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## TRANSMITTAL

**DATE:** February 19, 2010

**REFERENCE NO.:** 240687

**PROJECT NAME:** 29 Wildwood Avenue, Piedmont

**TO:** Jerry Wickham  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577  
   
 

**RECEIVED**

2:55 pm, Feb 24, 2010

Alameda County  
Environmental Health

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QUANTITY	DESCRIPTION
1	Closure Request

As Requested       For Review and Comment  
 For Your Use     

**COMMENTS:**

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

**Copy to:** Denis Brown, Shell Oil Products US, 20945 S. Wilmington Avenue, Carson, CA 90810  
SF Data Room (electronic copy)

Completed by: Peter Schaefer

Signed: Peter Schaefer

Filing: Correspondence File



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

**Denis L. Brown**  
**Shell Oil Products US**  
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Re: Shell-branded Service Station  
29 Wildwood Avenue  
Piedmont, California  
SAP Code 135765  
Incident No. 98995822  
ACEH Case No. RO0000495

Dear Mr. Wickham:

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Denis L. Brown".

Denis L. Brown  
Project Manager



## CLOSURE REQUEST

**SHELL-BRANDED SERVICE STATION  
29 WILDWOOD AVENUE  
PIEDMONT, CALIFORNIA**

**SAP CODE            135765  
INCIDENT NO.      98995822  
AGENCY NO.        RO0000495**

**Prepared by:  
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**FEBRUARY 19, 2010**

**REF. NO. 240687 (4)**

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## **1.0 INTRODUCTION**

Conestoga-Rovers & Associates (CRA) prepared this request on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell).

The subject site is an active Shell-branded service station located on the northeast corner of the Wildwood Avenue and Grand Avenue intersection in a mixed commercial and residential area of Piedmont, California (Figure 1). The site layout (Figure 2) includes one station building, two dispenser islands, and three underground storage tanks (USTs).

A summary of previous work performed at the site is contained in Appendix A. Historical soil analytical data are presented on Tables 1 and 2 and historical groundwater data are presented in Appendix B.

## **2.0 LOW-RISK CASE CRITERIA**

Site data demonstrate that the site conditions meet the low-risk groundwater case criteria outlined in the San Francisco Bay Regional Water Quality Control Board's (RWQCB's) January 5, 1996 *Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites*. These criteria are addressed below.

Note that the RWQCB Groundwater Committee's June 1999 *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report for Alameda and Contra Costa Counties, CA*, states that the City of Piedmont (among other cities) "does not have plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity". Although groundwater in this area cannot be precluded from being a potential future source of drinking water, it is not currently a source of drinking water, and given the shallow depth, it is unlikely that the first water-bearing zone would be used as a source of drinking water. Thus, RWQCB non-drinking water environmental screening levels (ESLs)<sup>1</sup> are appropriate screening levels for this site.

---

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

## **2.1 THE LEAK HAS BEEN STOPPED AND ONGOING SOURCES HAVE BEEN REMOVED OR REMEDIATED**

No active leak has been identified. A waste oil tank was removed in 2007, and facility upgrades and dispenser modifications were completed in March of 1998 and April of 2005. As of January 1, 2003, methyl tertiary-butyl ether (MTBE) was no longer included in the formulation of Shell gasoline. Hydrocarbon, MTBE, and tertiary-butyl alcohol (TBA) concentrations in groundwater have decreased significantly, and are adequately defined, indicating that there is no ongoing source.

## **2.2 THE SITE HAS BEEN ADEQUATELY CHARACTERIZED**

The five groundwater monitoring wells (MW-1 through MW-5) are adequate to monitor groundwater conditions.

Data from the monitoring wells are all below ESLs (Figure 3 and Appendix B), with the exception of total petroleum hydrocarbons as gasoline (TPHg) in well MW-3. It should be noted that the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case benzene, toluene, ethylbenzene, xylenes (BTEX), MTBE, and TBA. Monitoring wells MW-1, MW-2, MW-4, and MW-5 adequately define TPHg impacts in shallow groundwater to below ESLs. Analysis of deeper groundwater samples from well E-4, collected between 1989 and 1995 on the down-gradient edge of the site, contained a single detection of TPHg and BTEX. Based on these results, TPHg and BTEX impacts are limited to shallow groundwater. Well E-4 was an artesian well, indicating a strong upward vertical gradient, so it is unlikely that MTBE or TBA migrated vertically or that deeper groundwater is impacted by MTBE or TBA.

Vadose zone soil samples are limited due to shallow groundwater depths. Historically, the depth to groundwater ranges from 1.65 to 8.84 feet below grade (fbg) and is typically 2 to 4 fbg. Data for soil samples collected below the vadose zone indicates that soil impacts are limited to the area directly adjacent to the dispensers and the UST complex.

### **2.2.1 POTENTIAL PREFERENTIAL PATHWAYS**

Cambria Environmental Technology, Inc.'s (Cambria's) January 30, 2003 *Conduit Study Report* provided locations of current and former potential preferential pathways for groundwater migration and concluded that buried former stream channels of Bushy Dell Creek and Pleasant Valley Creek, as well as utility trenches likely act as barriers and

conduits for groundwater flow. Since BTEX, MTBE, and TBA concentrations are below non-drinking water ESLs, off-site migration via the preferential pathways is likely not a concern.

### **2.3        THE DISSOLVED HYDROCARBON PLUME IS NOT MIGRATING**

Constituents of concern (COCs) are below ESLs in wells with the exception of TPHg in MW-3. As stated above, the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case BTEX, MTBE, and TBA. Decreasing COC concentrations in well MW-3 indicate that the on-site plume is shrinking (Figures 4 and 5) and TPHg is defined below ESLs by off-site wells MW-4 and MW-5.

### **2.4        MINIMAL GROUNDWATER IMPACT CURRENTLY EXISTS, FEW CONTAMINANTS ARE FOUND AT LEVELS ABOVE ESTABLISHED MCLs OR OTHER APPLICABLE WATER-QUALITY OBJECTIVES**

As stated above, drinking water ESLs do not apply at this site. Maximum groundwater concentrations from samples collected during the third quarter of 2009 are compared with non-drinking water ESLs in the following table.

<b>TABLE A</b>		
<i>COCs</i>	<i>Current Maximum Concentrations in Site Groundwater (9/09) Units in µg/l</i>	<i>ESLs Where Groundwater is not a Source of Drinking Water (Table B) Units in µg/l</i>
TPHg	1,800	210
Benzene	21	46
Toluene	2.6	130
Ethylbenzene	1.2	43
Xylenes	3.8	100
MTBE	17	1,800
TBA	53	18,000

Note: µg/l = Micrograms per liter

During the third quarter of 2009 all groundwater detections were below ESLs with the exception of TPHg in MW-3. As stated above, the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case BTEX, MTBE,

and TBA. Figure 3 shows that the minimal impacts remaining in MW-3 are limited and adequately defined in the down-gradient direction. As shown in Figure 4, TPHg and benzene in well MW-3 are declining. Figure 5 shows downward trends for MTBE and TBA in well MW-3. Current groundwater concentrations of BTEX, MTBE, and TBA are below non-drinking water ESLs.

## **2.5 NO WATER WELLS, DEEPER DRINKING WATER AQUIFERS, SURFACE WATER, OR OTHER SENSITIVE RECEPTORS ARE LIKELY TO BE IMPACTED**

Cambria's August 14, 2003 *Well Survey and Site Conceptual Model* presented a well survey. California Department of Water Resources files indicated that no public or non-public water systems were located within 1/2-mile of down gradient of the site.

The site is located at the former confluence of Bushy Dell Creek and Pleasant Valley Creek. Both creeks are channeled in underground culverts which join just southwest of the site and empty into Lake Merritt approximately 4,000 feet to the southwest. As shown in the following table, no COCs were detected above freshwater surface water ESLs in wells during the third quarter 2009 groundwater sampling event with the exception of TPHg, MTBE, and TBA in well MW-3. As stated above, the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case BTEX, MTBE, and TBA.

COCs	Current Maximum Concentrations in Site Groundwater (9/09)	ESLs for Freshwater Surface Water Bodies (Table F)
	Units in $\mu\text{g/l}$	Units in $\mu\text{g/l}$
TPHg	1,800	100
Benzene	21	46
Toluene	2.6	40
Ethylbenzene	1.2	30
Xylenes	3.8	20
MTBE	17	5.0
TBA	53	12

There are no unlined surface water channels near the site. Both Bushy Dell Creek and Pleasant Valley Creek are channeled in underground culverts. Lake Merritt is located approximately 4,000 feet from the site. None of these receptors is likely to be impacted by COCs originating from the subject site.

## **2.6 THE SITE PRESENTS NO SIGNIFICANT RISK TO HUMAN HEALTH OR THE ENVIRONMENT**

No formal risk assessment has been performed for the site. A discussion of potential risks associated with COCs in groundwater, soil vapor, and soil is presented below.

### **2.6.1 GROUNDWATER**

All groundwater concentrations are below the ESLs where groundwater is not a current or potential drinking water source with the exception of TPHg in MW-3. As stated above, the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case BTEX, MTBE, and TBA, which are all below ESLs, demonstrating that they do not pose a risk to human health or the environment.

### **2.6.2 SOIL VAPOR**

Risk of soil vapor intrusion due to impacted groundwater can be evaluated by comparing groundwater concentrations with available ESLs. As shown in the following table, current groundwater concentrations meet the most stringent residential standards and do not present a risk for soil vapor intrusion.

TABLE C		
COCs	Current Maximum Groundwater Concentrations (9/09) Units in $\mu\text{g/l}$	Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns - Residential Land Use (Table E-1) Units in $\mu\text{g/l}$
Benzene	21	540
Toluene	2.6	380,000
Ethylbenzene	1.2	170,000
Xylenes	3.8	160,000
MTBE	17	24,000

Because most soil detections are below groundwater and the depth of vadose zone soils is limited, there is little potential for soil vapor migration to impact on-site workers and potential future occupants of the site. Since the air-exchange from customers entering and exiting the station building during all business hours would not allow for significant buildup of vapors from subsurface migration, inhalation risk from vapor

intrusion is considered to be low. It is anticipated that the site will remain a service station.

### 2.6.3 SOIL

As shown in the following table TPHg, total petroleum hydrocarbons as diesel (TPHd), benzene, ethylbenzene, and xylenes exceeded the commercial land use ESL for vadose zone soils (<4 fbg). As stated above, the ESL guidance "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case BTEX and MTBE. Vadose zone sample D-2 at 2 fbg collected in 1998 is not considered because this area was excavated in 2005, and the sample results do not represent residual soil concentrations.

TABLE D

COCs	Vadose Zone Soil Sample Maximum Concentrations Units in mg/kg	ESLs for Shallow Soils Where Groundwater is Not a Source of Drinking Water, Commercial Land Use (Table B) Units in mg/kg
TPHg	710 (BH-B [MW-2] @ 3.5 fbg)	180
TPHd	890 (D-1-3.0)	180
Benzene	3 (BH-B [MW-2] @ 3.5 fbg)	0.27
Toluene	5 (BH-B [MW-2] @ 3.5 fbg)	9.3
Ethylbenzene	17 (BH-B [MW-2] @ 3.5 fbg)	4.7
Xylenes	71 (BH-B [MW-2] @ 3.5 fbg)	11
MTBE	0.18 (D-1-3.0)	8.4

Note: mg/kg = Milligrams per kilogram

Only two of the 12 vadose zone soil samples collected at the site exceeded the ESL for sites with commercial land use for benzene, ethylbenzene, and xylenes. The maximum concentrations in the other 10 samples were 0.19 mg/kg benzene, 0.2 mg/kg ethylbenzene, and 0.9 mg/kg xylenes. Vadose zone soil impacted at levels above the ESLs is limited to the area of dispenser #1 and the UST complex. The site is paved, so the only direct exposures would likely occur during construction at the station. Any worker doing trenching or excavating at a current or former gasoline station would be properly trained, prepared for encountering potentially-impacted soil, and would wear personal protective equipment, as necessary. Therefore, the residual impacted soils do not appear to pose a significant threat to construction workers that may occasionally

come in contact with the potentially-impacted soils on site, and any work at this site would require contractors to have appropriate health and safety training to perform the work.

### **3.0 CLOSURE REQUEST**

It is anticipated that the site will remain a service station. Given the COC concentrations in site soil and groundwater compared to the ESLs presented above, and given the decreasing concentration trends, CRA concludes that the residual petroleum and fuel oxygenate impacts at this site pose very little or no risk to human health or the environment.

This site meets the RWQCB criteria for a low-risk fuel site and groundwater data indicate the plume is shrinking and all COCs except for TPHg in MW-3 are below ESLs. Therefore, on behalf of Shell, we respectfully request closure of this case. CRA recommends suspending the groundwater monitoring program during the closure review. We will implement this change during the first quarter of 2010, unless we are otherwise directed. No further groundwater sampling events are scheduled, and CRA will not submit additional groundwater monitoring reports.

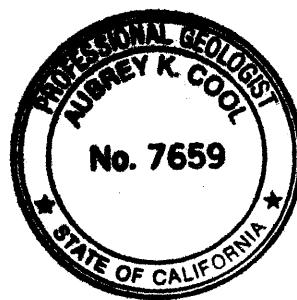
All of Which is Respectfully Submitted,  
CONESTOGA-ROVERS & ASSOCIATES



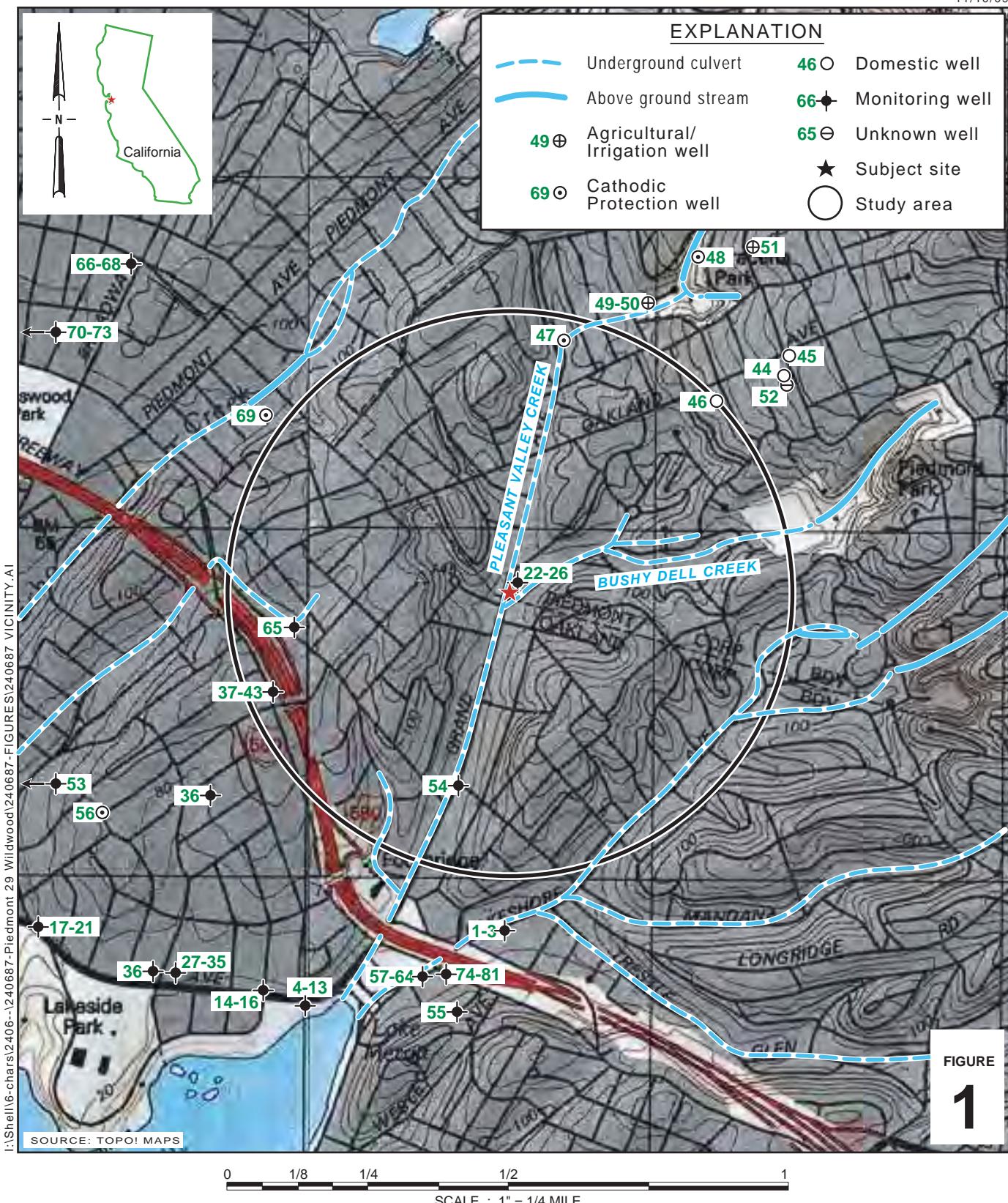
Peter Schaefer, CHG, CEG



Aubrey K. Cool, PG



## **FIGURES**



## Shell-branded Service Station

29 Wildwood Avenue  
Piedmont, California



**CONESTOGA-ROVERS**  
& ASSOCIATES

## Vicinity Map

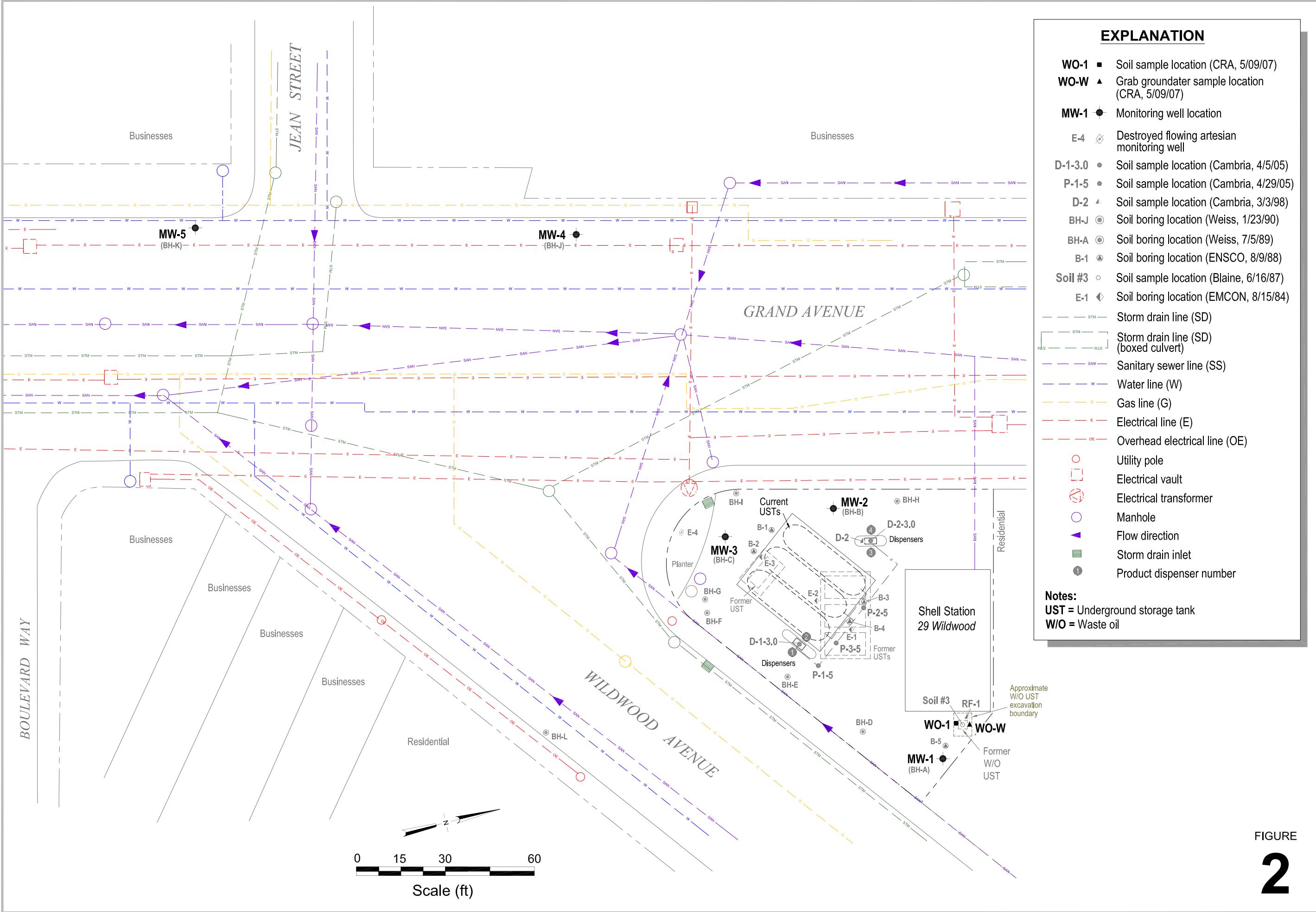
## Site Plan



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& ASSOCIATES

**Shell-branded Service Station**

29 Wildwood Avenue  
Piedmont, California



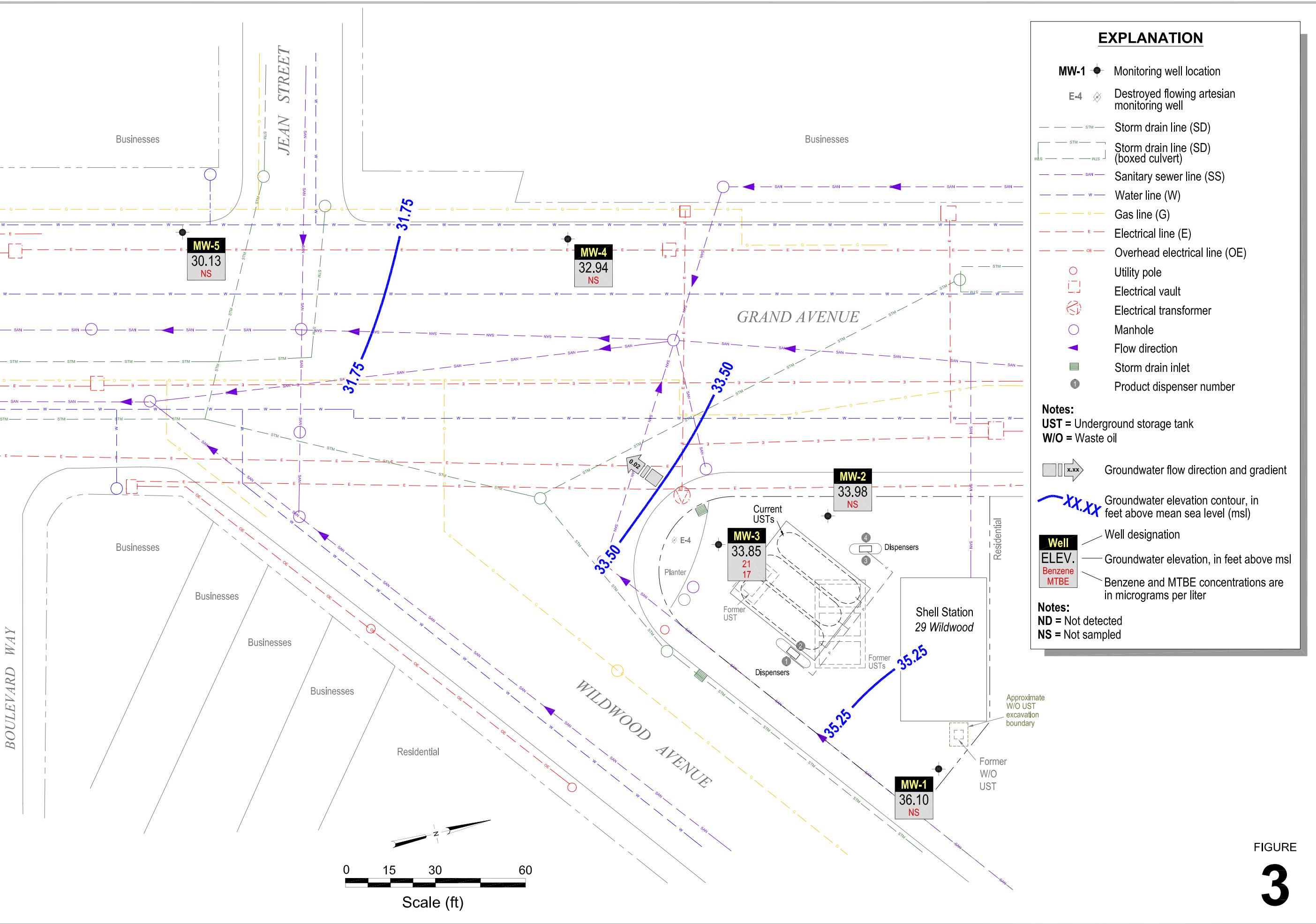
## Groundwater Contour and Chemical Concentration Map

September 11, 2009



FIGURE  
**3**

**Shell-branded Service Station**  
29 Wildwood Avenue  
Piedmont, California



### EXPLANATION

- MW-1 • Monitoring well location
- E-4 ☂ Destroyed flowing artesian monitoring well
- STM — Storm drain line (SD)
- STM — Storm drain line (SD) (boxed culvert)
- SAN — Sanitary sewer line (SS)
- W — Water line (W)
- G — Gas line (G)
- E — Electrical line (E)
- OE — Overhead electrical line (OE)
- Utility pole
- Electrical vault
- Electrical transformer
- Manhole
- Flow direction
- Storm drain inlet
- Product dispenser number

#### Notes:

- UST = Underground storage tank
- W/O = Waste oil
- Well ELEV. Benzene MTBE
- Groundwater elevation contour, in feet above mean sea level (msl)
- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in micrograms per liter

**Notes:**  
ND = Not detected  
NS = Not sampled

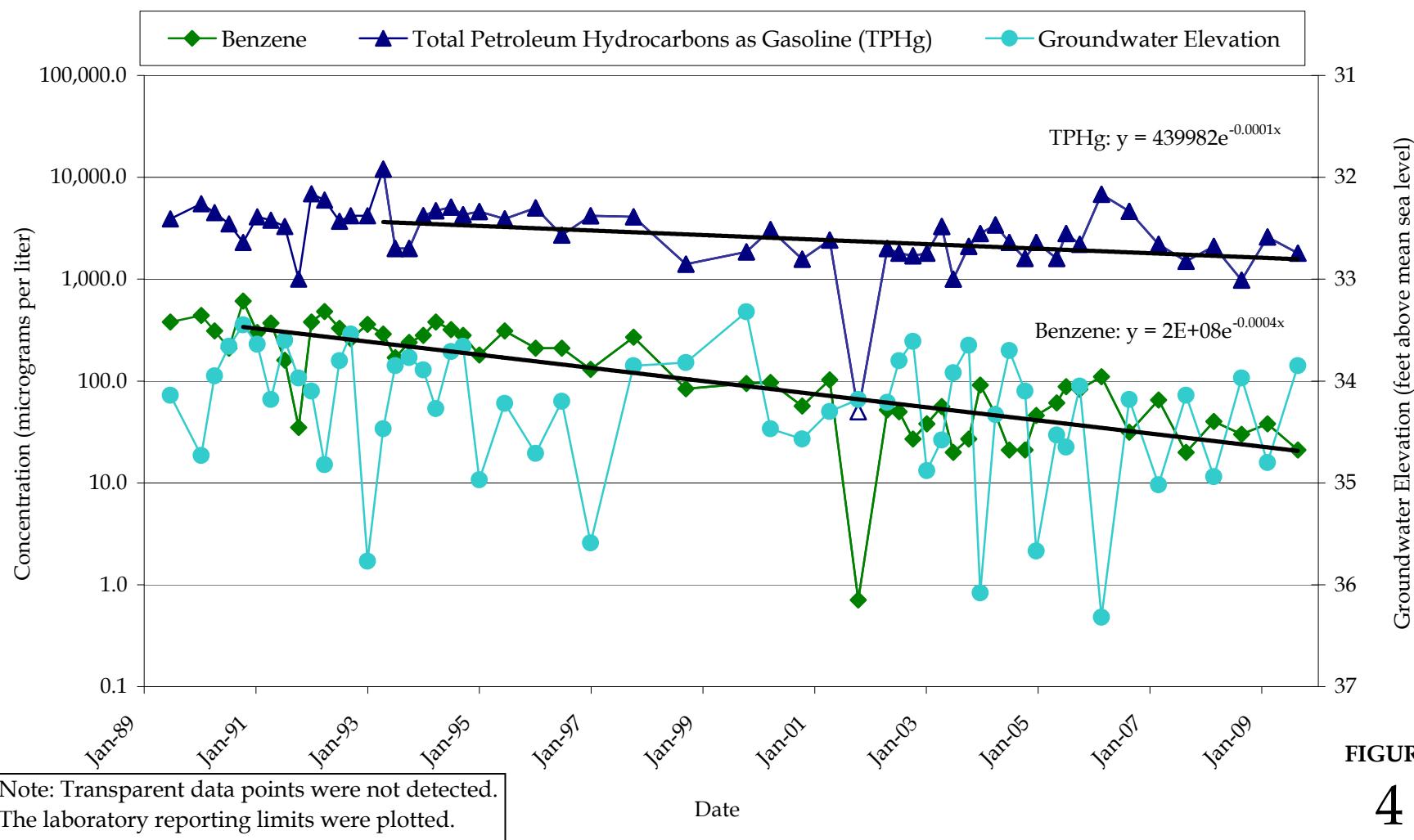
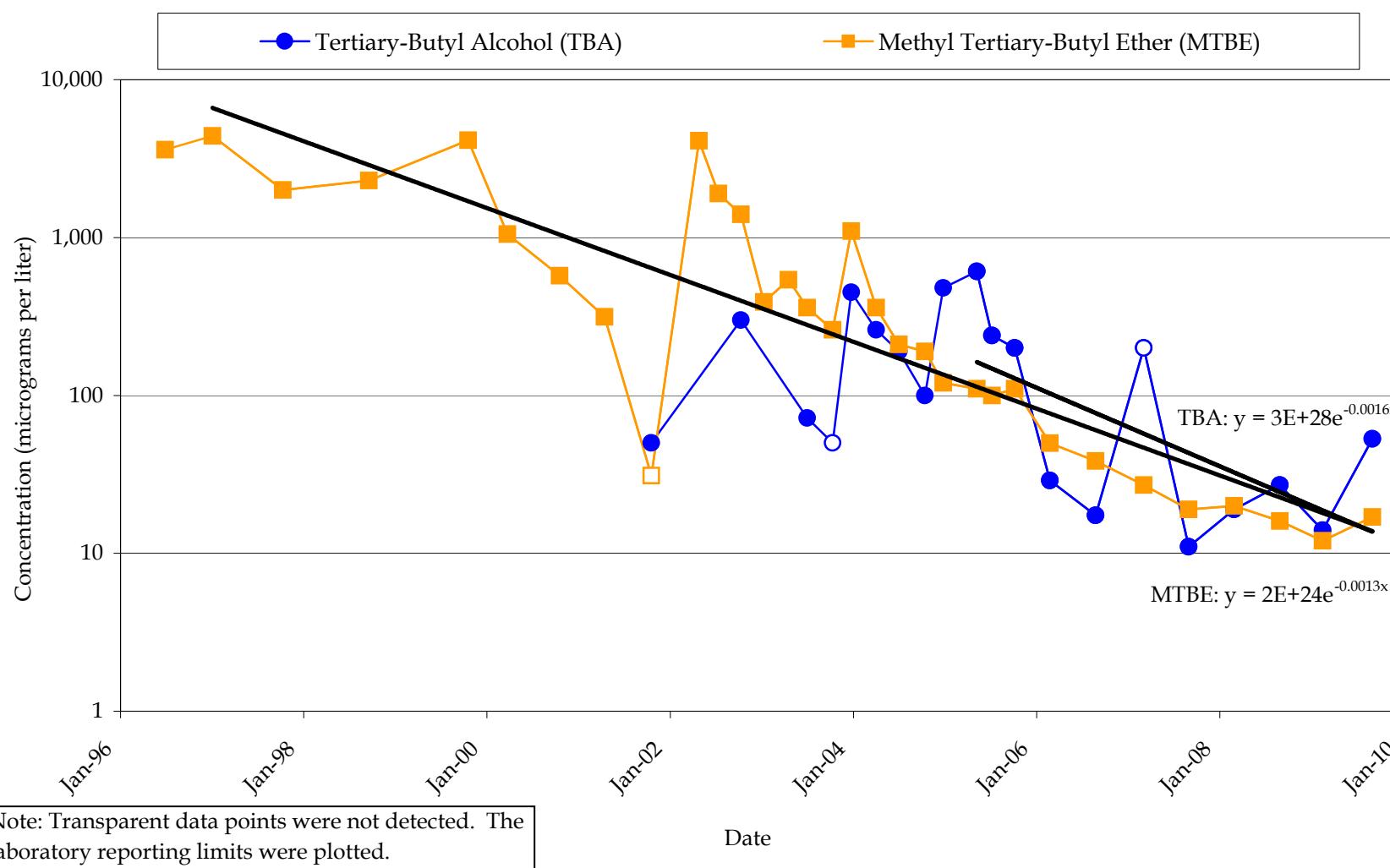


FIGURE  
**4**

Shell-branded Service Station  
29 Wildwood Avenue  
Piedmont, California



MW-3: TPHg and Benzene Concentrations  
and Groundwater Elevation versus Time



Shell-branded Service Station  
29 Wildwood Avenue  
Piedmont, California

MW-3: MTBE and TBA Concentrations  
versus Time



## TABLES

TABLE 1

**HISTORICAL SOIL ANALYTICAL DATA: TPHG, TPHd, BTEX, AND MTBE**  
**SHELL-BRANDED SERVICE STATION**  
**29 WILDWOOD AVENUE, PIEDMONT, CALIFORNIA**

Sample ID	Date	Depth (fbg)	TPHg	TPHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<i>1987 Underground Storage Tank Removal</i>									
Soil #3	6/16/1987	8	---	<1.0	<50	<50	<50	---	---
<i>1988 Soil Investigation</i>									
B-1-1	8/9/1988	4.5-5	ND	---	---	---	---	---	---
B-2-1	8/9/1988	5-5.5	ND	---	---	---	---	---	---
B-3-1	8/9/1988	5-5.5	13	---	---	---	---	---	---
B-3-2	8/9/1988	10-10.5	6,500	---	4.5	1.6	28	2.5	---
B-3-3	8/9/1988	15-15.5	ND	---	---	---	---	---	---
B-4-1	8/9/1988	10-10.5	750	---	3.4	3.4	1.2	1.7	---
B-4-2	8/9/1988	15-15.5	ND	---	---	---	---	---	---
B-5-(1-2) (composite)	8/9/1988	5-5.5 and 10-10.5	ND	---	---	---	---	---	---
<i>1989 Well Installations</i>									
BH-A (MW-1)	7/5/1989	3.6	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-B (MW-2)	7/5/1989	1	11	---	0.19	<0.1	0.1	<0.3	---
BH-B (MW-2)	7/5/1989	3.5	710	---	3	5	17	71	---
BH-B (MW-2)	7/5/1989	7.4	5	---	<0.05	<0.1	<0.1	<0.3	---
BH-B (MW-2)	7/5/1989	10.5	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-B (MW-2)	7/5/1989	14	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-C (MW-3)	7/5/1989	3.5	<5	---	1.3	0.3	0.2	0.7	---
BH-C (MW-3)	7/5/1989	5.5	72	---	1.2	3.1	8.3	42	---
BH-C (MW-3)	7/5/1989	9	270	---	<0.05	<0.1	<0.1	<0.3	---
BH-D	7/5/1989	2.5	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-D	7/5/1989	6	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-D	7/5/1989	9.5	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-D	7/5/1989	15	<5	---	<0.05	<0.1	<0.1	<0.3	---

TABLE 1

**HISTORICAL SOIL ANALYTICAL DATA: TPHG, TPHd, BTEX, AND MTBE**  
**SHELL-BRANDED SERVICE STATION**  
**29 WILDWOOD AVENUE, PIEDMONT, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth (fbg)</i>	<i>TPHg</i>	<i>TPHd</i>	<i>Benzene</i>	<i>Toluene</i>	<i>Ethyl- benzene</i>	<i>Total Xylenes</i>	<i>MTBE</i>
BH-E	7/5/1989	2	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-E	7/5/1989	5.8	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-H	7/5/1989	3.5	8	---	0.07	<0.1	<0.1	<0.1	---
BH-H	7/5/1989	7	<5	---	<0.05	<0.1	<0.1	<0.3	---
BH-I	7/5/1989	6	540	---	<1	<2	<4	<10	---
BH-I	7/5/1989	7.5	29	---	<0.2	<0.1	<0.2	<0.3	---
BH-I	7/5/1989	10	<5	---	<0.05	<0.1	<0.1	<0.3	---
<i>1990 Subsurface Investigation</i>									
BH-J (MW-4)	1/23/1990	2.4	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-J (MW-4)	1/23/1990	5.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-J (MW-4)	1/23/1990	18.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-K (MW-5)	1/23/1990	3.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-K (MW-5)	1/23/1990	5.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-K (MW-5)	1/23/1990	18	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-L	1/23/1990	3.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-L	1/23/1990	6.4	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-L	1/23/1990	15.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
BH-L	1/23/1990	25.2	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---
<i>1998 Upgrade Sampling</i>									
D-2 <sup>a</sup>	3/3/1998	2	1,600 <sup>b</sup>	--	6.3 <sup>c</sup>	24 <sup>c</sup>	18 <sup>c</sup>	160 <sup>c</sup>	36 <sup>c</sup>
RF-1	3/6/1998	2	<1.0 <sup>b</sup>	10	--	--	--	--	--
<i>2005 Upgrade Sampling</i>									
D-1-3.0	4/5/2005	3	500	890	0.068	<0.050	8.0	0.66	0.18
D-2-3.0	4/5/2005	3	<1.0	9.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
P-1-5	4/29/2005	5	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
P-2-5	4/29/2005	5	610	--	<0.50	<0.50	7.8	<0.50	<0.50
P-3-5	4/29/2005	5	51	--	<0.50	<0.50	<0.50	<0.50	<0.50

TABLE 1

**HISTORICAL SOIL ANALYTICAL DATA: TPHG, TPHD, BTEX, AND MTBE**  
**SHELL-BRANDED SERVICE STATION**  
**29 WILDWOOD AVENUE, PIEDMONT, CALIFORNIA**

Sample ID	Date	Depth (fbg)	TPHg	TPHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total MTBE
<b>2007 Waste Oil Tank Removal</b>									
WO-1-5'	5/9/2007	5	<1.0	1.7	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
<b>Shallow Soil (<math>\leq 10</math> fbg) ESL<sup>a</sup>:</b>			180	180	0.27	9.3	4.7	11	8.4
<b>Deep Soil (<math>&gt; 10</math> fbg) ESL<sup>a</sup>:</b>			180	180	2.0	9.3	4.7	11	8.4

Notes:

All results in milligrams per kilogram (mg/kg) unless otherwise indicated.

fbg = Feet below grade

TPHg = Total petroleum hydrocarbons as gasoline analyzed by modified EPA Method 8260B unless otherwise noted

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

Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260 unless otherwise noted

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B unless otherwise noted.

ND = Not detected; detection limit unknown

<x = Not detected at reporting limit x

--- = Not analyzed

ESL = Environmental screening level

Results in bold equal or exceed applicable ESL

a = Sample location subsequently excavated during 2005 dispenser upgrades

b = Analyzed by modified EPA Method 8015

c = Analyzed by EPA Method 8020

d = San Francisco Bay Regional Water Quality Control Board commercial/industrial ESL for soil where groundwater is not a source of drinking water (Tables B and D of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008]).

TABLE 2

**HISTORICAL SOIL ANALYTICAL DATA: ADDITIONAL PARAMETERS  
SHELL-BRANDED SERVICE STATION  
29 WILDWOOD AVENUE, PIEDMONT, CALIFORNIA**

Sample ID	Date	Depth (fbg)	O&G	TRPH	HVOCS	VOCs	SVOCs	Bis (2-Ethylhexyl) Phthalate	PCP	Creosote	Chlorinated Hydrocarbons	OXYs	Ethanol	1,2-DCA	EDB	Cd	Cr	Pb	Ni	Zn	PCBs
<i>1987 Underground Storage Tank Removal</i>																					
Soil #3	6/16/1987	8	<30 <sup>a</sup>	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
<i>1998 Upgrade Sampling</i>																					
RF-1	3/6/1998	2	<15	--	ND	ND	<500	<500	--	--	--	--	--	--	<0.50	33.0	11.0	37.0	38.0	--	
<i>2007 Waste Oil Tank Removal</i>																					
WO-1-5 <sup>t</sup>	5/9/2007	5	17	--	--	--	b	1.4	<2.5	<0.50	ND	<0.0050	<0.010	<0.0050	<0.0050	<0.500	33.1	6.33	34.8	25.2	<0.05
<i>Shallow Soil (&lt;10 fbg) ESL<sup>c</sup>:</i>			NA	2,500	Various	Various	Various	120	5.0	NA	Various	Various	NA	0.48	0.044	7.4	750	750	150	600	0.74

Notes:

All results in milligrams per kilogram (mg/kg) unless otherwise indicated.

fbg = Feet below grade

O&G = Oil and grease as hexane extractable material analyzed by EPA Method 1664 A (Modified) unless otherwise noted

TRPH = Total recoverable petroleum hydrocarbons analyzed by EPA Method 418.1

HVOCS = Halogenated volatile organic compounds analyzed by EPA Method 8020.

VOCs = Volatile organic compounds analyzed by EPA Method 8240

SVOCs = Semi-volatile organic compounds analyzed by EPA Method 8270

Bis (2-Ethylhexyl) Phthalate analyzed by EPA Method 8270C.

PCP = Pentachlorophenol analyzed by EPA Method 8270C

Creosote analyzed by EPA Method 8270C. It is reported as a combination of naphthalene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, 1-methylnaphthalene, and 2-methylnaphthalene.

Chlorinated hydrocarbons analyzed by EPA Method 8260B.

OXYs = Di-isopropyl ether, ethyl tertiary-butyl ether, tertiary-amyl methyl ether, and tertiary-butyl alcohol analyzed by EPA Method 8260B

Ethanol 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

Cd = Cadmium analyzed by EPA Method 6010B

Cr = Chromium analyzed by EPA Method 6010B

Pb = Lead analyzed by EPA Method 6010B

Ni = Nickel analyzed by EPA Method 6010B

Zn = Zinc analyzed by EPA Method 6010B

TABLE 2

HISTORICAL SOIL ANALYTICAL DATA: ADDITIONAL PARAMETERS  
SHELL-BRANDED SERVICE STATION  
29 WILDWOOD AVENUE, PIEDMONT, CALIFORNIA

PCBs = Polychlorinated biphenyls analyzed by EPA Method 8082; see laboratory analytical report for a complete list of specific constituents  
ND = Not detected. All detected constituents tabulated. See laboratory report for complete results.

<x = Not detected at reporting limit x

--- = Not analyzed

ESL = Environmental screening level

NA = No applicable ESL

a = Analyzed by standard methods 503E

b = All detected constituents tabulated. See laboratory report for complete results.

c = San Francisco Bay Regional Water Quality Control Board commercial/industrial ESL for soil where groundwater is not a source of drinking water (Tables B and D of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008]).

## **APPENDIX A**

### **SITE HISTORY**

## SITE HISTORY

**1984 Underground Storage Tank (UST) Replacement and 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 fuel UST removal. Hydrocarbons were observed at approximately 5 feet below grade (fbg) in three of the borings (E-1 through E-3) completed within the tank backfill. No analytical data were included in the report. Details of the investigation were presented in EMCON's September 20, 1984 *Subsurface Hydrogeologic Investigations* report.

**1987 Waste Oil UST Replacement:** In June 1987, a 550-gallon waste oil UST was replaced. During the UST replacement, Blaine Tech Services, Inc. (Blaine) of San Jose, California collected a water sample and two soil samples from within the excavation. Only one soil sample was analyzed; no hydrocarbons or volatile organic compounds were detected in the sample. Blaine's June 26, 1987 *Sampling Report* details the sampling.

**1988 Subsurface Investigation:** In August 1988, ENSCO Environmental Services (ENSCO) advanced five shallow soil borings (B-1 through B-5) to 15.5 fbg adjacent to the existing USTs. Up to 6,500 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) was detected in boring B-3 and up to 750 mg/kg TPHg was detected in boring B-4. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were also detected in samples from these borings. ENSCO's October 3, 1988 *Soil Investigation* report presents details of the investigation.

**1989 Subsurface Investigation:** In July 1989, Weiss Associates (Weiss) advanced six soil borings (BH-D through BH-I) and installed three groundwater monitoring wells (MW-1 through MW-3). Up to 710 mg/kg TPHg was detected in soil samples collected from four of the borings. Hydrocarbons were detected in the initial groundwater samples collected from wells MW-2 and MW-3. Weiss' September 12, 1989 *Well Construction Report* presents details of the investigation.

**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). No hydrocarbons were detected in soil samples collected from the three borings. Hydrocarbons were not detected in initial groundwater samples from MW-1, MW-4, or MW-5. 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 destroyed monitoring well E-4, which was a flowing artesian well screened in a deeper water-bearing zone. Weiss' August 21, 1995 *Ground Water Monitoring Well Abandonment* report presents details of the well destruction.

**1997-2005 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. The ORC socks were removed from wells MW-2 and MW-3 in April 2005.

**1998 Dispenser Upgrades:** In March 1998, Cambria Environmental Technology, Inc. (Cambria) collected soil samples from beneath the dispensers and from the sidewalls of the remote waste oil UST fill piping excavation. Petroleum hydrocarbons were detected in the soil sample collected beneath the northwesterly dispenser (D-2 at 2 fbg: 1,600 mg/kg TPHg and 6.3 mg/kg benzene). Total petroleum hydrocarbons as diesel (TPHd) were detected at 10 mg/kg in soil sample RF-1 at 1.5 fbg collected from the area adjacent to the remote waste oil UST fill piping. 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 found to be potential pathways for groundwater flow. Details of the conduit study are contained in Cambria's January 30, 2003 *Conduit Study Report*.

**2003 Well Survey and Site Conceptual Model:** 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 located one water-producing well up gradient. 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 down gradient;
- 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 were declining with time, indicating that no further release has occurred and that natural attenuation processes were remediating the constituents detected in groundwater.

These data and conclusions are included in Cambria's August 14, 2003 *Well Survey and Site Conceptual Model*.

**2005 Dispenser and Piping Upgrade:** In April 2005, Cambria collected soil samples from beneath each of the site's two dispensers (D-1-3.0 and D-2-3.0) and at three locations in the piping excavation (P-1-5 through P-3-5). Up to 610 mg/kg TPHg and up to 890 mg/kg TPHd were detected in the soil samples. Soil sample D-1-3.0 also contained 0.068 mg/kg benzene, 8.0 mg/kg ethylbenzene, 0.66 mg/kg total xylenes, and 0.18 mg/kg methyl tertiary-butyl ether (MTBE). 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*.

**2007 Waste Oil UST Removal:** On May 9, 2007, Wayne Perry, Inc. (Wayne Perry) of Sacramento, California removed one 550-gallon single-wall fiberglass waste oil UST. Conestoga-Rovers & Associates (CRA) collected one soil sample (WO-1-5') from a sidewall of the UST excavation and a grab water sample (WO-W) from the excavation. The soil sample contained 17 mg/kg oil and grease, 1.7 mg/kg TPHd, 33.1 mg/kg chromium, 6.33 mg/kg lead, 34.8 mg/kg nickel, 25.2 mg/kg zinc, and 1.4 mg/kg bis (2-ethylhexyl) phthalate. The unfiltered grab water sample collected from the UST excavation contained 1,300 micrograms per liter ( $\mu\text{g}/\text{L}$ ) oil and grease, 710  $\mu\text{g}/\text{L}$  TPHd, 1,100  $\mu\text{g}/\text{L}$  TPHg (the laboratory noted that the hydrocarbons reported as TPHg did not exhibit a typical gasoline chromatographic pattern), 6.2  $\mu\text{g}/\text{L}$  benzene, 84  $\mu\text{g}/\text{L}$  toluene, 1.1  $\mu\text{g}/\text{L}$  ethylbenzene, 3.2  $\mu\text{g}/\text{L}$  total xylenes, 14  $\mu\text{g}/\text{L}$  ethanol, 99  $\mu\text{g}/\text{L}$  methylene chloride, 66.0  $\mu\text{g}/\text{L}$  chromium, 98.5  $\mu\text{g}/\text{L}$  lead, 87.8  $\mu\text{g}/\text{L}$  nickel, 1,820  $\mu\text{g}/\text{L}$  zinc, 35  $\mu\text{g}/\text{L}$  benzyl alcohol, and 1,000  $\mu\text{g}/\text{L}$  benzoic acid. Based on these concentrations, Shell submitted an Underground Storage Tank Unauthorized Release (Leak)/Site Contamination Report (Unauthorized Release Report) on May 21, 2007. CRA's July 11, 2007 *Underground Storage Tank Removal Report* presents details of the UST removal.

**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 wells MW-1 through MW-5 has ranged between 1.65 and 8.84 fbg. The groundwater flow direction, is typically toward the west to northwest, but has occasionally ranged to the west-southwest. During third quarter of 2009 MW-3 contained 1,800  $\mu\text{g}/\text{l}$  TPHg, 21  $\mu\text{g}/\text{l}$  benzene, 2.6  $\mu\text{g}/\text{l}$  toluene, 1.2  $\mu\text{g}/\text{l}$  ethylbenzene, 3.8  $\mu\text{g}/\text{l}$  xylenes, 17  $\mu\text{g}/\text{l}$  MTBE, and 53  $\mu\text{g}/\text{l}$  tertiary-butyl alcohol.

Groundwater samples were analyzed for halogenated volatile organic compounds (HVOCS) between in May 1998 and April 2001. HVOCS were not detected in on-site

wells, but were detected in off-site wells MW-4 and MW-5. These contaminants are likely due to an off-site source.

**APPENDIX B**

**HISTORICAL GROUNDWATER ANALYTICAL DATA**

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**BLAINE**  
TECH SERVICES INC.

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GROUNDWATER SAMPLING SPECIALISTS  
SINCE 1985

September 29, 2009

Denis Brown  
Shell Oil Products US  
20945 South Wilmington Avenue  
Carson, CA 90810

Third Quarter 2009 Groundwater Monitoring at  
Shell-branded Service Station  
29 Wildwood Avenue  
Piedmont, CA

Monitoring performed on September 11, 2009

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Groundwater Monitoring Report **090911-RM-2**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

SAN JOSE

SACRAMENTO

LOS ANGELES

SAN DIEGO

SEATTLE

1680 ROGERS AVENUE SAN JOSE, CA (408) 573-0555 FAX (408) 573-7771 LIC. 746684 [www.blainetech.com](http://www.blainetech.com)

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,



Mike Ninokata  
Project Manager

MN/np

attachments: Cumulative Table of WELL CONCENTRATIONS  
Certified Analytical Report  
Field Data Sheets

cc: Anni Kreml  
Conestoga-Rovers & Associates  
5900 Hollis Street, Suite A  
Emeryville, CA 94608

SAN JOSE

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**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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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	NA	37.96	3.60	34.36	7.5
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	4.10	33.86	3.2
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	4.30	33.66	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	2.94	35.02	10.6
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	3.68	34.28	NA
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	2.12	35.84	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	3.58	34.38	2.7
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	2.30	35.66	3
MW-1	01/16/1997	120	14	10	3.6	14	<2.5	NA	NA	NA	NA	NA	NA	NA	NA	37.96	2.81	35.15	5.1
MW-1	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<0.50	8.6	NA	37.96	3.75	34.21	5.0						
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	3.52	34.44	4.1
MW-1	10/01/1998	<50	<0.50 c	<2.5 c	NA	37.96	4.05	33.91	3.6										
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	3.74	34.22	4.2
MW-1	11/01/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	5.03	NA	37.96	2.19	35.77	4.1						
MW-1	04/05/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	3.22	NA	37.96	3.74	34.22	4.2						
MW-1	10/30/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	<2.50	NA	37.96	2.76	35.20	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)
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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	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	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-1	10/17/2005	<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	3.45	37.49	0.31
MW-1	03/07/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	NA	NA	40.94	2.05	38.89	0.5
MW-1	09/05/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.94	3.34	37.60	NA
MW-1	03/16/2007	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<20	NA	NA	NA	40.94	2.67	38.27	0.77
MW-1	09/11/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.94	3.68	37.26	NA
MW-1	03/10/2008	<50 h	<0.50	<1.0	<1.0	<1.0	NA	<1.0	<2.0	<2.0	<2.0	<10	<100	NA	NA	40.94	4.04	36.90	2.01
MW-1	09/08/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.94	3.51	37.43	NA
MW-1	02/25/2009	<50	<0.50	<1.0	<1.0	<1.0	NA	<1.0	<2.0	<2.0	<2.0	<10	NA	NA	NA	40.94	2.80	38.14	0.69
MW-1	09/11/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.94	4.84	36.10	NA

MW-2	07/12/1989	60	2.7	<1	<1	<3	NA	34.89	3.66	31.23	NA								
MW-2	01/30/1990	<50	6.6	<0.5	0.54	0.93	NA	34.89	3.49	31.40	NA								
MW-2	04/27/1990	60	2.1	<0.5	<0.5	<0.5	NA	34.89	3.79	31.10	NA								
MW-2	07/31/1990	70	1.5	<0.5	<0.5	<0.5	NA	34.89	4.03	30.86	NA								
MW-2	10/30/1990	70	<0.5	0.7	<0.5	1.6	NA	34.89	4.21	30.68	NA								
MW-2	01/31/1991	80	<0.5	<0.5	0.9	1.9	NA	34.89	4.09	30.80	NA								
MW-2	04/30/1991	100	5.9	0.6	0.7	2	NA	34.89	3.95	30.94	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	MTBE 8260	DIPE	ETBE	TAME	TBA	Ethanol	1,2-DCA	EDB	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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
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	<0.50 c	<0.50 c	<0.50 c	<0.50 c	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	376 d	68.1 d	3.10 d	2.88 d	5.35 d	729 d	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
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

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
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**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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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-2	10/17/2005	86	<0.50	1.1	<0.50	2.1	NA	86	<2.0	<2.0	<2.0	24	<50	NA	NA	38.32	3.62	34.70	0.31
MW-2	03/07/2006	217	<0.500	0.870	0.660	3.22	NA	54.6	<0.500	<0.500	<0.500	12.1	<50.0	NA	NA	38.32	3.10	35.22	0.2
MW-2	09/05/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.32	3.98	34.34	NA
MW-2	03/16/2007	<50	4.7	<0.50	<0.50	<0.50	NA	14	<0.50	<0.50	<0.50	<20	<100	NA	NA	38.32	3.62	34.70	0.21
MW-2	09/11/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.32	3.93	34.39	NA
MW-2	03/10/2008	87 h	11	<1.0	<1.0	<1.0	NA	18	<2.0	<2.0	<2.0	17	<100	NA	NA	38.32.	3.70	34.62	0.25
MW-2	09/08/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.32	3.72	34.60	NA
MW-2	02/25/2009	<50	3.2	<1.0	<1.0	<1.0	NA	6.5	<2.0	<2.0	<2.0	11	<100	NA	NA	38.32	3.79	34.53	0.65
MW-2	09/11/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.32	4.34	33.98	NA

MW-3	07/12/1989	3,900	380	41	99	30	NA	35.00	3.83	31.17	NA								
MW-3	01/30/1990	5,500	440	35	79	130	NA	35.00	3.24	31.76	NA								
MW-3	04/27/1990	4,500	310	26	37	110	NA	35.00	4.02	30.98	NA								
MW-3	07/31/1990	3,500	210	17	8.4	62	NA	35.00	4.31	30.69	NA								
MW-3	10/30/1990	2,300	610	<0.5	<0.5	28	NA	35.00	4.52	30.48	NA								
MW-3	01/31/1991	4,100	300	20	19	81	NA	35.00	4.33	30.67	NA								
MW-3	04/30/1991	3,800	370	19	8.6	60	NA	35.00	3.79	31.21	NA								
MW-3	07/30/1991	3,300	160	13	15	87	NA	35.00	4.37	30.63	NA								
MW-3	10/29/1991	1,000	35	2.8	2.9	8.1	NA	35.00	4.00	31.00	NA								
MW-3	01/20/1992	6,900	380	18	47	48	NA	35.00	3.87	31.13	NA								
MW-3	04/14/1992	6,000	480	38	41	55	NA	35.00	3.15	31.85	NA								
MW-3	07/21/1992	3,700	330	13	30	23	NA	35.00	4.17	30.83	NA								
MW-3	10/02/1992	4,200	260	10	13	12	NA	35.00	4.43	30.57	NA								
MW-3	01/20/1993	4,200	360	15	32	26	NA	35.00	2.20	32.80	NA								

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
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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
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	84 c	<5.0 c	<5.0 c	<5.0 c	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	100 c	<10 c	<10 c	<10 c	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

**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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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
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-3	10/17/2005	2,200	83	5.9	2.8	5.2	NA	110	<2.0	<2.0	<2.0	200	<50	NA	NA	37.97	3.92	34.05	0.18
MW-3	03/07/2006	6,820	110	7.59	4.41	8.48	NA	49.8	<0.500	<0.500	<0.500	28.9	<50.0	NA	NA	37.97	1.65	36.32	0.3
MW-3	09/05/2006	4,630	31.5	3.75	1.40	4.18	NA	38.4	<0.500	<0.500	<0.500	17.4	<50.0	NA	NA	37.97	3.79	34.18	0.75
MW-3	03/16/2007	2,200	65	<5.0	<5.0	<5.0	NA	27	<5.0	<5.0	<5.0	<200	<1,000	NA	NA	37.97	2.95	35.02	0.21
MW-3	09/11/2007	1,500 h	20	2.2	0.80 i	2.77 i	NA	19	<2.0	<2.0	<2.0	11	<100	NA	NA	37.97	3.83	34.14	0.08
MW-3	03/10/2008	2,100 h	40	3.0	1.2	2.5	NA	20	<2.0	<2.0	<2.0	19	<100	NA	NA	37.97	3.03	34.94	0.55
MW-3	09/08/2008	980	30	14	5.5	27.0	NA	16	<2.0	<2.0	<2.0	27	<100	NA	NA	37.97	4.00	33.97	0.16
MW-3	02/25/2009	2,600	38	2.9	1.4	2.6	NA	12	<2.0	<2.0	<2.0	14	<100	NA	NA	37.97	3.17	34.80	0.88
MW-3	09/11/2009	1,800	21	2.6	1.2	3.8	NA	17	<2.0	<2.0	<2.0	53	<100	NA	NA	37.97	4.12	33.85	0.64

MW-4	01/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.50	29.23	NA								
MW-4	04/27/1990	130 a	<0.5	<0.5	<0.5	<0.5	NA	33.73	3.62	30.11	NA								
MW-4	07/31/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.19	29.54	NA								
MW-4	10/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.19	29.54	NA								
MW-4	01/31/1991	50a	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.49	29.24	NA								
MW-4	04/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.02	29.71	NA								
MW-4	07/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.39	29.34	NA								
MW-4	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	3.75	29.98	NA								
MW-4	01/20/1992	<30	<0.3	<0.3	<0.3	<0.3	NA	33.73	3.94	29.79	NA								
MW-4	04/14/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	3.71	30.02	NA								
MW-4	07/21/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.02	29.71	NA								
MW-4	10/02/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	33.73	4.13	29.60	NA								

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
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**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-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
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	<0.50 c	<0.50 c	<0.50 c	0.74 c	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	<0.50	<1.0	NA	<0.50	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	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	36.72	3.63	33.09	2.66

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MW-4	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	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	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	36.72	3.85	32.87	2.78						
MW-4	10/17/2005	<50 g	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	36.72	3.80	32.92	0.19						
MW-4	03/07/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	36.72	2.10	34.62	0.2						
MW-4	09/05/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.72	3.80	32.92	NA
MW-4	03/16/2007	<50	<0.50	<0.50	<0.50	<0.50	NA	0.63	NA	36.72	3.80	32.92	0.24						
MW-4	09/11/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.72	3.70	33.02	NA
MW-4	03/10/2008	<50 h	<0.50	<1.0	<1.0	<1.0	NA	2.6	NA	36.72	3.80	32.92	2.67						
MW-4	09/08/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.72	2.46	34.26	NA
MW-4	02/25/2009	<50	<0.50	<1.0	<1.0	<1.0	NA	3.5	NA	36.72	2.41	34.31	1.14						
MW-4	09/11/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.72	3.78	32.94	NA

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
MW-5	04/27/1990	210 a	<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	80 a	<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	<50 a	<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	74 a	<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	76 a	<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	72 a	<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	70 a	<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	80 a	<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	<0.5	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

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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
MW-5	10/01/1998	57	<0.50 c	<0.50 c	<0.50 c	0.62 c	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
MW-5	10/17/2005	<50 g	<0.50	<0.50	<0.50	<1.0	NA	0.79	NA	NA	NA	NA	NA	NA	NA	34.36	4.18	30.18	0.84
MW-5	03/07/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	2.03	NA	NA	NA	NA	NA	NA	NA	34.36	3.45	30.91	0.8

**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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MW-5	09/05/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.36	4.21	30.15	NA
MW-5	03/16/2007	75	<0.50	<0.50	<0.50	<0.50	NA	1.9	NA	34.36	4.42	29.94	0.62						
MW-5	09/11/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.36	3.96	30.40	NA
MW-5	03/10/2008	71 h	<0.50	<1.0	<1.0	<1.0	NA	2.9	NA	34.36	4.51	29.85	4.03						
MW-5	09/08/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.36	3.87	30.49	NA
MW-5	02/25/2009	120	<0.50	<1.0	<1.0	<1.0	NA	4.1	NA	34.36	3.06	31.30	0.97						
MW-5	09/11/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.36	4.23	30.13	NA

E-4	07/12/1989	<50	<0.5	<1	<1	<3	NA	34.63	NA	>39.13	NA								
E-4	01/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	04/27/1990	120a	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	07/31/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	10/30/1990	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	01/31/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	04/30/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	07/30/1991	<50	<0.5	0.6	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	10/29/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	01/20/1992	<30	<0.3	<0.3	<0.3	<0.3	NA	34.63	NA	>34.63	NA								
E-4	04/14/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	07/21/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	10/02/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	01/20/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	05/03/1993	<50	<0.5	<0.5	<0.5	<0.5	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	34.63	NA	>34.63	5.4								
E-4	10/19/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	5.6								
E-4	01/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	NA								
E-4	04/12/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	9.4								
E-4	07/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	2.0								
E-4	10/06/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	34.63	NA	>34.63	1.3								
E-4	01/20/1995	<50	<0.5	<0.5	<0.5	<0.5	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	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**  
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**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.

h = Analyzed by EPA Method 8015B (M).

i = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

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.