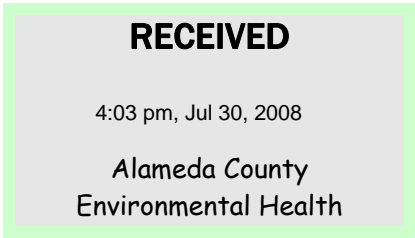




Atlantic Richfield Company  
(a BP affiliated company)

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



25 July 2008

Re: Second Quarter 2008 Ground-Water Monitoring Report  
Atlantic Richfield Company Station #374  
6407 Telegraph Avenue  
Oakland, California  
ACEH Case # RO0000078

“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 Manger

**Second Quarter 2008 Ground-Water Monitoring Report**

Atlantic Richfield Company Station #374

6407 Telegraph Avenue

Oakland, California

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*

25 July 2008

Project No. 06-08-602

25 July 2008

Project No. 06-08-602

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

Attn.: Mr. Paul Supple

Re: Second Quarter 2008 Ground-Water Monitoring Report, Atlantic Richfield Company (a BP affiliated company) Station #374, 6407 Telegraph Avenue, Oakland, Alameda County, California. ACEH Case #RO0000078

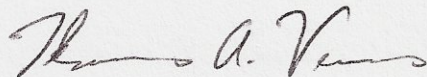
Dear Mr. Supple:

Attached is the *Second Quarter 2008 Ground-Water Monitoring Report* for Atlantic Richfield Company Station #374 located at 6407 Telegraph Avenue, Oakland, California (Site). This report presents results of ground-water monitoring conducted at the Site during the Second Quarter of 2008.

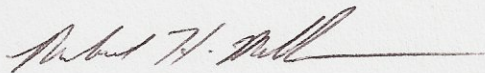
Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.



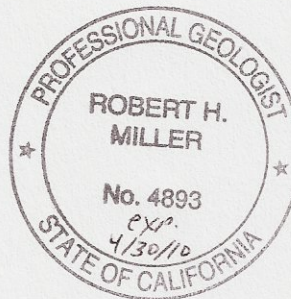
Thomas A. Venus, P.E.  
Senior Engineer



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 #374 QUARTERLY GROUND-WATER MONITORING REPORT

Facility: #374	Address:	6407 Telegraph Avenue, Oakland, California
Environmental Business Manager:		Mr. Paul Supple
Consulting Co./Contact Persons:		Broadbent & Associates, Inc.(BAI)/Rob Miller & Tom Venus (530) 566-1400
Consultant Project No.:		06-08-602
Primary Agency/Regulatory ID No.:		Alameda County Environmental Health (ACEH) ACEH Case #RO0000078
Facility Permits/Permitting Agency:		NA

### WORK PERFORMED THIS QUARTER (Second Quarter 2008):

1. Prepared and submitted First Quarter 2008 Ground-Water Monitoring Report.
2. Conducted ground-water monitoring/sampling for Second Quarter 2008. Work performed on 24 May 2008 by Stratus Environmental, Inc. (Stratus).
3. Prepared and submitted Work Plan for On-Site Soil Investigation, dated 27 June 2008.

### WORK PROPOSED FOR NEXT QUARTER (Third Quarter 2008):

1. Prepared and submitted this Second Quarter 2008 Ground-Water Monitoring Report (contained herein).
2. Conduct quarterly ground-water monitoring/sampling for Third Quarter 2008.
3. Implement Work Plan for On-Site Soil Investigation upon approval from ACEH.

### QUARTERLY RESULTS SUMMARY:

Current phase of project:	<b>Ground-water monitoring/sampling</b>
Frequency of ground-water monitoring:	<b>Quarterly: MW-1, MW-2, MW-3, MW-4, MW-5, MW-6</b>
Frequency of ground-water sampling:	<b>Quarterly: MW-1 Semi-Annually (1Q and 3Q): MW-2 and MW-4 Annually (3Q): MW-3, MW-5, and MW-6</b>
Is free product (FP) present on-site:	<b>No</b>
Current remediation techniques:	<b>NA</b>
Depth to ground water (below TOC):	<b>5.25 ft (MW-6) to 8.12 ft (MW-5)</b>
General ground-water flow direction:	<b>Southwest</b>
Approximate hydraulic gradient:	<b>0.03 ft/ft</b>

### DISCUSSION:

Second quarter 2008 ground-water monitoring and sampling was conducted at Station #374 on 24 May 2008 by Stratus. Water levels were gauged in five of the six wells at the Site. Well MW-4 was inaccessible due to a standing safety order from BP that wells with vault lids greater than 24-inches across require that a well planned Job Safety Analysis (JSA) be prepared prior to accessing them, principally to prevent ergonomic injuries. Stratus has since prepared and presented an approved JSA, allowing safe future access. No other irregularities were noted in the field during this quarter's water level gauging. Depth-to-water measurements ranged from 5.25 ft at MW-6 to 8.12 ft at MW-5. Resulting ground-water surface elevations ranged from 156.99 ft above mean sea level in well MW-1 to 143.21 ft at well MW-5. Water level elevations were between historic minimum and maximum ranges for each well, as summarized in Table 1. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the southwest at approximately 0.03 ft/ft, consistent with historical data reported in Table 3.

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. Potentiometric ground-water elevation contours are presented in Drawing 1.

Consistent with the current ground-water sampling schedule, water samples were collected from well MW-1 at the Site. No irregularities were reported 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, C6-12) by EPA Method 8015B; for 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 laboratory 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.

Concentrations of MTBE were detected above the laboratory reporting limit in well MW-1 at a concentration of 380 µg/L. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in the one well sampled this quarter.

Detected analyte concentrations were within the historic minimum and maximum ranges recorded for well MW-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.

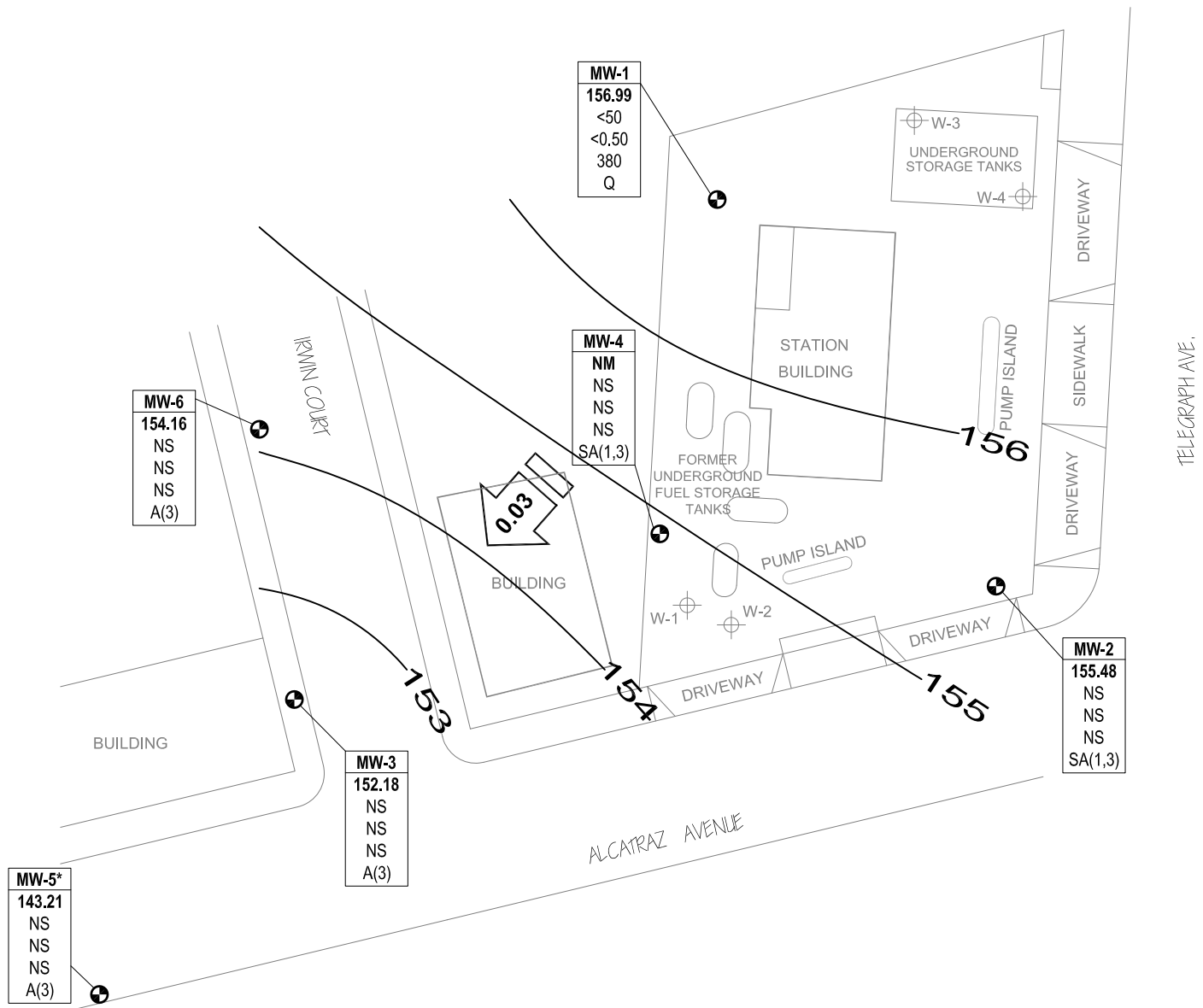
#### **ATTACHMENTS:**

- Drawing 1. Ground-Water Elevation Contours and Analytical Summary Map, 24 May 2008, Station #374, 6407 Telegraph Avenue, Oakland, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #374, 6407 Telegraph Ave., Oakland, California
- Table 2. Summary of Fuel Additives Analytical Data, Station #374, 6407 Telegraph Ave., Oakland, California

Table 3. Historical Ground-Water Flow Direction and Gradient, Station #374, 6407 Telegraph Ave., Oakland, California

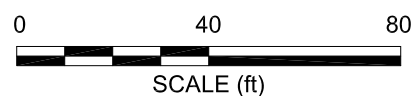
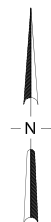
Appendix A. Stratus Ground-Water Sampling Data Package (Includes Field Data Sheets, Laboratory Analytical Report with Chain-of-Custody Documentation, and Field Procedures)

Appendix B. GeoTracker Upload Confirmations



**LEGEND**

- MONITORING WELL
- TANK PIT MONITORING WELL
- Well** — WELL DESIGNATION
- ELEV** — GROUND-WATER ELEVATION (FT MSL)
- GRO** — GRO, BENZENE & MTBE CONCENTRATIONS IN GROUND WATER (µg/L)
- Benzene**
- MTBE**
- A/Q/SA** — SAMPLING FREQUENCY
- <** — NOT DETECTED AT OR ABOVE LABORATORY LIMITS
- Q** — SAMPLED QUARTERLY
- SA(1,3)** — SAMPLED SEMI-ANNUALLY, 1ST & 3RD QUARTERS
- A(3)** — SAMPLED ANNUALLY, 3RD QUARTER
- NS** — NOT SAMPLED
- APPROXIMATE GROUND-WATER FLOW AND DIRECTION (FT/FT)
- 155** — GROUND-WATER ELEVATION CONTOUR (FT MSL)
- \*** — Elevation not used for contours



NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

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

**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-1</b>															
6/20/2000	--		158.91	7.00	27.0	6.86	152.05	--	--	--	--	--	--	--	--
9/28/2000	--		158.91	7.00	27.0	7.50	151.41	--	--	--	--	--	--	--	--
12/17/2000	--		158.91	7.00	27.0	7.49	151.42	--	--	--	--	--	--	--	--
3/23/2001	--		158.91	7.00	27.0	5.90	153.01	<50	<0.5	<0.5	<0.5	<0.5	2,710	--	--
6/21/2001	--		158.91	7.00	27.0	7.45	151.46	--	--	--	--	--	--	--	--
9/23/2001	--		158.91	7.00	27.0	8.46	150.45	--	--	--	--	--	--	--	--
12/31/2001	--		158.91	7.00	27.0	5.50	153.41	--	--	--	--	--	--	--	--
3/21/2002	--		158.91	7.00	27.0	4.71	154.20	<5,000	<50	<50	<50	<50	2,000	--	--
4/17/2002	--		158.91	7.00	27.0	5.54	153.37	--	--	--	--	--	--	--	--
8/12/2002	--		158.91	7.00	27.0	7.77	151.14	--	--	--	--	--	--	--	--
12/6/2002	--		158.91	7.00	27.0	7.65	151.26	--	--	--	--	--	--	--	--
1/29/2003	--	b	158.91	7.00	27.0	5.88	153.03	--	--	--	--	--	--	--	--
5/23/2003	--		158.91	7.00	27.0	5.62	153.29	<10,000	<100	<100	<100	<100	1,600	1.3	7.1
9/4/2003	--		158.91	7.00	27.0	7.85	151.06	--	--	--	--	--	--	--	--
11/20/2003	P		158.91	7.00	27.0	8.17	150.74	1,600	<10	<10	<10	<10	1,500	1.7	6.7
02/02/2004	P	f	164.57	7.00	27.0	6.71	157.86	--	--	--	--	--	--	1.0	--
05/14/2004	P		164.57	7.00	27.0	7.08	157.49	<2,500	<25	<25	<25	<25	1,200	1.4	6.6
09/02/2004	P		164.57	7.00	27.0	8.12	156.45	580	<5.0	<5.0	<5.0	<5.0	660	3.8	6.7
11/04/2004	P		164.57	7.00	27.0	7.38	157.19	1,700	<10	<10	<10	<10	580	6.0	6.5
02/08/2005	P		164.57	7.00	27.0	6.60	157.97	<1,000	<10	<10	<10	<10	610	0.71	6.5
05/09/2005	P	e	164.57	7.00	27.0	6.84	157.73	540	<5.0	<5.0	<5.0	5.5	620	3.12	6.6
08/11/2005	P		164.57	7.00	27.0	7.36	157.21	540	<2.5	<2.5	<2.5	4.0	390	0.8	6.6
11/18/2005	P	e	164.57	7.00	27.0	8.02	156.55	350	<2.5	<2.5	<2.5	<2.5	340	2.6	6.7
02/16/2006	P	e	164.57	7.00	27.0	6.44	158.13	350	<2.5	<2.5	<2.5	<2.5	340	1.6	6.7
5/30/2006	P		164.57	7.00	27.0	6.87	157.70	270	<2.5	<2.5	<2.5	<2.5	420	4.73	6.4
8/24/2006	P		164.57	7.00	27.0	7.75	156.82	95	<5.0	<5.0	<5.0	<5.0	180	0.65	6.9
11/1/2006	P		164.57	7.00	27.0	8.28	156.29	120	<5.0	<5.0	<5.0	<5.0	220	1.65	7.07
2/7/2007	NP	e	164.57	7.00	27.0	7.40	157.17	120	<5.0	<5.0	<5.0	<5.0	190	1.88	7.45
5/8/2007	P		164.57	7.00	27.0	6.50	158.07	<500	<5.0	<5.0	<5.0	<5.0	420	1.21	6.94
8/8/2007	NP	e	164.57	7.00	27.0	8.17	156.40	82	<0.50	<0.50	<0.50	<0.50	110	1.16	7.00
11/14/2007	NP		164.57	7.00	27.0	8.01	156.56	170	<2.5	<2.5	<2.5	<2.5	210	1.92	6.49



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

**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-1 Cont.</b>															
2/22/2008	P		164.57	7.00	27.0	6.00	158.57	<50	<0.50	<0.50	<0.50	<0.50	250	2.57	6.65
5/24/2008	NP		<b>164.57</b>	<b>7.00</b>	<b>27.0</b>	<b>7.58</b>	<b>156.99</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>380</b>	<b>2.28</b>	<b>6.81</b>
<b>MW-2</b>															
6/20/2000	--		157.92	7.00	27.0	7.67	150.25	--	--	--	--	--	--	--	--
9/28/2000	--		157.92	7.00	27.0	8.51	149.41	--	--	--	--	--	--	--	--
12/17/2000	--		157.92	7.00	27.0	8.14	149.78	--	--	--	--	--	--	--	--
3/23/2001	--		157.92	7.00	27.0	7.21	150.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/21/2001	--		157.92	7.00	27.0	7.99	149.93	--	--	--	--	--	--	--	--
9/23/2001	--		157.92	7.00	27.0	8.52	149.40	--	--	--	--	--	--	--	--
12/31/2001	--		157.92	7.00	27.0	6.01	151.91	--	--	--	--	--	--	--	--
3/21/2002	--		157.92	7.00	27.0	5.95	151.97	<50	<0.5	<0.5	<0.5	<0.5	45	--	--
4/17/2002	--		157.92	7.00	27.0	6.45	151.47	--	--	--	--	--	--	--	--
8/12/2002	--		157.92	7.00	27.0	8.08	149.84	--	--	--	--	--	--	--	--
12/6/2002	--		157.92	7.00	27.0	8.29	149.63	--	--	--	--	--	--	--	--
1/29/2003	--	b	157.92	7.00	27.0	7.22	150.70	--	--	--	--	--	--	--	--
5/23/2003	--		157.92	7.00	27.0	6.85	151.07	<50	<0.50	<0.50	<0.50	<0.50	55	1.4	7.2
9/4/2003	--		157.92	7.00	27.0	7.94	149.98	--	--	--	--	--	--	--	--
11/20/2003	--		157.92	7.00	27.0	8.05	149.87	--	--	--	--	--	--	--	--
02/02/2004	P	f	163.46	7.00	27.0	7.00	156.46	74	<0.50	<0.50	<0.50	<0.50	37	1.1	8.9
05/14/2004	--		163.46	7.00	27.0	7.97	155.49	--	--	--	--	--	--	--	--
09/02/2004	P		163.46	7.00	27.0	8.19	155.27	<250	<2.5	<2.5	<2.5	<2.5	67	2.7	6.9
11/04/2004	--		163.46	7.00	27.0	7.54	155.92	--	--	--	--	--	--	--	--
02/08/2005	P		163.46	7.00	27.0	6.72	156.74	<50	<0.50	<0.50	<0.50	<0.50	30	0.86	6.7
05/09/2005	--		163.46	7.00	27.0	7.16	156.30	--	--	--	--	--	--	--	--
08/11/2005	P		163.46	7.00	27.0	7.85	155.61	<50	<0.50	<0.50	<0.50	<0.50	35	1.0	6.6
11/18/2005	--		163.46	7.00	27.0	8.23	155.23	--	--	--	--	--	--	--	--
02/16/2006	P		163.46	7.00	27.0	6.82	156.64	<50	<0.50	<0.50	<0.50	<0.50	39	1.3	7.0
5/30/2006	--		163.46	7.00	27.0	7.23	156.23	--	--	--	--	--	--	--	--
8/24/2006	P		163.46	7.00	27.0	8.00	155.46	60	<0.50	<0.50	<0.50	<0.50	25	0.90	6.8
11/1/2006	--		163.46	7.00	27.0	8.38	155.08	--	--	--	--	--	--	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-2 Cont.</b>															
2/7/2007	NP		163.46	7.00	27.0	7.88	155.58	<50	0.50	<0.50	<0.50	<0.50	7.2	0.94	7.39
5/8/2007	--		163.46	7.00	27.0	7.28	156.18	--	--	--	--	--	--	--	--
8/8/2007	NP		163.46	7.00	27.0	8.38	155.08	88	3.2	<0.50	<0.50	<0.50	7.2	0.94	7.75
11/14/2007	--		163.46	7.00	27.0	8.10	155.36	--	--	--	--	--	--	--	--
2/22/2008	P		163.46	7.00	27.0	6.75	156.71	<50	<0.50	<0.50	<0.50	<0.50	24	2.18	7.02
<b>5/24/2008</b>	<b>--</b>		<b>163.46</b>	<b>7.00</b>	<b>27.0</b>	<b>7.98</b>	<b>155.48</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-3</b>															
6/20/2000	--		153.64	7.00	27.0	6.42	147.22	<50	<0.5	<0.5	<0.5	<1.0	<10	--	--
9/28/2000	--		153.64	7.00	27.0	7.31	146.33	--	--	--	--	--	--	--	--
12/17/2000	--		153.64	7.00	27.0	6.45	147.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/23/2001	--		153.64	7.00	27.0	6.01	147.63	--	--	--	--	--	--	--	--
6/21/2001	--		153.64	7.00	27.0	6.80	146.84	110	5.5	<0.5	5.4	4.1	2.5	--	--
9/23/2001	--		153.64	7.00	27.0	7.32	146.32	--	--	--	--	--	--	--	--
12/31/2001	--		153.64	7.00	27.0	4.48	149.16	<50	<0.5	<0.5	<0.5	<0.5	4.9	--	--
3/21/2002	--		153.64	7.00	27.0	4.36	149.28	--	--	--	--	--	--	--	--
4/17/2002	--		153.64	7.00	27.0	5.31	148.33	<50	<0.5	<0.5	<0.5	<0.5	8.7	--	--
8/12/2002	--		153.64	7.00	27.0	7.00	146.64	--	--	--	--	--	--	--	--
12/6/2002	--		153.64	7.00	27.0	7.32	146.32	<50	<0.5	<0.5	<0.5	<0.5	6.2	1.4	6.7
1/29/2003	--	b	153.64	7.00	27.0	6.07	147.57	--	--	--	--	--	--	--	--
5/23/2003	--		153.64	7.00	27.0	6.45	147.19	<50	<0.50	<0.50	<0.50	<0.50	1.6	0.9	7.7
9/4/2003	--	c	153.64	7.00	27.0	6.93	146.71	--	--	--	--	--	--	--	--
11/20/2003	--	c	153.64	7.00	27.0	7.04	146.60	--	--	--	--	--	--	--	--
02/02/2004	--	f	159.21	7.00	27.0	5.92	153.29	--	--	--	--	--	--	--	--
05/14/2004	--		159.21	7.00	27.0	7.52	151.69	--	--	--	--	--	--	--	--
09/02/2004	P		159.21	7.00	27.0	7.19	152.02	<50	<0.50	<0.50	<0.50	<0.50	6.5	9.3	8.9
11/04/2004	--		159.21	7.00	27.0	6.40	152.81	--	--	--	--	--	--	--	--
02/08/2005	--		159.21	7.00	27.0	6.01	153.20	--	--	--	--	--	--	--	--
05/09/2005	--		159.21	7.00	27.0	6.74	152.47	--	--	--	--	--	--	--	--
08/11/2005	P		159.21	7.00	27.0	6.77	152.44	<50	<0.50	<0.50	<0.50	<0.50	11	1.9	6.5
11/18/2005	--		159.21	7.00	27.0	7.83	151.38	--	--	--	--	--	--	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-3 Cont.</b>															
02/16/2006	--		159.21	7.00	27.0	7.26	151.95	--	--	--	--	--	--	--	--
5/30/2006	--		159.21	7.00	27.0	5.82	153.39	--	--	--	--	--	--	--	--
8/24/2006	P		159.21	7.00	27.0	7.00	152.21	<50	<0.50	<0.50	<0.50	<0.50	7.6	1.15	6.4
11/1/2006	--		159.21	7.00	27.0	7.50	151.71	--	--	--	--	--	--	--	--
2/7/2007	--		159.21	7.00	27.0	6.90	152.31	--	--	--	--	--	--	--	--
5/8/2007	--		159.21	7.00	27.0	5.95	153.26	--	--	--	--	--	--	--	--
8/8/2007	NP		159.21	7.00	27.0	7.47	151.74	<50	<0.50	<0.50	<0.50	<0.50	1.2	1.21	6.93
11/14/2007	--		159.21	7.00	27.0	7.05	152.16	--	--	--	--	--	--	--	--
2/22/2008	--		159.21	7.00	27.0	5.50	153.71	--	--	--	--	--	--	--	--
<b>5/24/2008</b>	<b>--</b>		<b>159.21</b>	<b>7.00</b>	<b>27.0</b>	<b>7.03</b>	<b>152.18</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-4</b>															
6/20/2000	--	c	156.53	7.00	27.0	7.50	149.03	20,000	5,100	440	1,000	1,700	<250	--	--
9/28/2000	--		156.53	7.00	27.0	8.20	148.33	--	--	--	--	--	--	--	--
12/17/2000	--		156.53	7.00	27.0	8.11	148.42	4,320	1,240	<20	27.2	249	<100	--	--
3/23/2001	--		156.53	7.00	27.0	6.69	149.84	--	--	--	--	--	--	--	--
6/21/2001	--		156.53	7.00	27.0	8.01	148.52	2,800	470	16	19	160	130	--	--
9/23/2001	--		156.53	7.00	27.0	8.91	147.62	--	--	--	--	--	--	--	--
12/31/2001	--		156.53	7.00	27.0	4.42	152.11	4,600	1,500	100	160	210	160	--	--
3/21/2002	--		156.53	7.00	27.0	4.98	151.55	--	--	--	--	--	--	--	--
4/17/2002	--		156.53	7.00	27.0	6.23	150.30	7,100	2,200	110	290	450	<250	--	--
8/12/2002	--		156.53	7.00	27.0	8.24	148.29	--	--	--	--	--	--	--	--
12/6/2002	--	a	156.53	7.00	27.0	8.42	148.11	1,500	410	6.8	20	29	43	1.1	6.7
1/29/2003	--	b	156.53	7.00	27.0	7.20	149.33	--	--	--	--	--	--	--	--
5/23/2003	--		156.53	7.00	27.0	7.18	149.35	<5,000	1,300	89	210	260	<50	1.4	6.9
9/4/2003	--	c	156.53	7.00	27.0	8.15	148.38	--	--	--	--	--	--	--	--
11/20/2003	--	c	156.53	7.00	27.0	8.73	147.80	--	--	--	--	--	--	--	--
02/02/2004	P	c, f, g	163.25	7.00	27.0	6.25	157.00	980	280	21	29	38	29	1.4	10.6
05/14/2004	--	g	163.25	7.00	27.0	8.38	154.87	--	--	--	--	--	--	--	--
09/02/2004	P	g	163.25	7.00	27.0	8.36	154.89	260	11	<1.0	5.5	14	28	2.4	7.4
11/04/2004	--	c, g	163.25	7.00	27.0	7.71	155.54	--	--	--	--	--	--	--	--

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-4 Cont.</b>															
02/08/2005	P	g	163.25	7.00	27.0	6.27	156.98	7,500	1,700	320	480	920	45	0.65	6.5
05/09/2005	--	g	163.25	7.00	27.0	5.90	157.35	--	--	--	--	--	--	--	--
08/11/2005	P	g	163.25	7.00	27.0	7.96	155.29	3,100	1,100	41	160	110	32	0.6	6.5
11/18/2005	--	g	163.25	7.00	27.0	8.57	154.68	--	--	--	--	--	--	--	--
02/16/2006	P	g	163.25	7.00	27.0	6.28	156.97	9,400	1,800	130	600	420	35	0.5	6.8
5/30/2006	--	g	163.25	7.00	27.0	7.02	156.23	--	--	--	--	--	--	--	--
8/24/2006	P	g	162.47	7.00	27.0	8.26	154.21	3,600	1,400	21	110	70	39	1.00	6.8
11/1/2006	--		163.25	7.00	27.0	8.67	154.58	--	--	--	--	--	--	--	--
2/7/2007	NP		163.25	7.00	27.0	8.02	155.23	3,100	570	17	170	110	67	0.95	7.07
5/8/2007	--		163.25	7.00	27.0	7.03	156.22	--	--	--	--	--	--	--	--
8/8/2007	NP		163.25	7.00	27.0	8.60	154.65	2,900	630	22	67	57	72	0.93	6.79
11/14/2007	--		163.25	7.00	27.0	8.53	154.72	--	--	--	--	--	--	--	--
2/22/2008	P		163.25	7.00	27.0	6.25	157.00	3,900	880	39	180	92	70	2.31	6.87
<b>5/24/2008</b>	<b>--</b>	<b>d</b>	<b>163.25</b>	<b>7.00</b>	<b>27.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-5</b>															
6/20/2000	--		151.33	10.00	23.0	7.84	143.49	<50	<0.5	<0.5	<0.5	<1.0	<10	--	--
9/28/2000	--		151.33	10.00	23.0	8.37	142.96	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/17/2000	--		151.33	10.00	23.0	8.36	142.97	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/23/2001	--		151.33	10.00	23.0	7.55	143.78	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/21/2001	--		151.33	10.00	23.0	8.20	143.13	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/23/2001	--		151.33	10.00	23.0	8.68	142.65	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/31/2001	--		151.33	10.00	23.0	7.57	143.76	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		151.33	10.00	23.0	6.12	145.21	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--
4/17/2002	--		151.33	10.00	23.0	6.61	144.72	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/12/2002	--		151.33	10.00	23.0	8.14	143.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4.1	7.6
12/6/2002	--		151.33	10.00	23.0	8.65	142.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.1	6.8
1/29/2003	--	b	151.33	10.00	23.0	7.22	144.11	<50	<0.5	<0.5	<0.5	<0.5	<0.5	1	6.6
5/23/2003	--		151.33	10.00	23.0	7.31	144.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.6
9/4/2003	--		151.33	10.00	23.0	9.50	141.83	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	6.7
11/20/2003	--		151.33	10.00	23.0	8.31	143.02	--	--	--	--	--	--	--	--

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

**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-5 Cont.</b>															
02/02/2004	--	c, f, h	151.33	10.00	23.0	6.92	144.41	--	--	--	--	--	--	--	--
05/14/2004	--	h	151.33	10.00	23.0	8.56	142.77	--	--	--	--	--	--	--	--
09/02/2004	P	h	151.33	10.00	23.0	8.79	142.54	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.5	6.8
11/04/2004	--	c, h	151.33	10.00	23.0	8.33	143.00	--	--	--	--	--	--	--	--
02/08/2005	--	h	151.33	10.00	23.0	7.28	144.05	--	--	--	--	--	--	--	--
05/09/2005	--	h	151.33	10.00	23.0	8.19	143.14	--	--	--	--	--	--	--	--
08/11/2005	P	h	151.33	10.00	23.0	8.39	142.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.6
11/18/2005	--	h	151.33	10.00	23.0	11.25	140.08	--	--	--	--	--	--	--	--
02/16/2006	--	h	151.33	10.00	23.0	9.22	142.11	--	--	--	--	--	--	--	--
5/30/2006	--	h	151.33	10.00	23.0	7.52	143.81	--	--	--	--	--	--	--	--
8/24/2006	P	h	--	10.00	23.0	7.95	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.60	6.6
11/1/2006	--		151.33	10.00	23.0	8.32	143.01	--	--	--	--	--	--	--	--
2/7/2007	--		151.33	10.00	23.0	8.25	143.08	--	--	--	--	--	--	--	--
5/8/2007	--		151.33	10.00	23.0	7.60	143.73	--	--	--	--	--	--	--	--
8/8/2007	P		151.33	10.00	23.0	8.12	143.21	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.26	7.31
11/14/2007	--		151.33	10.00	23.0	9.10	142.23	--	--	--	--	--	--	--	--
2/22/2008	--		151.33	10.00	23.0	7.48	143.85	--	--	--	--	--	--	--	--
<b>5/24/2008</b>	<b>--</b>		<b>151.33</b>	<b>10.00</b>	<b>23.0</b>	<b>8.12</b>	<b>143.21</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-6</b>															
6/20/2000	--		153.84	5.00	15.0	4.79	149.05	--	--	--	--	--	--	--	--
9/28/2000	--		153.84	5.00	15.0	5.39	148.45	--	--	--	--	--	--	--	--
12/17/2000	--		153.84	5.00	15.0	4.71	149.13	--	--	--	--	--	--	--	--
3/23/2001	--		153.84	5.00	15.0	4.69	149.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/21/2001	--		153.84	5.00	15.0	5.22	148.62	--	--	--	--	--	--	--	--
9/23/2001	--		153.84	5.00	15.0	5.40	148.44	--	--	--	--	--	--	--	--
12/31/2001	--		153.84	5.00	15.0	3.95	149.89	--	--	--	--	--	--	--	--
3/21/2002	--		153.84	5.00	15.0	2.94	150.90	<50	<0.5	<0.5	<0.5	<0.5	5.2	--	--
4/17/2002	--		153.84	5.00	15.0	5.11	148.73	--	--	--	--	--	--	--	--
8/12/2002	--		153.84	5.00	15.0	5.23	148.61	--	--	--	--	--	--	--	--
12/6/2002	--		153.84	5.00	15.0	5.29	148.55	--	--	--	--	--	--	--	--

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

**Station #374, 6407 Telegraph 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)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-6 Cont.</b>															
1/29/2003	--	b	153.84	5.00	15.0	4.79	149.05	--	--	--	--	--	--	--	--
5/23/2003	--		153.84	5.00	15.0	4.31	149.53	<50	<0.50	<0.50	<0.50	<0.50	9.4	1	6.7
09/04/03	--	d	153.84	5.00	15.0	--	--	--	--	--	--	--	--	--	--
11/20/2003	--		153.84	5.00	15.0	6.31	147.53	--	--	--	--	--	--	--	--
02/02/2004	--		159.41	5.00	15.0	4.78	154.63	--	--	--	--	--	--	--	--
05/14/2004	--		159.41	5.00	15.0	6.29	153.12	--	--	--	--	--	--	--	--
09/02/2004	--	d	159.41	5.00	15.0	5.79	153.62	--	--	--	--	--	--	--	--
11/04/2004	--	d	159.41	5.00	15.0	--	--	--	--	--	--	--	--	--	--
02/08/2005	--		159.41	5.00	15.0	5.13	154.28	--	--	--	--	--	--	--	--
05/09/2005	--		159.41	5.00	15.0	4.52	154.89	--	--	--	--	--	--	--	--
08/11/2005	P		159.41	5.00	15.0	5.02	154.39	<50	<0.50	<0.50	<0.50	<0.50	7.9	2.1	6.6
11/18/2005	--		159.41	5.00	15.0	6.31	153.10	--	--	--	--	--	--	--	--
02/16/2006	--		159.41	5.00	15.0	4.24	155.17	--	--	--	--	--	--	--	--
5/30/2006	--		159.41	5.00	15.0	4.45	154.96	--	--	--	--	--	--	--	--
8/24/2006	P		159.41	5.00	15.0	5.18	154.23	<50	<0.50	<0.50	<0.50	<0.50	12	3.4	6.8
11/1/2006	--		159.41	5.00	15.0	6.05	153.36	--	--	--	--	--	--	--	--
2/7/2007	--		159.41	5.00	15.0	5.00	154.41	--	--	--	--	--	--	--	--
5/8/2007	--		159.41	5.00	15.0	4.30	155.11	--	--	--	--	--	--	--	--
8/8/2007	NP		159.41	5.00	15.0	5.51	153.90	<50	<0.50	<0.50	<0.50	<0.50	0.57	2.94	6.87
11/14/2007	--		159.41	5.00	15.0	5.38	154.03	--	--	--	--	--	--	--	--
2/22/2008	--		159.41	5.00	15.0	4.70	154.71	--	--	--	--	--	--	--	--
<b>5/24/2008</b>	--		<b>159.41</b>	<b>5.00</b>	<b>15.0</b>	<b>5.25</b>	<b>154.16</b>	--	--	--	--	--	--	--	--

SYMBOLS AND ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available  
< = Not detected at or above laboratory reporting limit  
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 was not purged prior to sampling  
P = Well was purged prior to sampling  
TOC = Top of casing measured in ft MSL  
TPH-g = Total petroleum hydrocarbons as gasoline  
µg/L = Micrograms per liter  
BTEX = Benzene, toluene, ethylbenzene and xylenes

FOOTNOTES:

a = Chromatogram pattern: Gasoline C6-C10 for GRO/TPH-g.  
b = Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates.  
c = Wells gauged with ORC sock in well.  
d = Well inaccessible  
e = The hydrocarbon result for GRO was partly due to individual peaks in the quantitative range.  
f = Well resurveyed on 1/27/2004  
g = Upon review of survey data (1/27/2004), TOC elevation for MW-4 is actually 162.47 ft.  
h = Upon review of survey data (1/27/2004), MW-5 was not surveyed from the TOC. MW-5 was surveyed from the pavement due to inaccessibility to the TOC. Therefore, survey data for MW-5 from the TOC is unavailable.

NOTES:

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.

The DTW's and TOC's for wells MW-5 and MW-6 were taken from Delta Environmental sampling sheets because the well logs were not available.

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 #374, 6407 Telegraph Ave., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-1</b>									
5/23/2003	<20,000	<4,000	1,600	<100	<100	<100	--	--	
11/20/2003	<2,000	<400	1,500	<10	<10	<10	--	--	a
05/14/2004	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
09/02/2004	<1,000	<200	660	<5.0	<5.0	<5.0	<5.0	<5.0	
11/04/2004	<2,000	<400	580	<10	<10	<10	<10	<10	
02/08/2005	<2,000	<400	610	<10	<10	<10	<10	<10	
05/09/2005	<1,000	<200	620	<5.0	<5.0	<5.0	<5.0	<5.0	a
08/11/2005	<500	250	390	<2.5	<2.5	2.6	<2.5	<2.5	a
11/18/2005	<500	<100	340	<2.5	<2.5	<2.5	<2.5	<2.5	a
02/16/2006	<1,500	<100	340	<2.5	<2.5	<2.5	<2.5	<2.5	
5/30/2006	<1,500	<100	420	<2.5	<2.5	<2.5	<2.5	<2.5	a
8/24/2006	<3,000	<200	180	<5.0	<5.0	<5.0	<5.0	<5.0	
11/1/2006	<3,000	<200	220	<5.0	<5.0	<5.0	<5.0	<5.0	a
2/7/2007	<3,000	<200	190	<5.0	<5.0	<5.0	<5.0	<5.0	
5/8/2007	<3,000	<200	420	<5.0	<5.0	<5.0	<5.0	<5.0	
8/8/2007	<300	<20	110	<0.50	<0.50	<0.50	<0.50	<0.50	
11/14/2007	<1,500	<100	210	<2.5	<2.5	<2.5	<2.5	<2.5	
2/22/2008	<300	<10	250	<0.50	<0.50	1.5	<0.50	<0.50	
<b>5/24/2008</b>	<b>&lt;3,000</b>	<b>&lt;100</b>	<b>380</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	
<b>MW-2</b>									
5/23/2003	<100	<20	55	<0.50	<0.50	0.53	--	--	
02/02/2004	<100	<20	37	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<500	<100	67	<2.5	<2.5	<2.5	<2.5	<2.5	
02/08/2005	<100	<20	30	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	35	<0.50	<0.50	<0.50	<0.50	<0.50	a
02/16/2006	<300	<20	39	<0.50	<0.50	<0.50	<0.50	<0.50	
8/24/2006	<300	<20	25	<0.50	<0.50	<0.50	<0.50	<0.50	
2/7/2007	<300	<20	7.2	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	7.2	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2008	<300	<10	24	<0.50	<0.50	<0.50	<0.50	<0.50	



**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #374, 6407 Telegraph 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>									
5/23/2003	<100	<20	1.6	<0.50	<0.50	<0.50	--	--	
09/02/2004	<100	<20	6.5	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	11	<0.50	<0.50	<0.50	<0.50	<0.50	a
8/24/2006	<300	<20	7.6	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW-4</b>									
5/23/2003	<10,000	<2,000	<50	<50	<50	<50	--	--	
02/02/2004	<500	<100	29	<2.5	<2.5	2.6	<2.5	<2.5	
09/02/2004	<200	<40	28	<1.0	<1.0	<1.0	<1.0	<1.0	
02/08/2005	<5,000	<1,000	45	<25	<25	<25	<25	<25	
08/11/2005	<2,000	<400	32	<10	<10	<10	<10	<10	
02/16/2006	<6,000	<400	35	<10	<10	<10	<10	<10	
8/24/2006	<1,500	<100	39	<2.5	<2.5	<2.5	<2.5	<2.5	
2/7/2007	<6,000	<400	67	<10	<10	<10	<10	<10	
8/8/2007	<6,000	<400	72	<10	<10	<10	<10	<10	
2/22/2008	<6,000	<200	70	<10	<10	<10	<10	<10	
<b>MW-5</b>									
1/29/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
5/23/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
9/4/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<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	
8/24/2006	<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	
<b>MW-6</b>									
5/23/2003	<100	<20	9.4	<0.50	<0.50	<0.50	--	--	
08/11/2005	<100	<20	7.9	<0.50	<0.50	<0.50	<0.50	<0.50	a
8/24/2006	<300	<20	12	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2007	<300	<20	0.57	<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 = The continuing calibration verification for ethanol was outside of client contractual limits, however, it was within method acceptance limits. The data should still be useful for its intended purpose.

NOTES:

All volatile organic compounds analyzed using EPA Method 8260B.

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 #374, 6407 Telegraph Ave., Oakland, CA**

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
1/31/1996	Southwest	0.04
4/10/1996	Southwest	0.04
7/16/1996	Southwest	0.03
10/14/1996	Southwest	0.03
3/27/1997	Southwest	0.04
5/27/1997	Southwest	0.03
8/12/1997	Southwest	0.04
11/17/1997	Southwest	0.03
3/16/1998	Southwest	0.03
5/12/1998	Southwest	0.04
7/27/1998	Southwest	0.04
10/15/1998	Southwest	0.02
2/18/1999	Southwest	0.05
5/24/1999	Southwest	0.03
8/27/1999	Southwest	0.03
10/26/1999	Southwest	0.03
2/3/2000	Southwest	0.047
6/20/2000	Southwest	0.035
9/28/2000	Southwest	0.034
12/17/2000	Southwest	0.032
3/23/2001	Southwest	0.034
6/21/2001	Southwest	0.032
9/23/2001	Southwest	0.029
12/31/2001	Southwest	0.043
3/21/2002	Southwest	0.038
4/17/2002	Southwest	0.031
8/12/2002	Southwest	0.032
12/6/2002	Southwest	0.020
1/29/2003	Southwest	0.027
5/23/2003	Southwest	0.039
9/4/2003	Southwest	0.033
11/20/2003	Southwest	0.029
2/2/2004	Southwest	0.043 (a)
5/14/2004	Southwest	0.037 (a)
9/2/2004	Southwest	0.027 (a)
11/4/2004	Southwest	0.034 (a)
2/8/2005	Southwest	0.061 (a)
5/9/2005	Southwest	0.08 (a)
8/11/2005	Southwest	0.06 (a)
11/18/2005	Southwest	0.07 (a)
2/16/2006	Southwest	0.09 (a)
5/30/2006	Southwest	0.06 (a)

**Table 3. Historical Ground-Water Flow Direction and Gradient  
Station #374, 6407 Telegraph Ave., Oakland, CA**

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
8/24/2006	Southwest	0.03
11/1/2006	Southwest	0.02
2/7/2007	Southwest	0.03
5/8/2007	Southwest	0.03
8/8/2007	Southwest	0.03
11/14/2007	Southwest	0.03
2/22/2008	Southwest	0.03
<b>5/24/2008</b>	<b>Southwest</b>	<b>0.03</b>

a = Gradients potentially suspect due to error in MW-4 and MW-5 TOC measuring point elevations discovered third quarter 2006.

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 SHEETS, 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

June 10, 2008

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

Re: Groundwater Sampling Data Package, ARCO Service Station No. 374, located at  
6407 Telegraph 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:* May 24, 2008

*Arrival:* 14:00                      *Departure:* 15:00

*Weather Conditions:* Cloudy

*Unusual Field Conditions:* None noted.

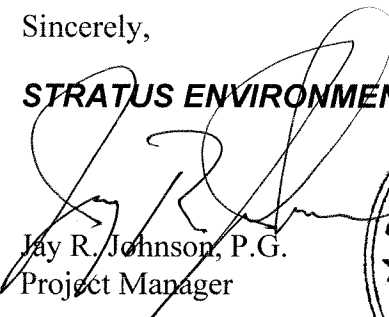
*Scope of Work Performed:* Quarterly monitoring and sampling.

*Variations from Work Scope:* Well MW-4 is located within a large well box (>24" diameter cover) and therefore was not accessed for sampling and gauging during this event.

This submittal presents the tabulation of data collected in association with routine groundwater monitoring. The attachments include field data sheets, non-hazardous waste data form, 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
- Non-Hazardous Waste Data Form
- Chain of Custody Documentation
- Certified Analytical Results
- Field Procedures for Groundwater Monitoring

CC: Mr. Paul Supple, BP/ARCO





**BP ALAMEDA PORTFOLIO**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 374 PURGED BY: JG WELL I.D.: MW-1  
 CLIENT NAME: \_\_\_\_\_ SAMPLED BY: JG SAMPLE I.D.: MW-1  
 LOCATION: Oakland - 6407 Telegraph Ave. QA SAMPLES: \_\_\_\_\_

DATE PURGED 5/29/08 START (2400hr) 19:49 END (2400hr) 1751  
 DATE SAMPLED 5/29/08 SAMPLE TIME (2400hr) 1450  
 SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

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

DEPTH TO BOTTOM (feet) = 26.55 CASING VOLUME (gal) = 3.2  
 DEPTH TO WATER (feet) = 7.58 CALCULATED PURGE (gal) = 9.6  
 WATER COLUMN HEIGHT (feet) = 18.9 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>5/29/08</u>	<u>1951</u>	<u>0</u>	<u>19.4</u>	<u>874</u>	<u>6.81</u>	<u>clear</u>	
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE DEPTH TO WATER: 7.58 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE:  YES  NO ANALYSES: SWO  
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 Vials

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailor (Teflon)	<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailor (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailor (PVC)	<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailor ( <input type="checkbox"/> PVC or <input checked="" type="checkbox"/> disposable)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailor (Stainless Steel)	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailor (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#: MRSTY  
 REMARKS: DO 228

SIGNATURE: \_\_\_\_\_ Page \_\_\_\_ of \_\_\_\_

# WELLHEAD OBSERVATION FORM



Site Name/Number: 394

Date: 5/29/08 Technician: Jeremy

Well I.D.	Box in Good Condition? <small>X = Yes Blank = No</small>	Lock Missing? <small>X = Yes (replace) Blank = No</small>	Water in Wellbox? <small>X = Yes Blank = No</small>	Water Level Relative to Cap? <small>A = Above cap B = Below cap L = Level w/cap</small>	Well Cap? <small>I = Intact M = Missing or Compromised (replace)</small>	Bolts Missing? <small>X = Yes Blank = No</small>	Bolts Stripped? <small>X = Yes Blank = No</small>	Bolt Holes Stripped? <small>X = Yes Blank = No</small>	Cracked or Broken Lid? <small>X = Yes Blank = No</small>	Cracked or Broken Box? <small>X = Yes Blank = No</small>	Grout Level more than 1ft below TOC? <small>X = Yes Blank = No</small>	Additional Comments <small>(such as missing lid, concrete needs replacement, or other - explain)</small>
MW-1	X				I							
MW-2	X				I							
MW-3	X				I	X						
MW-4	X				I							
MW-5	X				I							
MW-6	X				I							

**DRUM INVENTORY**

Drums on site? Yes   No (circle)  
 Type and # Steel: \_\_\_\_\_ Plastic: \_\_\_\_\_

Note whether drums are full or empty, solids or liquids:

\_\_\_\_\_  
 Drum label info (description, date, contact info):  
 \_\_\_\_\_  
 \_\_\_\_\_

**GENERAL SITE CONDITIONS**

Make notes on housekeeping conditions (such as trash around remediation system enclosure/compound, bent or missing bollards, signs missing from compound fences, graffiti on compound, etc.)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NO. 666741

# NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

SITE:

NAME EB WEST COAST PRODUCTS LLC ARCO # 399 EPA I.D. NO. NOT REQUIRED

ADDRESS P.O. BOX 80249 PROFILE NO.                     

RANCHO SANTA MARGARITA

CITY, STATE, ZIP CA 92689 PHONE NO.                     

CONTAINERS: No.                      VOLUME                      WEIGHT                     

TYPE:  TANK TRUCK  DUMP TRUCK  DRUMS  CARTONS  OTHER                     

WASTE DESCRIPTION NON-HAZARDOUS WATER GENERATING PROC. WELL SURGINGS/DECON WATER

COMPONENTS OF WASTE		PPM	%	COMPONENTS OF WASTE		PPM	%
1.	<u>WATER</u>	<u>99-100%</u>		5.			
2.	<u>TPH</u>	<u>&lt;1%</u>		6.			
3.				7.	<u>RESID</u>		
4.				8.			

PROPERTIES: 7-10  SOLID  LIQUID  SLUDGE  SLURRY  OTHER                     

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PROTECTIVE CLOTHING

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Larry Neumann RESID for OP  
TYPED OR PRINTED FULL NAME & SIGNATURE DATE                     

TRANSPORTER

NAME Transporter #1 STRATUS ENVIRONMENTAL EPA I.D. NO.                     

ADDRESS 3330 CAMERON PARK DR SERVICE ORDER NO.                     

CITY, STATE, ZIP CAMERON PARK, CA 95002 PICK UP DATE                     

PHONE NO. 530-675-2031 Jerry Neumann DATE                     

TRUCK UNIT I.D. NO.                      TYPED OR PRINTED FULL NAME & SIGNATURE DATE                     

TSD FACILITY

NAME INSTRAT, INC. EPA I.D. NO.                     

ADDRESS 1105 AIRPORT RD #C DISPOSAL METHOD  LANDFILL  OTHER                     

CITY, STATE, ZIP RIO VISTA, CA 94571

PHONE NO. 530-753-1829

                      
TYPED OR PRINTED FULL NAME & SIGNATURE DATE                     

GEN	OLD/NEW	L	A	TONS
TRANS		S	B	
CO		RT/CS	HWDF	NONE

DISCREPANCY



A BP affiliated company

### Chain of Custody Record

Project Name: BP 374  
 BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > CA > Alameda-374  
 State or Lead Regulatory Agency: \_\_\_\_\_  
 Requested Due Date (mm/dd/yy): \_\_\_\_\_

On-site Time: <u>1405</u>	Temp: <u>70</u>
Off-site Time: <u>1500</u>	Temp: <u>71</u>
Sky Conditions: <u>Cloudy</u>	
Meteorological Events: <u>NONE</u>	
Wind Speed: <u>—</u>	Direction: <u>SE</u>

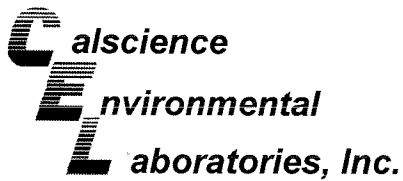
Lab Name: <u>Calscience</u>	BP/AR Facility No.: <u>374</u>	Consultant/Contractor: <u>Stratus Environmental, Inc.</u>
Address: <u>7440 Lincoln Way</u> <u>Garden Grove, CA 92841</u>	BP/AR Facility Address: <u>6407 Telegraph Ave., Oakland</u>	Address: <u>3330 Cameron Park Drive, Suite 550</u> <u>Cameron Park, CA 95682</u>
Lab PM: <u>Linda Scharpenberg</u>	California Global ID #: <u>T0600100106</u>	Consultant/Contractor Project No.: <u>E374-04</u>
Tele/Fax: <u>714-895-5494</u> <u>714-895-7501 (fax)</u>	Enfos Project No.: <u>G0C21-0021</u>	Consultant/Contractor PM: <u>Jay Johnson</u>
BP/AR PM Contact: <u>Paul Sappie</u>	Provision or RCOP (circle one) <u>Provision</u>	Tele/Fax: <u>(530) 676-6000 / (530) 676-6005</u>
Address: <u>2010 Crow Canyon Place, Suite 150</u> <u>San Ramon, CA</u>	Phase/WBS: <u>04-Monitoring</u>	Report Type & QC Level: <u>Level 1 with EDF</u>
Tele/Fax: <u>925-275-3506</u>	Sub Phase/Task: <u>03-Analytical</u>	E-mail EDD To: <u>shaves@stratusinc.net</u>
	Cost Element: <u>01-Contractor labor</u>	Invoice to: <u>Atlantic Richfield Co.</u>

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
				Soil/Solid	Water/Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	BTEX/Oxy* by 8260	1,2 DCA	Ethanol	EDB	GRO by 8015m	
1	MW-1	1450	5/24/08	X			15			X				X	X	X	X	X	
2	IB 374 0524200Y	400	5/29/08	X			2				X			X	X	X	X	X	HOLD
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler's Name: <u>Juan Gonzalez</u>	Relinquished By / Affiliation: _____	Date: _____	Time: _____	Accepted By / Affiliation: _____	Date: _____	Time: _____
Sampler's Company: <u>Dan's Env</u>	_____					
Shipment Date: _____	_____					
Shipment Method: _____	_____					
Shipment Trucking No: _____	_____					

Special Instructions: Please cc results to: rmler@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



June 10, 2008

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

Subject: **Calscience Work Order No.: 08-05-2375**  
**Client Reference: BP 374**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/28/2008 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.

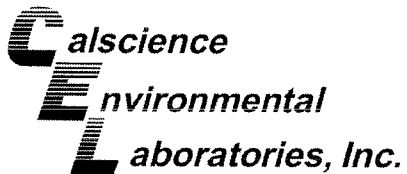
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Philip Scavelle for".

Calscience Environmental  
Laboratories, Inc.  
Linda Scharpenberg  
Project Manager

A handwritten signature in cursive script, likely belonging to Linda Scharpenberg.



**CASE NARRATIVE – 08-05-2375**

**Data Qualifiers - EPA 8260:**

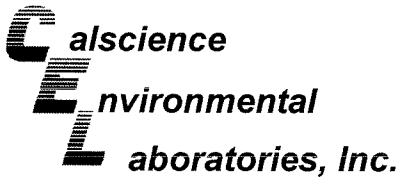
080603S02:

The RPD for toluene and ethanol were outside criteria in the MS/MSD. The RPD was within criteria in the LCS/LCSD. The MS/MSD has been flagged "4" within the report.

**"4" = BA, AY**

BA – Relative Percent Difference out of Control  
AY = Matrix Interference Suspected

A handwritten signature in black ink is located at the bottom left of the page. The signature is stylized and appears to be a name.



Analytical Report



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

Date Received: 05/28/08  
 Work Order No: 08-05-2375  
 Preparation: EPA 5030B  
 Method: EPA 8015B (M)

Project: BP 374

Page 1 of 1

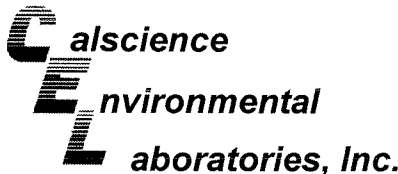
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	08-05-2375-1-C	05/24/08 14:50	Aqueous	GC 29	06/02/08	06/03/08 07:23	080602B02

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	48	38-134			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-695-153	N/A	Aqueous	GC 29	06/02/08	06/03/08 02:18	080602B02

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	66	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: 05/28/08  
 Work Order No: 08-05-2375  
 Preparation: EPA 5030B  
 Method: EPA 8260B  
 Units: ug/L

Project: BP 374

Page 1 of 1

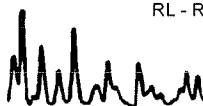
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	08-05-2375-1-B	05/24/08 14:50	Aqueous	GC/MS BB	06/03/08	06/04/08 10:41	080603L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	5.0	10		Methyl-t-Butyl Ether (MTBE)	380	5.0	10	
1,2-Dibromoethane	ND	5.0	10		Tert-Butyl Alcohol (TBA)	ND	100	10	
1,2-Dichloroethane	ND	5.0	10		Diisopropyl Ether (DIPE)	ND	5.0	10	
Ethylbenzene	ND	5.0	10		Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	
Toluene	ND	5.0	10		Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	
Xylenes (total)	ND	5.0	10		Ethanol	ND	3000	10	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	116	73-157			Dibromofluoromethane	113	82-142		
Toluene-d8	97	82-112			1,4-Bromofluorobenzene	85	75-105		

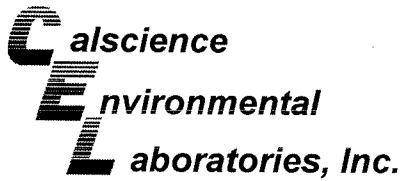
Method Blank	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
	099-12-703-258	N/A	Aqueous	GC/MS BB	06/03/08	06/04/08 03:43	080603L02

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	124	73-157			Dibromofluoromethane	114	82-142		
Toluene-d8	97	82-112			1,4-Bromofluorobenzene	83	75-105		

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

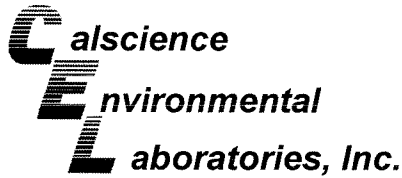
Date Received: 05/28/08  
 Work Order No: 08-05-2375  
 Preparation: EPA 5030B  
 Method: EPA 8015B (M)

Project BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-05-2479-13	Aqueous	GC 29	06/02/08	06/03/08	080602S02

<u>Parameter</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	94	91	38-134	2	0-25	

RPD - Relative Percent Difference, CL - Control Limit



## Quality Control - Spike/Spike Duplicate



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

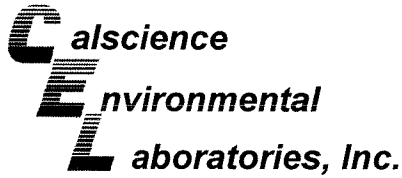
Date Received: 05/28/08  
Work Order No: 08-05-2375  
Preparation: EPA 5030B  
Method: EPA 8260B

Project BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-06-0103-4	Aqueous	GC/MS BB	06/03/08	06/04/08	080603S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	106	107	86-122	1	0-8	
Carbon Tetrachloride	109	108	78-138	1	0-9	
Chlorobenzene	101	104	90-120	3	0-9	
1,2-Dibromoethane	98	106	70-130	8	0-30	
1,2-Dichlorobenzene	101	100	89-119	1	0-10	
1,1-Dichloroethene	110	96	52-142	13	0-23	
Ethylbenzene	108	107	70-130	0	0-30	
Toluene	103	91	85-127	13	0-12	4
Trichloroethene	97	95	78-126	2	0-10	
Vinyl Chloride	95	87	56-140	8	0-21	
Methyl-t-Butyl Ether (MTBE)	109	95	64-136	14	0-28	
Tert-Butyl Alcohol (TBA)	105	109	27-183	4	0-60	
Diisopropyl Ether (DIPE)	112	96	78-126	15	0-16	
Ethyl-t-Butyl Ether (ETBE)	109	94	67-133	14	0-21	
Tert-Amyl-Methyl Ether (TAME)	103	100	63-141	2	0-21	
Ethanol	45	90	11-167	67	0-64	4

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

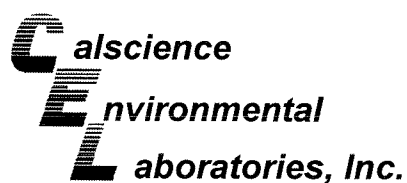
Date Received: N/A  
 Work Order No: 08-05-2375  
 Preparation: EPA 5030B  
 Method: EPA 8015B (M)

Project: BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-153	Aqueous	GC 29	06/02/08	06/03/08	080602B02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	92	94	78-120	2	0-20	

RPD - Relative Percent Difference, CL - Control Limit



## 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: 08-05-2375  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-258	Aqueous	GC/MS BB	06/03/08	06/04/08	080603L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	100	87-117	0	0-7	
Carbon Tetrachloride	107	108	78-132	0	0-8	
Chlorobenzene	98	99	88-118	0	0-8	
1,2-Dibromoethane	102	102	80-120	0	0-20	
1,2-Dichlorobenzene	98	102	88-118	3	0-8	
1,1-Dichloroethene	105	104	71-131	1	0-14	
Ethylbenzene	102	105	80-120	3	0-20	
Toluene	100	97	85-127	3	0-7	
Trichloroethene	108	110	85-121	2	0-11	
Vinyl Chloride	95	94	64-136	0	0-10	
Methyl-t-Butyl Ether (MTBE)	110	103	67-133	6	0-16	
Tert-Butyl Alcohol (TBA)	95	107	34-154	11	0-19	
Diisopropyl Ether (DIPE)	111	105	80-122	6	0-8	
Ethyl-t-Butyl Ether (ETBE)	109	105	73-127	3	0-11	
Tert-Amyl-Methyl Ether (TAME)	103	98	69-135	5	0-12	
Ethanol	82	83	34-124	2	0-44	

RPD - Relative Percent Difference, CL - Control Limit



Work Order Number: 08-05-2375

<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/PDSB 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.



## Chain of Custody Record

Project Name: BP 374  
 BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > CA > Alameda > 374  
 State or Lead Regulatory Agency: \_\_\_\_\_  
 Requested Due Date (mm/dd/yy): \_\_\_\_\_

2375

On-site Time: <u>1400</u>	Temp: <u>90</u>
Off-site Time: <u>1500</u>	Temp: <u>71</u>
Sky Conditions: <u>Cloudy</u>	
Meteorological Events: <u>NONE</u>	
Wind Speed: <u>—</u>	Direction: <u>SE</u>

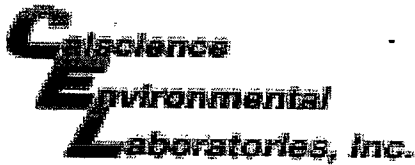
Lab Name: <u>Calscience</u>	BP/AR Facility No.: <u>374</u>	Consultant/Contractor: <u>Stratus Environmental, Inc.</u>
Address: <u>7440 Lincoln Way</u> <u>Garden Grove, CA 92841</u>	BP/AR Facility Address: <u>6407 Telegraph Ave., Oakland</u>	Address: <u>3330 Cameron Park Drive, Suite 550</u> <u>Cameron Park, CA 95682</u>
Lab PM: <u>Linda Scharpenberg</u>	Site Lat/Long: _____	Consultant/Contractor Project No.: <u>E374-04</u>
Tele/Fax: <u>714-895-5494</u> <u>714-895-7501(fax)</u>	California Global ID #: <u>T0600100106</u>	Consultant/Contractor PM: <u>Jay Johnson</u>
BP/AR PM Contact: <u>Paul Supple</u>	Enfos Project No.: <u>G0C21-0021</u>	Tele/Fax: <u>(530) 676-6000 / (530) 676-6005</u>
Address: <u>2010 Crow Canyon Place, Suite 150</u> <u>San Ramon, CA</u>	Provision or RCOP (circle one) <u>Provision</u>	Report Type & QC Level: <u>Level 1 with EDF</u>
Tele/Fax: <u>925-275-3506</u>	Phase/WBS: <u>04-Monitoring</u>	E-mail EDD To: <u>shaves@stratusinc.net</u>
	Sub Phase/Task: <u>03-Analytical</u>	Invoice to: <u>Atlantic Richfield Co.</u>
	Cost Element: <u>01-Contractor labor</u>	

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments *Oxy = MTBD, TAME, ETBE, DIPE, TBA
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	BTEX/Oxy* by 8260	1,2 DCA	Ethanol	EDB	GRO by 8015m	
1	MW-1	1450	5/24/08		X		6			X		X	X	X	X	X			
2	TB 374 05242008	400	5/24/08		X		2			X		X	X	X	X	X			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler's Name: <u>Jerry Gonzalez</u>	Relinquished By / Affiliation: _____	Date: _____	Time: _____	Accepted By / Affiliation: _____	Date: _____	Time: _____
Sampler's Company: <u>Doulo's Env</u>	Signature: _____					
Shipment Date: _____						
Shipment Method: _____						
Shipment Tracking No: <u>GSO 105748746</u>						

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 - 05 - 2375

Cooler 1 of 1

### SAMPLE RECEIPT FORM

CLIENT: Stratus

DATE: 5/28/08

**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):**

- 3.8 °C Temperature blank.
- °C IR thermometer.
- Ambient temperature.

Initial: JR

**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_ Cooler:  No (Not Intact) : \_\_\_\_\_ Not Present: \_\_\_\_\_

Initial: JR

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with custody papers.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on sample label(s).....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOA vial(s) free of headspace. ....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initial: JR

**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  $\mu$ s daily and 1413  $\mu$ s and 447  $\mu$ s 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 CONFIRMATIONS**

# Electronic Submittal Information

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

## UPLOADING A GEO\_WELL FILE

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

<b><u>Submittal Title:</u></b>	<b>2Q08 GEO_WELL 374</b>
<b><u>Facility Global ID:</u></b>	<b>T0600100106</b>
<b><u>Facility Name:</u></b>	<b>ARCO #0374</b>
<b><u>Submittal Date/Time:</u></b>	<b>6/20/2008 11:36:39 AM</b>
<b><u>Confirmation Number:</u></b>	<b>6809496819</b>

[Back to Main Menu](#)

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:** 6415801644

**Date/Time of Submittal:** 6/20/2008 11:40:08 AM

**Facility Global ID:** T0600100106

**Facility Name:** ARCO #0374

**Submittal Title:** 2Q08 GW Monitoring

**Submittal Type:** GW Monitoring Report

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

<b>ARCO #0374</b> 6407 TELEGRAPH OAKLAND, CA 94609	<b>Regional Board - Case #: 01-0114</b> SAN FRANCISCO BAY RWQCB (REGION 2) <b>Local Agency (lead agency) - Case #: RO0000078</b> ALAMEDA COUNTY LOP - (PK)
--	---

<u>CONF #</u>	<u>TITLE</u>	<u>QUARTER</u>
6415801644	2Q08 GW Monitoring	Q2 2008
<u>SUBMITTED BY</u> Broadbent & Associates, Inc.	<u>SUBMIT DATE</u> 6/20/2008	<u>STATUS</u> PENDING REVIEW

## SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	1
# FIELD POINTS WITH DETECTIONS	1
# 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%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
<b>SURROGATE SPIKES % RECOVERY BETWEEN 85-115%</b>	<b>N</b>
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

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**FIELD QC SAMPLES**

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as BROADBENT-C (CONTRACTOR)

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