



Atlantic Richfield Company  
(a BP affiliated company)

P.O. Box 1257  
San Ramon, California 94583  
Phone: (925) 275-3801  
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27 July 2007

Re: Second Quarter 2007 Ground-Water Monitoring Report  
Former BP Service Station # 11102  
100 MacArthur Boulevard  
Oakland, California  
ACEH Case #RO0000456

**RECEIVED**

2:41 pm, Jul 31, 2007

Alameda County  
Environmental Health



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

Submitted by:

Paul Supple  
Environmental Business Manager

Prepared for

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

Prepared by



1324 Mangrove Avenue, Suite 212  
Chico, California 95926  
(530) 566-1400  
[www.broadbentinc.com](http://www.broadbentinc.com)

27 July 2007

Project No. 06-08-643

**Second Quarter 2007 Ground-Water Monitoring Report**  
Former BP Service Station #11102  
100 MacArthur Boulevard  
Oakland, California

27 July 2007

Project No. 06-08-643

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

Attn.: Mr. Paul Supple

Re: Second Quarter 2007 Ground-Water Monitoring Report, Former BP Service Station  
#11102, 100 MacArthur Boulevard, Alameda County, Oakland, California;  
ACEH Case #RO0000456

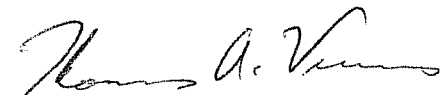
Dear Mr. Supple:

Attached is the *Second Quarter 2007 Ground-Water Monitoring Report* for Former BP Service Station #11102 (herein referred to as Station #11102) located at 100 MacArthur Boulevard, Oakland, Alameda County, California (Site). This report presents a summary of results from ground-water monitoring conducted during the Second Quarter of 2007.

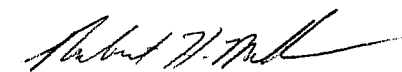
Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

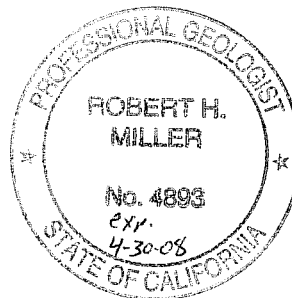
BROADBENT & ASSOCIATES, INC.



Thomas A. Venus  
Senior Engineer, P.E.



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



Enclosures

cc: Mr. Steven Plunkett, Alameda County Environmental Health (Submitted via ACEH ftp site)  
Ms. Shelby Lathrop, ConocoPhillips (Submitted via WebXtender)  
Mr. Chris Jimmerson, Reimbursement Processor, Delta Environmental Consulting Inc.,  
(Submitted via ENFOS)  
Electronic copy uploaded to GeoTracker

## STATION #11102 QUARTERLY GROUND-WATER MONITORING REPORT

Facility: #11102	Address:	100 MacArthur Boulevard, 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.:		06-08-643
Primary Agency/Regulatory ID No.:		Alameda County Environmental Health (ACEH) ACEH Case #RO0000456

### WORK PERFORMED THIS QUARTER (Second Quarter 2007):

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

### WORK PROPOSED FOR NEXT QUARTER (Third Quarter 2007):

1. Prepared and submitted this Second Quarter 2007 Ground-Water Monitoring Report (contained herein).
2. Conduct quarterly ground-water monitoring/sampling for Third Quarter 2007. Work to be completed by Stratus.

### QUARTERLY RESULTS SUMMARY:

Current phase of project:	<b>Ground-Water Monitoring/Sampling</b>
Frequency of ground-water monitoring:	<b>Quarterly: Wells MW-1 through MW-3</b>
Frequency of ground-water sampling:	<b>Quarterly: Wells MW-1 through MW-3</b>
Is free product (FP) present on-site:	<b>No</b>
Current remediation techniques:	<b>NA</b>
Depth to ground water (below TOC):	<b>10.65 (MW-1) to 11.93 (MW-3)</b>
General ground-water flow direction:	<b>West</b>
Approximate hydraulic gradient:	<b>0.05 ft/ft</b>

### DISCUSSION:

Second Quarter 2007 ground-water monitoring and sampling was conducted at Station #11102 on 10 April 2007 by Stratus. Water levels were gauged in the three wells at the Site. No irregularities were noted during water level gauging. Depths to water measurements ranged from 10.65 ft at well MW-1 to 11.93 ft at well MW-3. Resulting ground-water surface elevations ranged from 79.55 ft above mean sea level in well MW-1 to 75.09 ft at well MW-3. 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 of 0.05 ft/ft to the west, which is generally consistent with historical data (see 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. Current and historic ground-water flow directions and gradients are provided in Table 3. Potentiometric ground-water elevation contours are presented in Drawing 1.

Consistent with the current ground-water sampling schedule, water samples were collected from each of the three wells on the Site. Wells MW-2 and MW-3 purged dry before three casing volumes were removed. No other irregularities were encountered during sampling. Samples were submitted under

chain-of-custody protocol to Test America Analytical Testing Corporation (Morgan Hill, California), for analysis of Gasoline Range Organics (GRO, C4-C12) by the LUFT GCMS Method; 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 irregularities were encountered during laboratory analysis of the samples, with the exception that the reported GRO concentrations for samples MW-2 and MW-3 were partly due to individual peak(s) in the quantitation range. These notes are called out in the laboratory analytical reports. Ground-water sampling field data sheets and the laboratory analytical report, including chain of custody documentation, are provided in Appendix A.

Gasoline Range Organics were detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 1,300 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-2. Benzene was detected above the laboratory reporting limit in one of the three wells sampled at a concentration of 1.4  $\mu\text{g/L}$  in well MW-1. TBA was detected above the laboratory reporting limit in two of the three wells sampled at concentrations up to 6,400  $\mu\text{g/L}$  in well MW-2. MTBE was detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 1,500  $\mu\text{g/L}$  in well MW-2. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in the three wells sampled this quarter. Detected analyte concentrations were within the historic minimum and maximum ranges recorded for each well. 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 Test America (Morgan Hill, 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 Contour and Analytical Summary Map, 10 April 2007, Former Station #11102, 100 MacArthur Boulevard, Oakland, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #11102, 100 MacArthur Blvd., Oakland, CA
- Table 2. Summary of Fuel Additives Analytical Data, Station #11102, 100 MacArthur Blvd., Oakland, CA
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #11102, 100 MacArthur Blvd., Oakland, CA

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

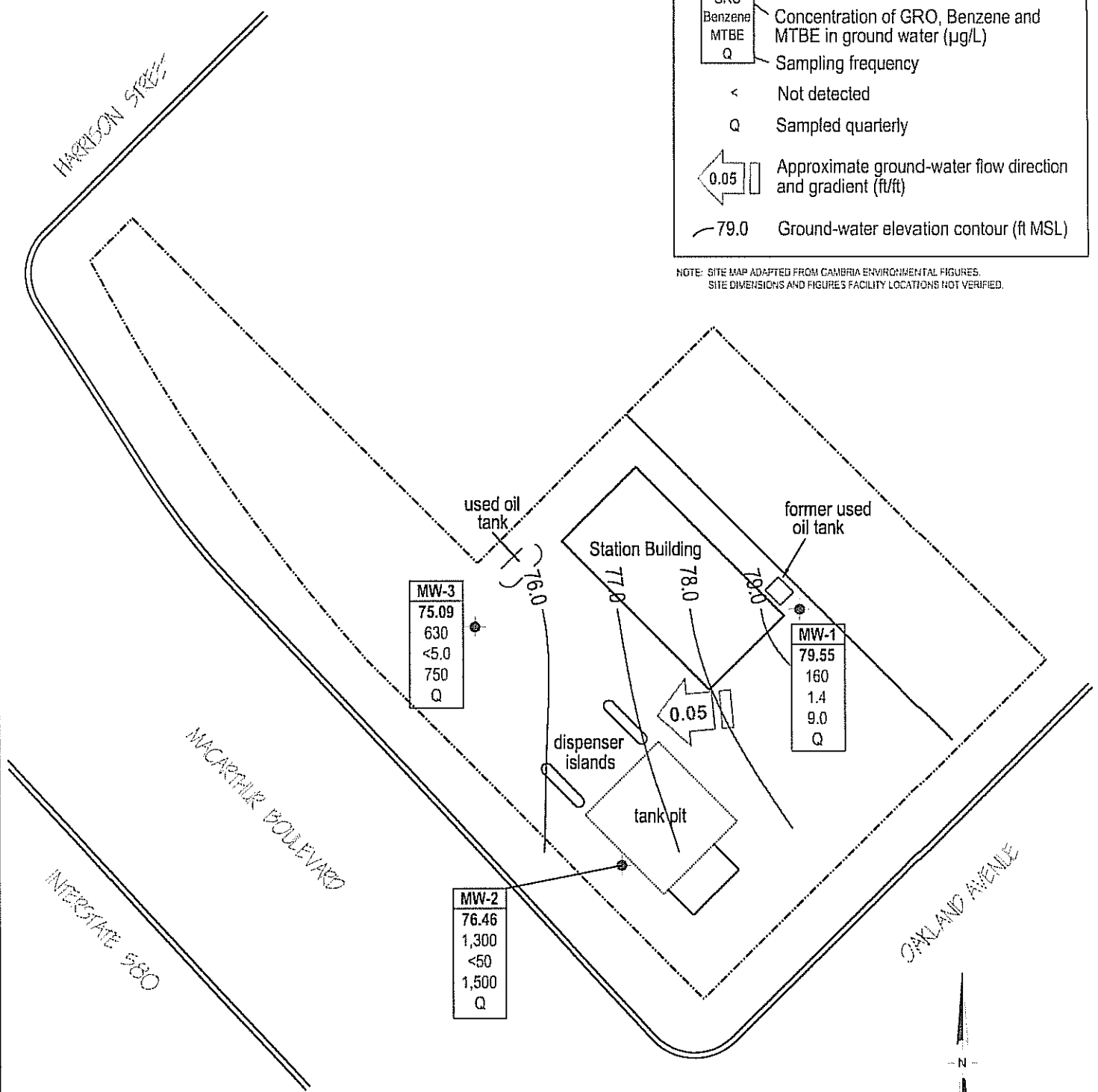
Appendix B. GeoTracker Upload Confirmation

### LEGEND

-  Monitoring Well Location
- |         |
|---------|
| Well    |
| ELEV    |
| GRO     |
| Benzene |
| MTBE    |
| Q       |

 Well designation
- Ground-water elevation (ft MSL)
- Concentration of GRO, Benzene and MTBE in ground water ( $\mu\text{g/L}$ )
- Sampling frequency
- < Not detected
- Q Sampled quarterly
-  Approximate ground-water flow direction and gradient (ft/ft)
-  79.0 Ground-water elevation contour (ft MSL)

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



MW-3
75.09
630
<5.0
750
Q

MW-1
79.55
160
1.4
9.0
Q

MW-2
76.46
1,300
<50
1,500
Q

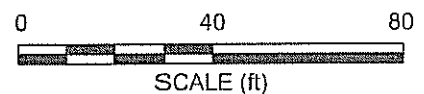
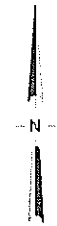


Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-1																		
11/4/1989	--		90.20	13.21	--	76.99	<500	3.4	0.6	<0.3	<0.3	--	--	SAL	--	<50	<5000	--
11/11/1989	--		90.20	13.32	--	76.88	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		90.20	12.46	--	77.74	820	64	1.9	23	34	--	--	ANA	--	--	--	--
7/30/1990	--		90.20	12.92	--	77.28	190	11	<5.0	<5.0	<5.0	--	--	ANA	--	<50	<5000	--
11/20/1990	--		90.20	14.08	--	76.12	50	2.4	<0.3	<0.3	<0.3	--	--	SAL	--	79	<5000	--
3/1/1991	--		90.20	13.61	--	76.59	<100	0.9	<0.3	<0.3	0.3	--	--	SAL	--	<1000	14,000	--
8/19/1991	--		90.20	15.74	--	74.46	370	35	0.73	6.4	5.6	--	--	SEQ	--	<50	<5000	--
11/13/1991	--		90.20	14.08	--	76.12	60	0.68	<0.3	<0.3	<0.3	--	--	SEQ	--	<50	<5000	--
2/24/1992	--		90.20	12.52	--	77.68	140	3.9	0.66	1.2	3.8	--	--	SEQ	--	100	<5000	--
5/19/1992	--		90.20	11.80	--	78.40	4,200	440	21	250	37	--	--	SEQ	--	910	<5000	--
6/17/1992	--		90.20	12.01	--	78.19	4,000	350	14	150	17	--	--	SEQ	--	560	<5000	--
7/22/1992	--		90.20	12.42	--	77.78	4,000	<5.0	19	210	61	--	--	ANA	--	--	--	--
8/14/1992	--		90.20	12.75	--	77.45	2,400	330	20	150	47	--	--	SEQ	--	1,700	<5000	--
11/11/1992	--		90.20	13.69	--	76.51	260	30	3.4	7.6	6.8	--	--	ANA	--	92	<5000	--
6/7/1993	--	c	90.20	--	--	--	3,700	120	12	26	9.5	--	--	PACE	--	--	--	--
6/7/1993	--		90.20	10.93	--	79.27	3,400	98	11	21	7.6	--	--	PACE	--	440	--	--
12/2/1993	--		90.20	12.72	--	77.48	1,100	8.3	3.6	0.6	1.5	--	--	PACE	--	120	<5000	--
6/22/1994	--	d	90.20	11.81	--	78.39	2,100	32	3.8	2.2	17	4,000	3.2	PACE	--	<50	<5000	--
6/22/1994	--	c, d	90.20	--	--	--	2,100	30	3.2	2	15	2,000	--	PACE	--	--	--	--
1/10/1995	--	e	90.20	--	--	--	<500	120	<5	5	<10	--	--	ATI	--	--	--	--
1/10/1995	--		90.20	10.97	--	79.23	<500	120	<5	<5	<10	--	3.9	ATI	--	420	--	--
6/21/1995	--		90.20	9.38	--	80.82	4,700	16	<5.0	<5.0	<10	--	6.7	ATI	--	1,300	2,900	0.6
6/21/1995	--	c, e	90.20	--	--	--	3,600	<13	<5.0	<5.0	<10	--	--	ATI	--	--	--	--
12/27/1995	--		90.20	11.55	--	78.65	430	<2.5	<2.5	<2.5	<5.0	1,200	6.3	ATI	--	2,100	640	--
6/13/1996	--		90.20	9.28	--	80.92	3,200	51	<12	<12	<12	4,000	6.3	SPL	--	920	2,000	--
12/4/1996	--	f	90.20	11.91	--	78.29	1,400	6.2	<5	<5	<5	2,600	6.7	SPL	--	280	2,000	6
6/10/1997	--		90.20	8.97	--	81.23	7,900	12	<10	<10	<10	15,000	6	SPL	--	1,700	<5	--
6/10/1997	--	c	90.20	--	--	--	7,700	14	<25	<25	<25	13,000	--	SPL	--	--	--	--
12/12/1997	--		90.20	11.37	--	78.83	440	8.8	<1.0	2.6	9.4	6,700	5.5	SPL	--	760	1,200	--
6/18/1998	--		90.20	8.02	--	82.18	7,500	<2.5	<5.0	<5.0	<5.0	5,600	4.9	SPL	--	2,900	<5	--
3/9/1999	--		90.20	9.80	--	80.40	32,000	100	16	72	110	49,000	--	SPL	--	--	--	--



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

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-1 Cont.																		
9/28/1999	--		90.20	10.78	--	79.42	1,000	<5.0	<5.0	<5.0	<5.0	730	--	SPL	--	--	--	<1.0
10/14/1999	--		90.20	10.84	--	79.36	--	--	--	--	--	--	--	SPL	--	660	--	--
3/27/2000	--		90.20	9.83	--	80.37	4,300	160	19	37	43	28,000	--	PACE	--	--	--	--
9/28/2000	--		90.20	11.33	--	78.87	2,700	10	2.6	1.1	2.7	28,000	--	PACE	--	--	--	--
3/8/2001	--		90.20	10.96	--	79.24	8,200	23.5	6.09	5.23	8.97	11,600	--	PACE	--	--	--	--
9/21/2001	--		90.20	12.07	--	78.13	6,000	37.9	<0.5	<0.5	<1.5	7,370	--	PACE	--	--	--	--
2/28/2002	--		90.20	10.48	--	79.72	6,400	60.8	<5.0	6.43	<10	7,750	--	PACE	--	--	--	--
9/6/2002	--		90.20	11.20	--	79.00	1,400	<5.0	<5.0	<5.0	<5.0	6,000	--	SEQ	--	--	--	--
2/19/2003	--	h	90.20	11.29	--	78.91	<10000	<100	110	<100	<100	4,500	--	SEQ	--	--	--	--
7/14/2003	--		90.20	11.18	--	79.02	710	11	<10	<10	<10	940	--	SEQ	--	--	--	--
01/14/2004	--		90.20	11.74	--	78.46	<500	<5.0	<5.0	<5.0	<5.0	220	--	SEQM	6.6	--	--	--
04/23/2004	P	l	90.20	11.95	--	78.25	470	3.4	<2.5	<2.5	<2.5	150	--	SEQM	6.7	--	--	--
07/01/2004	P		90.20	11.52	--	78.68	360	<2.5	<2.5	<2.5	<2.5	96	--	SEQM	6.0	--	--	--
10/28/2004	P		90.20	12.56	--	77.64	390	0.94	<0.50	<0.50	<0.50	43	--	SEQM	6.2	--	--	--
01/10/2005	P		90.20	11.85	--	78.35	490	17	<2.5	5.8	5.4	85	--	SEQM	7.6	--	--	--
04/13/2005	P		90.20	10.00	--	80.20	1,000	27	<2.5	<2.5	25	48	--	SEQM	6.6	--	--	--
07/11/2005	P		90.20	9.27	--	80.93	180	<0.50	<0.50	<0.50	<0.50	36	--	SEQM	7.7	--	--	--
10/17/2005	P		90.20	10.96	--	79.24	140	<0.50	<0.50	<0.50	<0.50	20	--	SEQM	8.0	--	--	--
01/17/2006	P		90.20	10.81	--	79.39	120	0.64	<0.50	<0.50	0.56	38	--	SEQM	6.5	--	--	--
04/21/2006	P	m	90.20	9.28	--	80.92	410	1.4	1.0	<0.50	<0.50	17	--	SEQM	6.5	--	--	--
7/17/2006	--		90.20	9.25	--	80.95	<50	<0.50	<0.50	<0.50	<0.50	5.5	--	TAMC	7.7	--	--	--
7/26/2006	--		90.20	8.57	--	81.63	<50	<0.50	<0.50	<0.50	<0.50	4.4	--	TAMC	6.6	--	--	--
10/31/2006	P		90.20	9.80	--	80.40	<50	<0.50	<0.50	<0.50	<0.50	2.8	2.81	TAMC	6.99	--	--	--
1/8/2007	P		90.20	10.36	--	79.84	<50	2.2	<0.50	<0.50	<0.50	6.2	2.51	TAMC	6.97	--	--	--
4/10/2007	P		90.20	10.65	--	79.55	160	1.4	<0.50	<0.50	<0.50	9.0	1.75	TAMC	7.00	--	--	--
MW-2																		
11/4/1989	--		87.91	15.84	--	72.07	<500	6.5	<0.5	<0.5	<0.5	--	--	SAL	--	--	--	--
11/11/1989	--		87.91	14.75	--	73.16	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		87.91	15.25	--	72.66	<500	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
7/30/1990	--		87.91	15.59	--	72.32	61	6.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--

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

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-2 Cont.																		
11/20/1990	--		87.91	17.81	--	70.10	<50	0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
3/1/1991	--		87.91	17.11	--	70.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
8/19/1991	--		87.91	17.97	--	69.94	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
11/13/1991	--		87.91	16.76	--	71.15	38	0.32	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
2/24/1992	--		87.91	15.07	--	72.84	<50	<0.5	<0.5	<0.5	0.58	--	--	SEQ	--	--	--	--
5/19/1992	--		87.91	14.70	--	73.21	<50	0.55	<0.5	<0.5	<0.5	--	--	SEQ	--	--	--	--
7/22/1992	--		87.91	15.60	--	72.31	90	1.3	0.6	0.9	1.9	--	--	ANA	--	--	--	--
8/14/1992	--		87.91	15.88	--	72.03	--	--	--	--	--	--	--	--	--	--	--	--
11/11/1992	--	c	87.91	--	--	--	65	3.2	<0.5	<0.5	1	--	--	ANA	--	--	--	--
11/11/1992	--		87.91	16.19	--	71.72	52	2.8	<0.5	<0.5	0.9	--	--	ANA	--	--	--	--
6/7/1993	--		87.91	14.42	--	73.49	1,200	14	2.8	1.9	1.71	--	--	PACE	--	--	--	--
12/2/1993	--	c, d	87.91	--	--	--	2,100	32	3.8	2.2	17	3,700	--	PACE	--	--	--	--
12/2/1993	--	d	87.91	14.94	--	72.97	790	3.4	0.5	1.0	<0.5	3,700	--	PACE	--	--	--	--
6/22/1994	--	d	87.91	14.25	--	73.66	110	<0.5	<0.5	<0.5	<0.5	120	3.9	PACE	--	--	--	--
1/10/1995	--		87.91	13.64	--	74.27	<50	<0.5	<0.5	0.6	1	--	4.3	ATI	--	--	--	--
6/21/1995	--		87.91	11.66	--	76.25	4,700	<10	<10	<10	<20	--	7.8	ATI	--	--	--	--
12/27/1995	--		87.91	13.11	--	74.80	6,100	<25	<25	<25	<50	20,000	6.7	ATI	--	--	--	--
12/27/1995	--	c	87.91	--	--	--	6,300	<25	<25	<25	<50	19,000	--	ATI	--	--	--	--
6/13/1996	--		87.91	10.86	--	77.05	8,300	<2.5	<2.5	<2.5	<2.5	13,000	6.5	SPL	--	--	--	--
6/13/1996	--	c	87.91	--	--	--	8,700	<5	<5	<5	<5	13,000	--	SPL	--	--	--	--
12/4/1996	--		87.91	13.03	--	74.88	5,900	<2.5	<5	<5	<5	11,000	6.3	SPL	--	--	--	--
12/4/1996	--	c	87.91	--	--	--	5,900	<2.5	<5	<5	<5	11,000	--	SPL	--	--	--	--
6/10/1997	--		87.91	10.04	--	77.87	<50	<0.5	<1.0	<1.0	<1.0	<10	5.8	SPL	--	--	--	--
12/12/1997	--		87.91	12.44	--	75.47	<50	<0.5	<1.0	<1.0	<1.0	<10	5.7	SPL	--	--	--	--
6/18/1998	--		87.91	8.89	--	79.02	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--
6/18/1998	--	c	87.91	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
3/9/1999	--		87.91	10.20	--	77.71	15,000	<5.0	<5.0	<5.0	<5.0	23,000	--	SPL	--	--	--	--
9/28/1999	--		87.91	11.81	--	76.10	36,000	<5.0	12	7	26	35,000	--	SPL	--	--	--	<5.0
10/14/1999	--		87.91	10.27	--	77.64	--	--	--	--	--	--	--	SPL	--	100	--	--
3/27/2000	--		87.91	9.98	--	77.93	1,300	<0.5	<0.5	0.51	<0.5	5,800	--	PACE	--	--	--	--
9/28/2000	--		87.91	11.40	--	76.51	1,600	1.8	1.7	0.54	2.2	15,000	--	PACE	--	--	--	--

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

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)					DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)	
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes							MtBE
MW-2 Cont.																		
3/8/2001	--		87.91	11.16	--	76.75	20,000	<0.5	<0.5	<0.5	<0.5	29,100	--	PAGE	--	--	--	--
9/21/2001	--		87.91	11.65	--	76.26	5,000	<0.5	<0.5	<0.5	<1.5	6,110	--	PAGE	--	--	--	--
2/28/2002	--		87.91	9.86	--	78.05	3,200	35.1	<0.5	<0.5	<1.0	4,620	--	PAGE	--	--	--	--
9/6/2002	--		87.91	12.32	--	75.59	1,900	<10	<10	<10	<10	15,000	--	SEQ	--	--	--	--
2/19/2003	--	h	87.91	11.63	--	76.28	45,000	<250	<250	<250	<250	32,000	--	SEQ	--	--	--	--
7/14/2003	--		87.91	12.07	--	75.84	9,300	<500	<500	<500	<500	24,000	--	SEQ	--	--	--	--
01/14/2004	P		87.91	11.45	--	76.46	<5,000	<500	<500	<500	<500	21,000	--	SEQM	6.9	--	--	--
04/23/2004	P	l	87.91	11.45	--	76.46	5,100	<250	<250	<250	<250	22,000	--	SEQM	6.8	--	--	--
07/01/2004	P		87.91	12.32	--	75.59	<5,000	<50	<50	<50	<50	5,200	--	SEQM	5.6	--	--	--
10/28/2004	P		87.91	13.02	--	74.89	8,500	<50	<50	<50	<50	6,800	--	SEQM	6.2	--	--	--
01/10/2005	P		87.91	14.38	--	73.53	<25,000	<250	<250	<250	<250	7,100	--	SEQM	7.6	--	--	--
04/13/2005	P		87.91	14.03	--	73.88	<5,000	<50	<50	<50	<50	5,300	--	SEQM	6.6	--	--	--
07/11/2005	P		87.91	11.25	--	76.66	<5,000	<50	<50	<50	<50	5,300	--	SEQM	7.5	--	--	--
10/17/2005	P		87.91	12.48	--	75.43	<5,000	<50	<50	<50	<50	2,500	--	SEQM	8.2	--	--	--
01/17/2006	P		87.91	10.70	--	77.21	<5,000	<50	<50	<50	<50	2,200	--	SEQM	7.0	--	--	--
04/21/2006	--	n	87.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/2006	--	k	87.91	10.47	--	77.44	2,700	<50	<50	<50	<50	2,900	--	TAMC	6.69	--	--	--
10/31/2006	P		87.91	12.02	--	75.89	2,300	<25	<25	<25	<25	2,300	2.02	TAMC	6.71	--	--	--
1/8/2007	P		87.91	11.68	--	76.23	1,500	<12	<12	<12	<12	1,700	1.37	TAMC	6.54	--	--	--
4/10/2007	P	k	87.91	11.45	--	76.46	1,300	<50	<50	<50	<50	1,500	1.60	TAMC	6.89	--	--	--
MW-3																		
11/4/1989	--		87.02	15.40	--	71.62	<500	<0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
11/11/1989	--		87.02	14.10	--	72.92	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		87.02	13.90	--	73.12	<100	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
7/30/1990	--		87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	<5000	--
11/20/1990	--		87.02	14.67	--	72.35	<50	0.3	0.8	0.4	1.5	--	--	SAL	--	--	--	--
3/1/1991	--		87.02	15.22	--	71.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
8/19/1991	--		87.02	13.15	--	73.87	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
11/13/1991	--		87.02	15.66	--	71.36	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
2/24/1992	--		87.02	15.01	--	72.01	<50	0.65	1.4	0.66	4.4	--	--	SEQ	--	--	--	--

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

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-3 Cont.																		
5/19/1992	--		87.02	15.52	--	71.50	<50	<0.5	<0.5	<0.5	<0.5	--	--	SEQ	--	--	--	--
7/22/1992	--		87.02	15.63	--	71.39	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	<50	<5000	--
8/14/1992	--		87.02	13.57	--	73.45	--	--	--	--	--	--	--					
11/11/1992	--		87.02	14.13	--	72.89	<50	<0.5	0.7	<0.5	1.3	--	--	ANA	--	--	--	--
6/7/1993	--		87.02	12.13	--	74.89	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
12/2/1993	--		87.02	13.29	--	73.73	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
6/22/1994	--		87.02	12.78	--	74.24	<50	<0.5	<0.5	<0.5	<0.5	--	2.9	PACE	--	--	--	--
1/10/1995	--		87.02	12.01	--	75.01	<50	<0.5	<0.5	<0.5	<1	--	3.8	ATI	--	--	--	--
6/21/1995	--		87.02	11.57	--	75.45	<50	<0.50	<0.50	<0.50	<1.0	--	7.4	ATI	--	--	--	--
12/27/1995	--		87.02	13.47	--	73.55	<50	<0.50	<0.50	<0.50	<1.0	5.7	7.3	ATI	--	--	--	--
6/13/1996	--		87.02	11.22	--	75.80	60	<0.5	<0.5	<0.5	<0.5	<10	6.8	SPL	--	--	--	--
12/4/1996	--		87.02	13.28	--	73.74	<50	<0.5	<1	<1	<1	<10	6.7	SPL	--	--	--	--
6/10/1997	--		87.02	10.22	--	76.80	<50	<0.5	<1.0	<1.0	<1.0	<10	6.1	SPL	--	--	--	--
12/12/1997	--	c	87.02	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
12/12/1997	--		87.02	12.61	--	74.41	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--	--	--	--
6/18/1998	--		87.02	12.80	--	74.22	--	--	--	--	--	--	--	--	--	--	--	--
6/18/1998	--		87.02	9.07	--	77.95	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--
9/28/1999	--		87.02	13.76	--	73.26	--	--	--	--	--	--	--	--	--	--	--	--
3/27/2000	--		87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	1.6	--	PACE	--	--	--	--
9/28/2000	--		87.02	11.28	--	75.74	<50	<0.5	7.4	<0.5	1.3	2	--	PACE	--	--	--	--
3/8/2001	--		87.02	11.75	--	75.27	<50	<0.5	<0.5	<0.5	<0.5	60.4	--	PACE	--	--	--	--
9/21/2001	--		87.02	11.33	--	75.69	<50	<0.5	<0.5	<0.5	<1.5	8.18	--	PACE	--	--	--	--
2/28/2002	--		87.02	10.86	--	76.16	<50	<0.5	<0.5	<0.5	<1.0	25.5	--	PACE	--	--	--	--
9/6/2002	--		87.02	12.73	--	74.29	<50	1.2	<0.5	<0.5	1	16	--	SEQ	--	--	--	--
2/19/2003	--	h	87.02	11.72	--	75.30	<500	<5.0	<5.0	<5.0	<5.0	110	--	SEQ	--	--	--	--
7/14/2003	--		87.02	13.76	--	73.26	<50	<0.50	<0.50	<0.50	0.67	28	--	SEQ	--	--	--	--
01/14/2004	P		87.02	14.83	--	72.19	550	<5.0	<5.0	<5.0	<5.0	380	--	SEQM	8.1	--	--	--
04/23/2004	P	1	87.02	13.17	--	73.85	<200	<25	<25	<25	<25	560	--	SEQM	6.8	--	--	--
07/01/2004	P		87.02	15.19	--	71.83	<50	<0.50	<0.50	<0.50	0.50	48	--	SEQM	6.4	--	--	--
10/28/2004	P		87.02	15.50	--	71.52	<500	<5.0	<5.0	<5.0	<5.0	290	--	SEQM	6.3	--	--	--
01/10/2005	P		87.02	15.00	--	72.02	<50	<0.50	<0.50	<0.50	<0.50	18	--	SEQM	7.6	--	--	--



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

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
<b>MW-3 Cont.</b>																		
04/13/2005	P		87.02	14.34	--	72.68	<50	<0.50	<0.50	<0.50	<0.50	9.0	--	SEQM	7.1	--	--	--
07/11/2005	P	k	87.02	10.82	--	76.20	130	<1.0	<1.0	<1.0	<1.0	120	--	SEQM	7.8	--	--	--
10/17/2005	P		87.02	11.84	--	75.18	<250	<2.5	<2.5	<2.5	<2.5	260	--	SEQM	8.5	--	--	--
01/17/2006	P		87.02	11.59	--	75.43	800	<5.0	<5.0	<5.0	<5.0	980	--	SEQM	7.2	--	--	--
04/21/2006	P		87.02	10.00	--	77.02	<500	<5.0	<5.0	<5.0	<5.0	48	--	SEQM	6.7	--	--	--
7/17/2006	P	k	87.02	10.80	--	76.22	910	<5.0	<5.0	<5.0	<5.0	1,400	--	TAMC	7.7	--	--	--
7/26/2006	P		87.02	9.67	--	77.35	810	<10	<10	<10	<10	1,300	--	TAMC	6.56	--	--	--
10/31/2006	P		87.02	10.85	--	76.17	1,600	<10	<10	<10	<10	2,300	2.50	TAMC	6.84	--	--	--
1/8/2007	P		87.02	12.73	--	74.29	520	<5.0	<5.0	<5.0	<5.0	760	3.61	TAMC	7.12	--	--	--
4/10/2007	P	k	87.02	11.93	--	75.09	630	<5.0	<5.0	<5.0	<5.0	750	2.31	TAMC	7.15	--	--	--
<b>QC-2</b>																		
1/11/1992	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
6/7/1993	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
12/2/1993	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
6/22/1994	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
1/10/1995	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<1	--	--	ATI	--	--	--	--
6/21/1995	--	g	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	ATI	--	--	--	--
12/27/1995	--	g	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	--	--	--
6/13/1996	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<10	--	SPL	--	--	--	--

#### ABBREVIATIONS & SYMBOLS:

--/-- = Not analyzed/applicable/measured/available

< = Not detected at or above specified laboratory reporting limit

DO = Dissolved oxygen

DRO = Diesel range organics

DTW = Depth to water in ft bgs

ft bgs = feet below ground surface

ft MSL = feet above mean sea level

GRO = Gasoline range organics, range C4-C12

GWE = Groundwater elevation measured in ft MSL

HVOC = Halogenated volatile organic compounds

mg/L = Milligrams per liter

MTBE = Methyl tert-butyl ether

NP = Well not purged prior to sampling

P = Well purged prior to sampling

TOC = Top of casing measured in ft MSL

TOG = Total oil and grease

TPH-d = Total petroleum hydrocarbons as diesel

TPH-g = Total petroleum hydrocarbons as gasoline

µg/L = Micrograms per liter

ANA = Anametrix, Inc.

PACE = Pace, Inc.

ATI = Analytical Technologies, Inc.

SAL = Superior Analytical Laboratory

SPL = Southern Petroleum Laboratories

SEQ/SEQM = Sequoia Analytical/Sequoia Analytical - Morgan Hill (Laboratories)

#### FOOTNOTES:

c = Blind duplicate.

d = A copy of the documentation for this data is included in Appendix C of Alisto report 10-076-06-002.

e = Tetrachloroethene

f = trans-1,2-Dichloroethene

g = Travel blank.

h = TPH-g, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE analyzed by EPA Method 8260B beginning on 1st quarter sampling event (2/19/03).

k = The hydrocarbon result was partly due to individual peaks in the quantification range (GRO).

l = GRO analyzed by EPA Method 8015B.

m = Confirmatory analysis for total xylenes was past holding time.

n = Well inaccessible.

#### 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 pH and DO were obtained through field measurements.

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

**Table 2. Summary of Fuel Additives Analytical Data  
Station #11102, 100 MacArthur Blvd., 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>									
7/14/2003	<2000	2,700	940	<20	<20	<20	—	—	
01/14/2004	<1,000	2,500	220	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<500	2,500	150	<2.5	<2.5	<2.5	<2.5	<2.5	
07/01/2004	<500	2,000	96	<2.5	<2.5	<2.5	<2.5	<2.5	
10/28/2004	<5.0	1,500	43	<0.50	<0.50	0.58	<0.50	<0.50	
01/10/2005	<500	1,900	85	<2.5	<2.5	<2.5	<2.5	<2.5	
04/13/2005	<500	1,400	48	<2.5	<2.5	<2.5	<2.5	<2.5	
07/11/2005	<100	550	36	<0.50	<0.50	<0.50	<0.50	<0.50	
10/17/2005	<100	450	20	<0.50	<0.50	<0.50	<0.50	<0.50	a
01/17/2006	<300	260	38	<0.50	<0.50	0.54	<0.50	<0.50	
04/21/2006	<300	320	17	<0.50	<0.50	<0.50	<0.50	<0.50	
7/17/2006	<300	32	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/26/2006	<300	22	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
10/31/2006	<300	<20	2.8	<0.50	<0.50	<0.50	<0.50	<0.50	a
1/8/2007	<300	110	6.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/10/2007	<300	210	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW-2</b>									
7/14/2003	<100,000	<20,000	24,000	<1000	<1,000	<1000	—	—	
01/14/2004	<100,000	<20,000	21,000	<500	<500	<500	<500	<500	
04/23/2004	<50,000	11,000	22,000	<250	<250	420	<250	<250	
07/01/2004	<10,000	2,900	5,200	<50	<50	110	<50	<50	
10/28/2004	<5.0	6,700	6,800	<50	<50	120	<50	<50	
01/10/2005	<50,000	<10,000	7,100	<250	<250	<250	<250	<250	
04/13/2005	<10,000	5,300	5,300	<50	<50	95	<50	<50	
07/11/2005	<10,000	9,000	5,300	<50	<50	99	<50	<50	
10/17/2005	<10,000	5,200	2,500	<50	<50	<50	<50	<50	a
01/17/2006	<30,000	8,400	2,200	<50	<50	<50	<50	<50	
04/21/2006	—	—	—	—	—	—	—	—	Well Inaccessible
7/26/2006	<30,000	4,500	2,900	<50	<50	<50	<50	<50	
10/31/2006	<15,000	9,300	2,300	<25	<25	41	<25	<25	a
1/8/2007	<7,500	7700	1700	<12	<12	38	<12	<12	

**Table 2. Summary of Fuel Additives Analytical Data  
Station #11102, 100 MacArthur Blvd., 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>									
4/10/2007	<30,000	6,400	1,500	<50	<50	<50	<50	<50	
<b>MW-3</b>									
7/14/2003	<100	<20	28	<1.0	<1.0	<1.0			
01/14/2004	<1,000	<200	380	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<5,000	<1,000	560	<25	<25	<25	<25	<25	
07/01/2004	<100	<20	48	<0.50	<0.50	0.52	<0.50	<0.50	
10/28/2004	<5.0	<200	290	<5.0	<5.0	<5.0	<5.0	<5.0	
01/10/2005	<100	<20	18	<0.50	<0.50	<0.50	<0.50	<0.50	
04/13/2005	<100	<20	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
07/11/2005	<200	<40	120	<1.0	<1.0	1.4	<1.0	<1.0	a
10/17/2005	<500	<100	260	<2.5	<2.5	4.2	<2.5	<2.5	a
01/17/2006	<3,000	200	980	<5.0	<5.0	13	<5.0	<5.0	
04/21/2006	<3,000	<200	48	<5.0	<5.0	<5.0	<5.0	<5.0	
7/17/2006	<3,000	<200	1,400	<5.0	<5.0	15	<5.0	<5.0	
7/26/2006	<6,000	<400	1,400	<10	<10	18	<10	<10	
10/31/2006	<6,000	<400	2,300	<10	<10	39	<10	<10	a
1/8/2007	<3000	<200	760	<5.0	<5.0	9.7	<5.0	<5.0	
4/10/2007	<3,000	<200	750	<5.0	<5.0	<5.0	<5.0	<5.0	



**SYMBOLS & ABBREVIATIONS:**

-- = Not analyzed/applicable/measured/available

< = Not detected at or above specified 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 calibration verification for ethanol was within the method limits but outside the contract limits.

**NOTES:**

All volatile organic compounds were 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.

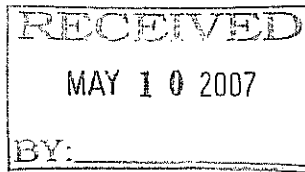
**Table 3. Historical Ground-Water Flow Direction and Gradient**  
**Station #11102, 100 MacArthur Blvd., Oakland, CA**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
4/21/2006	--	--
7/17/2006	Southwest	0.05
10/31/2006	Southwest	0.04
1/8/2007	West	0.06
4/10/2007	West	0.05

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 AND LABORATORY ANALYTICAL REPORT  
WITH CHAIN-OF-CUSTODY DOCUMENTATION)



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

May 2, 2007

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

Re: Groundwater Sampling Data Package, BP Service Station No. 11102, located at 100 MacArthur Blvd., Oakland, California (Quarterly Monitoring performed on April 10, 2007)

### General Information

*Data Submittal Prepared / Reviewed by:* Sandy Hayes / Jay Johnson

*Phone Number:* (530) 676-6000

*On-Site Supplier Representative:* Jerry Gonzales

*Date:* April 10, 2007

*Arrival:* 09:00                      *Departure:* 11:30

*Weather Conditions:* Clear

*Unusual Field Conditions:* None

*Scope of Work Performed:* Quarterly monitoring and sampling

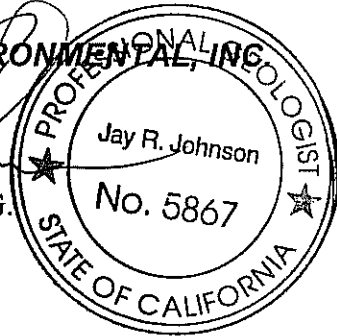
*Variations from Work Scope:* Wells MW-2 and MW-3 purged dry before three casing volumes were removed.

This submittal presents the tabulation of data collected in association with routine groundwater monitoring. The attachments include bill of lading, field data sheets, chain of custody documentation, and certified analytical results. 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:**

- Bill of Lading
- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results

CC: Mr. Paul Supple, BP/ARCO

**BP GEM OIL COMPANY**

**TYPE A BILL OF LADING**

**SOURCE RECORD BILL OF LADING FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGEWATER WHICH HAS BEEN RECOVERED FROM GROUNDWATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY BELSHIRE ENVIRONMENTAL TO SEAPORT ENVIRONMENTAL IN REDWOOD CITY, CALIFORNIA.**

The contractors performing this work are Stratus Environmental, Inc. [Stratus, 3330 Cameron Park Drive, Suite 550, Cameron Park, CA 95682, (530) 676-6004], and Doulos Environmental, Inc. [Doulos, PO Box 2559, Orangevale, CA 95662, (916) 990-0333]. Stratus is authorized by BP GEM OIL COMPANY to recover, collect, and apportion into loads the non-hazardous well purgewater that is drawn from wells at BP GEM Oil Company facilities and deliver that purgewater to BP GEM Oil Company facility 5786 located in West Sacramento, California. Doulos also performs these services under subcontract to Stratus. Transport routing of the non-hazardous well purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility to the designated destination point via the contractor's facility, or any combination thereof. The non-hazardous well purgewater is and remains the property of BP GEM Oil Company.

This Source Record **BILL OF LADING** was initiated to cover the recovery of non-hazardous well purgewater from wells at the BP GEM Oil Company facility described below:

11102

Station #

Oakland - 100 MacArthur Blvd.

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

101

Added Equipment

Rinse Water 5

Any Other

Adjustments 0

**TOTAL GALS.  
RECOVERED** 106

loaded onto

Stratus vehicle # \_\_\_\_\_

Stratus Project # \_\_\_\_\_

time

date

1145

4/10/07

Signature Jerry G.

\*\*\*\*\*

RECEIVED AT

time

date

BP 5786

1845

4/10/07

Unloaded by

Signature Jerry G.

faxed 4/13/07



# BP ALAMEDA PORTFOLIO

## WATER SAMPLE FIELD DATA SHEET

PROJECT #: 11102 PURGED BY: Jc WELL I.D.: MW-1  
 CLIENT NAME: \_\_\_\_\_ SAMPLED BY: Jc SAMPLE I.D.: MW-1  
 LOCATION: Oakland - 100 MacArthur Blvd. QA SAMPLES: \_\_\_\_\_

DATE PURGED 4-10-07 START (2400hr) 9:45 END (2400hr) 9:54  
 DATE SAMPLED \_\_\_\_\_ SAMPLE TIME (2400hr) 10:00  
 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) = 31.90 CASING VOLUME (gal) = 14.2  
 DEPTH TO WATER (feet) = 10.65 CALCULATED PURGE (gal) = 42.7  
 WATER COLUMN HEIGHT (feet) = 21.2 ACTUAL PURGE (gal) = 43.0

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>4-10-07</u>	<u>9:49</u>	<u>14.5</u>	<u>21.2</u>	<u>612</u>	<u>6.88</u>	<u>clear</u>	_____
<u>/</u>	<u>9:50</u>	<u>29.0</u>	<u>21.3</u>	<u>699</u>	<u>6.91</u>	<u>/</u>	_____
<u>/</u>	<u>9:54</u>	<u>43.0</u>	<u>22.0</u>	<u>688</u>	<u>7.00</u>	<u>/</u>	_____

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 11.04 SAMPLE TURBIDITY: \_\_\_\_\_

80% RECHARGE: 4 YES \_\_\_\_\_ NO \_\_\_\_\_ ANALYSES: See work order  
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 3 Uva-HCC

#### PURGING EQUIPMENT

Bladder Pump                       Bailer (Teflon)  
 Centrifugal Pump                   Bailer (PVC)  
 Submersible Pump                   Bailer (Stainless Steel)  
 Peristaltic Pump                    Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 31

#### 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: DO 1.75

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



# BP ALAMEDA PORTFOLIO

## WATER SAMPLE FIELD DATA SHEET

PROJECT #: 11102 PURGED BY: JG WELL I.D.: MW-2  
 CLIENT NAME: \_\_\_\_\_ SAMPLED BY: J SAMPLE I.D.: MW-2  
 LOCATION: Oakland - 100 MacArthur Blvd. QA SAMPLES: \_\_\_\_\_

DATE PURGED 4-10-07 START (2400hr) 10:08 END (2400hr) 10:13  
 DATE SAMPLED 4-10-07 SAMPLE TIME (2400hr) 11:15  
 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) = 32.20 CASING VOLUME (gal) = 13.9  
 DEPTH TO WATER (feet) = 11.45 CALCULATED PURGE (gal) = 4.7  
 WATER COLUMN HEIGHT (feet) = 20.7 ACTUAL PURGE (gal) = 28.0

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>4-10-07</u>	<u>10:10</u>	<u>14</u>	<u>22.7</u>	<u>633</u>	<u>6.89</u>	<u>clear</u>	
<u>/</u>	<u>10:13</u>	<u>28</u>	<u>23.4</u>	<u>651</u>	<u>6.89</u>	<u>/</u>	<u>pump 100</u>

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 20.93 SAMPLE TURBIDITY: clear

80% RECHARGE: YES  NO \_\_\_\_\_ ANALYSES: see work order  
 ODOR: No SAMPLE VESSEL / PRESERVATIVE: 3 Vol-HCL

#### PURGING EQUIPMENT

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 30

#### 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#: MAST 9

REMARKS: DO 1.60

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

# BP ALAMEDA PORTFOLIO

## WATER SAMPLE FIELD DATA SHEET

PROJECT #: 11102 PURGED BY: Jo WELL I.D.: MW-3  
 CLIENT NAME: \_\_\_\_\_ SAMPLED BY: J SAMPLE I.D.: MW-3  
 LOCATION: Oakland - 100 MacArthur Blvd. QA SAMPLES: \_\_\_\_\_

DATE PURGED 4-10-07 START (2400hr) 9:25 END (2400hr) 9:35  
 DATE SAMPLED 4-10-07 SAMPLE TIME (2400hr) 10:50  
 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) = 32.30 CASING VOLUME (gal) = 13.6  
 DEPTH TO WATER (feet) = 11.93 CALCULATED PURGE (gal) = 40.9  
 WATER COLUMN HEIGHT (feet) = 20.3 ACTUAL PURGE (gal) = 30

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>4-10-07</u>	<u>9:30</u>	<u>13.6</u>	<u>22.1</u>	<u>654</u>	<u>7.19</u>	<u>cloud</u>	
<u>/</u>	<u>9:35</u>	<u>27.3</u>	<u>22.0</u>	<u>615</u>	<u>7.15</u>	<u>clear</u>	<u>PUMP DRO</u>

SAMPLE DEPTH TO WATER: 24.38 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE:  YES  NO ANALYSES: see work order  
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 Vol-HCC

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input checked="" type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer ( <input type="checkbox"/> PVC or <input checked="" type="checkbox"/> disposable)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated _____	<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated _____
Other: _____		Other: _____	
Pump Depth: <u>32</u>			

WELL INTEGRITY: good LOCK#: Mast

REMARKS: DO 2.31  
slow-recharge

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





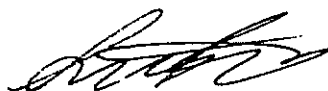
26 April, 2007

Jay Johnson  
Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park, CA 95682

RE: BP Heritage #11102, Oakland, CA  
Work Order: MQD0556

Enclosed are the results of analyses for samples received by the laboratory on 04/11/07 19:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.

Stratus Environmental Inc. [Arco] 3330 Cameron Park Dr., Suite 550 Cameron Park CA, 95682	Project: BP Heritage #11102, Oakland, CA Project Number: G07T9-0032 Project Manager: Jay Johnson	MQD0556 Reported: 04/26/07 15:07
---	--	--

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MQD0556-01	Water	04/10/07 10:00	04/11/07 19:10
MW-2	MQD0556-02	Water	04/10/07 11:15	04/11/07 19:10
MW-3	MQD0556-03	Water	04/10/07 10:50	04/11/07 19:10
TB 11102	MQD0556-04	Water	04/10/07 05:00	04/11/07 19:10

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

These samples were received with no custody seals.

Stratus Environmental Inc. [Arco] 3330 Cameron Park Dr., Suite 550 Cameron Park CA, 95682	Project: BP Heritage #11102, Oakland, CA Project Number: G07T9-0032 Project Manager: Jay Johnson	MQD0556 Reported: 04/26/07 15:07
---	--	--

**Total Purgeable Hydrocarbons by GC/MS (CA LUFT)**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (MQD0556-01) Water</b> Sampled: 04/10/07 10:00 Received: 04/11/07 19:10									
<b>Gasoline Range Organics (C4-C12)</b>	<b>160</b>	50	ug/l	1	7D20007	04/20/07	04/20/07	LUFT GCMS	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94 %	60-125		"	"	"	"	
<b>MW-2 (MQD0556-02) Water</b> Sampled: 04/10/07 11:15 Received: 04/11/07 19:10									
<b>Gasoline Range Organics (C4-C12)</b>	<b>1300</b>	250	ug/l	5	7D23032	04/23/07	04/24/07	LUFT GCMS	PV
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	60-125		"	"	"	"	
<b>MW-3 (MQD0556-03) Water</b> Sampled: 04/10/07 10:50 Received: 04/11/07 19:10									
<b>Gasoline Range Organics (C4-C12)</b>	<b>630</b>	250	ug/l	5	7D23032	04/23/07	04/24/07	LUFT GCMS	PV
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	60-125		"	"	"	"	

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: BP Heritage #11102, Oakland, CA  
Project Number: G07T9-0032  
Project Manager: Jay Johnson

MQD0556  
Reported:  
04/26/07 15:07

**Volatile Organic Compounds by EPA Method 8260B**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (MQD0556-01) Water Sampled: 04/10/07 10:00 Received: 04/11/07 19:10</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	7D20007	04/20/07	04/20/07	EPA 8260B	
<b>Benzene</b>	<b>1.4</b>	<b>0.50</b>	"	"	"	"	"	"	
<b>tert-Butyl alcohol</b>	<b>210</b>	<b>20</b>	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	300	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>9.0</b>	<b>0.50</b>	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		97 %	75-120		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94 %	60-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98 %	60-135		"	"	"	"	
<b>MW-2 (MQD0556-02) Water Sampled: 04/10/07 11:15 Received: 04/11/07 19:10</b>									
tert-Amyl methyl ether	ND	50	ug/l	100	7D20007	04/20/07	04/20/07	EPA 8260B	
Benzene	ND	50	"	"	"	"	"	"	
<b>tert-Butyl alcohol</b>	<b>6400</b>	<b>2000</b>	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50	"	"	"	"	"	"	
Ethanol	ND	30000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1500</b>	<b>50</b>	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		94 %	75-120		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93 %	60-125		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91 %	60-135		"	"	"	"	



Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: BP Heritage #11102, Oakland, CA  
Project Number: G07T9-0032  
Project Manager: Jay Johnson

MQD0556  
Reported:  
04/26/07 15:07

**Volatile Organic Compounds by EPA Method 8260B**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (MQD0556-03) Water Sampled: 04/10/07 10:50 Received: 04/11/07 19:10</b>									
tert-Amyl methyl ether	ND	5.0	ug/l	10	7D20036	04/20/07	04/21/07	EPA 8260B	
Benzene	ND	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethanol	ND	3000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>750</b>	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		99 %		75-120	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		100 %		60-125	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94 %		60-135	"	"	"	"	

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MQD0556  
Reported:  
04/26/07 15:07

**Total Purgeable Hydrocarbons by GC/MS (CA LUFT) - Quality Control**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7D20007 - EPA 5030B P/T / LUFT GCMS**

**Blank (7D20007-BLK1)**

Prepared & Analyzed: 04/20/07

Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 1,2-Dichloroethane-d4	1.94		"	2.50		78	60-125			

**Laboratory Control Sample (7D20007-BS2)**

Prepared & Analyzed: 04/20/07

Gasoline Range Organics (C4-C12)	466	50	ug/l	500		93	65-120			
Surrogate: 1,2-Dichloroethane-d4	2.04		"	2.50		82	60-125			

**Laboratory Control Sample Dup (7D20007-BSD2)**

Prepared & Analyzed: 04/20/07

Gasoline Range Organics (C4-C12)	438	50	ug/l	500		88	65-120	6	20	
Surrogate: 1,2-Dichloroethane-d4	2.02		"	2.50		81	60-125			

**Batch 7D23032 - EPA 5030B P/T / LUFT GCMS**

**Blank (7D23032-BLK1)**

Prepared & Analyzed: 04/23/07

Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 1,2-Dichloroethane-d4	2.33		"	2.50		93	60-125			

**Laboratory Control Sample (7D23032-BS2)**

Prepared & Analyzed: 04/23/07

Gasoline Range Organics (C4-C12)	394	50	ug/l	500		79	65-120			
Surrogate: 1,2-Dichloroethane-d4	2.51		"	2.50		100	60-125			

**Laboratory Control Sample Dup (7D23032-BSD2)**

Prepared & Analyzed: 04/23/07

Gasoline Range Organics (C4-C12)	395	50	ug/l	500		79	65-120	0.3	20	
Surrogate: 1,2-Dichloroethane-d4	2.41		"	2.50		96	60-125			

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MQD0556  
Reported:  
04/26/07 15:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7D20007 - EPA 5030B P/T / EPA 8260B**

**Blank (7D20007-BLK1)**

Prepared & Analyzed: 04/20/07

tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	300	"							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
<i>Surrogate: Dibromofluoromethane</i>	2.08		"	2.50		83	75-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	1.94		"	2.50		78	60-125			
<i>Surrogate: Toluene-d8</i>	2.30		"	2.50		92	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.14		"	2.50		86	60-135			

**Laboratory Control Sample (7D20007-BS1)**

Prepared & Analyzed: 04/20/07

tert-Amyl methyl ether	8.66	0.50	ug/l	10.0		87	65-135			
Benzene	9.33	0.50	"	10.0		93	75-120			
tert-Butyl alcohol	205	20	"	200		102	60-135			
Di-isopropyl ether	8.37	0.50	"	10.0		84	70-130			
1,2-Dibromoethane (EDB)	9.18	0.50	"	10.0		92	80-135			
1,2-Dichloroethane	8.42	0.50	"	10.0		84	70-125			
Ethanol	232	300	"	200		116	15-150			
Ethyl tert-butyl ether	8.49	0.50	"	10.0		85	65-130			
Ethylbenzene	10.9	0.50	"	10.0		109	75-120			
Methyl tert-butyl ether	8.44	0.50	"	10.0		84	50-140			
Toluene	9.76	0.50	"	10.0		98	75-120			
Xylenes (total)	32.1	0.50	"	30.0		107	75-120			
<i>Surrogate: Dibromofluoromethane</i>	2.16		"	2.50		86	75-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.09		"	2.50		84	60-125			
<i>Surrogate: Toluene-d8</i>	2.37		"	2.50		95	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.26		"	2.50		90	60-135			

TestAmerica - Morgan Hill, CA

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: BP Heritage #11102, Oakland, CA  
Project Number: G07T9-0032  
Project Manager: Jay Johnson

MQD0556  
Reported:  
04/26/07 15:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7D20007 - EPA 5030B P/T / EPA 8260B**

Matrix Spike (7D20007-MS1)	Source: MQD0527-04			Prepared & Analyzed: 04/20/07						
tert-Amyl methyl ether	11.2	0.50	ug/l	10.0	ND	112	65-135			
Benzene	9.99	0.50	"	10.0	ND	100	75-120			
tert-Butyl alcohol	208	20	"	200	ND	104	60-135			
Di-isopropyl ether	10.2	0.50	"	10.0	ND	102	70-130			
1,2-Dibromoethane (EDB)	11.2	0.50	"	10.0	ND	112	80-135			
1,2-Dichloroethane	10.3	0.50	"	10.0	ND	103	70-125			
Ethanol	224	300	"	200	ND	112	15-150			
Ethyl tert-butyl ether	10.5	0.50	"	10.0	ND	105	65-130			
Ethylbenzene	10.6	0.50	"	10.0	ND	106	75-120			
Methyl tert-butyl ether	10.7	0.50	"	10.0	ND	107	50-140			
Toluene	10.4	0.50	"	10.0	ND	104	75-120			
Xylenes (total)	31.6	0.50	"	30.0	ND	105	75-120			
Surrogate: Dibromofluoromethane	2.36		"	2.50		94	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.41		"	2.50		96	60-125			
Surrogate: Toluene-d8	2.39		"	2.50		96	80-120			
Surrogate: 4-Bromofluorobenzene	2.50		"	2.50		100	60-135			

Matrix Spike Dup (7D20007-MSD1)	Source: MQD0527-04			Prepared & Analyzed: 04/20/07						
tert-Amyl methyl ether	11.2	0.50	ug/l	10.0	ND	112	65-135	0	25	
Benzene	10.2	0.50	"	10.0	ND	102	75-120	2	20	
tert-Butyl alcohol	213	20	"	200	ND	106	60-135	2	25	
Di-isopropyl ether	10.4	0.50	"	10.0	ND	104	70-130	2	25	
1,2-Dibromoethane (EDB)	11.1	0.50	"	10.0	ND	111	80-135	0.9	30	
1,2-Dichloroethane	10.4	0.50	"	10.0	ND	104	70-125	1	25	
Ethanol	229	300	"	200	ND	114	15-150	2	25	
Ethyl tert-butyl ether	10.7	0.50	"	10.0	ND	107	65-130	2	25	
Ethylbenzene	10.8	0.50	"	10.0	ND	108	75-120	2	20	
Methyl tert-butyl ether	10.8	0.50	"	10.0	ND	108	50-140	0.9	25	
Toluene	10.4	0.50	"	10.0	ND	104	75-120	0	25	
Xylenes (total)	32.2	0.50	"	30.0	ND	107	75-120	2	20	
Surrogate: Dibromofluoromethane	2.36		"	2.50		94	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.48		"	2.50		99	60-125			
Surrogate: Toluene-d8	2.42		"	2.50		97	80-120			
Surrogate: 4-Bromofluorobenzene	2.41		"	2.50		96	60-135			

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MQD0556  
Reported:  
04/26/07 15:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7D20036 - EPA 5030B P/T / EPA 8260B**

**Blank (7D20036-BLK1)**

Prepared & Analyzed: 04/20/07

tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	300	"							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
<i>Surrogate: Dibromofluoromethane</i>	2.46		"	2.50		98	75-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.50		"	2.50		100	60-125			
<i>Surrogate: Toluene-d8</i>	2.47		"	2.50		99	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.50		"	2.50		100	60-135			

**Laboratory Control Sample (7D20036-BS1)**

Prepared & Analyzed: 04/20/07

tert-Amyl methyl ether	10.9	0.50	ug/l	10.0		109	65-135			
Benzene	10.6	0.50	"	10.0		106	75-120			
tert-Butyl alcohol	199	20	"	200		100	60-135			
Di-isopropyl ether	10.6	0.50	"	10.0		106	70-130			
1,2-Dibromoethane (EDB)	11.3	0.50	"	10.0		113	80-135			
1,2-Dichloroethane	10.8	0.50	"	10.0		108	70-125			
Ethanol	215	300	"	200		108	15-150			
Ethyl tert-butyl ether	10.7	0.50	"	10.0		107	65-130			
Ethylbenzene	11.0	0.50	"	10.0		110	75-120			
Methyl tert-butyl ether	10.7	0.50	"	10.0		107	50-140			
Toluene	11.1	0.50	"	10.0		111	75-120			
Xylenes (total)	34.1	0.50	"	30.0		114	75-120			
<i>Surrogate: Dibromofluoromethane</i>	2.53		"	2.50		101	75-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.48		"	2.50		99	60-125			
<i>Surrogate: Toluene-d8</i>	2.47		"	2.50		99	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.51		"	2.50		100	60-135			

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MQD0556  
Reported:  
04/26/07 15:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7D20036 - EPA 5030B P/T / EPA 8260B**

<b>Matrix Spike (7D20036-MS1)</b>		<b>Source: MQD0590-01</b>			<b>Prepared &amp; Analyzed: 04/20/07</b>					
tert-Amyl methyl ether	12.8	0.50	ug/l	10.0	ND	128	65-135			
Benzene	11.6	0.50	"	10.0	ND	116	75-120			
tert-Butyl alcohol	215	20	"	200	ND	108	60-135			
Di-isopropyl ether	12.0	0.50	"	10.0	ND	120	70-130			
1,2-Dibromoethane (EDB)	12.5	0.50	"	10.0	ND	125	80-135			
1,2-Dichloroethane	12.2	0.50	"	10.0	ND	122	70-125			
Ethanol	217	300	"	200	ND	108	15-150			
Ethyl tert-butyl ether	12.2	0.50	"	10.0	ND	122	65-130			
Ethylbenzene	11.8	0.50	"	10.0	ND	118	75-120			
Methyl tert-butyl ether	13.4	0.50	"	10.0	1.2	122	50-140			
Toluene	12.0	0.50	"	10.0	ND	120	75-120			
Xylenes (total)	36.7	0.50	"	30.0	ND	122	75-120			LM
<i>Surrogate: Dibromofluoromethane</i>	<i>2.51</i>		<i>"</i>	<i>2.50</i>		<i>100</i>	<i>75-120</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.53</i>		<i>"</i>	<i>2.50</i>		<i>101</i>	<i>60-125</i>			
<i>Surrogate: Toluene-d8</i>	<i>2.49</i>		<i>"</i>	<i>2.50</i>		<i>100</i>	<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.64</i>		<i>"</i>	<i>2.50</i>		<i>106</i>	<i>60-135</i>			

<b>Matrix Spike Dup (7D20036-MSD1)</b>		<b>Source: MQD0590-01</b>			<b>Prepared &amp; Analyzed: 04/20/07</b>					
tert-Amyl methyl ether	12.4	0.50	ug/l	10.0	ND	124	65-135	3	25	
Benzene	11.6	0.50	"	10.0	ND	116	75-120	0	20	
tert-Butyl alcohol	227	20	"	200	ND	114	60-135	5	25	
Di-isopropyl ether	12.0	0.50	"	10.0	ND	120	70-130	0	25	
1,2-Dibromoethane (EDB)	13.1	0.50	"	10.0	ND	131	80-135	5	30	
1,2-Dichloroethane	12.2	0.50	"	10.0	ND	122	70-125	0	25	
Ethanol	218	300	"	200	ND	109	15-150	0.5	25	
Ethyl tert-butyl ether	12.1	0.50	"	10.0	ND	121	65-130	0.8	25	
Ethylbenzene	12.0	0.50	"	10.0	ND	120	75-120	2	20	
Methyl tert-butyl ether	13.5	0.50	"	10.0	1.2	123	50-140	0.7	25	
Toluene	11.9	0.50	"	10.0	ND	119	75-120	0.8	25	
Xylenes (total)	37.5	0.50	"	30.0	ND	125	75-120	2	20	LM
<i>Surrogate: Dibromofluoromethane</i>	<i>2.52</i>		<i>"</i>	<i>2.50</i>		<i>101</i>	<i>75-120</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.59</i>		<i>"</i>	<i>2.50</i>		<i>104</i>	<i>60-125</i>			
<i>Surrogate: Toluene-d8</i>	<i>2.46</i>		<i>"</i>	<i>2.50</i>		<i>98</i>	<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.62</i>		<i>"</i>	<i>2.50</i>		<i>105</i>	<i>60-135</i>			

TestAmerica - Morgan Hill, CA

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Project: BP Heritage #11102, Oakland, CA  
Project Number: G07T9-0032  
Project Manager: Jay Johnson

MQD0556  
Reported:  
04/26/07 15:07

**Notes and Definitions**

PV Hydrocarbon result partly due to individ. peak(s) in quant. range  
LM MS and/or MSD above acceptance limits. See Blank Spike(LCS).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference





## TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: ARCO 11102  
 REC. BY (PRINT) sham  
 WORKORDER: MOQD0556

DATE REC'D AT LAB: 04/11/07  
 TIME REC'D AT LAB: 19:10  
 DATE LOGGED IN: 4-13-07

For Regulatory Purposes?  
 DRINKING WATER YES / NO  
 WASTE WATER YES / NO

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESER VATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / <u>Absent</u> Intact / Broken*								Blow Down
2. Chain-of-Custody <u>Present</u> / Absent*								
3. Traffic Reports or Packing List: Present / <u>Absent</u>								
4. Airbill: Airbill / Sticker Present / <u>Absent</u>								
5. Airbill #:								
6. Sample Labels: <u>Present</u> / Absent								
7. Sample IDs: <u>Listed</u> / Not Listed on Chain-of-Custody								
8. Sample Condition: <u>Intact</u> / Broken* / Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree? <u>Yes</u> / No*								
10. Sample received within hold time? <u>Yes</u> / No*								
11. Adequate sample volume received? <u>Yes</u> / No*								
12. Proper preservatives used? <u>Yes</u> / No*								
13. Trip Blank / Temp Blank Received? (circle which, if yes) <u>Yes</u> / No*								
14. Read Temp: <u>5.4</u> Corrected Temp: <u>5.4</u> Is corrected temp 4 +/- 2°C? <u>Yes</u> / No**								

(Acceptance range for samples requiring thermal pres.)  
 \*\*Exception (if any): METALS / DFF ON ICE  
 or Problem COC

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

**APPENDIX B**

**GEOTRACKER UPLOAD CONFIRMATION**

## Electronic Submittal Information

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### UPLOADING A GEO\_WELL FILE

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

<b><u>Submittal Title:</u></b>	2Q07 GEO_WELL 11102
<b><u>Facility Global ID:</u></b>	T0600100908
<b><u>Facility Name:</u></b>	BP #11102
<b><u>Submittal Date/Time:</u></b>	7/2/2007 9:14:52 AM
<b><u>Confirmation Number:</u></b>	3679766595

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(CONTRACTOR)

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# Electronic Submittal Information

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**Confirmation Number:** 8948769330

**Date/Time of Submittal:** 7/2/2007 9:16:35 AM

**Facility Global ID:** T0600100908

**Facility Name:** BP #11102

**Submittal Title:** 2Q07 GW Monitoring

**Submittal Type:** GW Monitoring Report

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

<b>BP #11102</b> 100 MACARTHUR OAKLAND, CA 94610	<b>Regional Board - Case #: 01-0985</b> SAN FRANCISCO BAY RWQCB (REGION 2) <b>Local Agency (lead agency) - Case #: RO0000456</b> ALAMEDA COUNTY LOP - (SP)
--	---

<u>CONF #</u>	<u>TITLE</u>	<u>QUARTER</u>
8948769330	2Q07 GW Monitoring	Q2 2007
<u>SUBMITTED BY</u>	<u>SUBMIT DATE</u>	<u>STATUS</u>
Broadbent & Associates, Inc.	7/2/2007	PENDING REVIEW

## SAMPLE DETECTIONS REPORT

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

## METHOD QA/QC REPORT

METHODS USED	8260FA,8260TPH
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	N
- MATRIX SPIKE DUPLICATE	N
- 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
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	Y
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

**SOIL SAMPLES FOR 8021/8260 SERIES**

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

**FIELD QC SAMPLES**

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

Logged in as BROADBENT-C (CONTRACTOR)

CONTACT SITE ADMINISTRATOR.