



Atlantic Richfield Company  
(a BP affiliated company)

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

30 April 2009

Re: First Quarter 2009 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

**RECEIVED**

10:21 am, May 01, 2009

Alameda County  
Environmental Health



**First Quarter 2009 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*

30 April 2009

Project No. 06-08-602

30 April 2009

Project No. 06-08-602

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

Attn.: Mr. Paul Supple

Re: First Quarter 2009 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 *First Quarter 2009 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 First Quarter of 2009.

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 (First Quarter 2009):

1. Prepared and submitted *Fourth Quarter 2008 Ground-Water Monitoring Report* (BAI, 1/23/2009).
2. Conducted ground-water monitoring/sampling for First Quarter 2009. Work performed on 23 February 2009 by Stratus.

### WORK PROPOSED FOR NEXT QUARTER (Second Quarter 2009):

1. Prepared and submitted this *First Quarter 2009 Ground-Water Monitoring Report* (contained herein).
2. Conduct quarterly ground-water monitoring/sampling for Second Quarter 2009.
3. Respond to directive letter from ACEH dated 20 March 2009 on or before 19 May 2009, as requested.

### 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>5.00 ft (MW-6) to 10.20 ft (MW-5)</b>
General ground-water flow direction:	<b>Southwest</b>
Approximate hydraulic gradient:	<b>0.04 ft/ft</b>

### DISCUSSION:

First quarter 2009 ground-water monitoring and sampling was conducted at Station #374 on 23 February 2009 by Stratus. Water levels were gauged in each of the six wells at the Site. No irregularities were noted in the field during this quarter's water level gauging. Depth-to-water measurements ranged from 5.00 ft at MW-6 to 10.20 ft at MW-5. Resulting ground-water surface elevations ranged from 158.17 ft above mean sea level (msl) in well MW-1 to 141.13 ft at well MW-5. Water level elevations were between historic minimum and maximum ranges for each well, as summarized in Table 1, with the following exception: the water level elevation reached a historic maximum value of 156.79 ft above msl in well MW-2. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the southwest at approximately 0.04 ft/ft, generally 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 wells MW-1, MW-2, and MW-4 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.

GRO was detected above the laboratory reporting limits in each of the three wells sampled this quarter up to a concentration of 3,000 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-4. Benzene was detected above the laboratory reporting limits in two of the three wells sampled at concentrations of 1.0  $\mu\text{g/L}$  and 220  $\mu\text{g/L}$  in wells MW-2 and MW-4, respectively. Toluene was detected above the laboratory reporting limits in well MW-4 at a concentration of 9.1  $\mu\text{g/L}$ . Ethylbenzene was detected above the laboratory reporting limits in well MW-4 at a concentration of 23  $\mu\text{g/L}$ . Total xylenes were detected above the laboratory reporting limits in well MW-4 at a concentration of 19  $\mu\text{g/L}$ . MTBE was detected above the laboratory reporting limits in each of the three wells sampled up to a concentration of 240  $\mu\text{g/L}$  in well MW-1. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in each well sampled. Detected analyte concentrations were within the historic minimum and maximum ranges recorded for wells MW-1, MW-2, and MW-4. 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:**

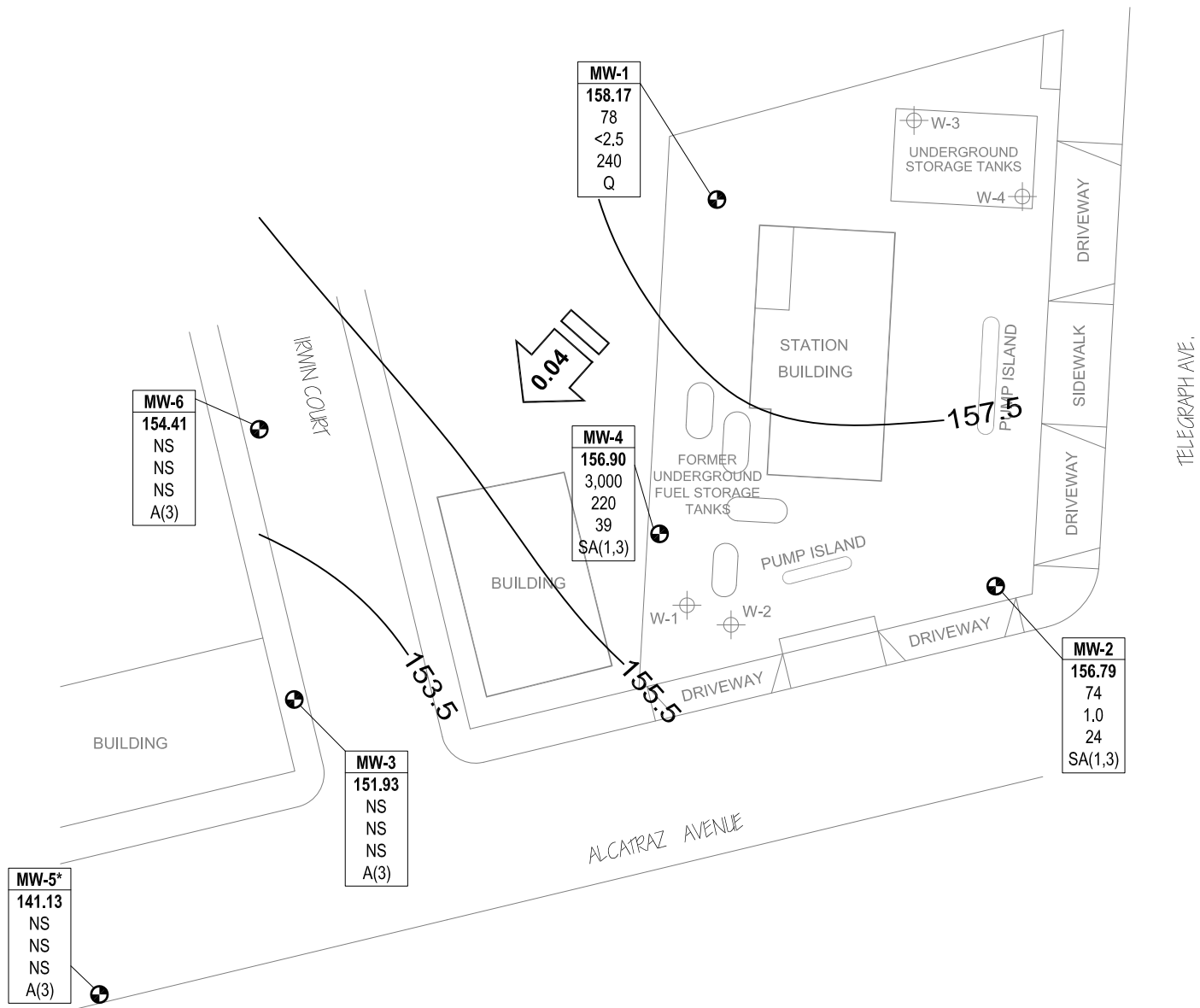
The findings presented in this report are based upon: observations of Stratus field personnel (see Appendix A), the points investigated, and results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, California). Our services were performed in accordance with 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, 23 February 2009, Station #374, 6407 Telegraph Avenue, Oakland, California

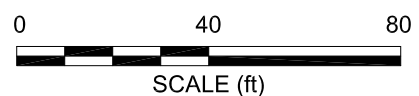
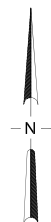
Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #374, 6407 Telegraph Ave., Oakland, California

- 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)
- 155.5 — 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		164.57	7.00	27.0	7.58	156.99	<50	<5.0	<5.0	<5.0	<5.0	380	2.28	6.81
8/21/2008	NP		164.57	7.00	27.0	8.60	155.97	<50	<2.5	<2.5	<2.5	<2.5	170	2.16	6.98
11/19/2008	NP		164.57	7.00	27.0	8.88	155.69	<50	<0.50	<0.50	<0.50	<0.50	30	2.12	7.27
<b>2/23/2009</b>	<b>P</b>		<b>164.57</b>	<b>7.00</b>	<b>27.0</b>	<b>6.40</b>	<b>158.17</b>	<b>78</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>240</b>	<b>2.19</b>	<b>6.03</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

**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>															
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	--	--	--	--	--	--	--	--
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
5/24/2008	--		163.46	7.00	27.0	7.98	155.48	--	--	--	--	--	--	--	--
8/21/2008	NP		163.46	7.00	27.0	8.58	154.88	<50	2.6	<0.50	<0.50	<0.50	4.9	2.20	7.11
11/19/2008	--		163.46	7.00	27.0	8.66	154.80	--	--	--	--	--	--	--	--
<b>2/23/2009</b>	<b>P</b>		<b>163.46</b>	<b>7.00</b>	<b>27.0</b>	<b>6.67</b>	<b>156.79</b>	<b>74</b>	<b>1.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>24</b>	<b>2.25</b>	<b>6.16</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	--	--	--	--	--	--	--	--

**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>															
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--
5/24/2008	--		159.21	7.00	27.0	7.03	152.18	--	--	--	--	--	--	--	--
8/21/2008	NP		159.21	7.00	27.0	7.80	151.41	<50	<0.50	<0.50	<0.50	<0.50	3.1	2.11	6.84
11/19/2008	--		159.21	7.00	27.0	7.69	151.52	--	--	--	--	--	--	--	--
<b>2/23/2009</b>	<b>--</b>		<b>159.21</b>	<b>7.00</b>	<b>27.0</b>	<b>7.28</b>	<b>151.93</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	--	--	--	--	--	--	--	--

**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>															
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	--	--	--	--	--	--	--	--
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
5/24/2008	--	d	163.25	7.00	27.0	--	--	--	--	--	--	--	--	--	--
8/21/2008	NP		163.25	7.00	27.0	8.96	154.29	3,700	1,100	26	85	130	53	2.26	6.80
11/19/2008	--		163.25	7.00	27.0	9.20	154.05	--	--	--	--	--	--	--	--
<b>2/23/2009</b>	<b>P</b>		<b>163.25</b>	<b>7.00</b>	<b>27.0</b>	<b>6.35</b>	<b>156.90</b>	<b>3,000</b>	<b>220</b>	<b>9.1</b>	<b>23</b>	<b>19</b>	<b>39</b>	<b>2.21</b>	<b>6.51</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	--	--

**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>															
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--
5/24/2008	--		151.33	10.00	23.0	8.12	143.21	--	--	--	--	--	--	--	--
8/21/2008	P		151.33	10.00	23.0	8.65	142.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.14	6.54

**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-5 Cont.</b>															
11/19/2008	--		151.33	10.00	23.0	11.86	139.47	--	--	--	--	--	--	--	--
<b>2/23/2009</b>	<b>--</b>		<b>151.33</b>	<b>10.00</b>	<b>23.0</b>	<b>10.20</b>	<b>141.13</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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--

**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>															
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	--	--	--	--	--	--	--	--
5/24/2008	--		159.41	5.00	15.0	5.25	154.16	--	--	--	--	--	--	--	--
8/21/2008	NP		159.41	5.00	15.0	6.14	153.27	<50	<0.50	<0.50	<0.50	<0.50	1.9	1.99	7.13
11/19/2008	--		159.41	5.00	15.0	5.94	153.47	--	--	--	--	--	--	--	--
<b>2/23/2009</b>	<b>--</b>		<b>159.41</b>	<b>5.00</b>	<b>15.0</b>	<b>5.00</b>	<b>154.41</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</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.

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

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



**Table 2. Summary of Fuel Additives Analytical Data  
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	
5/24/2008	<3,000	<100	380	<5.0	<5.0	<5.0	<5.0	<5.0	
8/21/2008	<1,500	<50	170	<2.5	<2.5	<2.5	<2.5	<2.5	
10/19/2008	<300	<10	30	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>2/23/2009</b>	<b>&lt;1,500</b>	<b>&lt;50</b>	<b>240</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>&lt;2.5</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	

**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-2 Cont.</b>									
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	
8/21/2008	<300	<10	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>2/23/2009</b>	<b>&lt;300</b>	<b>&lt;10</b>	<b>24</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>MW-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	
8/21/2008	<300	<10	3.1	<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	
8/21/2008	<12,000	<400	53	<20	<20	<20	<20	<20	
<b>2/23/2009</b>	<b>&lt;3,000</b>	<b>&lt;100</b>	<b>39</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-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	

**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-5 Cont.</b>									
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	
8/21/2008	<300	<10	<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	
8/21/2008	<300	<10	1.9	<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**

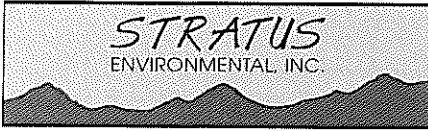
<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
8/24/2006	Southwest	0.03
11/1/2006	Southwest	0.02
2/7/2007	Southwest	0.03
5/8/2007	Southwest	0.03
8/8/2007	Southwest	0.03
11/14/2007	Southwest	0.03
2/22/2008	Southwest	0.03
5/24/2008	Southwest	0.03
8/21/2008	Southwest	0.03
11/19/2008	Southwest	0.03
<b>2/23/2009</b>	<b>Southwest</b>	<b>0.04</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

March 3, 2009

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:* Carol Huff / Jay Johnson

*Phone Number:* (530) 676-6000

*On-Site Supplier Representative:* Jerry Gonzales and Diego Heimlich

*Sampling Date:* February 23, 2009

*Unusual Field Conditions:* None noted.

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

*Variations from Work Scope:* None noted.

This submittal presents the 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.



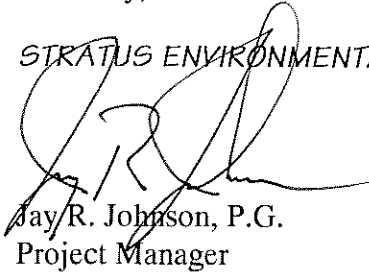
Mr. Rob Miller, Broadbent & Associates, Inc.  
Groundwater Sampling Data Package  
ARCO Service Station No. 374, Oakland, CA  
Page 2

March 3, 2009

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

## HYDROLOGIC DATA SHEET

AT 11:30

Gauge Date: 2-23-09

Project Name: 6407 Telegraph Ave, Oakland

Field Technician: Jerry

Project Number: 374

TOC = Top of Well Casing Elevation  
 TOS = Depth to Top of Screen  
 DTW = Depth to Groundwater Below TOC  
 DTB = Depth to Bottom of Well Casing Below TOC

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

WELL OR LOCATION	TIME	MEASUREMENT						PURGE & SAMPLE	SHEEN CONFIRMATION (w/baller)	COMMENTS
		TOC	TOS	DTW	DTB	DIA	ELEV			
nw-1	11:35			6.40	26.55	4"		Y		
nw-2	11:59			6.67	26.15	4"		X	FW	
nw-3	11:40			7.28	26.65	4"				
nw-4	11:54			6.35	26.80	4"		Y	Large h'd-FW	
nw-5	11:47			10.20	22.95	4"				
nw-6	11:43			5.00	14.45	4"				

FW - Diego Heinrich

Calibration Date

pH/Conductivity/temperature Meter - YSI Model 63

pH 2-23-09

DO Meter - YSI 55 Series (DO is always measured before purge)

Conductivity 2-23-09

Please refer to groundwater sampling field procedures

DO

# BP ALAMEDA PORTFOLIO

## WATER SAMPLE FIELD DATA SHEET

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

DATE PURGED 2-23-09 START (2400hr) 1202 END (2400hr) 1221  
 DATE SAMPLED 2-23-09 SAMPLE TIME (2400hr) 1220  
 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) = 13.5  
 DEPTH TO WATER (feet) = 6.40 CALCULATED PURGE (gal) = 40.5  
 WATER COLUMN HEIGHT (feet) = 20.15 ACTUAL PURGE (gal) = 45

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>2-23-09</u>	<u>1205</u>	<u>10</u>	<u>16.7</u>	<u>933</u>	<u>6.22</u>	<u>clear</u>	
	<u>1209</u>	<u>25</u>	<u>16.9</u>	<u>933</u>	<u>6.19</u>	<u>1</u>	
	<u>1212</u>	<u>40</u>	<u>17.6</u>	<u>932</u>	<u>6.03</u>		

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 8.59 SAMPLE TURBIDITY: clear

80% RECHARGE:  YES  NO ANALYSES: SWO  
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 VOAS 1 HCL

#### PURGING EQUIPMENT

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 26

#### SAMPLING EQUIPMENT

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

WELL INTEGRITY: Good LOCK#: M251

REMARKS: D.O. = 2.19

SIGNATURE: JG Page 1 of 1

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

PROJECT #: 374 PURGED BY: JG WELL I.D.: nw-2  
 CLIENT NAME: \_\_\_\_\_ SAMPLED BY: JG SAMPLE I.D.: nw-2  
 LOCATION: Oakland - 6407 Telegraph Ave. QA SAMPLES: \_\_\_\_\_

DATE PURGED 2-23-09 START (2400hr) 12:26 END (2400hr) 12:55  
 DATE SAMPLED 2-28-09 SAMPLE TIME (2400hr) 12:45  
 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) = 26.15 CASING VOLUME (gal) = 13.05  
 DEPTH TO WATER (feet) = 6.67 CALCULATED PURGE (gal) = 39.2  
 WATER COLUMN HEIGHT (feet) = 19.48 ACTUAL PURGE (gal) = 40

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>2-23-09</u>	<u>12:32</u>	<u>15</u>	<u>19.0</u>	<u>643</u>	<u>6.40</u>	<u>clear</u>	<u>1</u>
<u> </u>	<u>12:38</u>	<u>30</u>	<u>19.8</u>	<u>618</u>	<u>6.33</u>	<u> </u>	<u> </u>
<u> </u>	<u>12:43</u>	<u>40</u>	<u>19.6</u>	<u>624</u>	<u>6.16</u>	<u> </u>	<u> </u>

SAMPLE DEPTH TO WATER: 9.13 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE:  YES  NO ANALYSES: SWO  
 ODDS: Yes SAMPLE VESSEL / PRESERVATIVE: 6 VOAS / HCL

**PURGING EQUIPMENT**  
 Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 25.5

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

WELL INTEGRITY: Good LOCK#: Master

REMARKS: D.O. = 2.25

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

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

PROJECT #: 374 PURGED BY: JG WELL I.D.: mm-4  
 CLIENT NAME: \_\_\_\_\_ SAMPLED BY: JG SAMPLE I.D.: mm-4  
 LOCATION: Oakland - 6407 Telegraph Ave. QA SAMPLES: \_\_\_\_\_

DATE PURGED 2-23-09 START (2400hr) 1303 END (2400hr) 1323  
 DATE SAMPLED 2-23-09 SAMPLE TIME (2400hr) 1320  
 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) = 26.30 CASING VOLUME (gal) = 13.7  
 DEPTH TO WATER (feet) = 6.35 CALCULATED PURGE (gal) = 41.1  
 WATER COLUMN HEIGHT (feet) = 20.45 ACTUAL PURGE (gal) = 43

FIELD MEASUREMENTS							
DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>2-23-09</u>	<u>1308</u>	<u>15</u>	<u>18.2</u>	<u>1089</u>	<u>6.74</u>	<u>clr</u>	<u> </u>
<u> </u>	<u>1313</u>	<u>30</u>	<u>18.4</u>	<u>1181</u>	<u>6.60</u>	<u> </u>	<u> </u>
<u> </u>	<u>1319</u>	<u>40</u>	<u>18.5</u>	<u>1155</u>	<u>6.51</u>	<u> </u>	<u> </u>

SAMPLE DEPTH TO WATER: 8.98 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

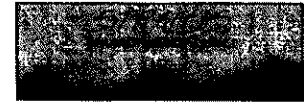
80% RECHARGE:  YES  NO ANALYSES: SWO  
 ODOR: Yes SAMPLE VESSEL / PRESERVATIVE: 6 VOAs / HCL

PURGING EQUIPMENT	SAMPLING EQUIPMENT
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bladder Pump
<input checked="" type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (PVC)
<input type="checkbox"/> Peristaltic Pump	<input checked="" type="checkbox"/> Bailer ( <input type="checkbox"/> PVC or <input checked="" type="checkbox"/> disposable)
	<input type="checkbox"/> Bailer (Stainless Steel)
	<input type="checkbox"/> Dedicated _____
Other: _____	Other: _____
Pump Depth: <u>26</u>	

WELL INTEGRITY: Good LOCK#: M251  
 REMARKS: D.O. = 2.21

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

# WELLHEAD OBSERVATION FORM



Site Name/Number: 374

Date: 2-23-09 Technician: Jerry

Well I.D.	Box in Good Condition? <small>X = Yes Blank = No</small>	Lock Missing? <small>X = Yes (replaced) 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 (replaced)</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		X	B	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.)

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

(updated 3-28-08, SS)

NO. 853795

NON-HAZARDOUS WASTE DATA FORM

1. BESI #

2. Generator's Name and Mailing Address  
**BP WEST COAST PRODUCTS, LLC**  
**P.O. BOX 80249**  
**RANCHO SANTA MARGARITA, CA 92688**

Generator's Site Address (if different than mailing address)

Generator's Phone: **(949) 480-5200**      **24-HOUR EMERGENCY PHONE: (949) 889-3708**

3. Transporter 1 Company Name  
**Stratus Environmental, Inc.**      Phone # **(530) 676-8000**

4. Transporter 2 Company Name  
**Gomes Excavating**      Phone # **(707) 374-2881**

5. Designated Facility Name and Site Address  
**INTRAT, INC.**      Phone # **(530) 753-1829**  
**1105 AIRPORT RD #C**  
**RIO VISTA, CA 94571**

GENERATOR

6. Waste Shipping Name and Description	7. Containers		8. Total Quantity	9. Unit Wt/Vol	10. Profile No.
	No.	Type			
A. <b>NON-HAZARDOUS WATER</b>	<b>1</b>	<b>TT</b>	<b>128</b>	<b>G</b>	
B.					
C.					
D.					

11. Special Handling Instructions and Additional Information  
**WEAR ALL APPROPRIATE PROTECTIVE CLOTHING**  
**WELL PURGING / DECON WATER**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this data form are non-hazardous.

Generator's/Officer's Printed/Typed Name: **JERRY SONZOLA**      Signature: *[Signature]*      Month: **2** Day: **23** Year: **09**

FACILITY TRANSPORTER

13. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_ Year: \_\_\_\_\_

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

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

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

TRANSPORTER #2



Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP 374

Req Due Date (mm/dd/yy): 14 Day TAT Rush TAT: Yes  No

BP/ARC Facility No: 374

Lab Work Order Number: \_\_\_\_\_

Lab Name: CalScience	BP/ARC Facility Address: 6407 Telegraph Avenue	Consultant/Contractor: Stratus Environmental Inc.
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No:
Lab PM: Richard Villafania	Lead Regulatory Agency: Alameda	Address: 3330 Cameron Park Drive, #550, Cameron Park, CA 95682
Lab Phone: 714-895-5494 Fax: 714-895-7501	California Global ID No.: T06000100106	Consultant/Contractor PM: Jay Johnson
Lab Shipping Acct:	Enfos Proposal No:	Phone: 530-676-6000 Fax: 530-676-6005
Lab Bottle Order No:	Accounting Mode: Provision <input checked="" type="checkbox"/> OOC-BU <input type="checkbox"/> OOC-RM <input type="checkbox"/>	Email EDD To: <a href="mailto:chuff@stratusinc.net">chuff@stratusinc.net</a>
Other Info:	Stage: BP/ARC WBS Stage Activity: BP/ARC WBS Activity	Invoice To: BP/ARC <input checked="" type="checkbox"/> Contractor <input type="checkbox"/>

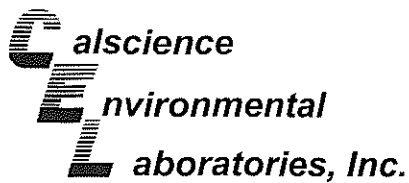
BP/ARC EBM: Paul Supple				Matrix		No. Containers / Preservative					Requested Analyses					Report Type & QC Level		
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Total Number of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO by 8015M	BTEX/5 FO* by 8260B	Ethanol by 8260B	EDB by 8260B	1,2-DCA by 8260B	Standard <input checked="" type="checkbox"/>	
Full Data Package <input type="checkbox"/>																		
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.																		
Comments																		
*Oxy = MTBE, TAME, ETBE, DIPE, TBA																		
MW-1		2-23-09	1220	X		6				X		X	X	X	X	X		
MW-2			1245	X		6				X		X	X	X	X	X		
MW-4			1320	X		6				X		X	X	X	X	X		
TB-374	02-23-09		600	X		2				X								ON HOLD

Sampler's Name: <u>Jerry Gonzales</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Stratus Environmental Inc.	<u>Jerry Gonzales</u>	<u>2-23</u>				
Shipment Method:	Ship Date:					
Shipment Tracking No:						

Special Instructions: TB Sample ON HOLD! Cc results to miller@broadbentinc.com

THIS LINE - LAB USE ONLY: 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
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09-02-2183

March 06, 2009

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

Subject: **Calscience Work Order No.: 09-02-2183**  
**Client Reference: BP 374**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/25/2009 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.

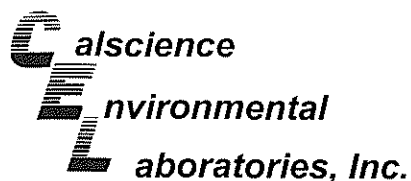
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Villafania".

Calscience Environmental  
Laboratories, Inc.  
Richard Villafania  
Project Manager

A handwritten signature in black ink, appearing to read "Richard Villafania".



## Analytical Report

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

Date Received: 02/25/09  
Work Order No: 09-02-2183  
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	09-02-2183-1-E	02/23/09 12:20	Aqueous	GC 4	02/27/09	02/28/09 04:07	090227B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	78	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	90	38-134			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	09-02-2183-2-E	02/23/09 12:45	Aqueous	GC 4	02/27/09	02/28/09 04:40	090227B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	74	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	102	38-134			

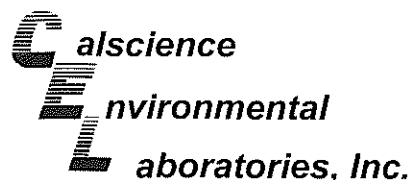
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	09-02-2183-3-E	02/23/09 13:20	Aqueous	GC 4	02/27/09	02/28/09 05:13	090227B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	3000	250	5		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	92	38-134			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-695-453	N/A	Aqueous	GC 4	02/27/09	02/27/09 18:46	090227B01

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	79	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: 02/25/09  
Work Order No: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: BP 374

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	09-02-2183-1-A	02/23/09 12:20	Aqueous	GC/MS BB	03/03/09	03/04/09 08:33	090303L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	2.5	5		Methyl-t-Butyl Ether (MTBE)	240	10	20	
1,2-Dibromoethane	ND	2.5	5		Tert-Butyl Alcohol (TBA)	ND	50	5	
1,2-Dichloroethane	ND	2.5	5		Diisopropyl Ether (DIPE)	ND	2.5	5	
Ethylbenzene	ND	2.5	5		Ethyl-t-Butyl Ether (ETBE)	ND	2.5	5	
Toluene	ND	2.5	5		Tert-Amyl-Methyl Ether (TAME)	ND	2.5	5	
Xylenes (total)	ND	2.5	5		Ethanol	ND	1500	5	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	107	73-145			Dibromofluoromethane	110	81-135		
Toluene-d8	99	83-119			1,4-Bromofluorobenzene	101	74-110		

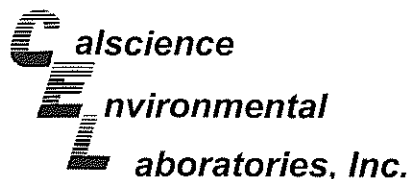
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	09-02-2183-2-A	02/23/09 12:45	Aqueous	GC/MS BB	03/03/09	03/04/09 09:05	090303L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	1.0	0.50	1		Methyl-t-Butyl Ether (MTBE)	24	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	106	73-145			Dibromofluoromethane	108	81-135		
Toluene-d8	98	83-119			1,4-Bromofluorobenzene	96	74-110		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	09-02-2183-3-B	02/23/09 13:20	Aqueous	GC/MS BB	03/04/09	03/04/09 18:33	090304L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	220	5.0	10		Methyl-t-Butyl Ether (MTBE)	39	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	23	5.0	10		Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	
Toluene	9.1	5.0	10		Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	
Xylenes (total)	19	5.0	10		Ethanol	ND	3000	10	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	106	73-145			Dibromofluoromethane	105	81-135		
Toluene-d8	98	83-119			1,4-Bromofluorobenzene	99	74-110		

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: 02/25/09  
Work Order No: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: BP 374

Page 2 of 2

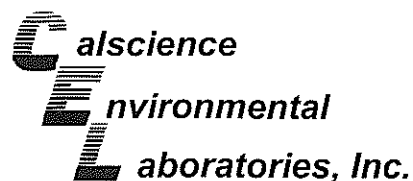
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-747	N/A	Aqueous	GC/MS BB	03/03/09	03/04/09 02:41	090303L02

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	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,2-Dichloroethane-d4	99	73-145			Dibromofluoromethane	104	81-135		
Toluene-d8	97	83-119			1,4-Bromofluorobenzene	95	74-110		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-748	N/A	Aqueous	GC/MS BB	03/04/09	03/04/09 14:47	090304L01

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	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,2-Dichloroethane-d4	97	73-145			Dibromofluoromethane	101	81-135		
Toluene-d8	102	83-119			1,4-Bromofluorobenzene	102	74-110		

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



## Quality Control - Spike/Spike Duplicate

09-02-2080-3

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

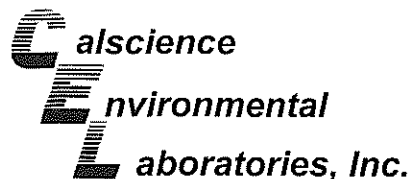
Date Received: 02/25/09  
Work Order No: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-02-2080-3	Aqueous	GC 4	02/27/09	02/27/09	090227S01

<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)	112	108	38-134	4	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

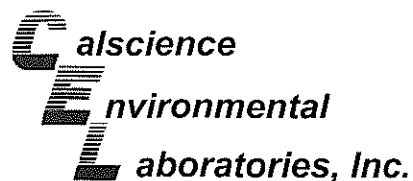
Date Received: 02/25/09  
Work Order No: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8260B

Project BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-02-2080-3	Aqueous	GC/MS BB	03/03/09	03/04/09	090303S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	112	111	86-122	0	0-8	
Carbon Tetrachloride	112	119	78-138	6	0-9	
Chlorobenzene	110	110	90-120	0	0-9	
1,2-Dibromoethane	108	107	70-130	1	0-30	
1,2-Dichlorobenzene	110	112	89-119	2	0-10	
1,1-Dichloroethene	118	116	52-142	2	0-23	
Ethylbenzene	104	102	70-130	2	0-30	
Toluene	108	107	85-127	1	0-12	
Trichloroethene	107	107	78-126	0	0-10	
Vinyl Chloride	108	96	56-140	11	0-21	
Methyl-t-Butyl Ether (MTBE)	103	104	64-136	1	0-28	
Tert-Butyl Alcohol (TBA)	105	106	27-183	0	0-60	
Diisopropyl Ether (DIPE)	104	108	78-126	4	0-16	
Ethyl-t-Butyl Ether (ETBE)	103	107	67-133	4	0-21	
Tert-Amyl-Methyl Ether (TAME)	97	98	63-141	1	0-21	
Ethanol	109	100	11-167	9	0-64	

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

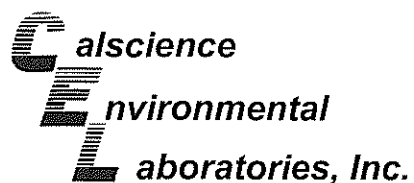
Date Received: 02/25/09  
Work Order No: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8260B

Project BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-03-0234-5	Aqueous	GC/MS BB	03/04/09	03/04/09	090304S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	105	86-122	0	0-8	
Carbon Tetrachloride	104	105	78-138	1	0-9	
Chlorobenzene	104	103	90-120	1	0-9	
1,2-Dibromoethane	100	97	70-130	3	0-30	
1,2-Dichlorobenzene	103	105	89-119	2	0-10	
1,1-Dichloroethene	105	99	52-142	5	0-23	
Ethylbenzene	96	93	70-130	3	0-30	
Toluene	100	99	85-127	1	0-12	
Trichloroethene	100	100	78-126	0	0-10	
Vinyl Chloride	95	98	56-140	3	0-21	
Methyl-t-Butyl Ether (MTBE)	92	94	64-136	3	0-28	
Tert-Butyl Alcohol (TBA)	110	110	27-183	1	0-60	
Diisopropyl Ether (DIPE)	96	96	78-126	0	0-16	
Ethyl-t-Butyl Ether (ETBE)	93	94	67-133	1	0-21	
Tert-Amyl-Methyl Ether (TAME)	89	90	63-141	2	0-21	
Ethanol	111	112	11-167	1	0-64	

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: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

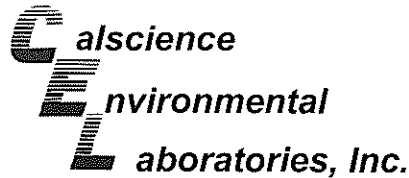
Project: BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-453	Aqueous	GC 4	02/27/09	02/27/09	090227B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	114	111	78-120	3	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: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-747	Aqueous	GC/MS BB	03/03/09	03/04/09	090303L02		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	113	113	87-117	82-122	0	0-7	
Carbon Tetrachloride	116	115	78-132	69-141	1	0-8	
Chlorobenzene	111	112	88-118	83-123	1	0-8	
1,2-Dibromoethane	112	108	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	112	112	88-118	83-123	0	0-8	
1,1-Dichloroethene	120	119	71-131	61-141	1	0-14	
Ethylbenzene	106	107	80-120	73-127	1	0-20	
Toluene	109	108	85-127	78-134	0	0-7	
Trichloroethene	121	122	85-121	79-127	1	0-11	LQ
Vinyl Chloride	120	118	64-136	52-148	2	0-10	
Methyl-t-Butyl Ether (MTBE)	106	101	67-133	56-144	4	0-16	
Tert-Butyl Alcohol (TBA)	104	109	34-154	14-174	4	0-19	
Diisopropyl Ether (DIPE)	104	100	80-122	73-129	4	0-8	
Ethyl-t-Butyl Ether (ETBE)	103	100	73-127	64-136	3	0-11	
Tert-Amyl-Methyl Ether (TAME)	99	95	69-135	58-146	5	0-12	
Ethanol	109	109	34-124	19-139	0	0-44	

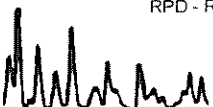
Total number of LCS compounds : 16

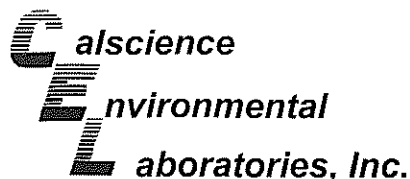
Total number of ME compounds : 1

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

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: 09-02-2183  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: BP 374

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-748	Aqueous	GC/MS BB	03/04/09	03/04/09	090304L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	101	102	87-117	82-122	1	0-7	
Carbon Tetrachloride	106	104	78-132	69-141	3	0-8	
Chlorobenzene	100	101	88-118	83-123	1	0-8	
1,2-Dibromoethane	99	97	80-120	73-127	2	0-20	
1,2-Dichlorobenzene	103	102	88-118	83-123	1	0-8	
1,1-Dichloroethene	106	107	71-131	61-141	1	0-14	
Ethylbenzene	95	98	80-120	73-127	4	0-20	
Toluene	98	99	85-127	78-134	2	0-7	
Trichloroethene	102	101	85-121	79-127	1	0-11	
Vinyl Chloride	94	103	64-136	52-148	9	0-10	
Methyl-t-Butyl Ether (MTBE)	92	90	67-133	56-144	3	0-16	
Tert-Butyl Alcohol (TBA)	99	96	34-154	14-174	4	0-19	
Diisopropyl Ether (DIPE)	95	90	80-122	73-129	6	0-8	
Ethyl-t-Butyl Ether (ETBE)	95	89	73-127	64-136	6	0-11	
Tert-Amyl-Methyl Ether (TAME)	88	87	69-135	58-146	2	0-12	
Ethanol	92	112	34-124	19-139	19	0-44	

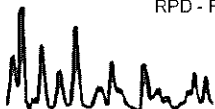
Total number of LCS compounds : 16

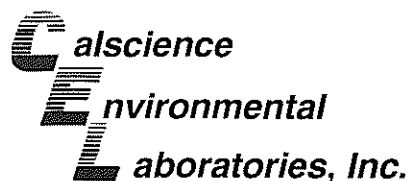
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference, CL - Control Limit

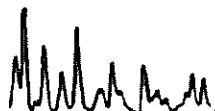




## Glossary of Terms and Qualifiers

Work Order Number: 09-02-2183

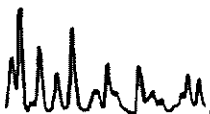
<u>Qualifier</u>	<u>Definition</u>
AX	Sample too dilute to quantify surrogate.
BA	There was no MS/MSD analyzed with this batch due to insufficient sample volume (NR = not reported). See Blank Spike/Blank Spike Duplicate.
BA,AY	Relative percent difference out of control, matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.
BH	Reporting limits raised due to high level of non-target analytes.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
BY	Sample received at improper temperature.
CL	Initial analysis within holding time but required dilution.
CQ	Analyte concentration greater than 10 times the blank concentration.
CU	Surrogate concentration diluted to not detectable during analysis.
DF	Reporting limits elevated due to matrix interferences.
ET	Sample was extracted past end of recommended max. holding time.
EY	Result exceeds normal dynamic range; reported as a min est.
GS	Internal standard recovery is outside method recovery limit.
IB	CCV recovery above limit; analyte not detected.
IH	Calibrtn. verif. recov. below method CL for this analyte.
IJ	Calibrtn. verif. recov. above method CL for this analyte.
J,DX	J=EPA Flag -Estimated value; DX= Value < lowest standard (MQL), but > than MDL.
LA	Confirmatory analysis was past holding time.
LG	Surrogate recovery below the acceptance limit.
LH	Surrogate recovery above the acceptance limit.
LM,AY	MS and/or MSD above acceptance limits. See Blank Spike (LCS). Matrix interference suspected.
LN,AY	MS and/or MSD below acceptance limits. See Blank Spike (LCS). Matrix interference suspected.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.



Work Order Number: 09-02-2183

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<u>Qualifier</u>	<u>Definition</u>
MB	Analyte present in the method blank.
MG	Analyte is a suspected lab contaminate.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.





# Laboratory Management Program LaMP Chain of Custody Record

2183

BP/ARC Project Name: BP 374  
 BP/ARC Facility No: 374

Req Due Date (mm/dd/yy): 14 Day TAT Rush TAT: Yes  No   
 Lab Work Order Number: \_\_\_\_\_

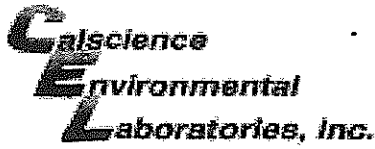
Lab Name: CalScience	BP/ARC Facility Address: 6407 Telegraph Avenue	Consultant/Contractor: Stratus Environmental Inc.
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841	City, State, ZIP Code: Oakland, Ca	Consultant/Contractor Project No:
Lab PM: Richard Villafania	Lead Regulatory Agency: Alameda	Address: 3330 Cameron Park Drive, #550, Cameron Park, CA 95682
Lab Phone: 714-895-5494 Fax: 714-895-7501	California Global ID No.: T06000100106	Consultant/Contractor PM: Jay Johnson
Lab Shipping Acct:	Enfos Proposal No:	Phone: 530-676-6000 Fax: 530-676-6005
Lab Bottle Order No:	Accounting Mode: Provision <input checked="" type="checkbox"/> OOC-BU <input type="checkbox"/> OOC-RM <input type="checkbox"/>	Email EDD To: <a href="mailto:chuff@stratusinc.net">chuff@stratusinc.net</a>
Other Info:	Stage: BP/ARC WBS Stage Activity: BP/ARC WBS Activity	Invoice To: BP/ARC <input checked="" type="checkbox"/> Contractor <input type="checkbox"/>

BP/ARC EBM: Paul Supple				Matrix		No. Containers / Preservative						Requested Analyses					Report Type & QC Level		
EBM Phone: (925) 275-3801				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO by 8015M	BTEX/5 FO* by 8260B	Ethanol by 8260B	EDB by 8260B	1,2-DCA by 8260B	Standard <input checked="" type="checkbox"/>	
EBM Email: <a href="mailto:paul.supple@bp.com">paul.supple@bp.com</a>																		Full Data Package <input type="checkbox"/>	
Lab No.	Sample Description	Date	Time															Comments	
1	MW-1	2-23-09	1220	X			6					X	X	X	X	X			
2	MW-2		1245	X			6			X		X	X	X	X	X			
3	MW-4		1320	X			6			X		X	X	X	X	X			
4	TB-374-022309		600	X			2			X									ON HOLD

Sampler's Name: <u>Jerry Gonzalez</u>	Relinquished By / Affiliation		Date	Time	Accepted By / Affiliation		Date	Time
Sampler's Company: Stratus Environmental Inc.	<u>Jerry Gonzalez</u>		<u>2/23</u>		<u>Webath CE</u>		<u>2/25/09</u>	<u>0030</u>
Shipment Method: <u>GSP</u>								
Shipment Tracking No: <u>105866817</u>								

Special Instructions: TB Sample ON HOLD! Cc results to [miller@broadbentinc.com](mailto:miller@broadbentinc.com)

THIS LINE - LAB USE ONLY: 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 #: 09-02-2183

**SAMPLE RECEIPT FORM**

Cooler 1 of 1

CLIENT: STRATUS

DATE: 2/25/09

**TEMPERATURE:** (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 1.9 °C - 0.2 °C (CF) = 1.7 °C  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature:  Air  Filter  Metals Only  PCBs Only Initial: WB

**CUSTODY SEALS INTACT:**

Cooler  \_\_\_\_\_  No (Not Intact)  Not Present  N/A Initial: WB

Sample  \_\_\_\_\_  No (Not Intact)  Not Present Initial: J

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<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 COC.....	<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"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volatile analysis container(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"/>

**CONTAINER TYPE:**

Solid:  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve  EnCores®  TerraCores®  \_\_\_\_\_

Water:  VOA  VOAh  VOAna<sub>2</sub>  125AGB  125AGBh  125AGBpo<sub>4</sub>  1AGB  1AGBna<sub>2</sub>

1AGBs  500AGB  500AGBs  250CGB  250CGBs  1PB  500PB  500PBna  250PB

250PBn  125PB  125PBznn  100PBsterile  100PBna<sub>2</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

Air:  Tedlar®  Summa®  \_\_\_\_\_

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Preservative: h:HCL n:HNO<sub>3</sub> na<sub>2</sub>:Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> na:NaOH po<sub>4</sub>:H<sub>3</sub>PO<sub>4</sub> s:H<sub>2</sub>SO<sub>4</sub> znna:ZnAc<sub>2</sub>+NaOH

Checked/Labeled by: J

Reviewed by: PS

Scanned by: J

## ATTACHMENT

### FIELD PROCEDURES FOR GROUNDWATER SAMPLING

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

#### **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<sup>®</sup> 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**

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A GEO\_WELL FILE

**SUCCESS**

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

<b><u>Submittal Type:</u></b>	<b>GEO_WELL</b>
<b><u>Submittal Title:</u></b>	<b>1Q09 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>File Name:</u></b>	<b>GEO_WELL.zip</b>
<b><u>Organization Name:</u></b>	<b>Broadbent &amp; Associates, Inc.</b>
<b><u>Username:</u></b>	<b>BROADBENT-C</b>
<b><u>IP Address:</u></b>	<b>67.118.40.90</b>
<b><u>Submittal Date/Time:</u></b>	<b>4/21/2009 11:47:09 AM</b>
<b><u>Confirmation Number:</u></b>	<b>3888174772</b>

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A EDF FILE

**SUCCESS**

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

<b><u>Submittal Type:</u></b>	EDF - Monitoring Report - Quarterly
<b><u>Submittal Title:</u></b>	1Q09 GW Monitoring
<b><u>Facility Global ID:</u></b>	T0600100106
<b><u>Facility Name:</u></b>	ARCO #0374
<b><u>File Name:</u></b>	09022183.zip
<b><u>Organization Name:</u></b>	Broadbent & Associates, Inc.
<b><u>Username:</u></b>	BROADBENT-C
<b><u>IP Address:</u></b>	67.118.40.90
<b><u>Submittal Date/Time:</u></b>	4/21/2009 11:51:17 AM
<b><u>Confirmation Number:</u></b>	<b>7780107796</b>

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)