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"I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct.

Submitted by:

Paul Supple  
Environmental Business Manager



**Stantec**

**Quarterly Groundwater Monitoring  
Progress Report First Quarter 2009**

**76 (Former BP) Service Station No.11126  
1700 Powell Street  
Emeryville, California 94608**

**Stantec Project No.:** 211601178.201 and  
211402220.200

**Submitted to:**

Mr. Paresh Khatri  
Alameda County Environmental Health  
Department  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**Submitted by:**

Stantec Consulting Corporation  
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**Prepared on behalf of:**

Mr. Paul Supple  
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P.O. Box 1257  
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And

Ms. Shelby Lathrop  
ConocoPhillips  
76 Broadway  
Sacramento, California 95818

April 15, 2009

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### **LIST OF ATTACHMENTS**

- Attachment A Previous Investigations and Site History Summary
- Attachment B Stantec’s Procedures for Groundwater Monitoring and Sampling, and Equipment Decontamination
- Attachment C Quarterly Monitoring Field Data Sheets
- Attachment D Certified Laboratory Analytical Report, Chain-of-Custody Documentation, and Stantec Laboratory Validation Form

## 1.0 SITE INFORMATION AND BACKGROUND

Service Station No.:	11126
Site Address:	1700 Powell Street, Emeryville, California 94608
Consulting Company:	Stantec Consulting Corporation (Stantec) – Ms. Catherine Francini
Stantec Project No.:	211601178.201 and 211402220.200
Primary Agency / Contact:	Mr. Paresh Khatri Alameda County Environmental Health Department 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502

### WORK PERFORMED THIS QUARTER [FIRST – 2009]

1. Stantec Consulting Corporation (Stantec) submitted the *Quarterly Groundwater Monitoring Progress Report (QMR) Fourth Quarter 2008 (4Q08)* on January 23, 2009.
2. Stantec performed the groundwater monitoring and sampling event on March 9, 2009.

### WORK PROPOSED FOR NEXT QUARTER [SECOND – 2009]

1. Stantec will prepare and submit the QMR-1Q09.
2. Stantec will perform the monitoring and sampling event.

### **Background**

The site is located on the northwest corner of Powell Street and Christie Avenue in Emeryville, California (Figure 1), and is currently utilized as a retail gasoline service station. Three single-walled, fiberglass, gasoline underground storage tanks (USTs), associated product lines, two dispenser islands, a station building, and a convenience store are present at the site. The three unleaded gasoline USTs, consisting of one 12,000-gallon UST, one 10,000-gallon UST, and one 6,000-gallon UST, were installed in 1982 (State Water Resources Control Board [SWRCB], 1992).

The properties in the vicinity of the site are a mixture of industrial and commercial developments. South of the site and across Powell Street is Powell Street Plaza, a retail commercial development with a number of groundwater monitoring wells on-site and around its perimeter. Immediately east of Powell Street Plaza and approximately 1,000 feet (ft) southeast of the site are monitoring wells installed in the immediate vicinity of Harcros Pigments, located at 4650 Shell Mound Street. The area surrounding the site was historically used for industrial purposes before being developed into a shopping center. A summary of previous investigations and site history is included as Attachment A.



**SITE INFORMATION**

Current phase of project:	Groundwater monitoring and sampling
Have separate-phase hydrocarbons (SPH) historically been found on-site?:	No
Historic range in depth-to-water (DTW) [ft below top of casing (TOC), 4Q93 to 1Q09]:	2.50 ft to 10.74 ft below top of casing (TOC)
Water Supply Wells within a 2,000-foot radius and their Respective Direction:	unknown
Current remediation technique:	Natural Attenuation

**CURRENT SAMPLING SCHEDULE**

(All wells gauged quarterly unless otherwise noted)

<b>Current Sampling Schedule</b>	
<b>Well ID:</b>	<b>All Quarters</b>
MW-1 and MW-2	GRO/BTEX/OXYS/1,2-DCA/EDB
MW-3	GRO/BTEX/OXYS/1,2-DCA/EDB/DRO/TOG
MW-4 through MW-11	GRO/BTEX/OXYS/1,2-DCA/EDB
Gasoline range organics (GRO); benzene, toluene, ethylbenzene, xylenes (collectively BTEX); methyl tert-butyl ether (MTBE), tertiary butyl alcohol (TBA), tert-amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), ethanol (collectively OXYS); 1,2-Dichloroethane (1,2-DCA); 1,2-dibromoethane (EDB); diesel range organics (DRO); total petroleum hydrocarbons as oil and grease (TOG)	

**CURRENT QUARTER MONITORING DATA**

Wells Monitored and Sampled:	MW-1 through MW-11
Sampling Date	March 9, 2009
Depth to Groundwater (DTW, ft below TOC)	3.29 ft in MW-1 to 9.50 ft in MW-11
Average Change in Groundwater Elevation Since Last Event (ft):	0.81 increase [4.93 (4Q08) – 5.74 (1Q09)]
Groundwater Flow Direction and Gradient:	Southwest at 0.025 foot per foot (ft/ft)

**CURRENT QUARTER ANALYTICAL DATA**

Constituents	No. of detections above the laboratory method reporting limits (MRL): No. of wells analyzed	Minimum Concentration [micrograms per liter (µg/L)]	Maximum Concentration (µg/L)
GRO	6 : 11	<50	25,000 (MW-2)
Benzene	4 : 11	<1.0	3,200 (MW-2)
MTBE	7 : 11	<1.0	2,200 (MW-2)
TBA	9 : 11	<5.0	27,000 (MW-4)

## **2.0 Groundwater Monitoring and Sampling**

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### **2.1 MONITORING AND SAMPLING PROCEDURES**

The current groundwater monitoring well network consists of 11 wells (MW-1 through MW-11). DTW measurements are taken and groundwater samples are collected on a quarterly basis. During the first quarter 2009, groundwater samples were collected on March 9, 2009. Stantec's field procedures for sample collection are presented as Attachment B. Field notes from the first quarter sampling event are included as Attachment C.

### **2.2 GROUNDWATER SAMPLE ANALYSIS**

The groundwater samples were submitted to Lancaster Laboratories of Lancaster, Pennsylvania, a state of California certified lab (No. 2116), for analysis of GRO, BTEX, fuel oxygenates (MTBE, TAME, DIPE, EtBE, TBA, and ethanol), and lead scavengers 1,2-DCA and EDB by U.S. Environmental Protection Agency (EPA) Method 8260B. Additional groundwater samples were collected from well MW-3 and were submitted for analysis of DRO by EPA Method 8015B and TOG by EPA Method 1664A. The certified laboratory analytical report and chain-of-custody documentation are included as Attachment D.

### **2.3 QUALITY ASSURANCE / QUALITY CONTROL**

Analytical data was quality assured and quality controlled using the Stantec Lab Validation Form. All data is acceptable except for the following issues:

In regards to BTEX, preservation requirements were not met for sample #5618170 (MW-4). The vial submitted for volatile analysis did not have a pH of <2. The pH of the sample was pH=4.

In regards to DRO, the percent recovery (% REC) for one of the surrogates was outside quality control (QC) limits for the laboratory control spike (LCS) in batch 090710004A.

In regards to TOG, the % REC in the matrix spike (MS) and matrix spike duplicate (MSD) were below the QC acceptance limits; however, the LCS %REC value for the same batch was within the acceptance limits, thus, the accuracy of the data is not affected.

## **3.0 Discussion / Conclusion**

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### **3.1 GROUNDWATER SAMPLE RESULTS AND DISTRIBUTION**

During the first quarter 2009, depth to groundwater within the wells ranged from 3.29 ft below TOC in well MW-1 to 9.50 ft below TOC in well MW-11. Historical depth to groundwater levels have ranged between approximately 2.50 ft and 10.51 ft below TOC. On March 9, 2009, the

direction of groundwater flow beneath and in the site vicinity was toward the southwest at a hydraulic gradient of 0.025 ft/ft, which was generally consistent with the historical groundwater flow direction and gradient since 2003. Prior to 2003, the historical groundwater flow direction was reportedly variable since 2001; however, the groundwater flow patterns were most consistently toward the south and southwest. Current and historical depth to groundwater measurements, calculated groundwater elevation data, and analytical data are presented in Tables 1 and 2. Groundwater elevation data were used to construct a potentiometric surface map, which is included as Figure 1. Analytical data were used to construct GRO, benzene, MTBE, and TBA isoconcentration contour maps included as Figures 2 through 5. Current and historical groundwater gradient data are presented in Table 3 and historical groundwater flow direction is depicted in a rose diagram as Figure 6. Well construction details are presented in Table 4.

### ***Contaminant Concentrations***

Evaluation of recent and historical groundwater analytical data indicates that the highest concentrations of GRO, BTEX, MTBE, TAME, and TBA have been detected in wells located in the immediate vicinity (MW-1 and MW-9) and northwest of the USTs (MW-2). Based on the generally southwesterly to southerly groundwater flow direction reported over previous sampling events, elevated concentrations of GRO have been present down-gradient in MW-5, and elevated concentrations of TBA have been detected in well MW-4.

### ***Dissolved GRO, BTEX, and MTBE***

During the first quarter 2009 monitoring and sampling event, well MW-2 contained the greatest concentrations of GRO at 25,000 µg/L. Additionally, concentrations of GRO were detected in wells MW-1, MW-4, MW-5, MW-8, and MW-9 at concentrations ranging from 140 µg/L (MW-4) to 4,300 µg/L (MW-5) during the current quarter.

During the first quarter 2009, well MW-2 contained the greatest concentrations of BTEX at respective concentrations of 3,200 µg/L, 73 µg/L, 2,800 µg/L, and 2,200 µg/L. Benzene was additionally detected in wells MW-1 (200 µg/L), MW-5 (1.9 µg/L), and MW-9 (45 µg/L); toluene was additionally detected in wells MW-1 (5.6 µg/L), MW-5 (1.8 µg/L), and MW-9 (2.2 µg/L); ethylbenzene was additionally detected in wells MW-1 (16 µg/L) and MW-9 (51 µg/L); xylenes were additionally detected in wells MW-1 (29 µg/L), MW-5 (4.0 µg/L), and MW-9 (18 µg/L), during the current quarter.

During the first quarter 2009, the greatest concentrations of MTBE was detected in well MW-2 at 2,200 µg/L. MTBE was additionally detected in wells MW-1, MW-4, and MW-6 through MW-9 at concentrations ranging from 3.5 µg/L (MW-6) to 180 µg/L (MW-9) during the current quarter.

### ***Dissolved Other Fuel Oxygenates and Lead Scavengers***

During the first quarter 2009, TBA was detected in wells MW-1 through MW-4 and MW-6 through MW-10 with concentrations ranging from 6.2 µg/L (MW-10) to 27,000 µg/L (MW-4). TAME was detected in wells MW-1 (1.7 µg/L), MW-2 (82 µg/L), and MW-9 (4.0 µg/L) during the first quarter 2009. Additionally, ETBE was detected in well MW-4 at 3.5 µg/L during the current quarter. Other oxygenates (DIPE, and ethanol) and lead scavengers (1,2-DCA, and EDB) were not detected at or above laboratory MRLs during the first quarter 2009.

***Dissolved DRO and TOG***

Well MW-3 has historically been analyzed for DRO and TOG since 1992. Consistent with historical data, DRO was detected in well MW-3 at a concentration of 900 µg/L, while TOG was not detected at or above laboratory MRLs during the first quarter 2009 monitoring and sampling event.

**PLUME STATUS**

Other than MTBE and TBA, the lateral extent of impacted groundwater has been defined to the southwest by non-detectable levels of petroleum hydrocarbons and fuel oxygenates. Low to non-detectable levels of MTBE are present in wells MW-10 and MW-11. The lateral extent of dissolved GRO and BTEX in groundwater has been delineated in the westerly direction by low to non-detectable concentrations in wells MW-6, and MW-7. The lateral extent of affected groundwater has not been delineated north of well MW-8, and to the east and southeast of the site. The presence of dissolved DRO has not been delineated in the vicinity of well MW-3. Review of historical investigations indicates that the vertical extent of dissolved contaminants has not been investigated beyond the maximum completed depth of the wells at 17 feet below ground surface (bgs).

**4.0 Purge Water Disposal**

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Approximately 54 gallons of purged groundwater were generated during the first quarter 2009 groundwater sampling event. The water was transferred into 55-gallon, steel, California Department of Transportation-approved drums pending waste characterization and transported by Belshire Environmental Services Inc. to DeMenno Kerdoon in Compton, California for disposal.

**5.0 Recommendations and Conclusions**

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Since the groundwater gradient has been predominately to the southwest with occasional fluctuations to the south, and the site has been adequately delineated in those directions, it appears the plume is stable and confined to the site boundaries.

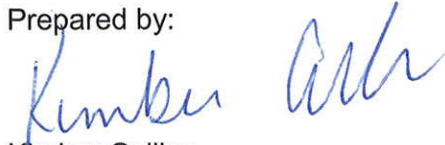
In a letter dated February 1, 2007, the Alameda County Environmental Health Services (ACEH) requested the submittal of a remedial action plan to address source area contamination. SECOR, now Stantec, submitted the *Remedial Action Plan* on March 30, 2007. The plan recommended oxygen injection as a possible remedial option. No response has been received from the ACEH to date. Monitored natural attenuation will continue to be pursued as the remedial alternative for this site unless the ACEH directs Stantec to pursue other options.

## 6.0 Limitations

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

Prepared by:



Kimber Collins  
*Project Scientist*

All information, conclusions, and recommendations provided by Stantec in this document regarding the site at 1700 Powell Street, Emeryville, California has been prepared under the supervision of and reviewed by the licensed professional whose signature appears below.

Licensed Approver:



Brad Shelton, P.G.  
*Associate Geologist*

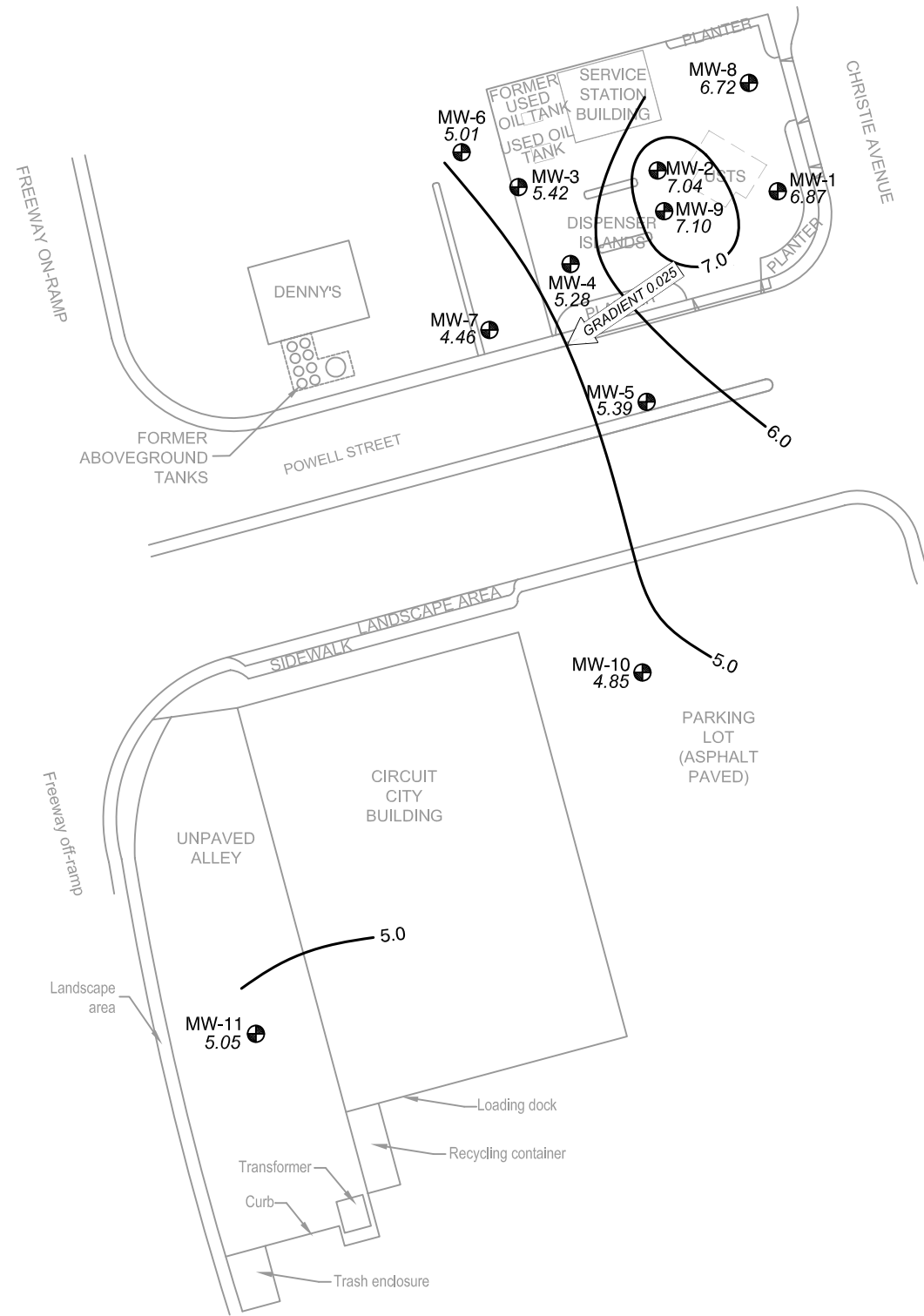
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cc: Mr. Paul Supple, Atlantic Richfield Company (electronic upload to ENFOS)  
Ms. Shelby Lathrop, ConocoPhillips (electronic upload to LiveLink)

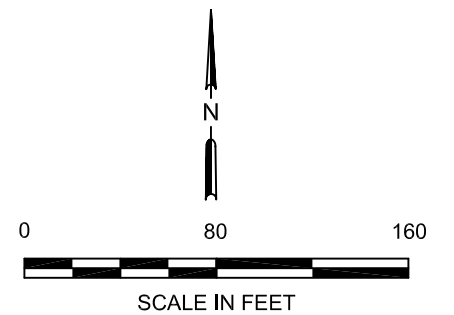
# Figures





**LEGEND:**

- MW-1 GROUNDWATER MONITORING WELL LOCATION
- APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
- 4.0 GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- 4.85 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)



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NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.



FOR:  
76 (FORMER BP)  
SERVICE STATION NO. 11126  
1700 POWELL STREET  
EMERYVILLE, CALIFORNIA

**GROUNDWATER ELEVATION  
CONTOUR MAP  
FIRST QUARTER 2009**

FIGURE:  
**1**

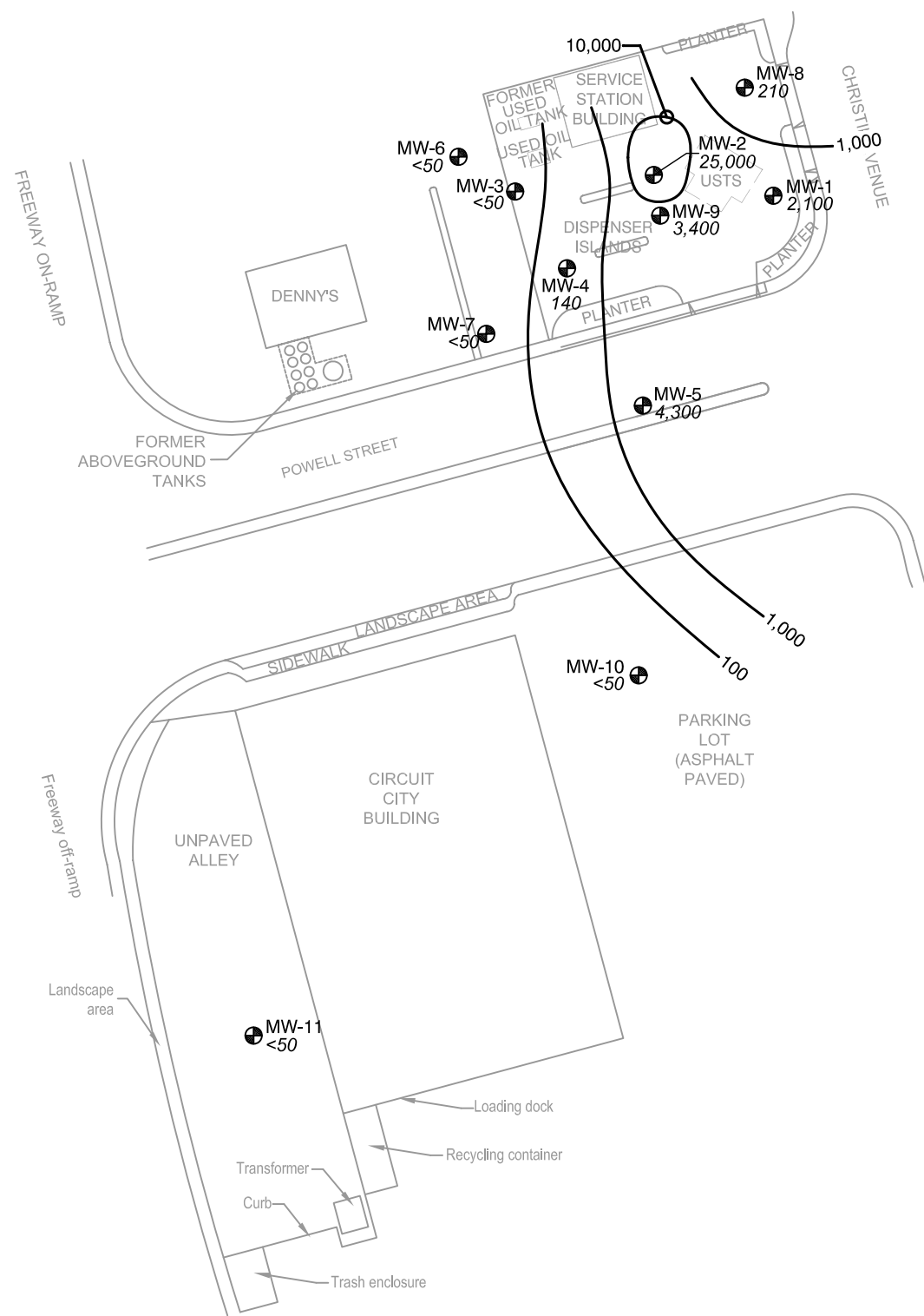
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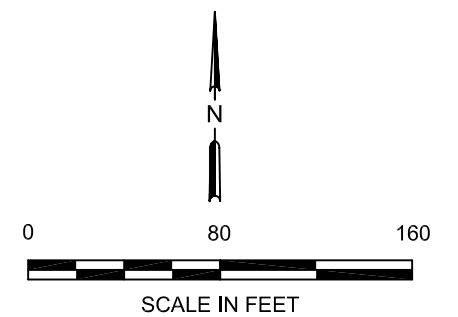
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BS

DATE:  
03/25/09



**LEGEND:**

- MW-1 GROUNDWATER MONITORING WELL
- 100 GRO ISOCONCENTRATION CONTOUR
- 210 GRO CONCENTRATION (µg/L)
- GRO GASOLINE RANGE ORGANICS
- µg/L MICROGRAMS PER LITER



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FOR:  
76 (FORMER BP)  
SERVICE STATION NO. 11126  
1700 POWELL STREET  
EMERYVILLE, CALIFORNIA

**GRO ISOCONCENTRATION  
CONTOUR MAP  
FIRST QUARTER 2009**

FIGURE:  
**2**

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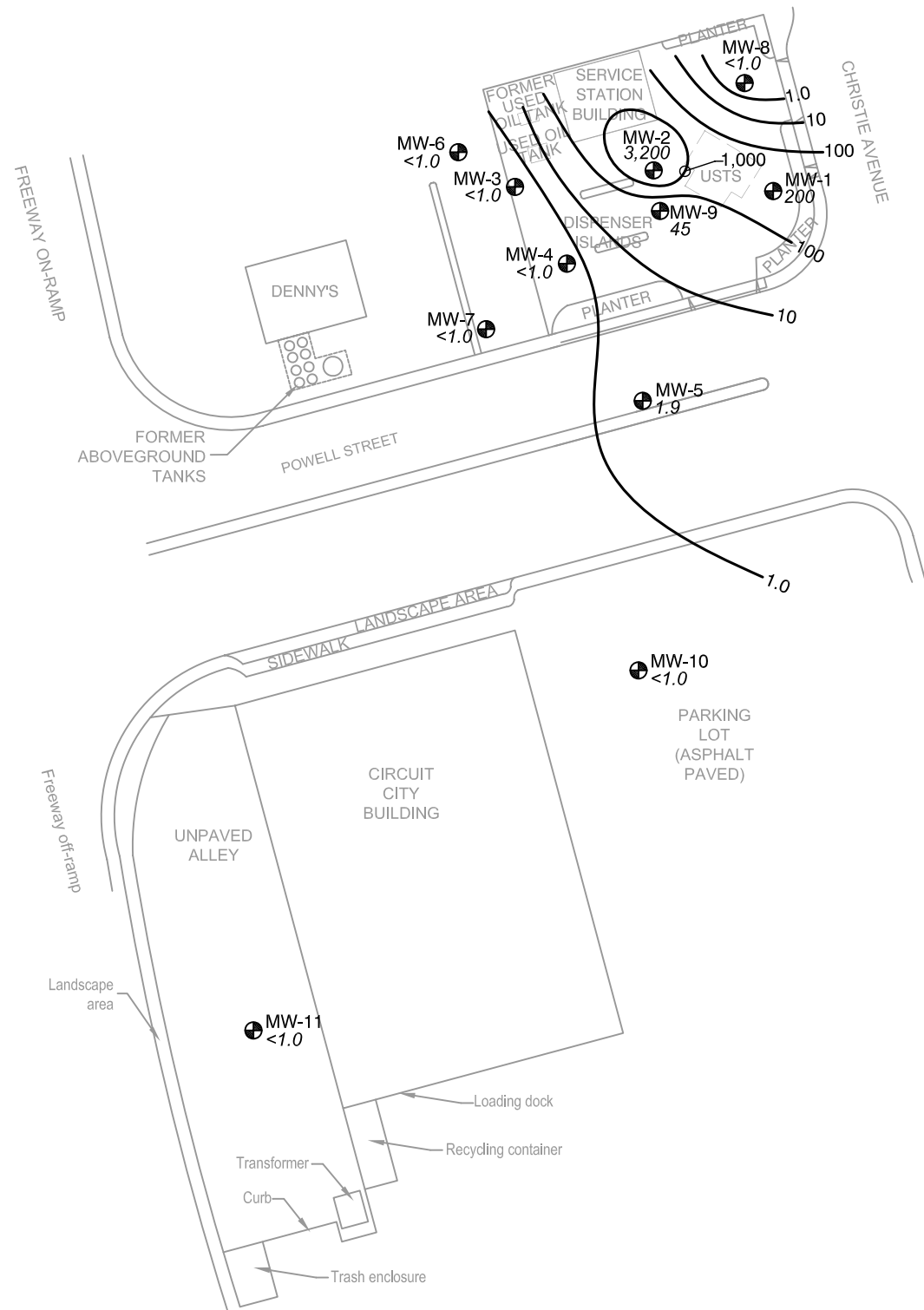
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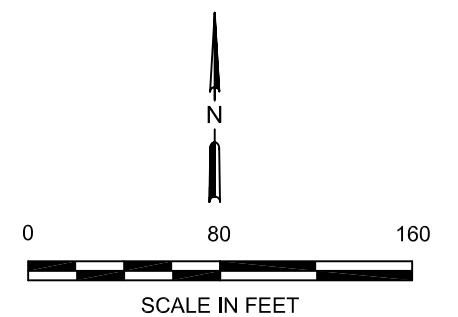
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03/25/09





**LEGEND:**

- MW-1 GROUNDWATER MONITORING WELL
- 10 BENZENE ISOCONCENTRATION CONTOUR
- 45 BENZENE CONCENTRATION ( $\mu\text{g/L}$ )
- $\mu\text{g/L}$  MICROGRAMS PER LITER



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FOR: 76 (FORMER BP)  
SERVICE STATION NO. 11126  
1700 POWELL STREET  
EMERYVILLE, CALIFORNIA

**BENZENE ISOCONCENTRATION  
CONTOUR MAP  
FIRST QUARTER 2009**

FIGURE:  
**3**

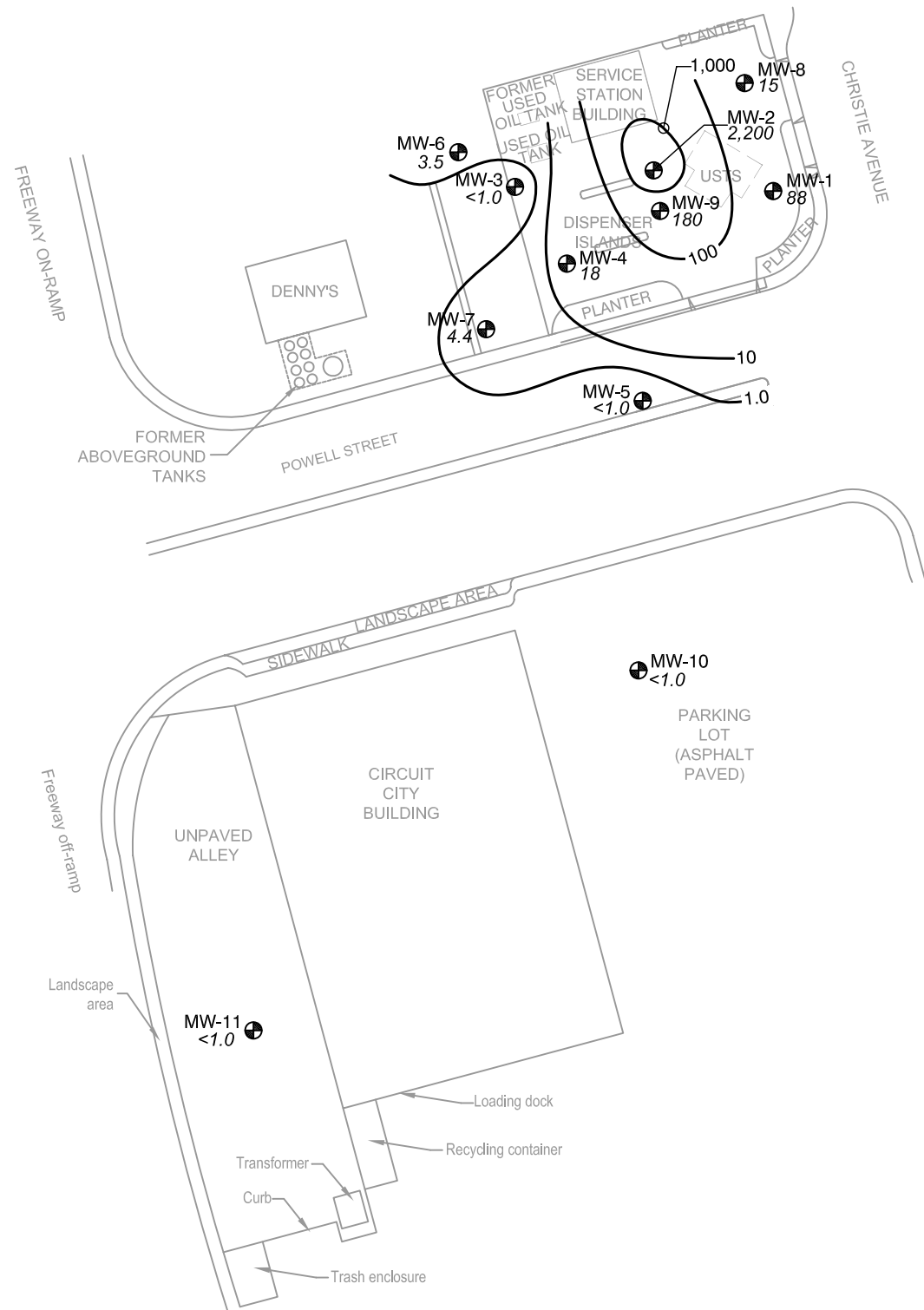
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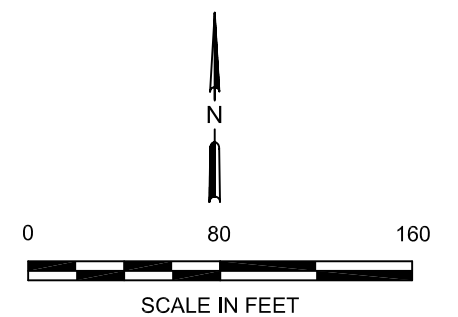
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03/25/09



**LEGEND:**

- MW-1 GROUNDWATER MONITORING WELL
- 100 MTBE ISOCONCENTRATION CONTOUR
- 18 MTBE CONCENTRATION (µg/L)
- MTBE METHYL TERTIARY BUTLY ETHER
- µg/L MICROGRAMS PER LITER



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FOR:  
76 (FORMER BP)  
SERVICE STATION NO. 11126  
1700 POWELL STREET  
EMERYVILLE, CALIFORNIA

**MTBE ISOCONCENTRATION  
CONTOUR MAP  
FIRST QUARTER 2009**

FIGURE:  
**4**

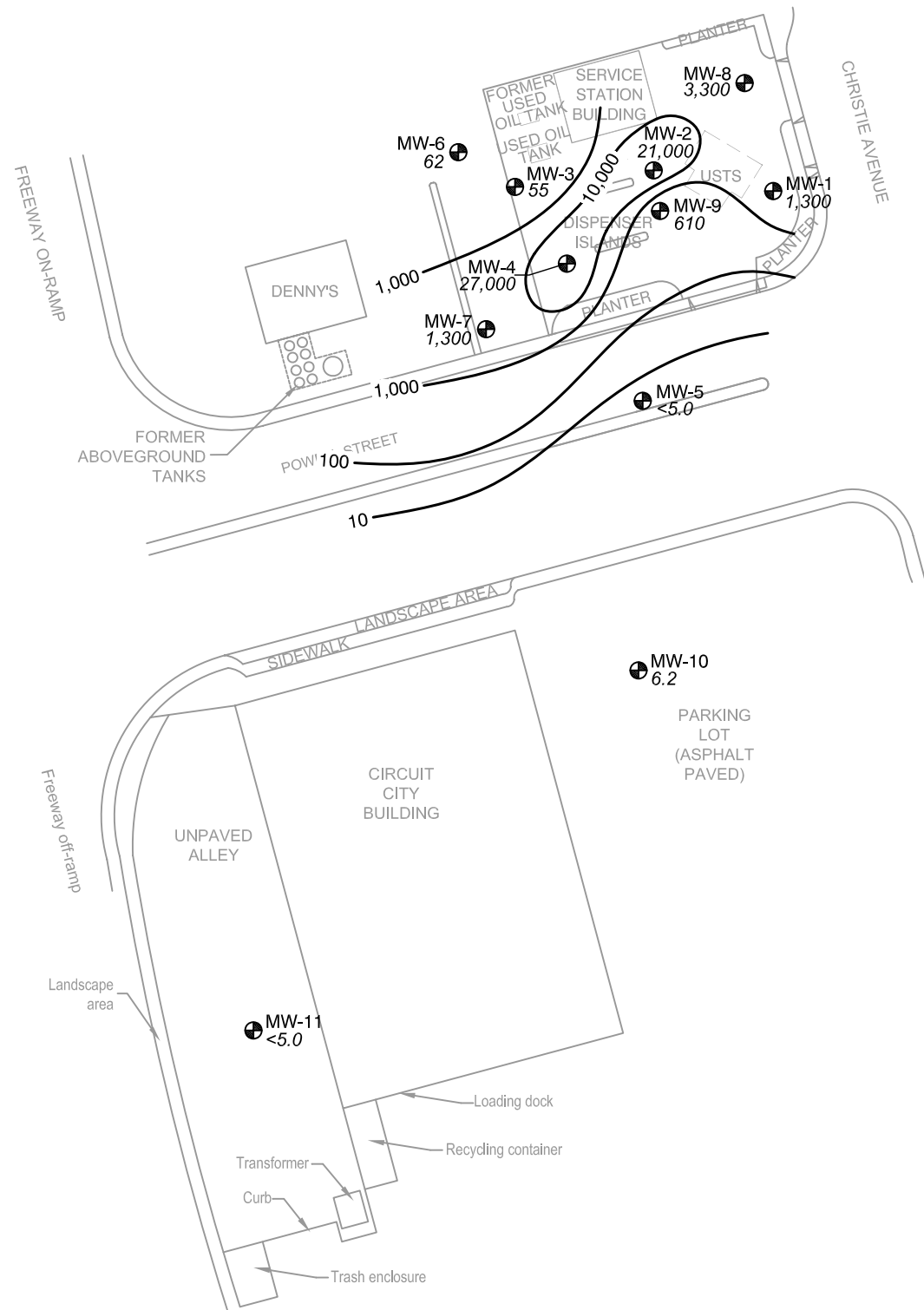
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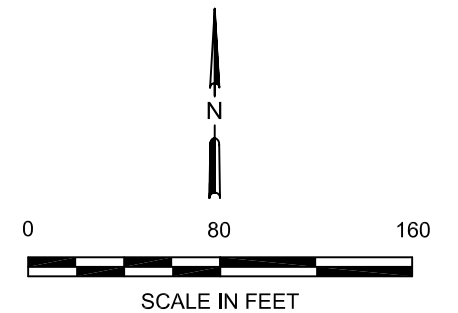
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**LEGEND:**

- MW-1 GROUNDWATER MONITORING WELL
- 100 TBA ISOCONCENTRATION CONTOUR
- 55 TBA CONCENTRATION (µg/L)
- TBA TERTIARY BUTYL ALCOHOL
- µg/L MICROGRAMS PER LITER



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FOR: 76 (FORMER BP)  
SERVICE STATION NO. 11126  
1700 POWELL STREET  
EMERYVILLE, CALIFORNIA

**TBA ISOCONCENTRATION  
CONTOUR MAP  
FIRST QUARTER 2009**

FIGURE:  
**5**

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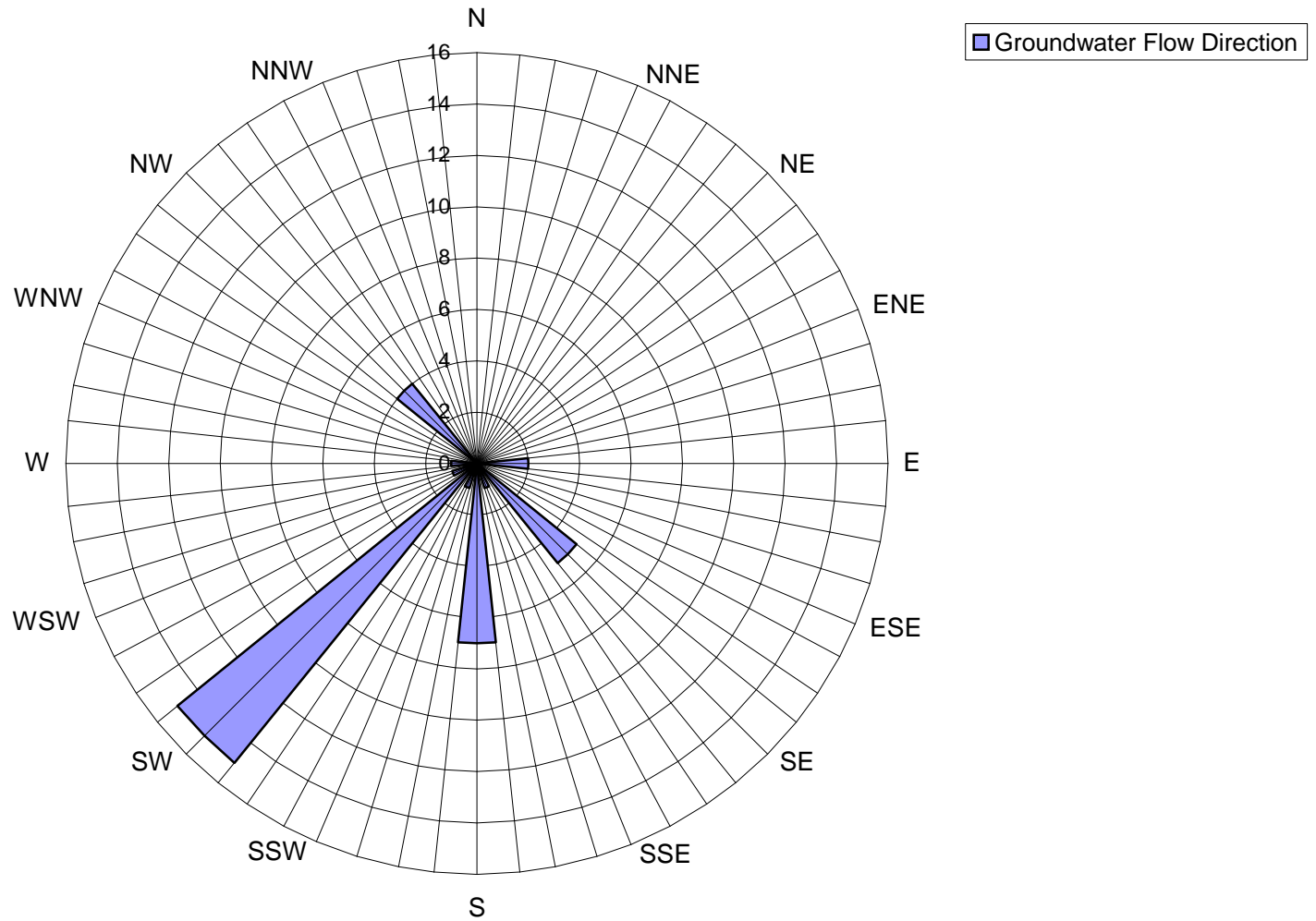
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**FIGURE 6**  
**Groundwater Flow Direction Rose Diagram**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, California**

Legend:

Each concentric gridline represents the number of monitoring events.

Diagram includes data from the First Quarter 2001 through the First Quarter 2009.



# Tables

**TABLE 1**  
**Current Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	D.O. (mg/L)	Comments	
MW-1	03/09/09		10.16	3.29	0.00	6.87	2,100	-	-	200	5.6	16	29	88	1,300	<1.0	<1.0	1.7	<250	<1.0	<1.0	-		
MW-2	03/09/09		11.39	4.35	0.00	7.04	25,000	-	-	3,200	73	2,800	2,200	2,200	21,000	<20	<20	82	<5,000	<20	<20	-		
MW-3	03/09/09		10.73	5.31	0.00	5.42	<50	900	<5,000	<1.0	<1.0	<1.0	<1.0	<1.0	55	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
MW-4	03/09/09		10.58	5.30	0.00	5.28	140	-	-	<1.0	<1.0	<1.0	<1.0	18	27,000	<1.0	3.5	<1.0	<250	<1.0	<1.0	-		
MW-5	03/09/09		10.18	4.79	0.00	5.39	4,300	-	-	1.9	1.8	<1.0	4.0	<1.0	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
MW-6	03/09/09		11.01	6.00	0.00	5.01	<50	-	-	<1.0	<1.0	<1.0	<1.0	3.5	62	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
MW-7	03/09/09		10.11	5.65	0.00	4.46	<50	-	-	<1.0	<1.0	<1.0	<1.0	4.4	1,300	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
MW-8	03/09/09		11.08	4.36	0.00	6.72	210	-	-	<1.0	<1.0	<1.0	<1.0	15	3,300	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
MW-9	03/09/09		10.55	3.45	0.00	7.10	3,400	-	-	45	2.2	51	18	180	610	<1.0	<1.0	4.0	<250	<1.0	<1.0	-		
MW-10	03/09/09		12.53	7.68	0.00	4.85	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	6.2	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
MW-11	03/09/09		14.55	9.50	0.00	5.05	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-		
QCTB	03/09/09		-	-	-	-	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	<1.0	<1.0	-	-	

**Notes:**

- GRO = Gasoline range organics
- DRO = Diesel range organics
- TOG = Total petroleum hydrocarbons as oil and grease
- B = Benzene
- T = Toluene
- E = Ethylbenzene
- X = Total xylenes
- MTBE = Methyl tert-butyl ether
- TBA = Tert-butyl alcohol
- DIPE = Di-isopropyl ether
- ETBE = Ethyl tert-butyl ether
- TAME = Tert-amyl methyl ether
- 1,2-DCA = 1,2-Dichloroethane
- EDB = 1,2-Dibromoethane
- D.O. = Dissolved Oxygen
- SPH = Separate-phase hydrocarbons
- TOC = Top of casing (surveyed)
- Calc. GW Elev. = Calculated groundwater elevation = TOC - Depth to Water + 0.75\*(Measured SPH Thickness); assuming a specific gravity of 0.75 for SPH
- ft-MSL = feet above mean sea level
- mg/L = Milligrams per liter
- µg/L = Micrograms per liter
- < = Analyte was not detected above the specified method reporting limit
- = Not measured or analyzed

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-1	11/04/92		7.76	4.96	0.00	2.80	5,300	-	-	1,100	480	<0.50	1,500	-	-	-	-	-	-	-	-	-	-	-	
	10/12/93			5.26	0.00	2.50	3,600	-	-	970	71	100	550	6,111	-	-	-	-	-	-	-	-	-	-	
	02/15/94			4.98	0.00	2.78	17,000	-	-	4,200	510	360	1,600	5,495	-	-	-	-	-	-	-	-	-	3.9	
	05/11/94			4.55	0.00	3.21	5,500	-	-	2,900	37	56	64	705	-	-	-	-	-	-	-	-	-	8.0	
	08/01/94	DUP		-	-	-	16,000	-	-	3,600	750	510	2,800	9,800	-	-	-	-	-	-	-	-	-	-	
	08/01/94			5.51	0.00	2.25	15,000	-	-	3,600	740	510	2,800	9,718	-	-	-	-	-	-	-	-	-	2.9	
	10/18/94	DUP		-	-	-	16,000	-	-	1,900	64	170	950	-	-	-	-	-	-	-	-	-	-	-	
	10/18/94			5.11	0.00	2.65	16,000	-	-	1,800	61	160	890	15,668	-	-	-	-	-	-	-	-	-	2.9	
	01/13/95	DUP		-	-	-	590	-	-	88	0.70	<0.50	55	-	-	-	-	-	-	-	-	-	-	-	
	01/13/95			3.05	0.00	4.71	220	-	-	7.0	<0.50	1.0	23	-	-	-	-	-	-	-	-	-	-	6.6	
	04/13/95			3.84	0.00	3.92	9,300	-	-	4,000	300	200	950	-	-	-	-	-	-	-	-	-	-	7.7	
	07/11/95			3.60	0.00	4.16	15,000	-	-	2,200	84	<25	2,500	-	-	-	-	-	-	-	-	-	-	8.8	
	11/02/95			4.58	0.00	3.18	19,000	-	-	920	<100	<100	430	52,000	-	-	-	-	-	-	-	-	-	7.3	
	02/05/96			4.43	0.00	3.33	4,600	-	-	1,400	330	54	247	8,700	-	-	-	-	-	-	-	-	-	3.2	
	04/24/96			4.00	0.00	3.76	2,000	-	-	510	33	61	228	4,500	-	-	-	-	-	-	-	-	-	7.5	
	07/15/96			4.30	0.00	3.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	07/16/96	DUP		-	-	-	12,000	-	-	2,800	160	390	1,610	63,000	-	-	-	-	-	-	-	-	-	-	
	07/16/96			-	-	-	12,000	-	-	2,800	170	390	1,630	64,000	-	-	-	-	-	-	-	-	-	7.9	
	07/30/96			4.64	0.00	3.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08/12/96			-	-	-	11,000	-	-	2,500	160	<10	1,740	440,000	-	-	-	-	-	-	-	-	-	7.0	
	11/04/96			5.98	0.00	1.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/05/96			-	-	-	53,000	-	-	1,300	43	100	349	42,000	-	-	-	-	-	-	-	-	-	6.6	
	05/17/97			4.65	0.00	3.11	52,000	-	-	1,958	55	305	1,216	140,198	-	-	-	-	-	-	-	-	-	5.7	
	08/11/97			4.90	0.00	2.86	25,000	-	-	540	6.7	<5.0	57	360,000	-	-	-	-	-	-	-	-	-	7.9	
	11/17/97			6.12	0.00	1.64	93,000	-	-	1,200	31	180	40	400,000	-	-	-	-	-	-	-	-	-	7.6	
	01/29/98			4.90	0.00	2.86	4,800	-	-	320	24	52	20	<50	-	-	-	-	-	-	-	-	-	6.6	
	06/22/98			4.62	0.00	3.14	63,000	-	-	180	<5.0	15	69	57,000	-	-	-	-	-	-	-	-	-	6.0	
	12/30/98			5.41	0.00	2.35	22,000	-	-	2,500	24	120	400	15,000	-	-	-	-	-	-	-	-	-	-	
	03/09/99			3.40	0.00	4.36	16,000	-	-	2,000	84	290	510	13,000	-	-	-	-	-	-	-	-	-	-	
	06/23/99			4.60	0.00	3.16	9,600	-	-	4,500	21	160	260	24,000	-	-	-	-	-	-	-	-	-	-	
	09/23/99			4.21	0.00	3.55	3,800	-	-	1,600	32	150	240	7,100	-	-	-	-	-	-	-	-	-	-	
	12/28/99			4.10	0.00	3.66	3,400	-	-	<2,200	17	53	130	5,500	-	-	-	-	-	-	-	-	-	-	
	03/22/00			5.51	0.00	2.25	6,400	-	-	1,100	45	190	330	4,900	-	-	-	-	-	-	-	-	-	-	
	05/26/00			4.79	0.00	2.97	110,000	-	-	700	44	140	250	320,000	-	-	-	-	-	-	-	-	-	-	
	09/06/00			5.19	0.00	2.57	5,600	-	-	1,000	13	57	90	19,000	-	-	-	-	-	-	-	-	-	-	
	09/15/00			5.73	0.00	2.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/11/00			5.82	0.00	1.94	5,500	-	-	1,160	47	155	292	3,900	-	-	-	-	-	-	-	-	-	-	
	03/29/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/27/01			5.49	0.00	2.27	6,100	-	-	1,200	13	17	78	1,780	-	-	-	-	-	-	-	-	-	-	
	09/19/01			6.19	0.00	1.57	1,800	-	-	102	<12.5	<12.5	<37.5	1,090	-	-	-	-	-	-	-	-	-	-	
	12/28/01			5.27	0.00	2.49	4,000	-	-	540	12	20	65	1,120	-	-	-	-	-	-	-	-	-	-	
	03/12/02			5.68	0.00	2.08	3,700	-	-	491	8.4	12	27	1,020	-	-	-	-	-	-	-	-	-	-	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments			
MW-1	06/13/02		7.76	5.54	0.00	2.22	1,900	-	-	255	<12.5	<12.5	<25	6,490	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used		
	09/06/02			5.56	0.00	2.20	1,100	-	-	170	5.1	2.2	20	550	-	-	-	-	-	-	-	-	-	-		-	
	12/13/02			5.45	0.00	2.31	2,700	-	-	610	10	18	67	470	-	-	-	-	-	-	-	-	-	-		-	
	02/19/03			3.00	0.00	4.76	1,500	-	-	180	<5.0	<5.0	15	610	-	-	-	-	-	-	-	-	-	-		-	
	06/06/03			5.52	0.00	2.24	4,600	-	-	620	<25	<25	55	1,400	<1,000	<25	<25	<25	<25	<5,000	-	-	-	-		-	
	08/07/03			5.55	0.00	2.21	2,000	-	-	290	<5.0	<5.0	15	920	560	<5.0	<5.0	12	<1,000	<5.0	<5.0	-	-	-		-	
	11/20/03			5.41	0.00	2.35	2,800	-	-	420	11	11	53	250	<200	<5.0	<5.0	<5.0	<5.0	1,800	-	-	-	-		-	Past holding time
	04/28/04			5.33	0.00	2.43	1,600	-	-	100	5.3	<5.0	8.8	200	950	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0	-	-	-		-	
	08/26/04			4.03	0.00	3.73	1,700	-	-	220	7.2	15	35	180	320	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-	-		-	
	12/01/04			3.93	0.00	3.83	2,100	-	-	380	8.0	34	76	170	300	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0	-	-	-		-	
	02/02/05		3.61	0.00	4.15	1,100	-	-	150	3.0	12	14	160	6,700	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-	-	-			
	04/25/05		10.16	3.75	0.00	6.41	930	-	-	140	3.6	5.3	11	200	5,000	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-	-	-		
	09/30/05			3.54	0.00	6.62	4,600	-	-	1,000	15	78	150	250	1,200	13	<5.0	<5.0	<500	<5.0	<5.0	-	-	-			
	12/28/05			3.26	0.00	6.90	1,500	-	-	200	5.7	32	58	140	1,800	<10	<5.0	<5.0	<1,000	<5.0	-	-	-	-			
	03/23/06			3.40	0.00	6.76	580	-	-	42	<5.0	10	20	40	2,800	<10	<5.0	<5.0	<1,000	<5.0	<5.0	-	-	-			
	06/05/06			2.97	0.00	7.19	900	-	-	230	2.5	28	71	160	1,900	<5.0	<2.5	<2.5	<500	<2.5	<2.5	-	-	-			
	09/19/06			3.67	0.00	6.49	1,600	-	-	240	3.4	11	23	180	1,000	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-	-			
	12/01/06			3.64	0.00	6.52	1,400	-	-	86	4.3	7.0	19	150	930	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-	-			
	03/01/07			3.55	0.00	6.61	4,200	-	-	340	7.0	34	46	160	510	<4.0	<2.0	2.0	<1,000	<2.0	<2.0	-	-	-			
	06/01/07			3.53	0.00	6.63	2,100	-	-	200	3.4	34	59	140	1,500	<4.0	<2.0	2.2	<1,000	<2.0	<2.0	-	-	-			
09/13/07		4.88		0.00	5.28	540	-	-	74	2.4	5.4	10	59	1,300	<4.0	<2.0	<2.0	1,100	<2.0	<2.0	-	-	-				
11/21/07		3.70	0.00	6.46	1,800	-	-	67	6.2	3.5	12	200	1,300	<4.0	<2.0	2.7	<1,000	<2.0	<2.0	-	-	-					
02/29/08		3.49	0.00	6.67	970	-	-	100	1.9	37	32	25	1,200	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-	-					
05/23/08		4.26	0.00	5.90	1,300	-	-	170	3.5	15	26	120	1,800	<1.0	<0.50	1.4	<250	<0.50	<0.50	-	-	-					
09/26/08		4.29	0.00	5.87	1,800	-	-	26	6.1	<1.0	10	120	1,400	<1.0	<1.0	1.9	<250	<1.0	<1.0	-	-	-					
12/23/08		3.79	0.00	6.37	1,600	-	-	14	6.1	1.2	9.7	75	940	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-	-					
03/09/09				<b>3.29</b>	<b>0.00</b>	<b>6.87</b>	<b>2,100</b>	-	-	<b>200</b>	<b>5.6</b>	<b>16</b>	<b>29</b>	<b>88</b>	<b>1,300</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>1.7</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	-	-				
MW-2	11/04/92	DUP	8.56	-	-	-	12,000	-	-	3,200	980	<0.50	1,900	-	-	-	-	-	-	-	-	-	-	-			
	11/04/92			5.88	0.00	2.68	12,000	-	-	3,900	1,300	<0.50	2,300	-	-	-	-	-	-	-	-	-	-	-			
	10/12/93			6.29	0.00	2.27	4,500	-	-	3,400	180	230	940	442	-	-	-	-	-	-	-	-	-	-			
	02/15/94	DUP		5.56	0.00	3.00	2,000	-	-	430	270	28	390	127	-	-	-	-	-	-	-	-	-	4.0			
	02/15/94			-	-	-	1,800	-	-	290	160	14	250	-	-	-	-	-	-	-	-	-	-	-			
	05/11/94	DUP		-	-	-	15,000	-	-	5,600	1,500	470	2,000	740	-	-	-	-	-	-	-	-	-	-			
	05/11/94			5.17	0.00	3.39	14,000	-	-	3,900	1,200	440	1,900	953	-	-	-	-	-	-	-	-	-	8.9			
	08/01/94			5.43	0.00	3.13	8,200	-	-	3,000	420	230	680	1,676	-	-	-	-	-	-	-	-	-	-	2.6		
	10/18/94			5.71	0.00	2.85	9,000	-	-	2,000	140	150	420	2,417	-	-	-	-	-	-	-	-	-	-	7.2		
	01/13/95			4.67	0.00	3.89	7,900	-	-	2,200	42	<5.0	770	-	-	-	-	-	-	-	-	-	-	-	6.8		
	04/13/95	DUP		-	-	-	25,000	-	-	6,500	1,500	110	5,300	-	-	-	-	-	-	-	-	-	-	-			
	04/13/95			4.37	0.00	4.19	33,000	-	-	8,000	2,500	1,100	6,600	-	-	-	-	-	-	-	-	-	-	-	7.5		
	07/11/95	DUP		-	-	-	28,000	-	-	6,800	1,000	900	4,900	-	-	-	-	-	-	-	-	-	-	-			
	07/11/95			4.51	0.00	4.05	19,000	-	-	3,300	99	7.5	4,600	-	-	-	-	-	-	-	-	-	-	-	7.8		
11/02/95	DUP	-	-	-	22,000	-	-	4,000	1,200	600	2,700	19,000	-	-	-	-	-	-	-	-	-	-					



**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-2	11/02/95		8.56	5.55	0.00	3.01	20,000	-	-	3,800	1,200	570	2,700	15,000	-	-	-	-	-	-	-	-	-	7.3	
	02/05/96	DUP		-	-	-	910	-	-	290	180	19	137	93	-	-	-	-	-	-	-	-	-	-	
	02/05/96			5.10	0.00	3.46	1,200	-	-	320	220	26	187	99	-	-	-	-	-	-	-	-	-	2.2	
	04/24/96	DUP		4.95	0.00	3.61	<500	-	-	70	22	<10	61	<50	-	-	-	-	-	-	-	-	-	7.0	
	04/24/96			-	-	-	<500	-	-	100	30	<10	71	<100	-	-	-	-	-	-	-	-	-	-	
	07/15/96			5.40	0.00	3.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	07/16/96			-	-	-	12,000	-	-	3,300	1,400	250	2,610	1,400	-	-	-	-	-	-	-	-	-	7.8	
	07/30/96			5.44	0.00	3.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/04/96			7.06	0.00	1.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/05/96	DUP		-	-	-	9,200	-	-	1,300	170	<25	2,240	1,100	-	-	-	-	-	-	-	-	-	-	
	11/05/96			-	-	-	7,200	-	-	1,400	230	38	2,110	1,100	-	-	-	-	-	-	-	-	-	7.4	
	05/17/97			5.77	0.00	2.79	570	-	-	42	<5.0	5.0	60	210	-	-	-	-	-	-	-	-	-	6.9	
	08/11/97			5.71	0.00	2.85	6,300	-	-	1,800	130	86	397	2,400	-	-	-	-	-	-	-	-	-	8.5	
	11/17/97			6.91	0.00	1.65	2,400	-	-	220	30	33	259	130	-	-	-	-	-	-	-	-	-	7.9	
	01/29/98			4.61	0.00	3.95	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	6.2	
	06/22/98			4.80	0.00	3.76	4,200	-	-	640	150	120	650	560	-	-	-	-	-	-	-	-	-	5.4	
	12/30/98			5.21	0.00	3.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/23/99			5.30	0.00	3.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/23/99			4.75	0.00	3.81	3,800	-	-	760	19	210	960	910	-	-	-	-	-	-	-	-	-	-	
	12/28/99			4.51	0.00	4.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/22/00			4.21	0.00	4.35	2,500	-	-	780	17	44	270	2,800	-	-	-	-	-	-	-	-	-	-	
	05/26/00			4.66	0.00	3.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/06/00			4.71	0.00	3.85	3,700	-	-	1,200	5.5	12	170	12,000	-	-	-	-	-	-	-	-	-	-	
	09/15/00			4.74	0.00	3.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/11/00			4.79	0.00	3.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/29/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/27/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/19/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/28/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/12/02			4.25	0.00	4.31	26,000	-	-	1,160	4.4	61	171	37,300	-	-	-	-	-	-	-	-	-	-	
	06/13/02			4.94	0.00	3.62	18,000	-	-	578	<50	<50	<100	84,600	-	-	-	-	-	-	-	-	-	-	
	09/06/02			5.23	0.00	3.33	26,000	-	-	440	<50	<50	<50	45,000	-	-	-	-	-	-	-	-	-	-	
	12/13/02			4.94	0.00	3.62	69,000	-	-	1,200	<500	<500	<500	98,000	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used
	02/19/03			4.14	0.00	4.42	78,000	-	-	1,100	<500	<500	<500	81,000	-	-	-	-	-	-	-	-	-	-	
	06/06/03			4.66	0.00	3.90	120,000	-	-	1,100	<1,000	<1,000	<1,000	72,000	<40,000	<1,000	<1,000	1,300	<200,000	-	-	-	-	-	
	08/07/03			4.90	Sheen	3.66	71,000	-	-	590	<500	<500	<500	83,000	45,000	<500	<500	1,300	<100,000	<500	<500	-	-	-	
	11/20/03			4.59	0.00	3.97	22,000	-	-	720	<100	<100	<100	18,000	48,000	<100	<100	200	<20,000	-	-	-	-	-	
	04/28/04			4.37	0.00	4.19	<25,000	-	-	690	<250	<250	<250	31,000	59,000	<250	<250	<250	<50,000	<250	<250	-	-	-	
	08/26/04			4.59	0.00	3.97	140,000	-	-	8,200	18,000	4,200	19,000	11,000	<10,000	<250	<250	320	<50,000	<250	<250	-	-	-	
	12/01/04			4.79	0.00	3.77	98,000	-	-	8,400	13,000	4,600	21,000	10,000	<4,000	<100	<100	230	<20,000	<100	<100	-	-	-	
	02/02/05			4.27	Sheen	4.29	92,000	-	-	6,600	9,900	4,400	18,000	10,000	4,000	<100	<100	260	<20,000	<100	<100	-	-	-	
	04/25/05		11.39	4.00	0.00	7.39	80,000	-	-	6,700	4,900	4,400	17,000	8,200	3,700	<50	<50	220	<10,000	<50	<50	-	-	-	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-2	09/30/05		11.39	4.86	0.00	6.53	98,000	-	-	7,700	7,400	4,700	20,000	16,000	4,700	<50	<50	270	<5,000	<50	<50	-	-		
	12/28/05			4.28	0.00	7.11	210,000	-	-	15,000	21,000	7,300	31,000	22,000	6,300	<200	<100	410	<20,000	<100	-	-	-		
	03/23/06			3.60	0.00	7.79	79,000	-	-	9,100	12,000	4,300	17,000	13,000	5,800	<200	<100	290	<20,000	<100	<100	-	-		
	06/05/06			4.28	Sheen	7.11	79,000	-	-	9,700	8,700	4,900	20,000	8,000	3,300	<100	<50	280	<10,000	<50	<50	-	-		
	09/19/06			4.61	0.00	6.78	68,000	-	-	12,000	9,300	4,100	14,000	16,000	4,800	<100	<50	370	<25,000	<50	<50	-	-		
	12/01/06			4.55	0.00	6.84	61,000	-	-	15,000	6,900	4,400	17,000	10,000	3,900	<100	<50	270	<25,000	<50	<50	-	-		
	03/01/07			4.14	0.00	7.25	80,000	-	-	9,300	5,500	4,100	15,000	8,300	2,700	<100	<50	210	<25,000	<50	<50	-	-		
	06/01/07			4.34	0.00	7.05	120,000	-	-	12,000	6,400	4,200	11,000	17,000	4,900	260	<100	310	<50,000	<100	<100	-	-		
	09/13/07			5.35	0.00	6.04	<5,000	-	-	770	<50	140	<100	2,300	42,000	<100	<50	50	<25,000	<50	<50	-	-		
	11/21/07			5.19	0.00	6.20	27,000	-	-	4,500	220	1,600	2,800	5,200	5,000	<100	<50	160	<25,000	<50	<50	-	-		
	02/29/08			4.41	0.00	6.98	44,000	-	-	6,100	320	3,800	6,600	4,900	2,500	<100	<50	120	<25,000	<50	<50	-	-		
	05/23/08			5.25	0.00	6.14	13,000	-	-	1,700	<50	300	210	2,500	29,000	140	<50	60	<25,000	<50	<50	-	-		
	09/26/08			5.81	0.00	5.58	4,800	-	-	220	12	20	42	960	77,000	<1.0	2.8	42	<250	<1.0	<1.0	-	-		
	12/23/08			5.50	0.00	5.89	5,700	-	-	950	19	170	70	1,800	57,000	<2.0	2.4	51	<500	<2.0	<2.0	-	-		
	03/09/09			4.35	0.00	7.04	25,000	-	-	3,200	73	2,800	2,200	2,200	21,000	<20	<20	82	<5,000	<20	<20	-	-		
MW-3	11/04/92		8.25	6.38	0.00	1.87	200	690	<5,000	1.6	<0.50	<0.50	1.1	-	-	-	-	-	-	-	-	-	ND	-	
	10/12/93	DUP		5.84	0.00	2.41	270	2,100	<5,000	5.0	0.70	<0.50	2.6	96	-	-	-	-	-	-	-	-	ND	-	
	10/12/93			-	-	-	150	-	-	5.6	0.60	<0.50	1.6	-	-	-	-	-	-	-	-	-	-	-	
	02/15/94			6.60	0.00	1.65	140	2.3	90	5.7	<0.50	<0.50	<0.50	30	-	-	-	-	-	-	-	-	ND	3.9	
	05/11/94			5.86	0.00	2.39	190	2,500	<5,000	2.7	1.9	<0.50	1.9	51	-	-	-	-	-	-	-	-	ND	9.2	
	08/01/94			6.13	0.00	2.12	120	1,300	<5,000	1.3	<0.50	0.50	1.1	18	-	-	-	-	-	-	-	-	ND	2.9	
	10/18/94			6.39	0.00	1.86	100	2,200	<5,000	2.3	<0.50	<0.50	<0.50	21	-	-	-	-	-	-	-	-	ND	3.6	
	01/13/95			5.47	0.00	2.78	<50	970	-	0.80	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	ND	7.7	
	04/13/95			5.17	0.00	3.08	530	<500	2,100	8.7	1.9	<0.50	3.9	-	-	-	-	-	-	-	-	-	ND	8.4	
	07/11/95			5.37	0.00	2.88	78	2,100	1,900	0.57	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	ND	8.3	
	11/02/95			6.29	0.00	1.96	250	2,000	1,400	0.73	<0.50	<0.50	1.8	270	-	-	-	-	-	-	-	-	ND	8.3	
	02/05/96			5.80	0.00	2.45	<50	1,600	9,000	<0.50	<1.0	<1.0	2.7	11	-	-	-	-	-	-	-	-	ND	3.5	
	04/24/96			5.69	0.00	2.56	<50	2,800	6,000	<5.0	<10	<10	<10	150	-	-	-	-	-	-	-	-	ND	8.6	
	07/15/96			6.18	0.00	2.07	<250	3,700	1,000	<2.5	<5.0	<5.0	<5.0	<50	-	-	-	-	-	-	-	-	ND	7.7	
	07/30/96			6.04	0.00	2.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/04/96			7.84	0.00	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/05/96			-	-	-	90	890	2,000	<0.50	<1.0	<1.0	<1.0	30	-	-	-	-	-	-	-	-	ND	6.8	
	05/17/97			6.49	0.00	1.76	<50	2,100	700	<0.50	<1.0	<1.0	<1.0	52	-	-	-	-	-	-	-	-	ND	6.3	
	08/11/97			6.15	0.00	2.10	490	1,900	<5,000	<2.5	<5.0	<5.0	<5.0	170	-	-	-	-	-	-	-	-	ND	7.4	
	11/17/97			7.15	0.00	1.10	120	2,500	<5,000	<0.50	<1.0	<1.0	<1.0	46	-	-	-	-	-	-	-	-	ND	7.0	
	01/29/98			5.10	0.00	3.15	270	1,700	2,000	0.53	<1.0	<1.0	<1.0	330	-	-	-	-	-	-	-	-	ND	6.4	
	06/22/98			5.50	0.00	2.75	200	2,200	<5.0	<0.50	<1.0	<1.0	<1.0	130	-	-	-	-	-	-	-	-	ND	5.5	
	12/30/98			6.68	0.00	1.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/09/99			5.53	0.00	2.72	60	840	7,600	<1.0	<1.0	<1.0	<1.0	19	-	-	-	-	-	-	-	-	-	-	
	06/23/99			6.60	0.00	1.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/23/99			6.17	0.00	2.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/28/99			6.00	0.00	2.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-4	01/13/95		8.12	7.27	0.00	0.85	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	7.9	
	04/13/95			6.51	0.00	1.61	73	-	-	1.2	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	9.9	
	07/11/95			6.21	0.00	1.91	82	-	-	0.57	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	7.2	
	11/02/95			6.78	0.00	1.34	71	-	-	1.4	0.96	0.99	2.8	140	-	-	-	-	-	-	-	-	-	8.6	
	02/05/96			6.41	0.00	1.71	<50	-	-	<5.0	<10	<10	<10	200	-	-	-	-	-	-	-	-	-	4.4	
	04/24/96			6.18	0.00	1.94	<250	-	-	<2.5	<5.0	<5.0	<5.0	510	-	-	-	-	-	-	-	-	-	8.3	
	07/15/96			6.63	0.00	1.49	<50	-	-	5.7	<1.0	<1.0	<1.0	550	-	-	-	-	<1.0	-	-	-	-	7.4	
	07/30/96			6.34	0.00	1.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/04/96			8.27	0.00	-0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/05/96			-	-	-	460	-	-	<2.5	11	<5.0	<5.0	620	-	-	-	-	-	-	-	-	-	7.3	
	05/17/97			7.00	0.00	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08/11/97			6.81	0.00	1.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/17/97			9.19	0.00	-1.07	840	-	-	<0.50	<1.0	<1.0	<1.0	880	-	-	-	-	-	-	-	-	-	7.3	
	01/29/98			7.94	0.00	0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/22/98			7.49	0.00	0.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/30/98			8.21	0.00	-0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/09/99			7.70	0.00	0.42	1,200	-	-	<1.0	<1.0	<1.0	<1.0	2,000	-	-	-	-	-	-	-	-	-	-	
	06/23/99			8.81	0.00	-0.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/23/99			8.32	0.00	-0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/28/99			8.21	0.00	-0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/22/00			6.74	0.00	1.38	910	-	-	<0.50	<0.50	0.54	1.7	3,800	-	-	-	-	-	-	-	-	-	-	
	05/26/00			5.13	0.00	2.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/15/00			8.20	0.00	-0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/11/00			8.31	0.00	-0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/29/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/27/01			7.57	0.00	0.55	2,800	-	-	19	<2.5	<2.5	<7.5	4,220	-	-	-	-	-	-	-	-	-	-	
	09/19/01			7.87	0.00	0.25	2,500	-	-	<5.0	<5.0	<5.0	<15	3,340	-	-	-	-	-	-	-	-	-	-	
	12/28/01			7.80	0.00	0.32	4,400	-	-	<5.0	<5.0	<5.0	<10	5,330	-	-	-	-	-	-	-	-	-	-	
	03/12/02			4.53	0.00	3.59	6,400	-	-	72	<5.0	<5.0	<10	8,440	-	-	-	-	-	-	-	-	-	-	
	06/13/02			6.21	0.00	1.91	1,800	-	-	7.5	<5.0	5.0	13	6,870	-	-	-	-	-	-	-	-	-	-	
	09/06/02			7.78	0.00	0.34	<2,000	-	-	<20	<20	<20	<20	9,600	-	-	-	-	-	-	-	-	-	-	
	12/13/02			7.87	0.00	0.25	5,600	-	-	<50	<50	<50	<50	8,600	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used
	02/19/03			4.84	0.00	3.28	<10,000	-	-	<100	<100	<100	<100	8,000	-	-	-	-	-	-	-	-	-	-	
	06/06/03			7.98	0.00	0.14	13,000	-	-	<50	<50	<50	<50	6,800	2,500	<50	<50	190	<10,000	-	-	-	-	-	
	08/07/03			7.24	0.00	0.88	6,200	-	-	<50	<50	<50	<50	6,600	2,400	<50	<50	160	<10,000	<50	<50	-	-	-	
	11/20/03			7.02	0.00	1.10	10,000	-	-	<100	<100	<100	<100	11,000	<4,000	<100	<100	310	<20,000	-	-	-	-	-	
	04/28/04			4.81	0.00	3.31	<25,000	-	-	<250	<250	<250	<250	3,600	15,000	<250	<250	<250	<50,000	<250	<250	-	-	-	
	08/26/04			5.65	0.00	2.47	<2,500	-	-	<25	<25	<25	<25	1,800	16,000	<25	<25	60	-	<25	<25	-	-	-	
	12/01/04			7.34	0.00	0.78	1,100	-	-	<10	<10	<10	<10	450	19,000	<10	<10	10	<2,000	<10	<10	-	-	-	
	02/02/05			7.61	0.00	0.51	1,000	-	-	<5.0	<5.0	<5.0	<5.0	410	19,000	<5.0	<5.0	10	<1,000	<5.0	<5.0	-	-	-	
	04/25/05		10.58	7.25	0.00	3.33	720	-	-	8.0	5.3	<5.0	16	170	18,000	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0	-	-	-	
	09/30/05			7.72	0.00	2.86	<2,500	-	-	63	58	46	140	110	30,000	<25	<25	<25	<2,500	<25	<25	-	-	-	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments		
MW-4	12/28/05		10.58	7.48	0.00	3.10	<2,500	-	-	<25	<25	<25	<50	34	27,000	<50	<25	<25	<5,000	<25	-	-	-			
	03/23/06			4.42	0.00	6.16	<2,500	-	-	<25	<25	<25	<50	120	34,000	<50	<25	<25	<5,000	<25	<25	-	-			
	06/05/06			4.97	0.00	5.61	<5,000	-	-	<50	<50	<50	<100	<50	34,000	<100	<50	<50	<10,000	<50	<50	-	-	Well purged dry		
	09/19/06			5.45	0.00	5.13	<5,000	-	-	<50	<50	<50	<100	110	27,000	<100	<50	<50	<25,000	<50	<50	-	-	Well purged dry		
	12/01/06			5.14	0.00	5.44	<5,000	-	-	<50	<50	<50	<100	68	31,000	<100	<50	<50	<25,000	<50	<50	-	-	Well purged dry		
	03/01/07			7.60	0.00	2.98	<5,000	-	-	<50	<50	<50	<100	<50	31,000	<100	<50	<50	<25,000	<50	<50	-	-			
	06/01/07			5.21	0.00	5.37	2,700	-	-	<25	<25	<25	<50	31	32,000	<50	<25	<25	<13,000	<25	<25	-	-			
	09/13/07			6.45	0.00	4.13	<2,500	-	-	<25	<25	<25	<50	<25	10,000	<50	<25	<25	<13,000	<25	<25	-	-			
	11/21/07			5.68	0.00	4.90	<2,500	-	-	<25	<25	<25	<50	<25	38,000	<50	<25	<25	<13,000	<25	<25	-	-			
	02/29/08			6.44	0.00	4.14	<5,000	-	-	<50	<50	<50	<100	<50	32,000	<100	<50	<50	<25,000	<50	<50	-	-			
	05/23/08			6.01	0.00	4.57	<5,000	-	-	<50	<50	<50	<100	<50	42,000	<100	<50	<50	<25,000	<50	<50	-	-			
	09/26/08				7.37	0.00	3.21	370	-	-	<1.0	<1.0	<1.0	<1.0	14	39,000	<1.0	2.8	<1.0	<250	<1.0	<1.0	-	-		
	12/23/08				6.04	0.00	4.54	270	-	-	<1.0	<1.0	<1.0	<1.0	15	37,000	<1.0	3.2	<1.0	<250	<1.0	<1.0	-	-		
	<b>03/09/09</b>				<b>5.30</b>	<b>0.00</b>	<b>5.28</b>	<b>140</b>	-	-	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>18</b>	<b>27,000</b>	<b>&lt;1.0</b>	<b>3.5</b>	<b>&lt;1.0</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	-	-		
MW-5	10/12/93		7.69	6.01	0.00	1.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	10/13/93			-	-	-	2,300	-	-	-	160	10	<0.50	26	-	-	-	-	-	-	-	-	-	-		
	02/15/94			5.74	0.00	1.95	5,100	-	-	710	16	33	35	153	-	-	-	-	-	-	-	-	-	4.0		
	05/11/94			5.28	0.00	2.41	11,000	-	-	1,100	39	110	57	165	-	-	-	-	-	-	-	-	-	8.0		
	08/01/94			5.84	0.00	1.85	9,000	-	-	730	35	61	41	196	-	-	-	-	-	-	-	-	-	2.6		
	10/18/94			6.01	0.00	1.68	7,800	-	-	330	30	27	27	559	-	-	-	-	-	-	-	-	-	5.6		
	01/13/95			4.74	0.00	2.95	<500	-	-	290	6.0	<5.0	18	-	-	-	-	-	-	-	-	-	-	6.8		
	04/13/95			5.50	0.00	2.19	9,100	-	-	400	15	52	27	-	-	-	-	-	-	-	-	-	-	7.4		
	07/11/95			5.75	0.00	1.94	7,300	-	-	390	13	28	23	-	-	-	-	-	-	-	-	-	-	7.2		
	11/03/95			6.65	0.00	1.04	7,200	-	-	270	15	38	23	200	-	-	-	-	-	-	-	-	-	8.4		
	02/05/96			4.83	0.00	2.86	4,600	-	-	370	15	53	28	<50	-	-	-	-	-	-	-	-	-	1.9		
	04/24/96			6.09	0.00	1.60	3,000	-	-	180	<10	32	14	<100	-	-	-	-	-	-	-	-	-	8.1		
	07/15/96			6.57	0.00	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/16/96			-	-	-	<50	-	-	190	<10	31	16	<100	-	-	-	-	-	-	-	-	-	8.3		
	07/30/96				5.61	0.00	2.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	08/12/96				-	-	-	2,000	-	-	150	12	25	18	<50	-	-	-	-	-	-	-	-	-	7.6	
	11/04/96				8.25	0.00	-0.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11/05/96				-	-	-	5,200	-	-	42	5.5	13	<5.0	1,700	-	-	-	-	-	-	-	-	-	7.4	
	05/17/97				6.95	0.00	0.74	80	-	-	0.56	<1.0	<1.0	<1.0	46	-	-	-	-	-	-	-	-	-	6.7	
	08/11/97				6.72	0.00	0.97	2,700	-	-	20	12	6.7	9.7	1,900	-	-	-	-	-	-	-	-	-	8.5	
	11/17/97				9.49	0.00	-1.80	8,400	-	-	25	12	8.7	5.4	13,000	-	-	-	-	-	-	-	-	-	7.9	
	01/29/98				7.88	0.00	-0.19	110,000	-	-	2,500	110	180	589	180,000	-	-	-	-	-	-	-	-	-	6.8	
	06/22/98				7.40	0.00	0.29	4,400	-	-	47	10	29	21	47	-	-	-	-	-	-	-	-	-	6.6	
	12/30/98				6.13	0.00	1.56	6,000	-	-	18	9.1	22	16	63	-	-	-	-	-	-	-	-	-		
	03/09/99				4.79	0.00	2.90	4,600	-	-	8.8	5.5	12	11	24	-	-	-	-	-	-	-	-	-		
	06/23/99				5.95	0.00	1.74	3,400	-	-	1,500	8.9	54	87	7,500	-	-	-	-	-	-	-	-	-		
09/23/99				5.43	0.00	2.26	2,600	-	-	510	14	140	650	580	-	-	-	-	-	-	-	-	-			
12/28/99				5.30	0.00	2.39	3,500	-	-	900	18	57	140	4,800	-	-	-	-	-	-	-	-	-			

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**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments				
MW-5	03/22/00	INA	7.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used			
	05/26/00	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-		
	09/06/00	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-		
	09/15/00	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	12/11/00	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	03/29/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	06/27/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	09/19/01	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	12/28/01				4.65	0.00	3.04	4,600	-	-	20	25	16	57	72	-	-	-	-	-	-	-	-	-		-	-	-
	03/12/02				5.35	0.00	2.34	5,100	-	-	45	14	22	39	32	-	-	-	-	-	-	-	-	-		-	-	-
	06/13/02			5.34	0.00	2.35	2,900	-	-	32	<12.5	<12.5	<25	616	-	-	-	-	-	-	-	-	-	-		-	-	
	09/06/02			5.46	0.00	2.23	3,400	-	-	23	5.5	<5.0	11	230	-	-	-	-	-	-	-	-	-	-		-	-	
	12/13/02			5.47	0.00	2.22	2,500	-	-	12	9.3	4.6	8.8	110	-	-	-	-	-	-	-	-	-	-		-	-	
	02/19/03			5.29	0.00	2.40	2,800	-	-	11	5.4	9.7	12	6.4	-	-	-	-	-	-	-	-	-	-		-	-	
	06/06/03			5.30	0.00	2.39	3,200	-	-	9.1	<5.0	7.6	9.3	<5.0	<200	<5.0	<5.0	<5.0	<5.0	<1,000	-	-	-	-		-	-	
	08/07/03			5.33	0.00	2.36	2,200	-	-	7.3	<5.0	<5.0	9.1	18	<200	<5.0	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0	-	-		-	-	
	11/20/03			5.39	0.00	2.30	3,500	-	-	12	5.4	6.4	12	12	<100	<2.5	<2.5	<2.5	<2.5	<500	-	-	-	-		-	-	
	04/28/04			5.53	0.00	2.16	5,700	-	-	7.8	4.2	5.2	11	11	<100	<2.5	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-		-	-	
	08/26/04			5.42	0.00	2.27	2,400	-	-	23	4.0	3.6	11	74	<100	<2.5	<2.5	<2.5	-	<2.5	<2.5	-	-	-		-	-	
	12/01/04			5.38	0.00	2.31	4,300	-	-	11	<5.0	5.5	15	<5.0	<200	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0	-	-	-		-	-	
	02/02/05			5.48	0.00	2.21	4,000	-	-	8.4	4.8	4.0	10	11	<100	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-	-		-	-	
	04/25/05			10.18	5.52	0.00	4.66	5,200	-	-	7.6	4.0	4.3	9.9	12	<100	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-		-	-	
	09/30/05				5.04	0.00	5.14	4,100	-	-	5.3	2.7	2.1	8.0	16	27	<1.0	<1.0	<1.0	<100	<1.0	<1.0	-	-		-	-	
	12/28/05				4.85	0.00	5.33	7,700	-	-	7.7	3.3	2.9	7.1	3.8	<20	14	<2.0	<2.0	<400	<2.0	-	-	-		-	-	
	03/23/06				5.07	0.00	5.11	5,700	-	-	11	3.3	2.4	8.1	8.6	37	<4.0	<2.0	<2.0	<400	<2.0	<2.0	-	-		-	-	
	06/05/06				5.39	Sheen	4.79	5,900	-	-	36	5.0	3.7	15	11	90	<5.0	<2.5	<2.5	<500	<2.5	<2.5	-	-		-	-	
	09/19/06				4.75	0.00	5.43	4,600	-	-	6.7	<2.5	<2.5	<5.0	12	53	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-		-	-	
	12/01/06				5.29	0.00	4.89	4,400	-	-	5.0	<2.5	<2.5	5.8	14	<25	<5.0	<2.5	2.7	<1,300	<2.5	<2.5	-	-		-	-	
	03/01/07				5.01	0.00	5.17	6,400	-	-	6.2	3.0	<2.5	8.7	<2.5	<25	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-		-	-	
	06/01/07				5.34	0.00	4.84	7,000	-	-	3.4	<2.5	<2.5	6.6	11	40	32	<2.5	<2.5	<1,300	<2.5	5.8	-	-		-	-	
	09/13/07				5.11	0.00	5.07	7,000	-	-	3.8	<2.5	<2.5	<5.0	8.5	<25	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-		-	-	
	11/21/07			5.34	0.00	4.84	4,700	-	-	<2.5	<2.5	<2.5	<5.0	11	310	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-	-		-		
02/29/08			5.33	0.00	4.85	5,100	-	-	1.9	1.8	0.93	4.2	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-	-	-				
05/23/08			5.38	0.00	4.80	4,600	-	-	<2.5	<2.5	<2.5	<5.0	3.9	<25	<5.0	<2.5	<2.5	<1,200	<2.5	<2.5	-	-	-	-				
09/26/08			5.26	0.00	4.92	3,400	-	-	1.5	<1.0	<1.0	2.2	2.8	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-	-	-				
12/23/08			5.04	0.00	5.14	3,300	-	-	2.7	1.1	<1.0	3.4	1.0	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-	-	-				
<b>03/09/09</b>			<b>4.79</b>	<b>0.00</b>	<b>5.39</b>	<b>4,300</b>	-	-	<b>1.9</b>	<b>1.8</b>	<b>&lt;1.0</b>	<b>4.0</b>	<b>&lt;1.0</b>	<b>&lt;5.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	-	-	-	-			
MW-6	10/12/93		8.52	6.59	0.00	1.93	63	-	-	<0.50	<0.50	<0.50	<0.50	44	-	-	-	-	-	-	-	-	-	-	-			
	02/15/94			6.31	0.00	2.21	68	-	-	<0.50	<0.50	<0.50	<0.50	38	-	-	-	-	-	-	-	-	-	-	3.1			
	05/11/94			6.15	0.00	2.37	68	-	-	<0.50	<0.50	<0.50	<0.50	49	-	-	-	-	-	-	-	-	-	-	8.7			
	08/01/94			6.46	0.00	2.06	91	-	-	<0.50	<0.50	<0.50	0.60	60	-	-	-	-	-	-	-	-	-	-	-	2.4		
	10/18/94			6.72	0.00	1.80	<50	-	-	<0.50	<0.50	<0.50	<0.50	85	-	-	-	-	-	-	-	-	-	-	-	6.0		

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-6	01/13/95		8.52	5.95	0.00	2.57	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	7.0	
	04/13/95			5.44	0.00	3.08	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	8.5	
	07/11/95			5.68	0.00	2.84	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	8.4	
	11/02/95			6.57	0.00	1.95	<50	-	-	<0.50	<0.50	<0.50	<1.0	35	-	-	-	-	-	-	-	-	-	8.3	
	02/05/96			6.27	0.00	2.25	<50	-	-	<5.0	<10	<10	<10	<100	-	-	-	-	-	-	-	-	-	2.2	
	04/24/96			5.95	0.00	2.57	<250	-	-	<2.5	<5.0	<5.0	<5.0	62	-	-	-	-	-	-	-	-	-	8.0	
	07/15/96			6.39	0.00	2.13	<250	-	-	<2.5	<5.0	<5.0	<5.0	<50	-	-	-	-	-	-	-	-	-	8.0	
	07/30/96			6.44	0.00	2.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/04/96			8.05	0.00	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/05/96			-	-	-	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	7.3	
	05/17/97			6.75	0.00	1.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08/11/97			6.48	0.00	2.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/17/97			9.27	0.00	-0.75	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	7.7	
	01/29/98			7.98	0.00	0.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/22/98			7.68	0.00	0.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/30/98			6.98	0.00	1.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/09/99			5.90	0.00	2.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/23/99			6.93	0.00	1.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/23/99			6.45	0.00	2.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/28/99			6.33	0.00	2.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/22/00			5.15	0.00	3.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	05/26/00			5.72	0.00	2.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/15/00			6.02	0.00	2.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/11/00			6.20	0.00	2.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/29/01			5.34	0.00	3.18	750	-	-	<2.5	2.9	<2.5	12	820	-	-	-	-	-	-	-	-	-	-	
	06/27/01			6.00	0.00	2.52	760	-	-	33	<2.5	<2.5	<7.5	968	-	-	-	-	-	-	-	-	-	-	
	09/19/01			6.22	0.00	2.30	<500	-	-	<5.0	<5.0	<5.0	<15	879	-	-	-	-	-	-	-	-	-	-	
	12/28/01	NS		4.71	0.00	3.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/12/02			4.96	0.00	3.56	<500	-	-	<5.0	<5.0	<5.0	<10	244	-	-	-	-	-	-	-	-	-	-	
	06/13/02			5.78	0.00	2.74	<250	-	-	<2.5	<2.5	<2.5	<5.0	413	-	-	-	-	-	-	-	-	-	-	
	09/06/02			6.14	0.00	2.38	130	-	-	<0.50	<0.50	<0.50	<0.50	240	-	-	-	-	-	-	-	-	-	-	
	12/13/02			6.05	0.00	2.47	140	-	-	<1.0	<1.0	<1.0	<1.0	200	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used
	02/19/03			5.40	0.00	3.12	<500	-	-	<5.0	<5.0	<5.0	<5.0	150	-	-	-	-	-	-	-	-	-	-	
	06/06/03			5.54	0.00	2.98	1,100	-	-	<5.0	<5.0	<5.0	<5.0	140	<200	<5.0	<5.0	21	<1,000	-	-	-	-	-	
	08/07/03			5.94	0.00	2.58	<500	-	-	<5.0	<5.0	<5.0	<5.0	160	<200	<5.0	<5.0	20	<1,000	<5.0	<5.0	-	-	-	
	11/20/03			5.85	0.00	2.67	95	-	-	<0.50	<0.50	<0.50	<0.50	74	<20	<0.50	<0.50	12	<100	-	-	-	-	-	
	04/28/04			5.45	0.00	3.07	<250	-	-	<2.5	<2.5	<2.5	<2.5	120	<100	<2.5	<2.5	12	<500	<2.5	<2.5	-	-	-	
	08/26/04			6.06	0.00	2.46	<250	-	-	<2.5	<2.5	<2.5	<2.5	110	<100	<2.5	<2.5	12	<500	<2.5	<2.5	-	-	-	
	12/01/04			6.19	0.00	2.33	<250	-	-	<2.5	<2.5	<2.5	<2.5	86	<100	<2.5	<2.5	11	<500	<2.5	<2.5	-	-	-	
	02/02/05			5.20	0.00	3.32	55	-	-	<0.50	<0.50	<0.50	<0.50	41	32	<0.50	<0.50	6.2	<100	<0.50	<0.50	-	-	-	
	04/25/05		11.01	5.22	0.00	5.79	64	-	-	<0.50	<0.50	<0.50	<0.50	50	45	<0.50	<0.50	6.0	<100	<0.50	<0.50	-	-	-	
	09/30/05			5.93	0.00	5.08	200 N	-	-	<2.0	<2.0	<2.0	<4	51	280	<2.0	<2.0	4.4	<200	<2.0	<2.0	-	-	-	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments		
MW-6	12/28/05		11.01	5.49	0.00	5.52	<50	-	-	<0.50	<0.50	<0.50	<1.0	16	160	<1.0	<0.50	2.0	<100	<0.50	-	-	-			
	03/23/06			4.59	0.00	6.42	<50	-	-	<0.50	<0.50	<0.50	<1.0	5.6	35	<1.0	<0.50	0.91	<100	<0.50	<0.50	-	-			
	06/05/06			5.38	0.00	5.63	<50	-	-	<0.50	0.54	<0.50	<1.0	14	110	<1.0	<0.50	1.5	<100	<0.50	<0.50	-	-			
	09/19/06			5.93	0.00	5.08	<50	-	-	<0.50	<0.50	<0.50	<1.0	8.8	190	<1.0	<0.50	1.4	<250	<0.50	<0.50	-	-			
	12/01/06			6.28	0.00	4.73	<50	-	-	<0.50	<0.50	<0.50	<1.0	5.9	98	<1.0	<0.50	0.94	<250	<0.50	<0.50	-	-			
	03/01/07			5.72	0.00	5.29	<50	-	-	<0.50	<0.50	<0.50	<1.0	6.0	96	<1.0	<0.50	0.68	<250	<0.50	<0.50	-	-			
	06/01/07			6.22	0.00	4.79	<50	-	-	<0.50	<0.50	<0.50	<1.0	7.4	160	<1.0	<0.50	0.77	<250	<0.50	<0.50	-	-			
	09/13/07			6.57	0.00	4.44	63	-	-	<0.50	<0.50	<0.50	<1.0	6.7	120	<1.0	<0.50	0.87	<250	<0.50	<0.50	-	-			
	11/21/07			6.67	0.00	4.34	<50	-	-	<0.50	<0.50	<0.50	<1.0	8.4	210	<1.0	<0.50	1.0	<250	<0.50	<0.50	-	-			
	02/29/08			5.80	0.00	5.21	<50	-	-	<0.50	<0.50	<0.50	<1.0	7.1	46	<1.0	<0.50	0.92	<250	<0.50	<0.50	-	-			
	05/23/08			6.53	0.00	4.48	<50	-	-	<0.50	<0.50	<0.50	<1.0	8.4	53	<1.0	<0.50	0.95	<250	<0.50	<0.50	-	-			
	09/26/08			6.86	0.00	4.15	<50	-	-	<1.0	<1.0	<1.0	<1.0	5.1	56	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-			
	12/23/08			6.90	0.00	4.11	<50	-	-	<1.0	<1.0	<1.0	<1.0	5.3	54	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-			
	<b>03/09/09</b>			<b>6.00</b>	<b>0.00</b>	<b>5.01</b>	<b>&lt;50</b>	<b>-</b>	<b>-</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>3.5</b>	<b>62</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>-</b>	<b>-</b>	<b>-</b>		
MW-7	10/12/93		7.61	6.14	0.00	1.47	<50	-	-	<0.50	<0.50	<0.50	0.70	<5.0	-	-	-	-	-	-	-	-	-	-		
	02/15/94			5.88	0.00	1.73	78	-	-	<0.50	<0.50	<0.50	0.60	<5.0	-	-	-	-	-	-	-	-	-	-	4.0	
	05/11/94			5.76	0.00	1.85	70	-	-	<0.50	<0.50	<0.50	0.90	12	-	-	-	-	-	-	-	-	-	-	9.1	
	08/01/94			5.97	0.00	1.64	77	-	-	<0.50	<0.50	<0.50	0.50	182	-	-	-	-	-	-	-	-	-	-	-	2.5
	10/18/94			6.24	0.00	1.37	<50	-	-	<0.50	<0.50	<0.50	<0.50	52	-	-	-	-	-	-	-	-	-	-	-	6.3
	01/13/95			5.39	0.00	2.22	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	8.2
	04/13/95			5.17	0.00	2.44	63	-	-	<0.50	<0.50	<0.50	1.4	-	-	-	-	-	-	-	-	-	-	-	-	8.4
	07/11/95			5.25	0.00	2.36	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	7.9
	11/02/95			6.19	0.00	1.42	<50	-	-	<0.50	<0.50	<0.50	<1.0	55	-	-	-	-	-	-	-	-	-	-	-	8.0
	02/05/96			5.69	0.00	1.92	<50	-	-	<0.50	<1.0	<1.0	<1.0	40	-	-	-	-	-	-	-	-	-	-	-	1.9
	04/24/96			5.59	0.00	2.02	<250	-	-	<2.5	<5.0	<5.0	<5.0	53	-	-	-	-	-	-	-	-	-	-	-	8.2
	07/15/96			6.07	0.00	1.54	<250	-	-	<2.5	<5.0	<5.0	<5.0	<50	-	-	-	-	-	-	-	-	-	-	-	7.8
	07/30/96			6.04	0.00	1.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/04/96			7.76	0.00	-0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/05/96			-	-	-	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	-	7.8
	05/17/97			6.42	0.00	1.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/11/97			6.06	0.00	1.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/17/97			9.07	0.00	-1.46	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	-	7.1
	01/29/98			7.44	0.00	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	06/22/98			7.39	0.00	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/30/98			5.51	0.00	2.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/09/99			5.57	0.00	2.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	06/23/99			6.69	0.00	0.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	09/23/99			6.23	0.00	1.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/28/99		6.08	0.00	1.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
03/22/00		4.88	0.00	2.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
05/26/00		5.42	0.00	2.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
09/15/00		5.79	0.00	1.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		



**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-7	12/11/00		7.61	5.93	0.00	1.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used
	03/29/01			5.24	0.00	2.37	600	-	-	<2.5	<2.5	<2.5	<7.5	636	-	-	-	-	-	-	-	-	-	-	
	06/27/01			5.69	0.00	1.92	590	-	-	<2.5	<2.5	<2.5	<7.5	739	-	-	-	-	-	-	-	-	-	-	
	09/19/01			5.89	0.00	1.72	560	-	-	<5.0	<5.0	<5.0	<15	1,190	-	-	-	-	-	-	-	-	-	-	
	12/28/01			4.53	0.00	3.08	910	-	-	23	<2.5	<2.5	<5.0	856	-	-	-	-	-	-	-	-	-	-	
	03/12/02			4.71	0.00	2.90	620	-	-	<2.5	<2.5	<2.5	<5.0	675	-	-	-	-	-	-	-	-	-	-	
	06/13/02			5.21	0.00	2.40	860	-	-	<2.5	<2.5	<2.5	<5.0	1,470	-	-	-	-	-	-	-	-	-	-	
	09/06/02			5.77	0.00	1.84	350	-	-	<2.5	<2.5	<2.5	<2.5	690	-	-	-	-	-	-	-	-	-	-	
	12/13/02			5.65	0.00	1.96	1,300	-	-	<10	<10	<10	<10	1,800	-	-	-	-	-	-	-	-	-	-	
	02/19/03			5.07	0.00	2.54	1,700	-	-	<10	<10	<10	<10	1,600	-	-	-	-	-	-	-	-	-	-	
	06/06/03			5.27	0.00	2.34	1,000	-	-	<5.0	<5.0	<5.0	<5.0	510	<200	<5.0	<5.0	41	<1,000	-	-	-	-	-	
	08/07/03			5.52	0.00	2.09	510	-	-	<5.0	<5.0	<5.0	<5.0	520	<200	<5.0	<5.0	43	<1,000	<5.0	<5.0	-	-	-	
	11/20/03			5.79	0.00	1.82	330	-	-	<2.5	<2.5	<2.5	<2.5	270	1,300	<2.5	<2.5	8.9	<500	-	-	-	-	-	
	04/28/04			5.20	0.00	2.41	<250	-	-	<2.5	<2.5	<2.5	<2.5	71	880	<2.5	<2.5	3.5	<500	<2.5	<2.5	-	-	-	
	08/26/04			5.65	0.00	1.96	450	-	-	<2.5	<2.5	<2.5	2.8	150	4,800	<2.5	<2.5	7.8	<500	<0.50	<0.50	-	-	-	
	12/01/04			5.79	0.00	1.82	100	-	-	<1.0	<1.0	<1.0	<1.0	25	1,400	<1.0	<1.0	1.1	<200	<1.0	<1.0	-	-	-	
	02/02/05			4.92	0.00	2.69	81	-	-	<0.50	<0.50	<0.50	<0.50	31	830	<0.50	<0.50	1.8	<100	<0.50	<0.50	-	-	-	
	04/25/05		10.11	4.88	0.00	5.23	67	-	-	<0.50	<0.50	<0.50	0.64	41	520	<0.50	<0.50	2.1	<100	<0.50	<0.50	-	-	-	
	09/30/05			5.62	0.00	4.49	58 N	-	-	<0.50	<0.50	<0.50	<1.0	18	450	<0.50	<0.50	1.5	<50	<0.50	<0.50	-	-	-	
	12/28/05			4.93	0.00	5.18	<500	-	-	<5.0	<5.0	<5.0	<10	7.4	1,600	<10	<5.0	<5.0	<1,000	<5.0	-	-	-	-	
	03/23/06			4.63	0.00	5.48	71	-	-	<0.50	<0.50	<0.50	<1.0	25	340	<1.0	<0.50	1.7	<100	<0.50	<0.50	-	-	-	
	06/05/06			5.08	0.00	5.03	57	-	-	<0.50	<0.50	<0.50	<1.0	14	200	<1.0	<0.50	1.2	<100	<0.50	<0.50	-	-	-	
	09/19/06			5.60	0.00	4.51	<50	-	-	<0.50	<0.50	<0.50	<1.0	14	280	<1.0	<0.50	1.6	<250	<0.50	<0.50	-	-	-	
	12/01/06			6.00	0.00	4.11	<250	-	-	<2.5	<2.5	<2.5	<5.0	6.7	1,400	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-	-	
	03/01/07			5.69	0.00	4.42	<250	-	-	<2.5	<2.5	<2.5	<5.0	4.0	1,000	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-	-	
	06/01/07			5.97	0.00	4.14	120	-	-	<0.50	<0.50	<0.50	<1.0	7.5	600	<1.0	<0.50	0.59	<250	<0.50	<0.50	-	-	-	
	09/13/07			6.31	0.00	3.80	<50	-	-	<0.50	<0.50	<0.50	<1.0	10	260	<1.0	<0.50	0.80	<250	<0.50	<0.50	-	-	-	
	11/21/07			6.39	0.00	3.72	55	-	-	<0.50	<0.50	<0.50	<1.0	8.4	1,500	<1.0	<0.50	0.87	<250	<0.50	<0.50	-	-	-	
02/29/08			5.78	0.00	4.33	<50	-	-	<0.50	<0.50	<0.50	<1.0	6.2	960	<1.0	<0.50	0.73	<250	<0.50	<0.50	-	-	-		
05/23/08			6.27	0.00	3.84	53	-	-	<0.50	<0.50	<0.50	<1.0	9.6	300	<1.0	<0.50	0.96	<250	<0.50	<0.50	-	-	-		
09/26/08			6.52	0.00	3.59	<50	-	-	<1.0	<1.0	<1.0	<1.0	7.5	800	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-	-		
12/23/08			6.40	0.00	3.71	59	-	-	<1.0	<1.0	<1.0	<1.0	5.7	3,500	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-	-		
03/09/09			5.65	0.00	4.46	<50	-	-	<1.0	<1.0	<1.0	<1.0	4.4	1,300	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-	-		
MW-8	10/12/93		8.60	5.86	0.00	2.74	<50	-	-	<0.50	<0.50	<0.50	<0.50	11	-	-	-	-	-	-	-	-	-	-	
	02/15/94			5.50	0.00	3.10	380	-	-	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-	-	3.3	
	05/11/94			5.09	0.00	3.51	330	-	-	<0.50	1.2	<0.50	1.9	<5.0	-	-	-	-	-	-	-	-	-	-	8.5
	08/01/94			5.20	0.00	3.40	260	-	-	<0.50	1.2	2.9	5.8	<5.0	-	-	-	-	-	-	-	-	-	-	2.3
	10/18/94			5.70	0.00	2.90	82	-	-	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-	-	-	6.4
	01/13/95			4.96	0.00	3.64	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	-	6.9
	04/13/95			5.40	0.00	3.20	270	-	-	<0.50	<0.50	<0.50	4.4	-	-	-	-	-	-	-	-	-	-	-	8.4
	07/11/95			6.01	0.00	2.59	320	-	-	<0.50	<0.50	<0.50	3.5	-	-	-	-	-	-	-	-	-	-	-	8.0
11/02/95			6.81	0.00	1.79	100	-	-	<0.50	<0.50	<0.50	<1.0	<5.0	-	-	-	-	-	-	-	-	-	-	8.7	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments			
MW-8	02/05/96		8.60	6.12	0.00	2.48	<50	-	-	<5.0	<10	<10	<10	<100	-	-	-	-	-	-	-	-	-	1.5			
	04/24/96			6.23	0.00	2.37	<50	-	-	<5.0	<10	<10	<10	<100	-	-	-	-	-	-	-	-	-	-	8.7		
	07/15/96			6.70	0.00	1.90	<250	-	-	<2.5	<5.0	<5.0	<5.0	<50	-	-	-	-	-	-	-	-	-	-	8.4		
	07/30/96			6.64	0.00	1.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/04/96			8.36	0.00	0.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/05/96			-	-	-	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	-	7.2	
	05/17/97			7.03	0.00	1.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08/11/97			6.05	0.00	2.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/17/97			9.14	0.00	-0.54	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	-	7.7	
	01/29/98			7.90	0.00	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/22/98			7.72	0.00	0.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/30/98	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/09/99	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06/23/99			4.70	0.00	3.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/23/99			4.22	0.00	4.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/28/99			4.12	0.00	4.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/22/00			4.71	0.00	3.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	05/26/00			4.98	0.00	3.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/15/00			4.62	0.00	3.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/11/00			4.77	0.00	3.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03/29/01	INA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	06/27/01		5.11	0.00	3.49	570	-	-	<2.5	<2.5	2.6	<7.5	3.4	-	-	-	-	-	-	-	-	-	-	-	-		
	09/19/01		5.00	0.00	3.60	<500	-	-	<5.0	<5.0	<5.0	<15	<5.0	-	-	-	-	-	-	-	-	-	-	-	-		
	12/28/01		4.15	0.00	4.45	440	-	-	<0.50	<0.50	0.98	<1.0	6.3	-	-	-	-	-	-	-	-	-	-	-	-		
	03/12/02		4.35	0.00	4.25	330	-	-	<2.5	<2.5	<2.5	<5.0	8.7	-	-	-	-	-	-	-	-	-	-	-	-		
	06/13/02		5.09	0.00	3.51	<500	-	-	<5.0	<5.0	<5.0	<10	16	-	-	-	-	-	-	-	-	-	-	-	-		
	09/06/02		5.18	0.00	3.42	98	-	-	<0.50	<0.50	<0.50	<0.50	76	-	-	-	-	-	-	-	-	-	-	-	-		
	12/13/02		4.84	0.00	3.76	120	-	-	<0.50	<0.50	0.94	0.52	140	-	-	-	-	-	-	-	-	-	-	-	-	EPA 8015B/8021B used	
	02/19/03		4.45	0.00	4.15	<2,500	-	-	<25	<25	<25	<25	800	-	-	-	-	-	-	-	-	-	-	-	-		
	06/06/03		5.00	0.00	3.60	<50,000	-	-	<500	<500	<500	<500	17,000	<20,000	<500	<500	<500	<100,000	-	-	-	-	-	-	-		
	08/07/03		4.84	0.00	3.76	<2,500	-	-	<25	<25	<25	<25	2,400	<1,000	<25	<25	44	<5,000	<25	<25	-	-	-	-	-		
	11/20/03		4.48	0.00	4.12	<2,500	-	-	<25	<25	<25	<25	1,400	4,100	<25	<25	<25	<5,000	-	-	-	-	-	-	-		
04/28/04		9.66	0.00	-1.06	730	-	-	<2.5	<2.5	<2.5	<2.5	170	42,000	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-	-	-	-			
08/26/04		4.73	0.00	3.87	<2,500	-	-	<25	<25	<25	<25	170	47,000	<25	<25	<25	-	<25	<25	-	-	-	-	-			
12/01/04		4.80	0.00	3.80	<250	-	-	<2.5	<2.5	<2.5	<2.5	36	9,700	<2.5	<2.5	<2.5	<500	<2.5	<2.5	-	-	-	-	-			
02/02/05		4.50	0.00	4.10	810	-	-	<0.50	<0.50	<0.50	<0.50	41	<20	<0.50	0.72	0.64	<100	<0.50	<0.50	-	-	-	-	-			
04/25/05		11.08	4.99	0.00	6.09	1,400	-	-	<12	<12	<12	<12	32	45,000	<12	<12	<12	<2,500	<12	<12	-	-	-	-			
09/30/05		4.89	0.00	6.19	840	-	-	<5.0	<5.0	<5.0	<10	17	8,500	<5.0	<5.0	<5.0	<500	<5.0	<5.0	-	-	-	-	-			
12/28/05		4.81	0.00	6.27	<250	-	-	<2.5	<2.5	<2.5	<5.0	17	7,400	<5.0	<2.5	<2.5	<500	<2.5	-	-	-	-	-	-			
03/23/06		4.22	0.00	6.86	660	-	-	<2.5	<2.5	<2.5	<5.0	21	11,000	<5.0	<2.5	<2.5	<500	<2.5	<2.5	-	-	-	-	-			
06/05/06		4.63	0.00	6.45	<2,500	-	-	<25	<25	<25	<50	30	34,000	<50	<25	<25	<5,000	<25	<25	-	-	-	-	-			
09/19/06		4.82	0.00	6.26	<500	-	-	<5.0	<5.0	<5.0	<10	17	7,500	<10	<5.0	<5.0	<2,500	<5.0	<5.0	-	-	-	-	-	Well purged dry		

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments		
MW-8	12/01/06		11.08	4.83	0.00	6.25	350	-	-	<2.5	<2.5	<2.5	<5.0	16	1,900	<5.0	<2.5	<2.5	<1,300	<2.5	<2.5	-	-			
	03/01/07			4.43	0.00	6.65	<500	-	-	<5.0	<5.0	<5.0	<10	20	6,200	<10	<5.0	<5.0	<2,500	<5.0	<5.0	-	-			
	06/01/07			4.74	0.00	6.34	<500	-	-	<5.0	<5.0	<5.0	<10	8.7	3,700	<10	<5.0	<5.0	<2,500	<5.0	<5.0	-	-			
	09/13/07			5.25	0.00	5.83	230	-	-	<0.50	<0.50	<0.50	<1.0	9.4	630	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-			
	11/21/07			5.13	0.00	5.95	350	-	-	<0.50	<0.50	<0.50	<1.0	8.7	360	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-			
	02/29/08			4.75	0.00	6.33	<1,000	-	-	<10	<10	<10	<20	16	7,500	<20	<10	<10	<5,000	<10	<10	-	-			
	05/23/08			5.01	0.00	6.07	<1,000	-	-	<10	<10	<10	<20	15	4,800	<20	<10	<10	<5,000	<10	<10	-	-			
	09/26/08			5.43	0.00	5.65	190	-	-	<1.0	<1.0	<1.0	<1.0	14	1,800	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-			
	12/23/08			5.25	0.00	5.83	270	-	-	<1.0	<1.0	<1.0	<1.0	10	770	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-			
	03/09/09			<b>4.36</b>	<b>0.00</b>	<b>6.72</b>	<b>210</b>	-	-	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>15</b>	<b>3,300</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	-	-			
MW-9	10/12/93		8.08	5.66	0.08	2.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	02/15/94			5.32	0.05	2.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	05/11/94			5.57	0.00	2.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	08/01/94			6.25	0.00	1.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10/18/94			5.59	0.13	2.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01/13/95			4.42	0.14	3.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	04/13/95			4.06	0.11	4.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/11/95			4.21	0.08	3.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11/02/95			5.22	0.05	2.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	02/05/96			4.76	0.01	3.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	04/24/96			4.62	0.09	3.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/15/96			5.11	0.04	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/30/96			5.15	0.00	2.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11/04/96			6.75	0.01	1.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	05/17/97	DUP		-	-	-	97,000	-	-	-	16,000	8,200	2,300	17,300	39,000	-	-	-	-	-	-	-	-	-	-	
	05/17/97			5.42	0.00	2.66	97,000	-	-	-	16,000	7,700	2,300	18,400	40,000	-	-	-	-	-	-	-	-	-	7.0	
	08/11/97	DUP		-	-	-	100,000	-	-	-	14,000	360	3,200	5,790	27,000	-	-	-	-	-	-	-	-	-	-	
	08/11/97			5.37	0.00	2.71	71,000	-	-	-	12,000	340	2,100	4,300	26,000	-	-	-	-	-	-	-	-	-	9.1	
	11/17/97	DUP		-	-	-	100,000	-	-	-	24,000	5,300	3,500	19,300	35,000	-	-	-	-	-	-	-	-	-	-	
	11/17/97			5.62	Sheen	2.46	100,000	-	-	-	22,000	4,800	3,100	17,900	32,000	-	-	-	-	-	-	-	-	-	8.3	
	01/29/98			4.07	Sheen	4.01	250,000	-	-	-	20,000	21,000	3,100	18,500	110,000	-	-	-	-	-	-	-	-	-	6.6	
	01/29/98	DUP		-	-	-	250,000	-	-	-	20,000	20,000	3,100	18,400	110,000	-	-	-	-	-	-	-	-	-	-	
	06/22/98			4.28	0.00	3.80	280,000	-	-	-	21,000	18,000	3,800	21,200	110,000	-	-	-	-	-	-	-	-	-	5.8	
	06/22/98	DUP		-	-	-	290,000	-	-	-	20,000	17,000	3,800	21,200	110,000	-	-	-	-	-	-	-	-	-	-	
	12/30/98			4.95	0.00	3.13	150,000	-	-	-	10,000	3,800	2,000	9,600	86,000	-	-	-	-	-	-	-	-	-	-	
	03/09/99			3.95	0.00	4.13	82,000	-	-	-	6,800	570	1,400	4,700	100,000	-	-	-	-	-	-	-	-	-	-	
	06/23/99			5.12	0.00	2.96	41,000	-	-	-	11,000	820	2,300	5,200	92,000	-	-	-	-	-	-	-	-	-	-	
09/23/99		4.74	0.00	3.34	57,000	-	-	-	12,000	5,400	1,900	9,500	89,000	-	-	-	-	-	-	-	-	-	-			
12/28/99		4.58	0.00	3.50	46,000	-	-	-	15,000	490	2,500	3,500	100,000	-	-	-	-	-	-	-	-	-	-			
03/22/00		3.90	0.00	4.18	86,000	-	-	-	18,000	1,800	2,300	6,800	120,000	-	-	-	-	-	-	-	-	-	-			
05/26/00		4.15	0.00	3.93	82,000	-	-	-	17,000	680	1,800	3,800	100,000	-	-	-	-	-	-	-	-	-	-			
09/06/00		4.47	0.00	3.61	100,000	-	-	-	19,000	280	2,400	6,400	84,000	-	-	-	-	-	-	-	-	-	-			

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments				
MW-9	09/15/00	INA	8.08	4.34	0.00	3.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GW Elev. Estimated			
	12/11/00			4.41	0.00	3.67	110,000	-	-	14,400	768	2,610	6,670	123,000	-	-	-	-	-	-	-	-	-	-		-	-	
	03/29/01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	06/26/01			5.03	0.13	3.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	09/19/01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
	12/28/01			3.73	0.00	4.35	110,000	-	-	15,000	1,500	2,280	5,530	60,900	-	-	-	-	-	-	-	-	-	-		-	-	
	03/12/02			4.93	0.00	3.15	88,000	-	-	12,500	2,600	2,800	8,950	44,000	-	-	-	-	-	-	-	-	-	-		-	-	
	06/13/02			4.13	0.00	3.95	59,000	-	-	9,870	161	2,560	5,560	35,600	-	-	-	-	-	-	-	-	-	-		-	-	-
	09/06/02			4.39	0.00	3.69	47,000	-	-	10,000	<100	2,100	4,600	31,000	-	-	-	-	-	-	-	-	-	-		-	-	-
	12/13/02			3.97	0.00	4.11	57,000	-	-	11,000	1,000	2,300	5,800	28,000	-	-	-	-	-	-	-	-	-	-		-	-	-
	02/19/03			3.25	0.00	4.83	76,000	-	-	10,000	2,100	3,000	8,900	11,000	-	-	-	-	-	-	-	-	-	-		-	-	-
	06/06/03			3.94	0.00	4.14	66,000	-	-	9,000	<500	2,500	4,400	17,000	<20,000	<500	<500	<500	<100,000	-	-	-	-	-		-	-	
	08/07/03			3.92	Sheen	4.16	53,000	-	-	7,600	<250	2,600	4,700	17,000	<10,000	<250	<250	350	<50,000	<250	<250	-	-	-		-	-	-
	11/20/03			4.89	0.00	3.19	40,000	-	-	6,800	<250	860	1,100	16,000	12,000	<250	<250	<250	<50,000	-	-	-	-	-		-	-	-
	04/28/04			3.19	Sheen	4.89	47,000	-	-	5,600	690	2,300	6,800	8,500	<5,000	<120	<120	170	<25,000	<120	<120	-	-	-		-	-	-
	08/26/04		3.61	0.00	4.47	35,000	-	-	3,700	500	1,300	5,300	6,500	2,600	<50	<50	140	-	<50	<50	-	-	-	-	-	-		
	12/01/04		3.99	0.00	4.09	36,000	-	-	3,500	<250	1,200	4,300	8,300	<10,000	<250	<250	<250	<50,000	<250	<250	-	-	-	-	-	-		
	02/02/05		3.71	Sheen	4.37	21,000	-	-	1,800	130	670	2,000	3,600	5,600	<50	<50	88	<10,000	<50	<50	-	-	-	-	-	-		
	04/25/05		10.55	3.31	Sheen	7.24	5,900	-	-	190	<5.0	120	77	540	1,400	<5.0	<5.0	14	<1,000	<5.0	<5.0	-	-	-	-	-		
	09/30/05		4.02	0.00	6.53	26,000	-	-	2,400	360	1,600	4,200	2,400	520	<20	<20	61	<2,000	<20	<20	-	-	-	-	-	-		
	12/28/05		2.99	0.00	7.56	14,000	-	-	1,400	22	350	450	2,200	1,800	<20	<10	49	<2,000	<10	-	-	-	-	-	-	-		
	03/23/06		2.50	0.00	8.05	4,100	-	-	250	<10	130	110	330	2,400	<20	<10	<10	<2,000	<10	<10	-	-	-	-	-	-		
	06/05/06		3.34	0.00	7.21	8,200	-	-	2,200	79	500	1,200	1,800	1,100	<25	<13	75	<2,500	<13	<13	-	-	-	-	-	-		
	09/19/06		4.06	0.00	6.49	9,000	-	-	2,600	15	440	370	3,100	3,900	<25	<13	100	<6,300	<13	<13	-	-	-	-	-	-		
	12/01/06		3.88	0.00	6.67	5,400	-	-	1,600	15	310	140	1,400	2,400	<25	<13	46	<6,300	<13	<13	-	-	-	-	-	-		
	03/01/07		2.79	0.00	7.76	6,300	-	-	250	<13	270	75	240	580	<25	<13	<13	<6,300	<13	<13	-	-	-	-	-	-		
	06/01/07		3.53	0.00	7.02	6,500	-	-	980	16	250	95	1,800	2,300	<25	<13	50	<6,300	<13	<13	-	-	-	-	-	-		
	09/13/07		4.78	0.00	5.77	4,500	-	-	170	14	79	27	640	7,300	<25	<13	28	<6,300	<13	<13	-	-	-	-	-	-		
	11/21/07		4.41	0.00	6.14	4,600	-	-	790	<13	97	34	2,000	3,500	<25	<13	42	<6,300	<13	<13	-	-	-	-	-	-		
	02/29/08		3.41	0.00	7.14	6,800	-	-	700	19	250	98	1,100	2,400	<25	<13	35	<6,300	<13	<13	-	-	-	-	-	-		
05/23/08	4.53	0.00	6.02	5,300	-	-	390	22	130	68	1,200	6,800	<25	<12	33	<6,200	<12	<12	-	-	-	-	-	-				
09/26/08	5.07	0.00	5.48	10,000	-	-	94	11	26	35	280	12,000	<1.0	<1.0	6.2	<250	<1.0	<1.0	-	-	-	-	-	-				
12/23/08	4.04	0.00	6.51	2,600	-	-	420	7.9	110	84	870	1,000	<1.0	<1.0	23	<250	<1.0	<1.0	-	-	-	-	-	-				
03/09/09	3.45	0.00	7.10	3,400	-	-	45	2.2	51	18	180	610	<1.0	<1.0	4.0	<250	<1.0	<1.0	-	-	-	-	-	-				
MW-10	04/25/05	12.53	8.37	0.00	4.16	<50	-	-	<0.50	<0.50	<0.50	<0.50	1.5	<20	<0.50	<0.50	<0.50	<0.50	<100	<0.50	<0.50	-	-	-	-			
	09/30/05	8.41	0.00	4.12	<50	-	-	<0.50	<0.50	<0.50	<1.0	1.5	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<50	<0.50	<0.50	-	-	-	-			
	12/28/05	7.78	0.00	4.75	<50	-	-	<0.50	<0.50	<0.50	<1.0	0.78	<5.0	<1.0	<0.50	<0.50	<0.50	<100	<0.50	-	-	-	-	-				
	03/23/06	7.77	0.00	4.76	<50	-	-	<0.50	<0.50	<0.50	<1.0	0.67	<5.0	<1.0	<0.50	<0.50	<100	<0.50	<0.50	-	-	-	-	-				
	06/05/06	8.38	0.00	4.15	<50	-	-	<0.50	<0.50	<0.50	<1.0	1.8	<5.0	<1.0	<0.50	<0.50	<100	<0.50	<0.50	-	-	-	-	-				
	09/19/06	7.99	0.00	4.54	<50	-	-	<0.50	<0.50	<0.50	<1.0	0.59	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-	-	-	-				
	12/01/06	5.47	0.00	7.06	<50	-	-	<0.50	<0.50	<0.50	<1.0	0.89	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-	-	-	-				
03/01/07	7.92	0.00	4.61	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-	-	-	-	-				

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
MW-10	06/01/07		12.53	8.55	0.00	3.98	<50	-	-	<0.50	<0.50	<0.50	<1.0	1.2	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	09/13/07			8.71	0.00	3.82	<50	-	-	<0.50	<0.50	<0.50	<1.0	0.94	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	11/21/07			8.84	0.00	3.69	<50	-	-	<0.50	<0.50	<0.50	<1.0	2.2	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	02/29/08			8.20	0.00	4.33	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	05/23/08			8.49	0.00	4.04	<50	-	-	<0.50	<0.50	<0.50	<1.0	2.2	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	09/26/08			9.91	0.00	2.62	<50	-	-	<1.0	<1.0	<1.0	<1.0	3.0	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-		
	12/23/08			8.60	0.00	3.93	<50	-	-	<1.0	<1.0	<1.0	<1.0	2.7	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-		
	<b>03/09/09</b>			<b>7.68</b>	<b>0.00</b>	<b>4.85</b>	<b>&lt;50</b>	<b>-</b>	<b>-</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>6.2</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>-</b>	<b>-</b>	
MW-11	04/25/05		14.55	9.29	0.00	5.26	<50	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	-	-		
	09/30/05			10.23	0.00	4.32	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<50	<0.50	<0.50	-	-		
	12/28/05			9.09	0.00	5.46	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<100	<0.50	-	-	-		
	03/23/06			8.75	0.00	5.80	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<100	<0.50	<0.50	-	-		
	06/05/06			9.47	0.00	5.08	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<100	<0.50	<0.50	-	-		
	09/19/06			10.16	0.00	4.39	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	12/01/06			10.46	0.00	4.09	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	03/01/07			9.62	0.00	4.93	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	06/01/07			9.97	0.00	4.58	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	09/13/07			10.42	0.00	4.13	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	11/21/07			10.64	0.00	3.91	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	02/29/08			9.76	0.00	4.79	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	05/23/08			10.51	0.00	4.04	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<1.0	<0.50	<0.50	<250	<0.50	<0.50	-	-		
	09/26/08			10.51	0.00	4.04	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-		
	12/23/08			10.74	0.00	3.81	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<250	<1.0	<1.0	-	-		
<b>03/09/09</b>			<b>9.50</b>	<b>0.00</b>	<b>5.05</b>	<b>&lt;50</b>	<b>-</b>	<b>-</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;5.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;250</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>-</b>	<b>-</b>		
QC-2	11/05/92		-	-	-	-	<50	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-		
	10/12/93			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-		
	02/15/94			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-		
	05/11/94			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-	-	
	08/01/94			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-	-	
	10/18/94			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-	-	
	01/13/95			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	-	
	04/13/95			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	-	
	07/11/95			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	-	-	-	-	-	-	-	-	-	-	-	
	11/02/95			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<5.0	-	-	-	-	-	-	-	-	-	-	
	02/05/96			-	-	-	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	
	04/24/96			-	-	-	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	
	07/16/96			-	-	-	<50	-	-	<0.50	<1.0	<1.0	<1.0	<10	-	-	-	-	-	-	-	-	-	-	
QCTB	09/30/05		-	-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	12/28/05			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	03/23/06			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	06/05/06			-	-	-	50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	09/19/06			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	DRO (µg/L)	TOG	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2- DCA (µg/L)	EDB (µg/L)	HVOC	D.O. (mg/L)	Comments	
QCTB	12/01/06		-	-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	03/01/07			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	06/01/07			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	09/13/07			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	11/21/07			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	02/29/08			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	05/23/08			-	-	-	<50	-	-	<0.50	<0.50	<0.50	<1.0	<0.50	-	-	-	-	-	-	-	-	-	-	
	09/26/08			-	-	-	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-	
	12/23/08			-	-	-	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-	
	03/09/09			-	-	-	<50	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-	

**TABLE 2**  
**Historical Groundwater Monitoring and Analytical Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, CA**

Notes:

GRO = Gasoline range organics

DRO = Diesel range organics

TOG = Total petroleum hydrocarbons as oil and grease

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl tert-butyl ether

TBA = Tert-butyl alcohol

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

TAME = Tert-amyl methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane

HVOC = Halogenated volatile organic compounds

D.O. = Dissolved Oxygen; rounded to the nearest tenth

SPH = Separate-phase hydrocarbons

TOC = Top of casing (surveyed)

Calc. GW Elev. = Calculated groundwater elevation = TOC - Depth to Water + 0.75\*(Measured SPH Thickness); assuming a specific gravity of 0.75 for SPH

ft-MSL = feet above mean sea level

mg/L = Milligrams per liter

µg/L = Micrograms per liter

< = Analyte was not detected above the specified method detection limit; except after 2008 Quarter 3 where reporting limits are used.

- = Not measured or analyzed

N = Identity of contaminant uncertain (hydrocarbon pattern atypical of indicated analyte); see lab report

ND = Not detected (historical data; reporting limit not reported)

DUP = Duplicate sample

INA = Well inaccessible; not sampled

NS = Well not sampled

Beginning in the first quarter 2003, TPHg and VOCs analyzed by EPA Method 8260B.

**TABLE 3**  
**Groundwater Flow Direction and Hydraulic Gradient Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, California**

Monitoring Date	Groundwater Flow Direction	Groundwater Gradient (foot per foot)		
03/29/01	South			0.020
06/27/01	South			0.020
09/19/01	South			0.020
12/28/01	South			0.035
03/12/02	South-Southeast			0.018
06/13/02	Northwest to Southeast			0.007
09/06/02	South			0.010
12/13/02	Southeast			0.020
02/19/03	West-Southwest			0.025
06/06/03	East-Southwest	0.018	-	0.041
08/07/03	East-Southwest	0.019	-	0.038
11/20/03	Northwest to Southeast	0.014	-	0.04
02/05/04	Northwest to Southeast			0.020
04/28/04	West-Southwest	0.023	-	0.025
08/26/04	South-Southwest			0.036
12/01/04	Northwest to Southeast			0.020
02/02/05	South			0.020
04/25/05	Southwest			0.020
09/30/05	Southwest			0.081
12/28/05	Southwest			0.081
03/23/06	Southwest			0.040
06/05/06	Southwest			0.020
09/19/06	Southwest			0.013
12/01/06	Southwest			0.030
03/01/07	Southwest			0.010
06/01/07	Southwest			0.025
09/13/07	Southwest			0.025
11/21/07	Southwest			0.025
02/29/08	Southwest			0.060
05/23/08	Southwest			0.067
09/26/08	South			0.020
12/23/08	Southwest			0.020
<b>03/09/09</b>	<b>Southwest</b>			<b>0.025</b>
		<b>Average:</b>		<b>0.028</b>



**TABLE 3**  
**Groundwater Flow Direction and Hydraulic Gradient Data**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, California**

Monitoring Date	Groundwater Flow Direction	Groundwater Gradient (foot per foot)
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Notes:

Number of monitoring events: 33

- The groundwater was flowing in two directions (Northwest and Southeast) during the second quarter of 2002, the fourth quarter of 2003, and the first and fourth quarters of 2004.
- Data included in this table were found from current and historical documents.

**TABLE 4**  
**Well Construction Details**  
**76 (Former BP) Service Station No. 11126**  
**1700 Powell Street, Emeryville, California**

Well I.D.	Construction Date	Elevation (TOC feet above MSL)	Boring Depth (feet bgs)	Borehole Diameter (inches)	Casing Diameter (inches)	Casing Material	Slot Size (inches)	Screened Interval (feet bgs)	Filter Pack Interval (feet bgs)	Bentonite Seal Interval (feet bgs)	Cement Seal Interval (feet bgs)	Comments
<b>Groundwater Monitoring Wells</b>												
MW-1	10/20/92	7.78	12	8	2	PVC	0.01	4-12	3.5-12	3-3.5	1-3	
MW-2	10/20/92	8.58	12	8	2	PVC	0.01	5-12	4-12	3-4	1-3	
MW-3	10/20/92	8.25	12	8	2	PVC	0.01	5-12	4-12	3-4	1-3	
MW-4	10/20/92	8.12	12	8	2	PVC	0.01	5-12	4-12	3-4	0.5-3	
MW-5	09/02/93	7.69	13.5	8	2	PVC	0.01	3.5-13.5	3-13.5	2.5-3	0.5-2.5	
MW-6	09/03/93	8.52	14	8	2	PVC	0.01	4-14	3-14	2.5-3	0.5-2.5	
MW-7	09/03/93	7.61	14	8	2	PVC	0.01	4-14	3-14	2.5-3	0.5-2.5	
MW-8	09/03/93	8.8	14	8	2	PVC	0.01	4-14	3-14	2.5-3	0.5-2.5	
MW-9	09/03/93	8.08	14	10	4	PVC	0.01	4-14	3-14	2.5-3	0.5-2.5	
MW-10	04/15/05	12.53	20	8	2	PVC	0.01	7-17	6-17.5	5-6	0.5-5	Backfilled with bentonite at 17-20'
MW-11	04/15/05	14.55	24	8	2	PVC	0.01	7-17	6-17	5-6	0.5-5	Backfilled with bentonite at 17-24'

Notes:

TOC = top of casing

MSL = mean sea level

bgs = below ground surface

Elevations are in US survey feet, Vertical Datum is NGVD29

# **Attachment A**

## **Previous Investigations and Site History Summary**

## PREVIOUS INVESTIGATIONS AND SITE HISTORY SUMMARY

A soil gas survey was conducted on April 10, 1989 by Target Environmental Services, Inc. (TES) on behalf of Mobil Oil Corporation (Mobil) prior to the transfer of ownership of the property to BP. Soil gas samples were collected from 19 sampling points at an approximate depth of four feet below ground surface (bgs) across the site. Results indicated that gasoline may have entered the site subsurface at the pump islands, UST complex, or along the product supply lines. Total volatile hydrocarbons were detected in soil vapor using a flame-ionization detector (FID) at concentrations up to 932,000 micrograms per Liter ( $\mu\text{g/L}$ ), with the highest detections detected in the vicinity of the pump islands and east of the USTs (TES, *Soil Gas Survey*, April 1989).

On April 24, 1989, one 550-gallon waste oil UST was removed from the site, and was replaced with a suspected 1,000-gallon waste oil UST in a separate excavation. A soil sample collected from beneath the UST (seven feet bgs) and sidewalls (nine feet bgs, approximately six inches above groundwater) of the initial waste oil UST excavation contained total oil and grease (TOG), total petroleum hydrocarbons as diesel (TPHd), and total petroleum hydrocarbons as gasoline (TPHg) up to concentrations of 340 parts per million (ppm), 27 ppm, and 9.6 ppm, respectively. A capillary fringe soil sample (six inches above groundwater) collected on April 27, 1989 from the sidewall of the new waste oil UST excavation, located approximately 20 feet south of the former waste oil UST location, contained TOG and TPHd at respective concentrations of 10,000 ppm and 370 ppm. An *Underground Storage Tank Unauthorized Release (Leak) / Contamination Site Report* dated May 2, 1989 documenting the past occurrence of a release of unknown quantity was subsequently submitted to Alameda County Environmental Health Department (ACEHD), Hazardous Materials Division (EMCON, *Baseline Assessment Report*, December 27, 1994).

In October 1992, Alisto Engineering (Alisto) performed a preliminary site assessment to investigate the extent of petroleum hydrocarbon impacts beneath the site. Eight soil borings (B-1 through B-3, B-4A, B-4B, B-4, B-5A, and B-5) were advanced to depths ranging from four feet to 20 feet bgs. Auger refusal was encountered during the drilling of borings B-1, B-4A, B-4B, and B-5A; and borings B-2 through B-5 were converted to monitoring wells MW-1 through MW-4, respectively. Soil samples collected to a depth of 5.5 feet bgs from the borings advanced in the immediate vicinity of the USTs and dispenser islands contained TPHg and benzene at maximum concentrations of 280 ppm and 0.94 ppm, respectively. Groundwater samples collected from the wells in November 1992 contained elevated concentrations of TPHg (12,000 parts per billion [ppb]) and benzene (3,900 ppb). Groundwater from well MW-3 contained TPHd at 690 ppb. The direction of groundwater flow was established toward the southwest (Alisto, *Supplemental Site Investigation Report*, April 8, 1994).

In September 1993, Alisto supervised the installation of five additional groundwater monitoring wells (MW-5 through MW-9). Soil samples collected from approximately 4.5 feet bgs from borings MW-5 and MW-9 contained TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX) up to respective concentrations of 4,600 ppm, 76 ppm, 330 ppm, 130 ppm, and 420 ppm. The highest concentrations of petroleum hydrocarbons were found in groundwater from well MW-2; maximum concentrations of TPHg and benzene were detected at 4,500  $\mu\text{g/L}$  and 3,400  $\mu\text{g/L}$ , respectively. Well MW-9, which is located in the area of the product dispensers contained liquid phase hydrocarbons (LPH) at an initial thickness of 0.08 feet. A product

recovery canister was subsequently installed to assist in the removal of LPH from beneath the site. The direction of groundwater flow was generally toward the east to southeast. Off-site sources identified in the site vicinity included former Pabco Products, a paint, roofing, and floor coverings manufacturing facility, which stored oil in aboveground storage tanks (ASTs) at the site (located on and northeast of the site); former Auto Freight Depot (southeast corner of Shellmound Road and Powell Street, approximately 450 feet east of the site); former Truck Repair Shop (approximately 480 feet east to southeast of the site), which stored diesel and gasoline in ASTs; and former Pacific Intermountain Express Truck Terminal (approximately 440 feet southeast of the site), which utilized ASTs and USTs.

In October 1994, EMCON conducted a supplementary site assessment to establish baseline subsurface conditions prior to the purchase of the site by Tosco Corporation (Tosco, now ConocoPhillips) from BP. Three soil borings (THP-1, TB-2 and THP-3, and also respectively referred to as TB-1, TB-2 and TB-3) were advanced on-site using cone penetrometer testing (CPT) equipment. Refusal was encountered in TB-2 and TPH-3 at 10 feet and 4.5 feet bgs, respectively. Soil samples from borings THP-1 and THP-3 contained TPHg and benzene up to 290 ppm and 1.6 ppm, respectively; TPHd was detected in soil from THP-1 (33 ppm); and TOG was detected in the 4.5-foot sample from THP-3 (1,800 ppm). Hydropunch groundwater samples from borings THP-1 and THP-3 contained concentrations of TPHg up to 4,600 ppb, and benzene up to 800 ppb. TOG (3,300 ppb), trans-1,2-dichloroethane (DCE, 2.4 ppb), cis-1,2-DCE (41 ppb), and 1,2-dichloroethane (1,2-DCA, 6.4 ppb) were also detected in the groundwater sample from boring THP-1. EMCON personnel returned to the site on December 5, 1994 to inspect the fuel dispensers for the presence of spill containment boxes, and for indications of leakage. No spill containment boxes were in place, and staining was observed beneath the northeast and southwest fuel dispensers. Photo-ionization detector (PID) readings collected from backfill material beneath the dispensers indicated the presence of volatile organic compounds (VOCs) ranging from 27 ppm to 1,063 ppm. Grab soil samples collected from beneath the fuel dispensers (TD-1, TD-2, TD-3 and TD-4) indicated the presence of TPHg and TPHd up to concentrations of 1,400 ppm and 4,600 ppm, respectively (EMCON, *Baseline Assessment Report*, December 27, 1994).

In February 1995, Alisto performed baildown testing at the site. Using the Aqtesolv groundwater modeling program (Geraghty and Miller, 1991), the average hydraulic conductivity (K) and transmissivity (T) were estimated at 5.97E-05 centimeters per second (cm/sec), and 1.16E-06 square meters per second, respectively. The calculated K value was consistent with the expected K values for the soil type encountered beneath the site ( $1 \times 10^{-1}$  to  $10^{-6}$  cm/sec), which consisted predominantly of silty clay containing interbedded layers of sand (Alisto, *Baildown Test Results*, February 10, 1995).

In April 1999, Environmental Resolutions Inc. (ERI) performed a five-day soil vapor extraction (SVE) test at the site (ERI, 1999). UST backfill wells (TP-1 and TP-2) were used for SVE, and wells MW-1, MW-2, and MW-4 were utilized as observation wells. Results of vapor samples from well TP-1 indicated a decrease in methyl tertiary butyl ether (MTBE) concentrations from an initial concentration of 4,820 µg/L to 300 µg/L during the test. TPHg concentrations also decreased from an initial concentration of 12,800 µg/L to 464 µg/L during the test. ERI estimated that approximately 21.5 pounds of TPHg and 16.7 pounds of MTBE were removed by SVE. SVE flow rates ranged from 88 to 98 standard cubic feet per minute (scfm) at an applied

vacuum of 12 inches of mercury. No effective radius of influence was measured in native soil outside the UST backfill (ERI, *Extended Soil Vapor Extraction Test Report*, July 20, 1999).

Following the performance of the SVE test by ERI, SECOR observed the removal of one 550-gallon, fiberglass, waste oil UST, along with a clarifier and two hoists (Hoist No. 1 and Hoist No. 2) from the former service bays as part of site remodeling activities on April 28, 1999. The waste oil UST and Hoist No. 2, were removed from two separate excavations, and the clarifier and Hoist No. 1 were removed from another excavation. One soil sample (OILT-1) from the waste oil UST excavation contained TPHg (180 milligrams per kilogram [mg/kg]), benzene (0.19 mg/kg), TPHd (370 mg/kg), and total petroleum hydrocarbons as motor oil (TPHmo, 7,000 mg/kg). A grab groundwater sample collected from 7.5 feet bgs from the waste oil UST excavation contained TPHd (560 µg/L), TPHmo (710 µg/L), benzene (10 µg/L), and MTBE (2,400 µg/L). Soil samples were collected from beneath the former clarifier (four feet bgs), former Hoist No. 1 (eight feet bgs), and the former Hoist No. 2 (eight feet bgs); TPHg, TPHd, TPHmo, benzene, and lead were detected at maximum respective concentrations of 3.0 mg/kg (clarifier), 870 mg/kg (Hoist No. 1), 4,200 mg/kg (Hoist No. 1), 0.013 mg/kg (clarifier), and 22,000 mg/kg (clarifier). MTBE was not detected in soil from the excavations (SECOR, *Removal of Waste Oil UST, Hoists No. 1 and No. 2 and Clarifier Sump*, June 29, 1999).

Based on the presence of petroleum hydrocarbons in soil, the clarifier and hoist areas were over-excavated on May 7, 1999. Soil samples collected from the clarifier excavation at five feet bgs, and the hoist excavations at five feet bgs contained concentrations of TPHg up to 1,200 mg/kg (Hoist No. 1), TPHd up to 1,200 mg/kg (Hoist No. 1), TPHmo up to 5,000 mg/kg (Hoist No. 1), and lead up to 410 mg/kg (clarifier). Over-excavation confirmation soil samples were not analyzed for the presence of BTEX and other metals. A composite sample collected from the pea gravel was also analyzed for the presence of petroleum hydrocarbons; based on the relatively minor levels of TPHd and TPHmo, relatively low to non-detectable levels of BTEX, and non-detectable concentrations of MTBE, the excavated pea gravel was used as backfill for the waste oil UST excavation. Approximately 17.41 tons of soil were removed from the site as a result of the initial excavation and over-excavation activities (SECOR, *Removal of Waste Oil UST, Hoists No. 1 and No. 2 and Clarifier Sump*, June 29, 1999).

On March 28 and 30, 2001, Gettler-Ryan Incorporated (GRI) oversaw the removal and replacement of product lines, dispensers, and the station canopy. During the removal of the product lines, petroleum hydrocarbon-stained soil and odors were observed within the excavated trench. The entire length of the former product line trench was subsequently over-excavated an additional 1.5 feet to 3.5 feet bgs prior to sampling, resulting in the removal of approximately 150 cubic yards of soil from beneath the site. The former trenches were backfilled with clean, imported backfill as it was discovered that the former trenches were not suitable for re-use due to insufficient grading. An additional 100 cubic yards of soil were excavated to accommodate the new product lines. A total of 13 confirmation soil samples were collected from product line, dispenser and trench excavations by SECOR from the initial excavation and following over-excavation of soil. TPHg and TPHd were detected in the 13 samples at concentrations up to 5,300 mg/kg and 630 mg/kg in the initial excavation soil samples, respectively. The highest concentrations of petroleum hydrocarbons were detected in a 3.5-foot soil sample from a former product line location near well MW-9. MTBE was detected in 12 of the 13 samples up to 8.4 mg/kg. A total of 400 cubic yards of soil were removed from the site, and approximately 15,000 gallons of groundwater were removed from beneath the site

during the dewatering of the UST cavity (SECOR, *Removal and Replacement of Product Lines, Dispensers and Canopy*, May 4, 2001).

Between June and October 2004 in accordance with their July 11, 2003 *Interim Remedial Action and Off-Site Assessment Workplan* and the April 20, 2004 *Modifications to Interim Remedial Action and Offsite Assessment Work Plan*, URS Corporation (URS) implemented biweekly groundwater batch extraction at the site utilizing a vacuum truck (URS, *Off-Site Soil and Water Investigation Report*, June 15, 2005). Over this time period, groundwater was periodically extracted from wells MW-1, MW-2, MW-4, MW-8, and MW-9, which resulted in the removal of approximately 125 gallons of groundwater. Due to the limited groundwater recovery and the slow recharge of groundwater levels in the wells, URS discontinued groundwater batch extraction upon approval of Alameda County Health Care Services Agency (ACHCSA). Based on information within the Regional Water Quality Control Board – San Francisco Bay Region's (RWQCB-SFBR) June 1999 *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* classifying the area of the site as a Zone B Groundwater Management Zone, an area where groundwater is unlikely to be used as a drinking water source and monitored natural attenuation (MNA) was the recommended remedial alternative based on this designation, URS recommended the submittal of a corrective action plan (CAP) proposing MNA as a potential remedial option for the site (URS, *Discontinuation of Interim Remedial Action, ACEH Case #RO0000066*, October 7, 2004).

In June 2005, URS supervised the installation of two off-site, downgradient groundwater monitoring wells (MW-10 and MW-11) on the Powell Street Plaza property, located south of the site. Soil samples from both of the borings at depths of seven feet bgs (MW-10), and 18 and 23.5 feet bgs did not contain petroleum hydrocarbons or fuel oxygenates at or above laboratory method reporting limits (MRLs). With the exception of a concentration of MTBE in well MW-10 (1.5 µg/L), petroleum hydrocarbons and fuel oxygenates were not detected in groundwater from the wells. The direction of groundwater flow was toward the southwest at a calculated hydraulic gradient of 0.02 feet per foot (ft/ft). URS concluded that the off-site, lateral extent of dissolved impacts had been delineated during this investigation. URS again recommended the submittal of a CAP that will include an outline of possible remedial alternatives, and a proposal for implementing a selected remedial strategy based on the evaluation of historical and current subsurface site conditions, and the past performance of remedial feasibility testing and interim remedial action at the site (URS, *Off-Site Soil and Water Investigation Report*, June 15, 2005).

### **Current Consultant Information**

Stantec Consulting Corporation (Stantec) acquired SECOR on February 1, 2008. Consequently the SECOR corporate name changed to Stantec. Stantec continues to manage the site referenced above on behalf of Atlantic Richfield Company, a BP Affiliated Company and ConocoPhillips.

### **SENSITIVE RECEPTOR SURVEY**

A sensitive receptor survey was initially performed by Alisto during site assessment activities in October 1992. The results of the survey indicated the presence of a surface water body within

1,000 feet of the site. Alisto further indicated that the aquifer beneath the site was not a potential source of drinking water (EMCON, *Baseline Assessment Report*, December 27, 1994).



## **Attachment B**

### **Stantec's Procedures for Groundwater Monitoring and Sampling, and Equipment Decontamination**

# Stantec Consulting Corporation

## STANDARD PROCEDURE FOR GROUNDWATER SAMPLING

### Depth to Groundwater / SPH Thickness Measurements

Prior to purging each of the wells, the depth to groundwater and thickness of SPH, if present, within each well casing is measured to the nearest 0.01 foot using either an electronic water level indicator or an electronic oil-water interface probe. Measurements are taken from a point of known elevation on the top of each well casing as determined in accordance with previous surveys.

### Groundwater Monitoring Well Purging

Where purging is conducted prior to sampling wells that do not contain SPH, a dedicated 1-inch diameter polyvinyl chloride (PVC) "stinger," bailer, or groundwater pump may be used to purge the wells. During purging a minimum of three well volumes, measured as the annular space of the well casing below the groundwater surface, are removed from each well. However, in the case of very slow recharging wells, purging is deemed sufficient if the well contents are evacuated during purge operations. Unless recharge takes more than two hours, wells are sampled once the well is recharged to within 80 percent of pre-purge groundwater elevation. For very slow recharging wells (wells pumped dry during purging), samples may be collected after two hours of recharge.

To help assure that the collected samples are representative of fresh formation water, the conductivity, temperature, and pH of the delivered effluent are monitored and recorded using a Cambridge Hydac meter, or another meter similar in nature during purge operations. Purge operations are determined to be sufficient once successive measurements of pH, conductivity, and temperature stabilize to within +/- 10 percent.

### Groundwater Sample Acquisition and Handling

Following purging operations, groundwater samples are collected from each of the wells, using pre-cleaned, single-sample polypropylene, disposable bailers. The groundwater sample is discharged from the bailer to the sample container through a bottom emptying flow control valve to minimize volatilization.

Collected water samples are discharged directly into laboratory provided, pre-cleaned, 40-milliliter (ml) glass vials and sealed with Teflon-lined septum, screw-on lids. Labels documenting sample number, well identification, collection date and time, type of sample and type of preservative (if applicable) are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified by the State of California Department of Health Services Environmental Laboratory Accreditation Programs to perform the specified tests.

## **Trip Blanks**

To help assure the quality of the collected samples and to evaluate the potential for cross contamination during transport to the laboratory, a distilled-water trip blank accompanies the samples in the cooler. The trip blank is analyzed for the presence of volatile organic compounds of concern. For petroleum hydrocarbons, the trip blank is typically analyzed for GRO, BTEX, and MTBE by EPA Method 8260B.

## **Containment and Disposal of Waste Water**

Waste water generated during decontamination of equipment and purging is pumped into a Stantec truck-mounted water tank. The purge water is then transferred into 55-gallon, steel, Department of Transportation (DOT)-approved drums that are temporarily stored on-site. The waste water is removed from the site by certified waste contractor, and transported to an approved facility for recycling/disposal.

## **STANDARD PROCEDURE FOR EQUIPMENT DECONTAMINATION**

Equipment that could potentially contact subsurface media and compromise the integrity of the samples is carefully decontaminated prior to sampling. Samplers, groundwater pumps, liners and other equipment are decontaminated in an Alconox scrub solution and double rinsed in clean tap water rinse followed by a final distilled water rinse.

# **Attachment C**

## **Quarterly Monitoring Field Data Sheets**

# SITE VISITATION REPORT

76 (Former BP) Service Station 11126 - 1Q09 M&S Event

Name(s) Raymond Goetz Date: 3-9-09 Time of Arrival Call-In: \_\_\_\_\_  
Arrival Time: \_\_\_\_\_ Departure Time: \_\_\_\_\_ Time of Departure Call-In: \_\_\_\_\_  
Who did you call? \_\_\_\_\_

## DRUM INVENTORY

1 WATER \_\_\_\_\_ CARBON \_\_\_\_\_ Drum Location: \_\_\_\_\_  
SOIL 0 EMPTY \_\_\_\_\_

## METER CALIBRATIONS

pH meter calibration readings 4101 7101 10101 DO meter calibrations \_\_\_\_\_  
LEL calibration readings \_\_\_\_\_ ORP calibrations \_\_\_\_\_

## HEALTH AND SAFETY ASSESSMENT

HASP  
PPE  
ERP  
Traffic  
Exclusion Zones

## DESCRIPTION OF ACTIVITIES ONSITE AND NOTES

QMS.

I arrived on site around 0800. I reviewed paperwork and HASP. I opened all wells and gauged them. I purged and sampled MW-10 and MW-11. I met with traffic control and gauged purged and sampled Street well. I came back on site and purged and sampled remaining wells with Pang. We finished around 1600. I left the site and took samples to Fed Ex.

**Stantec Consulting**  
HYDROLOGIC DATA SHEET

Gauge Date: 3-9-09

Project Name: 76 Former BP 11126

Field Technician: Raymond Golic

Project Number: 211601178.201.522 / 211401212.200.0130

TOC = Top of Well Casing Elevation  
DTP = Depth to Free Product (FP or NAPL) Below TOC  
DTW = Depth to Groundwater Below TOC  
DTB = Depth to Bottom of Well Casing Below TOC

DIA = Well Casing Diameter  
ELEV = Groundwater Elevation  
DUP = Duplicate

WELL OR LOCATION	TIME						PURGE & SAMPLE 1Q09	SHEEN CONFIRMATION (w/bailer)	COMMENTS
		DTP	DTW	DTB	DIA	ELEV			
MW-1	1023		3.79	12	2.0		Yes		
MW-2	1037		4.35	12	2.0		Yes		
MW-3	1003		5.31	12	2.0		Yes		
MW-4	1016		5.30	12	2.0		Yes		
MW-5	1139		4.79	13.5	4.0		Yes		
MW-6	946		6.0	14	2.0		Yes		
MW-7	935		5.65	14	2.0		Yes		
MW-8	1010		4.36	14	2.0		Yes		
MW-9	1030		3.45	14	4.0		Yes		
MW-10	940		7.68	20	2.0		Yes		
MW-11	930		9.50	24	2.0		Yes		

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RL      WELL I.D.: MW-1  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RL      SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1435      END (2400hr) 1443  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1450  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2"       3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 12.0      CASING VOLUME (gal) = 1148  
 DEPTH TO WATER (feet) = 3.29      CALCULATED PURGE (gal) = 4144  
 WATER COLUMN HEIGHT (feet) = 8.71      ACTUAL PURGE (gal) = 415

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1439</u>	<u>1.5</u>	<u>16.5</u>	<u>612</u>	<u>6.93</u>	<u>cloudy</u>	<u>1100</u>
	<u>1441</u>	<u>3.0</u>	<u>16.6</u>	<u>579</u>	<u>6.93</u>		<u>↓</u>
	<u>1443</u>	<u>4.5</u>	<u>16.7</u>	<u>553</u>	<u>6.94</u>		

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 3.34      SAMPLE TURBIDITY: 1100

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: yes      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (~~Teflon~~ disposable)  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer ( \_\_\_\_\_ PVC or disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes

REMARKS: Hand bailed well.

SIGNATURE: Raymond Haibe      Page \_\_\_\_\_ of \_\_\_\_\_

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RL      WELL I.D.: MW-7  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RL      SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1500      END (2400hr) 1509  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1515  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2"       3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 12.0      CASING VOLUME (gal) = 1.13  
 DEPTH TO WATER (feet) = 4.35      CALCULATED PURGE (gal) = 3.9  
 WATER COLUMN HEIGHT (feet) = 7.65      ACTUAL PURGE (gal) = 3.0

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1305</u>	<u>1</u>	<u>16.8</u>	<u>575</u>	<u>6.85</u>	<u>cloudy</u>	<u>1100</u>
	<u>1307</u>	<u>2</u>	<u>16.7</u>	<u>573</u>	<u>6.89</u>		
	<u>1309</u>	<u>3</u>	<u>16.6</u>	<u>569</u>	<u>6.91</u>		

SAMPLE DEPTH TO WATER: 4.39      SAMPLE INFORMATION      SAMPLE TURBIDITY: 1100

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: yes      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

**PURGING EQUIPMENT**  
 Bladder Pump       Bailer (Teflon) *disposable*  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

**SAMPLING EQUIPMENT**  
 Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer ( \_\_\_\_\_ PVC or  disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes

REMARKS: Hand bailed well.

SIGNATURE: Raymond Miller      Page \_\_\_ of \_\_\_



# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RB      WELL I.D.: MW-3  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RB      SAMPLE I.D.: MW-3  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1310      END (2400hr) 1319  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1335  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2" \_\_\_\_\_      3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 12.0      CASING VOLUME (gal) = 1113  
 DEPTH TO WATER (feet) = 5.31      CALCULATED PURGE (gal) = 3.41  
 WATER COLUMN HEIGHT (feet) = 6.69      ACTUAL PURGE (gal) = 3.0

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1315</u>	<u>1</u>	<u>17.4</u>	<u>4123</u>	<u>7.09</u>	<u>cloudy</u>	<u>1100</u>
	<u>1317</u>	<u>2</u>	<u>16.4</u>	<u>415</u>	<u>7.01</u>		
	<u>1319</u>	<u>3</u>	<u>15.8</u>	<u>406</u>	<u>6.99</u>		

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 5.34      SAMPLE TURBIDITY: 1100

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: yes      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (Teflon) *disposable*  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer (PVC or *disposable*)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes

REMARKS: Hand bailed well.

SIGNATURE: Raymond York      Page \_\_\_ of \_\_\_



# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RB      WELL I.D.: MW-5  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RB      SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1140      END (2400hr) 1152  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1200  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2"       3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 13.5      CASING VOLUME (gal) = 1.48  
 DEPTH TO WATER (feet) = 4.79      CALCULATED PURGE (gal) = 41.44  
 WATER COLUMN HEIGHT (feet) = 8.71      ACTUAL PURGE (gal) = 4.5

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1148</u>	<u>115</u>	<u>17.0</u>	<u>395</u>	<u>7.17</u>	<u>cloudy</u>	<u>1100</u>
	<u>1150</u>	<u>310</u>	<u>17.2</u>	<u>189.8</u>	<u>7.06</u>		
	<u>1152</u>	<u>415</u>	<u>17.2</u>	<u>185.3</u>	<u>7.04</u>		

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 4.81      SAMPLE TURBIDITY: 1100

80% RECHARGE:  YES     NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: yes      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (Teflon) *disposable*  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer (PVC or  disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes

REMARKS: Hand bailed well.

SIGNATURE: Raymond Hoibe      Page \_\_\_ of \_\_\_

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: P.V.      WELL I.D.: mw-6  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: P.V.      SAMPLE I.D.: mw-6  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1210      END (2400hr) 1720  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1230  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2" \_\_\_\_\_      3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 14.0      CASING VOLUME (gal) = 1.36  
 DEPTH TO WATER (feet) = 5.65 6.0      CALCULATED PURGE (gal) = 4.08  
 WATER COLUMN HEIGHT (feet) = 8      ACTUAL PURGE (gal) = 4.3

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1216</u>	<u>1.5</u>	<u>17.4</u>	<u>2301</u>	<u>7.59</u>	<u>4.6gy</u>	<u>1100</u>
<u>↓</u>	<u>1218</u>	<u>3.0</u>	<u>18.3</u>	<u>2164</u>	<u>7.51</u>	<u>4.6gy</u>	<u>600</u>
	<u>1220</u>	<u>4.5</u>	<u>19.0</u>	<u>1735</u>	<u>7.42</u>	<u>4.6gy</u>	<u>600</u>

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 6.23      SAMPLE TURBIDITY: 1100

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: No      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer ( \_\_\_\_\_ PVC or  disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_

WELL INTEGRITY: good      LOCK#: yes

REMARKS: Hand bailed wells

SIGNATURE: Raymond Mahe      Page \_\_\_ of \_\_\_

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RB      WELL I.D.: mw-7  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RB      SAMPLE I.D.: mw-7  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1240      END (2400hr) 1249  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1300  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2" \_\_\_\_\_      3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 14.0      CASING VOLUME (gal) = 1.41  
 DEPTH TO WATER (feet) = 5.65      CALCULATED PURGE (gal) = 21.25  
 WATER COLUMN HEIGHT (feet) = 8.35      ACTUAL PURGE (gal) = 415

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1245</u>	<u>1.5</u>	<u>18.1</u>	<u>1585</u>	<u>7.22</u>	<u>Cloudy</u>	<u>Low</u>
<u>↓</u>	<u>1247</u>	<u>3.0</u>	<u>18.9</u>	<u>1488</u>	<u>7.31</u>	<u>Cloudy</u>	<u>Low</u>
<u>↓</u>	<u>1249</u>	<u>4.5</u>	<u>18.9</u>	<u>1475</u>	<u>7.40</u>	<u>Cloudy</u>	<u>Low</u>

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 5.71      SAMPLE TURBIDITY: Low

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**

ODOR: NO      SAMPLE VESSEL / PRESERVATIVE: **3 preserved voas; MW-3 -two 1-L non-preserved Amber & TOG additionally for MW-3 only**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (Teflon) *disposable*  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer (PVC or *disposable*)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes

REMARKS: Hand bailed wells

SIGNATURE: Raymond Garcia      Page \_\_\_ of \_\_\_

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RB      WELL I.D.: MW-8  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RB      SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1345      END (2400hr) 1353  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1400  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2"       3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 1410      CASING VOLUME (gal) = 1.63  
 DEPTH TO WATER (feet) = 4.36      CALCULATED PURGE (gal) = 4.91  
 WATER COLUMN HEIGHT (feet) = 9.64      ACTUAL PURGE (gal) = 4.5

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1349</u>	<u>1.5</u>	<u>18.4</u>	<u>630</u>	<u>6.96</u>	<u>clear</u>	<u>129.4</u>
	<u>1351</u>	<u>3.0</u>	<u>18.7</u>	<u>632</u>	<u>6.97</u>	<u>cloudy</u>	<u>1100</u>
	<u>1353</u>	<u>4.5</u>	<u>19.0</u>	<u>683</u>	<u>7.00</u>	<u>cloudy</u>	<u>1100</u>

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 4.41      SAMPLE TURBIDITY: 746.7

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: none      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (Teflon) *disposable*  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer (PVC or disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: YES

REMARKS: Hand bailed well.

SIGNATURE: Raymond [Signature]      Page \_\_\_ of \_\_\_

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RG      WELL I.D.: MW-9  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RG      SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1525      END (2400hr) 1531  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1540  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2" \_\_\_\_\_      3" \_\_\_\_\_      4"  \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 1410      CASING VOLUME (gal) = 7106  
 DEPTH TO WATER (feet) = 3.45      CALCULATED PURGE (gal) = 2120  
 WATER COLUMN HEIGHT (feet) = 10.55      ACTUAL PURGE (gal) = 1011

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1529</u>	<u>7</u>	<u>17.3</u>	<u>175.3</u>	<u>7.18</u>	<u>clear</u>	<u>1214</u>
_____	_____	<u>14</u>	_____	_____	_____	_____	_____
_____	_____	<u>21</u>	_____	_____	_____	_____	_____
_____	<u>1531</u>	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 3.81      SAMPLE TURBIDITY: 97.21

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 -two 1-L non-preserved Amber**  
 ODOR: yes      SAMPLE VESSEL / PRESERVATIVE: **for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 1410

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer ( \_\_\_\_\_ PVC or  disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes

REMARKS: \_\_\_\_\_

SIGNATURE: Raymond Hoyle      Page \_\_\_\_ of \_\_\_\_

# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

PROJECT #: See Work Order PURGED BY: RC WELL I.D.: MW-10  
 CLIENT NAME: 76 (Former BP) #11126 SAMPLED BY: RC SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09 START (2400hr) 1115 END (2400hr) 1122  
 DATE SAMPLED 3-9-09 SAMPLE TIME (2400hr) 1130  
 SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2"  3" \_\_\_\_\_ 4" \_\_\_\_\_ 5" \_\_\_\_\_ 6" \_\_\_\_\_ 8" \_\_\_\_\_ Other \_\_\_\_\_  
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 20.0 CASING VOLUME (gal) = 209  
 DEPTH TO WATER (feet) = 7.68 CALCULATED PURGE (gal) = 6.28  
 WATER COLUMN HEIGHT (feet) = 12.32 ACTUAL PURGE (gal) = 6.1

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1118</u>	<u>2</u>	<u>17.5</u>	<u>605</u>	<u>7.03</u>	<u>clear</u>	<u>164.3</u>
	<u>1120</u>	<u>7</u>	<u>17.5</u>	<u>598</u>	<u>7.00</u>		<u>125.9</u>
	<u>1122</u>	<u>6</u>	<u>17.0</u>	<u>596</u>	<u>7.08</u>		<u>91.65</u>

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 7.71 SAMPLE TURBIDITY: 96.72

80% RECHARGE:  YES  NO ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**  
**3 preserved voas; MW-3 two 1-L non-preserved Amber for DRO and one 1-L preserved for TOG.**  
 ODOR: none SAMPLE VESSEL / PRESERVATIVE: \_\_\_\_\_

#### PURGING EQUIPMENT

Bladder Pump \_\_\_\_\_ Bailer (Teflon)  *disposable*  
 Centrifugal Pump \_\_\_\_\_ Bailer (PVC) \_\_\_\_\_  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel) \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_ Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump \_\_\_\_\_ Bailer (Teflon) \_\_\_\_\_  
 Centrifugal Pump \_\_\_\_\_ Bailer (PVC or  disposable) \_\_\_\_\_  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel) \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_ Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good LOCK#: yes

REMARKS: Hand bailed wells

SIGNATURE: Raymond Rowe Page    of



# Stantec Consulting

## WATER SAMPLE FIELD DATA SHEET

OBJECT #: See Work Order      PURGED BY: RB      WELL I.D.: MW-11  
 CLIENT NAME: 76 (Former BP) #11126      SAMPLED BY: RB      SAMPLE I.D.: \_\_\_\_\_  
 LOCATION: 1700 Powell St., Emeryville CA      QA SAMPLES: \_\_\_\_\_

DATE GAUGED 3-9-09      START (2400hr) 1045      END (2400hr) 1653  
 DATE SAMPLED 3-9-09      SAMPLE TIME (2400hr) 1105  
 SAMPLE TYPE:      Groundwater       Surface Water \_\_\_\_\_      Treatment Effluent \_\_\_\_\_      Other \_\_\_\_\_

CASING DIAMETER:      2" \_\_\_\_\_      3" \_\_\_\_\_      4" \_\_\_\_\_      5" \_\_\_\_\_      6" \_\_\_\_\_      8" \_\_\_\_\_      Other \_\_\_\_\_  
 Casing Volume: (gallons per foot)      (0.17)      (0.38)      (0.67)      (1.02)      (1.50)      (2.60)      ( )

DEPTH TO BOTTOM (feet) = 2410      CASING VOLUME (gal) = 2410  
 DEPTH TO WATER (feet) = 9.5      CALCULATED PURGE (gal) = 7.39  
 WATER COLUMN HEIGHT (feet) = 1465      ACTUAL PURGE (gal) = 6.0

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>3-9-09</u>	<u>1049</u>	<u>2</u>	<u>17.0</u>	<u>556</u>	<u>6.71</u>	<u>Cloudy</u>	<u>1100</u>
_____	<u>1651</u>	<u>4</u>	<u>17.2</u>	<u>564</u>	<u>7.07</u>	_____	_____
_____	<u>1653</u>	<u>6</u>	<u>17.2</u>	<u>579</u>	<u>7.23</u>	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 9.56      SAMPLE TURBIDITY: 1100

80% RECHARGE:  YES       NO      ANALYSES: **GRO/BTEX/MTBE/Oxygenates/1,2-DCA & EDB; TPH-d & TOG additionally for MW-3 only**

ODOR: yes      SAMPLE VESSEL / PRESERVATIVE: **3 preserved voas; MW-3 -two 1-L non-preserved Amber for DRO and one 1-L preserved for TOG.**

#### PURGING EQUIPMENT

Bladder Pump       Bailer (disposable Teflon)  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: \_\_\_\_\_

#### SAMPLING EQUIPMENT

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump       Bailer ( \_\_\_\_\_ PVC or disposable)  
 Submersible Pump       Bailer (Stainless Steel)  
 Peristaltic Pump       Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_

WELL INTEGRITY: Good      LOCK#: yes  
 REMARKS: Hand bailed well.

SIGNATURE: Raymond Moore      Page \_\_\_\_\_ of \_\_\_\_\_



**AUTHORIZATION TO CARRY OUT WORK**

I CERTIFY THAT THE ABOVE EQUIPMENT/SITE IS SAFE TO CARRY OUT WORKING AT HEIGHTS BY PERSONS SUBJECT TO THE SPECIFIED REQUIREMENTS

ISSUED BY: Raymond Usin ..... PERMIT VALID FROM DATE 3.19.09 11:00 AM/PM

COUNTERSIGNED: Raymond Usin ..... TO DATE 3.19.09 11:00 AM/PM

I UNDERSTAND THE NATURE OF THE WORK AND CERTIFY THAT THE ABOVE CONDITIONS WILL BE OBSERVED AT ALL TIMES

RECEIVED BY - CONTRACTOR/EMPLOYEE Raymond Usin ..... DATE 3.19.09

**WORK COMPLETED**

**WORK HAND BACK**

Time ..... Contractor/Employee

Time ..... Received by Site Manager

Date .....

Date .....

## **Attachment D**

**Certified Laboratory Analytical Report, Chain-of-Custody Documentation, and Stantec Laboratory Validation Form**

**ANALYTICAL RESULTS**

Prepared for:

Stantec Consulting Inc.  
3017 Kilgore Road  
Suite 100  
Rancho Cordova CA 95670

916-861-0400

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 1135385. Samples arrived at the laboratory on Tuesday, March 10, 2009. The PO# for this group is 211601157.201.522 and the release number is SUPPLE.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MW-1 NA Water	5618167
MW-2 NA Water	5618168
MW-3 NA Water	5618169
MW-4 NA Water	5618170
MW-5 NA Water	5618171
MW-6 NA Water	5618172
MW-7 NA Water	5618173
MW-8 NA Water	5618174
MW-9 NA Water	5618175
MW-10 NA Water	5618176
MW-11 NA Water	5618177
QCTB NA Water	5618178

ELECTRONIC      Stantec Consulting Inc.  
COPY TO  
ELECTRONIC      Stantec Consulting Inc.  
COPY TO

Attn: BPCPNCal

Attn: bpdata

Questions? Contact your Client Services Representative  
Angela M Miller at (717) 656-2300

Respectfully Submitted,



**Robin C. Runkle**  
**Senior Specialist**



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

Lancaster Laboratories Sample No. WW5618167

Group No. 1135385

MW-1 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-1

Collected: 03/09/2009 14:50 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Reported: 03/20/2009 at 18:01

Discard: 04/20/2009

Stantec Consulting Inc.

3017 Kilgore Road

Suite 100

Rancho Cordova CA 95670

PSE01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	88	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	1.7	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	1,300	50	ug/l	10
05401	Benzene	71-43-2	200	10	ug/l	10
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	5.6	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	16	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	29	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	2,100	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 00:13	Michael A Ziegler	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 00:37	Michael A Ziegler	10
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 00:13	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 00:13	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/19/2009 00:37	Michael A Ziegler	10



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Lancaster Laboratories Sample No. WW5618168

Group No. 1135385

MW-2 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-2

Collected:03/09/2009 15:15 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSE02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 5,000	5,000	ug/l	20
02010	Methyl Tertiary Butyl Ether	1634-04-4	2,200	20	ug/l	20
02011	di-Isopropyl ether	108-20-3	< 20	20	ug/l	20
02013	Ethyl t-butyl ether	637-92-3	< 20	20	ug/l	20
02014	t-Amyl methyl ether	994-05-8	82	20	ug/l	20
02015	t-Butyl alcohol	75-65-0	21,000	1,000	ug/l	200
05401	Benzene	71-43-2	3,200	20	ug/l	20
05402	1,2-Dichloroethane	107-06-2	< 20	20	ug/l	20
05407	Toluene	108-88-3	73	20	ug/l	20
05412	1,2-Dibromoethane	106-93-4	< 20	20	ug/l	20
05415	Ethylbenzene	100-41-4	2,800	20	ug/l	20
06310	Xylene (Total)	1330-20-7	2,200	20	ug/l	20
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	25,000	1,000	ug/l	20

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 01:02	Michael A Ziegler	20
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 01:26	Michael A Ziegler	200
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 01:02	Michael A Ziegler	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 01:02	Michael A Ziegler	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/19/2009 01:26	Michael A Ziegler	200





# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Lancaster Laboratories Sample No. **WW5618169**

Group No. **1135385**

**MW-3 NA Water**

**BP 11126 SIRC**

**1700 Powell St-Emeryville T0600100208 MW-3**

Collected: 03/09/2009 13:35 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSE03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
06609	TPH-DRO CA C10-C28	n.a.	900	100	ug/l	1
08079	HEM (oil & grease)	n.a.	< 5,000	5,000	ug/l	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	55	5.0	ug/l	1
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	< 50	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06609	TPH-DRO CA C10-C28	SW-846 8015B	2	03/16/2009 16:17	Diane V Do	1
08079	HEM (oil & grease)	EPA 1664A	1	03/16/2009 07:34	Yolunder Y Bunch	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/18/2009 23:25	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/18/2009 23:25	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/18/2009 23:25	Michael A Ziegler	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	03/12/2009 17:15	Timothy J Attenberger	1

Lancaster Laboratories Sample No. WW5618169

Group No. 1135385

MW-3 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-3

Collected: 03/09/2009 13:35 by RG

Submitted: 03/10/2009 10:10

Reported: 03/20/2009 at 18:01

Discard: 04/20/2009

PSE03

Account Number: 12607

Stantec Consulting Inc.

3017 Kilgore Road

Suite 100

Rancho Cordova CA 95670



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Lancaster Laboratories Sample No. **WW5618170**

Group No. **1135385**

**MW-4 NA Water**

**BP 11126 SIRC**

**1700 Powell St-Emeryville T0600100208 MW-4**

Collected: 03/09/2009 14:25 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSE-4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	18	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	3.5	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	27,000	250	ug/l	50
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.						
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	140	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 01:50	Michael A Ziegler	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/20/2009 00:45	Michael A Ziegler	50
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 01:50	Michael A Ziegler	1



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Lancaster Laboratories Sample No. WW5618170

Group No. 1135385

MW-4 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-4

Collected: 03/09/2009 14:25 by RG

Submitted: 03/10/2009 10:10

Reported: 03/20/2009 at 18:01

Discard: 04/20/2009

Account Number: 12607

Stantec Consulting Inc.

3017 Kilgore Road

Suite 100

Rancho Cordova CA 95670

PSE-4

01163 GC/MS VOA Water Prep

SW-846 5030B

1 03/19/2009 01:50

Michael A Ziegler

1

01163 GC/MS VOA Water Prep

SW-846 5030B

2 03/20/2009 00:45

Michael A Ziegler

50



# Analysis Report

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Lancaster Laboratories Sample No. **WW5618171**

Group No. **1135385**

**MW-5 NA Water**

**BP 11126 SIRC**

**1700 Powell St-Emeryville T0600100208 MW-5**

Collected: 03/09/2009 12:00 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSE05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	< 5.0	5.0	ug/l	1
05401	Benzene	71-43-2	1.9	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	1.8	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	4.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	4,300	500	ug/l	10

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 07:18	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 02:37	Michael A Ziegler	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 07:18	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/19/2009 02:37	Michael A Ziegler	10



# Analysis Report

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Lancaster Laboratories Sample No. WW5618172

Group No. 1135385

MW-6 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-6

Collected: 03/09/2009 12:30 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

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Rancho Cordova CA 95670

PSE06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	3.5	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	62	5.0	ug/l	1
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	< 50	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 03:01	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 03:01	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 03:01	Michael A Ziegler	1



# Analysis Report

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Lancaster Laboratories Sample No. WW5618173

Group No. 1135385

MW-7 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-7

Collected: 03/09/2009 13:00 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Reported: 03/20/2009 at 18:01

Discard: 04/20/2009

Stantec Consulting Inc.

3017 Kilgore Road

Suite 100

Rancho Cordova CA 95670

PSE-7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	4.4	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	1,300	50	ug/l	10
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	< 50	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 03:26	Michael A Ziegler	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/20/2009 01:10	Michael A Ziegler	10
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 03:26	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 03:26	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/20/2009 01:10	Michael A Ziegler	10



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Lancaster Laboratories Sample No. **WW5618174**

Group No. **1135385**

**MW-8 NA Water**

**BP 11126 SIRC**

**1700 Powell St-Emeryville T0600100208 MW-8**

Collected: 03/09/2009 14:00 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

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Rancho Cordova CA 95670

PSE-8

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	15	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	3,300	50	ug/l	10
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	210	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 03:50	Michael A Ziegler	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/20/2009 01:35	Michael A Ziegler	10
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 03:50	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 03:50	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/20/2009 01:35	Michael A Ziegler	10





# Analysis Report

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Lancaster Laboratories Sample No. **WW5618175**

Group No. **1135385**

**MW-9 NA Water**

**BP 11126 SIRC**

**1700 Powell St-Emeryville T0600100208 MW-9**

Collected: 03/09/2009 15:40 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSE-9

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	180	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	4.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	610	5.0	ug/l	1
05401	Benzene	71-43-2	45	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	2.2	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	51	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	18	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	3,400	500	ug/l	10

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 04:14	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/20/2009 00:20	Michael A Ziegler	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 04:14	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/20/2009 00:20	Michael A Ziegler	10



# Analysis Report

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Lancaster Laboratories Sample No. WW5618176

Group No. 1135385

MW-10 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-10

Collected: 03/09/2009 11:30 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PS-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	6.2	5.0	ug/l	1
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	< 50	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 04:38	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 04:38	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 04:38	Michael A Ziegler	1



# Analysis Report

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Lancaster Laboratories Sample No. WW5618177

Group No. 1135385

MW-11 NA Water

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 MW-11

Collected:03/09/2009 11:05 by RG

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSE11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	< 250	250	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
02011	di-Isopropyl ether	108-20-3	< 1.0	1.0	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	< 1.0	1.0	ug/l	1
02014	t-Amyl methyl ether	994-05-8	< 1.0	1.0	ug/l	1
02015	t-Butyl alcohol	75-65-0	< 5.0	5.0	ug/l	1
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	< 50	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	03/19/2009 05:03	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/19/2009 05:03	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2009 05:03	Michael A Ziegler	1



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Lancaster Laboratories Sample No. WW5618178

Group No. 1135385

**QCTB NA Water**

BP 11126 SIRC

1700 Powell St-Emeryville T0600100208 QCTB

Collected:03/09/2009

Account Number: 12607

Submitted: 03/10/2009 10:10

Stantec Consulting Inc.

Reported: 03/20/2009 at 18:01

3017 Kilgore Road

Discard: 04/20/2009

Suite 100

Rancho Cordova CA 95670

PSEQC

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
05401	Benzene	71-43-2	< 1.0	1.0	ug/l	1
05407	Toluene	108-88-3	< 1.0	1.0	ug/l	1
05415	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
06310	Xylene (Total)	1330-20-7	< 1.0	1.0	ug/l	1
06184	TPH GRO in water by 8260B					
06383	C6-C12-TPH-GRO	n.a.	< 50	50	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	03/18/2009 06:06	Michael A Ziegler	1
06184	TPH GRO in water by 8260B	SW-846 8260B	1	03/18/2009 06:06	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/18/2009 06:06	Michael A Ziegler	1

## Quality Control Summary

 Client Name: Stantec Consulting Inc.  
 Reported: 03/20/09 at 06:01 PM

Group Number: 1135385

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 090710004A TPH-DRO CA C10-C28	Sample number(s): 5618169 < 100	100.	ug/l	86	90	56-122	4	20
Batch number: 09075807901A HEM (oil & grease)	Sample number(s): 5618169 < 5,000	5,000.	ug/l	83		78-114		
Batch number: Z090763AA Methyl Tertiary Butyl Ether	Sample number(s): 5618178 < 1.0	1.0	ug/l	103	105	78-117	3	30
Benzene	< 1.0	1.0	ug/l	95	101	80-116	6	30
Toluene	< 1.0	1.0	ug/l	107	113	80-115	5	30
Ethylbenzene	< 1.0	1.0	ug/l	105	111	80-113	6	30
Xylene (Total)	< 1.0	1.0	ug/l	105	111	81-114	5	30
C6-C12-TPH-GRO	< 50	50.	ug/l	89	91	69-150	3	30
Batch number: Z090774AA Ethanol	Sample number(s): 5618167-5618177 < 250	250.	ug/l	78	101	40-158	26	30
Methyl Tertiary Butyl Ether	< 1.0	1.0	ug/l	96	98	78-117	2	30
di-Isopropyl ether	< 1.0	1.0	ug/l	100	103	71-124	3	30
Ethyl t-butyl ether	< 1.0	1.0	ug/l	103	105	75-118	2	30
t-Amyl methyl ether	< 1.0	1.0	ug/l	99	103	78-117	4	30
t-Butyl alcohol	< 5.0	5.0	ug/l	93	95	74-116	2	30
Benzene	< 1.0	1.0	ug/l	92	97	80-116	5	30
1,2-Dichloroethane	< 1.0	1.0	ug/l	102	104	70-130	2	30
Toluene	< 1.0	1.0	ug/l	102	107	80-115	5	30
1,2-Dibromoethane	< 1.0	1.0	ug/l	90	92	80-112	3	30
Ethylbenzene	< 1.0	1.0	ug/l	100	105	80-113	5	30
Xylene (Total)	< 1.0	1.0	ug/l	97	103	81-114	6	30
C6-C12-TPH-GRO	< 50	50.	ug/l	110	122	69-150	10	30
Batch number: Z090784AA t-Butyl alcohol	Sample number(s): 5618170,5618173-5618175 < 5.0	5.0	ug/l	99	99	74-116	0	30
C6-C12-TPH-GRO	< 50	50.	ug/l	104	112	69-150	8	30

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 09075807901A HEM (oil & grease)	Sample number(s): 5618169 66*	62*	78-114	4	29	UNSPK: P618536 < 5,000	BKG: P618536 5,400	16 (1)	18

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

 Client Name: Stantec Consulting Inc.  
 Reported: 03/20/09 at 06:01 PM

Group Number: 1135385

### Sample Matrix Quality Control

 Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>MAX</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: Z090763AA	Sample number(s): 5618178 UNSPK: P617828							
Methyl Tertiary Butyl Ether	108		72-126					
Benzene	104		80-126					
Toluene	117		80-125					
Ethylbenzene	115		77-125					
Xylene (Total)	114		79-125					
Batch number: Z090774AA	Sample number(s): 5618167-5618177 UNSPK: 5618169							
Ethanol	103		37-164					
Methyl Tertiary Butyl Ether	105		72-126					
di-Isopropyl ether	108		70-129					
Ethyl t-butyl ether	110		74-122					
t-Amyl methyl ether	109		75-122					
t-Butyl alcohol	100		67-119					
Benzene	104		80-126					
1,2-Dichloroethane	109		66-141					
Toluene	119		80-125					
1,2-Dibromoethane	99		77-116					
Ethylbenzene	116		77-125					
Xylene (Total)	114		79-125					
Batch number: Z090784AA	Sample number(s): 5618170,5618173-5618175 UNSPK: P621300							
t-Butyl alcohol	96		67-119					

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

 Analysis Name: TPH-DRO CA C10-C28  
 Batch number: 090710004A  
 Orthoterphenyl

5618169	93
Blank	97
LCS	151*
LCSD	113

Limits: 59-131

 Analysis Name: BTEX+MTBE by 8260B  
 Batch number: Z090763AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5618178	87	87	97	88
Blank	89	88	98	87
LCS	85	88	97	94
LCSD	85	87	97	93
MS	86	88	97	93

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Stantec Consulting Inc.  
Reported: 03/20/09 at 06:01 PM

Group Number: 1135385

### Surrogate Quality Control

Limits:	80-116	77-113	80-113	78-113
Analysis Name: BTEX+5 Oxygenates+EDC+EDB+ETOH				
Batch number: Z090774AA				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5618167	91	92	111	99
5618168	92	91	112	100
5618169	94	94	108	95
5618170	93	93	108	97
5618171	88	92	108	97
5618172	92	94	108	94
5618173	93	94	108	96
5618174	92	94	107	94
5618175	90	91	108	98
5618176	92	94	107	94
5618177	93	94	107	93
Blank	93	94	111	96
LCS	91	92	110	102
LCSD	92	93	111	102
MS	92	90	110	103
Limits:	80-116	77-113	80-113	78-113
Analysis Name: 8260 Master Scan (water)				
Batch number: Z090784AA				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
Blank	92	94	108	92
LCS	91	94	107	97
LCSD	91	94	109	98
MS	91	95	108	97
Limits:	80-116	77-113	80-113	78-113

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

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Project Name: 11126 - Emeryville, CA  
LLI Group #: 1135385

**General Comments:**

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Chronicle section of the Analysis Report for the method references

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

**Analysis Specific Comments:****01594: BTEX+5 Oxygenates+EDC+EDB+ETOH**

Sample #s: 5618170

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

**06609: TPH-DRO CA C10-C28**

Batch #: 090710004A (Sample number(s): 5618169)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCS

**08079: HEM (oil & grease)**

Batch #: 09075807901A (Sample number(s): 5618169 UNSPK: P618536 BKG: P618536)

The recovery for the above analyte in the MS and/or MSD was outside the acceptance window.







acct # 12607 Cup # 1135385

sample # 5618167-78

BP/ARC Project Name: 76 (Former BP) Service Station No. 11126  
 BP/ARC Facility No: 11126

Req Due Date (mm/dd/yy): \_\_\_\_\_ Rush TAT: Yes \_\_\_ No \_\_\_  
 Lab Work Order Number: \_\_\_\_\_

Lab Name: Lancaster Laboratories	BP/ARC Facility Address: 1700 Powell Street	Consultant/Contractor: Stantec Consulting Corp.
Lab Address: 2425 New Holland Pike, Lancaster, PA 17601	City, State, ZIP Code: Emeryville, CA	Consultant/Contractor Project No: 211601178.201.522
Lab PM: Megan Moeller	Lead Regulatory Agency: SCCDEH	Address: 3017 Kilgore Rd. Ste. 100, Rancho Cordova, CA 95670
Lab Phone: 717-656-2300 ext 1246	California Global ID No.: T0600100208	Consultant/Contractor PM: Catherine Francini/Brad Shelton
Lab Shipping Acct: 1077-8526-4	Enfos Proposal No:	Phone: 916-861-0400 Ext. 320/329
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: BPCPNCal@stantec.com, bpdata@stantec.com
Other Info: EDF to be in BP format	Stage: Activity:	Invoice To: BP/ARC ___ Contractor ___ X

BP/ARC EBM: Paul Supple				Matrix		No. Containers / Preservative							Requested Analyses							Report Type & QC Level	
EBM Phone: 925-299-8891				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO/BTEX by EPA 8260B	6 Oxygenates by EPA 8260B	1,2-DCA, EDB by EPA 8260B	TPHd EPA 8015M	Total Oil and Grease (EPA 1664)	GRO/BTEX/MTBE by EPA 8260B	Standard ___ X ___		
EBM Email: Paul.supple@bp.com																			Full Data Package ___		
Lab No.	Sample Description	Date	Time																Comments		
	MW-11	3-9-09	1105	X			3					X	X	X							
	QCTB	↓	—	X			2				X						X				

Sampler's Name: Raymond Goek	Relinquished By / Affiliation		Date	Time	Accepted By / Affiliation		Date	Time
Sampler's Company: Stantec	[Signature]		3-9	1700	[Signature]			
Shipment Method: FedEx Ship Date: 3-9-09								
Shipment Tracking No:					[Signature]		3-10-09	1010

Special Instructions: Bill costs to Stantec. EDF must be in BP format. COC for quarterly monitoring and sampling.

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No ( ) | Temp Blank: Yes / No ( ) | Cooler Temp on Receipt: 34-37 °F ( ) | Trip Blank: Yes / No ( ) | MS/MSD Sample Submitted: Yes / No ( )



## Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

### Organic Qualifiers

<b>A</b>	TIC is a possible aldol-condensation product
<b>B</b>	Analyte was also detected in the blank
<b>C</b>	Pesticide result confirmed by GC/MS
<b>D</b>	Compound quantitated on a diluted sample
<b>E</b>	Concentration exceeds the calibration range of the instrument
<b>J</b>	Estimated value
<b>N</b>	Presumptive evidence of a compound (TICs only)
<b>P</b>	Concentration difference between primary and confirmation columns >25%
<b>U</b>	Compound was not detected
<b>X,Y,Z</b>	Defined in case narrative

### Inorganic Qualifiers

<b>B</b>	Value is <CRDL, but ≥IDL
<b>E</b>	Estimated due to interference
<b>M</b>	Duplicate injection precision not met
<b>N</b>	Spike amount not within control limits
<b>S</b>	Method of standard additions (MSA) used for calculation
<b>U</b>	Compound was not detected
<b>W</b>	Post digestion spike out of control limits
<b>*</b>	Duplicate analysis not within control limits
<b>+</b>	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Is Data Valid? (circle)

YES

NO

Preservation Temperature  
(If Known)

3.4-3.7 (°C)

# Stantec Lab Validation Form

**Project/Client:** BP (Former 76) Service Station No. 11126 / BP-CP  
**Project No.:** 211601178.201 and 211402220.200  
**Lab Work Order No.:** 1135385  
**Date of Validation:** 03/23/2009  
**Date of Analysis:** 03/12/2009 – 03/20/2009  
**Date of Sampling:** 03/10/2009  
**Completed By:** Kimber Collins

**Signature:**



Circle/Highlight  
Yes or No

1. Was the analysis the one requested?
2. Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?
3. Were samples prepared (extracted, filtered, etc.) within EPA holding times?
4. Once prepared/extracted, were the samples analyzed within the EPA holding times?
5. Were Laboratory blanks performed, if so, were they below non-detect?
6. Are the units correct? (i.e., soil samples in mg/kg or µg/g, water samples mg/L, µg/L, and air samples in volume mg/m<sup>3</sup>, etc.)
7. Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?
8. In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?
9. Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approx 80-120% depending on analyte)?
10. Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?
11. Were Relative Percent Difference values within the acceptable range (i.e. ± 25%)?

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

If any answer is no, explain why and what corrective action was taken:

In regards to benzene, toluene, ethylbenzene, and xylenes, preservation requirements were not met for sample #5618170 (MW-4). The vial submitted for volatile analysis did not have a pH of <2. The pH of the sample was pH=4.

In regards to total petroleum hydrocarbons – diesel range organics (TPH-DRO), the percent recovery (% REC) for one of the surrogates was outside quality control (QC) limits for the LCS in Batch 090710004A.

In regards to HEM (oil and grease), the % REC in the MS and MSD were below the QC acceptance limits; however, the LCS %REC value for the same Batch was within the acceptance limits, thus, the accuracy of the data is not affected.