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Atlantic Richfield Company  
(a BP affiliated company)

P.O. Box 1257  
San Ramon, California 94583  
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30 January 2007

Re: Fourth Quarter 2006 Ground-Water Monitoring Report  
Former BP Service Station # 11102  
100 MacArthur Boulevard  
Oakland, California  
ACEH Case #RO0000456

"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

**Fourth Quarter 2006 Ground-Water Monitoring Report**  
Former BP Service Station #11102  
100 MacArthur Boulevard  
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](http://www.broadbentinc.com)

30 January 2007

Project No. 06-08-643

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



30 January 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: Fourth Quarter 2006 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 *Fourth Quarter 2006 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 Fourth Quarter of 2006.

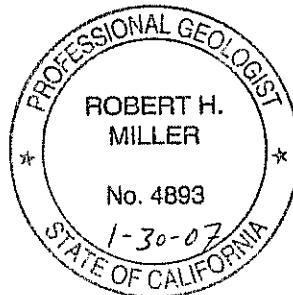
Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Thomas A. Venus  
Senior Engineer, P.E.

Robert H. Miller, P.G., C.HG.  
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 (Fourth Quarter 2006):

1. Prepared and submitted Third Quarter 2006 Ground-Water Monitoring Report.
2. Conducted ground-water monitoring/sampling for Fourth Quarter 2006. Work performed by Stratus Environmental, Inc (Stratus).

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

1. Prepared and submitted this Fourth Quarter 2006 Ground-Water Monitoring Report (contained herein).
2. Conduct quarterly ground-water monitoring/sampling for First Quarter 2007. Work to be completed by Stratus.

### QUARTERLY RESULTS SUMMARY:

Current phase of project:	<u>Ground-Water Monitoring/Sampling</u>
Frequency of ground-water monitoring:	<u>Quarterly: Wells MW-1 through MW-3</u>
Frequency of ground-water sampling:	<u>Quarterly: Wells MW-1 through MW-3</u>
Is free product (FP) present on-site:	<u>No</u>
Current remediation techniques:	<u>NA</u>
Depth to ground water (below TOC):	<u>9.80 (MW-1) to 12.02 (MW-2)</u>
General ground-water flow direction:	<u>Southwest</u>
Approximate hydraulic gradient:	<u>0.04 ft/ft</u>

### DISCUSSION:

Fourth quarter 2006 ground-water monitoring and sampling was conducted at Station #11102 on 31 October 2006 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 9.80 ft at well MW-1 to 12.02 ft at well MW-2. Resulting ground-water surface elevations ranged from 80.40 ft above mean sea level in well MW-1 to 75.89 ft at well MW-2. 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 0.04 ft/ft to the southwest, 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. 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. 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), fuel additives and oxygenates

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. Copies of the both laboratory analytical reports, including chain-of-custody documentation, are provided in Appendix A.

Gasoline Range Organics were detected above the laboratory reporting limit in two of the three wells sampled at concentrations up to 2,300 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-2. TAME was detected above the laboratory reporting limit in two of the three wells sampled at concentrations up to 41  $\mu\text{g/L}$  in well MW-2. TBA was detected above the laboratory reporting limit in one of the three wells sampled at a concentration of 9,300  $\mu\text{g/L}$  in well MW-2. MTBE was detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 2,300  $\mu\text{g/L}$  in wells MW-2 and MW-3. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in the three wells sampled this quarter. Detected analyte concentrations of GRO, TAME, and MTBE in well MW-3 reached historic maximums of 1,600  $\mu\text{g/L}$ , 39  $\mu\text{g/L}$ , and 2,300  $\mu\text{g/L}$ , respectively. The detected analyte concentration of MTBE in well MW-1 reached a historic minimum of 2.8  $\mu\text{g/L}$ . All other 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, 31 October 2006, 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

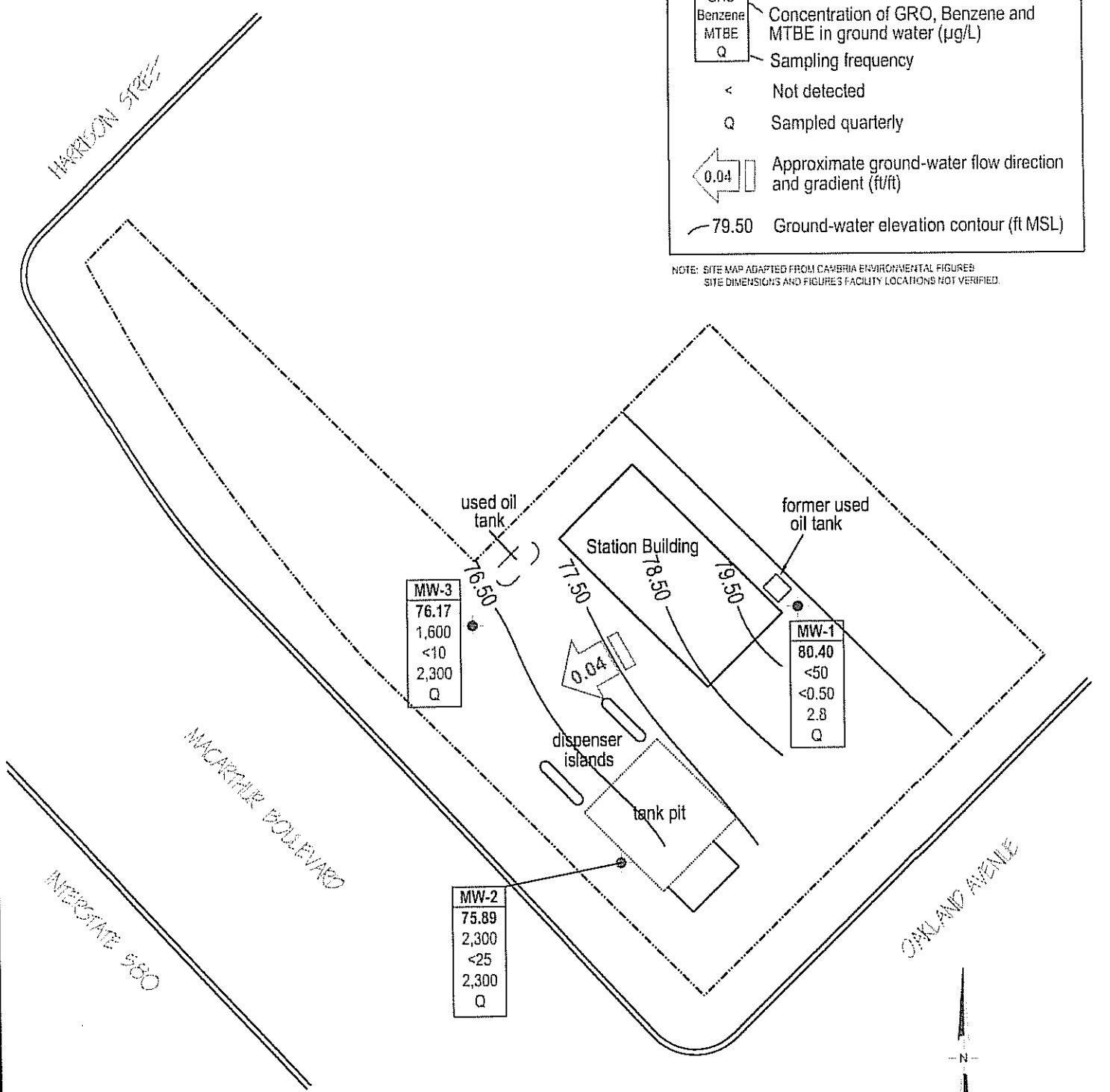
Appendix A. Stratus Ground-Water Sampling Data Package (Includes Field Data Sheets and Laboratory Analytical Report with Chain-of-Custody Documentation)

Appendix B. GeoTracker Upload Confirmation

**LEGEND**

- Monitoring Well Location
- Well designation
- ELEV — Well elevation (ft MSL)
- GRO — Ground-water elevation (ft MSL)
- Benzene — Concentration of GRO, Benzene and MTBE in ground water (µg/L)
- MTBE — Concentration of GRO, Benzene and MTBE in ground water (µg/L)
- Q — Sampling frequency
- < — Not detected
- Q — Sampled quarterly
- ← 0.04 — Approximate ground-water flow direction and gradient (ft/ft)
- 79.50 — 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
76.17
1,600
<10
2,300
Q

MW-1
80.40
<50
<0.50
2.8
Q

MW-2
75.89
2,300
<25
2,300
Q

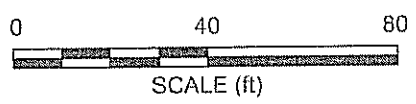


Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

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	11.8	--	78.4	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	--	c	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	--	c, e	90.20	--	--	--	3,600	<13	<5.0	<5.0	<10	--	--	ATI	--	--	--	--
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
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	--	c	90.20	--	--	--	7,700	14	<25	<25	<25	13,000	--	SPL	--	--	--	--
6/10/1997	--		90.20	8.97	--	81.23	7,900	12	<10	<10	<10	15,000	6	SPL	--	1,700	<5	ND
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	ND
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	ND
3/9/1999	--		90.20	9.8	--	80.4	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	--	PAGE	--	--	--	--
9/28/2000	--		90.20	11.33	--	78.87	2,700	10	2.6	1.1	2.7	28,000	--	PAGE	--	--	--	--
3/8/2001	--		90.20	10.96	--	79.24	8,200	23.5	6.09	5.23	8.97	11,600	--	PAGE	--	--	--	--
9/21/2001	--		90.20	12.07	--	78.13	6,000	37.9	<0.5	<0.5	<1.5	7,370	--	PAGE	--	--	--	--
2/28/2002	--		90.20	10.48	--	79.72	6,400	60.8	<5.0	6.43	<10	7,750	--	PAGE	--	--	--	--
9/6/2002	--		90.20	11.2	--	79	1,400	<5.0	<5.0	<5.0	<5.0	6,000	--	SEQ	--	--	--	--
2/19/2003	--	h	90.20	11.59	--	78.91	<10,000	<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	--	78.85	490	17	<2.5	5.8	5.4	85	--	SEQM	7.6	--	--	--
04/13/2005	P		90.20	10.00	--	80.2	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	--	80.4	<50	<0.50	<0.50	<0.50	<0.50	2.8	2.81	TAMC	6.99	--	--	--
MW-2																		
11/4/1989	--		87.91	15.84	--	72.07	<500	6.5	<0.3	<0.3	<0.3	--	--	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	--	72.52	61	6.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
11/20/1990	--		87.91	17.81	--	70.1	<50	0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
3/1/1991	--		87.91	17.11	--	70.8	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--

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.																		
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	14.7	--	73.21	<50	0.55	<0.5	<0.5	<0.5	--	--	SEQ	--	--	--	--
7/22/1992	--		87.91	15.6	--	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	10	<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	--	c	87.91	--	--	--	6,300	<25	<25	<25	<50	19,000	--	ATI	--	--	--	--
12/27/1995	--		87.91	13.11	--	74.8	6,100	<25	<25	<25	<50	20,000	6.7	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	--	c	87.91	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
6/18/1998	--		87.91	8.89	--	79.02	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--
3/9/1999	--		87.91	10.2	--	77.71	15,000	<5.0	<5.0	<5.0	<5.0	23,000	--	SPL	--	--	--	--
9/28/1999	--		87.91	11.81	--	76.1	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	11.4	--	76.51	1,600	1.8	1.7	0.54	2.2	15,000	--	PACE	--	--	--	--
3/8/2001	--		87.91	11.16	--	76.75	20,000	<0.5	<0.5	<0.5	<0.5	29,100	--	PACE	--	--	--	--
9/21/2001	--		87.91	11.65	--	76.26	5,000	<0.5	<0.5	<0.5	<1.5	6,110	--	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.																		
2/28/2002	—		87.91	9.86	--	78.05	3,200	35.1	<0.5	<0.5	<1.0	4,620	—	PACE	--	--	--	--
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	<50,000	<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	--	--	--
MW-3																		
11/4/1989	—		87.02	15.4	--	71.62	<500	<0.3	<0.3	<0.3	<0.3	—	—	SAL	--	--	--	--
11/11/1989	—		87.02	14.1	--	72.92	—	—	—	—	—	—	—	—	—	—	—	—
4/3/1990	—		87.02	13.9	--	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	--	71.8	<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	--	--	--	--
5/19/1992	—		87.02	15.52	--	71.5	<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	--	--	--	--

Table I. 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						
MW-3 Cont.																	
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	ATI	--	--	--	--
6/13/1996	--		87.02	11.22	--	75.8	60	<0.5	<0.5	<0.5	<0.5	<10	SPL	--	--	--	--
12/4/1996	--		87.02	13.28	--	73.74	<50	<0.5	<1	<1	<1	6.7	SPL	--	--	--	--
6/10/1997	--		87.02	10.22	--	76.8	<50	<0.5	<1.0	<1.0	<1.0	<10	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	SPL	--	--	--	--
6/18/1998	--		87.02	12.8	--	74.22	--	--	--	--	--	--	--	--	--	--	--
6/18/1998	--		87.02	9.07	--	77.95	50	<0.5	<1.0	<1.0	<1.0	<10	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	--	75.3	<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	i	87.02	13.17	--	73.85	<200	<2.5	<2.5	<2.5	<2.5	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	--	--	--
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	--	--	--

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						
<b>MW-3 Cont.</b>																	
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	--	--
<b>QC-2</b>																	
11/11/1992	--	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 = Anamatrix, 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
<b>MW-2</b>									
7/14/2003	<100,000	<20,000	24,000	<1000	<1000	<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
<b>MW-3</b>									
7/14/2003	<100	<20	28	<1.0	<1.0	<1.0	-	-	

**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	
MW-3 Cont.									
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	n



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.

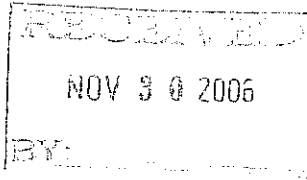
**Table 3. Historical Ground-Water Flow Direction and Gradient**  
**Station #11102, 100 MacArthur Blvd., Oakland, CA**

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
4/21/2006	--	--
7/17/2006	Southwest	0.05
10/31/2006	Southwest	0.04

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

November 21, 2006

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

Re: Groundwater Sampling Data Package, BP Service Station No. 11102, located at 100 MaCarthur Blvd., Oakland, California (Quarterly Monitoring performed on October 31, 2006)

**General Information**

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

*Phone Number:* (530) 676-6000

*On-Site Supplier Representative:* Jerry Gonzales

*Date:* October 31, 2006

*Arrival:* 14:20                      *Departure:* 18:30

*Weather Conditions:* Clear

*Unusual Field Conditions:* None

*Scope of Work Performed:* Quarterly monitoring and sampling

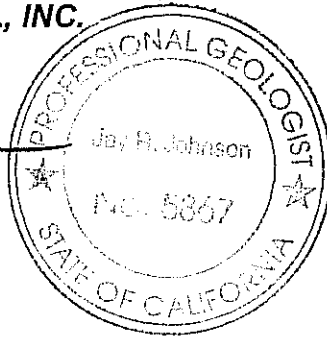
*Variations from Work Scope:* None noted

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:

130

Added Equipment

Rinse Water 5

Any Other

Adjustments 0

**TOTAL GALS.**

**RECOVERED** 135

loaded onto

Stratus vehicle # NA

Stratus Project #

time

date

1830 10/31/08

Signature

*[Handwritten Signature]*

\*\*\*\*\*

RECEIVED AT

time

date

West Sac <sup>5786</sup>

2:00 10/31/08

Unloaded by

Signature JG

# BP ALAMEDA PORTFOLIO

## HYDROLOGIC DATA SHEET

Gauge Date: 10.31.09

Project Name: Oakland - 100 MacArthur Blvd.

Field Technician: Jerry Gonzalez

Project Number: 11102

TOC = Top of Well Casing Elevation  
 DTP = Depth to Free Product (FP or NAPL) Below TOC  
 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 <small>(w/bailer)</small>	COMMENTS
		TOC	DTP	DTW	DTB	DIA	ELEV			
MW-1	15:56			9.80	31.90					
MW-2	15:54			12.08	32.20					
MW-3	15:57			10.85	32.30					

# BP ALAMEDA PORTFOLIO

## WATER SAMPLE FIELD DATA SHEET

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

DATE PURGED 10.31.06 START (2400hr) 16:30 END (2400hr) 16:43  
 DATE SAMPLED 10.31.06 SAMPLE TIME (2400hr) 16:50  
 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) = 31.90 CASING VOLUME (gal) = 15.2  
 DEPTH TO WATER (feet) = 9.80 CALCULATED PURGE (gal) = 45.6  
 WATER COLUMN HEIGHT (feet) = 22.8 ACTUAL PURGE (gal) = 46.0

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>10.31.06</u>	<u>16:34</u>	<u>15.2</u>	<u>19.8</u>	<u>688</u>	<u>7.18</u>	<u>clear</u>	<u>—</u>
<u>1</u>	<u>16:38</u>	<u>30.5</u>	<u>20.8</u>	<u>519</u>	<u>7.14</u>	<u>1</u>	<u>—</u>
<u>2</u>	<u>16:43</u>	<u>46.0</u>	<u>21.1</u>	<u>670</u>	<u>6.97</u>	<u>—</u>	<u>—</u>

### SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 14.08 SAMPLE TURBIDITY: clear  
 80% RECHARGE:  YES  NO ANALYSES: see Gem  
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: VOE HCL

#### 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: \_\_\_\_\_ LOCK#: 160457e

REMARKS: DO 2.81

SIGNATURE: Jo Page 1 of 1



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

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

DATE PURGED 10-31-06 START (2400hr) 16:19 END (2400hr) 1645  
 DATE SAMPLED 10-31-06 SAMPLE TIME (2400hr) 16:50  
 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) = 32.20 CASING VOLUME (gal) = 13.5  
 DEPTH TO WATER (feet) = 12.02 CALCULATED PURGE (gal) = 40.5  
 WATER COLUMN HEIGHT (feet) = 20.1 ACTUAL PURGE (gal) = 40

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>10-31-06</u>	<u>1617</u>	<u>13.4</u>	<u>21.1</u>	<u>615</u>	<u>7.05</u>	<u>clear</u>	<u>—</u>
<u>↓</u>	<u>1621</u>	<u>27.5</u>	<u>22.8</u>	<u>628</u>	<u>6.86</u>	<u> </u>	<u>—</u>
<u>↓</u>	<u>1645</u>	<u>40</u>	<u>23.8</u>	<u>693</u>	<u>6.71</u>	<u> </u>	<u>—</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 14.95 SAMPLE TURBIDITY: clear  
 80% RECHARGE:  YES  NO ANALYSES: see GEM  
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: Vac Seal

PURGING EQUIPMENT

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 28

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#: Almost  
 REMARKS: DO 2.02

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

# BP ALAMEDA PORTFOLIO

## WATER SAMPLE FIELD DATA SHEET

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

DATE PURGED 10-31-06 START (2400hr) 16:01 END (2400hr) 1613  
 DATE SAMPLED 10-31-06 SAMPLE TIME (2400hr) 17:00  
 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) = 32.00 CASING VOLUME (gal) = 14.3  
 DEPTH TO WATER (feet) = 10.85 CALCULATED PURGE (gal) = 43.1  
 WATER COLUMN HEIGHT (feet) = 21.4 ACTUAL PURGE (gal) = 43.5

### FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>10-31-06</u>	<u>16:05</u>	<u>15</u>	<u>27.8</u>	<u>573</u>	<u>7.06</u>	<u>clear</u>	<u>—</u>
<u>↓</u>	<u>16:09</u>	<u>30</u>	<u>23.3</u>	<u>590</u>	<u>6.93</u>	<u> </u>	<u>—</u>
<u>↓</u>	<u>16:13</u>	<u>44</u>	<u>23.5</u>	<u>626</u>	<u>6.84</u>	<u> </u>	<u>—</u>

SAMPLE DEPTH TO WATER: 13.93 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE:  YES  NO ANALYSES: see Gen  
 ODOR: (yes) SAMPLE VESSEL / PRESERVATIVE: 6 VOA HCL

#### PURGING EQUIPMENT

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Pump Depth: 33

#### SAMPLING EQUIPMENT

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

WELL INTEGRITY: \_\_\_\_\_ LOCK#: msta

REMARKS: P.O 2.50

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



# Chain of Custody Record

Project Name: Arco 11102  
 BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > CA > Alameda  
>11102  
 State or Lead Regulatory Agency: \_\_\_\_\_  
 Requested Due Date (mm/dd/yy): \_\_\_\_\_

On-site Time: <u>020</u>	Temp: <u>cool</u>
Off-site Time: <u>1830</u>	Temp: <u>cool</u>
Sky Conditions: <u>clear</u>	
Meteorological Events: <u>none</u>	
Wind Speed: <u>0</u>	Direction: <u>NA</u>

Lab Name: <u>TestAmerica</u>	BP/AR Facility No.: <u>11102</u>	Consultant/Contractor: <u>Stratus Environmental, Inc.</u>
Address: <u>885 Jarvis Drive</u>	BP/AR Facility Address: <u>100 MacArthur Blvd., Oakland</u>	Address: <u>3330 Cameron Park Drive, Suite 550</u>
<u>Morgan Hill, CA 95937</u>	Site Lat/Long:	<u>Cameron Park, CA 95682</u>
Lab PM: <u>Lisa Race</u>	California Global ID #: <u>T0600100908</u>	Consultant/Contractor Project No.:
Tele/Fax: <u>408-782-8156 408-782-6308 (fax)</u>	Enfos Project No.: <u>G07T9-0032</u>	Consultant/Contractor PM: <u>Jay Johnson</u>
BP/AR PM Contact: <u>Paul Supple</u>	Provision or RCOP (circle one) <u>Provision</u>	Tele/Fax: <u>(530) 676-6000 / (530) 676-6005</u>
Address: <u>2010 Crow Canyon Place, Suite 150</u>	Phase/WBS: <u>04-Monitoring</u>	Report Type & QC Level: <u>Level 1 with EDF</u>
<u>San Ramon, CA</u>	Sub Phase/Task: <u>03-Analytical</u>	E-mail EDD To: <u>cjewitt@stratusinc.net</u>
Tele/Fax: <u>925-275-3506</u>	Cost Element: <u>01-Contractor labor</u>	Invoice to: <u>Atlantic Richfield Co.</u>

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis							Sample Point Lat/Long and Comments: <u>Oxygenates include MtBE, TAME, DIPE, EtBE, TBA, ethanol, 1,2-DCA &amp; EDB</u>
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	BTEX 8021	BTEX/TPH	BTEX/Oxy*/TPHG	HPA-8260	EPA 8270	1,2-DCA	EDB	
	MW-1	<u>18:50</u>	<u>10/31/06</u>		X		<u>3</u>			X				X	X	X	X	X	X		
	MW-2	<u>17:50</u>	<u>10/31/06</u>		X		<u>3</u>			X				X	X	X	X	X	X		
	MW-3	<u>17:30</u>	<u>10/31/06</u>		X		<u>6</u>			X				X	X	X	X	X	X		
	<u>TB11102103106</u>	<u>700</u>	<u>1</u>		X		<u>2</u>			X				X		X	X	X			<u>hold</u>

1.2

Sampler's Name: <u>Jerry Gonzalez</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>Develco</u>	<u>[Signature]</u>			<u>[Signature]</u>	<u>11/1/06</u>	<u>1005</u>
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

Special Instructions: Please cc results to bpvalley@secor.com

Custody Seals In Place Yes  No  Temp Blank Yes  No  Cooler Temperature on Receipt  °F/C  Trip Blank Yes  No

16 November, 2006

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

RE: BP Heritage #11102, Oakland, CA  
Work Order: MPK0120

Enclosed are the results of analyses for samples received by the laboratory on 11/02/06 08:30. 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	MPK0120 Reported: 11/16/06 13:24
---	--	--

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MPK0120-01	Water	10/31/06 16:50	11/02/06 08:30
MW-2	MPK0120-02	Water	10/31/06 17:50	11/02/06 08:30
MW-3	MPK0120-03	Water	10/31/06 17:30	11/02/06 08:30
TB11102103106	MPK0120-04	Water	10/31/06 07:00	11/02/06 08:30

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 intact 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

MPK0120  
Reported:  
11/16/06 13:24

**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 (MPK0120-01) Water</b> Sampled: 10/31/06 16:50 Received: 11/02/06 08:30									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	6K09017	11/09/06	11/09/06	LUFT GCMS	
Surrogate: 1,2-Dichloroethane-d4		90 %	60-145		"	"	"	"	
<b>MW-2 (MPK0120-02) Water</b> Sampled: 10/31/06 17:50 Received: 11/02/06 08:30									
Gasoline Range Organics (C4-C12)	2300	1000	ug/l	20	6K10004	11/10/06	11/10/06	LUFT GCMS	PV
Surrogate: 1,2-Dichloroethane-d4		104 %	60-145		"	"	"	"	
<b>MW-3 (MPK0120-03) Water</b> Sampled: 10/31/06 17:30 Received: 11/02/06 08:30									
Gasoline Range Organics (C4-C12)	1600	1000	ug/l	20	6K09017	11/09/06	11/09/06	LUFT GCMS	PV
Surrogate: 1,2-Dichloroethane-d4		89 %	60-145		"	"	"	"	

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

MPK0120  
Reported:  
11/16/06 13:24

**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 (MPK0120-01) Water Sampled: 10/31/06 16:50 Received: 11/02/06 08:30</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	6K09017	11/09/06	11/09/06	EPA 8260B	
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	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	2.8	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		88 %	75-130		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		90 %	60-145		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92 %	60-120		"	"	"	"	
<b>MW-2 (MPK0120-02) Water Sampled: 10/31/06 17:50 Received: 11/02/06 08:30</b>									
tert-Amyl methyl ether	41	25	ug/l	50	6K09017	11/09/06	11/09/06	EPA 8260B	
Benzene	ND	25	"	"	"	"	"	"	
tert-Butyl alcohol	9300	1000	"	"	"	"	"	"	
Di-isopropyl ether	ND	25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	25	"	"	"	"	"	"	
1,2-Dichloroethane	ND	25	"	"	"	"	"	"	
Ethanol	ND	15000	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Methyl tert-butyl ether	2300	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		88 %	75-130		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92 %	60-145		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		90 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89 %	60-120		"	"	"	"	

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

MPK0120  
Reported:  
11/16/06 13:24

**Volatile Organic Compounds by EPA Method 8260B**

**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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MW-3 (MPK0120-03) Water Sampled: 10/31/06 17:30 Received: 11/02/06 08:30

tert-Amyl methyl ether	39	10	ug/l	20	6K09017	11/09/06	11/09/06	EPA 8260B	
Benzene	ND	10	"	"	"	"	"	"	
tert-Butyl alcohol	ND	400	"	"	"	"	"	"	
Di-isopropyl ether	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	
Ethanol	ND	6000	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	

Surrogate: Dibromofluoromethane		86 %	75-130		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		89 %	60-145		"	"	"	"	
Surrogate: Toluene-d8		90 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88 %	60-120		"	"	"	"	

MW-3 (MPK0120-03RE1) Water Sampled: 10/31/06 17:30 Received: 11/02/06 08:30

Methyl tert-butyl ether	2300	25	ug/l	50	6K09017	11/09/06	11/09/06	EPA 8260B	
Surrogate: Dibromofluoromethane		86 %	75-130		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		87 %	60-145		"	"	"	"	
Surrogate: Toluene-d8		91 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90 %	60-120		"	"	"	"	



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MPK0120  
Reported:  
11/16/06 13:24

**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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 6K09017 - EPA 5030B P/T / LUFT GCMS**

Blank (6K09017-BLK1) Prepared & Analyzed: 11/09/06										
Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 1,2-Dichloroethane-d4	2.19		"	2.50		88	60-145			
Laboratory Control Sample (6K09017-BS2) Prepared & Analyzed: 11/09/06										
Gasoline Range Organics (C4-C12)	413	50	ug/l	440		94	75-140			
Surrogate: 1,2-Dichloroethane-d4	2.24		"	2.50		90	60-145			
Laboratory Control Sample Dup (6K09017-BSD2) Prepared & Analyzed: 11/09/06										
Gasoline Range Organics (C4-C12)	412	50	ug/l	440		94	75-140	0.2	20	
Surrogate: 1,2-Dichloroethane-d4	2.22		"	2.50		89	60-145			

**Batch 6K10004 - EPA 5030B P/T / LUFT GCMS**

Blank (6K10004-BLK1) Prepared & Analyzed: 11/10/06										
Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 1,2-Dichloroethane-d4	2.60		"	2.50		104	60-145			
Laboratory Control Sample (6K10004-BS2) Prepared & Analyzed: 11/10/06										
Gasoline Range Organics (C4-C12)	440	50	ug/l	440		100	75-140			
Surrogate: 1,2-Dichloroethane-d4	2.73		"	2.50		109	60-145			
Laboratory Control Sample Dup (6K10004-BSD2) Prepared & Analyzed: 11/10/06										
Gasoline Range Organics (C4-C12)	440	50	ug/l	440		100	75-140	0	20	
Surrogate: 1,2-Dichloroethane-d4	2.80		"	2.50		112	60-145			

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

MPK0120  
Reported:  
11/16/06 13:24

**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 6K09017 - EPA 5030B P/T / EPA 8260B**

**Blank (6K09017-BLK1)**

Prepared & Analyzed: 11/09/06

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>	2.12		"	2.50		85	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.19		"	2.50		88	60-145			
<i>Surrogate: Toluene-d8</i>	2.25		"	2.50		90	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.23		"	2.50		89	60-120			

**Laboratory Control Sample (6K09017-BS1)**

Prepared & Analyzed: 11/09/06

tert-Amyl methyl ether	10.4	0.50	ug/l	10.0		104	65-135			
Benzene	10.7	0.50	"	10.0		107	70-125			
tert-Butyl alcohol	190	20	"	200		95	60-135			
Di-isopropyl ether	10.2	0.50	"	10.0		102	70-130			
1,2-Dibromoethane (EDB)	10.5	0.50	"	10.0		105	80-125			
1,2-Dichloroethane	10.4	0.50	"	10.0		104	75-125			
Ethanol	113	300	"	200		56	15-150			
Ethyl tert-butyl ether	10.4	0.50	"	10.0		104	65-130			
Ethylbenzene	11.2	0.50	"	10.0		112	70-130			
Methyl tert-butyl ether	10.4	0.50	"	10.0		104	50-140			
Toluene	10.9	0.50	"	10.0		109	70-120			
Xylenes (total)	34.6	0.50	"	30.0		115	80-125			
<i>Surrogate: Dibromofluoromethane</i>	2.16		"	2.50		86	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.18		"	2.50		87	60-145			
<i>Surrogate: Toluene-d8</i>	2.28		"	2.50		91	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.21		"	2.50		88	60-120			

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

MPK0120  
Reported:  
11/16/06 13:24

**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 6K09017 - EPA 5030B P/T / EPA 8260B**

Matrix Spike (6K09017-MS1)	Source: MPK0120-03			Prepared & Analyzed: 11/09/06						
tert-Amyl methyl ether	249	10	ug/l	200	39	105	65-135			
Benzene	214	10	"	200	ND	107	70-125			
tert-Butyl alcohol	3880	400	"	4000	ND	97	60-135			
Di-isopropyl ether	205	10	"	200	ND	102	70-130			
1,2-Dibromoethane (EDB)	214	10	"	200	ND	107	80-125			
1,2-Dichloroethane	214	10	"	200	ND	107	75-125			
Ethanol	2430	6000	"	4000	ND	61	15-150			
Ethyl tert-butyl ether	211	10	"	200	ND	106	65-130			
Ethylbenzene	216	10	"	200	ND	108	70-130			
Methyl tert-butyl ether	2590	10	"	200	2400	95	50-140			EY
Toluene	218	10	"	200	ND	109	70-120			
Xylenes (total)	678	10	"	600	ND	113	80-125			
<i>Surrogate: Dibromofluoromethane</i>	<i>2.09</i>		"	<i>2.50</i>		<i>84</i>	<i>75-130</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.21</i>		"	<i>2.50</i>		<i>88</i>	<i>60-145</i>			
<i>Surrogate: Toluene-d8</i>	<i>2.30</i>		"	<i>2.50</i>		<i>92</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.22</i>		"	<i>2.50</i>		<i>89</i>	<i>60-120</i>			

Matrix Spike Dup (6K09017-MSD1)	Source: MPK0120-03			Prepared & Analyzed: 11/09/06						
tert-Amyl methyl ether	249	10	ug/l	200	39	105	65-135	0	25	
Benzene	212	10	"	200	ND	106	70-125	0.9	15	
tert-Butyl alcohol	4010	400	"	4000	ND	100	60-135	3	35	
Di-isopropyl ether	204	10	"	200	ND	102	70-130	0.5	35	
1,2-Dibromoethane (EDB)	215	10	"	200	ND	108	80-125	0.5	15	
1,2-Dichloroethane	211	10	"	200	ND	106	75-125	1	10	
Ethanol	2680	6000	"	4000	ND	67	15-150	10	35	
Ethyl tert-butyl ether	209	10	"	200	ND	104	65-130	1	35	
Ethylbenzene	220	10	"	200	ND	110	70-130	2	15	
Methyl tert-butyl ether	2630	10	"	200	2400	115	50-140	2	25	EY
Toluene	214	10	"	200	ND	107	70-120	2	15	
Xylenes (total)	680	10	"	600	ND	113	80-125	0.3	15	
<i>Surrogate: Dibromofluoromethane</i>	<i>2.18</i>		"	<i>2.50</i>		<i>87</i>	<i>75-130</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.22</i>		"	<i>2.50</i>		<i>89</i>	<i>60-145</i>			
<i>Surrogate: Toluene-d8</i>	<i>2.30</i>		"	<i>2.50</i>		<i>92</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.28</i>		"	<i>2.50</i>		<i>91</i>	<i>60-120</i>			

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.

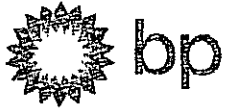
Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

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

MPK0120  
Reported:  
11/16/06 13:24

**Notes and Definitions**

PV Hydrocarbon result partly due to individ. peak(s) in quant. range  
IC Calib. verif. is within method limits but outside contract limits  
EY Result exceeds normal dynamic range; reported as a min. est.  
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



# Chain of Custody Record

Project Name: Arco 11102  
 BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > CA > Alameda > 11102  
 State or Lead Regulatory Agency: \_\_\_\_\_  
 Requested Due Date (mm/dd/yy): \_\_\_\_\_

On-site Time: 020 Temp: cool  
 Off-site Time: 1830 Temp: cool  
 Sky Conditions: clear  
 Meteorological Events: none  
 Wind Speed: 10 Direction: NA

Lab Name: TestAmerica	BP/AR Facility No.: 11102	Consultant/Contractor: Stratus Environmental, Inc.
Address: 885 Jarvis Drive	BP/AR Facility Address: 100 MacArthur Blvd., Oakland	Address: 3330 Cameron Park Drive, Suite 550
Morgan Hill, CA 95937	Site Lat/Long:	Cameron Park, CA 95682
Lab PM: Lisa Race	California Global ID #: T0600100908	Consultant/Contractor Project No.:
Tele/Fax: 408-782-8156 408-782-6308 (fax)	Enfos Project No.: G07T9-0032	Consultant/Contractor PM: Jay Johnson
BP/AR PM Contact: Paul Supple	Provision or RCOP (circle one) Provision	Tele/Fax: (530) 676-6000 / (530) 676-6005
Address: 2010 Crow Canyon Place, Suite 150	Phase/WBS: 04-Monitoring	Report Type & QC Level: Level 1 with EDP
San Ramon, CA	Sub Phase/Task: 03-Analytical	E-mail EDD To: clewitt@stratusinc.net
Tele/Fax: 925-275-3506	Cost Element: 01-Contractor labor	Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis							Comments		
				Soil/Solid	Water/Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	BTEX 8021	BTEX/TPH	BTEX/Oxy*/TPHg	EPA 8560	EPA 8270	1,2-DCA	EDB		Ethanol by 8260	
	MW-1	16:50	10/21/04	X			01	2				X				X	X	X					
	MW-2	17:50	10/21/04	X			02	3				X				X	X	X					
	MW-3	17:30	10/21/04	X			03	6				X				X	X	X					
	TB11102103106	700	10/21/04	X			04	2				X				X	X	X					hold

MPK 0120  
 Sample Point Lat/Long and Comments: Oxygenates include MIBE, TAME, DIPE, EIBE, TBA, ethanol, 1,2-DCA & EDB

1.2

Sampler's Name: <u>Jerry Gonzalez</u>	Relinquished By / Affiliation: _____	Date: _____	Time: _____	Accepted By / Affiliation: _____	Date: <u>11/1/04</u>	Time: <u>1005</u>
Sampler's Company: <u>Danlo</u>				<u>JULIENG (MTH)</u>	<u>11/02</u>	<u>0830</u>
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

Special Instructions: Please cc results to bpvalley@secor.com

In Place Yes  No  Temp Blank Yes  No  Cooler Temperature on Receipt 3.2 °F(C)  Trip Blank Yes  No

# TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: BP  
 REC. BY (PRINT) JULIE NG.  
 WORKORDER: MPK 6120

DATE REC'D AT LAB: 11 / 02 / 06  
 TIME REC'D AT LAB: 0830  
 DATE LOGGED IN: 11-3-06

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

CIRCLE THE APPROPRIATE RESPONSE	LAB. SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / Absent Intact / Broken*								<div style="transform: rotate(-45deg); font-size: 2em; font-weight: bold;">                     JULIE NG. 11/02/06                      SEC COC                 </div>
2. Chain-of-Custody Present / Absent*								
3. Traffic Reports or Packing List: Present / Absent								
4. Airbill: Airbill / Sticker Present / Absent								
5. Airbill #: <u>D0010109746763</u>								
6. Sample Labels: Present / Absent								
7. Sample IDs: Listed / Not Listed on Chain-of-Custody								
8. Sample Condition: Intact / Broken* / Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree? Yes / No*								
10. Sample received within hold time? Yes / No*								
11. Adequate sample volume received? Yes / No*								
12. Proper preservatives used? Yes / No*								
13. Trip Blank / Temp Blank Received? (circle which, if yes) Yes / No*								
14. Read Temp: <u>3.2°C</u> Corrected Temp: <u>U</u> Is corrected temp 4 +/- 2°C? Yes / No**								

\*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!**

**Submittal Title:** 4Q06 GEO\_WELL  
**Submittal Date/Time:** 1/24/2007 3:49:43 PM  
**Confirmation Number:** 3931614756

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Logged in as BROADBENT-C  
(CONTRACTOR)

[CONTACT SITE ADMINISTRATOR.](#)



# Electronic Submittal Information

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Your EDF file has been successfully uploaded!

**Confirmation Number:** 8239651203

**Date/Time of Submittal:** 1/26/2007 4:44:41 PM

**Facility Global ID:** T0600100908

**Facility Name:** BP #11102

**Submittal Title:** 4Q06 GW Monitoring

**Submittal Type:** GW Monitoring Report

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

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

<u>CONF #</u>	<u>TITLE</u>	<u>QUARTER</u>
8239651203	4Q06 GW Monitoring	Q4 2006
<u>SUBMITTED BY</u>	<u>SUBMIT DATE</u>	<u>STATUS</u>
Broadbent & Associates, Inc.	1/26/2007	PENDING REVIEW

## SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	3
# FIELD POINTS WITH DETECTIONS	3
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	2
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.