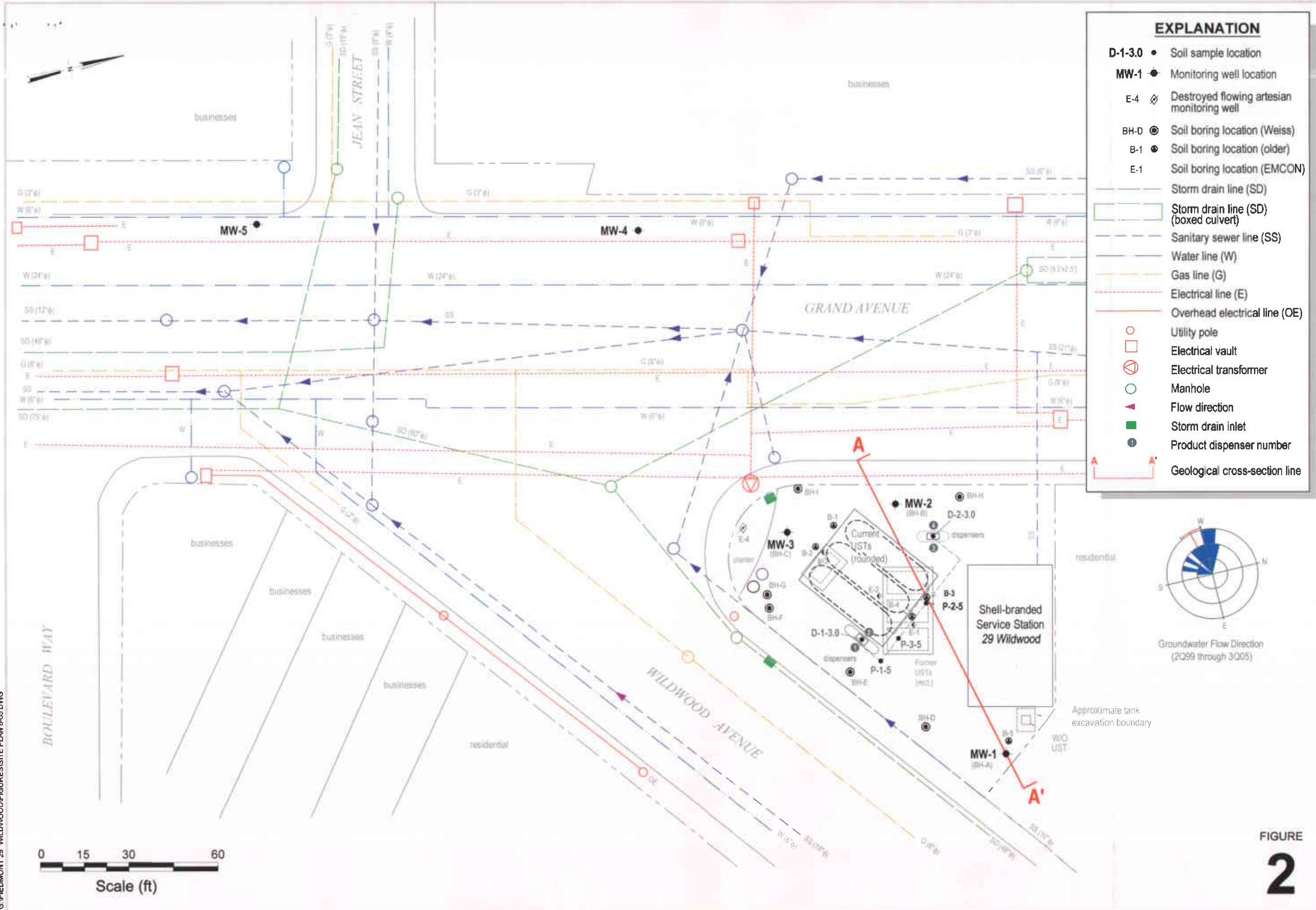
Shell-branded Service Station
 29 Wildwood Avenue
 Piedmont, California
 Incident #98995822



C A M B R I A

Vicinity/Area Well Survey Map

1/2 Mile Radius



EXPLANATION

- D-1-3.0 • Soil sample location
- MW-1 • Monitoring well location
- E-4 ⊗ Destroyed flowing artesian monitoring well
- BH-D ⊙ Soil boring location (Weiss)
- B-1 • Soil boring location (older)
- E-1 • Soil boring location (EMCON)
- Storm drain line (SD)
- ▭ Storm drain line (SD) (boxed culvert)
- - - Sanitary sewer line (SS)
- Water line (W)
- Gas line (G)
- - - Electrical line (E)
- Overhead electrical line (OE)
- Utility pole
- ▭ Electrical vault
- ⊗ Electrical transformer
- Manhole
- ▲ Flow direction
- Storm drain inlet
- Product dispenser number
- Geological cross-section line

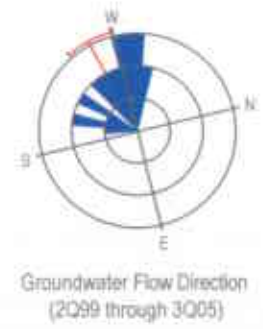
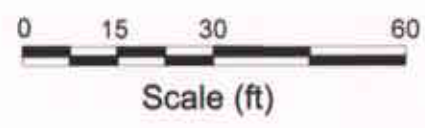


FIGURE
2

Site Plan



C A M B R I A

Shell-branded Service Station

29 Wildwood Avenue
Piedmont, California
Incident No. 98995822

Table 1.

Historic Soil Analytical Data - TPHg, TPHd, BTEX, and MTBE - 29 Wildwood, Piedmont, California - Incident #98995822

Sample ID	Sample Depth (fbg)	Sample Date	TPHg	TPHd	parts per million			Ethyl-benzene	Total Xylenes	MTBE
					Benzene	Toluene				
1988 Soil Investigation										
B-1-1	4.5-5	8/9/1988	BRL	NA	NA	NA	NA	NA	NA	NA
B-2-1	5-5.5	8/9/1988	BRL	NA	NA	NA	NA	NA	NA	NA
B-3-1	5-5.5	8/9/1988	13	NA	NA	NA	NA	NA	NA	NA
B-3-2	10-10.5	8/9/1988	6,500	NA	4.5	1.6	28	2.5	NA	NA
B-3-3	15-15.5	8/9/1988	BRL	NA	NA	NA	NA	NA	NA	NA
B-4-1	10-10.5	8/9/1988	750	NA	3.4	3.4	1.2	1.7	NA	NA
B-4-2	15-15.5	8/9/1988	BRL	NA	NA	NA	NA	NA	NA	NA
B-5-(1-2) (composite)	5-5.5 and 10-10.5	8/9/1988	BRL	NA	NA	NA	NA	NA	NA	NA
1989 Well Installations										
BH-A (MW-1)	3.6	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-B (MW-2)	1.0	7/5/1989	11	NA	0.19	<0.1	0.1	<0.3	NA	NA
BH-B (MW-2)	3.5	7/5/1989	710	NA	3	5	17	71	NA	NA
BH-B (MW-2)	7.4	7/5/1989	5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-B (MW-2)	10.5	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-B (MW-2)	14.0	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-C (MW-3)	3.5	7/5/1989	<5	NA	1.3	0.3	0.2	0.7	NA	NA
BH-C (MW-3)	5.5	7/5/1989	72	NA	1.2	3.1	8.3	42	NA	NA
BH-C (MW-3)	9.0	7/5/1989	270	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-D	2.5	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-D	6	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-D	9.5	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-D	15	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-E	2.0	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-E	5.8	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-H	3.5	7/5/1989	8	NA	0.07	<0.1	<0.1	<0.1	NA	NA
BH-H	7.0	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA
BH-I	6.0	7/5/1989	540	NA	<1	<2	<4	<10	NA	NA
BH-I	7.5	7/5/1989	29	NA	<0.2	<0.1	<0.2	<0.3	NA	NA
BH-I	10.0	7/5/1989	<5	NA	<0.05	<0.1	<0.1	<0.3	NA	NA

Table 1.
**Historic Soil Analytical Data - TPHg, TPHd, BTEX, and MTBE - 29 Wildwood, Piedmont, California
Incident #98995822**

Sample ID	Sample Depth (fbg)	Sample Date	TPHg	TPHd	parts per million				
					Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<i>1990 Subsurface Investigation</i>									
BH-J (MW-4)	2.4	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-J (MW-4)	5.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-J (MW-4)	18.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-K (MW-5)	3.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-K (MW-5)	5.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-K (MW-5)	18	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-L	3.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-L	6.4	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-L	15.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
BH-L	25.2	1/23/1990	<1	NA	<0.0025	<0.0025	<0.0025	<0.0025	NA
<i>1998 Upgrade Sampling</i>									
D-2	2.0	3/3/1998	1,600^a	--	6.3^b	24^b	18^b	160^b	36^c
<i>2005 Upgrade Sampling</i>									
D-1-3.0	3.0	4/5/2005	500	890	0.068	<0.050	8.0	0.66	0.18
D-2-3.0	3.0	4/5/2005	<1.0	9.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
P-1-5	5.0	4/29/2005	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
P-2-5	5.0	4/29/2005	610	--	<0.50	<0.50	7.8	<0.50	<0.50
P-3-5	5.0	4/29/2005	51	--	<0.50	<0.50	<0.50	<0.50	<0.50

Table 1. Historic Soil Analytical Data - TPHg, TPHd, BTEX, and MTBE - 29 Wildwood, Piedmont, California Incident #98995822

Sample ID	Sample Depth (fbg)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
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←————— parts per million —————→

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by modified EPA Method 8260B.

TPHd = Total petroleum hydrocarbons as diesel, analyzed by EPA 8015M

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B.

MTBE = Methyl tertiary-butyl ether, analyzed by EPA Methods 8260B.

fbg = Feet below grade.

BRL = Below an unknown reporting limit

<n = Below laboratory reporting limit of n ppm.

-- = not analyzed

a: TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015.

b: Benzene, ethylbenzene, toluene, and total xylenes analyzed by EPA Method 8020

c: MTBE = Methyl tert-butyl ether by EPA Method 8020.

Table 2. Department of Water Resources Well Survey Results - Shell-branded Service Station - 29 Wildwood, Piedmont, California - Incident # 98995822

Map ID	Well ID	Owner Well ID	Install Date	Owner	Well Location	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)	Well Status	Miles From Site
1	1S4W-25R3	U-1	9/24/90	Unocal	3220 Lakeshore Ave.	MON	20	5-20	0-4	UNK	0.60
2	1S4W-25R2	U-2	9/24/90	Unocal	3220 Lakeshore Ave.	MON	20	5-20	0-4	UNK	0.60
3	1S4W-25R4	U-3	9/24/90	Unocal	3220 Lakeshore Ave.	MON	20	5-20	0-4	UNK	0.60
4	1S4W-25Q1	MW-8F	3/16/89	Texaco	500 Grand Ave.	MON	20	9-15	0-8	UNK	0.83
5	1S4W-25Q2	MW-8G	3/16/89	Texaco	500 Grand Ave.	MON	16.5	5-15	0-4.5	UNK	0.83
6	1S4W-25Q3	MW-8H	1/8/90	Texaco	500 Grand Ave.	MON	16.5	5-15	0-4	UNK	0.83
7	1S4W-25Q4	MW-8I	1/9/90	Texaco	500 Grand Ave.	MON	16.5	5-15	0-4	UNK	0.83
8	1S4W-25Q5	MW-8J	1/9/90	Texaco	500 Grand Ave.	MON	16.5	5-15	0-4	UNK	0.83
9	1S4W-25Q7	MW-8E	8/3/92	Texaco	500 Grand Ave.	MON	20	4.5-15	0-4	DEST	0.83
10	1S4W-25Q8	MW-8B	4/1/93	Texaco	500 Grand Ave.	MON	---	---	---	DEST	0.83
11	1S4W-25Q9	MW-8C	4/1/93	Texaco	500 Grand Ave.	MON	---	---	---	DEST	0.83
12	1S4W-25Q10	MW-8L	5/18/93	Texaco	500 Grand Ave.	MON	19.5	3-18	1.5-2.5	UNK	0.83
13	1S4W-25Q11	MW-8K	5/18/93	Texaco	500 Grand Ave.	MON	19.5	3-18	1.5-2.5	UNK	0.83
14	1S4W-25P13	C-1	12/14/92	Chevron	460 Grand Ave.	MON	20	5-15	0-4.5	UNK	0.84
15	1S4W-25P14	C-2	12/14/92	Chevron	460 Grand Ave.	MON	16.5	5-15	0-4.5	UNK	0.84
16	1S4W-25P15	C-3	12/14/92	Chevron	460 Grand Ave.	MON	15	5-15	0-4.5	UNK	0.84
17	1S4W-25M80	MW-2	---	Chevron	210 Grand Ave.	MON	---	---	---	DEST	1.04
18	1S4W-25M9	MW-6	6/29/90	Chevron	210 Grand Ave.	MON	12	5-10	0-5	UNK	1.04
19	1S4W-25M10	MW-7	6/29/90	Chevron	210 Grand Ave.	MON	12	5-10	0-5	UNK	1.04
20	1S4W-25M11	MW-8	6/29/90	Chevron	210 Grand Ave.	MON	14	5.5-8	0-5.5	UNK	1.04
21	1S4W-25M12	MW-9	6/29/90	Chevron	210 Grand Ave.	MON	12	5-10	0-4.5	UNK	1.04
22	1S4W-25A5	MW-1	7/6/89	Shell	29 Wildwood Ave	MON	20	6-15	0-5.5	UNK	0.00
23	1S4W-25A6	MW-2	7/6/89	Shell	29 Wildwood Ave	MON	20	6-12	0-5.5	UNK	0.00
24	1S4W-25A7	MW-3	7/6/89	Shell	29 Wildwood Ave	MON	20	3.5-10	0-3.5	UNK	0.00
25	1S4W-25A4	MW-4	1/23/90	Shell	29 Wildwood Ave	MON	20	4-16	3-4	UNK	0.00
26	1S4W-25A8	MW-5	1/23/90	Shell	29 Wildwood Ave	MON	16.5	5-16	3.5-4	UNK	0.00
27	1S4W-25P6	MW-6	3/6/90	Quick Stop Markets	363 Grand Ave.	MON	30	15-30	0-15	UNK	0.90
28	1S4W-25P7	MW-7	3/7/90	Quick Stop Markets	363 Grand Ave.	MON	23.5	13.5-23.5	0-11.5	UNK	0.90
29	1S4W-25P8	MW-8	3/7/90	Quick Stop Markets	363 Grand Ave.	MON	31.5	18.5-28.5	0-16.5	UNK	0.90

Table 2. Department of Water Resources Well Survey Results - Shell-branded Service Station - 29 Wildwood, Piedmont, California - Incident # 98995822

Map ID	Well ID	Owner Well ID	Install Date	Owner	Well Location	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)	Well Status	Miles From Site
30	1S4W-25P5	MW-5	3/5/90	Quick Stop Markets	363 Grand Ave.	MON	31.5	15-30	0-13	UNK	0.90
31	1S4W-25P4	MW-4	3/5/90	Quick Stop Markets	363 Grand Ave.	MON	31.5	15-30	0-13	UNK	0.90
32	1S4W-	MW-1	11/10/88	Quick Stop Markets	363 Grand Ave.	MON	27	27-30.5	0-13	UNK	0.90
33	1S4W-	MW-3	11/16/88	Quick Stop Markets	363 Grand Ave.	MON	36	24-34	0-15	UNK	0.90
34	1S4W-	MW-2	11/11/88	Quick Stop Markets	363 Grand Ave.	MON	35.5	15-35	0-15	UNK	0.90
35	1S4W-25P12	RW-1	8/14/90	Quick Stop Markets	363 Grand Ave.	MON	37	25-35	0-22	UNK	0.90
36	1S4W-25P9	S-1	1/7/91	Shell	350 Grand Ave.	MON	17	7-16	0-5	UNK	0.65
37	1S4W-24P1	S-A	4/14/86	Shell	230 MacArthur Blvd.	MON	13	3-13	1.5-2.0	UNK	0.45
38	1S4W-24P2	S-B	4/14/86	Shell	230 MacArthur Blvd.	MON	13	3-13	1.5-2.0	UNK	0.45
39	1S4W-24P3	S-C	4/14/86	Shell	230 MacArthur Blvd.	MON	13	3-13	1.5-2.0	UNK	0.45
40	1S4W-24P7	MW-4	1/9/90	Shell	230 MacArthur Blvd.	MON	25.5	15-25	0-14	UNK	0.45
41	1S4W-24P?	MW-1	7/11/88	Shell	230 MacArthur Blvd.	MON	31.5	10-30	0-8	UNK	0.45
42	1S4W-24P5	MW-2	7/11/88	Shell	230 MacArthur Blvd.	MON	28	10-28	0-6	UNK	0.45
43	1S4W-24P6	MW-3	7/12/88	Shell	230 MacArthur Blvd.	MON	28.5	11.5-28.5	0-10	UNK	0.45
44	1S3W-19P4		2/5/91	Paul Hertelendy	321 Hillside Ave.	DOM	157	77-157	0-21	UNK	0.60
45	1S3W-19P13		5/30/05	Abbott	304 Hillside Ave.	DOM	220	---	0-75	UNK	0.68
46	1S3W-19P2		1977	Traulsen	326 El Cerrito	DOM	300	---	0-110	UNK	0.50
47	1S3W-19M3		1/27/82	East Bay MUD	Lower Grand Ave & Holly Place	CAT	65	---	5-48	UNK	0.48
48	1S3W-19L?		7/17/74	PG & E	132 Dracena Ave	CAT	120	---	---	UNK	0.70
49	1S3W-19M2		8/29/77	City of Piedmont	Dracena Park	IRR	300	---	---	UNK	0.56
50	1S3W-19M3		10/1977	City of Piedmont	Dracena Park	IRR	300	---	---	UNK	0.56
51	1S3W-19M5	---	12/23/88	John B. Bates, Jr.	125 Hillside Ave.	IRR	100	40-100	0-20	UNK	0.75
52	1S3W-	1137	---	Ernest J. Sweetland	321 Hillside Ave.	UNK	119.5	39.5-119.5	---	UNK	0.60
53	1S4W-25M14	---	2/23/93	Wells Fargo Bank/Sehpard Trust	230 Bay Place	MON	20	5-20	0-4	UNK	1.00
54	1S4W-25H1	MW-1	1/25/91	Martini Company	3509 Grand Ave.	MON	40	10-40	0-8	UNK	0.35
55	1S4W-25R1	MW-1	10/10/89	Ranger Pipeline	637 Beacon	MON	35.5	15-35.5	0-15	UNK	0.75
56	1S4W-25L1	---	8/7/74	PG & E	Adams and Lee Streets	Cathodic	120	---	0-95	UNK	0.81
57	1S4W-25R5	MW-A	---	Chevron	3026 Lakeshore Ave	MON	---	---	---	DEST	0.70

Table 2. Department of Water Resources Well Survey Results - Shell-branded Service Station - 29 Wildwood, Piedmont, California - Incident # 98995822

Map ID	Well ID	Owner Well ID	Install Date	Owner	Well Location	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)	Well Status	Miles From Site
58	1S4W-25R6	MW-B	---	Chevron	3026 Lakeshore Ave	MON	---	---	---	DEST	0.70
59	1S4W-25R7	MW-C	---	Chevron	3026 Lakeshore Ave	MON	---	---	---	DEST	0.70
60	1S4W-25R8	MW-D	---	Chevron	3026 Lakeshore Ave	MON	---	---	---	DEST	0.70
61	1S4W-25R9	MW-G	---	Chevron	3026 Lakeshore Ave	MON	---	---	---	DEST	0.70
62	1S4W-25R10	MW-H	---	Chevron	3026 Lakeshore Ave	Extraction	---	---	---	DEST	0.70
63	1S4W-25R11	MW-I	---	Chevron	3026 Lakeshore Ave	Extraction	---	---	---	DEST	0.70
64	1S4W-25R12	MW-J	---	Chevron	3026 Lakeshore Ave	Extraction	---	---	---	DEST	0.70
65	1S4W-25B1	1	6/7/89	City of Oakland (Fire Station 10)	172 Santa Clara Ave	MON	25	10-25	0-9.5	UNK	0.38
66	1S4W-24L4	MW-1	10/17/89	Unocal	3943 Broadway	MON	20	5-20	0-4	UNK	0.90
67	1S4W-24L14	MW-10	2/6/92	Unocal	3943 Broadway	MON	---	---	---	UNK	0.90
68	1S4W-24L15	MW-11	2/6/92	Unocal	3943 Broadway	MON	---	---	---	UNK	0.90
69	1S4W-24Q1	---	6/26/74	PG & E	Moutell St, 75' w/o Robley Terrace	CAT	120	---	0-95	UNK	0.55
70	1S4W-24M1	MW-1	9/7/89	Unocal	411 W. MacArthur Blvd.	MON	29	5-29	0-4	UNK	1.00
71	1S4W-24M2	MW-2	9/6/89	Unocal	411 W. MacArthur Blvd.	MON	30.5	3.5-28.5	0-3	UNK	1.00
72	1S4W-24M3	MW-3	9/7/89	Unocal	411 W. MacArthur Blvd.	MON	29	5-29	0-4	UNK	1.00
73	1S4W-24M4	MW-4	9/6/89	Unocal	411 W. MacArthur Blvd.	MON	29	5-29	0-4	UNK	1.00
74	1S4W-25R13	MW-1	8/7/91	Chevron	3026 Lakeshore Ave	MON	14	4-14	0-3	DEST	0.69
75	1S4W-25R14	MW-2	8/7/91	Chevron	3026 Lakeshore Ave	MON	12	2-12	0-2	UNK	0.69
76	1S4W-25R15	MW-3	8/13/91	Chevron	3026 Lakeshore Ave	MON	18	8-18	0-5	UNK	0.69
77	1S4W-25R16	MW-4	8/13/91	Chevron	3026 Lakeshore Ave	MON	15	5-15	0-4	UNK	0.69
78	1S4W-25R17	MW-1	6/19/92	Chevron	3026 Lakeshore Ave	MON	19	4-19	0-3	UNK	0.69
79	1S4W-25R18	MW-5	6/12/92	Chevron	3026 Lakeshore Ave	MON	24	15-35	0-13	UNK	0.69
80	1S4W-25R19	MW-6	6/12/92	Chevron	3026 Lakeshore Ave	MON	19	4-19	0-3	UNK	0.69
81	1S4W-25R13	MW-7	6/12/92	Chevron	3026 Lakeshore Ave	MON	19	4-19	0-3	UNK	0.69

Table 2. Department of Water Resources Well Survey Results - Shell-branded Service Station - 29 Wildwood, Piedmont, California - Incident # 98995822

Map ID	Well ID	Owner Well ID	Install Date	Owner	Well Location	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)	Well Status	Miles From Site
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Notes and Abbreviations:


- Well information provided by the Alameda County Water District.
- Map ID number refers to map location on Figure 1.
- Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California
- fbg = feet below grade
- AG = Agricultural
- DOM = Domestic
- GEO = Geotechnical
- IND = Industrial
- MON = Monitoring
- UNK = Unknown
- CAT = Cathodic Protection
- DEST = destroyed
- "---" = no data available

ATTACHMENT A
Boring Logs

LOG OF EXPLORATORY BORING

PROJECT NUMBER 438-37.01
 BY BH DATE 8/15/84

BORING NO. E-1
 SURFACE ELEV. -

CLASSIFICATION DATA			FIELD DATA		Depth in Ft.	Ground Water Levels	Samples	DESCRIPTION
% Fines (No. 200)	Liquid Limit	Plasticity Index	Compressive Strength (TSF)	Penetration (Blows/Ft.)				
					5			4-inch Concrete FILL - Dark gray (2.5Y N4/0) fine SAND has a very strong product odor - damp (very dark grayish brown (2.5Y 3/2) sandy CLAY has product sheen - wet)
					10			BOTTOM OF BORING

REMARKS: Boring was backfilled to 4-inch with cuttings and capped with 4-inches of concrete.



LOG OF EXPLORATORY BORING

PROJECT NUMBER 438-37.01

BORING NO. E-2

BY BH DATE 8/15/84

SURFACE ELEV. -

CLASSIFICATION DATA			FIELD DATA		Depth in Ft.	Ground Water Levels	Samples	DESCRIPTION
% Fines (No. 200)	Liquid Limit	Plasticity Index	Compressive Strength (TSF)	Penetration (Blows/Ft.)				
				9	5		5	4-inch Concrete FILL - Black (2.5Y N2/0) silty CLAY has strong product odor - damp (has strong product sheen) BOTTOM OF BORING
					10			

REMARKS: Boring was backfilled to 4-inches with cuttings and capped with 4-inches of concrete.



LOG OF EXPLORATORY BORING

PROJECT NUMBER 438-37.01

BORING NO. E-3

BY BH DATE 8/15/84

SURFACE ELEV. -

CLASSIFICATION DATA			FIELD DATA			Depth in Ft.	Ground Water Levels	Samples	DESCRIPTION
% Fines (No. 200)	Liquid Limit	Plasticity Index	Compressive Strength (TSF)	Penetration (Blows/Ft.)					
				8 5	5	5	5	5	4-inch Concrete FILL - Dark olive gray (5Y 3/2) fine SAND has strong product odor - damp (has strong product sheen) BOTTOM OF BORING
						10			

REMARKS: Boring was backfilled to 4-inches with cuttings and capped with 4-inches of concrete.



LOG OF EXPLORATORY BORING

PROJECT NUMBER 438-37.01

BORING NO. E-4

BY BH DATE 8/15/84

SURFACE ELEV. -

CLASSIFICATION DATA			FIELD DATA			Depth in Ft.	Ground Water Levels	Sampler	DESCRIPTION
% Fines (No. 200)	Liquid Limit	Plasticity Index	Compressive Strength (TSF)	Penetration (Blows/Ft.)					
					29	5		2-inch Asphalt and 4-inch Baserock (SC) Very dark grayish brown (10YR 3/2) clayey SAND - damp (CL) Dark olive gray (5Y 3/2) sandy CLAY - damp (SC) Dark olive gray (5Y 3/2) clayey SAND - damp (CL) Dark yellowish brown (10YR 3/6) fine sandy CLAY - damp (brown (7.5YR 5/2) sandy - damp to dry) (contains thin gravelly interbeds) (dark brown (7.5YR 3/4) sandy damp)	
					35	10		(gray (5Y 5/1) silty very fine sandy - damp to dry)	
					35	15		(light olive gray (5Y 6/2) very fine sandy contains minor medium to coarse sand - damp to dry)	
					70	20		(SM) Olive gray (5Y 5/2) silty fine SAND - wet	
					58	25		(CL) Mottled brown (7.5YR 4/2) and dark yellowish brown (10YR 4/6) CLAY - damp to dry	
					55	30		(mottled brown (7.5YR 4/2) and yellowish brown (10YR 5/6) sandy contains thin gravelly interbeds - damp to dry	
					65	35		BOTTOM OF BORING	

REMARKS: Boring was converted to a ground-water monitoring well with the installation of 35 feet of 3-inch PVC casing. The lower 12 feet of casing was slotted and the annular space backfilled to 15 feet with coarse aquarium sand. A bentonite-concrete seal was placed from 15 feet to 1 foot. The well was capped with a protective vault box and a locking device.





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EXPLORATORY BORING LOG

PROJECT NAME: SHELL STATION
29 WILDWOOD AVE.
PIEDMONT, CA
PROJECT NUMBER: 1856G

BORING NO. B-1
DATE DRILLED: 8/9/88
LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOYS/FOOT 140 ft./lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1				Asphalt - 3", baserock - 9"		
2			CH	SILTY CLAY, dark gray (7.5YR 4/0), some fine grained sands, petroleum odor, high plasticity, medium stiff, moist		
3			CL	SANDY CLAY, yellowish brown (10YR 5/6), fine grained sand up to 20%, slight petroleum odor, medium stiff, moist		
4						
5	B-1-1	11	CL	SANDY CLAY, light gray to olive yellow (2.5YR 7/0 to 2.5 YR 6/6), fine grained sand to 40%, possible petroleum odor, moist, stiff		0
6						
7						
8			CL-SC	SANDY CLAY to CLAYEY SAND, mottled light gray to strong brown (7.5YR 7/0 to 7.5YR 5/8), fine grained sands at 40 to 60%, no petroleum odor, very stiff to medium dense, very moist to wet	▽	
9						
10	B-1-2	30		Increasing gravels, up to 0.5" across		0
11				Bottom of boring = 10.5 feet		
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

SUPERVISED AND APPROVED BY R.G./C.E.G.



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environmental
services, Inc.

EXPLORATORY BORING LOG

PROJECT NAME: SHELL STATION
29 WILDWOOD AVE.
PIEDMONT, CA
PROJECT NUMBER: 1856G

BORING NO. B-2
DATE DRILLED: 8/9/88
LOGGED BY: RAG

DEPTH (ft)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1	B-2-1	7		Asphalt - 3", baserock - 9"	▽	175
2			CH	SILTY CLAY, dark gray (7.5YR 4/0), some fine grained sands, no petroleum odor, high plasticity medium stiff, moist		
3			SC	CLAYEY SAND, dark brown (10YR 3/3), fine to medium grained sands, some gravels up to 0.5" across, faint petroleum odor, loose, moist		
4			SW	SAND, dark gray (10YR 4/1), fine to medium grained, strong petroleum odor, loose, very moist, something very hard and resistant at 7 feet, large fragments of red chert 6" across in cuttings		
5				8/9/88, Groundwater encountered - 6 ft.		
6				Refusal at 7 feet		
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

SUPERVISED AND APPROVED BY R.G./C.E.G.



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EXPLORATORY BORING LOG

PROJECT NAME: SHELL STATION
29 WILDWOOD AVE.
PIEDMONT, CA

BORING NO. B-3
DATE DRILLED: 8/10/88

PROJECT NUMBER: 1856G

LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOYS/FOOT 140 ft./lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1				Concrete - 6"		
2				Pea gravel backfill		
3						
4			SC	CLAYEY SAND, brown (10YR 5/3), fine grained sands up to 60%, petroleum odor, loose, moist to very moist		
5	B-3-1	6	CH	SILTY CLAY, black (2.5YR 2/0), some isolated gravels, petroleum odor, high plasticity, medium stiff, moist to very moist		90
6						
7						
8				8/10/88, Groundwater encountered - 8 ft.	▽	
9			CL - SC	SANDY CLAY to CLAYEY SAND, dark gray to gray (2.5y 4/0 to 2.5Y 6/0), fine grained sands, localized clayey and sandy areas, some gravels up to 2" across, strong petroleum odor, medium dense to very stiff, wet		>200
10	B-3-2	20				
11						
12						
13			CL	SILTY CLAY, reddish brown (5YR 4/3), some medium grained sands, possible petroleum odor, hard, damp to moist		
14						
15	B-3-3	74				10
16				Bottom of boring = 15.5 feet		
17						
18						
19						
20						
21						

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EXPLORATORY BORING LOG

PROJECT NAME: SHELL STATION
29 WILDWOOD AVE.
PIEDMONT, CA
PROJECT NUMBER: 1856G

BORING NO. B-4
DATE DRILLED: 8/10/88
LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOYS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1				Concrete - 6"		
2				Pea gravel backfill		
3						
4						
5		3		No sample recovery		
6						
7			SP	SAND, dark gray to very dark gray (7.5YR 4/0 to 7.5YR 3/0), fine grained sand, up to 10% clay, strong petroleum odor, loose, very moist to wet, petroleum sheen on sand	▽	
8				8/10/88, Groundwater encountered - 8 ft.		
9						
10	B-4-1	13				250
11			SC	CLAYEY SAND, greenish gray (5G 5/1), fine grained sands up to 60%, some rounded gravels up to 2" across, slight petroleum odor, loose, moist		
12						
13			CL	SILTY CLAY, reddish brown (5YR 4/3), some medium grained sands, slight petroleum odor, hard, damp		
14						
15	B-4-2	68				20
16				Bottom of boring = 15 feet		
17						
18						
19						
20						
21						

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EXPLORATORY BORING LOG

PROJECT NAME: SHELL STATION
29 WILDWOOD AVE.
PIEDMONT, CA

BORING NO. B-5

DATE DRILLED 8/10/88

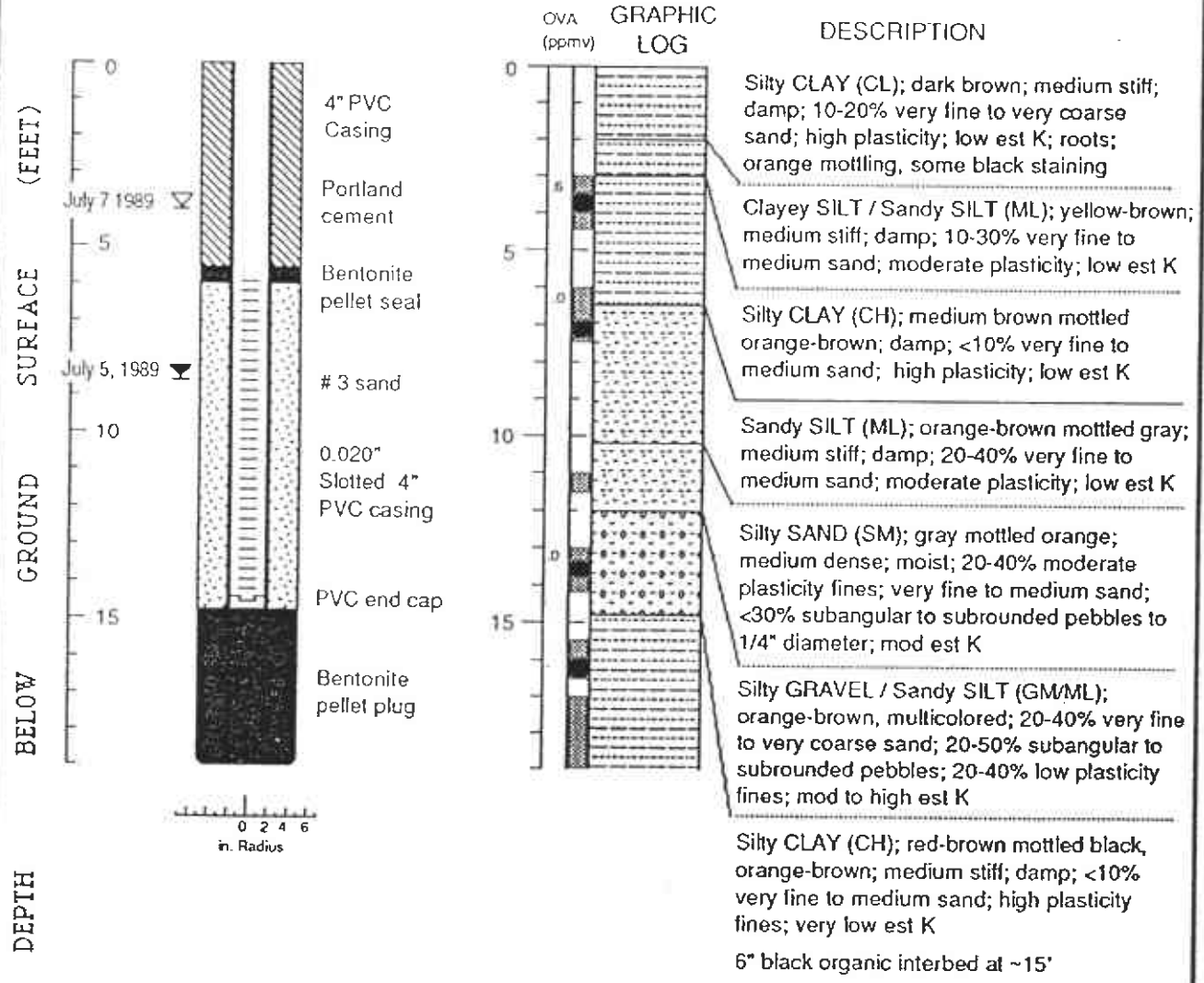
PROJECT NUMBER: 1856G

LOGGED BY: RAG








DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1				Asphalt - 4", baserock - 8"		
2			CH	SILTY CLAY, grayish brown (10YR 5/2), no petroleum odor, high plasticity, stiff, moist		
3						
4			CH	SILTY CLAY, very dark grayish brown (10YR 3/2), some fine sands and medium gravels, high plasticity, slight petroleum odor, stiff, moist		
5	B-5-1	16				
6			CL	SILTY CLAY to SANDY CLAY, mottled dark gray to strong brown (10YR 4/0 to 10YR 4/6), fine grained sands up to 40%, some medium sized gravels, petroleum odor, stiff, moist		20
7			CL - SC	SANDY CLAY to CLAYEY SAND, mottled dark grayish brown to dark brown (10YR 4/2 to 10YR 4/3), 40 to 60% fine grained sands, no petroleum odor, stiff to medium dense, moist		
8				8/10/88, Water level - 9 ft.	▽	
9			SC	CLAYEY SAND, light yellowish brown, fine grained sands up to 70%, no petroleum odor, medium dense, moist		
10	B-5-2	14	SC - SP	CLAYEY SAND to SAND, mottled light gray to yellowish brown (10YR 7/1 to 10YR 5/6), 70 to 90% fine grained sands, no petroleum odor, medium dense, wet		0
11						
12				Bottom of boring = 10.5 feet		
13						
14						
15						
16						
17						
18						
19						
20						
21						

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WELL MW-1 (BH-A)

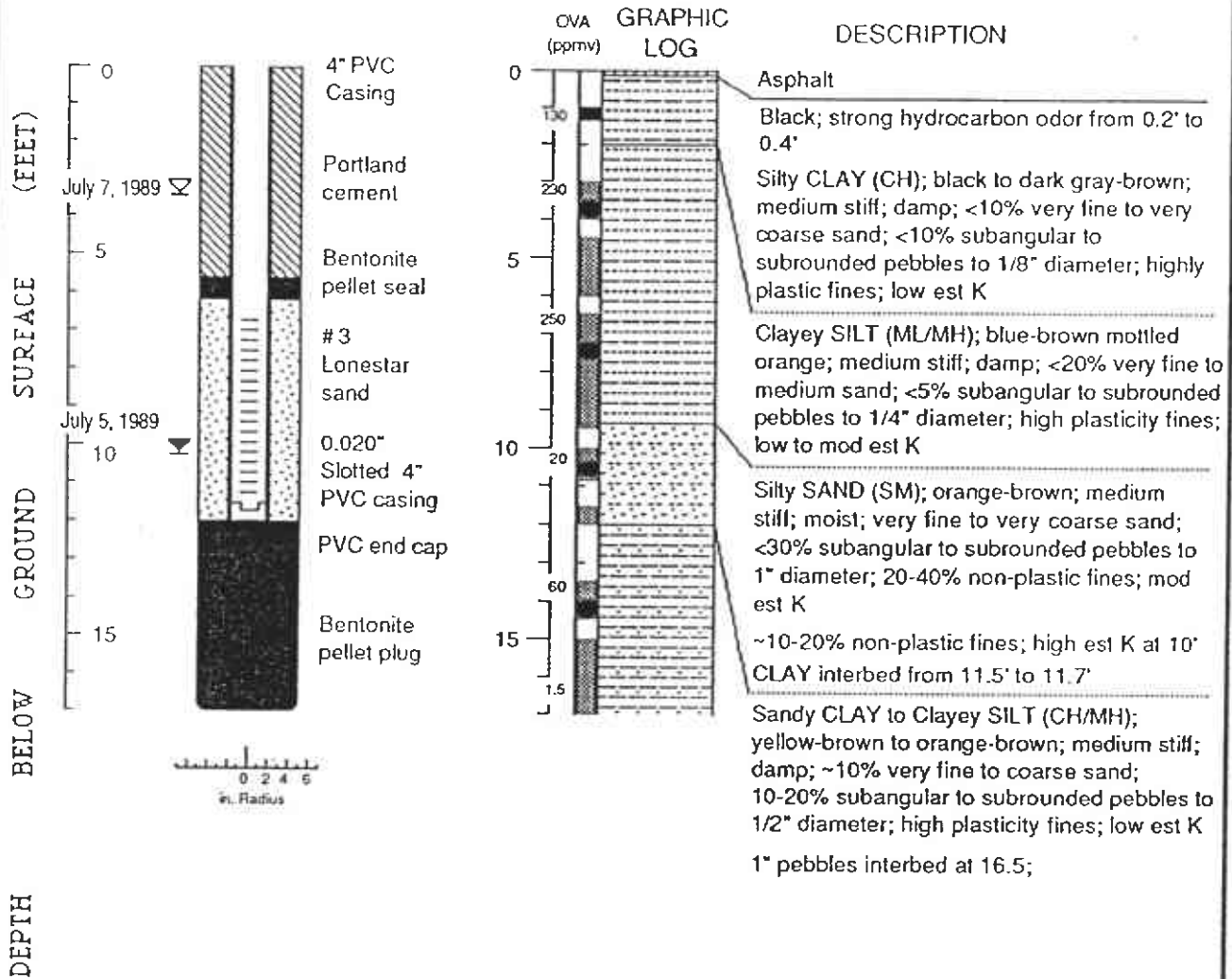


EXPLANATION

-  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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr / Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 5 to 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

WELL MW-2 (BH-B)

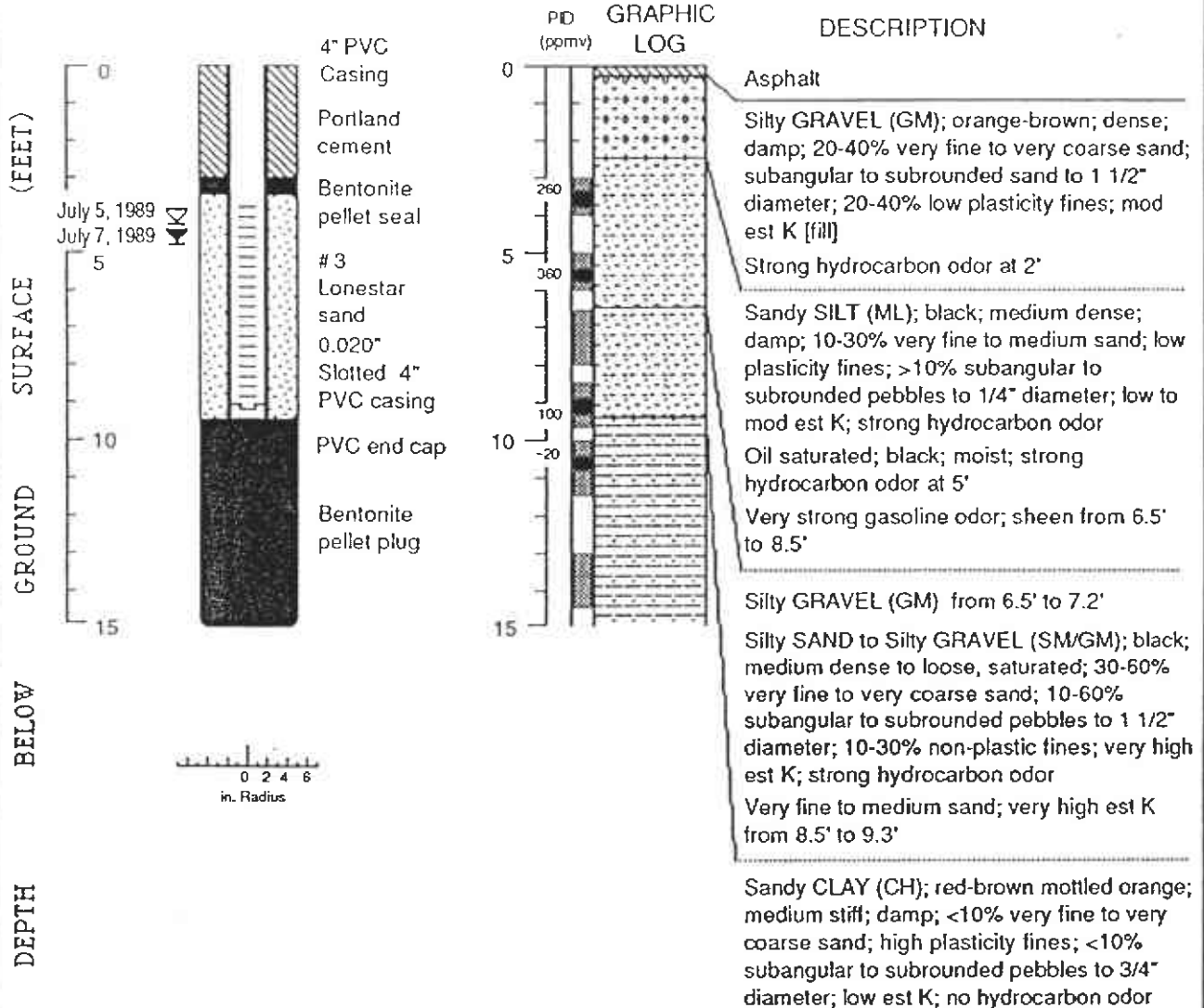


EXPLANATION

- ▼ 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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 5, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

WELL MW-3 (BH-C)

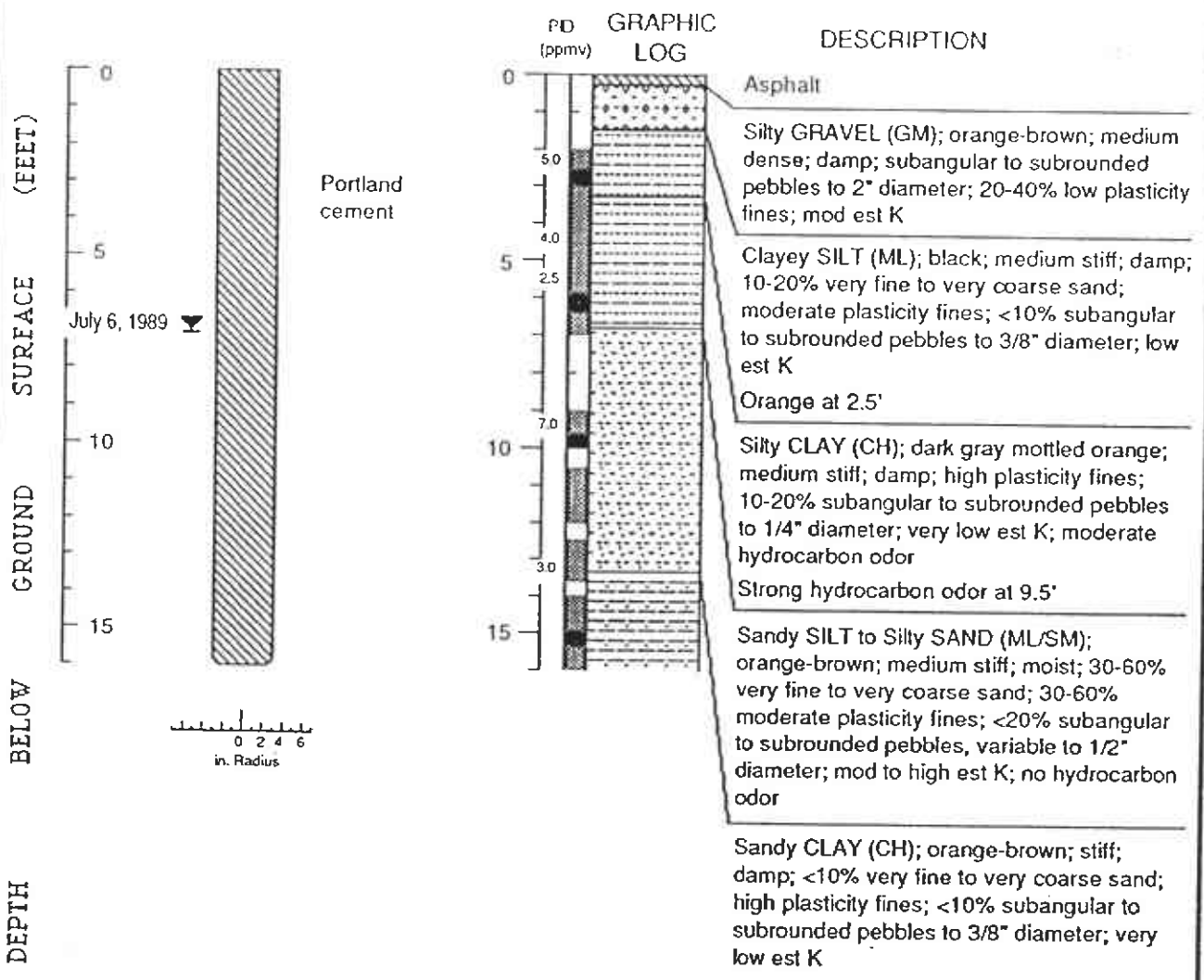


EXPLANATION

- 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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 5 to 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

BORING BH-D



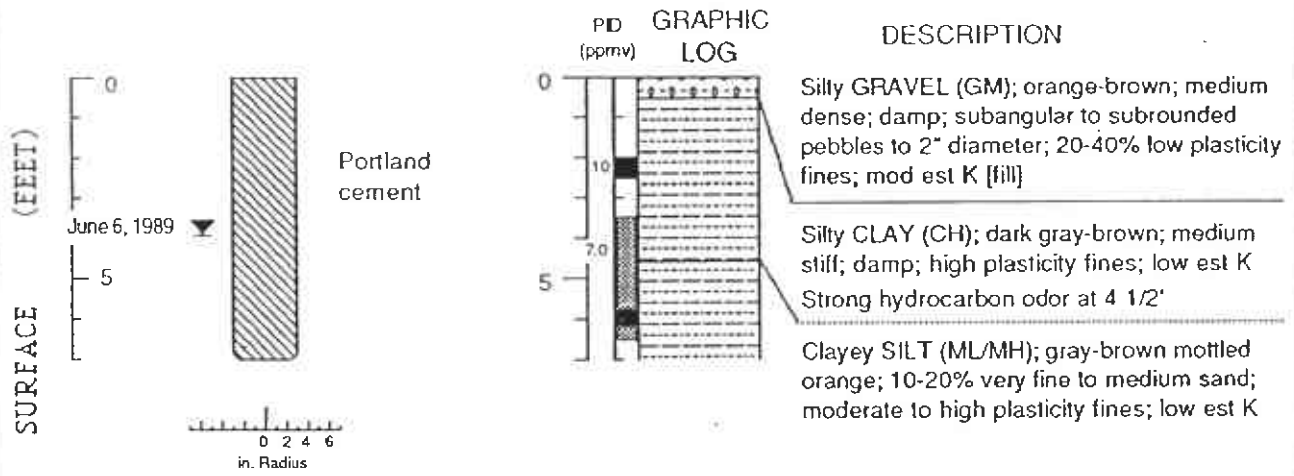
EXPLANATION

- 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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)



BORING BH-E



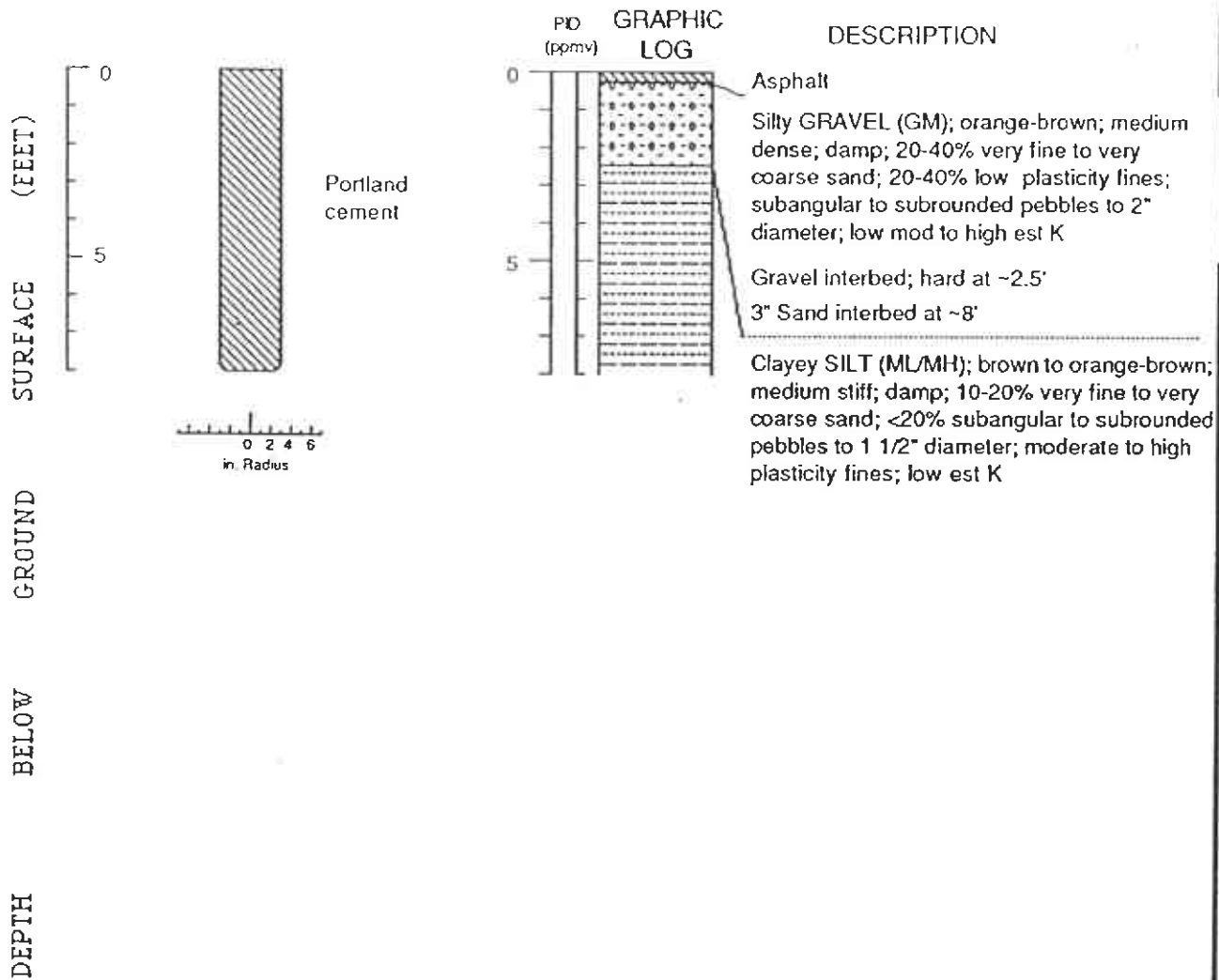
SURFACE
 GROUND
 BELOW
 DEPTH

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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

BORING BH-F

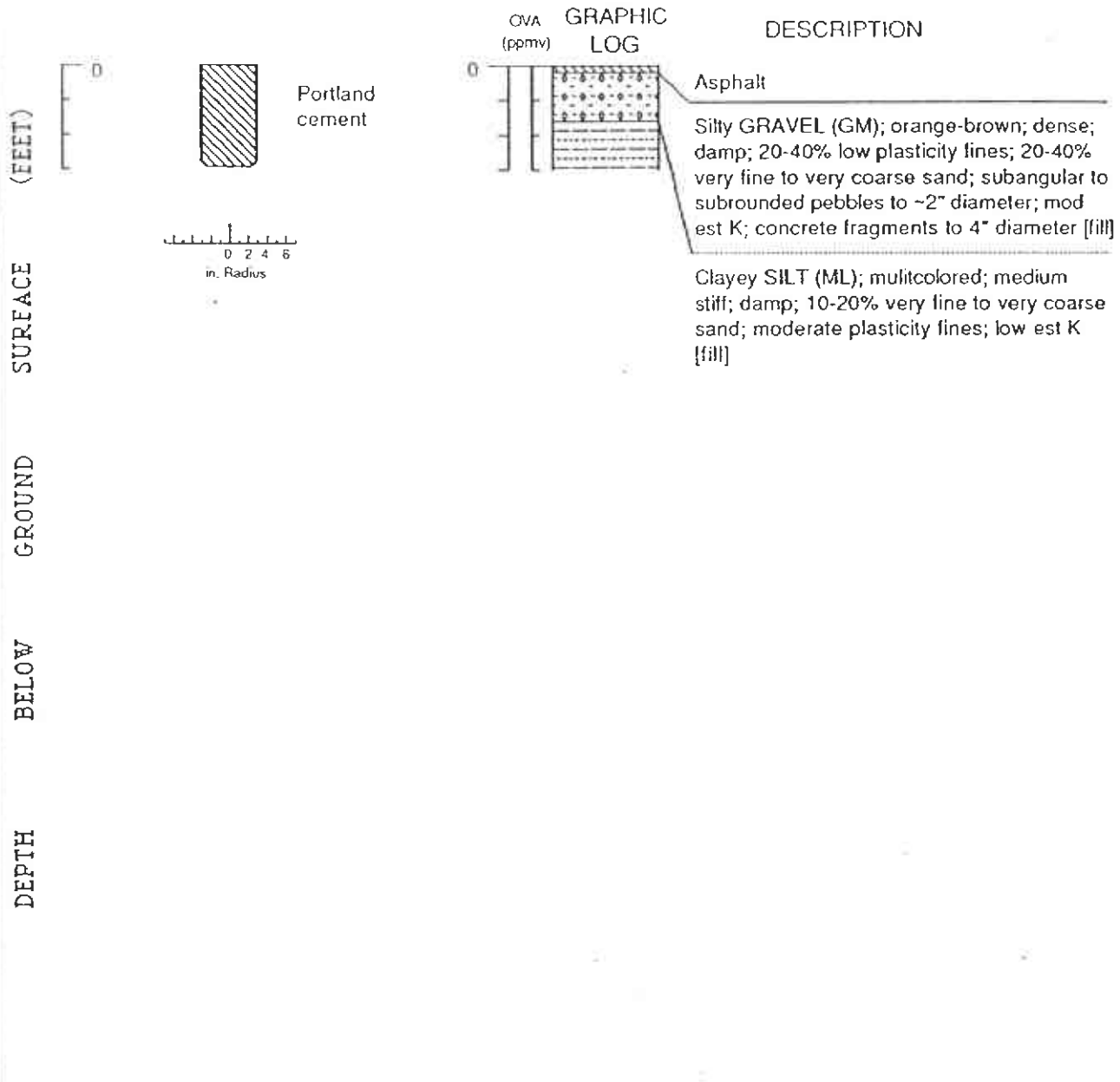


EXPLANATION








- 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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carl/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

BORING BH-G

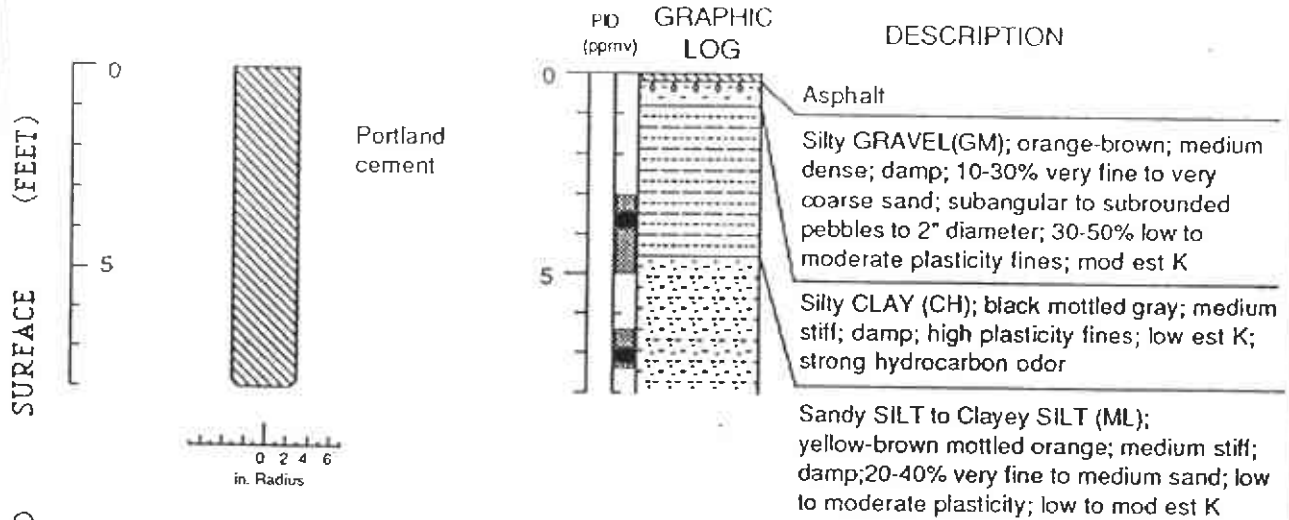


EXPLANATION

-  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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

BORING BH-H

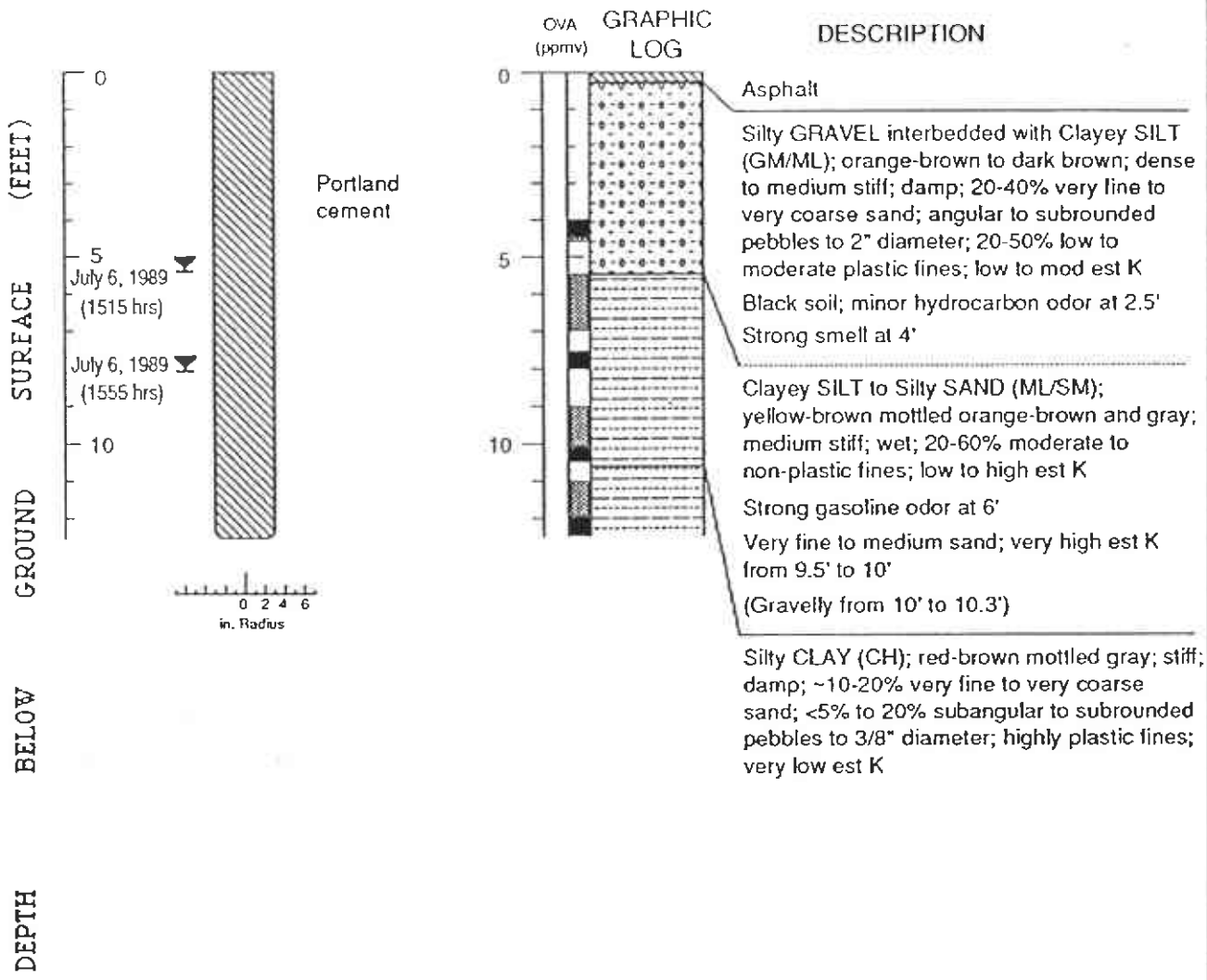


EXPLANATION

- 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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 6, 1989
 Well Head Completion: Locking-cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

BORING BH-1



Asphalt

Silty GRAVEL interbedded with Clayey SILT (GM/ML); orange-brown to dark brown; dense to medium stiff; damp; 20-40% very fine to very coarse sand; angular to subrounded pebbles to 2" diameter; 20-50% low to moderate plastic fines; low to moderate est K

Black soil; minor hydrocarbon odor at 2.5' Strong smell at 4'

Clayey SILT to Silty SAND (ML/SM); yellow-brown mottled orange-brown and gray; medium stiff; wet; 20-60% moderate to non-plastic fines; low to high est K

Strong gasoline odor at 6'

Very fine to medium sand; very high est K from 9.5' to 10' (Gravelly from 10' to 10.3')

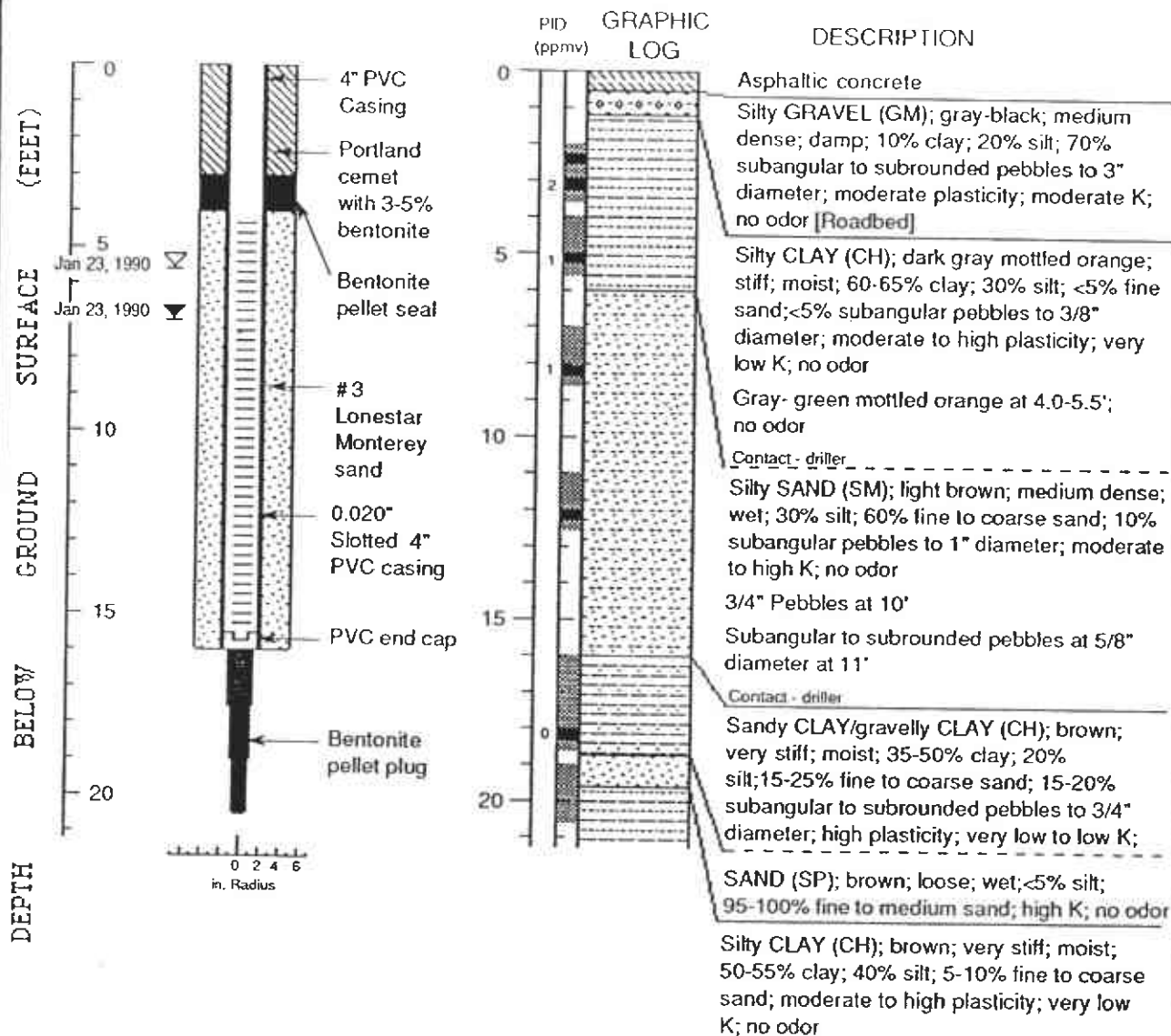
Silty CLAY (CH); red-brown mottled gray; stiff; damp; ~10-20% very fine to very coarse sand; <5% to 20% subangular to subrounded pebbles to 3/8" diameter; highly plastic fines; very low est K

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: Jack Gardner
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Bay Area Exploration, Suisun, CA
 Driller: Carr/Mossman
 Drilling Method: Hollow stem auger
 Dates Drilled: July 6, 1989
 Well Head Completion: Locking cap with traffic-rated vault
 Type of sampler: Split barrel (1.5", 2.0", 2.5" ID)

WELL MW-4 (BH-J)

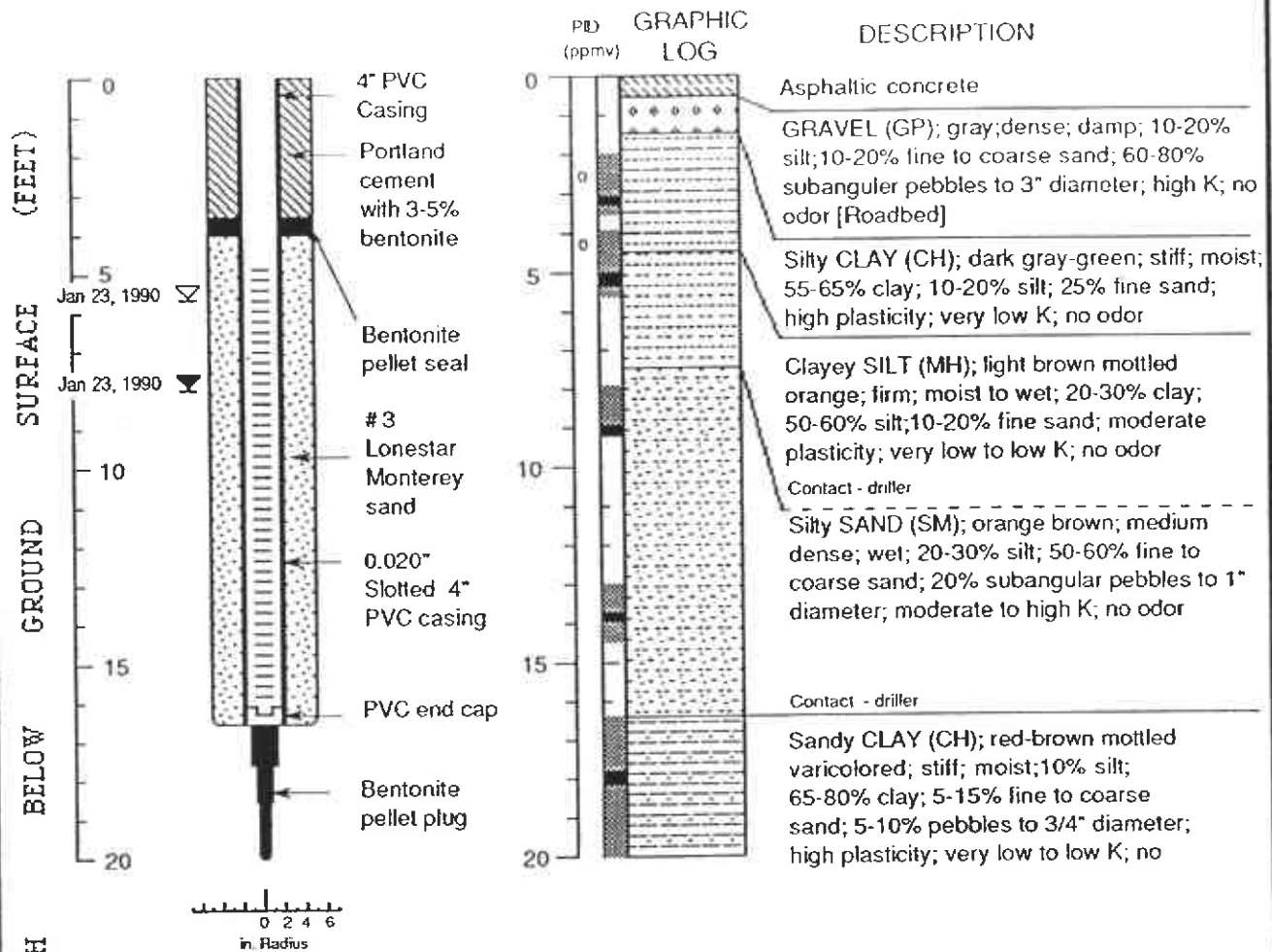


EXPLANATION

- ▼ 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: N. Scott MacLeod
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Soil Exploration Services, Vacaville, CA
 Driller: Russ Ellis
 Drilling Method: Hollow stem auger
 Date Drilled: January 23, 1990
 Well Head Completion: Locking wellcap, traffic-rated vault
 Type of Sampler: Split barrel (1.5", 2.0", 2.5" I.D.)
 Ground Surface Elevation: 34.03'

WELL MW-5 (BH-K)



EXPLANATION

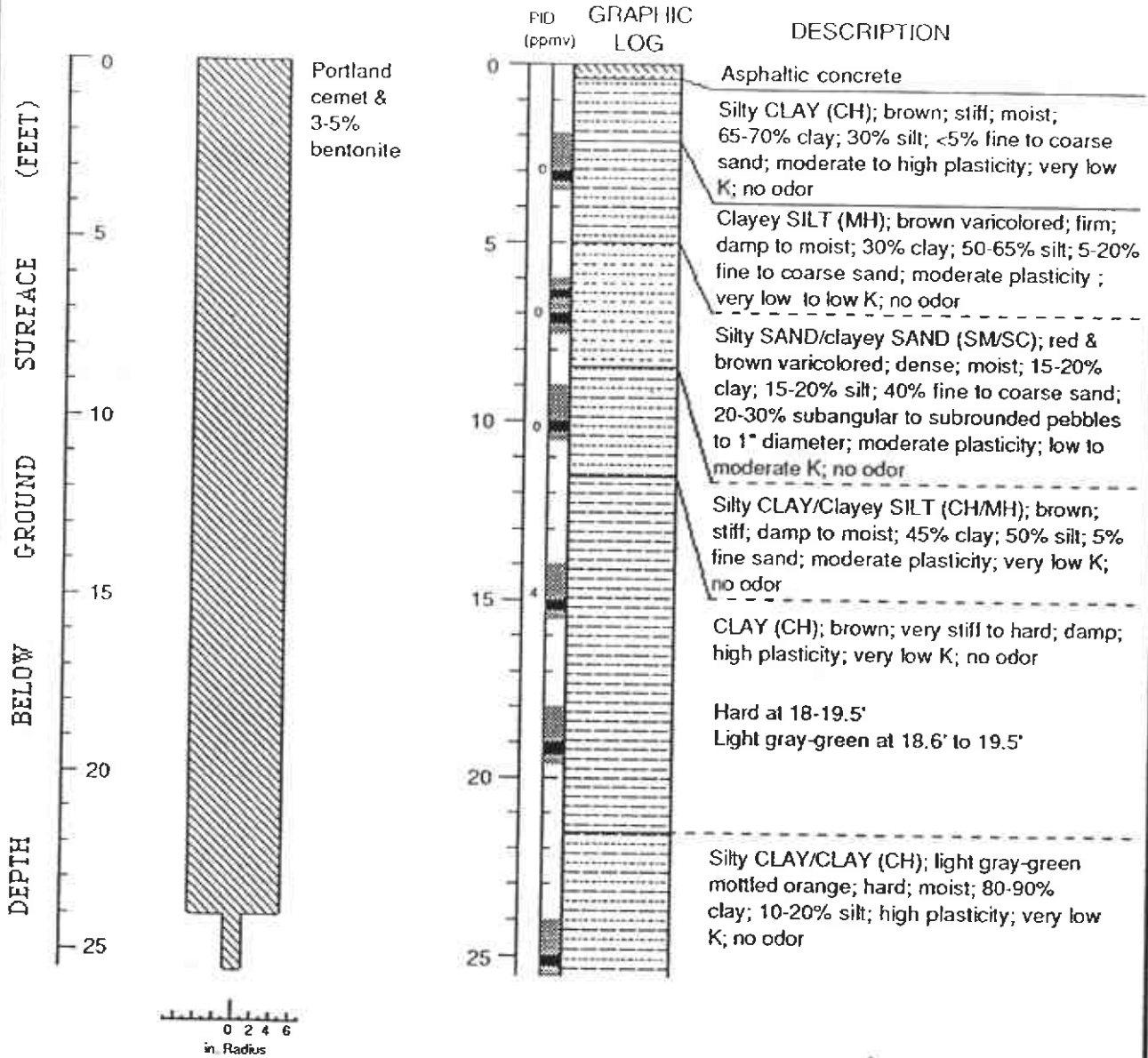
	Water level during drilling (date)	Logged by:	N. Scott MacLeod
	Water level (date)	Supervisor:	Richard Weiss; EG 1112
	Contact (dotted where approx.)	Drilling Company:	Soils Exploration Services, Vacaville, CA
	Uncertain contact	Driller:	Russ Ellis
	Location of recovered drive sample	Drilling Method:	Hollow stem auger
	Location of drive sample sealed for chemical analysis	Date Drilled:	January 23, 1990
	Cutting sample	Well Head Completion:	Locking wellcap, traffic-rated vault
K	= Estimated hydraulic conductivity	Type of sampler:	Split barrel (1.5", 2.0", 2.5" I.D.)
		Ground Surface Elevation:	31.61'

Well Construction and Boring Log - Well MW-5 (BH-K)

Shell Service Station
 WIC #204-6001-0109
 Piedmont, California



BORING BH-L



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: N. Scott MacLeod
 Supervisor: Richard Weiss; EG 1112
 Drilling Company: Soils Exploration Services, Vacaville, CA
 Driller: Russ Ellis
 Drilling Method: Hollow stem auger
 Date Drilled: January 24, 1990
 Type of sampler: Split barrel (2.0" I.D.)

Boring Log - BH-L

Shell Service Station
 WIC #204-6001-0109
 Piedmont, California

ATTACHMENT B
Groundwater Analytical and Elevation Data

WELL CONCENTRATIONS
Shell-branded Service Station
29 Wildwood Avenue
Piedmont, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	07/12/1989	<50	<0.5	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.76	35.20	NA
MW-1	01/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.10	34.86	NA
MW-1	04/27/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.24	34.72	NA
MW-1	07/31/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.26	33.70	NA
MW-1	10/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.25	33.71	NA
MW-1	01/31/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.66	34.30	NA
MW-1	04/30/1991	<50	0.8	<0.5	0.6	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.46	34.50	NA
MW-1	07/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.14	33.82	NA
MW-1	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.96	34.00	NA
MW-1	01/20/1992	<30	<0.3	<0.3	<0.3	<0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.59	34.37	NA
MW-1	04/14/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.18	31.71	NA
MW-1	07/21/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.17	33.79	NA
MW-1	10/02/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.29	33.67	NA
MW-1	01/20/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.32	35.64	NA
MW-1	05/03/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.50	34.46	1.9
MW-1	06/28/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.76	34.20	NA
MW-1	07/21/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.09	33.87	4.6
MW-1	10/19/1993	50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.58	34.38	4.3
MW-1	01/20/1994	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	NA	NA	NA
MW-1	04/12/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.60	34.36	7.5
MW-1	07/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.10	33.86	3.2
MW-1	10/06/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.30	33.66	3.2
MW-1	01/20/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.94	35.02	10.6
MW-1	07/06/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.68	34.28	NA
MW-1	01/24/1996	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.12	35.84	NA
MW-1	07/12/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.58	34.38	2.7
MW-1	01/16/1997	120	14	10	3.6	14	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.30	35.66	3
MW-1	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	8.6	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.66	34.30	4.5
MW-1	05/13/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.81	35.15	5.1
MW-1	10/01/1998	<50	<0.50c	<0.50c	<0.50c	<0.50c	<2.5c	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.75	34.21	5.0

WELL CONCENTRATIONS
Shell-branded Service Station
29 Wildwood Avenue
Piedmont, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.52	34.44	4.1
MW-1	11/01/1999	<50.0	<0.500	<0.500	<0.500	<0.500	5.03	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.05	33.91	3.6
MW-1	04/05/2000	<50.0	<0.500	<0.500	<0.500	<0.500	3.22	NA	NA	NA	NA	NA	NA	NA	NA	37.96	3.74	34.22	4.2
MW-1	10/30/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.19	35.77	4.1
MW-1	04/27/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	37.96	4.43	33.53	1.9
MW-1	10/31/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	37.96	4.34	33.62	2.4
MW-1	05/09/2002	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.96	NA	NA	NA
MW-1	07/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	37.96	3.53	34.43	1.2
MW-1	10/23/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<2.0	<2.0	<2.0	<50	NA	<2.0	<2.0	40.94	3.68	37.26	3.5
MW-1	01/22/2003	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.94	NA	NA	NA
MW-1	01/29/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	40.94	3.25	37.69	3.7
MW-1	04/30/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	40.94	2.76	38.18	3.6
MW-1	07/14/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<1.4	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.15	37.79	0.5
MW-1	10/23/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	0.64	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.82	37.12	3.9
MW-1	01/05/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.39	37.55	1.8
MW-1	04/14/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.43	37.51	4.5
MW-1	07/13/2004	<50	<0.50	<0.50	0.53	1.4	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.70	37.24	2.5
MW-1	10/25/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.60	37.34	5.45
MW-1	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	2.90	38.04	1.5
MW-1	05/19/2005	<50	<0.50	<0.50	<0.50	1.2	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.35	37.59	1.2
MW-1	07/19/2005	<50	<0.50	<0.50	<0.50	1.3	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	40.94	3.45	37.49	NA
MW-2	07/12/1989	60	2.7	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.66	31.23	NA
MW-2	01/30/1990	<50	6.6	<0.5	0.54	0.93	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.49	31.40	NA
MW-2	04/27/1990	60	2.1	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.79	31.10	NA
MW-2	07/31/1990	70	1.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.03	30.86	NA
MW-2	10/30/1990	70	<0.5	0.7	<0.5	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.21	30.68	NA
MW-2	01/31/1991	80	<0.5	<0.5	0.9	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.09	30.80	NA
MW-2	04/30/1991	100	5.9	0.6	0.7	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.95	30.94	NA
MW-2	07/30/1991	<50	<0.5	<0.7	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.07	30.82	NA
MW-2	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.11	30.78	NA

WELL CONCENTRATIONS
Shell-branded Service Station
29 Wildwood Avenue
Piedmont, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-2	01/20/1992	<30	0.84	<0.3	<0.41	<0.48	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.86	31.03	NA
MW-2	04/14/1992	70	16	<0.5	3.1	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.66	34.30	NA
MW-2	07/21/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.92	30.97	NA
MW-2	10/02/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.45	30.44	NA
MW-2	01/20/1993	<50	3.8	<0.5	0.52	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.74	31.15	NA
MW-2	05/03/1993	680a	2.8	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.77	31.12	0.9
MW-2	06/28/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.96	30.93	NA
MW-2	07/21/1993	<50	8	1.2	1.8	7.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.39	30.50	5.9
MW-2	10/19/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.92	30.97	5.7
MW-2	01/20/1994	<50	1.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.45	30.44	3.2
MW-2	04/12/1994	<50	2.9	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.72	30.17	11.4
MW-2	07/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	5.32	29.57	2.4
MW-2	10/06/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.03	30.86	2.9
MW-2	01/20/1995	290	28	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.89	31.00	4.6
MW-2	07/06/1995	120	3	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	8.84	26.05	NA
MW-2	01/24/1996	70	3.1	<0.5	0.8	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.80	31.09	NA
MW-2 (D)	01/24/1996	70	3.2	0.5	0.7	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	NA	NA	NA
MW-2	07/12/1996	<50	0.68	<0.5	<0.5	<0.5	270	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.85	31.04	3.8
MW-2	01/16/1997	230	34	1.6	1.6	4.2	460	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.84	31.05	NA
MW-2	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	54	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.75	31.14	2.9
MW-2	05/13/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.78	31.11	NA
MW-2	10/01/1998	<50	<0.50c	<0.50c	<0.50c	<0.50c	100	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.90	29.99	3.0
MW-2	04/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.89	4.69	30.20	NA
MW-2	11/01/1999	<50.0	<0.500	1.29	0.669	4.52	7.21	NA	NA	NA	NA	NA	NA	NA	NA	34.89	5.24	29.65	2.9
MW-2	04/05/2000	376d	68.1d	3.10d	2.88d	5.35d	729d	NA	NA	NA	NA	NA	NA	NA	NA	34.89	3.43	31.46	3.6
MW-2	10/30/2000	5,790	59.2	315	162	1320	346	NA	NA	NA	NA	NA	NA	NA	NA	34.89	2.35	32.54	2.8
MW-2	04/27/2001	2,720	90.8	22.8	18.1	165	512	578	NA	NA	NA	NA	NA	NA	NA	34.89	4.67	30.22	0.9
MW-2	10/31/2001	<10,000	<100	<100	<100	<100	NA	<100	<100	<100	<100	<1,000	150,000	NA	NA	34.89	3.68	31.21	1.3
MW-2	05/09/2002	490	1.5	7.8	2.1	14	NA	200	NA	NA	NA	NA	NA	NA	NA	34.89	3.18	31.71	1.1
MW-2	07/25/2002	1,200	1.0	3.3	1.3	8.3	NA	45	NA	NA	NA	NA	NA	NA	NA	34.89	3.30	31.59	0.4
MW-2	10/23/2002	1,100	0.85	3.8	1.3	7.9	NA	140	<2.0	<2.0	<2.0	<50	NA	<2.0	<2.0	37.87	3.87	34.00	0.8

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MW-2	01/22/2003	730	<0.50	100	0.96	5.4	NA	230	NA	NA	NA	NA	NA	NA	NA	37.87	2.68	35.19	1.5
MW-2	04/30/2003	<500	<5.0	23	<5.0	<10	NA	410	NA	NA	NA	NA	NA	NA	NA	37.87	3.42	34.45	0.1
MW-2	07/14/2003	<800	1.2	59	1.4	9.8	NA	60	<2.0	<2.0	<2.0	8.6	7,000	NA	NA	37.87	3.50	34.37	1.1
MW-2	10/23/2003	2,000	1.7	0.88	1.5	<1.0	NA	0.98	<2.0	<2.0	<2.0	<5.0	<50	NA	NA	37.87	5.08	32.79	0.8
MW-2	01/05/2004	240	<0.50	8.3	<0.50	1.8	NA	64	<2.0	<2.0	<2.0	<5.0	<50	NA	NA	37.87	2.59	35.28	0.4
MW-2	04/14/2004	81	4.8	10	1.0	5.3	NA	170	<2.0	<2.0	<2.0	9.7	<50	NA	NA	37.87	4.15	33.72	0.2
MW-2	07/13/2004	280	1.1	44	2.4	10	NA	85	<2.0	<2.0	<2.0	5.1	<50	NA	NA	37.87	4.20	33.67	0.1
MW-2	10/25/2004	150	0.75	13	1.3	6.3	NA	41	<2.0	<2.0	<2.0	5.1	<50	NA	NA	38.32 f	4.65	33.67	3.30
MW-2	01/06/2005	180	7.1	4.3	0.79	3.3	NA	120	<2.0	<2.0	<2.0	14	<50	NA	NA	38.32	3.30	35.02	0.5
MW-2	05/19/2005	130	<0.50	4.4	0.90	4.0	NA	16	<2.0	<2.0	<2.0	<5.0	<50	NA	NA	38.32	4.00	34.32	0.5
MW-2	07/19/2005	60	1.2	0.70	<0.50	1.2	NA	120	<2.0	<2.0	<2.0	13	<50	NA	NA	38.32	4.00	34.32	1.64
MW-3	07/12/1989	3,900	380	41	99	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.83	31.17	NA
MW-3	01/30/1990	5,500	440	35	79	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.24	31.76	NA
MW-3	04/27/1990	4,500	310	26	37	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.02	30.98	NA
MW-3	07/31/1990	3,500	210	17	8.4	62	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.31	30.69	NA
MW-3	10/30/1990	2,300	610	<0.5	<0.5	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.52	30.48	NA
MW-3	01/31/1991	4,100	300	20	19	81	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.33	30.67	NA
MW-3	04/30/1991	3,800	370	19	8.6	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.79	31.21	NA
MW-3	07/30/1991	3,300	160	13	15	87	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.37	30.63	NA
MW-3	10/29/1991	1,000	35	2.8	2.9	8.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.00	31.00	NA
MW-3	01/20/1992	6,900	380	18	47	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.87	31.13	NA
MW-3	04/14/1992	6,000	480	38	41	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.15	31.85	NA
MW-3	07/21/1992	3,700	330	13	30	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.17	30.83	NA
MW-3	10/02/1992	4,200	260	10	13	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.43	30.57	NA
MW-3	01/20/1993	4,200	360	15	32	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	2.20	32.80	NA
MW-3 (D)	01/20/1993	3,900	370	15	32	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	NA
MW-3	05/03/1993	12,000	290	520	120	620	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.50	31.50	0.6
MW-3	06/28/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.08	30.92	NA
MW-3	07/21/1993	2,000	170	12	<10	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.12	30.88	4.3
MW-3 (D)	07/21/1993	2,000	170	10	<10	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	NA

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MW-3	10/19/1993	2,000	240	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.20	30.80	5.7
MW-3	01/20/1994	4,200	280	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.08	30.92	4.1
MW-3 (D)	01/20/1994	3,800	250	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	4.1
MW-3	04/12/1994	4,700	380	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.70	31.30	10.6
MW-3 (D)	04/12/1994	3,400	370	<25	<25	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	NA
MW-3	07/20/1994	5,100	320	77	15	34	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.26	30.74	2.3
MW-3 (D)	07/20/1994	4,400	250	14	13	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	NA
MW-3	10/06/1994	4,300	280	9.7	4	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.31	30.69	2.3
MW-3	01/20/1995	4,600	180	18	16	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.00	32.00	11.1
MW-3 (D)	01/20/1995	4,300	170	12	15	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	NA
MW-3	07/06/1995	3,900	310	<0.5	7.6	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.75	31.25	NA
MW-3 (D)	07/06/1995	4,100	330	<0.5	7.9	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	NA
MW-3	01/24/1996	5,000	210	14	14	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.26	31.74	NA
MW-3	07/12/1996	2,700	210	<0.5	<0.5	<0.5	3,600	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.77	31.23	2.4
MW-3 (D)	07/12/1996	2,800	210	<0.5	<0.5	<0.5	3,400	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	2.4
MW-3	01/16/1997	4,200	130	19	10	34	4,400	4,600	NA	NA	NA	NA	NA	NA	NA	35.00	2.38	32.62	2.3
MW-3	10/24/1997	4,100	270	9	5.1	8.8	2,000	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.12	30.88	1.9
MW-3 (D)	10/24/1997	1,700	220	<5.0	<5.0	<5.0	1,500	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	1.9
MW-3	05/13/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.22	31.78	NA
MW-3	10/01/1998	1,400	84c	<5.0c	<5.0c	<5.0c	2,300	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.15	30.85	2.0
MW-3 (D)	10/01/1998	2,100	100c	<10c	<10c	<10c	2,600	NA	NA	NA	NA	NA	NA	NA	NA	35.00	NA	NA	2.0
MW-3	04/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.27	30.73	NA
MW-3	11/01/1999	1,850	94.3	6.09	<5.00	6.67	4,140	NA	NA	NA	NA	NA	NA	NA	NA	35.00	4.65	30.35	2.2
MW-3	04/05/2000	3,070	96.9	12.1	<10.0	<10.0	1,050	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.50	31.50	2.7
MW-3	10/30/2000	1,570	56.8	1.91	1.39	3.06	572	524	NA	NA	NA	NA	NA	NA	NA	35.00	3.40	31.60	3.1
MW-3	04/27/2001	2,420	103	12.6	<5.00	15.6	314	NA	NA	NA	NA	NA	NA	NA	NA	35.00	3.67	31.33	0.9
MW-3	10/31/2001	<50	0.71	<0.50	<0.50	<0.50	NA	31	<2.0	<2.0	<2.0	<50	<500	NA	NA	35.00	3.79	31.21	1.6
MW-3	05/09/2002	2,000	52	<10	<10	<10	NA	4,100	NA	NA	NA	NA	NA	NA	NA	35.00	3.76	31.24	0.9
MW-3	07/25/2002	1,800	50	<5.0	<5.0	<5.0	NA	1,900	NA	NA	NA	NA	NA	NA	NA	35.00	4.17	30.83	3.7
MW-3	10/23/2002	1,700	27	<5.0	<5.0	<5.0	NA	1,400	<5.0	<5.0	7.4	300	NA	<5.0	<5.0	37.97	4.36	33.61	1.6
MW-3	01/22/2003	1,800	38	2.4	1.5	2.4	NA	390	NA	NA	NA	NA	NA	NA	NA	37.97	3.09	34.88	1.3

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MW-3	04/30/2003	3,300	56	5.2	<5.0	<10	NA	540	NA	NA	NA	NA	NA	NA	NA	37.97	3.39	34.58	1.5
MW-3	07/14/2003	1,000	20	2.7	<2.5	<5.0	NA	360	<10	<10	<10	72	<250	NA	NA	37.97	4.05	33.92	1.5
MW-3	10/23/2003	2,100	27	<5.0	<5.0	<10	NA	260	<20	<20	<20	<50	<500	NA	NA	37.97	4.32	33.65	1.0
MW-3	01/05/2004	2,800	91	6.0	<5.0	<10	NA	1,100	<20	<20	<20	450	510	NA	NA	37.97	1.89	36.08	1.8
MW-3	04/14/2004	3,400	47	<5.0	<5.0	<10	NA	360	<20	<20	<20	260	<500	NA	NA	37.97	3.64	34.33	3.6
MW-3	07/13/2004	2,300	21	<5.0	<5.0	<10	NA	210	<20	<20	<20	190	<500	NA	NA	37.97	4.27	33.70	2.7
MW-3	10/25/2004	1,600	21	<5.0	<5.0	<10	NA	190	<20	<20	<20	100	<500	NA	NA	37.97	3.87	34.10	3.65
MW-3	01/06/2005	2,300	46	4.3	2.9	5.8	NA	120	<8.0	<8.0	<8.0	480	<200	NA	NA	37.97	2.30	35.67	2.5
MW-3	05/19/2005	1,600	61	4.1	1.9	3.1	NA	110	<2.0	<2.0	<2.0	610	<50	NA	NA	37.97	3.44	34.53	1.1
MW-3	07/19/2005	2,800	88	8.2	4.3	6.5	NA	100	<10	<10	<10	240	<250	NA	NA	37.97	3.32	34.65	3.08

MW-4	01/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.50	29.23	NA
MW-4	04/27/1990	130a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.62	30.11	NA
MW-4	07/31/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.19	29.54	NA
MW-4	10/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.19	29.54	NA
MW-4	01/31/1991	50a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.49	29.24	NA
MW-4	04/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.02	29.71	NA
MW-4	07/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.39	29.34	NA
MW-4	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.75	29.98	NA
MW-4	01/20/1992	<30	<0.3	<0.3	<0.3	<0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.94	29.79	NA
MW-4	04/14/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.71	30.02	NA
MW-4	07/21/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.02	29.71	NA
MW-4	10/02/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.13	29.60	NA
MW-4	01/20/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.10	30.63	NA
MW-4	05/03/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.70	30.03	1.7
MW-4	06/28/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.81	29.92	NA
MW-4	07/21/1993	<50	0.56	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.81	29.92	4.5
MW-4	10/19/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.94	29.79	5.8
MW-4	01/20/1994	<50	0.71	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.00	29.73	4.4
MW-4	04/12/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	4.01	29.72	7.3
MW-4	07/20/1994	160	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.91	29.82	6.4

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MW-4	10/06/1994	410	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.99	29.74	5.0
MW-4	01/20/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.56	30.17	4.9
MW-4	07/06/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.85	29.88	NA
MW-4	01/24/1996	<50	<0.5	<0.5	0.6	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	2.56	31.17	NA
MW-4	07/12/1996	<50	<0.5	<0.5	<0.5	<0.5	b	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.36	30.37	2.7
MW-4	01/16/1997	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	NA	NA	NA
MW-4	10/24/1997	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	NA	NA	NA
MW-4	05/13/1998	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	NA	NA	NA
MW-4	10/01/1998	<50	<0.50c	<0.50c	<0.50c	0.74c	8.1	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.90	29.83	2.5
MW-4	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	5.7	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.97	29.76	2.1
MW-4	11/01/1999	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.73	NA	NA	NA
MW-4	04/05/2000	<50.0	<0.500	<0.500	<0.500	<0.500	3.64	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.63	30.10	2.1
MW-4	10/30/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.33	30.40	3.0
MW-4	04/27/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	33.73	3.48	30.25	2.2
MW-4	10/31/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	33.73	3.58	30.15	2.8
MW-4	05/09/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	33.73	3.74	29.99	2.0
MW-4	07/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	33.73	3.71	30.02	1.3
MW-4	10/23/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<2.0	<2.0	<2.0	<50	NA	<2.0	<2.0	36.72	3.93	32.79	2.6
MW-4	01/22/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	36.72	3.67	33.05	3.1
MW-4	04/30/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	36.72	3.46	33.26	2.8
MW-4	07/14/2003	56 a	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	36.72	3.75	32.97	2.4
MW-4	10/23/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	36.72	3.93	32.79	2.0
MW-4	01/05/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	36.72	3.72	33.00	0.8
MW-4	04/14/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	36.72	3.81	32.91	1.1
MW-4	07/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	36.72	3.82	32.90	1.6
MW-4	10/25/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	36.72	3.63	33.09	2.66
MW-4	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	36.72	3.20	33.52	1.6
MW-4	05/19/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	36.72	2.95	33.77	0.9
MW-4	07/19/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	36.72	3.85	32.87	2.78
MW-5	01/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	7.12	24.26	NA

WELL CONCENTRATIONS
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Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	04/27/1990	210a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.19	27.19	NA
MW-5	07/31/1990	90	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.09	27.29	NA
MW-5	10/30/1990	100	0.8	0.7	0.6	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.39	26.99	NA
MW-5	01/31/1991	80a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.49	26.89	NA
MW-5	04/30/1991	90	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.27	27.11	NA
MW-5	07/30/1991	90	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.32	27.06	NA
MW-5	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	3.79	27.59	NA
MW-5	01/20/1992	<30	<0.3	<0.3	<0.3	<0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.09	27.29	NA
MW-5	04/14/1992	<50a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.12	27.26	NA
MW-5	07/21/1992	74a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.13	27.25	NA
MW-5	10/02/1992	76a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.30	27.08	NA
MW-5	01/20/1993	72a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	3.12	28.26	NA
MW-5	05/03/1993	70a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.07	27.31	1.6
MW-5 (D)	05/04/1993	80a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	NA	NA	NA
MW-5	06/28/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.08	27.30	NA
MW-5	07/21/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.05	27.33	3.5
MW-5	10/19/1993	51	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.20	27.18	3.8
MW-5	01/20/1994	90	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.40	26.98	4.2
MW-5	04/12/1994	67	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.18	27.20	NA
MW-5	07/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.06	27.32	3.2
MW-5	10/06/1994	80	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.01	27.37	2.1
MW-5 (D)	10/06/1994	60	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	NA	NA	NA
MW-5	01/20/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	3.49	27.89	3.2
MW-5	07/06/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.06	27.32	NA
MW-5	01/24/1996	70	<0.5	<0.5	0.8	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.38	2.90	28.48	NA
MW-5	07/12/1996	62	<0.5	<0.5	<0.5	<0.5	b	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.02	27.36	1.9
MW-5	01/16/1997	66	0.91	0.89	<0.50	1.7	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	31.38	2.59	28.79	2.2
MW-5 (D)	01/16/1997	<50	0.7	0.78	<0.50	1.3	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	31.38	NA	NA	2.2
MW-5	10/24/1997	59	<0.50	<0.50	<0.50	<0.50	17	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.15	27.23	4.6
MW-5	05/13/1998	72	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	31.38	3.64	27.74	2.1
MW-5 (D)	05/13/1998	70	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	31.38	NA	NA	2.1

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Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	10/01/1998	57	<0.50c	<0.50c	<0.50c	0.62c	20	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.25	27.13	2.2
MW-5	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	16	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.56	26.82	2.0
MW-5	11/01/1999	<50.0	<0.500	<0.500	<0.500	<0.500	3.06	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.19	27.19	2.2
MW-5	04/05/2000	<50.0	<0.500	<0.500	<0.500	<0.500	22.5	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.34	27.04	2.2
MW-5	10/30/2000	<50.0	<0.500	<0.500	<0.500	<0.500	19.3	NA	NA	NA	NA	NA	NA	NA	NA	31.38	3.25	28.13	4.0
MW-5	04/27/2001	51.5	<0.500	<0.500	<0.500	<0.500	4.29	NA	NA	NA	NA	NA	NA	NA	NA	31.38	4.07	27.31	1.0
MW-5	10/31/2001	210	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	31.38	4.02	27.36	1.5
MW-5	05/09/2002	280	0.71	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	31.38	4.31	27.07	1.7
MW-5	07/25/2002	410	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	31.38	4.32	27.06	0.7
MW-5	10/23/2002	290	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<2.0	<2.0	<2.0	<50	NA	<2.0	<2.0	34.36	4.37	29.99	2.3
MW-5	01/22/2003	260	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	34.36	4.12	30.24	2.4
MW-5	04/30/2003	90 a	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	34.36	3.88	30.48	1.5
MW-5	07/14/2003	72 a	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	34.36	4.57	29.79	1.0
MW-5	10/23/2003	120 e	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	34.36	4.45	29.91	1.8
MW-5	01/05/2004	120 a	<0.50	<0.50	<0.50	1.1	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	34.36	3.33	31.03	0.6
MW-5	04/14/2004	180 a	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	NA	34.36	4.52	29.84	0.6
MW-5	07/13/2004	150 a	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	34.36	4.42	29.94	0.1
MW-5	10/25/2004	85 g	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	34.36	4.04	30.32	2.21
MW-5	01/06/2005	88 g	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	34.36	4.00	30.36	0.5
MW-5	05/19/2005	99 g	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	34.36	4.20	30.16	1.0
MW-5	07/19/2005	100 g	<0.50	<0.50	<0.50	<1.0	NA	0.56	NA	NA	NA	NA	NA	NA	NA	34.36	4.42	29.94	1.19
E-4	07/12/1989	<50	<0.5	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>39.13	NA
E-4	01/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	04/27/1990	120a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	07/31/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	10/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	01/31/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	04/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	07/30/1991	<50	<0.5	0.6	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA

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Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
E-4	01/20/1992	<30	<0.3	<0.3	<0.3	<0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	04/14/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	07/21/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	10/02/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	01/20/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	05/03/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	0.6
E-4	06/28/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	07/21/1993	<50	5.4	0.72	1	4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	5.4
E-4	10/19/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	5.6
E-4	01/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	NA
E-4	04/12/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	9.4
E-4	07/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	2.0
E-4	10/06/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	1.3
E-4	01/20/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.63	NA	>34.63	3.7
E-4	05/16/1995	Well abandoned		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to October 31, 2001, analyzed by EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to October 31, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary butyl ether

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

TBA = Tertiary butyl alcohol, 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

TOC = Top of Casing Elevation

SPH = Separate-Phase Hydrocarbons

GW = Groundwater

DO = Dissolved Oxygen

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft. = Feet

<n = Below detection limit

(D) = Duplicate sample

NA = Not applicable

WELL CONCENTRATIONS
Shell-branded Service Station
29 Wildwood Avenue
Piedmont, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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Notes:

- a = Chromatogram pattern indicated an unidentified hydrocarbon/Hydrocarbon reported does not match laboratory's standard.
 - b = Due to coelution with early eluters, no result could be determined for MTBE.
 - c = Laboratory reported 1.3 ug/L benzene, 11 ug/L toluene, 0.98 ug/L ethyl benzene, and 6.5 ug/L total xylenes in the equipment blank.
 - d = Result reported was generated out of hold time.
 - e = Sample contains discrete peaks which are Chlorinated solvents, in addition to gasoline.
 - f = Top of casing altered +0.45 feet due to wellhead maintenance on August 2, 2004.
 - g = The concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.
- Ethanol analyzed by EPA Method 8260B.
- Well E-4 is a flowing artesian well; potentiometric surface above top of casing elevation.
- Site surveyed March 5, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

**Groundwater Analytical Data - Volatile Organic Compounds - Shell-branded Service Station, Incident #98995822 -
29 Wildwood Avenue, Piedmont, California**

Well ID	Sample Date	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Notes
		(Concentrations in ppb)				
MW-1	05/13/98	<0.50	<0.50	<0.50	<0.50	a
	10/01/98	<0.50	<0.50	<0.50	<0.50	
	04/29/99	<0.50	<0.50	<0.50	<0.50	
	11/01/99	<0.500	<0.500	<0.500	<0.500	
	04/05/00	<0.500	<0.500	<0.500	<0.500	
	10/30/00	<0.500	<0.500	<0.500	<0.500	
	04/27/01	<0.500	<0.500	<0.500	<0.500	
MW-2	10/01/98	<0.50	<0.50	<0.50	<0.50	
	11/01/99	<0.500	<0.500	<0.500	<0.500	
	04/05/00	<0.500	<0.500	<0.500	<0.500	
	10/30/00	<5.00	<5.00	<5.00	<5.00	
	04/27/01	<0.500	<0.500	<0.500	<0.500	
MW-3	10/01/98	<0.50	<0.50	<0.50	<0.50	duplicate
	10/01/98	<0.50	<0.50	<0.50	<0.50	
	11/01/99	<0.500	<0.500	<0.500	<0.500	
	04/05/00	<0.500	<0.500	<0.500	<0.500	
	10/30/00	<5.00	<5.00	<5.00	<5.00	
	04/27/01	<0.500	<0.500	<0.500	<0.500	
MW-4	05/13/98	---	---	---	---	b
	10/01/98	2.5	1.5	3.2	1.1	
	04/29/99	2.2	0.58	2.5	0.78	
	11/01/99	---	---	---	---	
	04/05/00	1.14	0.655	2.26	0.838	
	10/30/00	2.81	1.24	2.28	1.25	
	04/27/01	0.687	<0.500	2.31	<0.500	
MW-5	05/13/98	16	9.3	200	28	a a, duplicate
	05/13/98	16	8.7	190	19	
	10/01/98	9	5.1	95	12	
	04/29/99	6.6	3.3	100	10	
	11/01/99	6.08	<2.50	91.9	11.7	
	04/05/00	8.26	<5.00	130	15.7	
	10/30/00	<5.00	<5.00	118	12.1	
	04/27/01	<10.0	<10.0	250	14.3	

**Groundwater Analytical Data - Volatile Organic Compounds - Shell-branded Service Station, Incident #98995822 -
29 Wildwood Avenue, Piedmont, California**

Well ID	Sample Date	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Notes
		(Concentrations in ppb)				

Abbreviations & Notes:

ppb = Parts per billion

--- = Not available

<n = Below detection limits of n ppb

a = Chloroform was detected at 120 ppb in the equipment blank; samples analyzed past hold time

b = Well inaccessible

c = MW-4 also contained 8.89ppb 4-bromoflourobenzene

d = MW-4 also contained 0.763 ppb chloroform and 0.569 ppb 1,1,1-trichloroethane

Volatile organic compounds by EPA Method 8010; only detected compounds are tabulated

ATTACHMENT C

Site Conceptual Model Table and Figure

SITE CONCEPTUAL MODEL

November 10, 2005

Cambria Environmental Technology, Inc.

Site Address:	29 Wildwood Avenue	Incident Number:	98995822
City:	Piedmont, CA	Regulator:	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
1	Hydrocarbon Source	
1.1	Identify/Describe Release Source and Volume (if known)	Release source and volume is unknown. Hydrocarbons were detected in the vicinity of the former underground storage tanks (USTs), and current dispensers and piping.
1.2	Discuss Steps Taken to Stop Release	The previous USTs at the site were removed and replaced in 1984. In March 1998, Shell voluntarily initiated upgrades at the service station. Paradiso Mechanical of San Leandro added secondary containment to the existing dispensers and the turbine sumps, and removed the waste oil remote fill piping. In April and May, 2005 the station's fuel system piping and dispensers were again upgraded. MTBE-containing gasoline is no longer dispensed at the station, effective 1/1/03.
2	Site Characterization	
2.1	Current Site Use/Status	This Shell-branded station is located at the intersection of Wildwood and Grand Avenue, in Piedmont, California (Figure 1). Three underground storage tanks (USTs) and one 550-gallon waste oil UST are located at the site. Three groundwater monitoring wells are located on site, and two downgradient wells are located in Grand Avenue. One monitoring well (E-4) was installed and later abandoned due to flowing artesian groundwater conditions.
2.2	Soil Definition Status	<p>The highest concentration of TPHg detected in soil at the site was 6,500 ppm in boring B-3 at 10 fbg collected in 1988. According to the boring log, this sample was likely water saturated. The highest concentration of benzene detected at the site was 6.3 ppm in sample D-2 at 2.0 fbg, collected in 1998.</p> <p>Soil contamination appears to be confined to the immediate vicinity of the USTs and dispensers but, based on the July 1989 sampling, may still extend northwest, west and southwest of the UST complex at depths of between 3.5 and 9 fbg. During the 2005 dispenser and piping upgrade sampling, TPHg was detected in three soil samples at a maximum concentration of 610 parts per million (ppm). TPHd was detected in two soil samples at a maximum</p>

		<p>concentration of 890 ppm in sample D-1-3.0. Benzene was detected in one soil sample at a concentration of 0.068 ppm. Ethylbenzene, total xylenes, and MTBE were detected at maximum concentrations of 8.0 ppm, 0.66 ppm, and 0.18 ppm, respectively. These recent detections are, however, in unsaturated soil.</p> <p>No soil has been excavated at the site based on these detections.</p>
2.3	Separate-Phase Hydrocarbon Definition Status	No SPH has been detected at the site.
2.4	Groundwater Definition Status (BTEX)	<p>Groundwater monitoring has been conducted at the site since 1989. The downgradient extent of BTEX is defined by non-detect results in monitoring wells MW-4 and MW-5 and low detectable concentrations in well MW-2. Grand Avenue and the utilities beneath it make installation of a monitoring well between these two wells, and thus greater definition of the downgradient extent of BTEX in groundwater, difficult. Previous attempts to install additional downgradient wells have not been successful due to traffic and utility conflicts. The eastern, upgradient extent of BTEX is defined by non-detectable concentrations of benzene, toluene, and ethylbenzene and a low concentration of xylenes (1.3 ppb in July 2005) in MW-1. The cross-gradient extent of BTEX contamination in groundwater has not been defined.</p>
2.5	BTEX Plume Stability and Concentration Trends	BTEX concentrations have exhibited fluctuating but generally decreasing concentrations in MW-2 and MW-3. BTEX compounds are not currently detected in any off-site wells.
2.6	Groundwater Definition Status (MTBE)	<p>The southwest downgradient extent of MTBE in groundwater is defined by non-detection in monitoring wells MW-4 and MW-5. The eastern, upgradient extent of MTBE in groundwater is defined by historical non-detection in well MW-1. In the third quarter of 2005, MTBE concentrations were 120 ppb and 100 ppb in wells MW-2 and MW-3, respectively. The cross gradient extent of MTBE contamination in groundwater has not been defined</p>
2.7	MTBE Plume Stability and Concentration Trends	MTBE concentrations have exhibited a steadily decreasing trend. MTBE concentrations in MW-3 have decreased from 4,100 ppb in May 2002 to 100 ppb in July 2005.

2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	<p>Monitoring wells MW-1 through MW-5 have well screens that begin from 3.5 to 6.5 fbg and end from 9.5 to 16.5 fbg. Former well E-4 was screened from 23 to 35 fbg. Historical depth to water ranges from 1.89 fbg to 8.84 fbg; current depth to water in the third quarter of 2005 ranges from 3.32 fbg to 4.42 fbg. Groundwater in well E-4 was reported to be under artesian conditions, with the water level rising above the top of the well casing. E-4 is screened in a deeper water bearing unit than other wells at the site.</p> <p>The shallow groundwater flow direction is generally to the west-southwest onsite with a shift to south-southwest offsite, with likely influence from previously natural creek channels and storm drain culverts that run under Grand Avenue in this direction, with a gradient of approximately 0.02 to 0.04 ft/ft.</p>
2.9a	Regional Geology	<p>The site is located near Oakland, east of the San Francisco Bay. The surficial deposits are Pleistocene age alluvial fan and fluvial deposits which are typically dense gravely and clayey sand or clayey gravels that fine upward to sandy clay. These deposits are variously sorted and are located along most stream channels in the area. A splay of the Hayward Fault lies approximately 3,200 feet northeast of the site.</p>
2.9b	Topography	<p>The site lies at an elevation of approximately 35-feet above mean sea level and the area slopes gradually to the southwest toward Lake Merritt and the Oakland Harbor and the San Francisco Bay.</p>
2.9c	Stratigraphy and Hydrogeology	<p>The materials underlying the site consist primarily of low to moderate estimated permeability sandy silts, clayey silts, silty clays, and clays interbedded with higher permeability layers or lenses of silty sands and silty gravels to the total explored depth of 35 feet below grade (fbg). Groundwater beneath the site is under semi-confined to confined conditions as indicated by the artesian conditions at E-4 and the differences between the depth to water indicated on boring logs and that measured the subsequent wells.</p>

2.10	Preferential Pathways Analysis	<p>Utility lines run adjacent to two sides of the site. Identified utilities include sanitary sewer, water, electrical and gas lines, as well as storm drain lines. The utility lines downgradient from the site run approximately north to south, which approximates the natural groundwater flow direction at the site. Groundwater elevations in the shallow water-bearing zone were calculated using surveyed top of well casing elevations and depths to groundwater measured since 1989. Groundwater elevations have ranged from 24.26 and 38.18 feet msl. Since accurate depth information could not be obtained for the water mains, electrical conduits and gas piping, their locations relative to the water table cannot be established with certainty. However, since typical burial depths for these utilities is at least 3 fbg, and groundwater depths have been as shallow as 2.1 feet below top of casing, it is very likely that the water, electric and gas pipes and their trenches have intersected the water table. In that event, these utility trenches would likely act as preferential pathways for groundwater flow. Similarly, based on inferred depths of sanitary sewer lines, it is likely that these utility trenches also act as preferential pathways for groundwater flow.</p> <p>Buried former creek channels adjacent to the site likely act as natural barriers and conduits for groundwater flow. It is likely that any groundwater leaving the site will be contained within the confines of the former creek channels. Groundwater is expected to flow within the natural valley of the former Wildwood Creek towards Lake Merritt, a direction consistent with groundwater monitoring results.</p>
2.11	Other Pertinent Issues	<p>Atypical TPHg detections in wells MW-4 and MW-5 are due to chlorinated hydrocarbons present in the groundwater. TCE, PCE, cis-1,2 -DCE, and trans-1,2-DCE were detected in samples collected from wells MW-4 and MW-5 from May 1998 to April 2001. There were no detections in samples collected from on-site wells. These chemicals are believed to be unrelated to the activities of the Shell site.</p>
3	Remediation Status	
3.1	Remedial Actions Taken	<p>Oxygen releasing compound (ORC) installed in wells MW-1, MW-2 and MW-3 in the second quarter of 1998. ORCs were removed from MW-1 in the fourth quarter of 2001 and from wells MW-2 and MW-3 in the second quarter of 2005.</p>
3.2	Area Remediated	<p>Remediation at the site has concentrated on groundwater downgradient of the current and former tank pit.</p>
3.3	Remediation Effectiveness	<p>ORC socks were removed from site wells due to no observable appreciable effect.</p>

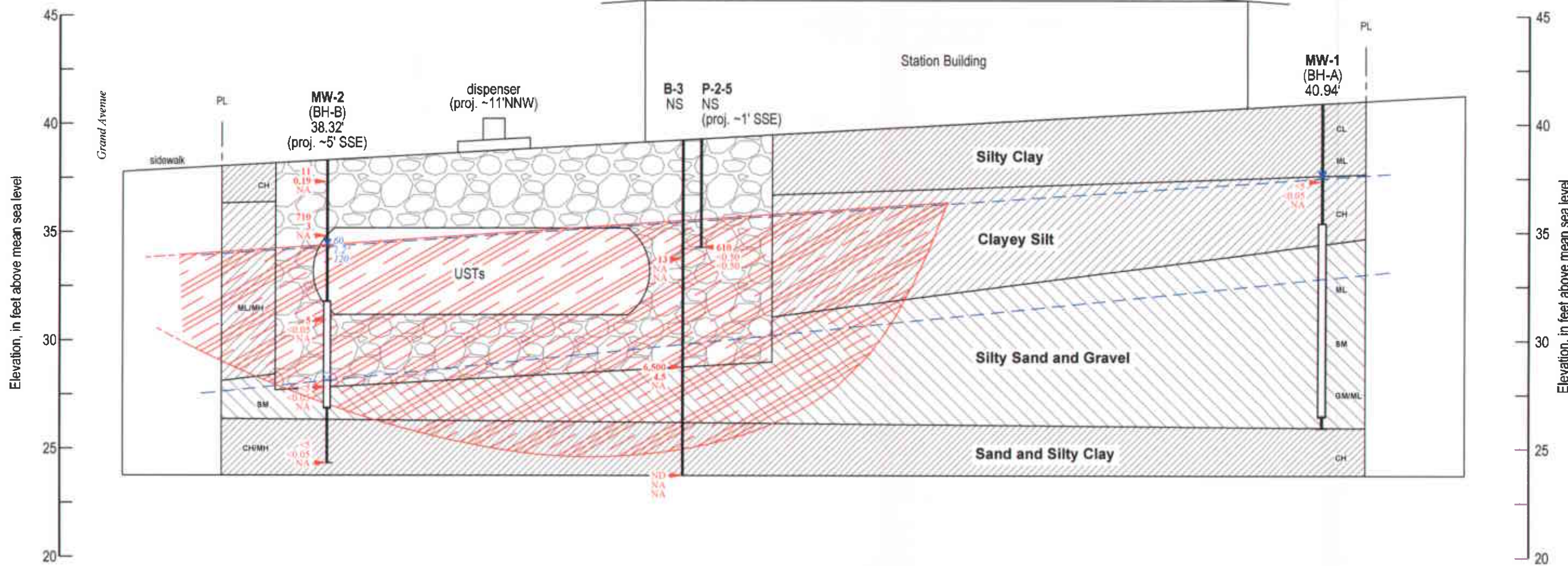
4	Well and Sensitive Receptor Survey	
4.1	Designated Beneficial Groundwater Use	San Francisco Bay Region RWQCB Basin Plan identifies the following existing beneficial uses for groundwater in this region: Municipal and domestic water supply, Industrial process water supply, Industrial service water supply, and Agricultural water supply. However, the June 1999 East Bay Plain Groundwater Basin Beneficial Use Evaluation Report indicates that the City of Piedmont does not have any plans to develop local groundwater resources for drinking water purposes. Just downgradient in Oakland, most groundwater is designated as a potential drinking water source but, due to contaminated conditions, shallow groundwater is not now, and is not expected to be, utilized in this manner.
4.2	Shallow Groundwater Use	No pumping wells that draw from shallow groundwater were identified within a ½-mile radius of the site.
4.3	Deep Groundwater Use	A 300-foot deep domestic well, installed in 1977 and sealed from 0-110 feet below grade, has been identified approximately ½ mile upgradient of the site. The current status of the well is unknown.
4.4	Well Survey Results	An August 2003 well survey conducted by Cambria identified one water-producing well, one cathodic protection well and eight monitoring wells within ½ mile of the site. The water-producing well is located approximately ½ mile upgradient of the site.
4.5	Likelihood of Impact to Wells	Due to distance and location upgradient of the subject site, it is unlikely that any known water producing well would be impacted by hydrocarbons or oxygenates originating from at the site.
4.6	Likelihood of Impact to Surface Water	The former creek channels adjacent to the site were likely to have been filled to construct the existing streets, and the creeks were routed into storm drains. The now buried, former creek channels are likely to act as natural barriers and conduits for groundwater flow. It is likely that any shallow or deep groundwater leaving the site will be contained within the confines of the former creek channels. From this, groundwater is expected to flow towards Lake Merritt, which is consistent with groundwater monitoring results. The impact of site groundwater seepage into Lake Merritt is expected to be minimal relative to other surface water runoff.
5	Risk Assessment	
5.1	Site Conceptual Exposure Model (current and future uses)	On-site land use is commercial. There is an operating Shell-branded service station with an enclosed station building onsite. Off-site land use in the immediate vicinity is commercial. Residential use land is located southeast of the site.

5.2	Exposure Pathways	Soil and/or groundwater volatilization to outdoor and/or indoor air, commercial exposure.
5.3	Risk Assessment Status	No formal risk assessment has been performed.
5.4	Identified Human Exceedances	No exceedances have been identified or evaluated.
5.5	Identified Ecological Exceedances	No exceedances have been identified or evaluated.
6	Additional Recommended Data or Tasks	
6.1	Sampling frequency reduction to annually for all site monitoring wells except MW-3.	
6.2	Sampling frequency reduction to semi-annually for monitoring well MW-3 until TPHg and benzene concentrations are shown to be below their respective non-drinking water ESLs	
6.3	Consideration of case closure once the above criterion is met	

Known environmental documents for site:

September 20, 1984 – Subsurface Hydrogeologic Investigations, EMCON
June 16, 1987 – Sampling Report, Blaine
October 3, 1988 – Soil Investigation , ENSCO
September 12, 1989 – Well Construction Report, Weiss
September 19, 1988 – Subsurface Investigation, Weiss
June 21, 1990 – Subsurface Investigation and Groundwater Monitoring Report
August 11, 1992 – Letter to Alameda County Department of Environmental Health
September 17, 1997 – Soil Dispenser Confirmation, Cambria
August 6, 1998 – Dispenser Soil Sampling Report, Cambria
January 30, 2003 – Conduit Study Report, Cambria
August 14, 2003 – Well Survey and Site Conceptual Model, Cambria
June 7, 2005 – Dispenser and Piping Upgrade Sampling Report, Cambria
February 14, 1994 through June 20, 2005 – Quarterly Monitoring Reports, Blaine, Weiss, and Cambria

A West-Southwest East-Northeast A'



Geological Cross Section A-A'



C A M B R I A



EXPLANATION

- = Low Permeability Soils
 - CH - Inorganic Clay
 - CL - Clay
 - sc - Clayey Sand
- = Moderate Permeability Soils
 - ML - Clayey Silt
 - SM - Silty Sand
- = High Permeability Soils
 - SP - Poorly Graded Sand
 - SW - Well Graded Sand
- = Fill (Tank Pit)
- = TPHg and BTEX in soil and groundwater
- = Approximate sample location
- = TPHg, Benzene, MIBE Hydrocarbon concentrations in Soil, in parts per million

Well ID — Well Designation
 Elev. (offset) — Top of Casing Elevation

- Groundwater Monitoring Well
- Well Screen Interval
- Bottom of boring
- = Depth of Groundwater - at drilling (1989)
- = Depth of Groundwater - 05/19/05
- = TPHg, Benzene, MIBE Hydrocarbon concentrations in Groundwater, in parts per billion

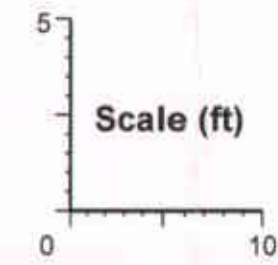


FIGURE 3

Shell-branded Service Station

29 Wildwood Avenue
Piedmont, California
Incident No. 98995822