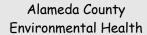


## Atlantic Richfield Company (a BP affiliated company)

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

RECEIVED

2:34 pm, Jan 29, 2008





25 January 2008

Re: Fourth Quarter 2007 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 2007 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

25 January 2008

Project No. 06-08-643



25 January 2008

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 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 *Fourth 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 Fourth 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, P.E.

Senior Engineer

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

flat 71. Mill

Enclosures

cc:

Mr. Steven Plunkett, Alameda County Environmental Health (Submitted via ACEH ftp site)

Ms. Shelby Lathrop, ConocoPhillips, 76 Broadway, Sacramento, California 95818

Mr. Chris Jimmerson, Reimbursement Processor, Delta Environmental Consulting Inc.,

(Submitted via ENFOS)

Electronic copy uploaded to GeoTracker

ARIZONA

CALIFORNIA

NEVADA

TEXAS

ROBERT H. MILLER

No. 4893

### 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 2007):**

1. Prepared and submitted Third Quarter 2007 Ground-Water Monitoring Report.

2. Conducted ground-water monitoring/sampling for Fourth Quarter 2007. Work performed by Stratus Environmental, Inc (Stratus).

### **WORK PROPOSED FOR NEXT QUARTER (First Quarter 2008):**

1. Prepared and submitted this Fourth Quarter 2007 Ground-Water Monitoring Report (contained herein).

2. Conduct quarterly ground-water monitoring/sampling for First Quarter 2008. Work to be completed by Stratus.

### **QUARTERLY RESULTS SUMMARY:**

Current phase of project: **Ground-Water Monitoring/Sampling Quarterly: Wells MW-1 through MW-3** Frequency of ground-water monitoring: Frequency of ground-water sampling: Quarterly: Wells MW-1 through MW-3 Is free product (FP) present on-site: No Current remediation techniques: NA Depth to ground water (below TOC): 11.23 (MW-1) to 13.77 (MW-3) General ground-water flow direction: West-southwest Approximate hydraulic gradient: 0.06 ft/ft

### **DISCUSSION:**

Fourth Quarter 2007 ground-water monitoring and sampling was conducted at Station #11102 on 24 October 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 11.23 ft at well MW-1 to 13.77 ft at well MW-3. Resulting ground-water surface elevations ranged from 78.97 ft above mean sea level in well MW-1 to 73.25 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 0.06 ft/ft to the west-southwest, 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. No 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. The laboratory noted that GRO concentrations for samples collected from wells MW-2 and MW-3 were partly due to individual peak(s) in the quantitation range. No other irregularities were encountered during laboratory analysis of the samples. Ground-water sampling field data sheets and the laboratory analytical report, including chain-of-custody documentation, are provided in Appendix A.

Gasoline Range Organics (GRO) were detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 2,800 micrograms per liter ( $\mu$ 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 58  $\mu$ g/L in well MW-3. TBA was detected above the laboratory reporting limit in two of the three wells sampled at concentrations of 9,500  $\mu$ g/L in well MW-2. MTBE was detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 3,500  $\mu$ g/L in well 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 were within the historic minimum and maximum ranges recorded for each well with the following exceptions: GRO and TAME reached historic maximum concentrations in well MW-3 at 2,000  $\mu$ g/L and 58  $\mu$ g/L, respectively. 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, 24 October 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

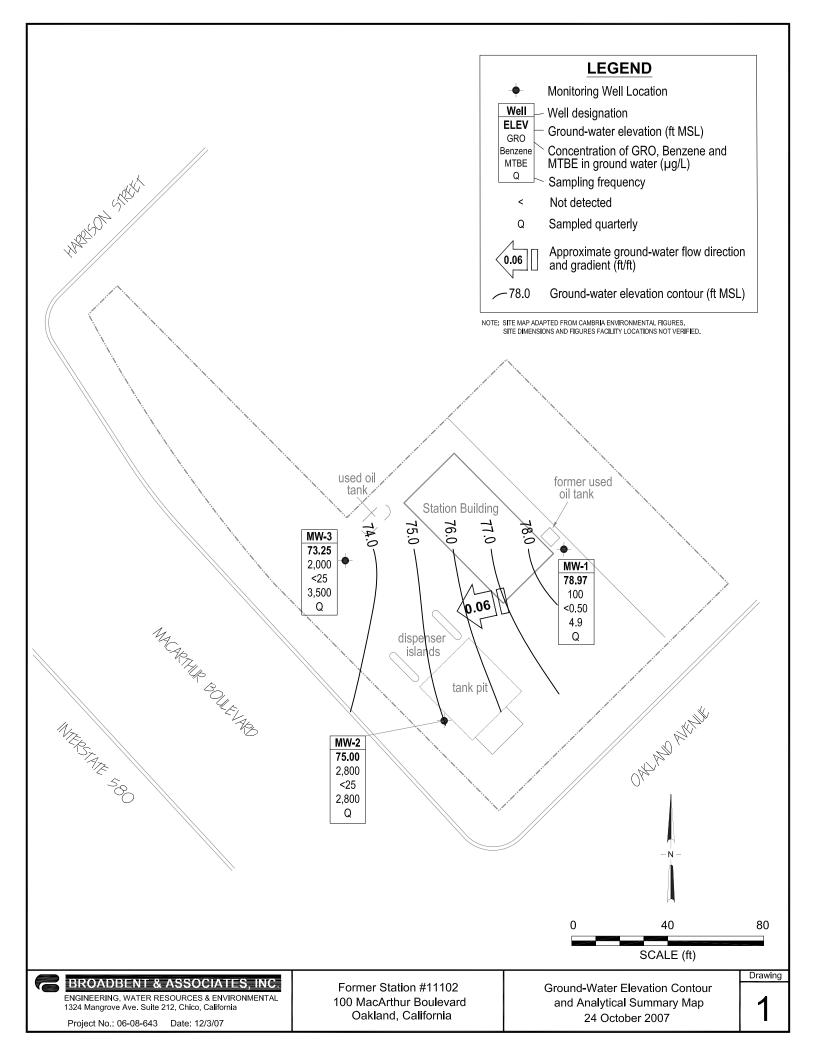


Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11102, 100 MacArthur Blvd., Oakland, CA

			TOC		Product	Water Level		C	oncentrati	ons in (µg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet msl)	(feet bgs)	(feet)	(feet msl)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	$(\mu g/L)$
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		c, d	90.20				2,100	30	3.2	2	15	2,000		PACE				
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	
1/10/1995		с	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	
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

			тос		Product	Water Level		C	oncentrati	ons in (μg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet msl)	(feet bgs)	(feet)	(feet msl)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	$(\mu g/L)$	(µg/L)	(µg/L)
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	1	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			
7/10/2007	P	p	90.20	10.52		79.68	120	< 0.50	< 0.50	< 0.50	< 0.50	4.9	2.01	TAMC	6.60	160		
10/24/2007	P		90.20	11.23		78.97	100	<0.50	<0.50	<0.50	<0.50	4.9	1.89	TAMC	6.57			
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												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11102, 100 MacArthur Blvd., Oakland, CA

			тос		Product	Water Level		С	oncentrati	ons in (µg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet msl)	(feet bgs)	(feet)	(feet msl)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(μg/L)
MW-2 Cont.																		
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				
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	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			87.91	13.11		74.80	6,100	<25	<25	<25	<50	20,000	6.7	ATI				
12/27/1995		с	87.91				6,300	<25	<25	<25	< 50	19,000		ATI				
6/13/1996		с	87.91				8,700	<5	<5	<5	<5	13,000		SPL				
6/13/1996			87.91	10.86		77.05	8,300	<2.5	<2.5	<2.5	<2.5	13,000	6.5	SPL				
12/4/1996		с	87.91				5,900	<2.5	<5	<5	<5	11,000		SPL				
12/4/1996			87.91	13.03		74.88	5,900	<2.5	<5	<5	<5	11,000	6.3	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		с	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	10.20		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		

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11102, 100 MacArthur Blvd., Oakland, CA

			тос		Product	Water Level		C	oncentrati	ons in (µg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet msl)	(feet bgs)	(feet)	(feet msl)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	$(\mu g/L)$	(µg/L)	(µg/L)
MW-2 Cont.																		
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				
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				
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	1	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	1500	<12	<12	<12	<12	1700	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			
7/10/2007	P	k, p	87.91	11.97		75.94	2,300	<25	<25	<25	<25	2,600	1.82	TAMC	6.69	120		
10/24/2007	P	k	87.91	12.91		75.00	2,800	<25	<25	<25	<25	2,800	1.55	TAMC	6.77			
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				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11102, 100 MacArthur Blvd., Oakland, CA

			тос		Product	Water Level		С	oncentrati	ons in (µg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet msl)	(feet bgs)	(feet)	(feet msl)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-3 Cont.																		
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				
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		с	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			

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11102, 100 MacArthur Blvd., Oakland, CA

			тос		Product	Water Level		С	oncentrati	ons in (µg/	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet msl)	(feet bgs)	(feet)	(feet msl)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-3 Cont.																		
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			
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			
7/10/2007	P	k, p	87.02	11.30		75.72	1,800	<5.0	<5.0	<5.0	<5.0	2,400	1.56	TAMC	6.72	66		
10/24/2007	P	k	87.02	13.77		73.25	2,000	<25	<25	<25	<25	3,500	1.62	TAMC	6.41			
QC-2																		
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

 $\mu g/L = Micrograms per liter$ 

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).
- 1 = GRO analyzed by EPA Method 8015B.
- m = Confirmatory analysis for total xylenes was past holding time.
- n = Well inaccessible.
- p = Hydrocarbon in req. fuel range, but doesn't resemble req. fuel (DRO).

#### 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				Concentration	ons in (µg/L)		nui bivu., O	,	
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-1									
7/14/2003	<2000	2,700	940	<20	<20	<20			
01/14/2003	<1,000	2,700	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		
04/13/2005		1,400				<2.5		<2.5	
07/11/2005	<500	, , , , , , , , , , , , , , , , , , ,	48	<2.5	<2.5	<2.5	<2.5	<2.5	
10/17/2005	<100	550 450	36	<0.50	<0.50	<0.50	<0.50	<0.50	
	<100		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	
7/10/2007	<300	110	4.9	<0.50	< 0.50	<0.50	< 0.50	< 0.50	
10/24/2007	<300	94	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-2									
7/14/2003	<100000	<20000	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	

Table 2. Summary of Fuel Additives Analytical Data Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and					ons in (μg/L)		<i></i>	,	
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-2 Cont.									
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	
4/10/2007	<30,000	6,400	1,500	<50	<50	< 50	<50	< 50	
7/10/2007	<15,000	8,700	2,600	<25	<25	42	<25	<25	
10/24/2007	<15,000	9,500	2,800	<25	<25	52	<25	<25	
MW-3									
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	
7/10/2007	<3,000	<200	2,400	<5.0	<5.0	39	<5.0		
10/24/2007	<15,000	<1,000	3,500	<25	<25	58	<25	<25	

### 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

 $\mu g/L = Micrograms per Liter$ 

### 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
7/10/2007	Southwest	0.04
10/24/2007	West-Southwest	0.06

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

### APPENDIX A

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



November 20, 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

### **General Information**

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

Phone Number: (530) 676-6000

On-Site Supplier Representative: Jerry Gonzales

Sampling Date: October 24, 2007

Arrival: 07:00 Departure: 09:15

Weather Conditions: Clear

Unusual Field Conditions: None

Scope of Work Performed: Quarterly monitoring and sampling

Variations from Work Scope: None

This submittal presents the tabulation of data collected in association with routine groundwater monitoring. The attachments include 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.

Jøy R. Johnson, P. Project Manager

# Attachments:

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

CC: Mr. Paul Supple, BP/ARCO

# BP ALAMEDA PORTFOLIO

### HYDROLOGIC DATA SHEET

7:00 - Dx 9:15

Gauge Date: / 0/ Z 4.07

Project Name: Oakland - 100 MacArthur Blvd.

Field Technician:

Project Number: 11102

TOC \* Top of Well Casing Elevation
DTP = Depth to Free Product (FP or NAPH) 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			MEASU	REMENT			PURGE & SAMPLE	SHEEN CONFIRMATION	COMMENTS
		тос	DTP	DTW	DTB	DIA	ELEV		(w/bailer)	To an analysis of the second s
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	BP ALAMEDA P		
PROJECT #: 11102  CLIENT NAME: LOCATION: Oakland - 100 MacArthur E	PURGED BY: SAMPLED BY: SIVI	WE SA	MPLE I.D.: MUM / SAMPLES:
DATE PURGED /0/29/07 DATE SAMPLED /0/29/9 SAMPLE TYPE: Groundwater x	START (2400hr) 8 SAMPLE TIME (2400hr) Surface Water	EN EN Treatment Effluent	D (2400hr) 8 3 2
CASING DIAMETER: 2" Casing Volume: (gallons per foot) (0.17)	3" (0.38) 4" (0.67)	5" 6" (1.02) (1.5	8" Other ()
DEPTH TO BOTTOM (feet) = 3/.5  DEPTH TO WATER (feet) = //. 2  WATER COLUMN HEIGHT (feet) = 26	3 6	CASING VOLUME (g CALCULATED PURC ACTUAL PURGE (gai	GE (gal) = 4/5
	FIELD MEASURE	MENTS	
DATE TIME (2400hr) (gal)  /0/29/07 8:32 // 8:32 //	(degrees F) (um 2 3 6 6 2 3 5 6	JCTIVITY pH (units)	COLOR (visual) (NTU)
SAMPLE DEPTH TO WATER: 11.87	SAMPLE INFORM	ATION SAMPLE TU	URBIDITY: C/
80% RECHARGE: YES NO ODOR: SAMPLE VI	ANALYSES:	5-W.0 Voe	
PURGING EQUIPMENT  Bladder Pump Bailer (T Centrifugal Pump Bailer (P Submersible Pump Peristalic Pump Other:  Pump Depth:	PVC) Stainless Steel)	Bladder Pump Centrifugal Pump Submersible Pump Peristalic Pump	Bailer (Teflon) Bailer ( PVC or K disposable) Bailer (Stainless Steel) Dedicated
WELL INTEGRITY: 500 REMARKS: 0 189		LOCK#:	Page of

				R <i>TFOLIO</i> DATA SHEI			
PROJECT #: 11102  CLIENT NAME:  LOCATION: Oakland - 100		PURGED BY: SAMPLED BY:	<u>S</u> C	DATA SILE	WELL I	I.D.: LE I.D.: MPLES:	
DATE PURGED /0/24/	67 8	START (2400hr SAMPLE TIME Surface Wa	E (2400hr)	8: 10	END (24	thermy	
CASING DIAMETER: Casing Volume: (gallons per foot)	2" (0.17)	3" (0.38)	4"	5" (1.02)	6" (1.50)	(2.60)	Other ( )
DEPTH TO BOTTOM (feet) =  DEPTH TO WATER (feet) =  WATER COLUMN HEIGHT (feet)	32.79 12.97 18.33			CALCULAT	OLUME (gal) = FED PURGE (g URGE (gal) =	ACCOUNT FRANCISCO DE LA CONTRACTOR DE LA	
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DATE TIME (2400hr)    0/24/6)	VOLUME (gal)	TEMP. (degrees F)  2.4.0  7.3.8  7.3.7	CONDUCT (umhos	s/cm) 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	pH (units) 6.37 6.87	COLOR (visual)	TURBIDITY (NTU)
SAMPLE DEPTH TO WATER:	15.08	SAMPI.	LE INFORMAT		ample turbi	IDITY: <u></u>	1-2-1-2-
80% RECHARGE: YES ODOR: NO	NO SAMPLE VESSE	4	LISES.	S-W-D V08-11/C			
PURGING EQ Bladder Pump Centrifugal Pump Submersible Pump Peristalic Pump Other:	QUIPMENT Bailer (Teflotom) Bailer (PVC) Bailer (Stain) Dedicated	)	Ce Su	SA iadder Pump entrifugal Pump ibmersible Pump rristalic Pump	Bail Bail	ler (Teflon)	C or <u>w</u> disposable)
WELL INTEGRITY: SOME REMARKS: 1-5	5			I	LOCK#: A		Page of

#### BP ALAMEDA PORTFOLIO WATER SAMPLE FIELD DATA SHEET 36 WELL I.D.: Marie PROJECT #: 11102 PURGED BY: SAMPLED BY: SAMPLE I.D.: Many -CLIENT NAME: LOCATION: Oakland - 100 MacArthur Blvd. QA SAMPLES: DATE PURGED / O/ 3 9/67 START (2400hr) END (2400hr) DATE SAMPLED SAMPLE TIME (2400hr) SAMPLE TYPE: Groundwater Surface Water Treatment Effluent Other CASING DIAMETER: Other Casing Volume: (gallons per foot) (0.17) (0.38)(0.67)(1.02)(1.50)(2.60)DEPTH TO BOTTOM (feet) = CASING VOLUME (gal) = DEPTH TO WATER (feet) = CALCULATED PURGE (gal) = WATER COLUMN HEIGHT (feet) = ACTUAL PURGE (gal) \*\* FIELD MEASUREMENTS DATE TIME **VOLUME** TEMP. CONDUCTIVITY TURBIDITY pН COLOR (2400hr) (gal) (degrees F) (umhos/cm) (units) (visual) (NTU) clen SAMPLE INFORMATION SAMPLE DEPTH TO WATER: / ○ ☞ 9 SAMPLE TURBIDITY: C/exc 5.4.0 80% RECHARGE: VES NO ANALYSES: ODOR: NO Vou-Hac SAMPLE VESSEL / PRESERVATIVE: PURGING EQUIPMENT SAMPLING EQUIPMENT Bladder Pump Bailer (Teflon) Bladder Pump Bailer (Teflon) Centrifugal Pump Bailer ( PVC or 🔀 disposable) Bailer (PVC) Centrifugal Pump Submersible Pump Submersible Pump Bailer (Stainless Steel) Bailer (Stainless Steel) Peristalic Pump Dedicated Peristalic Pump Dedicated Other: Other: Pump Depth: LOCK#: MAS WELL INTEGRITY: REMARKS: SIGNATURE: Page

# **Wellhead Observation Form**

Account:		
Sampled by:	Jame	Date: 10/29/07

Well ID	Box in good condition	Lock Missing (Replaced with new)	Water in Box	Bolts Missing	Bolts Stripped	Bolt-Holes Stripped	Cracked or Broken Lid	Cracked Box and/or Bolt - Holes	Misc.	Add'l – Notes and Other Stuff
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# NO. 665516

# NON-HAZARDOUS WASTE DATA FORM

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	NAME BP WEST COA	ST PRODU	ICTS LLC /	ARCO #		NO.		architerate
	ADDRESS P.O. BOX	1249	one a con when a			PROPIL NO		
	CITY, STATE, ZPCA 9268						PHONE NO (	
GENERATOR							WEIGHT	
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# Chain of Custody Record

Project Name: ARCO 11102

BP BU/AR Region/Enfos Segment: State or Lead Regulatory Agency:

BP > Americas > West > Retail > Alameda > 11

Requested Due Date (mm/dd/yy):

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On-site Time: 500	Temp: 6 S
Off-site Time: 9.75	Temp: 6 8
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Lab Name: TestAmerica		BP/AR Facility No	× -	***************************************		111	02		7.70 1000/1000		-	THE PERSON NAMED IN COLUMN	Cor	rsult:	ant/C	ontra	ictor	-	Stratus	Enviro	nmenta	l Inc	
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Morgan Hill, CA 95937		Site Lat/Long:									THE OWNER OF THE PERSON.	***************************************							ark, CA			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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12 November, 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: MQJ1025

Enclosed are the results of analyses for samples received by the laboratory on 10/26/07 19:55. 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] Project: BP Heritage #11102, Oakland, CA MQJ1025
3330 Cameron Park Dr., Suite 550 Project Number: G07T9-0032 Reported:
Cameron Park CA, 95682 Project Manager: Jay Johnson 11/12/07 14:38

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MQJ1025-01	Water	10/24/07 08:45	10/26/07 19:55
MW-2	MQJ1025-02	Water	10/24/07 08:10	10/26/07 19:55
MW-3	MQJ1025-03	Water	10/24/07 09:00	10/26/07 19:55
TB-11102-102407	MQJ1025-04	Water	10/24/07 06:00	10/26/07 19:55

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.





Project: BP Heritage #11102, Oakland, CA

MQJ1025 Project Number: G07T9-0032 Reported: Project Manager: Jay Johnson 11/12/07 14:38

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MQJ1025-01) Water Samp	led: 10/24/07 08:45	Received:	10/26/07 1	9:55					
Gasoline Range Organics (C4-C12)	100	50	ug/l	1	7K03004	11/03/07	11/03/07	LUFT GCMS	
Surrogate: 1,2-Dichloroethane-d4		110 %	60-15	0	"	"	"	"	
Surrogate: Dibromofluoromethane		100 %	75-13	80	n	"	"	"	
Surrogate: Toluene-d8		99 %	75-12	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95 %	55-13	0	"	"	"	"	
MW-2 (MQJ1025-02) Water Sample	led: 10/24/07 08:10	Received:	10/26/07 1	9:55					
Gasoline Range Organics (C4-C12)	2800	500	ug/l	10	7K05006	11/05/07	11/05/07	LUFT GCMS	PV
Surrogate: 1,2-Dichloroethane-d4		122 %	60-15	0	"	"	"	n n	
Surrogate: Dibromofluoromethane		108 %	75-13	$\theta$	"	n	"	"	
Surrogate: Toluene-d8		88 %	75-12	0	"	"	"	"	
MW-3 (MQJ1025-03) Water Sampl	led: 10/24/07 09:00	Received:	10/26/07 19	9:55					
Gasoline Range Organics (C4-C12)	2000	250	ug/l	5	7K05006	11/05/07	11/05/07	LUFT GCMS	PV
Surrogate: 1,2-Dichloroethane-d4		121 %	60-15	0	"	"	"	11	
Surrogate: Dibromofluoromethane		121 %	75-13	0	"	"	"	n .	
Surrogate: Toluene-d8		107 %	75-12	0	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99 %	55-13	0	"	"	"	н	





Project: BP Heritage #11102, Oakland, CA

Project Number: G07T9-0032 Project Manager: Jay Johnson MQJ1025 Reported: 11/12/07 14:38

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MQJ1025-01) Water Sampled:	10/24/07 08:45	Received:	10/26/07	19:55					
tert-Amyl methyl ether	ND	0.50	ug/l	1	7K05006	11/05/07	11/05/07	EPA 8260B	
Benzene	ND	0.50	n	Ħ	11	H	II	**	
tert-Butyl alcohol	94	20	п	#1	**	0	и	11	
Di-isopropyl ether	ND	0.50	H	н	**	"	н	**	
1,2-Dibromoethane (EDB)	ND	0.50	"	n	Ш	**	Ü	tt.	
1,2-Dichloroethane	ND	0.50	tt	ŧII	н	n	Ü	U.	
Ethanol	ND	300	Ħ	**	"	***	"	u	
Ethyl tert-butyl ether	ND	0.50	"	n	11	n	If	m .	
Ethylbenzene	ND	0.50	II .	"	11	н	**	н	
Methyl tert-butyl ether	4.9	0.50	#1	"	11	II.	n.	"	
Toluene	ND	0.50	"	II.	II	"	II	II.	
Xylenes (total)	ND	0.50	11	11	"	11	"	н	
Surrogate: Dibromofluoromethane		109 %	75-1	30	H	"	"	u	
Surrogate: 1,2-Dichloroethane-d4		107 %	60-1	50	"	"	"	"	
Surrogate: Toluene-d8		100 %	75-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	55-1	30	"	"	"	n .	
MW-2 (MQJ1025-02) Water Sampled:	10/24/07 08:10	Received:	10/26/07	19:55					
tert-Amyl methyl ether	52	25	ug/l	50	7K05006	11/05/07	11/05/07	EPA 8260B	
Benzene	ND	25	11	#1	**	n	11	н	
tert-Butyl alcohol	9500	1000	ш	н	**	II .	"	**	
Di-isopropyl ether	ND	25	**	11	n	11	11	it	
1,2-Dibromoethane (EDB)	ND	25	"	II	н	"	II	II	
1,2-Dichloroethane	ND	25	Ħ	П	н	11	11	Ħ	
Ethanol	ND	15000	Ш	"	11	ш	11	#	
Ethyl tert-butyl ether	ND	25	*1	Ħ	II	11	II	ш	
Ethylbenzene	ND	25	"	D .	11	n	Ħ	"	
Methyl tert-butyl ether	2800	25	н	н	н	n	н	**	
Toluene	ND	25	II .	"	"	II	n	н	
Xylenes (total)	ND	25	н	11	li .	"	11	U	
Surrogate: Dibromofluoromethane		97 %	75-1	30	"	"	"	n	
Surrogate: 1,2-Dichloroethane-d4		109 %	60-1	50	"	"	"	n .	
Surrogate: Toluene-d8		93 %	75-1	20	"	"	n	"	
Surrogate: 4-Bromofluorobenzene		91 %	55-1		n	"	"	"	





Project: BP Heritage #11102, Oakland, CA

Project Number: G07T9-0032
Project Manager: Jay Johnson

MQJ1025 Reported: 11/12/07 14:38

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (MQJ1025-03) Water	Sampled: 10/24/07 09:00	Received:	10/26/07	19:55					
tert-Amyl methyl ether	58	25	ug/l	50	7K05006	11/05/07	11/05/07	EPA 8260B	
Benzene	ND	25	"	n	II.	n .	n	II .	
tert-Butyl alcohol	ND	1000	n n	n	11	11	11	H	
Di-isopropyl ether	ND	25	**	#	11	н	Ħ	tt	
1,2-Dibromoethane (EDB)	ND	25	**	H	п	16	н	11	
1,2-Dichloroethane	ND	25	0	11	11	н	**	u	
Ethanol	ND	15000	11	н	10	n	II	It	
Ethyl tert-butyl ether	ND	25	Ħ	n	#	п	n .	н	
Ethylbenzene	ND	25	11	н	H	11	II .	tt .	
Methyl tert-butyl ether	3500	25	*	10	11	11	11	u	
Toluene	ND	25	Ħ	er er	11	#	н	"	
Xylenes (total)	ND	25	н	**	"	tt	11	D	
Surrogate: Dibromofluorometha	1e	112 %	75-	130	"	"	"	"	
Surrogate: 1,2-Dichloroethane-a	4	111 %	60-	150	"	"	"	"	
Surrogate: Toluene-d8		111 %	75-	120	"	"	n	n .	
Surrogate: 4-Bromofluorobenzer	re	98 %	55-	130	"	"	n	n .	





Project: BP Heritage #11102, Oakland, CA

Project Number: G07T9-0032
Project Manager: Jay Johnson

MQJ1025 Reported: 11/12/07 14:38

# 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 7K03004 - EPA 5030B P/T / L	UFT GCMS									
Blank (7K03004-BLK1)				Prepared	& Analyze	ed: 11/03/	07			
Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 1,2-Dichloroethane-d4	2.63		"	2.50		105	60-150			
Surrogate: Dibromofluoromethane	2.54		"	2.50		102	75-130			
Surrogate: Toluene-d8	2.45		"	2,50		98	75-120			
Surrogate: 4-Bromofluorobenzene	2.29		"	2.50		92	55-130			
Laboratory Control Sample (7K03004-B	3S2)			Prepared	& Analyze	d: 11/03/	07			
Gasoline Range Organics (C4-C12)	434	50	ug/l	500		87	55-130		**************************************	
Surrogate: 1,2-Dichloroethane-d4	2.72		"	2.50		109	60-150			
Surrogate: Dibromofluoromethane	2.48		"	2.50		99	75-130			
Surrogate: Toluene-d8	2.48		"	2.50		99	75-120			
Surrogate: 4-Bromofluorobenzene	2.46		"	2.50		98	55-130			
Laboratory Control Sample Dup (7K030	004-BSD2)			Prepared a	& Analyze	d: 11/03/0	)7			
Gasoline Range Organics (C4-C12)	437	50	ug/l	500		87	55-130	0.8	20	
Surrogate: 1,2-Dichloroethane-d4	2.59		"	2.50		104	60-150			
Surrogate: Dibromofluoromethane	2.40		u	2.50		96	75-130			
Surrogate: Toluene-d8	2.46		"	2.50		98	75-120			
Surrogate: 4-Bromofluorobenzene	2.48		"	2.50		99	55-130			
Matrix Spike (7K03004-MS1)	Source: M	QJ1025-01		Prepared &	& Analyze	d: 11/03/0	)7			
Gasoline Range Organics (C4-C12)	835	50	ug/l	550	103	133	25-150			
Surrogate: 1,2-Dichloroethane-d4	2.71		"	2.50		108	60-150			
Surrogate: Dibromofluoromethane	2.52		"	2.50		101	75-130			
Surrogate: Toluene-d8	2.46		"	2.50		98	75-120			
Surrogate: 4-Bromofluorobenzene	2.44		"	2.50		98	55-130			
Matrix Spike Dup (7K03004-MSD1)	Source: M	QJ1025-01		Prepared &	& Analyze	d: 11/03/0	7			
Gasoline Range Organics (C4-C12)	817	50	ug/l	550	103	130	25-150	2	20	
Surrogate: 1,2-Dichloroethane-d4	2.58		"	2.50		103	60-150			
Surrogate: Dibromofluoromethane	2.54		"	2.50		102	75-130			
Surrogate: Toluene-d8	2.49		"	2.50		100	75-120			
Surrogate: 4-Bromofluorobenzene	2.31		"	2.50		92	55-130			





Project: BP Heritage #11102, Oakland, CA

Spike

Source

MQJ1025 Reported:

Project Number: G07T9-0032 Project Manager: Jay Johnson

11/12/07 14:38

RPD

%REC

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

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 7K05006 - EPA 5030B P/T / I	LUFT GCMS									
Blank (7K05006-BLK1)				Prepared	& Analyze	ed: 11/05/	07			
Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 1,2-Dichloroethane-d4	2.67		"	2.50		107	60-150	***************************************		***
Surrogate: Dibromofluoromethane	2.39		"	2.50		96	75-130			
Surrogate: Toluene-d8	2.57		"	2.50		103	75-120			
Surrogate: 4-Bromofluorobenzene	2.21		"	2.50		88	55-130			
Laboratory Control Sample (7K05006-I	BS2)			Prepared a	& Analyze	d: 11/05/	07			
Gasoline Range Organics (C4-C12)	501	50	ug/l	500		100	55-130			
Surrogate: 1,2-Dichloroethane-d4	2.79		"	2.50		112	60-150			
Surrogate: Dibromofluoromethane	2.56		"	2.50		102	75-130			
Surrogate: Toluene-d8	2.49		"	2.50		100	75-120			
Surrogate: 4-Bromofluorobenzene	2.64		"	2.50		106	55-130			
Laboratory Control Sample Dup (7K050	Laboratory Control Sample Dup (7K05006-BSD2)									
Gasoline Range Organics (C4-C12)	451	50	ug/l	500		90	55-130	11	20	
Surrogate: 1,2-Dichloroethane-d4	2.10		"	2,50		84	60-150			
Surrogate: Dibromofluoromethane	2.12		"	2.50		85	75-130			
Surrogate: Toluene-d8	2.21		"	2.50		88	75-120			
Surrogate: 4-Bromofluorobenzene	2.66		"	2.50		106	55-130			
Matrix Spike (7K05006-MS1)	Source: MQ	J1027-07		Prepared &	& Analyze	d: 11/05/0	)7			
Gasoline Range Organics (C4-C12)	651	50	ug/l	550	27.7	113	25-150	***************************************		
Surrogate: 1,2-Dichloroethane-d4	2.59		"	2.50		104	60-150			
Surrogate: Dibromofluoromethane	2.60		"	2.50		104	75-130			
Surrogate: Toluene-d8	2.56		"	2.50		102	75-120			
Surrogate: 4-Bromofluorobenzene	2.41		"	2.50		96	55-130			
Matrix Spike Dup (7K05006-MSD1)	Source: MQ	J1027-07		Prepared &	& Analyze	d: 11/05/0	)7			
Gasoline Range Organics (C4-C12)	632	50	ug/l	550	27.7	110	25-150	3	20	
Surrogate: 1,2-Dichloroethane-d4	2.34		"	2.50	men	94	60-150			
Surrogate: Dibromofluoromethane	2.51		"	2.50		100	75-130			
Surrogate: Toluene-d8	2.68		"	2.50		107	75-120			
Surrogate: 4-Bromofluorobenzene	2.23		"	2.50		89	55-130			





Project: BP Heritage #11102, Oakland, CA

MQJ1025 Reported: 11/12/07 14:38

Project Number: G07T9-0032
Project Manager: Jay Johnson

# 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
Batch 7K05006 - EPA 5030B P/T	/ EPA 8260B									
Blank (7K05006-BLK1)				Prepared o	& Analyze	d: 11/05/	07			
tert-Amyl methyl ether	ND	0.50	ug/l		······································					
Benzene	ND	0.50	11							
tert-Butyl alcohol	ND	20	**							
Di-isopropyl ether	ND	0.50	H							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	II .							
Ethanol	ND	300	"							
Ethyl tert-butyl ether	ND	0.50	11							
Ethylbenzene	ND	0.50	n							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	11							
Xylenes (total)	ND	0.50	**							
Surrogate: Dibromofluoromethane	2.39		"	2.50		96	75-130			,
Surrogate: 1,2-Dichloroethane-d4	2.67		n	2.50		107	60-150			
Surrogate: Toluene-d8	2.57		"	2.50		103	75-120			
Surrogate: 4-Bromofluorobenzene	2.21		"	2.50		88	55-130			
Laboratory Control Sample (7K05006	5-BS1)			Prepared &	d Analyzed	d: 11/05/0	)7			
tert-Amyl methyl ether	9.90	0.50	ug/l	10.0	<u>,</u>	99	75-125			
Benzene	10.7	0.50	11	10.0		107	75-120			
ert-Butyl alcohol	190	20	11	200		95	80-120			
Di-isopropyl ether	10.8	0.50	11	10.0		108	70-130			
1,2-Dibromoethane (EDB)	10.6	0.50	**	10.0		106	75-130			
1,2-Dichloroethane	9.64	0.50	н	10.0		96	65-130			
Ethanol	194	300	н	200		97	50-150			
Ethyl tert-butyl ether	10.3	0.50	11	10.0		103	75-130			
Ethylbenzene	11.1	0.50	"	10.0		111	80-125			
Methyl tert-butyl ether	10.6	0.50	44	10.0		106	80-130			
Toluene	11.1	0.50	B	10.0		111	80-120			
(ylenes (total)	31.0	0.50	"	30.0		103	80-125			
Surrogate: Dibromofluoromethane	2.70		"	2.50		108	75-130			
Surrogate: 1,2-Dichloroethane-d4	2.69		"	2.50		108	60-150			
Surrogate: Toluene-d8	2.43		"	2.50		97	75-120			
Surrogate: 4-Bromofluorobenzene	2.38		"	2.50		95	55-130			





Project: BP Heritage #11102, Oakland, CA

MQJ1025 Reported: 11/12/07 14:38

Project Number: G07T9-0032
Project Manager: Jay Johnson

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

Analyte	Result	Reporting Limit	Units	Spike	Source	0/DEC	%REC	D.D.D.	RPD					
		FillIf	Units	Level	Result	%REC	Limits	RPD	Limit	Notes				
Batch 7K05006 - EPA 5030B P/T / F	EPA 8260B													
Matrix Spike (7K05006-MS1)	Source: M	QJ1027-07												
tert-Amyl methyl ether	10.9	0.50	ug/l	10.0	ND	109	75-140							
Benzene	10.4	0.50	n	10.0	ND	104	80-120							
tert-Butyl alcohol	191	20	"	200	ND	96	80-125							
Di-isopropyl ether	11.7	0.50	11	10.0	ND	117	75-135							
1,2-Dibromoethane (EDB)	11.0	0.50	"	10.0	ND	110	80-135							
1,2-Dichloroethane	10.6	0.50	11	10.0	ND	106	65-145							
Ethanol	200	300	"	200	ND	100	50-150							
Ethyl tert-butyl ether	9.94	0.50	II .	10.0	ND	99	80-135							
Ethylbenzene	11.3	0.50	н	10.0	ND	113	75-130							
Methyl tert-butyl ether	9.80	0.50	н	10.0	ND	98	75-145							
Гоluene	11.8	0.50	#	10.0	ND	118	80-125							
Xylenes (total)	34.3	0.50	**	30.0	ND	114	75-125							
Surrogate: Dibromofluoromethane	2.60		"	2.50		104	75-130							
Surrogate: 1,2-Dichloroethane-d4	2.59		"	2.50		104	60-150							
Surrogate: Toluene-d8	2.56		"	2.50		102	75-120							
Surrogate: 4-Bromofluorobenzene	2.41		n .	2.50		96	55-130							
Matrix Spike Dup (7K05006-MSD1)	Source: MQJ1027-07 Prepared & Analyzed: 11/05/07													
ert-Amyl methyl ether	9.85	0.50	ug/l	10.0	ND	98	75-140	10	25					
Benzene	10.7	0.50	**	10.0	ND	107	80-120	2	20					
ert-Butyl alcohol	196	20	11	200	ND	98	80-125	2	25					
Di-isopropyl ether	11.2	0.50	н	10.0	ND	112	75-135	5	25					
,2-Dibromoethane (EDB)	11.9	0.50	11	10.0	ND	119	80-135	8	30					
,2-Dichloroethane	11.6	0.50	"	10.0	ND	116	65-145	9	25					
Ethanol	203	300	It	200	ND	102	50-150	1	25					
Ethyl tert-butyl ether	10.7	0.50	"	10.0	ND	107	80-135	7	25					
Ethylbenzene	10.2	0.50	n	10.0	ND	102	75-130	10	20					
Methyl tert-butyl ether	11.1	0.50	н	10.0	ND	111	75-145	12	25					
oluene	10.7	0.50	п	10.0	ND	107	80-125	10	25					
Xylenes (total)	29.6	0.50	"	30.0	ND	99	75-125	15	20					
urrogate: Dibromofluoromethane	2.51		"	2.50		100	75-130							
urrogate: 1,2-Dichloroethane-d4	2.34		"	2.50		94	60-150							
urrogate: Toluene-d8	2.68		"	2.50		107	75-120							
urrogate: 4-Bromofluorobenzene	2.23		"	2.50		89	55-130							



885 Jarvis Drive Morgan Hill, CA 95037 (408) 776-9600 FAX (408) 782-6308 www.testamericainc.com

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 MQJ1025 Reported: 11/12/07 14:38

### Notes and Definitions

PV Hydrocarbon result partly due to individ. peak(s) in quant. range

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

# Atlantic Richfield Company A BP affiliated company

# **Chain of Custody Record**

Project Name: ARG

ARCO 11102

BP BU/AR Region/Enfos Segment:

BP > Americas > West > Retail > Alameda > 11

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

	rage1_011
On-site Time: 500	Temp: 6 5
Off-site Time: 9-75	Temp: 6 8
Sky Conditions: C/es	
Meteorological Events: Non (	0
Wind Speed:	Direction: (5)

							77																		
	Name: TestAmerica					-⊩	BP/AR Facility No.: 11102								Consultant/Contractor: Stratus Environmental, Inc.										
	ess: 885 Jarvis Drive					-  -	BP/AR Facility Address: 100 MacArthur Blvd., Oakland							Address: 3330 Cameron Park Drive, Suite 550											
	gan Hill, CA 95937					╨	Site Lat/Long:						Cameron Park, CA 95682												
	PM: Lisa Race					╝	California Global I	D No	0.:		T0600	100901	8	··········	**********			Con	sultan	ıt/Cc	intra	ctor F	Proje	ect No.: E11102-04	
	Fax: 408-782-8156 408-782-630	)8 (fax)				_ _	Enfos Project No.:			<del>-</del>	G07T9	-0032						Con	sultan	ıt/Cc	ntra	ctor F	PM:	Jay Johnson	
	R PM Contact: Paul Supple				***************************************	╝	Provision or OOC	(circ	cle on	e)	Pr	ovision	n					Tele	/Fax:		(530	0) 67	76-6	5000 / (530) 676-6005	
Addr	ess: 2010 Crow Canyon Place, Suit	te 150	************			4	Phase/WBS:		04-1	√loni	itoring							Rep	ort Ty	ре δ	è QС	Leve	el:	Level 1 with ED	F
	San Ramon, CA	***************************************	<del></del>	<b></b>		╝	Sub Phase/Task:		****		ytical							E-m	ail EI	DD T	lo:	sha	ąγes	@stratusinc.net	
	Fax: 925-275-3506		<del></del>			ᆜᆜ	Cost Element:	<del></del>	01-0		ractor la							Invo	ice to	: At	llanti	c Ric	chfie	eld Co.	
Lab.	Bottle Order No:	<del></del>	<del>,</del>	╬	Matr	ix	4			P	reserva	tive			<del>,</del>	······································	Requ	ested	Anal	lysis					
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Aır	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO,	Methanol	***************************************	GRO/BTEX/Oxy*	2-DCA	thanol by 8260	(D)B	DRO	Ferrous Fe	ଏଠିଃ	SO4	HZS		Sample Point Lat/Le Comments *Oxy= MTBE,TAME,ETBE,I	-
1	MW-1	845	10/24/7		ПТ	T	01	6			100	T	Ī	X	х	Х	X								
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3	MW-3	<b>∦</b>	H	₽	₩.		03	15	<b> </b>					X	X	X	X								
4	TB 11102 - 07102007	600	l l	L			<u>⊕</u> 04							X	X	х	X							HOLD	
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	hipment Tracking No:								1955																
peci	ial Instructions:	Please	cc resul	ts to	rmill	er@b	roadbentinc.com			-	**shor	t hold	**	<u> </u>				<u> </u>							L
	:						M						*********		****										
	Custody Seals In Place: Yes /	(NO)	Tem	ıp B	lank:	(e)/	No   Cooler	Ten	np or	Rec	ceipt: /	7.60°	F/C	)	T	rip E	lank:	Yes)	/ No	1	<u> </u>	MS/N	MSI	Sample Submitted: (Yes	No
_	Custody Seals In Place: Yes /(No)   Temp Blank: Yes / No   Cooler Temp on Receipt: 1/46 °F/C)   Trip Blank: Yes / No   MS/MSD Sample Submitted: Yes / No																								

# TEST AMERICA SAMPLE RECFIPT LOG

CLIENT NAME:	Avao			LICULIF		No. 100	WAR TO THE THE THE THE THE						
REC. BY (PRINT)			DATE REC'D AT LAB:	10/26/0		For Regulatory Purposes?							
WORKORDED.		TIME REC'D AT LAB:	195					DRINKING WATER					
_	<u> </u>		DATE LOGGED IN:	10/27/0	37				E WATER				
CIPCLE THE APPRO		·						X OTHE					
OINGLE THE APPRO	OPRIATE RESPONSE	LAB	CLIENT ID	CONTAINER	PRESER		SAMPLE	DATE					
Custody Seal(s)	Daniel March	SAMPLE #	JULIE! ID	DESCRIPTION	VATIVE	рH	MATRIX	SAMPLED	REMARKS: CONDITION (ETC.)				
1. Ouslouy Geal(s)	Present / Absent					-		O, IIII LLD	CONDITION (E10.)				
2. Chain-of-Custody	Intact / Broken*												
Traffic Reports or	Present / Absent*												
Packing List:	D								/				
4. Airbill:	Present / Absent												
T. AUDIII.	Airbill / Sticker							<del></del>					
5. Airbill #:	Present / Absent							_/					
6. Sample Labels:	5/>///							$\overline{}$					
7. Sample IDs:	Present / Absent						<del></del>						
7. Odnipie IDS.	Listed / Not Listed					$\neg \neg \uparrow$	/						
8. Sample Condition:	on Chain-of-Custody												
o. oample Condition.	Intact / Broken* /					7							
9 Does information on	Leaking*			, (	ダイ	/							
<ol><li>Does information on traffic reports and sa</li></ol>	chain-of-custody,			000	W/								
agree?			1		7. 1								
10. Sample received withir	(es)/ No*			00/0									
hold time?				200									
11. Adequate sample volui	Yes / No*			197									
received?													
12. Proper preservatives u	(eg/No*												
13. Trip Blank / Temp Blan	sed? (Yes / No*												
(circle which, if yes)		.43											
14. Read Temp:	(eg/ No*												
Correction Factor:	3.69												
Corrected Temp:	<u>-1.0°C</u>							<u> </u>	<b>1</b>				
Is corrected temp. 0-6°(													
*Exception (if any): Metals	C? Yes No**	-4											
DFF on Ice or Problem	o / Perchiorate												
211 Office of Floor													
<b>A</b>		*IE CIDCI	ED CONTACT		W-000-00-00-00-00-00-00-00-00-00-00-00-0	MERCANDON							

SAMPLERECEIPTLOG Revision 9 (10/26/07) \*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

Page \_\_\_\_\_ of \_\_\_\_

# APPENDIX B

GEOTRACKER UPLOAD CONFIRMATION

# **Electronic Submittal Information**

Main Menu | View/Add Facilities | Upload EDD | Check EDD

### **UPLOADING A GEO\_WELL FILE**

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

Submittal Title: 4Q07 GEO\_WELL 11102

Facility Global ID: T0600100908
Facility Name: BP #11102

Submittal Date/Time: 12/10/2007 2:20:12 PM

**Confirmation Number: 7164204478** 

**Back to Main Menu** 

Logged in as BROADBENT-C (CONTRACTOR)

CONTACT SITE <u>ADMINISTRATOR</u>.

# **Electronic Submittal Information**

Main Menu | View/Add Facilities | Upload EDD | Check EDD

Your EDF file has been successfully uploaded!

**Confirmation Number:** 4580850422

**Date/Time of Submittal:** 12/10/2007 11:07:07 AM

Facility Global ID: T0600100908 Facility Name: BP #11102

**Submittal Title:** 4Q07 GW Monitoring **Submittal Type:** GW Monitoring Report

### Click here to view the detections report for this upload.

BP #11102 100 MACARTHUR OAKLAND, CA 94610	Regional Board - Case # SAN FRANCISCO BAY Local Agency (lead agen ALAMEDA COUNTY L	RWQCB (REGION 2) ccy) - Case #: RO0000456
CONF # TITL		QUARTER
	7 GW Monitoring	Q4 2007
SUBMITTED BY Broadbent & Associates, Inc	SUBMIT DATE 12/10/2007	
SAMPLE DETECTIONS R	EPORT .	
# FIELD POINTS SAMPLED		3
# FIELD POINTS WITH DETECT		3
# FIELD POINTS WITH WATER	SAMPLE DETECTIONS ABOV	
SAMPLE MATRIX TYPES		WATER
METHOD QA/QC REPO	RT	
METHODS USED	<del></del>	8260FA,8260TPH
TESTED FOR REQUIRED ANALY	TES?	Υ
LAB NOTE DATA QUALIFIERS		Υ
QA/QC FOR 8021/820		
TECHNICAL HOLDING TIME VIOLA		0
METHOD HOLDING TIME VIOLA  LAB BLANK DETECTIONS ABOV		0 IMIT 0
LAB BLANK DETECTIONS	E REPORTING DETECTION E	0
DO ALL BATCHES WITH THE 80	21/8260 SERIES INCLUDE T	
- LAB METHOD BLANK	,	Y
- MATRIX SPIKE		Υ
- MATRIX SPIKE DUPLICATE		Υ
- BLANK SPIKE		Υ
- SURROGATE SPIKE		Υ
WATER SAMPLES FOR 8		
MATRIX SPIKE / MATRIX SPIKE		
MATRIX SPIKE / MATRIX SPIKE		
SURROGATE SPIKES % RECOVI		N
BLANK SPIKE / BLANK SPIKE D	JPLICATES % RECOVERY BE	ETWEEN 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> COLLECTED <u>DETECTIONS > REPDL</u> QCTB SAMPLES Ν 0 QCEB SAMPLES Ν 0 QCAB SAMPLES Ν 0

Logged in as BROADBENT-C (CONTRACTOR)

CONTACT SITE ADMINISTRATOR.