



Atlantic Richfield Company
(a BP affiliated company)

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9:30 am, May 01, 2008

Alameda County
Environmental Health



P.O. Box 1257
San Ramon, CA 94583
Phone: (925) 275-3801
Fax: (925) 275-3815

10 April 2008

Re: First Quarter 2008 Ground-Water Monitoring Report
Former Atlantic Richfield Company Station #6002
6235 Seminary Avenue
Oakland, California
ACEH Case #RO0000163

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

Submitted by:

Paul Supple
Environmental Business Manager

Prepared for

Mr. Paul Supple
Environmental Business Manager
Atlantic Richfield Company
P.O. Box 1257
San Ramon, California 94583

Prepared by



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

10 April 2008

Project No. 06-08-634

First Quarter 2008 Ground-Water Monitoring Report
Former Atlantic Richfield Company Station #6002
6235 Seminary Avenue
Oakland, California

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



10 April 2008

Project No. 06-08-634

Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583
Submitted via ENFOS

Attn.: Mr. Paul Supple

Re: First Quarter 2008 Ground-Water Monitoring Report, Former Atlantic Richfield Company (a BP affiliated company) Station #6002, 6235 Seminary Avenue, Oakland, Alameda County, California; ACEH Case #RO0000163

Dear Mr. Supple:

Attached is the *First Quarter 2008 Ground-Water Monitoring Report* for Former Atlantic Richfield Company Station #6002 located at 6235 Seminary Avenue, Oakland, California (Site). This report presents a summary of results from ground-water monitoring and sampling conducted at the Site during the First Quarter of 2008.

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

Sincerely,

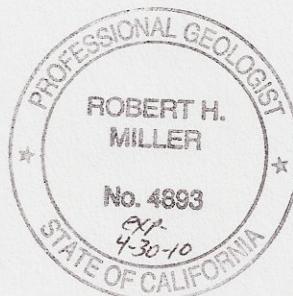
BROADBENT & ASSOCIATES, INC.

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

Thomas A. Venus, P.E.
Senior Engineer

A handwritten signature in blue ink that reads "Robert H. Miller".

Robert H. Miller, P.G., C.HG.
Principal Hydrogeologist



Enclosures

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

STATION # 6002 QUARTERLY GROUND-WATER MONITORING REPORT

Facility: <u>#6002</u>	Address: <u>6235 Seminary Avenue, Oakland</u>
Environmental Business Manager:	<u>Mr. Paul Supple</u>
Consulting Co./Contact Persons:	<u>Broadbent & Associates, Inc.(BAI)/Rob Miller & Tom Venus</u> <u>(530) 566-1400</u>
Consultant Project No.:	<u>06-08-634</u>
Primary Agency/Regulatory ID No.:	<u>Alameda County Environmental Health (ACEH)</u> <u>ACEH Case #RO0000163</u>
Facility Permits/Permitting Agency:	<u>NA</u>

WORK PERFORMED THIS QUARTER (First Quarter 2008):

1. Prepared and submitted the Fourth Quarter 2007 Ground-Water Monitoring Report.
2. Conducted ground-water monitoring/sampling for First Quarter 2008. Work performed by Stratus Environmental, Inc. (Stratus) on 28 February 2008.

WORK PROPOSED FOR NEXT QUARTER (Second Quarter 2008):

1. Prepared and submitted First Quarter 2008 Ground-Water Monitoring Report (contained herein).
2. Conduct ground-water monitoring/sampling for Second Quarter 2008.

QUARTERLY RESULTS SUMMARY:

Current phase of project:	Ground-Water Monitoring/Sampling
Frequency of ground-water monitoring:	Quarterly: Wells MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, VW-1, VW-3, VW-4
Frequency of ground-water sampling:	Quarterly: Wells MW-5, VW-1, VW-4 Annually (3Q): Wells MW-3, MW-4, MW-6, MW-7, MW-8
Is free product (FP) present on-site:	No
Bulk Soil removed to Date:	Approximately 370 cubic yards of TPH-impacted soil
Current remediation techniques:	NA
Depth to ground water (below TOC):	6.85 ft (MW-6) to 11.37 ft (MW-5)
General ground-water flow direction:	West-Southwest
Approximate hydraulic gradient:	0.06 ft/ft

DISCUSSION:

First quarter 2008 ground-water monitoring and sampling was conducted at Former Atlantic Richfield Company Service Station #6002 on 28 February 2008 by Stratus personnel. Water levels were gauged in the nine wells associated with Station #6002. No significant irregularities were noted during water level gauging. Depth to water measurements ranged from 6.85 ft at well MW-6 to 11.37 ft. at well MW-5. Resulting ground-water surface elevations ranged from 251.09 ft above mean sea level (msl) in up-gradient well MW-6 to 233.94 ft above msl at well MW-7. Water level elevations were within the historic minimum and maximum ranges, as summarized in Table 1. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the west-southwest at approximately 0.06 ft/ft, generally consistent with the historical data (see Table 3). Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to water and respective ground-water elevations are summarized in Table 1. Potentiometric ground-water elevation contours are presented in Drawing 1.

Consistent with the current ground-water sampling schedule, water samples were collected from wells MW-5, VW-1, and VW-4. No irregularities were noted during sampling. Samples were submitted under chain-of-custody protocol to Calscience Environmental Laboratories, Inc. (Garden Grove, California) for analysis of Gasoline Range Organics (GRO, C6-C12) by EPA Method 8015B; Benzene,

Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8260B; and tert-Amyl methyl ether (TAME), tert-Butyl alcohol (TBA), Di-isopropyl ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Ethanol, Ethyl tert-butyl ether (ETBE), and Methyl tert-butyl ether (MTBE) by EPA Method 8260B. No significant irregularities were noted during analysis of the samples by the laboratory. Ground-water sampling field data sheets and the laboratory analytical report, including chain-of-custody documentation, are provided in Appendix A.

Gasoline Range Organics were detected above the laboratory reporting limit in two of the three wells sampled this quarter at concentrations up to 4,100 micrograms per liter ($\mu\text{g}/\text{L}$) in MW-5. TBA was detected above the laboratory reporting limit in one of the three wells sampled at a concentration of 59 $\mu\text{g}/\text{L}$ in well VW-4. MTBE was detected above the laboratory reporting limit in two of the three wells sampled at concentrations up to 8.4 $\mu\text{g}/\text{L}$ in VW-4. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in the three wells sampled this quarter.

Detected analyte concentrations were within the historic minimum and maximum ranges recorded for each well with the following exception: the MTBE concentration reached a historic minimum value of 0.86 $\mu\text{g}/\text{L}$ in well VW-1. Historic laboratory analytical results are summarized in Table 1 and Table 2. The most recent GRO, Benzene, and MTBE concentrations are also presented in Drawing 1. A copy of the laboratory analytical report, including chain-of-custody documentation, is provided in Appendix A. Ground-water monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation pages are provided in Appendix B.

CLOSURE:

The findings presented in this report are based upon: observations of Stratus field personnel (see Appendix A), the points investigated, and results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, 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 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. Ground-Water Elevation Contours and Analytical Summary Map, 28 February 2008, Former ARCO Service Station #6002, 6235 Seminary Avenue, Oakland, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #6002, 6235 Seminary Ave., Oakland, California
- Table 2. Summary of Fuel Additives Analytical Data, Station #6002, 6235 Seminary Ave., Oakland, California
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #6002, 6235 Seminary Avenue, Oakland, California
- Appendix A. Stratus Ground-Water Sampling Data Package (Includes Field Data Sheets, Laboratory Analytical Report with Chain-of-Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmation

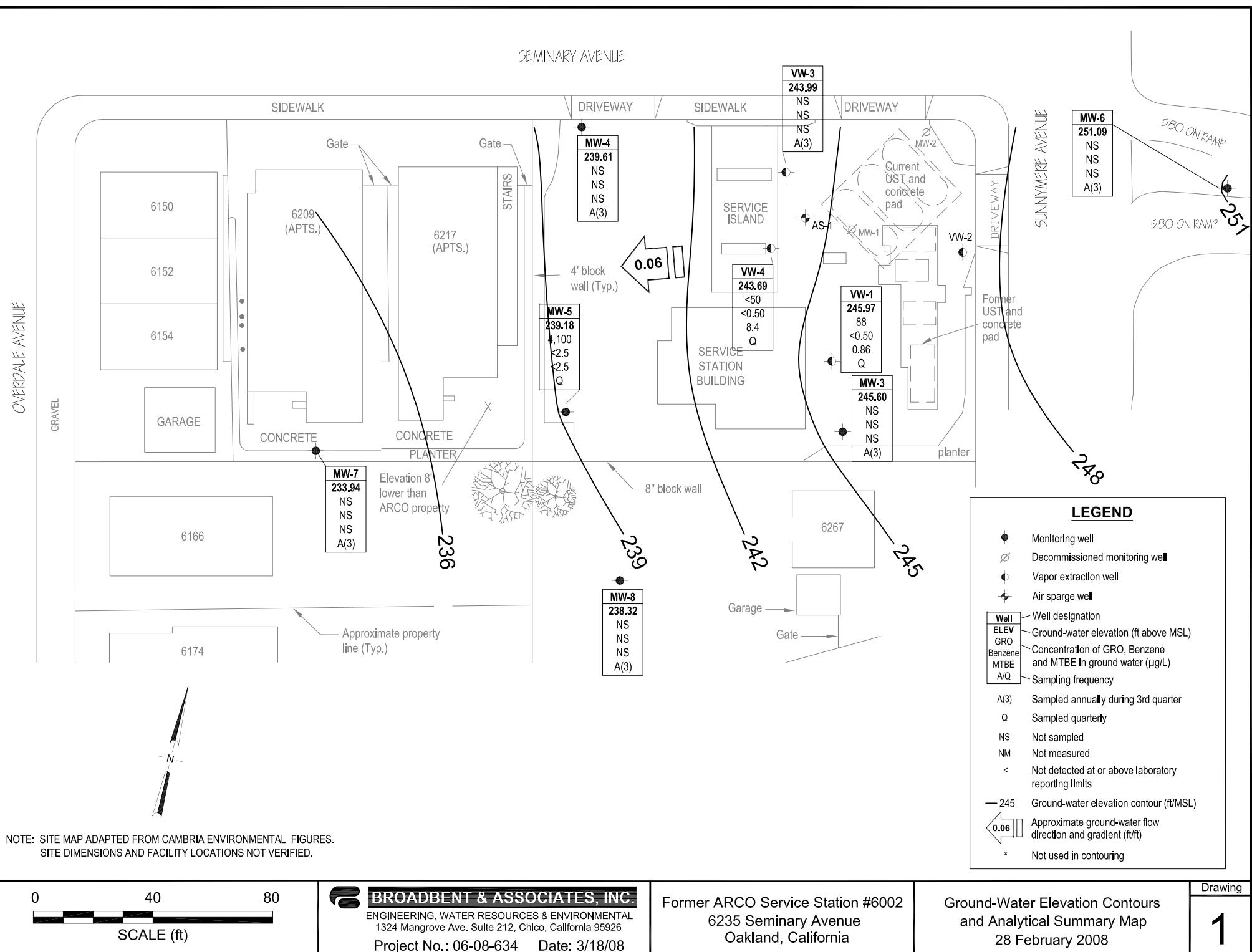


Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #6002, 6235 Seminary Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
AS-1																
6/29/1995	--		--	20.0	22.0	9.20	--	--	<50	1.6	<0.5	0.9	0.9	--	--	--
MW-1																
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	--	--	--	--	--	--	--	--	--	--	--
MW-2																
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	--	--	--	--	--	--	--	--	--	--	--
MW-3																
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
Station #6002, 6235 Seminary Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
MW-3 Cont.																
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
Station #6002, 6235 Seminary Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH	
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE			
MW-6 Cont.																	
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	
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	--	--	--	--	--	--	--	--	
MW-7																	
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	--	--	--	--	--	--	--	--	--	--	--	
2/25/1998	--		235.95	8.5	13.5	8.04	--	227.91	<50	<0.5	0.6	<0.5	0.7	<3	--	--	

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

Station #6002, 6235 Seminary Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH	
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE			
MW-7 Cont.																	
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	--	--	--	--	--	--	--	--	
MW-8																	
8/9/1996	--		240.37	5.5	14.0	9.41	--	230.96	<50	<0.5	<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	<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	<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	<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	<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	<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	<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	<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	<0.5	<3	--	--
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	NP		240.37	5.5	14.0	6.25	--	234.12	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.93	--	
11/10/2000	--	f	240.37	5.5	14.0	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
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	--	

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

Station #6002, 6235 Seminary Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH	
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE			
MW-8 Cont.																	
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	<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	<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	<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	
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	--	--	--	--	--	--	--	--	
VW-1																	
2/23/1996	--		--	6.0	14.0	5.29	--	--	21,000	490	57	520	1,500	240	--	--	

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

Station #6002, 6235 Seminary Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
									GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE		
VW-4 Cont.																
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

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
ft MSL = feet above mean sea level
GRO = Gasoline range organics
GWE = Groundwater elevation measured in ft MSL
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 MSL
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.

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.

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

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	
MW-3									
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	
MW-4									
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	
MW-5									
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	
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	

Table 2. Summary of Fuel Additives Analytical Data
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	
MW-5 Cont.									
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	
MW-6									
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	
MW-7									
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	
08/11/2005	<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	
MW-8									
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	
VW-1									
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	

Table 2. Summary of Fuel Additives Analytical Data
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	
VW-1 Cont.									
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	
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	
VW-3									
VW-4									
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	

Table 2. Summary of Fuel Additives Analytical Data
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	
VW-4 Cont.									
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
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	

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
Station #6002, 6235 Seminary Ave., Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
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

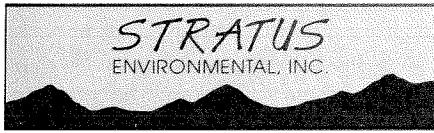
Table 3. Historical Ground-Water Flow Direction and Gradient
Station #6002, 6235 Seminary Ave., Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
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

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

**STRATUS GROUND-WATER SAMPLING DATA PACKAGE
(INCLUDES FIELD DATA SHEET, LABORATORY ANALYTICAL REPORT WITH
CHAIN-OF-CUSTODY DOCUMENTATION, AND FIELD PROCEDURES)**



3330 Cameron Park Drive, Ste 550
Cameron Park, California 95682
(530) 676-6004 ~ Fax: (530) 676-6005

March 11, 2008

Mr. Rob Miller
Broadbent & Associates, Inc.
2000 Kirman Avenue
Reno, NV 89502

Re: Groundwater Sampling Data Package, BP Service Station No. 6002, located at 6235 Seminary Avenue, Oakland, California.

General Information

Data Submittal Prepared / Reviewed by: Becky Carroll / Jay Johnson

Phone Number: (530) 676-6000

On-Site Supplier Representative: Jerry Gonzales

Sampling Date: February 28, 2008

Arrival: 11:40 *Departure:* 13:00

Weather Conditions: Clear

Unusual Field Conditions: None

Scope of Work Performed: Quarterly monitoring and sampling

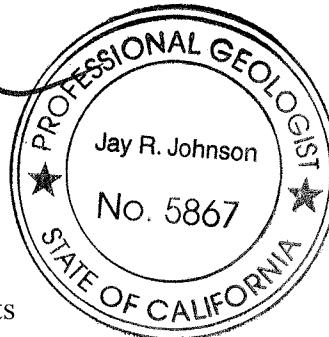
Variations from Work Scope: None

This submittal presents the tabulation of data collected in association with routine groundwater monitoring. The attachments include field sheets, chain of custody documentation, certified analytical results, and field procedures for groundwater sampling. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations. Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

STRATUS ENVIRONMENTAL, INC.

Jay R. Johnson, P.G.
Project Manager



Attachments:

- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results
- Field Procedures for Groundwater Sampling

cc: Mr. Paul Supple, BP/ARCO

BP ALAMEDA PORTFOLIO
WATER SAMPLE FIELD DATA SHEET

PROJECT #: 6002 PURGED BY: WELL I.D.: VV-1
 CLIENT NAME: SAMPLED BY: SAMPLE I.D.: VV-1
 LOCATION: Oakland - 6235 Seminary Ave. QA SAMPLES:

DATE PURGED 8/22/08 START (2400hr) 12:39 END (2400hr) 12:41
 DATE SAMPLED 8/22/08 SAMPLE TIME (2400hr) 12:40

SAMPLE TYPE: Groundwater Surface Water Treatment Effluent Other

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

DEPTH TO BOTTOM (feet) = 13.18 CASING VOLUME (gal) = 4.00

DEPTH TO WATER (feet) = 7.82 CALCULATED PURGE (gal) = NP

WATER COLUMN HEIGHT (feet) = 5.96 ACTUAL PURGE (gal) = 0

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
8/22/08	12:41	6	61.9	614	6.5	clear	

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: SAMPLE TURBIDITY:

80% RECHARGE: YES NO ANALYSES: Surp

ODOR: SAMPLE VESSEL / PRESERVATIVE: 6l DDA - HCl

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC or disposable)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated
Other:		Other:	
Pump Depth:			

WELL INTEGRITY: GOOD LOCK#: 1054C

REMARKS: D.O.: 1.36

SIGNATURE: Page _____ of _____

BP ALAMEDA PORTFOLIO
WATER SAMPLE FIELD DATA SHEET

PROJECT #:	6002	PURGED BY:	JG	WELL I.D.:	VW-4		
CLIENT NAME:		SAMPLED BY:	JG	SAMPLE I.D.:	VW-4		
LOCATION:	Oakland - 6235 Seminary Ave.			QA SAMPLES:			
DATE PURGED	2/26/02	START (2400hr)	12:09	END (2400hr)	12:30		
DATE SAMPLED	2/26/02	SAMPLE TIME (2400hr)	12:30				
SAMPLE TYPE:	Groundwater <input checked="" type="checkbox"/>	Surface Water		Treatment Effluent			
CASING DIAMETER:	2" <input type="checkbox"/>	3" <input type="checkbox"/>	4" <input checked="" type="checkbox"/>	5" <input type="checkbox"/>	6" <input type="checkbox"/>	8" <input type="checkbox"/>	Other <input type="checkbox"/>
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	()
DEPTH TO BOTTOM (feet) =	24.05			CASING VOLUME (gal) =	10.08		
DEPTH TO WATER (feet) =	9.01			CALCULATED PURGE (gal) =	11.8		
WATER COLUMN HEIGHT (feet) =	15.04			ACTUAL PURGE (gal) =	11.8		
FIELD MEASUREMENTS							
DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (micros/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
2/26/02	12:30	X	57.9	563	6.55	clear	
SAMPLE INFORMATION				SAMPLE TURBIDITY:			
SAMPLE DEPTH TO WATER:							
80% RECHARGE:	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	ANALYSES:	SWD			
ODOR:	SAMPLE VESSEL / PRESERVATIVE:			6 YOP - HC			
PURGING EQUIPMENT				SAMPLING EQUIPMENT			
Bladder Pump	Bailer (Teflon)	Bladder Pump	Bailer (Teflon)				
Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC)	Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC or <input checked="" type="checkbox"/> disposable)				
Submersible Pump	Bailer (Stainless Steel)	Submersible Pump	Bailer (Stainless Steel)				
Peristaltic Pump	Dedicated	Peristaltic Pump	Dedicated				
Other:				Other:			
Pump Depth:							
WELL INTEGRITY:	Good			LOCK#:	Master		
REMARKS:	20, 0, 99						
SIGNATURE:				Page	of		

Weilhead Observation Form

Account: _____

Sampled by: Jerry Date: 8/22/08

NO. 665487

NON-HAZARDOUS WASTE DATA FORM

TSD FACILITY	SITE		EPA ID. NO.	NOT REQUIRED	
	NAME: SP WEST COAST PRODUCTS LLC ARCO #665487				
TRANSPORTER	ADDRESS: P.O. BOX 80249 BANCHO DANTA MARGARITA CA 92265		PROFILE NO.		
	CITY, STATE, ZIP:			PHONE NO.:	
CONTAINERS: NO.		VOLUME	WEIGHT		
TYPE: <input type="checkbox"/> TANK <input type="checkbox"/> DRUM <input type="checkbox"/> DRUMS <input type="checkbox"/> CARTONS <input type="checkbox"/> OTHER					
WASTE DESCRIPTION: NON-HAZARDOUS WATER COMPONENTS OF WASTE: ppm %		GENERATING PROCESS: WELL PURGING/DECOR WATER COMPONENTS OF WASTE: ppm %			
1. WATER 99.99%		2. 0.00%			
3. 0.00%		4. 0.00%			
PROPERTIES: 7-10 <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> SLUDGE <input type="checkbox"/> SLURRY <input type="checkbox"/> OTHER		5. 0.00%			
HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PROTECTIVE CLOTHING					
THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS		Larry Moodhart BEC for SP TYPED OR PRINTED FULL NAME & SIGNATURE		DATE: 10/15/98	
Transporter #1 NAME: STRATUS ENVIRONMENTAL ADDRESS: 3320 CAMERON PARK DR CITY, STATE, ZIP: CAMERON PARK, CA 93262 PHONE NO.: 650-676-2031		Transporter #2 NAME: SEAPORT REFINING & ENVIRONMENTAL, LLC ADDRESS: 700 SEAPORT BLVD. CITY, STATE, ZIP: REDWOOD CITY, CA 94063 PHONE NO.: 650-264-1024		DATE: 10/15/98	
TRUCK UNIT, ID. NO.		TYPED OR PRINTED FULL NAME & SIGNATURE		DATE: 10/15/98	
NAME: SEAPORT REFINING & ENVIRONMENTAL, LLC ADDRESS: 700 SEAPORT BLVD. CITY, STATE, ZIP: REDWOOD CITY, CA 94063 PHONE NO.: 650-264-1024		DISPOSAL METHOD: <input type="checkbox"/> LANDFILL <input type="checkbox"/> OTHER		DATE: 10/15/98	
TYPED OR PRINTED FULL NAME & SIGNATURE DATE: 10/15/98					
GEN	OLD/NEW	L	A	TONS	
TRANS		S	B		
C/O		RT/CD	HWOF	NONE	DISCREPANCY



A BP affiliated company

Chain of Custody Record

Project Name: BP 6002

BP BU/AR Region/Enfos Segment:

BP > Americas > West > Retail > CA > Alameda > 6002

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

Page 1 of 1

On-site Time:	11:40	Temp:	65
Off-site Time:	13:00	Temp:	71
Sky Conditions:	Clear		
Meteorological Events:	None		
Wind Speed:	4	Direction:	—

Lab Name: Calscience
 Address: 7440 Lincoln Way
 Garden Grove, CA 92841
 Lab PM: Linda Scharenberg
 Tele/Fax: 714-895-5494 714-895-7501(fax)
 BP/AR PM Contact: Paul Supple
 Address: 2010 Crow Canyon Place, Suite 150
 San Ramon, CA
 Tele/Fax: 925-275-3506

BP/AR Facility No.: 6002
 BP/AR Facility Address: 6235 Seminary Avenue, Oakland
 Site Lat/Long:
 California Global ID #: T0600100105
 Enfos Project No.: G0C8K-0021
 Provision or RCOP (circle one) Provision
 Phase/WBS: 04-Monitoring
 Sub Phase/Task: 03-Analytical
 Cost Element: 01-Contractor labor

Consultant/Contractor: Stratus Environmental, Inc.
 Address: 3330 Cameron Park Drive, Suite 550
 Cameron Park, CA 95682
 Consultant/Contractor Project No.: E6002-04
 Consultant/Contractor PM: Jay Johnson
 Tele/Fax: (530) 676-6000 / (530) 676-6005
 Report Type & QC Level: Level 1 with EDF
 E-mail EDD To: shayes@stratusinc.net
 Invoice to: Atlantic Richfield Co.

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air	Matrix	Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments			
										Unpreserved	H ₂ SO ₄	HNO ₃	HCl	MeOH	BTEX/Oxy* by 8260	C ₂ DCA	EDB	Ethanol by 8260	ERG by 8015m				
1	MW-5	1220	1/28/08	X					1			X			X X X X X								
2	VW-1	1240			X				1			X			X X X X X								
3	VW-4	1230			X				1			X			X X X X X								
4	IB 6002 - 022808	1600	✓		X				2			X											
5																							
6																							
7																							
8																							
9																							
10																							

Sampler's Name: *Jerry Bonzola*

Sampler's Company: STRATUS

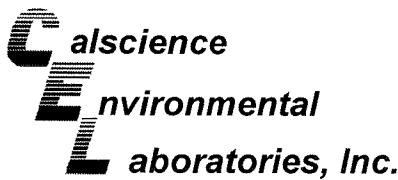
Shipment Date:

Shipment Method:

Shipment Tracking No:

Special Instructions: Please cc results to: rmiller@broadbentinc.com

Custody Seals In Place: Yes / No	Temp Blank: Yes / No	Cooler Temp on Receipt: F/C	Trip Blank: Yes / No	MS/MSD Sample Submitted: Yes / No
----------------------------------	----------------------	-----------------------------	----------------------	-----------------------------------



March 10, 2008

Jay Johnson
Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Subject: **Calscience Work Order No.: 08-03-0009**
Client Reference: BP 6002

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/1/2008 and analyzed in accordance with the attached chain-of-custody.

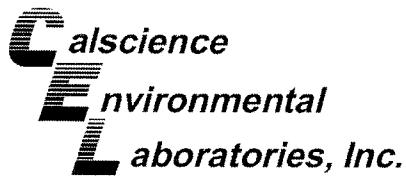
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink that reads "Linda Scharpenberg". A horizontal line is drawn through the signature.

Calscience Environmental
Laboratories, Inc.
Linda Scharpenberg
Project Manager



CASE NARRATIVE – 08-03-0009

Data Qualifiers - EPA 8260:

Batch 080306S01:

The % recovery for ethanol was bias high in the MS/MSD. The % recoveries were within acceptance criteria in the LCS/LCSD. The MS/MSD has been flagged “3” within the report.

“3” = LM, AY

LM = MS and/or MSD Above acceptance limits. See Blank Spike (LCS).
AY = Matrix interference suspected

Batch 080307S01:

The % recovery for ethanol was bias high in the MSD. The % recoveries were within acceptance criteria in the LCS/LCSD. The MSD has been flagged “3” within the report.

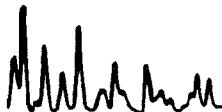
“3” = LM, AY

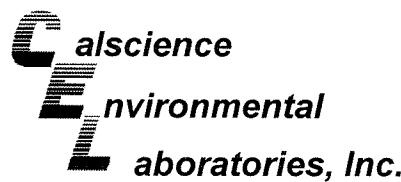
LM = MS and/or MSD Above acceptance limits. See Blank Spike (LCS).
AY = Matrix interference suspected

Data Qualifiers - EPA 8015:

Sample 1:

The surrogate, 1,4-bromofluorobenzene, was above acceptance criteria in the sample. The surrogate was within criteria in the method blank and LCS/CLSD. The sample has been flagged “LH” in the report.





Analytical Report

Stratus Environmental, inc.
 3330 Cameron Park Drive, Suite 550
 Cameron Park, CA 95682-8861

Date Received: 03/01/08
 Work Order No: 08-03-0009
 Preparation: EPA 5030B
 Method: EPA 8015B (M)

Project: BP 6002

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-5	08-03-0009-1-F	02/28/08 12:20	Aqueous	GC 4	03/03/08	03/03/08 21:38	080303B01

Comment(s): -LH Surrogate recovery above the acceptance limits.

Parameter	Result	RL	DF	Qual	Units
-----------	--------	----	----	------	-------

Gasoline Range Organics (C6-C12) 4100 50 1 ug/L

Surrogates: REC (%) Control Limits Qual

1,4-Bromofluorobenzene 143 38-134 2

VW-1	08-03-0009-2-F	02/28/08 12:40	Aqueous	GC 4	03/03/08	03/03/08 23:17	080303B01
------	----------------	----------------	---------	------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
-----------	--------	----	----	------	-------

Gasoline Range Organics (C6-C12) 88 50 1 ug/L

Surrogates: REC (%) Control Limits Qual

1,4-Bromofluorobenzene 112 38-134

VW-4	08-03-0009-3-F	02/28/08 12:30	Aqueous	GC 4	03/03/08	03/03/08 23:50	080303B01
------	----------------	----------------	---------	------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
-----------	--------	----	----	------	-------

Gasoline Range Organics (C6-C12) ND 50 1 ug/L

Surrogates: REC (%) Control Limits Qual

1,4-Bromofluorobenzene 112 38-134

Method Blank	099-12-695-43	N/A	Aqueous	GC 4	03/03/08	03/03/08 10:48	080303B01
--------------	---------------	-----	---------	------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
-----------	--------	----	----	------	-------

Gasoline Range Organics (C6-C12) ND 50 1 ug/L

Surrogates: REC (%) Control Limits Qual

1,4-Bromofluorobenzene 103 38-134

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers





Analytical Report

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: 03/01/08
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 6002

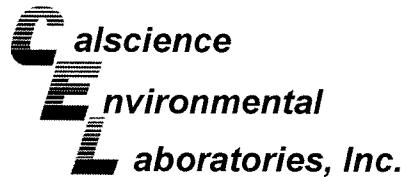
Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-71	N/A	Aqueous	GC/MS Z	03/06/08	03/06/08 10:48	080306L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	129	73-157			Dibromofluoromethane	124	82-142		
Toluene-d8	97	82-112			1,4-Bromofluorobenzene	87	75-105		
Method Blank	099-12-703-74	N/A	Aqueous	GC/MS Z	03/07/08	03/07/08 12:20	080307L01		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers





Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

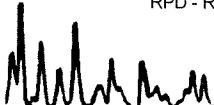
Date Received: 03/01/08
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project BP 6002

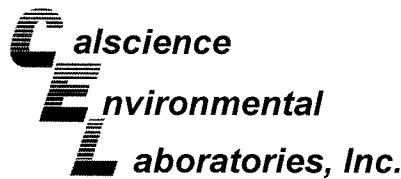
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-02-2277-1	Aqueous	GC 4	03/03/08	03/03/08	080303S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	109	111	38-134	2	0-25	

RPD - Relative Percent Difference , CL - Control Limit



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Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

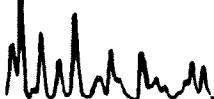
Date Received: 03/01/08
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8260B

Project BP 6002

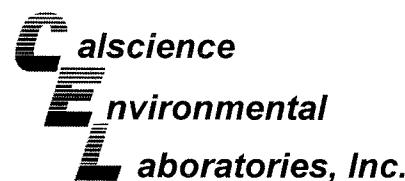
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
VW-1	Aqueous	GC/MS Z	03/06/08	03/06/08	080306S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	98	97	86-122	1	0-8	
Carbon Tetrachloride	95	92	78-138	3	0-9	
Chlorobenzene	100	100	90-120	0	0-9	
1,2-Dibromoethane	96	96	70-130	0	0-30	
1,2-Dichlorobenzene	95	96	89-119	0	0-10	
1,1-Dichloroethene	95	91	52-142	4	0-23	
Ethylbenzene	101	100	70-130	1	0-30	
Toluene	99	96	85-127	2	0-12	
Trichloroethene	95	94	78-126	1	0-10	
Vinyl Chloride	75	75	56-140	0	0-21	
Methyl-t-Butyl Ether (MTBE)	90	85	64-136	5	0-28	
Tert-Butyl Alcohol (TBA)	104	109	27-183	5	0-60	
Diisopropyl Ether (DIPE)	96	92	78-126	5	0-16	
Ethyl-t-Butyl Ether (ETBE)	90	88	67-133	2	0-21	
Tert-Amyl-Methyl Ether (TAME)	97	93	63-141	5	0-21	
Ethanol	173	245	11-167	34	0-64	3

RPD - Relative Percent Difference , CL - Control Limit



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Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: 03/01/08
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8260B

Project BP 6002

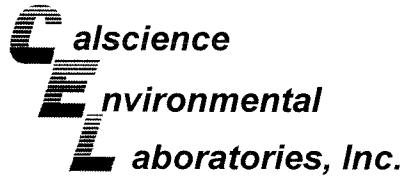
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-03-0008-1	Aqueous	GC/MS Z	03/07/08	03/07/08	080307S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	100	86-122	4	0-8	
Carbon Tetrachloride	98	95	78-138	4	0-9	
Chlorobenzene	103	102	90-120	1	0-9	
1,2-Dibromoethane	102	94	70-130	8	0-30	
1,2-Dichlorobenzene	102	98	89-119	4	0-10	
1,1-Dichloroethene	113	110	52-142	3	0-23	
Ethylbenzene	103	102	70-130	0	0-30	
Toluene	103	99	85-127	4	0-12	
Trichloroethene	99	95	78-126	4	0-10	
Vinyl Chloride	78	75	56-140	4	0-21	
Methyl-t-Butyl Ether (MTBE)	106	92	64-136	13	0-28	
Tert-Butyl Alcohol (TBA)	102	113	27-183	10	0-60	
Diisopropyl Ether (DIPE)	104	97	78-126	8	0-16	
Ethyl-t-Butyl Ether (ETBE)	102	94	67-133	8	0-21	
Tert-Amyl-Methyl Ether (TAME)	110	100	63-141	10	0-21	
Ethanol	133	225	11-167	52	0-64	3

RPD - Relative Percent Difference , CL - Control Limit



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Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

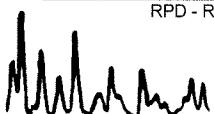
Date Received: N/A
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 6002

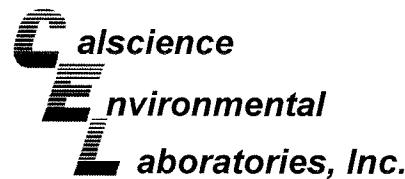
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-43	Aqueous	GC 4	03/03/08	03/03/08	080303B01

Parameter	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	96	101	78-120	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit



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Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: N/A
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8260B

Project: BP 6002

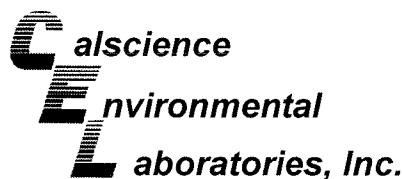
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-71	Aqueous	GC/MS Z	03/06/08	03/06/08	080306L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	98	87-117	2	0-7	
Carbon Tetrachloride	98	96	78-132	2	0-8	
Chlorobenzene	103	102	88-118	1	0-8	
1,2-Dibromoethane	104	104	80-120	0	0-20	
1,2-Dichlorobenzene	97	97	88-118	0	0-8	
1,1-Dichloroethene	111	104	71-131	7	0-14	
Ethylbenzene	105	103	80-120	2	0-20	
Toluene	101	98	85-127	2	0-7	
Trichloroethene	98	97	85-121	1	0-11	
Vinyl Chloride	79	78	64-136	1	0-10	
Methyl-t-Butyl Ether (MTBE)	91	92	67-133	2	0-16	
Tert-Butyl Alcohol (TBA)	97	92	34-154	5	0-19	
Diisopropyl Ether (DIPE)	91	93	80-122	2	0-8	
Ethyl-t-Butyl Ether (ETBE)	87	89	73-127	2	0-11	
Tert-Amyl-Methyl Ether (TAME)	95	99	69-135	4	0-12	
Ethanol	107	99	34-124	8	0-44	

RPD - Relative Percent Difference , CL - Control Limit



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Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.
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Cameron Park, CA 95682-8861

Date Received: N/A
Work Order No: 08-03-0009
Preparation: EPA 5030B
Method: EPA 8260B

Project: BP 6002

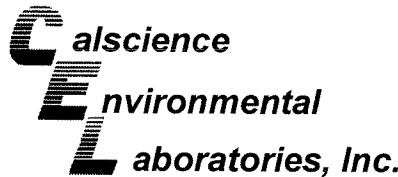
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-74	Aqueous	GC/MS Z	03/07/08	03/07/08	080307L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	103	101	87-117	2	0-7	
Carbon Tetrachloride	97	96	78-132	1	0-8	
Chlorobenzene	105	100	88-118	4	0-8	
1,2-Dibromoethane	105	101	80-120	4	0-20	
1,2-Dichlorobenzene	100	96	88-118	4	0-8	
1,1-Dichloroethene	114	109	71-131	5	0-14	
Ethylbenzene	105	103	80-120	2	0-20	
Toluene	103	100	85-127	3	0-7	
Trichloroethene	103	98	85-121	5	0-11	
Vinyl Chloride	79	78	64-136	2	0-10	
Methyl-t-Butyl Ether (MTBE)	95	87	67-133	9	0-16	
Tert-Butyl Alcohol (TBA)	99	95	34-154	4	0-19	
Diisopropyl Ether (DIPE)	95	90	80-122	6	0-8	
Ethyl-t-Butyl Ether (ETBE)	91	86	73-127	6	0-11	
Tert-Amyl-Methyl Ether (TAME)	101	95	69-135	7	0-12	
Ethanol	103	104	34-124	1	0-44	

RPD - Relative Percent Difference , CL - Control Limit



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Glossary of Terms and Qualifiers

Work Order Number: 08-03-0009

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDS associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.



bp
A BP affiliated company

Chain of Custody Record

Project Name: BP 6002

BP BU/AR Region/Enfos Segment:

BP > Americas > West > Retail > CA > Alameda>6002

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

0009

Page 1 of 1

On-site Time:	<u>11:40</u>	Temp: <u>65</u>
Off-site Time:	<u>13:00</u>	Temp: <u>71</u>
Sky Conditions:	<u>Clear</u>	
Meteorological Events:	<u>None</u>	
Wind Speed:	<u>0</u>	Direction: <u>—</u>

Lab Name: Calscience
Address: 7440 Lincoln Way
Garden Grove, CA 92841
Lab PM: Linda Scharpenberg
Tele/Fax: 714-895-5494 714-895-7501(fax)
BP/AR PM Contact: Paul Supple
Address: 2010 Crow Canyon Place, Suite 150
San Ramon, CA
Tele/Fax: 925-275-3506

BP/AR Facility No.: <u>6002</u>
BP/AR Facility Address: <u>6235 Seminary Avenue, Oakland</u>
Site Lat/Long:
California Global ID #: <u>T0600100105</u>
Enfos Project No.: <u>G0C8K-0021</u>
Provision or RCOP (circle one) <input checked="" type="checkbox"/> Provision
Phase/WBS: <u>04-Monitoring</u>
Sub Phase/Task: <u>03-Analytical</u>
Cost Element: <u>01-Contractor labor</u>

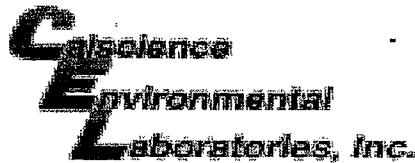
Consultant/Contractor: Stratus Environmental, Inc.
Address: 3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682
Consultant/Contractor Project No.: E6002-04
Consultant/Contractor PM: Jay Johnson
Tele/Fax: (530) 676-6000 / (530) 676-6005
Report Type & QC Level: Level 1 with EDF
E-mail EDD To: <u>shayes@stratusinc.net</u>
Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative				Requested Analysis				Sample Point Lat/Long and Comments *Oxy = MTBD, TAME, ETBE, DIPE, TBA	
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	BTEX/Oxy* by 8260	1,2-DCA	EDB	Ethanol by 8260	
1	MW-5	12:00	2/28/08	X		6				X		X	X	X		
2	VW-1	12:40		X		10				X		X	X	X		
3	VW-4	12:30		X		6				X		X	X	X		
4	TB 6002 - D22808	6:00		X		2				X						HOLD
5																
6																
7																
8																
9																
10																

Sampler's Name: <u>Jerry Olson</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>STRATUS</u>	<u>Jerry</u>			<u>D. Miller</u>		
Shipment Date: <u>2/28/08</u>						
Shipment Method: <u>6SD</u>						
Shipment Tracking No: <u>105748841</u>	PEEL OFF HERE					

Special Instructions: Please cc results to: rmiller@broadbentinc.com

Custody Seals In Place: Yes / No Temp Blank: Yes / No Cooler Temp on Receipt: °F/C Trip Blank: Yes / No MS/MSD Sample Submitted: Yes / No



WORK ORDER #: 08 - 0 3 - 0 0 0 9

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Stratus

DATE: 03/01/08

TEMPERATURE – SAMPLES RECEIVED BY:**CALSCIENCE COURIER:**

- Chilled, cooler with temperature blank provided.
- Chilled, cooler without temperature blank.
- Chilled and placed in cooler with wet ice.
- Ambient and placed in cooler with wet ice.
- Ambient temperature.
- °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- 2.1 °C Temperature blank.
- °C IR thermometer.
- Ambient temperature.

Initial: NC

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: No (Not Intact) : _____ Not Present: _____
Initial: NC

SAMPLE CONDITION:

	Yes	No	N/A
--	-----	----	-----

- Chain-Of-Custody document(s) received with samples.....
Sampler's name indicated on COC.....
Sample container label(s) consistent with custody papers.....
Sample container(s) intact and good condition.....
Correct containers and volume for analyses requested.....
Proper preservation noted on sample label(s).....
VOA vial(s) free of headspace.....
Tedlar bag(s) free of condensation.....
Initial: NC

COMMENTS:

ATTACHMENT

FIELD PROCEDURES FOR GROUNDWATER SAMPLING

The sampling procedures for groundwater monitoring events are contained in this appendix.

Equipment Calibration

Standard groundwater sampling equipment – pH/Conductivity/Temperature meter, and dissolved oxygen (DO) meters are calibrated prior to all field work. All calibration is conducted in accordance with equipment manufacturer's recommended procedure and buffer solutions. MSDS for all buffer solutions are maintained in Stratus vehicles. Calibration is completed everyday prior to field work and also once a week. The pH probe is calibrated for a pH of 7.0 daily and for 4.0, 7.0 and 10.0 weekly. The conductivity probe is calibrated for 1413 μs daily and 1413 μs and 447 μs weekly. The temperature probe is calibrated weekly with a NIST-traceable thermometer. The DO probe is calibrated for 100% oxygen daily and 0% and 100% oxygen weekly. All calibration logs are maintained in the Stratus office.

Groundwater and Liquid-Phase Petroleum Hydrocarbon Depth Assessment

Prior to measuring the depth to liquid in the well, the well caps are removed and the liquid level allowed to stabilize. A water/hydrocarbon interface probe is used to assess the liquid-phase petroleum hydrocarbon (LPH) thickness, if present, and a water level indicator is used to measure the groundwater depth in monitoring wells that do not contain LPH. Depth to groundwater or LPH is measured from a datum point at the top of each monitoring well casing. The datum point is typically a notch cut in the north side of the casing edge. If a water level indicator is used, the tip is subjectively analyzed for hydrocarbon sheen.

Subjective Analysis of Groundwater

Prior to purging, a water sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

Monitoring Well Sampling

In many cases, determining whether to purge or not to purge wells prior to sample collection is made in the field and is often based on depth to water relative to the screen interval of the well. Site-specific field data sheets present details associated with the purge method and equipment used.

Monitoring wells, when purged, use a pump or bailer until pH, temperature, and conductivity of the purge water has stabilized and a minimum of three well volumes of water has been removed. Field measuring equipment is calibrated and maintained according to the manufacturer's instructions. If three well volumes cannot be removed in one half hour's time the well is allowed to recharge to 80% of original level. After recharging, a groundwater sample is then collected from each of the wells using disposable bailers.

A Teflon bailer, electric submersible or bladder pump will be the only equipment used for well sampling. When samples for volatile organic analysis are being collected, the pump flow will be regulated at approximately 100 milliliters per minute to minimize pump effluent turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa will be used in sampling for volatile organics. These bottles will be filled completely to prevent air accumulation in the bottle. A positive meniscus forms when the bottle is completely full. A convex Teflon septum will be placed over the positive meniscus to eliminate air. After the bottle is capped, it is inverted and tapped to verify that it contains no air bubbles. The sample containers for other parameters will be filled, filtered as required, and capped. Glass and plastic bottles used by Stratus to collect groundwater samples are supplied by the laboratory.

Groundwater Sample Labeling and Preservation

Samples are collected in appropriate containers supplied by the laboratory. All required chemical preservation is added to the bottles prior to delivery to Stratus. Sample label information includes a unique sample identification number, job identification number, date, and time. After labeling, all groundwater samples are placed in a Ziploc® type bag and placed in an ice chest cooled to approximately 4° Celsius. Upon arriving at Stratus' office the samples are transferred to a locked refrigerator cooled to approximately 4° Celsius. Chemical preservation is controlled by the required analysis and is noted on the chain-of-custody form. Trip and temperature blanks supplied by the laboratory accompany the groundwater sample containers and groundwater samples.

Sample Identification and Chain-of-Custody Procedures

Sample identification and chain-of-custody procedures document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis has a label affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, is recorded in the field records. The samples are analyzed by a California-certified laboratory.

A chain-of-custody form is used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them relinquishes the samples by signing the chain-of-custody form and noting the time. The sample-control officer at the laboratory verifies sample integrity and confirms that the samples are collected in the proper containers, preserved correctly, and

contain adequate volumes for analysis. These conditions are noted on a Laboratory Sample Receipt Checklist that becomes part of the laboratory report upon request.

If these conditions are met, each sample is assigned a unique log number for identification throughout analysis and reporting. The log number is recorded on the chain-of-custody form and in the legally-required log book maintained by the laboratory. The sample description, date received, client's name, and other relevant information is also recorded.

Equipment Cleaning

All reusable sampling equipments are cleaned using phosphate-free detergents and rinsed with de-ionized water.

APPENDIX B

GEOTRACKER UPLOAD CONFIRMATION

Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

ARCO #6002 - T0600100105 - [BACK TO SUBMITTAL STATUS](#)

6235 SEMINARY
OAKLAND, CA 94605

GEO_WELL DATA

Submitted By		Submitted Date		Confirmation #		Global ID				
BROADBENT & ASSOCIATES, INC. (CONTRACTOR)		3/24/2008		4548222422		T0600100105				
#	GLOBAL ID	FIELD POINT NAME	STATUS	GW MEAS DATE	DTFPROD	DTW	RISER HT	TOT DEPTH	GW MEAS DESC	SHEEN
1	T0600100105	MW-6	ACT	2/28/2008			6.85			N
2	T0600100105	MW-3	ACT	2/28/2008			8.28			N
3	T0600100105	MW-4	ACT	2/28/2008			9.01			N
4	T0600100105	MW-5	ACT	2/28/2008			11.37			N
5	T0600100105	VW-1	ACT	2/28/2008			7.22			N
6	T0600100105	MW-7	ACT	2/28/2008			7.7			N
7	T0600100105	MW-8	ACT	2/28/2008			7.77			N
8	T0600100105	VW-3	ACT	2/28/2008			8.27			N
9	T0600100105	VW-4	ACT	2/28/2008			9			N

Logged in as BROADBENT-C (CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).

Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

Your EDF file has been successfully uploaded!

Confirmation Number: 3646876275

Date/Time of Submittal: 4/8/2008 8:08:09 AM

Facility Global ID: T0600100105

Facility Name: ARCO #6002

Submittal Title: 1Q08 GW Monitoring

Submittal Type: GW Monitoring Report

Click [here](#) to view the detections report for this upload.

ARCO #6002 6235 SEMINARY OAKLAND, CA 94605	Regional Board - Case #: <u>01-0113</u> SAN FRANCISCO BAY RWQCB (REGION 2)
	Local Agency (lead agency) - Case #: <u>RO0000163</u> ALAMEDA COUNTY LOP - (PK)

<u>CONF #</u>	<u>TITLE</u>	<u>QUARTER</u>
3646876275	1Q08 GW Monitoring	Q1 2008
<u>SUBMITTED BY</u>	<u>SUBMIT DATE</u>	<u>STATUS</u>
Broadbent & Associates, Inc.	4/8/2008	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	3
# FIELD POINTS WITH DETECTIONS	3
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	1
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	M8015,SW8260B
TESTED FOR REQUIRED ANALYTES?	Y
LAB NOTE DATA QUALIFIERS	Y

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	N
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	N
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

SOIL SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

FIELD QC SAMPLES

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPDL</u>
QCTB SAMPLES	N	0
QCCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as BROADBENT-C (CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).