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Alameda County  
Environmental Health

ARCADIS U.S., Inc.  
100 Montgomery Street, Suite 300  
San Francisco, California 94104  
Tel 415.374.2744  
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Re: Third Quarter 2010 Semi-Annual Ground-Water Monitoring Report  
Former Atlantic Richfield Company Station #6002  
6235 Seminary Ave.  
Oakland, California  
ACEH Case #RO0000163

ENVIRONMENTAL

"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."

Date:  
10/29/2010

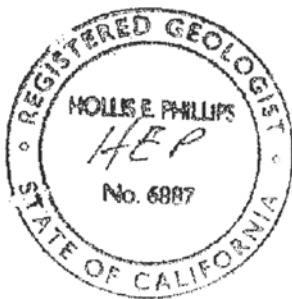
Submitted by:  
ARCADIS U.S., Inc.

Contact:  
Hollis E. Phillips

Phone:  
415.374.2744 ext 13

Hollis E. Phillips, PG  
Project Manager

Email:  
Hollis.phillips@arcadis-us.com



Our ref:  
GP09BPNA.C108

**Third Quarter 2010 Semi-Annual  
Ground-Water Monitoring Report**  
Former Atlantic Richfield Company Station #6002  
6235 Seminary Ave, Oakland, California  
ACEH Case #RO0000163

Prepared for  
Ms. Hollis Phillips, PG  
Senior Geologist  
ARCADIS-US, Inc.  
100 Montgomery Street, Ste. 300  
San Francisco, California 94104

On behalf of  
Atlantic Richfield Company  
PO Box 1257  
San Ramon, California 94583

Prepared by



1324 Mangrove Avenue, Suite 212  
Chico, California 95926  
(530) 566-1400  
*www.broadbentinc.com*

October 29, 2010

Project No. 09-88-634

Broadbent & Associates, Inc.  
1324 Mangrove Ave., Suite 212  
Chico, CA 95926  
Voice (530) 566-1400  
Fax (530) 566-1401



October 29, 2010

Project No. 09-88-634

ARCADIS-US, Inc.  
100 Montgomery Street, Ste. 300  
San Francisco, California 94104

Attn.: Ms. Hollis Phillips, PG

Re: Third Quarter 2010 Semi-Annual Ground-Water Monitoring Report, Former Atlantic Richfield Company Station #6002, 6235 Seminary Ave, Oakland, CA;  
ACEH Case #RO0000163

Dear Ms. Phillips:

Provided herein is the *Third Quarter 2010 Semi-Annual Ground-Water Monitoring Report* for Former Atlantic Richfield Company Station #6002 located at 6235 Seminary Ave, Oakland, Alameda County, California (Site). This report summarizes the results of ground-water monitoring and sampling conducted at the Site during the Third Quarter of 2010.

Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

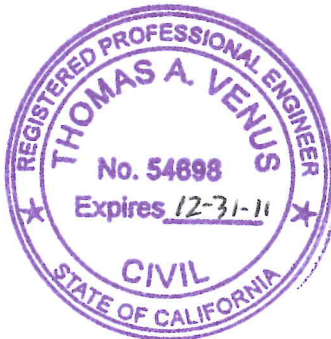
BROADBENT & ASSOCIATES, INC.

A handwritten signature in blue ink that reads 'Jason Duda'.

Jason Duda  
Project Scientist

A handwritten signature in blue ink that reads 'Thomas A. Venus'.

Thomas A. Venus, P.E.  
Senior Engineer



Enclosures

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)  
Electronic copy uploaded to GeoTracker

## STATION #6002 SEMI-ANNUAL GROUND-WATER MONITORING REPORT

Facility: #6002	Address: 6235 Seminary Ave, Oakland
ARCADIS Project Manager:	Ms. Hollis Phillips, PG
Consulting Co./Contact Persons:	Broadbent & Associates, Inc.(BAI)/Jason Duda & Tom Venus (530) 566-1400
Primary Agency/Regulatory ID No.:	Alameda County Environmental Health (ACEH) ACEH Case #RO0000163
Consultant Project No.:	09-88-634
Facility Permits/Permitting Agency:	NA

### WORK PERFORMED THIS QUARTER (Third Quarter 2010):

1. Conducted semi-annual ground-water monitoring/sampling for Third Quarter 2010.

### WORK PROPOSED FOR NEXT QUARTER (Fourth Quarter 2010):

1. Prepared and submitted this *Third Quarter 2010 Semi-Annual Ground-Water Monitoring Report* (contained herein).
2. No environmental work is currently scheduled at the Site for the Fourth Quarter of 2010.

### RESULTS SUMMARY:

Current phase of project:	<b>Ground-water monitoring/sampling</b>
Frequency of ground-water monitoring:	<b>Semi-Annually (1Q &amp; 3Q) = MW-3 through MW-8, VW-1, VW-3, and VW-4</b>
Frequency of ground-water sampling:	<b>Semi-Annually (1Q &amp; 3Q) = MW-5, VW-1 and VW-4 Annually (3Q) = MW-3, MW-4, MW-6, MW-7 and MW-8</b>
Is free product (FP) present on-site:	<b>No</b>
Current remediation techniques:	<b>NA</b>
Depth to ground water (below TOC):	<b>7.61 ft (VW-1) to 12.52 ft (MW-5)</b>
General ground-water flow direction:	<b>West</b>
Approximate hydraulic gradient:	<b>0.06 ft/ft</b>

### DISCUSSION:

The Third Quarter 2010 ground-water monitoring and sampling event was conducted at Station #6002 by BAI on August 19, 2010. Water levels were gauged in seven of the nine monitoring wells (MW-3 through MW-6, VW-1, VW-3, and VW-4) associated with the Site. Well MW-7 could not be located due to overgrown vegetation. Well MW-8 was not gauged due to its location on private property. The property owner was not home and a locked gate impeded access. No other irregularities were noted during water level gauging at Station #6002. Depth to water measurements at the Site ranged from 7.61 ft at well VW-1 to 12.52 ft at MW-5. Resulting ground-water surface elevations at the Site ranged from 249.19 ft above datum in well MW-6 to 236.54 ft in well MW-4. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the west at 0.06 ft/ft. Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to ground water and respective ground-water elevations are summarized in Table 1. Current and historic ground-water flow directions and gradients are provided within Table 3. A Site Location Map is provided as Drawing 1. Potentiometric ground-water elevation contours are presented in Drawing 2.

Generally consistent with the current ground-water sampling schedule, water samples were collected from wells MW-3 through MW-6, VW-1, VW-3, and VW-4. Water samples were not collected from wells MW-7 and MW-8 as discussed above. No other irregularities were encountered during sampling at the Site. The samples were submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. (Pleasanton, California) for analysis of Gasoline Range Organics (GRO, C6-12), Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), and Methyl Tert-Butyl Ether (MTBE), Ethyl Tert-Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tert-Amyl Methyl Ether (TAME), Tert-Butyl Alcohol (TBA), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), and Ethanol by EPA Method 8260B. No significant irregularities were reported during analysis of the samples. Ground-water sampling field data sheets and the laboratory analytical report, including chain-of-custody documentation, are provided in Appendix A.

Gasoline Range Organics (GRO) were detected above the laboratory reporting limit in one of the seven wells sampled at a concentration of 2,300 micrograms per liter ( $\mu\text{g/L}$ ) in MW-5. Ethylbenzene and Toluene were detected above the laboratory reporting limits in well MW-5 at concentrations of 1.7  $\mu\text{g/L}$  and 0.55  $\mu\text{g/L}$ , respectively. MTBE was detected above the laboratory reporting limit in three of the seven wells sampled at concentrations up to 6.3  $\mu\text{g/L}$  in well VW-4. TBA was detected above the laboratory reporting limit in two of the seven wells sampled at concentrations of 18  $\mu\text{g/L}$  in MW-5 and 150  $\mu\text{g/L}$  in well VW-4. The remaining analytes were not detected above their respective laboratory reporting limits in the seven wells sampled this quarter. Historic laboratory analytical results for the Site are summarized in Table 1. The most recent GRO, Benzene, and MTBE concentrations are also presented in Drawing 2. Ground-water monitoring data (GEO\_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix B.

## **CONCLUSIONS AND RECOMMENDATIONS:**

Water level elevations were between historic minimum and maximum ranges for each well. The potentiometric ground-water flow direction and gradient of 0.06 ft/ft to the west is consistent with historical data. Detected concentrations of petroleum hydrocarbons were within the historic minimum and maximum ranges for each well. Hydrocarbon concentrations remained generally consistent with concentrations observed during the First Quarter of 2010. No environmental work is currently scheduled to occur at the site during the Fourth Quarter of 2010. The next semi-annual ground-water monitoring and sampling event is scheduled to be conducted during the First Quarter of 2011.

## **CLOSURE:**

The findings presented in this report are based upon: observations of BAI personnel (see Appendix A), the points investigated, and results of laboratory tests performed by TestAmerica Laboratories, Inc. (Pleasanton, California). Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied, was made. This report has been prepared for the exclusive use of ARCADIS-US and Atlantic Richfield Company. It is possible that variations in soil or ground-water conditions could exist beyond points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

**ATTACHMENTS:**

- Drawing 1. Site Location Map, Station #6002, 6235 Seminary Ave., Oakland, CA
- Drawing 2. Ground-Water Elevation Contour and Analytical Summary Map, August 19, 2010, Station #6002, 6235 Seminary Ave., Oakland, CA
- Table 1. Summary of Groundwater-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #6002, 6235 Seminary Ave., Oakland, CA
- Table 2. Summary of Fuel Additives Analytical Data, Station #6002, 6235 Seminary Ave., Oakland, CA
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #6002, 6235 Seminary Ave., Oakland, CA
- Appendix A. BAI Ground-Water Sampling Data (Includes Field Data Sheets, Non-Hazardous Waste Data Form, Laboratory Report, Chain-of-Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmation Receipts

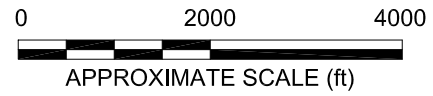
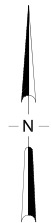
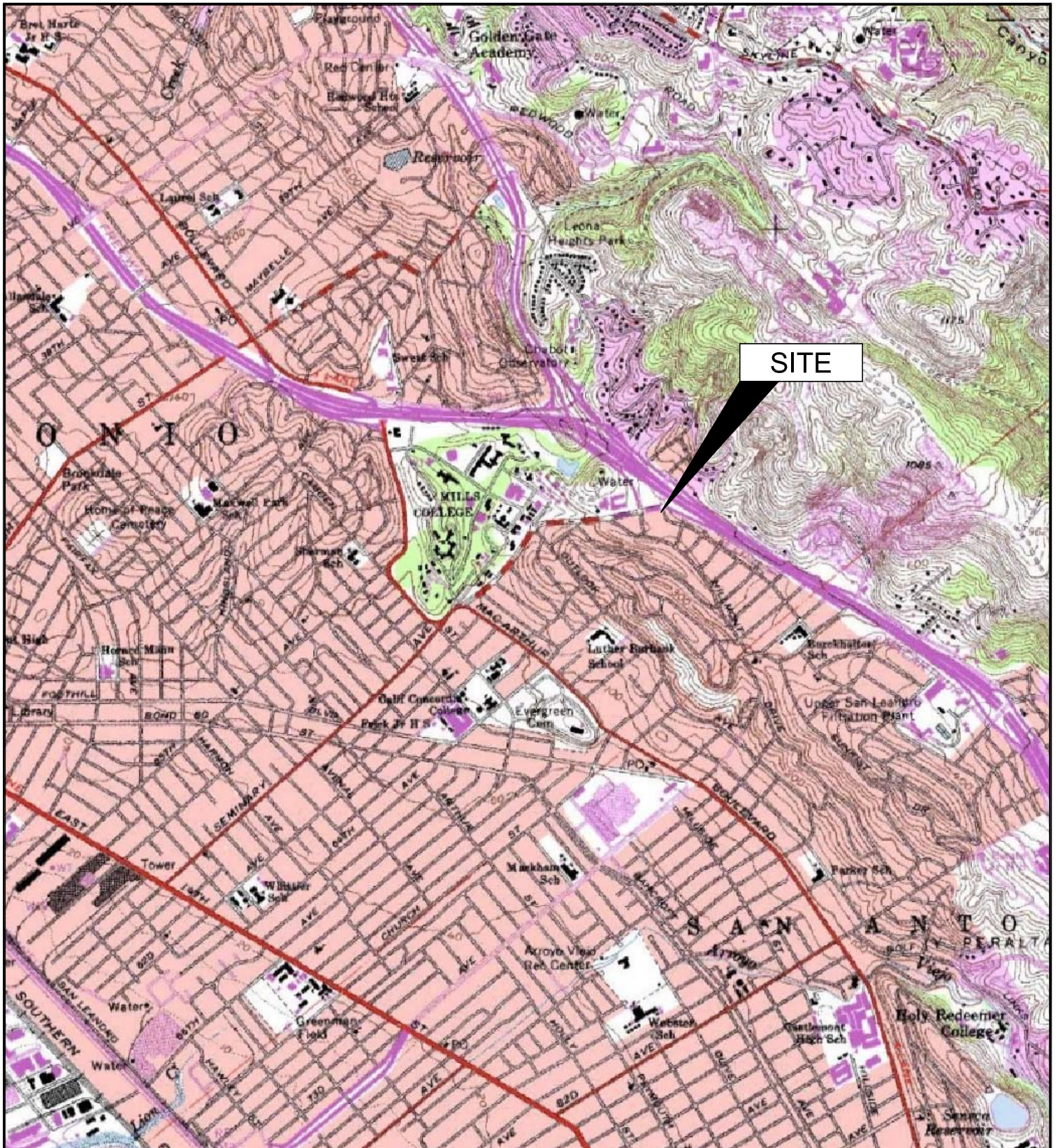
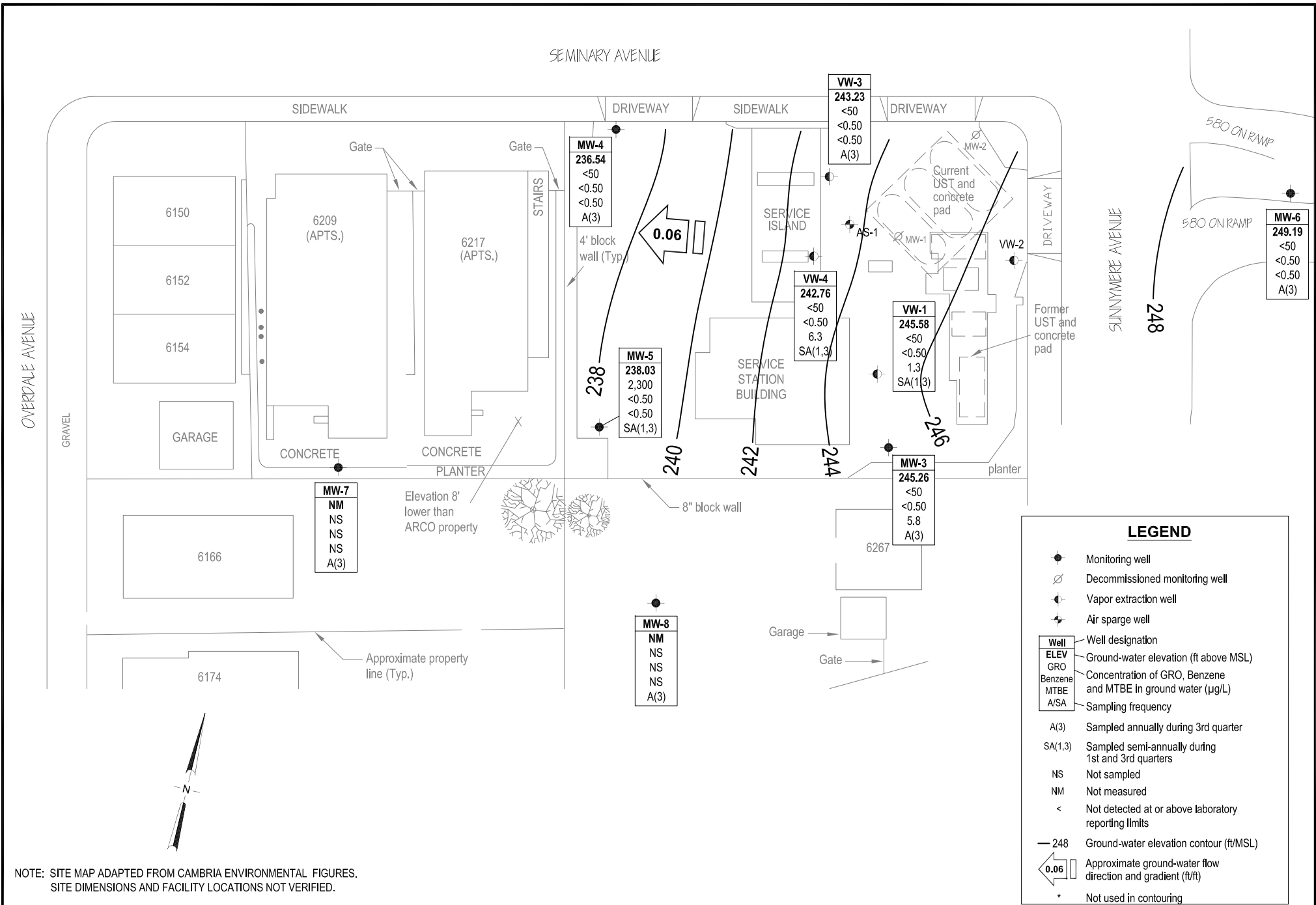
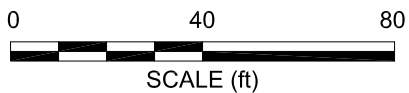


IMAGE SOURCE: USGS



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



**BROADBENT & ASSOCIATES, INC.**  
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL  
1324 Mangrove Ave. Suite 212, Chico, California 95926  
Project No.: 09-88-634 Date: 9/23/2010

Former ARCO Service Station #6002  
6235 Seminary Avenue  
Oakland, California

Ground-Water Elevation Contours  
and Analytical Summary Map  
August 19, 2010

Drawing

2

LEGEND	
	Monitoring well
	Decommissioned monitoring well
	Vapor extraction well
	Air sparge well
<b>Well</b>	Well designation
<b>ELEV</b>	Ground-water elevation (ft above MSL)
<b>GRO</b>	Concentration of GRO, Benzene and MTBE in ground water (µg/L)
<b>MTBE</b>	
<b>A/SA</b>	Sampling frequency
A(3)	Sampled annually during 3rd quarter
SA(1,3)	Sampled semi-annually during 1st and 3rd quarters
NS	Not sampled
NM	Not measured
<	Not detected at or above laboratory reporting limits
—248	Ground-water elevation contour (ft/MSL)
	Approximate ground-water flow direction and gradient (ft/ft)
*	Not used in contouring



**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>AS-1</b>																
6/29/1995	--		--	20.0	22.0	9.20	--	--	<50	1.6	<0.5	0.9	0.9	--	--	--
<b>MW-1</b>																
3/15/1995	--		247.06	4.5	24.5	7.37	--	239.69	13,000	1,200	44	770	1,100	--	--	--
5/30/1995	--		247.06	4.5	24.5	8.48	--	238.58	19,000	1,600	30	890	1,400	--	--	--
9/1/1995	--		247.06	4.5	24.5	9.47	--	237.59	14,000	1,300	28	480	780	24,000	--	--
11/13/1995	--	a, b	247.06	4.5	24.5	8.78	--	238.28	11,000	570	17	260	410	25,000	--	--
2/23/1996	--	d	247.06	4.5	24.5	--	--	--	--	--	--	--	--	--	--	--
<b>MW-2</b>																
3/15/1995	--		249.30	5.0	17.5	8.25	--	241.05	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
5/30/1995	--		249.30	5.0	17.5	9.93	--	239.37	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
9/1/1995	--		249.30	5.0	17.5	10.69	--	238.61	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
11/13/1995	--		249.30	5.0	17.5	10.32	--	238.98	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
2/23/1996	--	d	249.30	5.0	17.5	--	--	--	--	--	--	--	--	--	--	--
<b>MW-3</b>																
3/15/1995	--		248.35	5.0	24.5	6.76	--	241.59	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
5/30/1995	--		248.35	5.0	24.5	7.81	--	240.54	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
9/1/1995	--		248.35	5.0	24.5	8.65	--	239.70	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
11/13/1995	--		248.35	5.0	24.5	8.25	--	240.10	120	45	0.7	<0.5	6.2	--	--	--
2/23/1996	--		248.35	5.0	24.5	6.64	--	241.71	<50	<0.5	<0.5	0.6	1.9	<3	--	--
5/10/1996	--		248.35	5.0	24.5	7.95	--	240.40	--	--	--	--	--	--	--	--
8/9/1996	--		248.35	5.0	24.5	8.06	--	240.29	--	--	--	--	--	--	--	--
11/8/1996	--	e	248.35	5.0	24.5	--	--	--	--	--	--	--	--	--	--	--
3/21/1997	--		248.35	5.0	24.5	8.21	--	240.14	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
5/27/1997	--		248.35	5.0	24.5	8.25	--	240.10	--	--	--	--	--	--	--	--
8/5/1997	--		248.35	5.0	24.5	8.29	--	240.06	--	--	--	--	--	--	--	--
10/29/1997	--		248.35	5.0	24.5	8.58	--	239.77	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/25/1998	--		248.35	5.0	24.5	7.69	--	240.66	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
5/12/1998	--		248.35	5.0	24.5	8.20	--	240.15	--	--	--	--	--	--	--	--
7/28/1998	--		248.35	5.0	24.5	8.55	--	239.80	--	--	--	--	--	--	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-3 Cont.</b>																
10/27/1998	--		248.35	5.0	24.5	8.30	--	240.05	--	--	--	--	--	--	--	--
2/8/1999	--		248.35	5.0	24.5	7.90	--	240.45	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
6/1/1999	--		248.35	5.0	24.5	8.40	--	239.95	--	--	--	--	--	--	--	--
8/25/1999	--		248.35	5.0	24.5	8.49	--	239.86	--	--	--	--	--	--	1.67	--
10/29/1999	--		248.35	5.0	24.5	8.52	--	239.83	--	--	--	--	--	--	6.9	--
2/16/2000	NP		248.35	5.0	24.5	8.03	--	240.32	<50	<0.5	0.8	<0.5	<1	<3	8.51	--
6/23/2000	--		248.35	5.0	24.5	7.55	--	240.80	--	--	--	--	--	--	2.1	--
8/17/2000	--		248.35	5.0	24.5	8.65	--	239.70	--	--	--	--	--	--	1.1	--
11/10/2000	--		248.35	5.0	24.5	7.19	--	241.16	--	--	--	--	--	--	--	--
2/12/2001	NP		248.35	5.0	24.5	8.60	--	239.75	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.81	--
4/13/2001	--		248.35	5.0	24.5	6.13	--	242.22	--	--	--	--	--	--	--	--
7/18/2001	--		248.35	5.0	24.5	6.47	--	241.88	--	--	--	--	--	--	--	--
10/1/2001	--		248.35	5.0	24.5	6.99	--	241.36	--	--	--	--	--	--	--	--
1/14/2002	NP		248.35	5.0	24.5	5.47	--	242.88	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
4/3/2002	--		248.35	5.0	24.5	6.95	--	241.40	--	--	--	--	--	--	--	--
8/8/2002	--		248.35	5.0	24.5	8.78	--	239.57	--	--	--	--	--	--	--	--
11/27/2002	--		248.35	5.0	24.5	8.52	--	239.83	--	--	--	--	--	--	--	--
2/10/2003	NP		248.35	5.0	24.5	8.40	--	239.95	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.7	6.4
6/3/2003	--		248.35	5.0	24.5	8.40	--	239.95	--	--	--	--	--	--	--	--
8/14/2003	--		248.35	5.0	24.5	8.60	--	239.75	--	--	--	--	--	--	--	--
11/13/2003	--		248.35	5.0	24.5	8.41	--	239.94	--	--	--	--	--	--	--	--
02/13/2004	--		253.88	5.0	24.5	8.40	--	245.48	--	--	--	--	--	--	--	--
05/05/2004	--		253.88	5.0	24.5	8.28	--	245.60	--	--	--	--	--	--	--	--
08/30/2004	NP		253.88	5.0	24.5	10.32	--	243.56	<50	<0.50	<0.50	<0.50	<0.50	0.72	1.4	6.4
11/08/2004	--		253.88	5.0	24.5	8.12	--	245.76	--	--	--	--	--	--	--	--
02/07/2005	--		253.88	5.0	24.5	8.20	--	245.68	--	--	--	--	--	--	--	--
05/09/2005	--		253.88	5.0	24.5	8.23	--	245.65	--	--	--	--	--	--	--	--
08/11/2005	NP		253.88	5.0	24.5	8.72	--	245.16	<50	<0.50	<0.50	<0.50	<0.50	0.73	1.6	6.1
12/02/2005	--		253.88	5.0	24.5	8.15	--	245.73	--	--	--	--	--	--	--	--
02/15/2006	--		253.88	5.0	24.5	8.23	--	245.65	--	--	--	--	--	--	--	--
5/19/2006	--		253.88	5.0	24.5	8.38	--	245.50	--	--	--	--	--	--	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-3 Cont.</b>																
8/25/2006	P		253.88	5.0	24.5	8.59	--	245.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.15	6.2
11/2/2006	--		253.88	5.0	24.5	8.65	--	245.23	--	--	--	--	--	--	--	--
2/6/2007	--		253.88	5.0	24.5	8.38	--	245.50	--	--	--	--	--	--	--	--
5/9/2007	--		253.88	5.0	24.5	8.42	--	245.46	--	--	--	--	--	--	--	--
8/8/2007	NP		253.88	5.0	24.5	8.67	--	245.21	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.16	6.90
11/14/2007	--		253.88	5.0	24.5	8.48	--	245.40	--	--	--	--	--	--	--	--
2/28/2008	--		253.88	5.0	24.5	8.28	--	245.60	--	--	--	--	--	--	--	--
5/23/2008	--		253.88	5.0	24.5	8.42	--	245.46	--	--	--	--	--	--	--	--
8/21/2008	NP		253.88	5.0	24.5	8.52	--	245.36	<50	<0.50	<0.50	<0.50	<0.50	0.81	1.17	7.17
11/13/2008	--		253.88	5.0	24.5	8.52	--	245.36	--	--	--	--	--	--	--	--
2/23/2009	--		253.88	5.0	24.5	7.92	--	245.96	--	--	--	--	--	--	--	--
5/14/2009	--		253.88	5.0	24.5	8.37	--	245.51	--	--	--	--	--	--	--	--
9/23/2009	NP		253.88	5.0	24.5	8.52	--	245.36	<50	<0.50	<0.50	<0.50	<0.50	6.3	1.17	6.76
3/4/2010	--		253.88	5.0	24.5	8.22	--	245.66	--	--	--	--	--	--	--	--
<b>8/19/2010</b>	<b>NP</b>		<b>253.88</b>	<b>5.0</b>	<b>24.5</b>	<b>8.62</b>	<b>--</b>	<b>245.26</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>5.8</b>	<b>--</b>	<b>7.11</b>
<b>MW-4</b>																
3/15/1995	--		242.91	4.5	24.5	9.37	--	233.54	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
5/30/1995	--		242.91	4.5	24.5	11.47	--	231.44	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
9/1/1995	--		242.91	4.5	24.5	12.28	--	230.63	78	<0.5	0.7	<0.5	<0.5	<3	--	--
11/13/1995	--		242.91	4.5	24.5	11.75	--	231.16	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
2/23/1996	--		242.91	4.5	24.5	8.51	--	234.40	59	1.2	7.4	1.6	9.3	3	--	--
5/10/1996	--		242.91	4.5	24.5	11.35	--	231.56	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
8/9/1996	--		242.91	4.5	24.5	9.70	--	233.21	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
11/8/1996	--		242.91	4.5	24.5	11.79	--	231.12	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
3/21/1997	--		242.91	4.5	24.5	10.94	--	231.97	<50	<0.5	<0.5	<0.5	<0.5	81	--	--
5/27/1997	--		242.91	4.5	24.5	11.51	--	231.40	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
8/5/1997	--		242.91	4.5	24.5	11.90	--	231.01	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
10/29/1997	--		242.91	4.5	24.5	12.00	--	230.91	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/25/1998	--		242.91	4.5	24.5	8.34	--	234.57	<50	<0.5	0.9	<0.5	0.9	4	--	--
5/12/1998	--		242.91	4.5	24.5	10.93	--	231.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-4 Cont.</b>																
7/28/1998	--		242.91	4.5	24.5	12.08	--	230.83	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
10/27/1998	--		242.91	4.5	24.5	11.40	--	231.51	<5,000	<50	<50	160	64	6,400	--	--
2/8/1999	--		242.91	4.5	24.5	8.40	--	234.51	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
6/1/1999	NP		242.91	4.5	24.5	11.93	--	230.98	<50	<0.5	<0.5	<0.5	<0.5	<3	4	6.26
8/25/1999	NP		242.91	4.5	24.5	12.21	--	230.70	<50	<0.5	<0.5	<0.5	<0.5	<3	1.29	6.34
10/29/1999	NP		242.91	4.5	24.5	12.37	--	230.54	<50	<0.5	<0.5	<0.5	<1	<3	1.5	5.60
2/16/2000	NP		242.91	4.5	24.5	7.45	--	235.46	<50	<0.5	<0.5	<0.5	<1	<3	2.38	--
6/23/2000	NP		242.91	4.5	24.5	12.31	--	230.60	<50	<0.50	<0.50	<0.50	<0.50	<2.50	2.8	--
8/17/2000	NP		242.91	4.5	24.5	11.92	--	230.99	<50	<0.50	<0.50	<0.50	<0.50	<2.50	2.38	--
8/17/2000	--	f	242.91	4.5	24.5	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.50	--	--
11/10/2000	NP		242.91	4.5	24.5	10.80	--	232.11	<50	<0.50	<0.50	<0.50	<0.50	<2.50	1.55	--
2/12/2001	NP		242.91	4.5	24.5	11.65	--	231.26	<50	<0.50	<0.50	<0.50	<0.50	<2.50	1.12	--
4/13/2001	--	f	242.91	4.5	24.5	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.50	--	--
4/13/2001	NP		242.91	4.5	24.5	8.17	--	234.74	<50	<0.50	<0.50	<0.50	<0.50	<2.50	--	--
7/18/2001	NP		242.91	4.5	24.5	8.51	--	234.40	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
10/1/2001	NP		242.91	4.5	24.5	8.71	--	234.20	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
1/14/2002	NP		242.91	4.5	24.5	7.13	--	235.78	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
1/14/2002	--	f	242.91	4.5	24.5	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
4/3/2002	NP		242.91	4.5	24.5	10.10	--	232.81	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
8/8/2002	NP		242.91	4.5	24.5	12.64	--	230.27	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4	8.1
11/27/2002	NP		242.91	4.5	24.5	12.01	--	230.90	<50	<0.50	<0.50	<0.50	<0.50	4.7	2.5	6.5
2/10/2003	NP		242.91	4.5	24.5	11.22	--	231.69	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.8	6.6
6/3/2003	--		242.91	4.5	24.5	11.54	--	231.37	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.9	6
8/14/2003	--		242.91	4.5	24.5	12.41	--	230.50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	6.3
11/13/2003	--		242.91	4.5	24.5	11.64	--	231.27	--	--	--	--	--	--	--	--
02/13/2004	--		248.62	4.5	24.5	10.28	--	238.34	--	--	--	--	--	--	--	--
05/05/2004	--		248.62	4.5	24.5	12.04	--	236.58	--	--	--	--	--	--	--	--
08/30/2004	NP		248.62	4.5	24.5	12.98	--	235.64	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	5.8
11/08/2004	--		248.62	4.5	24.5	11.29	--	237.33	--	--	--	--	--	--	--	--
02/07/2005	--		248.62	4.5	24.5	10.03	--	238.59	--	--	--	--	--	--	--	--
05/09/2005	--		248.62	4.5	24.5	10.65	--	237.97	--	--	--	--	--	--	--	--

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-4 Cont.</b>																
08/11/2005	NP		248.62	4.5	24.5	12.68	--	235.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.9	6.5
12/02/2005	--		248.62	4.5	24.5	10.35	--	238.27	--	--	--	--	--	--	--	--
02/15/2006	--		248.62	4.5	24.5	8.38	--	240.24	--	--	--	--	--	--	--	--
5/19/2006	--		248.62	4.5	24.5	11.24	--	237.38	--	--	--	--	--	--	--	--
8/25/2006	P		248.62	4.5	24.5	12.28	--	236.34	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.51	5.7
11/2/2006	--		248.62	4.5	24.5	12.64	--	235.98	--	--	--	--	--	--	--	--
2/6/2007	--		248.62	4.5	24.5	10.52	--	238.10	--	--	--	--	--	--	--	--
5/9/2007	--		248.62	4.5	24.5	10.97	--	237.65	--	--	--	--	--	--	--	--
8/8/2007	NP		248.62	4.5	24.5	12.95	--	235.67	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.70	7.11
11/14/2007	--		248.62	4.5	24.5	11.38	--	237.24	--	--	--	--	--	--	--	--
2/28/2008	--		248.62	4.5	24.5	9.01	--	239.61	--	--	--	--	--	--	--	--
5/23/2008	--		248.62	4.5	24.5	11.20	--	237.42	--	--	--	--	--	--	--	--
8/21/2008	NP		248.62	4.5	24.5	12.37	--	236.25	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.39	7.24
11/13/2008	--		248.62	4.5	24.5	12.08	--	236.54	--	--	--	--	--	--	--	--
2/23/2009	--		248.62	4.5	24.5	7.95	--	240.67	--	--	--	--	--	--	--	--
5/14/2009	--		248.62	4.5	24.5	10.77	--	237.85	--	--	--	--	--	--	--	--
9/23/2009	NP		248.62	4.5	24.5	12.65	--	235.97	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.10	7.17
3/4/2010	--		248.62	4.5	24.5	8.89	--	239.73	--	--	--	--	--	--	--	--
<b>8/19/2010</b>	<b>NP</b>		<b>248.62</b>	<b>4.5</b>	<b>24.5</b>	<b>12.08</b>	<b>--</b>	<b>236.54</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;0.50</b>	<b>--</b>	<b>6.63</b>
<b>MW-5</b>																
3/15/1995	--		244.82	5.0	24.5	11.99	--	232.83	21,000	870	22	1,600	1,900	--	--	--
5/30/1995	--		244.82	5.0	24.5	12.97	--	231.85	17,000	2,100	250	1,000	520	--	--	--
9/1/1995	--		244.82	5.0	24.5	14.03	--	230.79	19,000	1,500	25	1,600	880	8,300	--	--
11/13/1995	--		244.82	5.0	24.5	13.65	--	231.17	21,000	1,300	22	1,400	630	--	--	--
2/23/1996	--		244.82	5.0	24.5	11.93	--	232.89	27,000	1,300	<50	1,600	1,500	730	--	--
5/10/1996	--		244.82	5.0	24.5	13.05	--	231.77	17,000	460	21	760	480	1,000	--	--
8/9/1996	--		244.82	5.0	24.5	13.22	--	231.60	16,000	420	14	870	390	1,500	--	--
11/8/1996	--	e	244.82	5.0	24.5	--	--	--	--	--	--	--	--	--	--	--
3/21/1997	--		244.82	5.0	24.5	13.24	--	231.58	18,000	110	<50	730	1,500	1,800	--	--
5/27/1997	--		244.82	5.0	24.5	13.10	--	231.72	21,000	86	<20	810	610	1,700	--	--

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-5 Cont.</b>																
8/5/1997	--		244.82	5.0	24.5	13.14	--	231.68	340	2.2	<0.5	15	8.8	39	--	--
10/29/1997	--		244.82	5.0	24.5	13.03	--	231.79	19,000	130	<20	1,400	620	1,700	--	--
2/25/1998	--		244.82	5.0	24.5	11.33	--	233.49	8,500	19	13	190	100	170	--	--
5/12/1998	--		244.82	5.0	24.5	12.81	--	232.01	10,000	34	<10	390	220	610	--	--
7/28/1998	--		244.82	5.0	24.5	13.12	--	231.70	15,000	68	<10	690	620	1,000	--	--
10/27/1998	--		244.82	5.0	24.5	12.90	--	231.92	15,000	60	<10	770	400	890	--	--
2/8/1999	--		244.82	5.0	24.5	11.08	--	233.74	8,200	23	<10	290	120	<60	--	--
6/1/1999	NP		244.82	5.0	24.5	12.95	--	231.87	11,000	33	3.3	340	180	580	1	6.49
8/25/1999	NP		244.82	5.0	24.5	12.99	--	231.83	9,200	26	14	420	270	1,100	0.37	7.78
10/29/1999	NP		244.82	5.0	24.5	13.10	--	231.72	11,000	19	9.8	260	150	590	1.27	6.2
2/16/2000	NP		244.82	5.0	24.5	8.21	--	236.61	12,000	8.1	10	340	160	130	1.42	--
6/23/2000	NP		244.82	5.0	24.5	12.90	--	231.92	9,680	38	<20.0	212	114	930	1.4	--
8/17/2000	NP		244.82	5.0	24.5	13.00	--	231.82	10,500	15	7.98	223	118	430	0.68	--
11/10/2000	NP		244.82	5.0	24.5	12.50	--	232.32	7,030	19.7	<10.0	190	43.6	445	1.27	--
2/12/2001	NP		244.82	5.0	24.5	12.81	--	232.01	8,840	33.9	<10.0	186	56.4	352	0.4	--
4/13/2001	NP		244.82	5.0	24.5	11.31	--	233.51	9,020	54.2	43.3	137	96	297	--	--
7/18/2001	NP		244.82	5.0	24.5	11.59	--	233.23	13,000	19	10	110	49	230	--	--
10/1/2001	NP		244.82	5.0	24.5	11.84	--	232.98	8,500	6.9	<1.0	87	27	220	--	--
1/14/2002	NP		244.82	5.0	24.5	10.75	--	234.07	9,500	<20	<20	140	22	<200	--	--
4/3/2002	NP	f	244.82	5.0	24.5	--	--	--	2,700	24	5.1	92	8.5	130	--	--
4/3/2002	NP		244.82	5.0	24.5	12.50	--	232.32	2,400	21	<5.0	91	8.5	130	--	--
8/8/2002	NP		244.82	5.0	24.5	12.83	--	231.99	2,000	<20	<20	48	<20	520	0.8	6.9
11/27/2002	NP		244.82	5.0	24.5	12.79	--	232.03	2,200	<10	<10	33	<10	150	0.8	6.4
2/10/2003	NP		244.82	5.0	24.5	12.62	--	232.20	2,600	<2.5	<2.5	47	4.2	100	0.7	6.6
6/3/2003	--		244.82	5.0	24.5	12.41	--	232.41	2,400	<5.0	<5.0	26	<5.0	160	1.8	6.3
8/14/2003	--	e	244.82	5.0	24.5	--	--	--	--	--	--	--	--	--	--	--
11/13/2003	NP		244.82	5.0	24.5	12.49	--	232.33	1,900	<5.0	<5.0	13	<5.0	90	0.9	6.4
02/13/2004	NP		250.55	5.0	24.5	12.38	--	238.17	1,400	1.4	1.9	23	3.6	90	1.1	62.8
05/05/2004	NP		250.55	5.0	24.5	12.68	--	237.87	5,800	<2.5	<2.5	13	<2.5	130	1.1	6.3
08/30/2004	P		250.55	5.0	24.5	12.96	--	237.59	4,100	<2.5	<2.5	<2.5	<2.5	85	--	6.4
11/08/2004	NP		250.55	5.0	24.5	12.10	--	238.45	3,300	14	1.9	17	6.1	69	1.05	6.0

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-5 Cont.</b>																
02/07/2005	NP		250.55	5.0	24.5	12.02	--	238.53	3,500	<1.0	1.1	16	2.6	15	0.95	6.5
05/09/2005	NP	j	250.55	5.0	24.5	11.94	--	238.61	3,400	<1.0	1.7	12	2.2	19	2.2	6.7
08/11/2005	NP		250.55	5.0	24.5	12.77	--	237.78	5,700	<2.5	<2.5	13	<2.5	51	0.7	6.0
12/02/2005	NP		250.55	5.0	24.5	11.83	--	238.72	3,900	<2.5	<2.5	15	8.3	13	1.41	6.9
02/15/2006	NP		250.55	5.0	24.5	10.77	--	239.78	790	<0.50	<0.50	1.2	<0.50	<0.50	1.2	6.9
5/19/2006	NP		250.55	5.0	24.5	12.29	--	238.26	4,100	0.97	1.3	3.9	1.8	15	0.98	6.5
8/25/2006	P		250.55	5.0	24.5	12.62	--	237.93	3,700	<2.5	<2.5	4.0	<2.5	17	1.15	6.2
11/2/2006	P		250.55	5.0	24.5	12.90	--	237.65	5,700	<1.0	1.5	4.3	1.7	18	1.86	6.67
2/6/2007	NP		250.55	5.0	24.5	12.37	--	238.18	4,800	<1.0	<1.0	5.2	1.3	13	0.96	6.99
5/9/2007	NP		250.55	5.0	24.5	12.50	--	238.05	4,400	<1.0	<1.0	4.9	1.5	31	1.42	6.89
8/8/2007	NP		250.55	5.0	24.5	12.88	--	237.67	4,100	<1.0	<1.0	4.1	1.3	11	1.16	6.44
11/14/2007	NP		250.55	5.0	24.5	12.30	--	238.25	4,700	<1.0	<1.0	7.3	1.8	11	1.22	6.77
2/28/2008	NP		250.55	5.0	24.5	11.37	--	239.18	4,100	<2.5	<2.5	<2.5	<2.5	<2.5	1.15	6.67
5/23/2008	NP		250.55	5.0	24.5	11.68	--	238.87	4,700	<0.50	0.87	5.6	1.2	17	1.28	6.57
8/21/2008	NP		250.55	5.0	24.5	12.42	--	238.13	4,700	<0.50	0.60	3.6	1.4	8.7	1.24	6.78
11/13/2008	NP		250.55	5.0	24.5	12.32	--	238.23	7,400	<0.50	0.63	6.3	1.4	5.6	1.18	6.67
2/23/2009	NP	l	250.55	5.0	24.5	10.50	--	240.05	4,100	<0.50	<0.50	1.9	1.1	3.2	1.30	6.17
5/14/2009	NP		250.55	5.0	24.5	12.08	--	238.47	4,200	<0.50	1.0	3.6	1.8	5.4	1.14	6.65
9/23/2009	NP		250.55	5.0	24.5	12.50	--	238.05	4,300	<0.50	0.57	1.6	1.3	3.4	0.89	6.53
3/4/2010	NP		250.55	5.0	24.5	11.19	--	239.36	2,500	<0.50	1.1	3.2	1.5	3.7	--	6.69
<b>8/19/2010</b>	<b>NP</b>		<b>250.55</b>	<b>5.0</b>	<b>24.5</b>	<b>12.52</b>	<b>--</b>	<b>238.03</b>	<b>2,300</b>	<b>&lt;0.50</b>	<b>0.55</b>	<b>1.7</b>	<b>&lt;1.0</b>	<b>&lt;0.50</b>	<b>--</b>	<b>6.39</b>
<b>MW-6</b>																
6/29/1995	--		--	17.0	31.5	6.63	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
9/1/1995	--		--	17.0	31.5	--	--	--	--	--	--	--	--	--	--	--
11/13/1995	--		--	17.0	31.5	7.70	--	--	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/23/1996	--		--	17.0	31.5	9.82	--	--	<50	<0.5	0.8	<0.5	0.6	<3	--	--
5/10/1996	--		--	17.0	31.5	15.25	--	--	--	--	--	--	--	--	--	--
8/9/1996	--		252.20	17.0	31.5	11.11	--	241.09	--	--	--	--	--	--	--	--
11/8/1996	--		252.20	17.0	31.5	9.31	--	242.89	--	--	--	--	--	--	--	--
3/21/1997	--		252.20	17.0	31.5	9.40	--	242.80	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-6 Cont.</b>																
5/27/1997	--		252.20	17.0	31.5	7.08	--	245.12	--	--	--	--	--	--	--	--
8/5/1997	--		252.20	17.0	31.5	7.12	--	245.08	--	--	--	--	--	--	--	--
10/29/1997	--		252.20	17.0	31.5	7.42	--	244.78	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/25/1998	--		252.20	17.0	31.5	10.35	--	241.85	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
5/12/1998	--		252.20	17.0	31.5	15.83	--	236.37	--	--	--	--	--	--	--	--
7/28/1998	--		252.20	17.0	31.5	11.84	--	240.36	--	--	--	--	--	--	--	--
10/27/1998	--		252.20	17.0	31.5	9.73	--	242.47	--	--	--	--	--	--	--	--
2/8/1999	--		252.20	17.0	31.5	8.10	--	244.10	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
6/1/1999	--		252.20	17.0	31.5	17.84	--	234.36	--	--	--	--	--	--	--	--
8/25/1999	--		252.20	17.0	31.5	11.00	--	241.20	--	--	--	--	--	--	0.77	--
10/29/1999	--		252.20	17.0	31.5	9.03	--	243.17	--	--	--	--	--	--	3.42	--
2/16/2000	P		252.20	17.0	31.5	7.71	--	244.49	<50	<0.5	<0.5	<0.5	<1	<3	2.42	--
6/23/2000	--		252.20	17.0	31.5	6.69	--	245.51	--	--	--	--	--	--	2.3	--
8/17/2000	--		252.20	17.0	31.5	6.95	--	245.25	--	--	--	--	--	--	2.51	--
11/10/2000	--		252.20	17.0	31.5	11.79	--	240.41	--	--	--	--	--	--	--	--
2/12/2001	P		252.20	17.0	31.5	7.35	--	244.85	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.66	7.77
2/12/2001	--	f	--	17.0	31.5	--	--	--	--	--	--	--	--	--	--	--
4/13/2001	--		252.20	17.0	31.5	10.52	--	241.68	--	--	--	--	--	--	--	--
7/18/2001	--		252.20	17.0	31.5	11.03	--	241.17	--	--	--	--	--	--	--	--
10/1/2001	--		252.20	17.0	31.5	11.31	--	240.89	--	--	--	--	--	--	--	--
1/14/2002	P		252.20	17.0	31.5	9.87	--	242.33	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
4/3/2002	--		252.20	17.0	31.5	12.19	--	240.01	--	--	--	--	--	--	--	--
8/8/2002	--		252.20	17.0	31.5	7.04	--	245.16	--	--	--	--	--	--	--	--
11/27/2002	--		252.20	17.0	31.5	6.85	--	245.35	--	--	--	--	--	--	--	--
2/10/2003	NP		252.20	17.0	31.5	6.74	--	245.46	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	7.4
6/3/2003	--		252.20	17.0	31.5	14.35	--	237.85	--	--	--	--	--	--	--	--
8/14/2003	--		252.20	17.0	31.5	10.74	--	241.46	--	--	--	--	--	--	--	--
11/13/2003	--		252.20	17.0	31.5	10.68	--	241.52	--	--	--	--	--	--	--	--
02/13/2004	--		257.94	17.0	31.5	7.38	--	250.56	--	--	--	--	--	--	--	--
05/05/2004	--		257.94	17.0	31.5	7.43	--	250.51	--	--	--	--	--	--	--	--
08/30/2004	P		257.94	17.0	31.5	7.39	--	250.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.5	7.0



**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-6 Cont.</b>																
11/08/2004	--		257.94	17.0	31.5	15.57	--	242.37	--	--	--	--	--	--	--	--
02/07/2005	--		257.94	17.0	31.5	15.26	--	242.68	--	--	--	--	--	--	--	--
05/09/2005	--		257.94	17.0	31.5	11.31	--	246.63	--	--	--	--	--	--	--	--
08/11/2005	P		257.94	17.0	31.5	9.80	--	248.14	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.4	7.1
12/02/2005	--		257.94	17.0	31.5	14.55	--	243.39	--	--	--	--	--	--	--	--
02/15/2006	--		257.94	17.0	31.5	10.33	--	247.61	--	--	--	--	--	--	--	--
5/19/2006	--		257.94	17.0	31.5	6.50	--	251.44	--	--	--	--	--	--	--	--
8/25/2006	P		257.94	17.0	31.5	6.75	--	251.19	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.90	6.6
11/2/2006	--		257.94	17.0	31.5	7.15	--	250.79	--	--	--	--	--	--	--	--
2/6/2007	--		257.94	17.0	31.5	6.93	--	251.01	--	--	--	--	--	--	--	--
5/9/2007	--		257.94	17.0	31.5	7.03	--	250.91	--	--	--	--	--	--	--	--
8/8/2007	P		257.94	17.0	31.5	7.01	--	250.93	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.64	7.12
11/14/2007	--		257.94	17.0	31.5	7.25	--	250.69	--	--	--	--	--	--	--	--
2/28/2008	--		257.94	17.0	31.5	6.85	--	251.09	--	--	--	--	--	--	--	--
5/23/2008	--		257.94	17.0	31.5	7.15	--	250.79	--	--	--	--	--	--	--	--
8/21/2008	P		257.94	17.0	31.5	7.17	--	250.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.38	7.27
11/13/2008	--		257.94	17.0	31.5	12.30	--	245.64	--	--	--	--	--	--	--	--
2/23/2009	--		257.94	17.0	31.5	7.61	--	250.33	--	--	--	--	--	--	--	--
5/14/2009	--		257.94	17.0	31.5	7.50	--	250.44	--	--	--	--	--	--	--	--
9/23/2009	P		257.94	17.0	31.5	7.42	--	250.52	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.06	7.74
3/4/2010	--		257.94	17.0	31.5	8.75	--	249.19	--	--	--	--	--	--	--	--
<b>8/19/2010</b>	<b>P</b>		<b>257.94</b>	<b>17.0</b>	<b>31.5</b>	<b>8.75</b>	--	<b>249.19</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;0.50</b>	--	<b>6.97</b>
<b>MW-7</b>																
8/9/1996	--	g	235.95	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--
11/8/1996	--	g	235.95	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--
1/27/1997	--		235.95	8.5	13.5	--	--	--	2,900	29	<5	<5	580	220	--	--
3/21/1997	--		235.95	8.5	13.5	7.13	--	228.82	590	3.5	<0.5	<0.5	1.3	90	--	--
5/27/1997	--		235.95	8.5	13.5	9.02	--	226.93	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
8/5/1997	--		235.95	8.5	13.5	12.33	--	223.62	110	0.5	<0.5	<0.5	0.8	81	--	--
10/29/1997	--	g	235.95	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**

**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-7 Cont.</b>																
2/25/1998	--		235.95	8.5	13.5	8.04	--	227.91	<50	<0.5	0.6	<0.5	0.7	<3	--	--
5/12/1998	--		235.95	8.5	13.5	8.88	--	227.07	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
7/28/1998	--		235.95	8.5	13.5	10.50	--	225.45	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
10/27/1998	--		235.95	8.5	13.5	8.75	--	227.20	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/8/1999	--		235.95	8.5	13.5	9.35	--	226.60	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
6/1/1999	NP		235.95	8.5	13.5	9.85	--	226.10	250	<0.5	0.6	<0.5	1.6	18	1	6.43
8/25/1999	NP		235.95	8.5	13.5	11.31	--	224.64	119	<0.5	5.7	<0.5	<0.5	11	0.41	8.28
10/29/1999	NP		235.95	8.5	13.5	9.08	--	226.87	<50	<0.5	<0.5	<0.5	<1	<3	1.29	5.82
2/25/2000	NP		235.95	8.5	13.5	8.02	--	227.93	<50	<0.5	<0.5	<0.5	<1	38	2.1	--
6/23/2000	NP		235.95	8.5	13.5	10.68	--	225.27	<50	<0.50	<0.50	<0.50	<0.50	14.4	1.6	--
8/17/2000	NP		235.95	8.5	13.5	11.85	--	224.10	70	<0.500	0.678	<0.500	1.07	14.2	1.59	--
11/10/2000	NP		235.95	8.5	13.5	9.62	--	226.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.09	--
2/12/2001	NP		235.95	8.5	13.5	12.10	--	223.85	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.84	--
4/13/2001	P		235.95	8.5	13.5	7.95	--	228.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
7/18/2001	P		235.95	8.5	13.5	8.20	--	227.75	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
10/1/2001	NP		235.95	8.5	13.5	8.59	--	227.36	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
1/14/2002	P		235.95	8.5	13.5	6.93	--	229.02	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
4/3/2002	P		235.95	8.5	13.5	8.31	--	227.64	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
8/8/2002	P	h	235.95	8.5	13.5	12.11	--	223.84	--	--	--	--	--	--	--	--
11/27/2002	NP	h	235.95	8.5	13.5	13.01	--	222.94	--	--	--	--	--	--	--	--
2/10/2003	NP		235.95	8.5	13.5	10.02	--	225.93	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	6.7
6/3/2003	NP		235.95	8.5	13.5	6.82	--	229.13	<50	<0.50	<0.50	<0.50	<0.50	<0.50	8.1	6.8
8/14/2003	P		235.95	8.5	13.5	8.16	--	227.79	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.8	6.7
11/13/2003	--		235.95	8.5	13.5	8.07	--	227.88	--	--	--	--	--	--	--	--
02/13/2004	--		241.64	8.5	13.5	7.62	--	234.02	--	--	--	--	--	--	--	--
05/05/2004	--		241.64	8.5	13.5	11.01	--	230.63	--	--	--	--	--	--	--	--
08/30/2004	--	h	241.64	8.5	13.5	13.27	--	228.37	--	--	--	--	--	--	--	--
11/08/2004	--		241.64	8.5	13.5	13.22	--	228.42	--	--	--	--	--	--	--	--
02/07/2005	--		241.64	8.5	13.5	13.07	--	228.57	--	--	--	--	--	--	--	--
05/09/2005	--		241.64	8.5	13.5	7.57	--	234.07	--	--	--	--	--	--	--	--
08/11/2005	NP		241.64	8.5	13.5	11.55	--	230.09	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.7

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-7 Cont.</b>																
12/02/2005	--		241.64	8.5	13.5	13.12	--	228.52	--	--	--	--	--	--	--	--
02/15/2006	--		241.64	8.5	13.5	7.27	--	234.37	--	--	--	--	--	--	--	--
5/19/2006	--		241.64	8.5	13.5	7.84	--	233.80	--	--	--	--	--	--	--	--
8/25/2006	P		241.64	8.5	13.5	12.19	--	229.45	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.33	6.2
11/2/2006	--		241.64	8.5	13.5	13.15	--	228.49	--	--	--	--	--	--	--	--
2/6/2007	--		241.64	8.5	13.5	11.12	--	230.52	--	--	--	--	--	--	--	--
5/9/2007	--		241.64	8.5	13.5	11.60	--	230.04	--	--	--	--	--	--	--	--
8/8/2007	--	g	241.64	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--
11/14/2007	--	g	241.64	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--
2/28/2008	--		241.64	8.5	13.5	7.70	--	233.94	--	--	--	--	--	--	--	--
5/23/2008	--		241.64	8.5	13.5	5.15	--	236.49	--	--	--	--	--	--	--	--
8/21/2008	--	g	241.64	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--
11/13/2008	--		241.64	8.5	13.5	12.98	--	228.66	--	--	--	--	--	--	--	--
2/23/2009	--		241.64	8.5	13.5	7.03	--	234.61	--	--	--	--	--	--	--	--
5/14/2009	--		241.64	8.5	13.5	11.80	--	229.84	--	--	--	--	--	--	--	--
9/23/2009	--	g	241.64	8.5	13.5	--	--	--	--	--	--	--	--	--	--	--
3/4/2010	--		241.64	8.5	13.5	7.35	--	234.29	--	--	--	--	--	--	--	--
<b>8/19/2010</b>	<b>--</b>	<b>k</b>	<b>241.64</b>	<b>8.5</b>	<b>13.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-8</b>																
8/9/1996	--		240.37	5.5	14.0	9.41	--	230.96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
11/8/1996	--		240.37	5.5	14.0	9.19	--	231.18	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
3/21/1997	--		240.37	5.5	14.0	8.55	--	231.82	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
5/27/1997	--		240.37	5.5	14.0	11.06	--	229.31	91	0.6	<0.5	<0.5	0.6	66	--	--
8/5/1997	--		240.37	5.5	14.0	9.32	--	231.05	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
10/29/1997	--		240.37	5.5	14.0	9.35	--	231.02	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/25/1998	--		240.37	5.5	14.0	7.08	--	233.29	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
5/12/1998	--		240.37	5.5	14.0	8.61	--	231.76	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
7/28/1998	--		240.37	5.5	14.0	9.63	--	230.74	<50	<0.5	<0.5	<0.5	<0.5	4	--	--
10/27/1998	--		240.37	5.5	14.0	9.30	--	231.07	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/8/1999	--		240.37	5.5	14.0	5.56	--	234.81	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-8 Cont.</b>																
6/1/1999	--	e	240.37	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
8/25/1999	--	e	240.37	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
10/29/1999	--	e	240.37	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
2/16/2000	--	e	240.37	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
6/23/2000	NP		240.37	5.5	14.0	9.45	--	230.92	<50	<0.50	<0.50	<0.500	<0.50	<2.5	1.9	--
8/17/2000	NP		240.37	5.5	14.0	6.40	--	233.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.56	--
11/10/2000	--	f	240.37	5.5	14.0	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
11/10/2000	NP		240.37	5.5	14.0	6.25	--	234.12	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.93	--
2/12/2001	NP		240.37	5.5	14.0	8.11	--	232.26	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.65	--
4/13/2001	P		240.37	5.5	14.0	5.19	--	235.18	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
7/18/2001	NP		240.37	5.5	14.0	5.55	--	234.82	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
10/1/2001	NP		240.37	5.5	14.0	6.41	--	233.96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
1/14/2002	P		240.37	5.5	14.0	5.07	--	235.30	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
4/3/2002	P		240.37	5.5	14.0	8.60	--	231.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--
8/8/2002	P		240.37	5.5	14.0	9.58	--	230.79	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.7	7
11/27/2002	P		240.37	5.5	14.0	9.15	--	231.22	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	6.7
2/10/2003	P		240.37	5.5	14.0	8.55	--	231.82	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	6.6
6/3/2003	--		240.37	5.5	14.0	8.72	--	231.65	<50	<0.50	<0.50	<0.50	<0.50	<0.50	9.1	6.3
8/14/2003	--		240.37	5.5	14.0	9.52	--	230.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.5	6.4
11/13/2003	--		240.37	5.5	14.0	9.45	--	230.92	--	--	--	--	--	--	--	--
02/13/2004	--		246.09	5.5	14.0	8.38	--	237.71	--	--	--	--	--	--	--	--
05/05/2004	--		246.09	5.5	14.0	9.30	--	236.79	--	--	--	--	--	--	--	--
08/30/2004	P		246.09	5.5	14.0	9.69	--	236.40	<50	<0.50	<0.50	<0.50	0.75	<0.50	5.1	6.5
11/08/2004	--		246.09	5.5	14.0	8.34	--	237.75	--	--	--	--	--	--	--	--
02/07/2005	--		246.09	5.5	14.0	8.23	--	237.86	--	--	--	--	--	--	--	--
05/09/2005	--		246.09	5.5	14.0	7.07	--	239.02	--	--	--	--	--	--	--	--
08/11/2005	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
12/02/2005	--		246.09	5.5	14.0	8.15	--	237.94	--	--	--	--	--	--	--	--
02/15/2006	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
5/19/2006	--		246.09	5.5	14.0	8.48	--	237.61	--	--	--	--	--	--	--	--
8/25/2006	P		246.09	5.5	14.0	9.45	--	236.64	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.27	6.0

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>MW-8 Cont.</b>																
11/2/2006	--		--	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
2/6/2007	--		246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
5/9/2007	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
8/8/2007	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
11/14/2007	--		246.09	5.5	14.0	8.78	--	237.31	--	--	--	--	--	--	--	--
2/28/2008	--		246.09	5.5	14.0	7.77	--	238.32	--	--	--	--	--	--	--	--
5/23/2008	--		246.09	5.5	14.0	8.30	--	237.79	--	--	--	--	--	--	--	--
8/21/2008	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
11/13/2008	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
2/23/2009	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
5/14/2009	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
9/23/2009	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
3/4/2010	--	e	246.09	5.5	14.0	--	--	--	--	--	--	--	--	--	--	--
<b>8/19/2010</b>	<b>--</b>	<b>e</b>	<b>246.09</b>	<b>5.5</b>	<b>14.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>VW-1</b>																
2/23/1996	--		--	6.0	14.0	5.29	--	--	21,000	490	57	520	1,500	240	--	--
5/10/1996	--		--	6.0	14.0	6.80	--	--	3,700	61	<5	100	50	200	--	--
8/9/1996	--		--	6.0	14.0	7.03	--	--	970	2.7	<2.5	2.7	3.7	180	--	--
11/8/1996	--	e	--	6.0	14.0	--	--	--	--	--	--	--	--	--	--	--
3/21/1997	--		--	6.0	14.0	7.51	--	--	640	<4	<1	1	3	194	--	--
5/27/1997	--		--	6.0	14.0	7.51	--	--	--	--	--	--	--	--	--	--
8/5/1997	--		--	6.0	14.0	7.51	--	--	630	<1	<1	3	2	120	--	--
10/29/1997	--		--	6.0	14.0	7.53	--	--	600	<0.5	<0.5	<0.5	1.6	84	--	--
2/25/1998	--		--	6.0	14.0	6.77	--	--	230	<4	<0.7	1.2	0.5	27	--	--
5/12/1998	--		--	6.0	14.0	7.43	--	--	340	<0.5	0.5	2.3	0.8	29	--	--
7/28/1998	--		--	6.0	14.0	7.00	--	--	240	<0.5	<0.5	<0.5	1.1	54	--	--
10/27/1998	--		--	6.0	14.0	7.52	--	--	230	<0.5	<0.5	<0.5	<0.5	65	--	--
2/8/1999	--	c	--	6.0	14.0	7.05	--	--	<50	<0.5	<0.5	<0.5	<0.5	<3/36	--	--
6/1/1999	NP		--	6.0	14.0	7.55	--	--	180	<0.5	<0.5	<0.5	<0.5	23	1	6.36
8/25/1999	NP		--	6.0	14.0	7.66	--	--	130	<0.5	5.6	<0.5	<0.5	40	0.39	7.5

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>VW-1 Cont.</b>																
10/29/1999	NP		--	6.0	14.0	7.59	--	--	200	1	<0.5	0.6	1.6	36	0.89	5.65
2/16/2000	NP		--	6.0	14.0	7.03	--	--	210	<0.5	0.9	2.2	1.9	11	1.41	--
6/23/2000	NP		--	6.0	14.0	7.71	--	--	175	1.04	<0.500	<0.500	<0.500	14.4	1.9	--
8/17/2000	NP		--	6.0	14.0	7.75	--	--	180	<0.500	<0.500	0.622	0.76	23.7	0.63	--
11/10/2000	NP		--	6.0	14.0	6.83	--	--	157	0.955	<0.500	0.973	<0.500	32.5	1.03	--
2/12/2001	NP		--	6.0	14.0	7.85	--	--	273	0.627	<0.500	<0.500	0.507	9.19	0.47	--
4/13/2001	P		--	6.0	14.0	5.11	--	--	213	<0.500	<0.500	<0.500	<0.500	6.38	--	--
7/18/2001	P		--	6.0	14.0	5.39	--	--	270	<0.50	<0.50	<0.50	<0.50	20	--	--
10/1/2001	NP		--	6.0	14.0	6.50	--	--	200	<0.50	<0.50	<0.50	0.81	14	--	--
1/14/2002	P		--	6.0	14.0	5.04	--	--	110	<0.50	<0.50	<0.50	<0.50	6.4	--	--
4/3/2002	P		--	6.0	14.0	7.51	--	--	91	0.72	<0.50	<0.50	<0.50	12	--	--
8/8/2002	P		--	6.0	14.0	9.58	--	--	<50	<0.50	<0.50	<0.50	<0.50	33	0.6	6.3
11/27/2002	P		--	6.0	14.0	7.42	--	--	52	0.72	0.78	<0.50	<0.50	21	1	6.1
2/10/2003	NP		--	6.0	14.0	7.38	--	--	52	<0.50	<0.50	<0.50	<0.50	11	1.7	6.5
6/3/2003	--		--	6.0	14.0	7.30	--	--	71	<0.50	<0.50	<0.50	<0.50	13	3.3	6.3
8/14/2003	--		--	6.0	14.0	7.59	--	--	<50	<0.50	<0.50	<0.50	<0.50	18	0.3	6.1
11/13/2003	P		--	6.0	14.0	7.43	--	--	<50	<0.50	<0.50	<0.50	<0.50	13	0.6	6.1
02/13/2004	P		253.19	6.0	14.0	7.35	--	245.84	59	<0.50	<0.50	<0.50	0.56	8.0	1.0	6.0
05/05/2004	P		253.19	6.0	14.0	7.30	--	245.89	<50	0.71	<0.50	<0.50	0.60	11	0.1	6.4
08/30/2004	P		253.19	6.0	14.0	8.50	--	244.69	<50	<0.50	<0.50	<0.50	<0.50	24	0.2	6.2
11/08/2004	P		253.19	6.0	14.0	7.22	--	245.97	230	<0.50	<0.50	<0.50	0.75	27	0.65	5.1
02/07/2005	P		253.19	6.0	14.0	7.25	--	245.94	<50	<0.50	<0.50	<0.50	<0.50	5.1	1.57	5.9
05/09/2005	P		253.19	6.0	14.0	7.10	--	246.09	64	<0.50	<0.50	<0.50	<0.50	6.9	3.5	--
08/11/2005	P		253.19	6.0	14.0	7.89	--	245.30	<50	<0.50	<0.50	<0.50	<0.50	10	0.04	6.3
12/02/2005	P		253.19	6.0	14.0	7.32	--	245.87	130	<0.50	<0.50	<0.50	0.57	9.0	1.85	6.6
02/15/2006	P		253.19	6.0	14.0	7.16	--	246.03	<50	<0.50	<0.50	<0.50	<0.50	2.8	0.9	6.2
5/19/2006	P		253.19	6.0	14.0	7.24	--	245.95	<50	0.71	<0.50	0.65	1.4	3.7	0.85	6.2
8/25/2006	P		253.19	6.0	14.0	7.48	--	245.71	50	<0.50	<0.50	<0.50	<0.50	8.3	0.49	6.2
11/2/2006	P		253.19	6.0	14.0	7.77	--	245.42	57	<0.50	<0.50	<0.50	<0.50	11	1.84	6.88
2/6/2007	NP		253.19	6.0	14.0	7.35	--	245.84	64	<0.50	<0.50	<0.50	<0.50	2.3	0.70	6.92
5/9/2007	NP		253.19	6.0	14.0	7.40	--	245.79	<50	<0.50	<0.50	<0.50	<0.50	3.2	1.16	6.72

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									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>VW-1 Cont.</b>																
8/8/2007	NP		253.19	6.0	14.0	7.85	--	245.34	87	<0.50	<0.50	<0.50	<0.50	1.9	1.46	7.07
11/14/2007	NP		253.19	6.0	14.0	7.52	--	245.67	79	<0.50	<0.50	<0.50	<0.50	3.7	1.49	6.47
2/28/2008	NP		253.19	6.0	14.0	7.22	--	245.97	88	<0.50	<0.50	<0.50	<0.50	0.86	1.36	6.51
5/23/2008	NP		253.19	6.0	14.0	7.40	--	245.79	<50	<0.50	<0.50	<0.50	<0.50	0.91	1.05	6.92
8/21/2008	NP		253.19	6.0	14.0	7.52	--	245.67	<50	<0.50	<0.50	<0.50	<0.50	1.4	1.09	6.99
11/13/2008	NP		253.19	6.0	14.0	7.52	--	245.67	<50	<0.50	<0.50	<0.50	<0.50	1.5	1.12	6.80
2/23/2009	NP		253.19	6.0	14.0	6.85	--	246.34	<50	<0.50	<0.50	<0.50	<0.50	0.84	1.11	5.56
5/14/2009	NP		253.19	6.0	14.0	7.35	--	245.84	<50	<0.50	<0.50	<0.50	<0.50	1.5	1.05	6.15
9/23/2009	NP		253.19	6.0	14.0	7.60	--	245.59	<50	<0.50	<0.50	<0.50	<0.50	1.5	0.84	6.71
3/4/2010	NP		253.19	6.0	14.0	7.12	--	246.07	<50	<0.50	<0.50	<0.50	<1.0	0.60	2.86	6.47
<b>8/19/2010</b>	<b>NP</b>		<b>253.19</b>	<b>6.0</b>	<b>14.0</b>	<b>7.61</b>	<b>--</b>	<b>245.58</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>1.3</b>	<b>--</b>	<b>6.78</b>
<b>VW-2</b>																
2/23/1996	--	i	--	--	--	6.92	--	--	--	--	--	--	--	--	--	--
8/8/2002	--	i	--	--	--	10.51	--	--	--	--	--	--	--	--	--	--
<b>VW-3</b>																
8/8/2002	--		--	5.5	14.5	8.85	--	--	<50	<0.50	<0.50	<0.50	<0.50	2.5	0.7	6.1
11/27/2002	--	i	--	5.5	14.5	8.80	--	--	--	--	--	--	--	--	--	--
2/10/2003	--	i	--	5.5	14.5	8.41	--	--	--	--	--	--	--	--	--	--
6/3/2003	--	i	--	5.5	14.5	8.71	--	--	--	--	--	--	--	--	--	--
8/14/2003	--	i	--	5.5	14.5	8.81	--	--	--	--	--	--	--	--	--	--
11/13/2003	--		--	5.5	14.5	8.75	--	--	--	--	--	--	--	--	--	--
02/13/2004	--		252.26	5.5	14.5	8.48	--	243.78	--	--	--	--	--	--	--	--
05/05/2004	--		252.26	5.5	14.5	8.85	--	243.41	--	--	--	--	--	--	--	--
08/30/2004	--		252.26	5.5	14.5	9.07	--	243.19	--	--	--	--	--	--	--	--
11/08/2004	--		252.26	5.5	14.5	8.32	--	243.94	--	--	--	--	--	--	--	--
02/07/2005	--		252.26	5.5	14.5	8.28	--	243.98	--	--	--	--	--	--	--	--
05/09/2005	--		252.26	5.5	14.5	8.44	--	243.82	--	--	--	--	--	--	--	--
08/11/2005	--		252.26	5.5	14.5	8.96	--	243.30	--	--	--	--	--	--	--	--
12/02/2005	--		252.26	5.5	14.5	8.26	--	244.00	--	--	--	--	--	--	--	--

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									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>VW-3 Cont.</b>																
02/15/2006	--		252.26	5.5	14.5	7.61	--	244.65	--	--	--	--	--	--	--	--
5/19/2006	--		252.26	5.5	14.5	8.83	--	243.43	--	--	--	--	--	--	--	--
8/25/2006	--		252.26	5.5	14.5	8.95	--	243.31	--	--	--	--	--	--	--	--
11/2/2006	--		252.26	5.5	14.5	9.08	--	243.18	--	--	--	--	--	--	--	--
2/6/2007	--		252.26	5.5	14.5	8.61	--	243.65	--	--	--	--	--	--	--	--
5/9/2007	--		252.26	5.5	14.5	8.79	--	243.47	--	--	--	--	--	--	--	--
8/8/2007	--		252.26	5.5	14.5	9.10	--	243.16	--	--	--	--	--	--	--	--
11/14/2007	--		252.26	5.5	14.5	8.52	--	243.74	--	--	--	--	--	--	--	--
2/28/2008	--		252.26	5.5	14.5	8.27	--	243.99	--	--	--	--	--	--	--	--
5/23/2008	--		252.26	5.5	14.5	8.95	--	243.31	--	--	--	--	--	--	--	--
8/21/2008	--		252.26	5.5	14.5	9.06	--	243.20	--	--	--	--	--	--	--	--
11/13/2008	--		252.26	5.5	14.5	8.80	--	243.46	--	--	--	--	--	--	--	--
2/23/2009	--		252.26	5.5	14.5	6.60	--	245.66	--	--	--	--	--	--	--	--
5/14/2009	--		252.26	5.5	14.5	8.70	--	243.56	--	--	--	--	--	--	--	--
9/23/2009	NP		252.26	5.5	14.5	9.08	--	243.18	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.84	6.80
3/4/2010	--		252.26	5.5	14.5	7.31	--	244.95	--	--	--	--	--	--	--	--
<b>8/19/2010</b>	<b>NP</b>		<b>252.26</b>	<b>5.5</b>	<b>14.5</b>	<b>9.03</b>	--	<b>243.23</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;0.50</b>	--	<b>6.66</b>
<b>VW-4</b>																
5/10/1996	--		--	5.5	14.5	8.58	--	--	13,000	2,500	41	420	660	43,000	--	--
8/9/1996	--		--	5.5	14.5	11.70	--	--	<50	<0.5	<0.5	<0.5	<0.5	6,200	--	--
11/8/1996	--		--	5.5	14.5	9.38	--	--	7,800	510	7	180	370	21,000	--	--
3/21/1997	--		--	5.5	14.5	9.11	--	--	10,000	290	10	270	230	8,900	--	--
5/27/1997	--		--	5.5	14.5	9.34	--	--	--	--	--	--	--	--	--	--
8/5/1997	--		--	5.5	14.5	9.47	--	--	<10,000	180	<100	<100	110	12,000	--	--
10/29/1997	--		--	5.5	14.5	9.35	--	--	9,800	200	69	260	360	4,900	--	--
2/25/1998	--		--	5.5	14.5	7.08	--	--	<50	2.5	<0.5	<0.5	0.7	<3	--	--
5/12/1998	--		--	5.5	14.5	9.17	--	--	3,200	<20	22	29	52	2,100	--	--
7/28/1998	--		--	5.5	14.5	9.55	--	--	<10,000	<100	<100	<100	<100	5,100	--	--
10/27/1998	--		--	5.5	14.5	9.92	--	--	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
2/8/1999	--	c	--	5.5	14.5	7.50	--	--	<2,500	<25	<25	28	<25	2,400/3,100	--	--



**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>VW-4 Cont.</b>																
6/1/1999	NP		--	5.5	14.5	9.87	--	--	2,100	2.5	1.1	2.5	15	3,300	2	6.69
8/25/1999	NP		--	5.5	14.5	9.78	--	--	1,300	4.4	4.9	1.7	2.9	4,600	0.36	7.94
10/29/1999	NP		--	5.5	14.5	9.93	--	--	1,400	<0.5	1.8	1.6	3	4,200	1.18	6.64
2/16/2000	NP		--	5.5	14.5	7.45	--	--	1,800	<0.5	2.9	15	10	3,400	1.01	--
6/23/2000	--	f	--	5.5	14.5	--	--	--	1,260	<2.00	<2.00	<2.00	2.73	2,720	--	--
6/23/2000	NP		--	5.5	14.5	9.74	--	--	1,360	<2.00	2.26	<2.00	2.25	4,900	1.5	--
8/17/2000	NP		--	5.5	14.5	9.95	--	--	2,230	<10.0	<10.0	<10.0	<10.0	5,310	1.13	--
11/10/2000	NP		--	5.5	14.5	9.22	--	--	1,390	18.5	<5.00	<5.00	<5.00	8,840	1.25	--
2/12/2001	NP		--	5.5	14.5	8.99	--	--	1,400	9.42	<2.00	17.8	16.1	3,570	0.91	--
4/13/2001	NP		--	5.5	14.5	7.80	--	--	556	3.82	<1.25	<1.25	<1.25	2,450	--	--
7/18/2001	--	f	--	5.5	14.5	--	--	--	2,000	8.7	2.2	<2.0	<2.0	3,400	--	--
7/18/2001	NP		--	5.5	14.5	7.73	--	--	2,100	9.2	<2.0	<2.0	<2.0	3,700	--	--
10/1/2001	--	f	--	5.5	14.5	--	--	--	1,800	<10	<10	<10	<10	5,800	--	--
10/1/2001	NP		--	5.5	14.5	6.69	--	--	2,000	<10	<10	<10	13	5,900	--	--
1/14/2002	P		--	5.5	14.5	5.93	--	--	580	<2.0	<2.0	<2.0	<2.0	2,700	--	--
4/3/2002	NP		--	5.5	14.5	9.60	--	--	1,400	5.2	16	<5.0	9.6	2,200	--	--
8/8/2002	--	i	--	5.5	14.5	10.01	--	--	--	--	--	--	--	--	--	--
11/27/2002	P		--	5.5	14.5	10.30	--	--	<10,000	<100	<100	<100	<100	3,800	1.7	6.7
2/10/2003	NP		--	5.5	14.5	10.06	--	--	<5,000	<50	<50	<50	<50	2,500	1	6.8
6/3/2003	--		--	5.5	14.5	10.04	--	--	<1,000	<10	<10	<10	<10	440	1.9	6.6
8/14/2003	--		--	5.5	14.5	9.66	--	--	<500	<5.0	<5.0	<5.0	<5.0	170	0.8	6.7
11/13/2003	P		--	5.5	14.5	10.01	--	--	<500	<5.0	<5.0	<5.0	<5.0	130	1.7	6.4
02/13/2004	P		252.69	5.5	14.5	9.34	--	243.35	330	<2.5	<2.5	<2.5	3.0	210	2.0	6.6
05/05/2004	P		252.69	5.5	14.5	10.07	--	242.62	130	<1.0	<1.0	<1.0	<1.0	66	1.2	6.8
08/30/2004	P		252.69	5.5	14.5	10.32	--	242.37	<500	<5.0	<5.0	<5.0	<5.0	220	1.1	6.6
11/08/2004	P		252.69	5.5	14.5	9.35	--	243.34	480	<2.5	<2.5	<2.5	<2.5	140	1.1	6.0
02/07/2005	P		252.69	5.5	14.5	9.22	--	243.47	180	<0.50	<0.50	<0.50	<0.50	47	1.83	6.5
05/09/2005	P		252.69	5.5	14.5	9.78	--	242.91	120	0.63	<0.50	<0.50	<0.50	37	--	--
08/11/2005	P		252.69	5.5	14.5	10.11	--	242.58	74	<0.50	<0.50	<0.50	<0.50	15	0.7	6.7
12/02/2005	P		252.69	5.5	14.5	9.59	--	243.10	160	<1.0	<1.0	<1.0	<1.0	28	0.75	6.9
02/15/2006	P		252.69	5.5	14.5	8.56	--	244.13	64	<0.50	<0.50	<0.50	<0.50	11	0.9	6.9

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses  
Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
<b>VW-4 Cont.</b>																
5/19/2006	P		252.69	5.5	14.5	9.95	--	242.74	150	<0.50	<0.50	<0.50	1.2	16	0.76	6.7
8/25/2006	P		252.69	5.5	14.5	10.03	--	242.66	140	<0.50	<0.50	<0.50	<0.50	17	1.14	6.7
11/2/2006	P		252.69	5.5	14.5	10.13	--	242.56	120	<0.50	<0.50	<0.50	<0.50	20	1.76	6.49
2/6/2007	NP		252.69	5.5	14.5	9.57	--	243.12	<50	<0.50	<0.50	<0.50	<0.50	1.6	0.98	6.89
5/9/2007	NP		252.69	5.5	14.5	9.75	--	242.94	110	<0.50	<0.50	<0.50	<0.50	21	0.76	6.94
8/8/2007	NP		252.69	5.5	14.5	10.13	--	242.56	140	<0.50	<0.50	<0.50	<0.50	5.4	0.88	6.81
11/14/2007	NP		252.69	5.5	14.5	9.81	--	242.88	150	<0.50	<0.50	<0.50	<0.50	6.4	1.17	6.67
2/28/2008	NP		252.69	5.5	14.5	9.00	--	243.69	<50	<0.50	<0.50	<0.50	<0.50	8.4	0.92	6.55
5/23/2008	NP		252.69	5.5	14.5	9.73	--	242.96	68	<1.0	<1.0	<1.0	<1.0	6.4	1.40	6.92
8/21/2008	NP		252.69	5.5	14.5	10.04	--	242.65	74	<2.5	<2.5	<2.5	<2.5	3.2	1.29	6.89
11/13/2008	NP		252.69	5.5	14.5	9.95	--	242.74	89	<2.0	<2.0	<2.0	<2.0	2.7	1.23	6.93
2/23/2009	NP	1	252.69	5.5	14.5	7.35	--	245.34	290	0.97	<0.50	<0.50	<0.50	27	1.27	5.66
5/14/2009	NP		252.69	5.5	14.5	9.60	--	243.09	<50	0.54	<0.50	<0.50	<0.50	10	1.08	7.3
9/23/2009	NP		252.69	5.5	14.5	10.04	--	242.65	81	<0.50	<0.50	<0.50	<0.50	<0.50	1.29	6.56
3/4/2010	NP		252.69	5.5	14.5	8.05	--	244.64	110	1.2	<0.50	<0.50	<1.0	9.7	0.75	6.91
<b>8/19/2010</b>	<b>NP</b>		<b>252.69</b>	<b>5.5</b>	<b>14.5</b>	<b>9.93</b>	<b>--</b>	<b>242.76</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>6.3</b>	<b>--</b>	<b>6.72</b>

SYMBOLS AND ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available  
< = Not detected at or above laboratory reporting limit  
BTEX = Benzene, toluene, ethylbenzene and xylenes  
DO = Dissolved oxygen  
DTW = Depth to water in ft bgs  
ft bgs = feet below ground surface  
GRO = Gasoline range organics  
GWE = Groundwater elevation measured in ft  
mg/L = Milligrams per liter  
MTBE = Methyl tert butyl ether  
NP = Well not purged prior to sampling  
P = Well purged prior to sampling  
TOC = Top of casing measured in ft  
TPH-g = Total petroleum hydrocarbons as gasoline  
µg/L = Micrograms per liter

FOOTNOTES:

a = SPH detected and GWE corrected: Corrected elevation (Z') = Z + (h \* 0.73) where: Z: measured elevation, h: floating product thickness, 0.73: density ratio of oil to water.  
b = MTBE analyzed by EPA method 8240.  
c = MTBE, sample also analyzed for fuel oxygenates.  
d = Well was decommissioned on 2/12/1996.  
e = Well inaccessible.  
f = Duplicate  
g = Well was dry.  
h = Insufficient water to sample.  
i = Well is not part of the sampling program and therefore was not sampled.  
j = Sheen in well.  
k = Could not locate well.  
l = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

NOTES:

Wells surveyed to NAVD'88 datum on 1/27/2004.

Beginning on the first quarter 2003 sampling event (2/10/2003), TPH-g, BTEX and MTBE analyzed by EPA method 8260. Prior to 2/10/2003, BTEX by EPA method 8021B from 10/29/99 to 2/10/03, and 8020 prior to 10/29/99.

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12.

Values for DO and pH were obtained through field measurements.

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 2. Summary of Fuel Additives Analytical Data**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-3</b>									
2/10/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
08/30/2004	<100	<20	0.72	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	
8/25/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/21/2008	<300	<10	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	
9/23/2009	<300	<10	6.3	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>&lt;4.0</b>	<b>5.8</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>MW-4</b>									
2/10/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
6/3/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
8/14/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/30/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/25/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/21/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/23/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>&lt;4.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>MW-5</b>									
2/10/2003	<200	<100	100	<0.50	<0.50	<0.50	--	--	
6/3/2003	<1,000	<200	160	<5.0	<5.0	<5.0	--	--	
11/13/2003	<1,000	<200	90	<5.0	<5.0	<5.0	--	--	
02/13/2004	<200	41	90	<1.0	<1.0	<1.0	<1.0	<1.0	
05/05/2004	<500	<100	130	<2.5	<2.5	<2.5	<2.5	<2.5	
08/30/2004	<500	100	85	<2.5	<2.5	<2.5	<2.5	<2.5	
11/08/2004	<200	43	69	<1.0	<1.0	<1.0	<1.0	<1.0	
02/07/2005	<200	<40	15	<1.0	<1.0	<1.0	<1.0	<1.0	
05/09/2005	<200	<40	19	<1.0	<1.0	<1.0	<1.0	<1.0	a
08/11/2005	<500	<100	51	<2.5	<2.5	<2.5	<2.5	<2.5	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-5 Cont.</b>									
12/02/2005	<500	<100	13	<2.5	<2.5	<2.5	<2.5	<2.5	
02/15/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
5/19/2006	<300	25	15	<0.50	<0.50	<0.50	<0.50	<0.50	a, c
8/25/2006	<1,500	<100	17	<2.5	<2.5	<2.5	<2.5	<2.5	
11/2/2006	<600	70	18	<1.0	<1.0	<1.0	<1.0	<1.0	a
2/6/2007	<600	45	13	<1.0	<1.0	<1.0	<1.0	<1.0	
5/9/2007	<600	69	31	<1.0	<1.0	<1.0	<1.0	<1.0	
8/8/2007	<600	<40	11	<1.0	<1.0	<1.0	<1.0	<1.0	
11/14/2007	<600	46	11	<1.0	<1.0	<1.0	<1.0	<1.0	
2/28/2008	<1,500	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
5/23/2008	<300	52	17	<0.50	<0.50	<0.50	<0.50	<0.50	
8/21/2008	<300	40	8.7	<0.50	<0.50	<0.50	<0.50	<0.50	
11/13/2008	<300	27	5.6	<0.50	<0.50	<0.50	<0.50	<0.50	
2/23/2009	<300	14	3.2	<0.50	<0.50	<0.50	<0.50	0.61	
5/14/2009	<300	31	5.4	<0.50	<0.50	<0.50	<0.50	<0.50	
9/23/2009	<300	13	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	
3/4/2010	<100	16	3.7	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>18</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>MW-6</b>									
2/10/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
08/30/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/25/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/21/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/23/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>&lt;4.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>MW-7</b>									
2/10/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
6/3/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-7 Cont.</b>									
8/14/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/25/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW-8</b>									
2/10/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
6/3/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
8/14/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/30/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
02/15/2006	--	--	--	--	--	--	--	--	Well inaccessible
8/25/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>VW-1</b>									
2/10/2003	<40	<20	11	<0.50	<0.50	<0.50	--	--	
6/3/2003	<100	<20	13	<0.50	<0.50	<0.50	--	--	
8/14/2003	<100	<20	18	<0.50	<0.50	<0.50	<0.50	<0.50	
11/13/2003	<100	<20	13	<0.50	<0.50	<0.50	--	--	
02/13/2004	<100	<20	8.0	<0.50	<0.50	<0.50	<0.50	<0.50	
05/05/2004	<100	<20	11	<0.50	<0.50	<0.50	<0.50	<0.50	
08/30/2004	<100	<20	24	<0.50	<0.50	<0.50	<0.50	<0.50	
11/08/2004	<100	<20	27	<0.50	<0.50	<0.50	<0.50	<0.50	
02/07/2005	<100	<20	5.1	<0.50	<0.50	<0.50	<0.50	<0.50	
05/09/2005	<100	<20	6.9	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	10	<0.50	<0.50	<0.50	<0.50	<0.50	
12/02/2005	<100	<20	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	a
02/15/2006	<300	<20	2.8	<0.50	<0.50	<0.50	<0.50	<0.50	
5/19/2006	<300	<20	3.7	<0.50	<0.50	<0.50	<0.50	<0.50	a, c
8/25/2006	<300	<20	8.3	<0.50	<0.50	<0.50	<0.50	<0.50	
11/2/2006	<300	<20	11	<0.50	<0.50	<0.50	<0.50	<0.50	a
2/6/2007	<300	<20	2.3	<0.50	<0.50	<0.50	<0.50	<0.50	
5/9/2007	<300	<20	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>VW-1 Cont.</b>									
11/14/2007	<300	<20	3.7	<0.50	<0.50	<0.50	<0.50	<0.50	
2/28/2008	<300	<10	0.86	<0.50	<0.50	<0.50	<0.50	<0.50	
5/23/2008	<300	<10	0.91	<0.50	<0.50	<0.50	<0.50	<0.50	
8/21/2008	<300	<10	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	
11/13/2008	<300	<10	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	
2/23/2009	<300	<10	0.84	<0.50	<0.50	<0.50	<0.50	<0.50	
5/14/2009	<300	<10	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	
9/23/2009	<300	<10	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	
3/4/2010	<50	<4.0	0.60	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>&lt;4.0</b>	<b>1.3</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>VW-3</b>									
9/23/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>&lt;4.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>VW-4</b>									
2/10/2003	<4,000	<2,000	2500	<0.50	<0.50	<0.50	--	--	
6/3/2003	<2,000	4,100	440	<10	<10	<10	--	--	
8/14/2003	<1,000	3,200	170	<5.0	<5.0	<5.0	<5.0	<5.0	
11/13/2003	<1,000	3,300	130	<5.0	<5.0	<5.0	--	--	
02/13/2004	<500	1,300	210	<2.5	<2.5	<2.5	<2.5	<2.5	
05/05/2004	<200	1,500	66	<1.0	1.3	<1.0	<1.0	<1.0	
08/30/2004	<1,000	5,400	220	<5.0	5.4	<5.0	<5.0	<5.0	
11/08/2004	<500	2,700	140	<2.5	<2.5	<2.5	<2.5	<2.5	
02/07/2005	<100	1,000	47	<0.50	0.89	<0.50	<0.50	<0.50	
05/09/2005	<100	1,200	37	<0.50	0.92	<0.50	<0.50	<0.50	
08/11/2005	<100	2,000	15	<0.50	1.8	<0.50	<0.50	<0.50	b
12/02/2005	<200	2,400	28	<1.0	2.2	<1.0	<1.0	<1.0	
02/15/2006	<300	230	11	<0.50	<0.50	<0.50	<0.50	<0.50	
5/19/2006	<300	580	16	<0.50	<0.50	<0.50	<0.50	<0.50	a
8/25/2006	<300	1,900	17	<0.50	1.9	<0.50	<0.50	<0.50	
11/2/2006	<300	2,400	20	<0.50	2.3	<0.50	<0.50	<0.50	a

**Table 2. Summary of Fuel Additives Analytical Data**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>VW-4 Cont.</b>									
2/6/2007	<300	<20	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	
5/9/2007	<300	410	21	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	1,300	5.4	<0.50	1.2	<0.50	<0.50	<0.50	
11/14/2007	<300	1,700	6.4	<0.50	1.7	<0.50	<0.50	<0.50	
2/28/2008	<300	59	8.4	<0.50	<0.50	<0.50	<0.50	<0.50	
5/23/2008	<600	280	6.4	<1.0	<1.0	<1.0	<1.0	<1.0	
8/21/2008	<1,500	720	3.2	<2.5	<2.5	<2.5	<2.5	<2.5	
11/13/2008	<1,200	940	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	
2/23/2009	<300	99	27	<0.50	<0.50	<0.50	<0.50	<0.50	
5/14/2009	<300	100	10	<0.50	<0.50	<0.50	<0.50	<0.50	
9/23/2009	<300	61	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/4/2010	<100	45	9.7	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>8/19/2010</b>	<b>&lt;100</b>	<b>150</b>	<b>6.3</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	



SYMBOLS AND ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available

< = Not detected at or above the laboratory reporting limit

1,2-DCA = 1,2-Dichloroethane

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert-butyl ether

MTBE = Methyl tert-butyl ether

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

µg/L = Micrograms per Liter

FOOTNOTES:

a = Calibration verification for ethanol was within the method limits but outside the contract limits.

b = The initial analysis for TBA was within holding time but required dilution.

NOTES:

All volatile organic compounds analyzed using EPA Method 8260B.

The data within this table collected prior to August 2002 was provided to URS by RM and their previous consultants. URS has not verified the accuracy of this information.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 3. Historical Ground-Water Flow Direction and Gradient**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
3/15/1995	West-Southwest	0.08
5/30/1995	West-Southwest	0.08
9/1/1995	West-Southwest	0.09
11/13/1995	West-Southwest	0.08
2/23/1996	West-Southwest	0.08
5/10/1996	West-Southwest	0.08
8/9/1996	Southwest	0.08
11/8/1996	Southwest	0.06
3/21/1997	West-Southwest	0.05
5/27/1997	West-Southwest	0.07
8/5/1997	West	0.08
10/29/1997	West-Southwest	0.04
2/25/1998	West-Southwest	0.05
5/12/1998	West	0.07
7/28/1998	West	0.07
10/27/1998	West-Southwest	0.06
2/8/1999	West-Southwest	0.07
6/1/1999	West-Northwest	0.07
8/25/1999	West-Southwest	0.07
10/29/1999	West	0.07
2/16/2000	Southwest	0.05
6/23/2000	West	0.04
8/17/2000	West	0.09
11/10/2000	West-Southwest	0.08
2/12/2001	West-Southwest	0.07
4/13/2001	West	0.09
7/18/2001	West	0.08
10/1/2001	West-Southwest	0.08
1/14/2002	West-Southwest	0.07
4/3/2002	West-Southwest	0.08
8/8/2002	West-Southwest	0.09
11/27/2002	West-Southwest	0.08
2/10/2003	Southwest	0.06
6/3/2003	West	0.07
8/14/2003	West-Southwest	0.07
11/13/2003	West-Southwest	0.07
2/13/2004	Southwest	0.05
5/4/2004	Southwest	0.06
8/30/2004	Southwest	0.07
11/8/2004	Southwest	0.10
2/7/2005	Southwest	0.1
5/9/2005	Southwest	0.07

**Table 3. Historical Ground-Water Flow Direction and Gradient**  
**Former ARCO Service Station #6002, 6235 Seminary Ave., Oakland, CA**

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
8/11/2005	West	0.07
12/2/2005	Southwest	0.10
2/15/2006	Southwest	0.07
4/28/2006	West	0.07
8/25/2006	West	0.07
11/2/2006	West	0.09
2/6/2007	West	0.05
5/9/2007	West	0.05
8/8/2007	West	0.05
11/14/2007	West	0.06
2/28/2008	West-Southwest	0.06
5/23/2008	West-Southwest	0.06
8/21/2008	West-Southwest	0.07
11/13/2008	West	0.08
2/23/2009	West	0.05
5/14/2009	West-Southwest	0.06
9/23/2009	West	0.06
3/4/2010	West-Southwest	0.05
<b>8/19/2010</b>	<b>West</b>	<b>0.06</b>

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**APPENDIX A**

**BAI GROUND-WATER SAMPLING DATA**

(Includes Field Data Sheets, Non-Hazardous Waste Data Form, Laboratory Report,  
Chain-of-Custody Documentation, and Field Procedures)

DATE: 8/19/10  
PERSONNEL: EF  
WEATHER: Overst

PROJECT NO.: BP 6002  
COMMENTS:

Well ID	Time	MEASURING POINT	DTW (FT)	PRODUCT THICKNESS	COMMENTS:						WELL HEAD CONDITION: VAULT, BOLTS, CAP, LOCK, ETC		
					pH	Cond. (X100)	Temp. (C/F)	DO (mg/l)	Redox (mV)	Iron (mg/l)		Alk. (mg/l)	
MW 3	0925		8.62										
MW 4	1050		12.08										
MWS	1107		12.52										
MW 6	0758		8.75										
MW 7													Unable to locate - Overgrown
MW 8													Gate locked
VW 1	1741		7.61										
VW 3	1036		11.03										
VW 4	1033		9.93										



**Groundwater Sampling Data Sheet**

Well I.D.: MW-3  
 Project Name/Location: BPGC02 Project #: 09-88-634  
 Sampler's Name: CF Date: 8/19/10  
 Purging Equipment: F  
 Sampling Equipment: Bow

Casing Type: PVC

Casing Diameter: \_\_\_\_\_ inch

Total Well Depth: \_\_\_\_\_ feet

Depth to Water: - 8.02 feet

Water Column Thickness: = \_\_\_\_\_ feet

Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot

Casing Water Volume: = \_\_\_\_\_ gallons

Casing Volume: x 3 each

Estimated Purge Volume: = \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.

3" = 0.37 gal/lin ft.

4" = 0.65 gal/lin ft.

6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>0930</u>		<u>76</u>		<u>594.9</u>	<u>69.4</u>	<u>7.11</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: \_\_\_\_\_ gallons

Depth to Water at Sample Collection: \_\_\_\_\_ feet

Sample Collection Time: 0930 Purged Dry? ( Y / N )

Comments: NPQS

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**Groundwater Sampling Data Sheet**

Well I.D.: VW-1  
 Project Name/Location: BP 6002 Project #: 09-88-634  
 Sampler's Name: ER Date: 5/17/10  
 Purging Equipment: -  
 Sampling Equipment: B.V.

Casing Type: PVC  
 Casing Diameter: 4 inch  
 Total Well Depth: \_\_\_\_\_ feet  
 Depth to Water: - 7.61 feet  
 Water Column Thickness: = \_\_\_\_\_ feet  
 Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot  
 Casing Water Volume: = \_\_\_\_\_ gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**  
 2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>C</u>	<u>0945</u>		<u>75</u>		<u>599.0</u>	<u>71.6</u>	<u>6.78</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: \_\_\_\_\_ gallons

Depth to Water at Sample Collection: \_\_\_\_\_ feet

Sample Collection Time: 0945

Purged Dry? (Y/N) (N)

Comments: NP  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Groundwater Sampling Data Sheet**

 Well I.D.: MW-6  
 Project Name/Location: BP 6002 Project #: 09-88-634  
 Sampler's Name: EF Date: 8/19/10  
 Purging Equipment: Baird  
 Sampling Equipment: Baird

 Casing Type: PVC  
 Casing Diameter: 2 inch  
 Total Well Depth: 31.90 feet  
 Depth to Water: - 8.75 feet  
 Water Column Thickness: = 23.15 feet  
 Unit Casing Volume\*: x 0.16 gallon / foot  
 Casing Water Volume: = 3.70 gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = 11.1 gallons

**\*UNIT CASING VOLUMES**

 2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	1004		-16		428.6	71.9	6.90	
2.5	1007	X	X	X	417.8	71.5	6.96	
3.5	1009	X	X	X	415.8	69.8	6.77	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

 Total Water Volume Purged: 3.5 gallons

 Depth to Water at Sample Collection: - feet

 Sample Collection Time: 1015

 Purged Dry? (Y/N) Y

 Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**Groundwater Sampling Data Sheet**

Well I.D.: VW-4  
 Project Name/Location: B70002 Project #: 09-88-634  
 Sampler's Name: GP Date: 8/19/00  
 Purging Equipment: ✓  
 Sampling Equipment: B7W

Casing Type: PVC

Casing Diameter: \_\_\_\_\_ inch

**\*UNIT CASING VOLUMES**

Total Well Depth: \_\_\_\_\_ feet

2" = 0.16 gal/lin ft.

Depth to Water: - 9.93 feet

3" = 0.37 gal/lin ft.

Water Column Thickness: = \_\_\_\_\_ feet

4" = 0.65 gal/lin ft.

Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot

6" = 1.47 gal/lin ft.

Casing Water Volume: = \_\_\_\_\_ gallons

Casing Volume: x 3 each

Estimated Purge Volume: = \_\_\_\_\_ gallons

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>C</u>	<u>1027</u>		<u>28</u>		<u>575.8</u>	<u>69.7</u>	<u>6.12</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: ✓ gallons

Depth to Water at Sample Collection: ✓ feet

Sample Collection Time: 1027

Purged Dry? (Y/N) (N)

Comments: N/A S.S

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**Groundwater Sampling Data Sheet**

Well I.D.: VW-3  
 Project Name/Location: BP 6002 Project #: 09-88-634  
 Sampler's Name: EP Date: 8/19/10  
 Purging Equipment: -  
 Sampling Equipment: 6" PVC

Casing Type: PVC

Casing Diameter: \_\_\_\_\_ inch

**\*UNIT CASING VOLUMES**

Total Well Depth: \_\_\_\_\_ feet

2" = 0.16 gal/lin ft.

Depth to Water: - 9.02 feet

3" = 0.37 gal/lin ft.

Water Column Thickness: = \_\_\_\_\_ feet

4" = 0.65 gal/lin ft.

Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot

6" = 1.47 gal/lin ft.

Casing Water Volume: = \_\_\_\_\_ gallons

Casing Volume: x 3 each

Estimated Purge Volume: = \_\_\_\_\_ gallons

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>1040</u>		<u>-51</u>		<u>369.1</u>	<u>73.4</u>	<u>6.66</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: \_\_\_\_\_ gallons

Depth to Water at Sample Collection: \_\_\_\_\_ feet

Sample Collection Time: 1040

Purged Dry? (Y/N) (N)

Comments: NP

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**Groundwater Sampling Data Sheet**

Well I.D.: ML-4  
 Project Name/Location: BF 0002 Project #: 09-88-634  
 Sampler's Name: ED Date: 8/19/10  
 Purging Equipment: \_\_\_\_\_  
 Sampling Equipment: boiw  
 Casing Type: PVC

Casing Diameter: \_\_\_\_\_ inch  
 Total Well Depth: \_\_\_\_\_ feet  
 Depth to Water: - 12.08 feet  
 Water Column Thickness: = \_\_\_\_\_ feet  
 Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot  
 Casing Water Volume: = \_\_\_\_\_ gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>1055</u>		<u>-16</u>		<u>351.4</u>	<u>72.7</u>	<u>6.63</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: \_\_\_\_\_ gallons

Depth to Water at Sample Collection: \_\_\_\_\_ feet

Sample Collection Time: 1055

Purged Dry? (Y/N) (N)

Comments: NP  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**Groundwater Sampling Data Sheet**

Well I.D.: MW-5  
 Project Name/Location: BP 6002 Project #: 09.88.634  
 Sampler's Name: GP Date: 8/19/10  
 Purging Equipment: \_\_\_\_\_  
 Sampling Equipment: Briv

Casing Type: PVC

Casing Diameter: \_\_\_\_\_ inch

**\*UNIT CASING VOLUMES**

Total Well Depth: \_\_\_\_\_ feet

2" = 0.16 gal/lin ft.

Depth to Water: - 1252 feet

3" = 0.37 gal/lin ft.

Water Column Thickness: = \_\_\_\_\_ feet

4" = 0.65 gal/lin ft.

Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot

6" = 1.47 gal/lin ft.

Casing Water Volume: = \_\_\_\_\_ gallons

Casing Volume: x 3 each

Estimated Purge Volume: = \_\_\_\_\_ gallons

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>✓</u>	<u>1112</u>		<u>29</u>		<u>679.4</u>	<u>67.8</u>	<u>6.39</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: — gallons

Depth to Water at Sample Collection: — feet

Sample Collection Time: 1112

Purged Dry? ( Y / N )

Comments: MP  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NO.683386

NON-HAZARDOUS WASTE DATA FORM

BESI #

GENERATOR

Generator's Name and Mailing Address: BP WEST COAST PRODUCTS, LLC, P.O. BOX 80249, RANCHO SANTA MARGARITA, CA 92698. Generator's Site Address (if different than mailing address): 08002, 6235 SEMINARY AVE, OAKLAND, CA 94605.

Generator's Phone: 949-460-5200. 24-HOUR EMERGENCY PHONE: 800-424-9300.

Container type removed from site: [X] Vacuum Truck, [ ] Drums, [ ] Roll-off Truck, [ ] Dump Truck. Container type transported to receiving facility: [ ] Drums, [ ] Vacuum Truck, [ ] Roll-off Truck, [ ] Dump Truck.

Quantity: \_\_\_\_\_ Volume: \_\_\_\_\_

WASTE DESCRIPTION: NON-HAZARDOUS WATER. GENERATING PROCESS: WELL PURGING / DECON WATER.

Table with 2 columns: COMPONENTS OF WASTE, PPM, %. Row 1: WATER, 99-100%. Row 2: TPH, <1%.

Waste Profile: \_\_\_\_\_ PROPERTIES: pH 7-10, [ ] SOLID, [X] LIQUID, [ ] SLUDGE, [ ] SLURRY, [ ] OTHER.

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.

Generator Printed/Typed Name: Emily Leamer. Signature: [Signature]. Month: 3, Day: 1, Year: 10.

The Generator certifies that the waste as described is 100% non-hazardous

TRANSPORTER

Transporter 1 Company Name: BAI. Phone#: 707-455-7298.

Transporter 1 Printed/Typed Name: Eric Farr. Signature: [Signature]. Month: 9, Day: 3, Year: 10.

Transporter Acknowledgment of Receipt of Materials. Transporter 2 Company Name: \_\_\_\_\_ Phone#: \_\_\_\_\_

Transporter 2 Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_ Year: \_\_\_\_\_

Transporter Acknowledgment of Receipt of Materials

RECEIVING FACILITY

Designated Facility Name and Site Address: INSTRAT, INC., 1105 AIRPORT RD., RIO VISTA, CA 94571. Phone#: 530-753-1829.

Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_ Year: \_\_\_\_\_

Designated Facility Owner or Operator: Certification of receipt of materials covered by this data form.

## ANALYTICAL REPORT

Job Number: 720-30019-1

Job Description: BP #6002, Oakland

For:

ARCADIS U.S., Inc.  
155 Montgomery Street  
Suite 1500  
San Francisco, CA 94104  
Attention: Hollis Phillips



Approved for release.  
Dimple Sharma  
Project Manager I  
8/25/2010 5:22 PM

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Dimple Sharma  
Project Manager I  
dimple.sharma@testamericainc.com  
08/25/2010

cc: Mr. Jason Duda  
Mr. Ben McKenna

CA ELAP Certification # 2496

The Chain(s) of Custody are included and are an integral part of this report.

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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

**TestAmerica Laboratories, Inc.**

TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566

Tel (925) 484-1919 Fax (925) 600-3002 [www.testamericainc.com](http://www.testamericainc.com)

**Job Narrative**  
**720-30019-1**

**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**GC/MS VOA**

No analytical or quality issues were noted.

## EXECUTIVE SUMMARY - Detections

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

Lab Sample ID	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
<b>720-30019-1</b>	<b>MW-3 (8/19/10)</b>				
MTBE		5.8	0.50	ug/L	8260B/CA_LUFTMS
<b>720-30019-3</b>	<b>MW-5 (8/19/10)</b>				
Ethylbenzene		1.7	0.50	ug/L	8260B/CA_LUFTMS
Toluene		0.55	0.50	ug/L	8260B/CA_LUFTMS
Gasoline Range Organics (GRO)-C6-C12		2300	50	ug/L	8260B/CA_LUFTMS
TBA		18	4.0	ug/L	8260B/CA_LUFTMS
<b>720-30019-5</b>	<b>VW-1 (8/19/10)</b>				
MTBE		1.3	0.50	ug/L	8260B/CA_LUFTMS
<b>720-30019-7</b>	<b>VW-4 (8/19/10)</b>				
MTBE		6.3	0.50	ug/L	8260B/CA_LUFTMS
TBA		150	4.0	ug/L	8260B/CA_LUFTMS



## METHOD SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix</b> <b>Water</b>			
8260B / CA LUFT MS	TAL SF	SW846 8260B/CA_LUFTMS	
Purge and Trap	TAL SF		SW846 5030B

### Lab References:

TAL SF = TestAmerica San Francisco

### Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## SAMPLE SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
720-30019-1	MW-3 (8/19/10)	Water	08/19/2010 0930	08/19/2010 1233
720-30019-2	MW-4 (8/19/10)	Water	08/19/2010 1055	08/19/2010 1233
720-30019-3	MW-5 (8/19/10)	Water	08/19/2010 1112	08/19/2010 1233
720-30019-4	MW-6 (8/19/10)	Water	08/19/2010 1015	08/19/2010 1233
720-30019-5	VW-1 (8/19/10)	Water	08/19/2010 0405	08/19/2010 1233
720-30019-6	VW-3 (8/19/10)	Water	08/19/2010 1040	08/19/2010 1233
720-30019-7	VW-4 (8/19/10)	Water	08/19/2010 1027	08/19/2010 1233

Analytical Data

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

Client Sample ID: MW-3 (8/19/10)

Lab Sample ID: 720-30019-1

Date Sampled: 08/19/2010 0930

Client Matrix: Water

Date Received: 08/19/2010 1233

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8260B/CA\_LUFTMS 8260B / CA LUFT MS

Method: 8260B/CA\_LUFTMS      Analysis Batch: 720-76747      Instrument ID: HP4  
Preparation: 5030B      Lab File ID: 082010033.D  
Dilution: 1.0      Initial Weight/Volume: 10 mL  
Date Analyzed: 08/21/2010 0145      Final Weight/Volume: 10 mL  
Date Prepared: 08/21/2010 0145

Analyte	Result (ug/L)	Qualifier	RL
MTBE	5.8		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	100		67 - 130
1,2-Dichloroethane-d4 (Surr)	103		67 - 130
Toluene-d8 (Surr)	101		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Client Sample ID: MW-4 (8/19/10)**

Lab Sample ID: 720-30019-2

Date Sampled: 08/19/2010 1055

Client Matrix: Water

Date Received: 08/19/2010 1233

**8260B/CA\_LUFTMS 8260B / CA LUFT MS**

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-76747	Instrument ID:	HP4
Preparation:	5030B		Lab File ID:	082010034.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	08/21/2010 0217		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2010 0217			

Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	100		67 - 130
1,2-Dichloroethane-d4 (Surr)	106		67 - 130
Toluene-d8 (Surr)	102		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Client Sample ID: MW-5 (8/19/10)**

Lab Sample ID: 720-30019-3

Date Sampled: 08/19/2010 1112

Client Matrix: Water

Date Received: 08/19/2010 1233

**8260B/CA\_LUFTMS 8260B / CA LUFT MS**

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-76747	Instrument ID:	HP4
Preparation:	5030B		Lab File ID:	082010044.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	08/21/2010 0735		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2010 0735			

Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	1.7		0.50
Toluene	0.55		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	2300		50
TBA	18		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	129		67 - 130
1,2-Dichloroethane-d4 (Surr)	110		67 - 130
Toluene-d8 (Surr)	105		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Client Sample ID: MW-6 (8/19/10)**

Lab Sample ID: 720-30019-4

Date Sampled: 08/19/2010 1015

Client Matrix: Water

Date Received: 08/19/2010 1233

**8260B/CA\_LUFTMS 8260B / CA LUFT MS**

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-76747	Instrument ID:	HP4
Preparation:	5030B		Lab File ID:	082010035.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	08/21/2010 0248		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2010 0248			

Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	95		67 - 130
1,2-Dichloroethane-d4 (Surr)	102		67 - 130
Toluene-d8 (Surr)	95		70 - 130

Analytical Data

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

Client Sample ID: VW-1 (8/19/10)

Lab Sample ID: 720-30019-5

Date Sampled: 08/19/2010 0405

Client Matrix: Water

Date Received: 08/19/2010 1233

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8260B/CA\_LUFTMS 8260B / CA LUFT MS

Method: 8260B/CA\_LUFTMS      Analysis Batch: 720-76747      Instrument ID: HP4  
Preparation: 5030B      Lab File ID: 082010036.D  
Dilution: 1.0      Initial Weight/Volume: 10 mL  
Date Analyzed: 08/21/2010 0320      Final Weight/Volume: 10 mL  
Date Prepared: 08/21/2010 0320

Analyte	Result (ug/L)	Qualifier	RL
MTBE	1.3		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	100		67 - 130
1,2-Dichloroethane-d4 (Surr)	108		67 - 130
Toluene-d8 (Surr)	101		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Client Sample ID:** VW-3 (8/19/10)

Lab Sample ID: 720-30019-6

Date Sampled: 08/19/2010 1040

Client Matrix: Water

Date Received: 08/19/2010 1233

**8260B/CA\_LUFTMS 8260B / CA LUFT MS**

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-76747	Instrument ID:	HP4
Preparation:	5030B		Lab File ID:	082010037.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	08/21/2010 0352		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2010 0352			

Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	111		67 - 130
Toluene-d8 (Surr)	101		70 - 130



**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Client Sample ID:** VW-4 (8/19/10)

Lab Sample ID: 720-30019-7

Date Sampled: 08/19/2010 1027

Client Matrix: Water

Date Received: 08/19/2010 1233

**8260B/CA\_LUFTMS 8260B / CA LUFT MS**

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-76747	Instrument ID:	HP4
Preparation:	5030B		Lab File ID:	082010030.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	08/21/2010 0009		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2010 0009			

Analyte	Result (ug/L)	Qualifier	RL
MTBE	6.3		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	150		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	109		67 - 130
1,2-Dichloroethane-d4 (Surr)	110		67 - 130
Toluene-d8 (Surr)	107		70 - 130

## DATA REPORTING QUALIFIERS

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC/MS VOA	F	RPD of the MS and MSD exceeds the control limits

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report		Method	Prep Batch
		Basis	Client Matrix		
<b>GC/MS VOA</b>					
<b>Analysis Batch:720-76747</b>					
LCS 720-76747/5	Lab Control Sample	T	Water	8260B/CA_LUFT	
LCS 720-76747/7	Lab Control Sample	T	Water	8260B/CA_LUFT	
LCSD 720-76747/6	Lab Control Sample Duplicate	T	Water	8260B/CA_LUFT	
LCSD 720-76747/8	Lab Control Sample Duplicate	T	Water	8260B/CA_LUFT	
MB 720-76747/4	Method Blank	T	Water	8260B/CA_LUFT	
720-30019-1	MW-3 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-2	MW-4 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-3	MW-5 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-4	MW-6 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-5	VW-1 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-6	VW-3 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-7	VW-4 (8/19/10)	T	Water	8260B/CA_LUFT	
720-30019-7MS	Matrix Spike	T	Water	8260B/CA_LUFT	
720-30019-7MSD	Matrix Spike Duplicate	T	Water	8260B/CA_LUFT	

#### Report Basis

T = Total

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Method Blank - Batch: 720-76747**

**Method: 8260B/CA\_LUFTMS  
Preparation: 5030B**

Lab Sample ID: MB 720-76747/4  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 08/20/2010 2130  
 Date Prepared: 08/20/2010 2130

Analysis Batch: 720-76747  
 Prep Batch: N/A  
 Units: ug/L

Instrument ID: HP4  
 Lab File ID: 082010025.D  
 Initial Weight/Volume: 10 mL  
 Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
m-Xylene & p-Xylene	ND		1.0
o-Xylene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	102	67 - 130	
1,2-Dichloroethane-d4 (Surr)	109	67 - 130	
Toluene-d8 (Surr)	104	70 - 130	

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 720-76747**

**Method: 8260B/CA\_LUFTMS  
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-76747/5  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/20/2010 2202  
Date Prepared: 08/20/2010 2202

Analysis Batch: 720-76747  
Prep Batch: N/A  
Units: ug/L

Instrument ID: HP4  
Lab File ID: 082010026.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-76747/6  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/20/2010 2233  
Date Prepared: 08/20/2010 2233

Analysis Batch: 720-76747  
Prep Batch: N/A  
Units: ug/L

Instrument ID: HP4  
Lab File ID: 082010027.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
MTBE	89	90	62 - 130	1	20		
Benzene	96	96	82 - 127	0	20		
EDB	101	101	70 - 130	1	20		
1,2-DCA	96	96	70 - 126	0	20		
Ethylbenzene	95	95	86 - 135	0	20		
Toluene	95	95	83 - 129	0	20		
m-Xylene & p-Xylene	95	95	70 - 142	0	20		
o-Xylene	98	97	89 - 136	1	20		
TBA	100	101	82 - 116	1	20		
Ethanol	110	117	31 - 216	6	20		
DIPE	94	94	74 - 155	0	20		
TAME	94	94	79 - 129	1	20		
Ethyl t-butyl ether	91	90	70 - 130	1	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	105		102		67 - 130		
1,2-Dichloroethane-d4 (Surr)	107		104		67 - 130		
Toluene-d8 (Surr)	108		106		70 - 130		

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 720-76747**

**Method: 8260B/CA\_LUFTMS  
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-76747/7  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/20/2010 2305  
Date Prepared: 08/20/2010 2305

Analysis Batch: 720-76747  
Prep Batch: N/A  
Units: ug/L

Instrument ID: HP4  
Lab File ID: 082010028.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-76747/8  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/20/2010 2337  
Date Prepared: 08/20/2010 2337

Analysis Batch: 720-76747  
Prep Batch: N/A  
Units: ug/L

Instrument ID: HP4  
Lab File ID: 082010029.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Gasoline Range Organics (GRO)-C6-C12	82	82	58 - 106	1	20		
Surrogate	LCS % Rec		LCSD % Rec	Acceptance Limits			
4-Bromofluorobenzene	104		102	67 - 130			
1,2-Dichloroethane-d4 (Surr)	108		103	67 - 130			
Toluene-d8 (Surr)	105		105	70 - 130			

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 720-76747**

**Method: 8260B/CA\_LUFTMS  
Preparation: 5030B**

MS Lab Sample ID: 720-30019-7  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/21/2010 0041  
Date Prepared: 08/21/2010 0041

Analysis Batch: 720-76747  
Prep Batch: N/A

Instrument ID: HP4  
Lab File ID: 082010031.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 720-30019-7  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/21/2010 0113  
Date Prepared: 08/21/2010 0113

Analysis Batch: 720-76747  
Prep Batch: N/A

Instrument ID: HP4  
Lab File ID: 082010032.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
MTBE	90	96	60 - 138	6	20		
Benzene	93	96	60 - 140	3	20		
EDB	100	105	60 - 140	5	20		
1,2-DCA	93	96	60 - 140	4	20		
Ethylbenzene	91	93	60 - 140	2	20		
Toluene	90	91	60 - 140	1	20		
m-Xylene & p-Xylene	91	93	60 - 140	2	20		
o-Xylene	94	96	60 - 140	2	20		
TBA	103	107	60 - 140	3	20		
Ethanol	110	72	60 - 140	42	20		F
DIPE	93	96	60 - 140	4	20		
TAME	92	97	60 - 140	5	20		
Ethyl t-butyl ether	89	94	60 - 140	5	20		
Surrogate		MS % Rec	MSD % Rec		Acceptance Limits		
4-Bromofluorobenzene		99	104		67 - 130		
1,2-Dichloroethane-d4 (Surr)		98	105		67 - 130		
Toluene-d8 (Surr)		101	108		70 - 130		

San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

phone 925.484.1919 fax 925.600.3002

# 770-30019

## Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

126355  
TestAmerica Laboratories, Inc.

<b>Client Contact</b>	<b>Project Manager: Jason Duda</b>	<b>Site Contact:</b>	<b>Date:</b>	<b>COC No:</b>
Broadbent & Associates	Tel/Fax: (530) 566-1400/ (530) 566-1401	Lab Contact: Dimple Sharma	Carrier:	_____ of _____ COCs
1324 Mangrove Ave Suite 212	<b>Analysis Turnaround Time</b>			Job No.
Chico, CA 95926	Calendar (C) or Work Days (W) _____			SDG No.
(530) 566-1400	TAT if different from Below _____			
(530) 566-1401	<input checked="" type="checkbox"/> 2 weeks			
Project Name: BP 6002	<input type="checkbox"/> 1 week			
Site: 6235 Seminary Avenue, Oakland, CA	<input type="checkbox"/> 2 days			Sample Specific Notes:
P O # GP09BPNA.C108	<input type="checkbox"/> 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	GRO by 8260B	BTEX by 8260B	5 Olys by 8260	I,2 DCA, EDB, and Ethanol by 8260B	Sample Specific Notes:
MW-3 C 8/19/10	8/19/10	0930	Grab	AQ	3	X	X	X	X		
MW-4 C 8/19/10		1055			3	X	X	X	X		
MW-5 C 8/19/10		1112			3	X	X	X	X		
MW-6 C 8/19/10		1015			3	X	X	X	X		
<del>MW-7 C 8/19/10</del>						X	X	X	X		not collected
<del>MW-8 C 8/19/10</del>						X	X	X	X		not collected
VW-1 C 8/18/10		0945			3	X	X	X	X		
VW-3 C 8/19/10		1040			3	X	X	X	X		
VW-4 C 8/19/10		1027			3	X	X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other \_\_\_\_\_

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month )  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements & Comments:

5.82

Relinquished by:	Company: BAI	Date/Time: 8/19/10 1230	Received by: Jason Duda	Company: TestAmerica	Date/Time: 8/19/10 1233
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:



## Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 720-30019-1

**Login Number: 30019**

**List Source: TestAmerica San Francisco**

**Creator: Mullen, Joan**

**List Number: 1**

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

## BROADBENT & ASSOCIATES INC. FIELD PROCEDURES

### A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

Field protocols have been implemented to enhance the accuracy and reliability of data collection, ground-water sample collection, transportation and laboratory analysis. Discussion of these protocols is provided below.

#### A.1.1 Water Level & Free-Product Measurement

Prior to ground-water sample collection from each monitoring well, the presence of separate-phase hydrocarbons (SPH or free product, FP) and depth to ground water shall be measured. Depth to ground water will be measured with a standard water level indicator that has been decontaminated prior to its use in accordance with procedures discussed below. Depth to groundwater will be gauged from a saw cut notch at the top of the well casing on each well head. Where FP is suspected, the initial gauging will be done with an oil-water interface probe. Once depth to water has been measured, the first retrieval of a new disposable bailer will be scrutinized for the presence of SPH/FP.

#### A.1.2 Monitoring Well Purging

Subsequent to measuring depth to ground water and prior to the collection of ground-water samples, purging of standing water within the monitoring well will be performed if called for. Consistent with the American Society for Testing and Materials (ASTM) Standard D6452-99, Section 7.1, the well will be purged of approximately three wetted-casing volumes of water, or until the well is dewatered, or until monitored field parameters indicate stabilization. The well will be purged using a pre-cleaned disposable bailer or submersible pump and disposable plastic tubing dedicated to each individual well. The well will be purged at a low flow rate to minimize the possibility of purging the well dry. So that the sample collected is representative of formation water, several field parameters will be monitored during the purging process. The sample will not be collected until these parameters (i.e. temperature, pH, and conductivity) have stabilized to within 10% of the previously measured value. If a well is purged dry, the sample should not be collected until the well has recovered to a minimum 50% of its initial volume.

#### A.1.3 Ground-Water Sample Collection

Once the wells are satisfactorily purged, water samples will be collected from each well. Water samples for organic analyses will be collected using a pre-cleaned, new, disposable bailer and transferred into the appropriate, new, laboratory-prepared containers such that no head space or air bubbles are present in the sample container (if appropriate to the analysis). The samples will be properly labeled (i.e. sample identification, sampler initials, date/time of collection, site location, requested analyses), placed in an ice chest with bagged ice or ice substitute, and delivered to the contracted analytical laboratory.

#### A.1.4 Surface Water Sample Collection

Unless specified otherwise, surface water samples will be collected from mid-depth in the central area of the associated surface water body. Water samples will be collected into appropriate, new, laboratory-prepared containers by dipping the container into the surface water unless the container has a preservative present. If a sample preservative is present, a new, cleaned non-preserved surrogate container will be used to obtain the sample which will then be directly transferred into a new, laboratory-provided, preserved container. Samples will be properly labeled and transported as described above.

#### A.1.5 Decontamination Protocol

Prior to use in each well, re-usable ground-water sampling equipment (e.g., water level indicator, oil-interface probe, purge pump, etc.) will be decontaminated. Decontamination protocol will include thoroughly cleaning with a solution of Liquinox, rinsing with clean water, and final rinsing with control water (potable water of known quality, distilled, or de-ionized water). Pre-cleaned new disposable bailers and disposable plastic tubing will be dedicated to each individual well.

#### A.1.6 Chain of Custody Procedures

Sample identification documents will be carefully prepared so identification and chain of custody can be maintained and sample disposition can be controlled. The sample identification documents include Chain-of-Custody (COC) records and Daily Field Report forms. Chain of custody procedures are outlined below.

##### Field Custody Procedures

The field sampler is individually responsible for the care and custody of the samples collected until they are properly transferred.

Samples will have unique labels. The information on these labels will correspond to the COC which shows the identification of individual samples and the contents of the shipping container. The original COC will accompany the shipment and a copy will be retained by the field sampler.

##### Transfer of Custody and Shipment

A COC will accompany samples during transfer and shipment. When transferring samples, the individual relinquishing and the individual receiving the samples will each sign, date, and note the time on the COC. This documents the sample custody transfer.

Samples will be packaged properly for shipment and dispatched to the appropriate laboratory for analysis, with a separate COC accompanying each shipment. Shipments will be accompanied by the original COC. Samples will be delivered by BAI personnel to the laboratory, or shipped by responsible courier. When a shipping courier is utilized, the sample shipment number will be identified on the COC.

#### A.1.7 Field Records

In addition to sample identification numbers and COC records, Daily Field Report records will be maintained by field staff to provide daily records of significant events, observations, and measurements during field investigations. These documents will contain observed information such as: the personnel present, site conditions, sampling procedures, measurement procedures, calibration records, equipment used, supplies used, etc. Field measurements will be recorded on the appropriate forms. Entries on the data forms will be signed and dated. The data forms will be kept as permanent file records.

**APPENDIX B**

**GEOTRACKER UPLOAD CONFIRMATION RECEIPTS**

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STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A GEO\_WELL FILE

**SUCCESS**

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<b><u>Submittal Type:</u></b>	GEO_WELL
<b><u>Submittal Title:</u></b>	3Q10 GEO_WELL 6002
<b><u>Facility Global ID:</u></b>	T0600100105
<b><u>Facility Name:</u></b>	ARCO #6002
<b><u>File Name:</u></b>	GEO_WELL.zip
<b><u>Organization Name:</u></b>	Broadbent & Associates, Inc.
<b><u>Username:</u></b>	BROADBENT-C
<b><u>IP Address:</u></b>	67.118.40.90
<b><u>Submittal Date/Time:</u></b>	9/23/2010 4:24:10 PM
<b><u>Confirmation Number:</u></b>	<b>8815957605</b>

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STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A EDF FILE

## SUCCESS

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<b><u>Submittal Type:</u></b>	EDF - Monitoring Report - Semi-Annually
<b><u>Submittal Title:</u></b>	3Q10 GW Monitoring
<b><u>Facility Global ID:</u></b>	T0600100105
<b><u>Facility Name:</u></b>	ARCO #6002
<b><u>File Name:</u></b>	720-30019-1.zip
<b><u>Organization Name:</u></b>	Broadbent & Associates, Inc.
<b><u>Username:</u></b>	BROADBENT-C
<b><u>IP Address:</u></b>	67.118.40.90
<b><u>Submittal Date/Time:</u></b>	9/23/2010 4:25:18 PM
<b><u>Confirmation Number:</u></b>	<b>5694330871</b>

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