ARCADIS
100 Montgomery Street
Suite 300
San Francisco
California 94104
Tel 415.374.2744
Fax 415.374.2745
www.arcadis-us.com

Environmental

Re: Third Quarter 2009 Ground-Water Monitoring Report
Former BP Station # 11102
100 MacArthur Boulevard
Oakland, California
ACEH Case # RO0000456

Date:
10/30/2009

"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:

Hollis E. Phillips, PG
Senior Geologist

Contact:
Hollis Phillips

Phone:
415.374.2744 x13

Email:
hollis.phillips@arcadis-us.com

Our ref:
GP09BPNA.0000

Third Quarter 2009 Ground-Water Monitoring Report
Former BP Service Station #11102
100 MacArthur Boulevard, Oakland, California
ACEH Case #RO0000456

Prepared for

Ms. Hollis Phillips, PG
Senior Geologist
ARCADIS-US, Inc.
100 Montgomery Street, Ste. 300
San Francisco, California 94104

On behalf of

Atlantic Richfield Company
PO Box 1257
San Ramon, California 94583

Prepared by

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

1324 Mangrove Avenue, Suite 212
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(530) 566-1400
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30 October 2009

Project No. 06-88-643

Broadbent & Associates, Inc.
1324 Mangrove Ave., Suite 212
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BROADBENT & ASSOCIATES, INC
ENVIRONMENTAL, WATER RESOURCES & ENGINEERING

30 October 2009

Project No. 06-88-643

ARCADIS-US, Inc.
100 Montgomery Street, Ste. 300
San Francisco, CA 94104

Attn.: Ms. Hollis Phillips, PG

Re: Third Quarter 2009 Ground-Water Monitoring Report, Former BP Service Station #11102, 100 MacArthur Boulevard, Alameda County, Oakland, California; ACEH Case #RO0000456

Dear Ms. Phillips:

Attached is the *Third Quarter 2009 Ground-Water Monitoring Report* for Former BP Service Station #11102 located at 100 MacArthur Boulevard, Oakland, Alameda County, California. This report presents a summary of results from ground-water monitoring conducted at Station #11102 during the Third Quarter of 2009.

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

Sincerely,

BROADBENT & ASSOCIATES, INC.

Thomas A. Venus, P.E.
Senior Engineer

Enclosures

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)
Ms. Shelby Lathrop, ConocoPhillips, 76 Broadway, Sacramento, California 95818
Electronic copy uploaded to GeoTracker

STATION #11102 QUARTERLY GROUND-WATER MONITORING REPORT

Facility: #11102 Address:	100 MacArthur Boulevard, Oakland, California
ARCADIS Project Manager:	Ms. Hollis Phillips, PG
Consulting Co./Contact Person:	Broadbent & Associates, Inc.(BAI)/Mr. Tom Venus, PE (530) 566-1400
Consultant Project No.:	06-88-643
Primary Agency/Regulatory ID No.:	Alameda County Environmental Health (ACEH) ACEH Case #RO0000456

WORK PERFORMED THIS QUARTER (Third Quarter 2009):

1. Prepared and submitted *Second Quarter 2009 Ground-Water Monitoring Report* (BAI, 7/7/2009).
2. Conducted ground-water monitoring/sampling for Third Quarter 2009. Work performed by Stratus Environmental, Inc (Stratus) on 3 September 2009.
3. Negotiated semi-annual ground-water monitoring consistent with the State Water Resources Control Board's Resolution No.2009-0042, adopted 19 May 2009.

WORK PROPOSED FOR NEXT QUARTER (Fourth Quarter 2009):

1. Prepared and submitted *Third Quarter 2009 Ground-Water Monitoring Report* (contained herein).
2. Upon acquisition of permits, conduct soil and ground-water investigation as approved by ACEH in their letter dated 21 August 2009.

QUARTERLY RESULTS SUMMARY:

Current phase of project:	**Ground-Water Monitoring/Sampling/Characterization**
Frequency of ground-water monitoring:	**Semi-Annually (1Q & 3Q): Wells MW-1, MW-2, MW-3**
Frequency of ground-water sampling:	**Semi-Annually (1Q & 3Q): Wells MW-1, MW-2, MW-3**
Is free product (FP) present on-site:	**No**
Current remediation techniques:	**NA**
Depth to ground water (below TOC):	**11.91 (MW-1) to 13.68 (MW-2)**
General ground-water flow direction:	**West**
Approximate hydraulic gradient:	**0.05 ft/ft**

DISCUSSION:

Third Quarter 2009 ground-water monitoring and sampling was conducted at Station #11102 on 3 September 2009 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 11.91 ft at well MW-1 to 13.68 ft at well MW-2. Resulting ground-water surface elevations ranged from 78.29 ft above datum in well MW-1 to 73.55 ft at well MW-3. Water level elevations yielded a potentiometric ground-water flow direction and gradient of 0.05 ft/ft to the west. 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. A Site Location Map is provided as Drawing 1. Potentiometric ground-water elevation contours are presented in Drawing 2.

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 Calscience Environmental Laboratories, Inc. (Garden Grove, California), for analysis of Gasoline Range Organics (GRO, C6-C12) by the EPA Method 8015B; for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8260B; and Methyl Tert-Butyl Ether (MTBE), Ethyl Tert-Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), Tert-Butyl Alcohol (TBA), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), and Ethanol by EPA Method 8260B. Bio-degradation parameters including Dissolved Oxygen, pH, Temperature, Conductivity, Oxidation-Reduction Potential (ORP), Ferrous Iron, Nitrate, Sulfate, and Hydrogen Sulfide were also monitored during the sampling event this quarter. The laboratory noted that the detected GRO concentrations in wells MW-2 and MW-3 did not match the reference standard for gasoline. No other significant 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 limits in each of the wells sampled at concentrations up to 1,100 micrograms per liter (µg/L) in well MW-3. MTBE was detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 2,400 µg/L in well MW-3. TBA was detected above the laboratory reporting limit in two of the three wells sampled at concentrations of 260 µg/L in well MW-1 and 7,500 µg/L in well MW-2. TAME was detected above the laboratory reporting limits in one of the three wells sampled at a concentration of 39 µg/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. Historic laboratory analytical results are summarized in Table 1, and Table 2. The most recent GRO, Benzene, MTBE, and TBA concentrations are also presented in Drawing 2. A summary of bio-degradation parameters is provided in Table 4. Ground-water monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix B.

CONCLUSIONS AND RECOMMENDATIONS:

Water level elevations were between historic minimum and maximum ranges for each well, as well as within the range of minimums and maximums from the last few years. The potentiometric ground-water flow direction and gradient of 0.05 ft/ft to the west is generally consistent with historical data. Detected concentrations of petroleum hydrocarbons were within the historic minimum and maximum ranges recorded for each well sampled this quarter. Although GRO concentrations rose to the highest levels within over one year, concentrations of MTBE and TBA were within the range of concentrations measured within the last few years. Concentrations of GRO, MTBE and TBA are significant, justifying the efforts to characterize the downgradient extents of the contaminated ground-water plume. The *Addendum to Soil & Ground-Water Investigation Work Plan* dated 1 June 2009 was approved by ACEH in their letter dated 21 August 2009. Soil and ground-water investigation activities should be implemented upon approval of the necessary permits and access agreements.

CLOSURE:

The findings presented in this report are based upon: observations of Stratus field personnel (see Appendix A), the points investigated, and results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, California). Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other

warranty, expressed or implied was made. This report has been prepared for the exclusive use of ARCADIS-US, Inc. and Atlantic Richfield Company (a BP affiliated 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. Site Location Map, Former Station #11102, 100 MacArthur Boulevard, Oakland, California

Drawing 2. Ground-Water Elevation Contour and Analytical Summary Map, 3 September 2009, 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, California

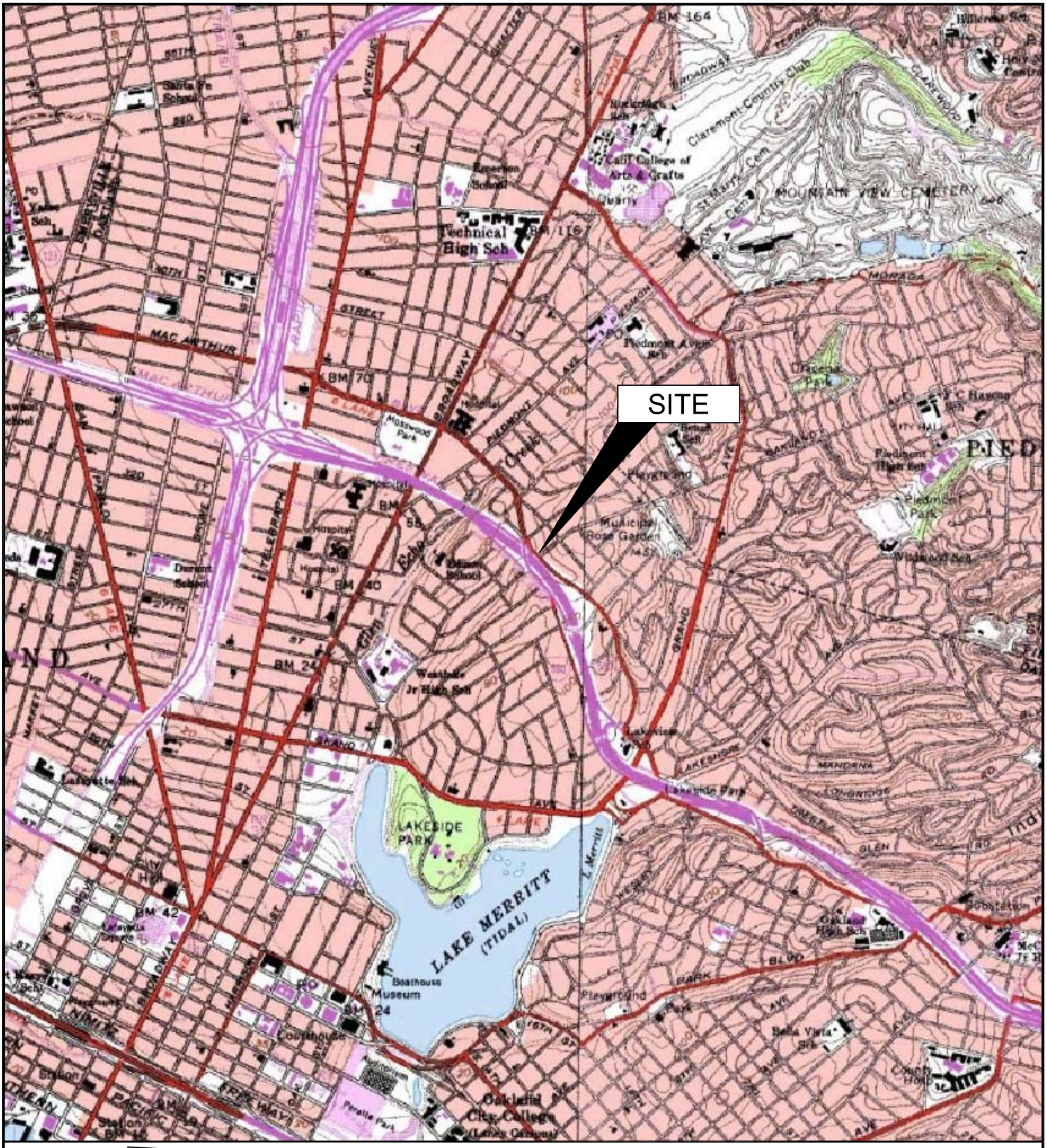
Table 2. Summary of Fuel Additives Analytical Data, Station #11102, 100 MacArthur Blvd., Oakland, California

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

Table 4. Bio-Degradation Parameters, Station #11102, 100 MacArthur Blvd., Oakland, California

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

Appendix B. GeoTracker Upload Confirmation Receipts

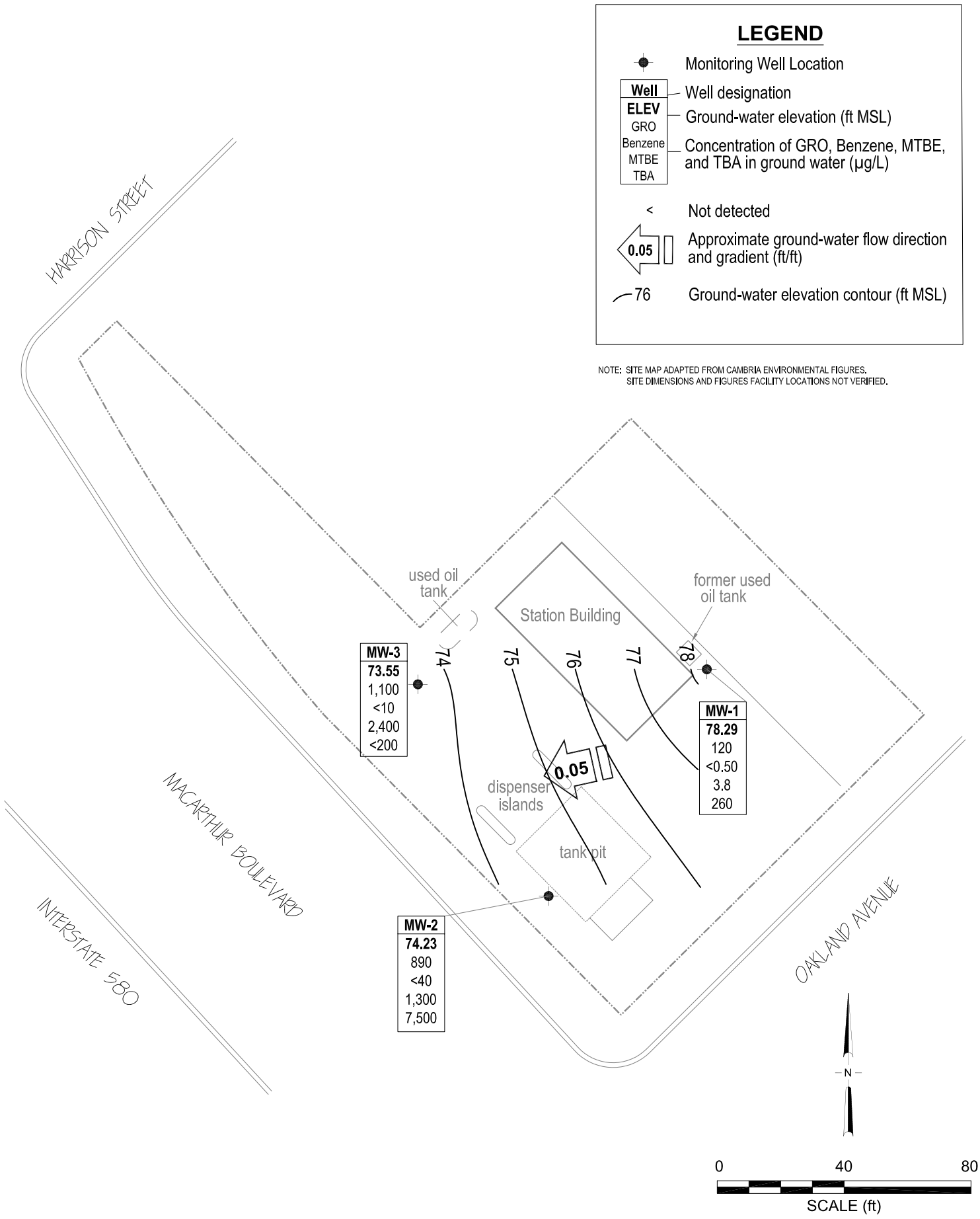


BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 06-88-643 Date: 10/1/09

Former Station #11102
100 MacArthur Boulevard
Oakland, California

Site Location Map

Drawing
1



BROADBENT & ASSOCIATES, INC. ENGINEERING, WATER RESOURCES & ENVIRONMENTAL 1324 Mangrove Ave. Suite 212, Chico, California Project No.: 06-88-643 Date: 9/30/09	Former Station #11102 100 MacArthur Boulevard Oakland, California	Ground-Water Elevation Contour and Analytical Summary Map 3 September 2009	Drawing 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)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/ TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MtBE						
MW-1																		
11/4/1989	--		90.20	13.21	--	76.99	<500	3.4	0.6	<0.3	<0.3	--	--	SAL	--	<50	<5000	--
11/11/1989	--		90.20	13.32	--	76.88	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		90.20	12.46	--	77.74	820	64	1.9	23	34	--	--	ANA	--	--	--	--
7/30/1990	--		90.20	12.92	--	77.28	190	11	<5.0	<5.0	<5.0	--	--	ANA	--	<50	<5000	--
11/20/1990	--		90.20	14.08	--	76.12	50	2.4	<0.3	<0.3	<0.3	--	--	SAL	--	79	<5000	--
3/1/1991	--		90.20	13.61	--	76.59	<100	0.9	<0.3	<0.3	0.3	--	--	SAL	--	<1000	14,000	--
8/19/1991	--		90.20	15.74	--	74.46	370	35	0.73	6.4	5.6	--	--	SEQ	--	<50	<5000	--
11/13/1991	--		90.20	14.08	--	76.12	60	0.68	<0.3	<0.3	<0.3	--	--	SEQ	--	<50	<5000	--
2/24/1992	--		90.20	12.52	--	77.68	140	3.9	0.66	1.2	3.8	--	--	SEQ	--	100	<5000	--
5/19/1992	--		90.20	11.80	--	78.40	4,200	440	21	250	37	--	--	SEQ	--	910	<5000	--
6/17/1992	--		90.20	12.01	--	78.19	4,000	350	14	150	17	--	--	SEQ	--	560	<5000	--
7/22/1992	--		90.20	12.42	--	77.78	4,000	<5.0	19	210	61	--	--	ANA	--	--	--	--
8/14/1992	--		90.20	12.75	--	77.45	2,400	330	20	150	47	--	--	SEQ	--	1,700	<5000	--
11/11/1992	--		90.20	13.69	--	76.51	260	30	3.4	7.6	6.8	--	--	ANA	--	92	<5000	--
6/7/1993	--		90.20	10.93	--	79.27	3,400	98	11	21	7.6	--	--	PACE	--	440	--	--
6/7/1993	--	c	90.20	--	--	--	3,700	120	12	26	9.5	--	--	PACE	--	--	--	--
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	--		90.20	9.38	--	80.82	4,700	16	<5.0	<5.0	<10	--	6.7	ATI	--	1,300	2,900	0.6
6/21/1995	--	c, e	90.20	--	--	--	3,600	<13	<5.0	<5.0	<10	--	--	ATI	--	--	--	--
12/27/1995	--		90.20	11.55	--	78.65	430	<2.5	<2.5	<2.5	<5.0	1,200	6.3	ATI	--	2,100	640	--
6/13/1996	--		90.20	9.28	--	80.92	3,200	51	<12	<12	<12	4,000	6.3	SPL	--	920	2,000	--
12/4/1996	--	f	90.20	11.91	--	78.29	1,400	6.2	<5	<5	<5	2,600	6.7	SPL	--	280	2,000	6
6/10/1997	--	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

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/ TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-1 Cont.																		
9/28/1999	--		90.20	10.78	--	79.42	1,000	<5.0	<5.0	<5.0	<5.0	730	--	SPL	--	--	--	<1.0
10/14/1999	--		90.20	10.84	--	79.36	--	--	--	--	--	--	--	SPL	--	660	--	--
3/27/2000	--		90.20	9.83	--	80.37	4,300	160	19	37	43	28,000	--	PACE	--	--	--	--
9/28/2000	--		90.20	11.33	--	78.87	2,700	10	2.6	1.1	2.7	28,000	--	PACE	--	--	--	--
3/8/2001	--		90.20	10.96	--	79.24	8,200	23.5	6.09	5.23	8.97	11,600	--	PACE	--	--	--	--
9/21/2001	--		90.20	12.07	--	78.13	6,000	37.9	<0.5	<0.5	<1.5	7,370	--	PACE	--	--	--	--
2/28/2002	--		90.20	10.48	--	79.72	6,400	60.8	<5.0	6.43	<10	7,750	--	PACE	--	--	--	--
9/6/2002	--		90.20	11.20	--	79.00	1,400	<5.0	<5.0	<5.0	<5.0	6,000	--	SEQ	--	--	--	--
2/19/2003	--	h	90.20	11.29	--	78.91	<10000	<100	110	<100	<100	4,500	--	SEQ	--	--	--	--
7/14/2003	--		90.20	11.18	--	79.02	710	11	<10	<10	<10	940	--	SEQ	--	--	--	--
01/14/2004	--		90.20	11.74	--	78.46	<500	<5.0	<5.0	<5.0	<5.0	220	--	SEQM	6.6	--	--	--
04/23/2004	P	l	90.20	11.95	--	78.25	470	3.4	<2.5	<2.5	<2.5	150	--	SEQM	6.7	--	--	--
07/01/2004	P		90.20	11.52	--	78.68	360	<2.5	<2.5	<2.5	<2.5	96	--	SEQM	6.0	--	--	--
10/28/2004	P		90.20	12.56	--	77.64	390	0.94	<0.50	<0.50	<0.50	43	--	SEQM	6.2	--	--	--
01/10/2005	P		90.20	11.85	--	78.35	490	17	<2.5	5.8	5.4	85	--	SEQM	7.6	--	--	--
04/13/2005	P		90.20	10.00	--	80.20	1,000	27	<2.5	<2.5	25	48	--	SEQM	6.6	--	--	--
07/11/2005	P		90.20	9.27	--	80.93	180	<0.50	<0.50	<0.50	<0.50	36	--	SEQM	7.7	--	--	--
10/17/2005	P		90.20	10.96	--	79.24	140	<0.50	<0.50	<0.50	<0.50	20	--	SEQM	8.0	--	--	--
01/17/2006	P		90.20	10.81	--	79.39	120	0.64	<0.50	<0.50	0.56	38	--	SEQM	6.5	--	--	--
04/21/2006	P	m	90.20	9.28	--	80.92	410	1.4	1.0	<0.50	<0.50	17	--	SEQM	6.5	--	--	--
7/17/2006	--		90.20	9.25	--	80.95	<50	<0.50	<0.50	<0.50	<0.50	5.5	--	TAMC	7.7	--	--	--
7/26/2006	--		90.20	8.57	--	81.63	<50	<0.50	<0.50	<0.50	<0.50	4.4	--	TAMC	6.6	--	--	--
10/31/2006	P		90.20	9.80	--	80.40	<50	<0.50	<0.50	<0.50	<0.50	2.8	2.81	TAMC	6.99	--	--	--
1/8/2007	P		90.20	10.36	--	79.84	<50	2.2	<0.50	<0.50	<0.50	6.2	2.51	TAMC	6.97	--	--	--
4/10/2007	P		90.20	10.65	--	79.55	160	1.4	<0.50	<0.50	<0.50	9.0	1.75	TAMC	7.00	--	--	--
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	--	--	--
1/22/2008	P		90.20	11.22	--	78.98	240	<0.50	<0.50	0.83	1.7	7.2	3.18	TAMC	6.49	--	--	--
4/15/2008	P		90.20	10.26	--	79.94	240	<0.50	<0.50	<0.50	0.73	5.5	3.32	CEL	6.45	--	--	--
7/8/2008	P		90.20	11.10	--	79.10	78	<0.50	<0.50	<0.50	<0.50	5.8	1.65	CEL	6.78	--	--	--
11/19/2008	P		90.20	12.51	--	77.69	150	<0.50	<0.50	<0.50	<0.50	3.4	1.59	CEL	6.84	--	--	--

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)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	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.																		
2/10/2009	P		90.20	12.71	--	77.49	<50	<0.50	<0.50	<0.50	<0.50	5.3	1.63	CEL	7.00	--	--	--
5/7/2009	P		90.20	10.90	--	79.30	<50	1.6	<0.50	<0.50	<0.50	13	1.41	CEL	6.82	--	--	--
9/3/2009	**P**		**90.20**	**11.91**	**--**	**78.29**	**120**	**<0.50**	**<0.50**	**<0.50**	**0.89**	**3.8**	**1.45**	**CEL**	**6.82**	**--**	**--**	**--**
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	--	72.32	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	--	d	87.91	14.94	--	72.97	790	3.4	0.5	10	<0.5	3,700	--	PACE	--	--	--	--
12/2/1993	--	c, d	87.91	--	--	--	2,100	32	3.8	2.2	17	3,700	--	PACE	--	--	--	--
6/22/1994	--	d	87.91	14.25	--	73.66	110	<0.5	<0.5	<0.5	<0.5	120	3.9	PACE	--	--	--	--
1/10/1995	--		87.91	13.64	--	74.27	<50	<0.5	<0.5	0.6	1	--	4.3	ATI	--	--	--	--
6/21/1995	--		87.91	11.66	--	76.25	4,700	<10	<10	<10	<20	--	7.8	ATI	--	--	--	--
12/27/1995	--		87.91	13.11	--	74.80	6,100	<25	<25	<25	<50	20,000	6.7	ATI	--	--	--	--
12/27/1995	--	c	87.91	--	--	--	6,300	<25	<25	<25	<50	19,000	--	ATI	--	--	--	--
6/13/1996	--		87.91	10.86	--	77.05	8,300	<2.5	<2.5	<2.5	<2.5	13,000	6.5	SPL	--	--	--	--
6/13/1996	--	c	87.91	--	--	--	8,700	<5	<5	<5	<5	13,000	--	SPL	--	--	--	--
12/4/1996	--		87.91	13.03	--	74.88	5,900	<2.5	<5	<5	<5	11,000	6.3	SPL	--	--	--	--
12/4/1996	--	c	87.91	--	--	--	5,900	<2.5	<5	<5	<5	11,000	--	SPL	--	--	--	--

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)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	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.																		
6/10/1997	--		87.91	10.04	--	77.87	<50	<0.5	<1.0	<1.0	<1.0	<10	5.8	SPL	--	--	--	--
12/12/1997	--		87.91	12.44	--	75.47	<50	<0.5	<1.0	<1.0	<1.0	<10	5.7	SPL	--	--	--	--
6/18/1998	--		87.91	8.89	--	79.02	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--
6/18/1998	--	c	87.91	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
3/9/1999	--		87.91	10.20	--	77.71	15,000	<5.0	<5.0	<5.0	<5.0	23,000	--	SPL	--	--	--	--
9/28/1999	--		87.91	11.81	--	76.10	36,000	<5.0	12	7	26	35,000	--	SPL	--	--	--	<5.0
10/14/1999	--		87.91	10.27	--	77.64	--	--	--	--	--	--	--	SPL	--	100	--	--
3/27/2000	--		87.91	9.98	--	77.93	1,300	<0.5	<0.5	0.51	<0.5	5,800	--	PACE	--	--	--	--
9/28/2000	--		87.91	11.40	--	76.51	1,600	1.8	1.7	0.54	2.2	15,000	--	PACE	--	--	--	--
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	l	87.91	11.45	--	76.46	5,100	<250	<250	<250	<250	22,000	--	SEQM	6.8	--	--	--
07/01/2004	P		87.91	12.32	--	75.59	<5,000	<50	<50	<50	<50	5,200	--	SEQM	5.6	--	--	--
10/28/2004	P		87.91	13.02	--	74.89	8,500	<50	<50	<50	<50	6,800	--	SEQM	6.2	--	--	--
01/10/2005	P		87.91	14.38	--	73.53	<25,000	<250	<250	<250	<250	7,100	--	SEQM	7.6	--	--	--
04/13/2005	P		87.91	14.03	--	73.88	<5,000	<50	<50	<50	<50	5,300	--	SEQM	6.6	--	--	--
07/11/2005	P		87.91	11.25	--	76.66	<5,000	<50	<50	<50	<50	5,300	--	SEQM	7.5	--	--	--
10/17/2005	P		87.91	12.48	--	75.43	<5,000	<50	<50	<50	<50	2,500	--	SEQM	8.2	--	--	--
01/17/2006	P		87.91	10.70	--	77.21	<5,000	<50	<50	<50	<50	2,200	--	SEQM	7.0	--	--	--
04/21/2006	--	n	87.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/2006	--	k	87.91	10.47	--	77.44	2,700	<50	<50	<50	<50	2,900	--	TAMC	6.69	--	--	--
10/31/2006	P		87.91	12.02	--	75.89	2,300	<25	<25	<25	<25	2,300	2.02	TAMC	6.71	--	--	--
1/8/2007	P		87.91	11.68	--	76.23	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	--	--	--

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)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	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.																		
1/22/2008	P		87.91	12.00	--	75.91	<2,500	<25	<25	<25	<25	1,400	2.08	TAMC	6.55	--	--	--
4/15/2008	P		87.91	11.77	--	76.14	73	<2.5	<2.5	<2.5	<2.5	2,400	3.12	CEL	6.72	--	--	--
7/8/2008	P		87.91	12.65	--	75.26	93	<50	<50	<50	<50	2,800	1.78	CEL	7.05	--	--	--
11/19/2008	P		87.91	13.98	--	73.93	130	<50	<50	<50	<50	1,900	1.75	CEL	6.72	--	--	--
2/10/2009	P		87.91	13.64	--	74.27	<50	<50	<50	<50	<50	940	1.71	CEL	7.04	--	--	--
5/7/2009	P		87.91	12.00	--	75.91	350	<20	<20	<20	<20	1,900	1.62	CEL	6.94	--	--	--
9/3/2009	**P**	**q**	**87.91**	**13.68**	**--**	**74.23**	**890**	**<40**	**<40**	**<40**	**<40**	**1,300**	**1.56**	**CEL**	**7.02**	**--**	**--**	**--**
MW-3																		
11/4/1989	--		87.02	15.40	--	71.62	<500	<0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
11/11/1989	--		87.02	14.10	--	72.92	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		87.02	13.90	--	73.12	<100	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
7/30/1990	--		87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	<5000	--
11/20/1990	--		87.02	14.67	--	72.35	<50	0.3	0.8	0.4	1.5	--	--	SAL	--	--	--	--
3/1/1991	--		87.02	15.22	--	71.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
8/19/1991	--		87.02	13.15	--	73.87	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
11/13/1991	--		87.02	15.66	--	71.36	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
2/24/1992	--		87.02	15.01	--	72.01	<50	0.65	1.4	0.66	4.4	--	--	SEQ	--	--	--	--
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	--	--	--	--

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)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/ TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-3 Cont.																		
12/12/1997	--		87.02	12.61	--	74.41	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--	--	--	--
12/12/1997	--	c	87.02	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
6/18/1998	--		87.02	12.80	--	74.22	--	--	--	--	--	--	--	--	--	--	--	--
6/18/1998	--		87.02	9.07	--	77.95	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--
9/28/1999	--		87.02	13.76	--	73.26	--	--	--	--	--	--	--	--	--	--	--	--
3/27/2000	--		87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	1.6	--	PACE	--	--	--	--
9/28/2000	--		87.02	11.28	--	75.74	<50	<0.5	7.4	<0.5	1.3	2	--	PACE	--	--	--	--
3/8/2001	--		87.02	11.75	--	75.27	<50	<0.5	<0.5	<0.5	<0.5	60.4	--	PACE	--	--	--	--
9/21/2001	--		87.02	11.33	--	75.69	<50	<0.5	<0.5	<0.5	<1.5	8.18	--	PACE	--	--	--	--
2/28/2002	--		87.02	10.86	--	76.16	<50	<0.5	<0.5	<0.5	<1.0	25.5	--	PACE	--	--	--	--
9/6/2002	--		87.02	12.73	--	74.29	<50	1.2	<0.5	<0.5	1	16	--	SEQ	--	--	--	--
2/19/2003	--	h	87.02	11.72	--	75.30	<500	<5.0	<5.0	<5.0	<5.0	110	--	SEQ	--	--	--	--
7/14/2003	--		87.02	13.76	--	73.26	<50	<0.50	<0.50	<0.50	0.67	28	--	SEQ	--	--	--	--
01/14/2004	P		87.02	14.83	--	72.19	550	<5.0	<5.0	<5.0	<5.0	380	--	SEQM	8.1	--	--	--
04/23/2004	P	l	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	--	--	--
1/22/2008	P	k	87.02	12.92	--	74.10	1,600	<12	<12	<12	<12	2,800	2.17	TAMC	6.32	--	--	--

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

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/ TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-3 Cont.																		
4/15/2008	P		87.02	15.25	--	71.77	<50	<2.5	<2.5	<2.5	<2.5	960	3.44	CEL	6.71	--	--	--
7/8/2008	P		87.02	12.27	--	74.75	<50	<50	<50	<50	<50	2,200	1.52	CEL	7.01	--	--	--
11/19/2008	P		87.02	15.27	--	71.75	<50	<50	<50	<50	<50	2,700	1.60	CEL	6.83	--	--	--
2/10/2009	P		87.02	13.61	--	73.41	<50	<50	<50	<50	<50	1,800	1.66	CEL	6.98	--	--	--
5/7/2009	P		87.02	11.75	--	75.27	140	<10	<10	<10	<10	780	1.28	CEL	6.86	--	--	--
9/3/2009	**P**	**q**	**87.02**	**13.47**	**--**	**73.55**	**1,100**	**<10**	**<10**	**<10**	**<10**	**2,400**	**1.33**	**CEL**	**6.87**	**--**	**--**	**--**
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
GRO = Gasoline range organics, range C4-C12
GWE = Groundwater elevation measured in ft
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
TOG = Total oil and grease
TPH-d = Total petroleum hydrocarbons as diesel
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter
ANA = Anametrix, Inc.
PACE = Pace, Inc.
ATI = Analytical Technologies, Inc.
SAL = Superior Analytical Laboratory
SPL = Southern Petroleum Laboratories
SEQ/SEQM = Sequoia Analytical/Sequoia Analytical - Morgan Hill (Laboratories)
CEL = CalScience Environmental Laboratories, Inc.

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.
p = Hydrocarbon in req. fuel range, but doesn't resemble req. fuel (DRO).
q = Quantitaion of unknown hydrocarbon(s) in sample based on gasoline (GRO).

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.

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

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

Table 2. Summary of Fuel Additives Analytical Data

Station #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-1									
7/14/2003	<2000	2,700	940	<20	<20	<20	--	--	
01/14/2004	<1,000	2,500	220	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<500	2,500	150	<2.5	<2.5	<2.5	<2.5	<2.5	
07/01/2004	<500	2,000	96	<2.5	<2.5	<2.5	<2.5	<2.5	
10/28/2004	<5.0	1,500	43	<0.50	<0.50	0.58	<0.50	<0.50	
01/10/2005	<500	1,900	85	<2.5	<2.5	<2.5	<2.5	<2.5	
04/13/2005	<500	1,400	48	<2.5	<2.5	<2.5	<2.5	<2.5	
07/11/2005	<100	550	36	<0.50	<0.50	<0.50	<0.50	<0.50	
10/17/2005	<100	450	20	<0.50	<0.50	<0.50	<0.50	<0.50	a
01/17/2006	<300	260	38	<0.50	<0.50	0.54	<0.50	<0.50	
04/21/2006	<300	320	17	<0.50	<0.50	<0.50	<0.50	<0.50	
7/17/2006	<300	32	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/26/2006	<300	22	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
10/31/2006	<300	<20	2.8	<0.50	<0.50	<0.50	<0.50	<0.50	a
1/8/2007	<300	110	6.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/10/2007	<300	210	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
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	
1/22/2008	<300	110	7.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/15/2008	<300	84	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/8/2008	<300	64	5.8	<0.50	<0.50	<0.50	<0.50	<0.50	
11/19/2008	<300	110	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2009	<300	110	5.3	<0.50	<0.50	<0.50	<0.50	<0.50	
5/7/2009	<300	17	13	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	**<300**	**260**	**3.8**	**<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	

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-2 Cont.									
01/10/2005	<50,000	<10,000	7,100	<250	<250	<250	<250	<250	
04/13/2005	<10,000	5,300	5,300	<50	<50	95	<50	<50	
07/11/2005	<10,000	9,000	5,300	<50	<50	99	<50	<50	
10/17/2005	<10,000	5,200	2,500	<50	<50	<50	<50	<50	a
01/17/2006	<30,000	8,400	2,200	<50	<50	<50	<50	<50	
04/21/2006	--	--	--	--	--	--	--	--	Well inaccessible
7/26/2006	<30,000	4,500	2,900	<50	<50	<50	<50	<50	
10/31/2006	<15,000	9,300	2,300	<25	<25	41	<25	<25	a
1/8/2007	<7,500	7700	1700	<12	<12	38	<12	<12	
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	
1/22/2008	<15,000	6,000	1,400	<25	<25	<25	<25	<25	
4/15/2008	<1,500	6,800	2,400	<2.5	<2.5	30	2.8	<2.5	
7/8/2008	<30,000	7,600	2,800	<50	<50	<50	<50	<50	
11/19/2008	<30,000	7,100	1,900	<50	<50	<50	<50	<50	
2/10/2009	<30,000	2,700	940	<50	<50	<50	<50	<50	
5/7/2009	<12,000	3,900	1,900	<20	<20	30	<20	<20	
9/3/2009	**<24,000**	**7,500**	**1,300**	**<40**	**<40**	**<40**	**<40**	**<40**	
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	

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.									
7/17/2006	<3,000	<200	1,400	<5.0	<5.0	15	<5.0	<5.0	
7/26/2006	<6,000	<400	1,300	<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	
1/22/2008	<7,500	<500	2,800	<12	<12	34	<12	<12	
4/15/2008	<1,500	<50	960	<2.5	<2.5	9.2	<2.5	<2.5	
7/8/2008	<30,000	<1,000	2,200	<50	<50	<50	<50	<50	
11/19/2008	<30,000	<1,000	2,700	<50	<50	<50	<50	<50	
2/10/2009	<30,000	<1,000	1,800	<50	<50	<50	<50	<50	
5/7/2009	<6,000	<200	780	<10	<10	11	<10	<10	
9/3/2009	**<6,000**	**<200**	**2,400**	**<10**	**<10**	**39**	**<10**	**<10**	

SYMBOLS & ABBREVIATIONS:
-- = Not analyzed/applicable/measured/available
< = Not detected at or above specified laboratory reporting limit
1,2-DCA = 1,2-Dichloroethane
DIPE = Di-isopropyl ether
EDB = 1,2-Dibromoethane
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether
TAME = tert-Amyl methyl ether
TBA = tert-Butyl alcohol
µg/L = Micrograms per Liter

FOOTNOTES:
a = The calibration verification for ethanol was within the method limits but outside the contract limits.

NOTES:
All volatile organic compounds were analyzed using EPA Method 8260B.

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

Table 3. Historical Ground-Water Flow Direction and Gradient

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

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
4/21/2006	--	--
7/17/2006	Southwest	0.05
10/31/2006	Southwest	0.04
1/8/2007	West	0.06
4/10/2007	West	0.05
7/10/2007	Southwest	0.04
10/24/2007	West-Southwest	0.06
1/22/2008	West	0.05
4/15/2008	West-Southwest	0.09
7/8/2008	West-Southwest	0.05
11/19/2008	West	0.06
2/10/2009	West	0.04
5/7/2009	West	0.05
9/3/2009	**West**	**0.05**

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

Table 4. Bio-Degradation Parameters

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

Well and Sample Date	Concentrations in (µg/L)			Ferrous Iron (mg/L)	ORP (mV)	DO (mg/L)	Conductivity (µS/cm)	Hydrogen Sulfide (mg/L)	Methane (µg/L)	pH	Comments
	Total Alkalinity	Nitrate NO3	Sulfate SO4								
MW-1											
7/10/2007	--	1,500	21,000	0.11	71.1	2.01	--	<1.0	--	6.60	
10/24/2007	--	--	--	--	--	1.89	639	--	--	6.57	
1/22/2008	--	760	11,000	0.42	108	3.18	811	<1.0	--	6.49	
4/15/2008	--	240	9,900	0.26	--	3.32	758	<0.100	--	6.45	
7/8/2008	--	860	19,000	0.23	--	1.65	628	--	--	6.78	
11/19/2008	--	540	16,000	0.5	--	1.59	853	--	--	6.84	
2/10/2009	--	830	35,000	0.0	63	1.63	899	<100	--	7.00	
5/7/2009	--	9,300	40,000	0.5	59	1.41	851	<100	--	6.82	
9/3/2009	**--**	**<440**	**15,000**	**0.0**	**62**	**1.45**	**676**	**<100**	**--**	**6.82**	
MW-2											
7/10/2007	--	<500	26,000	0.16	9.7	1.82	--	<1.0	--	6.69	
10/24/2007	--	--	--	--	--	1.55	863	--	--	6.77	
1/22/2008	--	8,500	26,000	0.15	167	2.08	672	<1.0	--	6.55	
4/15/2008	--	<100	28,000	<0.100	--	3.12	799	<0.100	--	6.72	
7/8/2008	--	<440	25,000	0.15	--	1.78	753	--	--	7.05	
11/19/2008	--	3,300	20,000	0.0	--	1.75	581	--	--	6.72	
2/10/2009	--	22,000	42,000	0.0	87	1.71	591	100	--	7.04	CL (NO3)
5/7/2009	--	<440	33,000	0.03	90	1.62	1,108	<100	--	6.94	
9/3/2009	**--**	**<440**	**16,000**	**0.5**	**93**	**1.56**	**525**	**<100**	**--**	**7.02**	
MW-3											
7/10/2007	--	8,500	19,000	<0.100	182.9	1.56	--	<1.0	--	6.72	
10/24/2007	--	--	--	--	--	1.62	639	--	--	6.41	
1/22/2008	--	5,600	17,000	<0.100	144	2.17	636	<1.0	--	6.32	
4/15/2008	--	1,600	21,000	<0.100	--	3.44	638	<0.100	--	6.71	
7/8/2008	--	6,700	18,000	<0.100	--	1.52	651	--	--	7.01	
11/19/2008	--	6,100	15,000	0.5	--	1.60	651	--	--	6.83	
2/10/2009	--	5,400	22,000	0.0	91	1.66	659	<100	--	6.98	
5/7/2009	--	11,300	19,000	0.0	87	1.28	643	<100	--	6.86	
9/3/2009	**--**	**8,100**	**15,000**	**0.0**	**85**	**1.33**	**557**	**<100**	**--**	**6.87**	

ABBREVIATIONS AND SYMBOLS:

< = Not detected at or above specified laboratory reporting limit
ORP = Oxygen reduction potential
DO = Dissolved oxygen
CO2 = Carbon dioxide
mV = Millivolts
µg/L = Micrograms per liter
mg/L = Milligrams per liter

CL = Initial analysis within holding time but required dilution

APPENDIX A

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

STRATUS
ENVIRONMENTAL, INC.

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

September 17, 2009

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 Boulevard, Oakland, California.

General Information

Data Submittal Prepared / Reviewed by: Carol Huff / Jay Johnson
Phone Number: (530) 676-6000
On-Site Supplier Representative: Jerry Gonzales and Edgar Olineka

Sampling Date: September 3, 2009

Unusual Field Conditions: None noted.

Scope of Work Performed: Quarterly monitoring and sampling.

Variations from Work Scope: None noted.

This submittal presents the data collected in association with routine groundwater monitoring. The attachments included field data sheets, non-hazardous waste data form, chain of custody documentation, certified analytical results, and field procedures for groundwater sampling documentation. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations.

Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

STRATUS ENVIRONMENTAL, INC.

Jay R. Johnson, P.G.
Project Manager

Attachments:

- Field Data Sheets
- Non-Hazardous Waste Data form
- Chain of Custody Documentation
- Certified Analytical Results
- Field Procedures for Groundwater Sampling

CC: Mr. Chuck Carmel, BP/ARCO

BP Alameda Portfolio

HYDROLOGIC DATA SHEET

AK 10:40 DY

Gauge Date: 9/3/09

Field Technician: Jerry

Project Name: *100 MacArthur Blvd. Oakland*

Project Number: *11102*

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

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

WELL OR LOCATION	TIME	MEASUREMENT						PURGE & SAMPLE	SHEEN CONFIRMATION (w/bailer)	COMMENTS
		TOC	TOS	DTW	DTB	DIA	ELEV			
MW-1	11:15			8/90	31.90	4"		4		FW
MW-2	11:05			13.68	32.24	4"		4		FW
MW-3	10:57			13.45	32.50	4"		4		FW

FW: Edgar Olineka

pH/Conductivity/temperature Meter - YSI Model 63

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

Please refer to groundwater sampling field procedures

Calibration Date

pH 9/3/09

Conductivity 9/3/09

DO 9/3/09

BP ALAMEDA PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

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

DATE PURGED 9/3/09 | START (2400hr) 1157 | END (2400hr) 1203
DATE SAMPLED 9/3/09 | SAMPLE TIME (2400hr) 1215
SAMPLE TYPE: Groundwater x | Surface Water | Treatment Effluent | Other

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

DEPTH TO BOTTOM (feet) = 31.90 | CASING VOLUME (gal) = 13.3
DEPTH TO WATER (feet) = 11.91 | CALCULATED PURGE (gal) = 40.1
WATER COLUMN HEIGHT (feet) = 19.9 | ACTUAL PURGE (gal) = 40.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
9/3/09	1158	13.4	23.9	711	6.84	Clear	
	1201	26.8	22.1	664	6.81		
	1203	40.5		676	6.82		

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 13.59 | SAMPLE TURBIDITY: Clear

80% RECHARGE: X YES ___ NO | ANALYSES: SWO
ODOR: NO | SAMPLE VESSEL / PRESERVATIVE: 6 Voa - HCl 1.pH

PURGING EQUIPMENT

___ Bladder Pump
X Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated ____
Other: ____
Pump Depth: 20

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
X Bailer (___ PVC or X disposable)
___ Bailer (Stainless Steel)
___ Dedicated ____
Other: ____

WELL INTEGRITY: good | LOCK#: MASTER

REMARKS: Ferrous Iron 0.0
DO 1.45 ORP 62

SIGNATURE: | Page ___ of ___

BP ALAMEDA PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

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

DATE PURGED 9/3/09 | START (2400hr) 1125 | END (2400hr) 1131
DATE SAMPLED 9/3/09 | SAMPLE TIME (2400hr) 1145
SAMPLE TYPE: Groundwater x | Surface Water ___ | Treatment Effluent ___ | Other ___

CASING DIAMETER: 2" ___ | 3" ___ | 4" X | 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
DEPTH TO WATER (feet) = 13.68
WATER COLUMN HEIGHT (feet) = 18.5
CASING VOLUME (gal) = 12.4
CALCULATED PURGE (gal) = 37.2
ACTUAL PURGE (gal) = 38.0

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
9/3/09	1127	12.5	22.1	998	7.10	clear	
"	1129	25.0	21.7	580	2.19	"	
"	1131	38.0	22.3	525	2.02	"	

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 15.73
SAMPLE TURBIDITY: clear
80% RECHARGE: X YES ___ NO
ANALYSES: 5 WO
ODOR: NO
SAMPLE VESSEL / PRESERVATIVE: 6 VOA - HCL - 1 PT

PURGING EQUIPMENT

___ Bladder Pump
X Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated ___
Other: ___
Pump Depth: 23

SAMPLING EQUIPMENT

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

WELL INTEGRITY: good | LOCK#: Master

REMARKS: Ferrous Iron .05 ORP 93 DO=1.56

SIGNATURE: [signature]

Page ___ of ___

BP ALAMEDA PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 11102 PURGED BY: JS WELL I.D.: MW-3

CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: MW-3

LOCATION: Oakland - 100 MacArthur Blvd. QA SAMPLES: _____

DATE PURGED 9/3/09 START (2400hr) 1230 END (2400hr) 1239

DATE SAMPLED 9/3/09 SAMPLE TIME (2400hr) 1250

SAMPLE TYPE: Groundwater x Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" ____ 3" ____ 4" X 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) = 32.50 CASING VOLUME (gal) = 12.7

DEPTH TO WATER (feet) = 13.97 CALCULATED PURGE (gal) = 38.2

WATER COLUMN HEIGHT (feet) = 19.0 ACTUAL PURGE (gal) = 39.0

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
9/3/09	1233	13	24.7	612	6.92	clear	
/	1236	26	23.2	583	6.91	/	
/	1239	39	24.6	557	6.89	/	

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 15.61 SAMPLE TURBIDITY: clear

80% RECHARGE: X YES ___ NO ANALYSES: SVOC

ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 VOA - HCl - 1 1/4

PURGING EQUIPMENT

___ Bladder Pump
X Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated ____

Other: ____

Pump Depth: 25

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
✓ Bailer (___ PVC or ✓ disposable)
___ Bailer (Stainless Steel)
___ Dedicated ____

Other: ____

WELL INTEGRITY: good LOCK#: NONE

REMARKS: Ferrous / Iron 0.0

DO. 1.33 ORP 85

SIGNATURE: _____ Page ___ of ___

WELLHEAD OBSERVATION FORM

Site Name/Number: 1102 *Date:* 9/3/09 *Technican:* Jerry

Well I.D.	Box in Good Condition X = Yes Blank = No	Well lid secure? X= Yes If not call PM prior to departure	Lock Missing? X = Yes (replaced) Blank = No	Water in Wellbox? X = Yes Blank = No	Water Level Relative to Cap? A = Above cap B = Below cap L = Level w/cap	Well Cap? I = Intact M = Missing or Compromised (replaced)	Bolts Missing? # of missing/ Total # *	Bolts Stripped? # of stripped/ Total # *	Bolt Holes Stripped? # of stripped/ Total # *	Cracked or Broken Lid? X = Yes Blank = No *	Cracked or Broken Box? X = Yes Blank = No *	Grout Level more than 1ft below TOC? X = Yes Blank = No *	Additional Comments (such as missing lid, concrete needs replacement, or other - explain)
MW-1	X					I							
MW-2	X					I							
MW-3	X					I							

* Explain corrective action taken (replaced bolt/tapped bolt hole etc…) or if a safety issue, please call PM

DRUM INVENTORY

Drums on site? Yes (No) (circle)

Type and : Steel: _____ Plastic: _____

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

_____

_____

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

_____

_____

GENERAL SITE CONDITIONS

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

_____

_____

_____

_____

_____

_____

(updated 7-09-09, CH)

NO. 855674

NON-HAZARDOUS WASTE DATA FORM

1. BEST #

GENERATOR

2. Generator's Name and Mailing Address

BP WEST COAST PRODUCTS, LLC
P.O. BOX 80949
RANCHO SANTA MARGARITA, CA 92688

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

2/102
Joe Mac Arthur Bl
Oakland

Generator's Phone: (949) 480-5200

24-HOUR EMERGENCY PHONE: (949) 699-2709

TRANSPORTER

3. Transporter 1 Company Name: Strahus Environmental, Inc. — Phone #: (530) 676-6000

4. Transporter 2 Company Name: Gomes Excavating — Phone #: (707) 374-2651

FACILITY

5. Designated Facility Name and Site Address

INTRAT, INC.
1105 AIRPORT RD WC
RIO VISTA, CA 94571

Phone #: (530) 753-1929

6. Waste Shipping Name and Description	7. Containers No.	7. Containers Type	8. Total Quantity	9. Unit Wt/Vol	10. Profile No
A. NON-HAZARDOUS WATER	1	TT	175	G	
B.					
C.					
D.					

11. Special Handling Instructions and Additional Information

WEAR ALL APPROPRIATE PROTECTIVE CLOTHING

WELL PURGING / DECON WATER

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

Generator's/Offeror's Printed/Typed Name: Jerry Gonzales — Signature: [signature] — Month: 9 — Day: 15 — Year: 15

13. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Gonzales — Signature: [signature] — Month: 9 — Day: 15 — Year: 15

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

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

Printed/Typed Name — Signature — Month — Day — Year

TRANSPORTER #1

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP 11102
BP/ARC Facility No: 11102
Req Due Date (mm/dd/yy): 14 Day TAT
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name: CalScience	BP/ARC Facility Address: 100 MacArthur Blvd	Consultant/Contractor: Stratus Environmental Inc.
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No:
Lab PM: Richard Villafania	Lead Regulatory Agency: Alameda	Address: 3330 Cameron Park Drive, #550, Cameron Park, CA 95682
Lab Phone: 714-895-5494 Fax: 714-895-7501	California Global ID No.: T0600100908	Consultant/Contractor PM: Jay Johnson
Lab Shipping Accnt:	Enfos Proposal No: 000G6-0003	Phone: 530-676-6000 Fax: 530-676-6005
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ___ OOC-RM ___	Email EDD To: chuff@stratusinc.net
Other Info:	Stage: BP/ARC WBS Stage Activity: BP/ARC WBS Activity	Invoice To: BP/ARC X Contractor ___
BP/ARC EBM: Paul Supple		
EBM Phone: (925) 275-3801		
EBM Email: paul.supple@bp.com		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	Requested Analyses: GRO by 8015M	BTEX/5 FO* by 8260B	Ethanol by 8260B	EDB by 8260B	1,2-DCA by 8260B	H2S	NO3	SO4			Report Type & QC Level
	MW-1	9/3/09	1215		X			8				X		X	X	X	X	X	X	X	X			
	MW-2		1145		X			8				X		X	X	X	X	X	X	X	X			
	MW-3		1250		X			8				X		X	X	X	X	X	X	X	X			
	TB-11102		600		X			2				X												ON HOLD

Standard X
Full Data Package ___

Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Comments

*Oxy = MTBE, TAME, ETBE, DIPE, TBA

Sampler's Name: Jorge Gonzalez / Doulos Env.	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Stratus Environmental Inc.						
Shipment Method: Ship Date:						
Shipment Tracking No:						

Special Instructions: TB Sample ON HOLD! Cc results to bpalameda@secor.com Please run even if after HOLD TIME

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ___ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Calscience
Environmental
Laboratories, Inc.

September 17, 2009

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

Subject: **Calscience Work Order No.:** **09-09-0352**
Client Reference: **BP 11102**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/4/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

Calscience Environmental
Laboratories, Inc.
Richard Villafania
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	09/04/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-09-0352
Cameron Park, CA 95682-8861	Preparation:	N/A
	Method:	HACH Model HS-C

Project: BP 11102

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**09-09-0352-1-G**	**09/03/09 12:15**	**Aqueous**	**N/A**	**N/A**	**09/04/09 09:29**	**90904HSB1**

Parameter	Result	RL	DF	Qual	Units
Hydrogen Sulfide	ND	100	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	**09-09-0352-2-G**	**09/03/09 11:45**	**Aqueous**	**N/A**	**N/A**	**09/04/09 09:29**	**90904HSB1**

Parameter	Result	RL	DF	Qual	Units
Hydrogen Sulfide	ND	100	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	**09-09-0352-3-G**	**09/03/09 12:50**	**Aqueous**	**N/A**	**N/A**	**09/04/09 09:29**	**90904HSB1**

Parameter	Result	RL	DF	Qual	Units
Hydrogen Sulfide	ND	100	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-03-001-383**	**N/A**	**Aqueous**	**N/A**	**N/A**	**09/04/09 09:29**	**90904HSB1**

Parameter	Result	RL	DF	Qual	Units
Hydrogen Sulfide	ND	100	1		ug/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	09/04/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-09-0352
Cameron Park, CA 95682-8861	Preparation:	N/A
	Method:	EPA 300.0
	Units:	ug/L

Project: BP 11102

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**09-09-0352-1-I**	**09/03/09 12:15**	**Aqueous**	**IC 9**	**N/A**	**09/04/09 11:02**	**090904L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Nitrate (as NO3)	ND	440	1		Sulfate	15000	1000	1	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	**09-09-0352-2-I**	**09/03/09 11:45**	**Aqueous**	**IC 9**	**N/A**	**09/04/09 11:20**	**090904L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Nitrate (as NO3)	ND	440	1		Sulfate	16000	1000	1	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	**09-09-0352-3-I**	**09/03/09 12:50**	**Aqueous**	**IC 9**	**N/A**	**09/04/09 11:37**	**090904L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Nitrate (as NO3)	8100	440	1		Sulfate	15000	1000	1	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-906-449**	**N/A**	**Aqueous**	**IC 9**	**N/A**	**09/04/09 09:16**	**090904L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Nitrate (as N)	ND	100	1		Sulfate	ND	1000	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 09/04/09
Work Order No: 09-09-0352
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 11102

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**09-09-0352-1-D**	**09/03/09 12:15**	**Aqueous**	**GC 1**	**09/05/09**	**09/06/09 09:11**	**090905B02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	120	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	83	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	**09-09-0352-2-D**	**09/03/09 11:45**	**Aqueous**	**GC 1**	**09/05/09**	**09/06/09 09:43**	**090905B02**

Comment(s): -LW = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	890	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	81	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	**09-09-0352-3-D**	**09/03/09 12:50**	**Aqueous**	**GC 1**	**09/05/09**	**09/06/09 10:15**	**090905B02**

Comment(s): -LW = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	1100	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	79	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-695-658**	**N/A**	**Aqueous**	**GC 1**	**09/05/09**	**09/06/09 02:16**	**090905B02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	70	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.		Date Received:	09/04/09
3330 Cameron Park Drive, Suite 550		Work Order No:	09-09-0352
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B
		Units:	ug/L
Project: BP 11102			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**09-09-0352-1-A**	**09/03/09 12:15**	**Aqueous**	**GC/MS BB**	**09/09/09**	**09/09/09 18:24**	**090909L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	3.8	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	260	20	2	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	0.89	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	94	80-128			Dibromofluoromethane	102	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	73	68-120		

MW-2	**09-09-0352-2-A**	**09/03/09 11:45**	**Aqueous**	**GC/MS BB**	**09/09/09**	**09/09/09 18:53**	**090909L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	40	80		Methyl-t-Butyl Ether (MTBE)	1300	40	80	
1,2-Dibromoethane	ND	40	80		Tert-Butyl Alcohol (TBA)	7500	800	80	
1,2-Dichloroethane	ND	40	80		Diisopropyl Ether (DIPE)	ND	40	80	
Ethylbenzene	ND	40	80		Ethyl-t-Butyl Ether (ETBE)	ND	40	80	
Toluene	ND	40	80		Tert-Amyl-Methyl Ether (TAME)	ND	40	80	
Xylenes (total)	ND	40	80		Ethanol	ND	24000	80	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	104	80-128			Dibromofluoromethane	108	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	71	68-120		

MW-3	**09-09-0352-3-A**	**09/03/09 12:50**	**Aqueous**	**GC/MS BB**	**09/09/09**	**09/09/09 19:22**	**090909L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	10	20		Methyl-t-Butyl Ether (MTBE)	2400	100	200	
1,2-Dibromoethane	ND	10	20		Tert-Butyl Alcohol (TBA)	ND	200	20	
1,2-Dichloroethane	ND	10	20		Diisopropyl Ether (DIPE)	ND	10	20	
Ethylbenzene	ND	10	20		Ethyl-t-Butyl Ether (ETBE)	ND	10	20	
Toluene	ND	10	20		Tert-Amyl-Methyl Ether (TAME)	39	10	20	
Xylenes (total)	ND	10	20		Ethanol	ND	6000	20	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	106	80-128			Dibromofluoromethane	111	80-127		
Toluene-d8	97	80-120			1,4-Bromofluorobenzene	86	68-120		

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	09/04/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-09-0352
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BP 11102

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-703-1,074**	**N/A**	**Aqueous**	**GC/MS BB**	**09/09/09**	**09/09/09 12:34**	**090909L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	104	80-128			Dibromofluoromethane	102	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	81	68-120		

Method Blank	**099-12-703-1,075**	**N/A**	**Aqueous**	**GC/MS BB**	**09/10/09**	**09/10/09 15:41**	**090910L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	107	80-128			Dibromofluoromethane	99	80-127		
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	85	68-120		

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

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Stratus Environmental, inc.	Date Received: 09/04/09
3330 Cameron Park Drive, Suite 550	Work Order No: 09-09-0352
Cameron Park, CA 95682-8861	Preparation: N/A
	Method: HACH Model HS-C

Project: BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
MW-1	**Aqueous**	**N/A**	**N/A**	**09/04/09**	**90904HSD1**

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Hydrogen Sulfide	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	09/04/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-09-0352
Cameron Park, CA 95682-8861	Preparation:	N/A
	Method:	EPA 300.0

Project BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-1	**Aqueous**	**IC 9**	**N/A**	**09/04/09**	**090904S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	100	100	80-120	0	0-20	
Sulfate	97	97	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received: 09/04/09
3330 Cameron Park Drive, Suite 550	Work Order No: 09-09-0352
Cameron Park, CA 95682-8861	Preparation: EPA 5030B
	Method: EPA 8015B (M)

Project BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-09-0378-1	**Aqueous**	**GC 1**	**09/05/09**	**09/06/09**	**090905S02**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	94	96	38-134	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.		Date Received:	09/04/09
3330 Cameron Park Drive, Suite 550		Work Order No:	09-09-0352
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-09-0603-6	**Aqueous**	**GC/MS BB**	**09/09/09**	**09/09/09**	**090909S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	102	76-124	2	0-20	
Carbon Tetrachloride	103	103	74-134	0	0-20	
Chlorobenzene	97	103	80-120	6	0-20	
1,2-Dibromoethane	99	113	80-120	14	0-20	
1,2-Dichlorobenzene	98	100	80-120	1	0-20	
1,1-Dichloroethene	96	97	73-127	0	0-20	
Ethylbenzene	95	99	78-126	4	0-20	
Toluene	96	96	80-120	0	0-20	
Trichloroethene	97	99	77-120	2	0-20	
Vinyl Chloride	90	93	72-126	4	0-20	
Methyl-t-Butyl Ether (MTBE)	90	94	67-121	5	0-49	
Tert-Butyl Alcohol (TBA)	116	121	36-162	4	0-30	
Diisopropyl Ether (DIPE)	93	96	60-138	3	0-45	
Ethyl-t-Butyl Ether (ETBE)	92	97	69-123	5	0-30	
Tert-Amyl-Methyl Ether (TAME)	92	96	65-120	4	0-20	
Ethanol	126	149	30-180	17	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 09/04/09
Work Order No: 09-09-0352
Preparation: EPA 5030B
Method: EPA 8260B

Project BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-09-0719-1	**Aqueous**	**GC/MS BB**	**09/10/09**	**09/10/09**	**090910S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	100	76-124	0	0-20	
Carbon Tetrachloride	97	95	74-134	2	0-20	
Chlorobenzene	95	94	80-120	0	0-20	
1,2-Dibromoethane	106	105	80-120	1	0-20	
1,2-Dichlorobenzene	97	97	80-120	0	0-20	
1,1-Dichloroethene	99	99	73-127	0	0-20	
Ethylbenzene	85	92	78-126	7	0-20	
Toluene	93	94	80-120	1	0-20	
Trichloroethene	97	96	77-120	1	0-20	
Vinyl Chloride	93	90	72-126	3	0-20	
Methyl-t-Butyl Ether (MTBE)	116	129	67-121	5	0-49	LM,AY
Tert-Butyl Alcohol (TBA)	132	129	36-162	2	0-30	
Diisopropyl Ether (DIPE)	96	98	60-138	2	0-45	
Ethyl-t-Butyl Ether (ETBE)	92	95	69-123	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	92	94	65-120	3	0-20	
Ethanol	119	111	30-180	7	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.	Date Received: N/A
3330 Cameron Park Drive, Suite 550	Work Order No: 09-09-0352
Cameron Park, CA 95682-8861	Preparation: N/A
	Method: EPA 300.0

Project: BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-906-449	Aqueous	IC 9	N/A	09/04/09	090904L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	103	103	90-110	1	0-15	
Sulfate	100	99	90-110	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-09-0352
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8015B (M)

Project: BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-658	Aqueous	GC 1	09/05/09	09/06/09	090905B02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	102	101	78-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.	Date Received: N/A
3330 Cameron Park Drive, Suite 550	Work Order No: 09-09-0352
Cameron Park, CA 95682-8861	Preparation: EPA 5030B
	Method: EPA 8260B

Project: BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-1,074	Aqueous	GC/MS BB	09/09/09	09/09/09	090909L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	98	106	80-120	73-127	7	0-20	
Carbon Tetrachloride	104	112	74-134	64-144	7	0-20	
Chlorobenzene	96	103	80-120	73-127	7	0-20	
1,2-Dibromoethane	101	110	79-121	72-128	9	0-20	
1,2-Dichlorobenzene	100	103	80-120	73-127	3	0-20	
1,1-Dichloroethene	97	104	78-126	70-134	7	0-28	
Ethylbenzene	89	102	80-120	73-127	14	0-20	
Toluene	94	103	80-120	73-127	8	0-20	
Trichloroethene	98	109	79-127	71-135	10	0-20	
Vinyl Chloride	97	103	72-132	62-142	7	0-20	
Methyl-t-Butyl Ether (MTBE)	92	100	69-123	60-132	9	0-20	
Tert-Butyl Alcohol (TBA)	117	111	63-123	53-133	5	0-20	
Diisopropyl Ether (DIPE)	92	99	59-137	46-150	8	0-37	
Ethyl-t-Butyl Ether (ETBE)	91	100	69-123	60-132	9	0-20	
Tert-Amyl-Methyl Ether (TAME)	92	101	70-120	62-128	10	0-20	
Ethanol	107	94	28-160	6-182	13	0-57	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-09-0352
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 11102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-1,075	Aqueous	GC/MS BB	09/10/09	09/10/09	090910L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	99	99	80-120	73-127	1	0-20	
Carbon Tetrachloride	99	99	74-134	64-144	1	0-20	
Chlorobenzene	96	94	80-120	73-127	3	0-20	
1,2-Dibromoethane	106	106	79-121	72-128	0	0-20	
1,2-Dichlorobenzene	96	96	80-120	73-127	1	0-20	
1,1-Dichloroethene	99	100	78-126	70-134	1	0-28	
Ethylbenzene	94	91	80-120	73-127	3	0-20	
Toluene	92	94	80-120	73-127	2	0-20	
Trichloroethene	98	98	79-127	71-135	0	0-20	
Vinyl Chloride	93	96	72-132	62-142	4	0-20	
Methyl-t-Butyl Ether (MTBE)	91	94	69-123	60-132	4	0-20	
Tert-Butyl Alcohol (TBA)	115	113	63-123	53-133	2	0-20	
Diisopropyl Ether (DIPE)	92	92	59-137	46-150	0	0-37	
Ethyl-t-Butyl Ether (ETBE)	90	93	69-123	60-132	4	0-20	
Tert-Amyl-Methyl Ether (TAME)	90	94	70-120	62-128	4	0-20	
Ethanol	109	110	28-160	6-182	1	0-57	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 09-09-0352

Qualifier	Definition
AX	Sample too dilute to quantify surrogate.
BA	Relative percent difference out of control.
BA,AY	BA = Relative percent difference out of control. AY = Matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.
BH	Reporting limits raised due to high level of non-target analytes.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
BY	Sample received at improper temperature.
BZ	Sample preserved improperly.
CL	Initial analysis within holding time but required dilution.
CQ	Analyte concentration greater than 10 times the blank concentration.
CU	Surrogate concentration diluted to not detectable during analysis.
DF	Reporting limits elevated due to matrix interferences.
DU	Insufficient sample quantity for matrix spike/dup matrix spike.
ET	Sample was extracted past end of recommended max. holding time.
EY	Result exceeds normal dynamic range; reported as a min est.
GR	Internal standard recovery is outside method recovery limit.
IB	CCV recovery abovelimit; analyte not detected.
IH	Calibrtn. verif. recov. below method CL for this analyte.
IJ	Calibrtn. verif. recov. above method CL for this analyte.
J,DX	J=EPA Flag -Estimated value; DX= Value < lowest standard (MQL), but > than MDL.
LA	Confirmatory analysis was past holding time.
LG,AY	LG= Surrogate recovery below the acceptance limit. AY= Matrix interference suspected.
LH,AY	LH= Surrogate recovery above the acceptance limit. AY= Matrix interference suspected.
LM,AY	LM= MS and/or MSD above acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LN,AY	LN= MS and/or MSD below acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LQ	LCS recovery above method control limits.

Work Order Number: 09-09-0352

Qualifier	Definition
LR	LCS recovery below method control limits.
LW	Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
LX	Quantitation of unknown hydrocarbon(s) in sample based on diesel.
MB	Analyte present in the method blank.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.
SG	A silica gel cleanup procedure was performed.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

(0352)

BP/ARC Project Name: BP 11102
BP/ARC Facility No: 11102
Req Due Date (mm/dd/yy): 14 Day TAT
Rush TAT: Yes ____ No X
Lab Work Order Number:

Lab Name: CalScience	BP/ARC Facility Address: 100 MacArthur Blvd	Consultant/Contractor: Stratus Environmental Inc.
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No:
Lab PM: Richard Villafania	Lead Regulatory Agency: Alameda	Address: 3330 Cameron Park Drive, #550, Cameron Park, CA 95682
Lab Phone: 714-895-5494 Fax: 714-895-7501	California Global ID No.: T0600100908	Consultant/Contractor PM: Jay Johnson
Lab Shipping Accnt:	Enfos Proposal No: 000G6-0003	Phone: 530-676-6000 Fax: 530-676-6005
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ____ OOC-RM ____	Email EDD To: chuff@stratusinc.net
Other Info:	Stage: BP/ARC WBS Stage Activity: BP/ARC WBS Activity	Invoice To: BP/ARC X Contractor ____
BP/ARC EBM: Paul Supple		
EBM Phone: (925) 275-3801		
EBM Email: paul.supple@bp.com		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	Requested Analyses: GRO by 8015M	BTEX/5 FO* by 8260B	Ethanol by 8260B	EDB by 8260B	1,2-DCA by 8260B	H2S	NO3	SO4
1	MW-1	9/3/09	1215		X		8				X		X	X	X	X	X	X	X	X
2	MW-2	"	1145		X		8				X		X	X	X	X	X	X	X	X
3	MW-3	"	1250		X		8				X		X	X	X	X	X	X	X	X
4	TB-11102-09032009	"	600		X		2				X									

Report Type & QC Level
Standard X
Full Data Package ____

Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Comments
*Oxy = MTBE, TAME, ETBE, DIPE, TBA

ON HOLD

Sampler's Name: Jorge Gonzalez / Doulos Env.
Sampler's Company: Stratus Environmental Inc.
Shipment Method: GSO Ship Date:
Shipment Tracking No:
Special Instructions: TB Sample 105723959 meda@secor.com Please run even if after HOLD TIME

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
			Wdeath CEL	9/4/09	0830

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 09-09-0352

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: STRATUS ENV'L.

DATE: 9/4/09

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

Temperature 2.6 °C - 0.2 °C (CF) = 2.4 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

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

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

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

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: WB

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: PS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑ PS 9/4/09	☑	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ COC not relinquished. ☑ No date relinquished. ☑ No time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☐

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☑VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☑500PB ☐500PBna ☑250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® ☐_____ **Other:** ☐_____ **Checked/Labeled by:** PS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelop **Reviewed by:** WB

Preservative: h: HCL n: HNO3 na_2:$Na_2S_2O_3$ Na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:**

ATTACHMENT

FIELD PROCEDURES FOR GROUNDWATER SAMPLING

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

Groundwater and Liquid-Phase Petroleum Hydrocarbon Depth Assessment

Prior to measuring the depth to liquid in the well, the well caps are removed and the liquid level allowed to stabilize. A water/hydrocarbon interface probe is used to assess the liquid-phase petroleum hydrocarbon (LPH) thickness, if present, and a water level indicator is used to measure the groundwater depth in monitoring wells that do not contain LPH. Depth to groundwater or LPH is measured from a datum point at the top of each monitoring well casing. The datum point is typically a notch cut in the north side of the casing edge. If a water level indicator is used, the tip is subjectively analyzed for hydrocarbon sheen.

Subjective Analysis of Groundwater

Prior to purging, a water sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

Monitoring Well Sampling

In many cases, determining whether to purge or not to purge wells prior to sample collection is made in the field and is often based on depth to water relative to the screen interval of the well. Site-specific field data sheets present details associated with the purge method and equipment used.

Monitoring wells, when purged, use a pump or bailer until pH, temperature, and conductivity of the purge water has stabilized and a minimum of three well volumes of water has been removed. Field measuring equipment is calibrated and maintained according to the manufacturer's instructions. If three well volumes cannot be removed in one half hour's time the well is allowed to recharge to 80% of original level. After recharging, a groundwater sample is then collected from each of the wells using disposable bailers.

A Teflon bailer, electric submersible or bladder pump will be the only equipment used for well sampling. When samples for volatile organic analysis are being collected, the pump flow will be regulated at approximately 100 milliliters per minute to minimize pump effluent turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa will be used in sampling for volatile organics. These

bottles will be filled completely to prevent air accumulation in the bottle. A positive meniscus forms when the bottle is completely full. A convex Teflon septum will be placed over the positive meniscus to eliminate air. After the bottle is capped, it is inverted and tapped to verify that it contains no air bubbles. The sample containers for other parameters will be filled, filtered as required, and capped. Glass and plastic bottles used by Stratus to collect groundwater samples are supplied by the laboratory.

Groundwater Sample Labeling and Preservation

Samples are collected in appropriate containers supplied by the laboratory. All required chemical preservation is added to the bottles prior to delivery to Stratus. Sample label information includes a unique sample identification number, job identification number, date, and time. After labeling, all groundwater samples are placed in a Ziploc® type bag and placed in an ice chest cooled to approximately 4° Celsius. Upon arriving at Stratus' office the samples are transferred to a locked refrigerator cooled to approximately 4° Celsius. Chemical preservation is controlled by the required analysis and is noted on the chain-of-custody form. Trip and temperature blanks supplied by the laboratory accompany the groundwater sample containers and groundwater samples.

Sample Identification and Chain-of-Custody Procedures

Sample identification and chain-of-custody procedures document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis has a label affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, is recorded in the field records. The samples are analyzed by a California-certified laboratory.

A chain-of-custody form is used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them relinquishes the samples by signing the chain-of-custody form and noting the time. The sample-control officer at the laboratory verifies sample integrity and confirms that the samples are collected in the proper containers, preserved correctly, and contain adequate volumes for analysis. These conditions are noted on a Laboratory Sample Receipt Checklist that becomes part of the laboratory report upon request.

If these conditions are met, each sample is assigned a unique log number for identification throughout analysis and reporting. The log number is recorded on the chain-of-custody form and in the legally-required log book maintained by the laboratory. The sample description, date received, client's name, and other relevant information is also recorded.

Equipment Cleaning

All reusable sampling equipments are cleaned using phosphate-free detergents and rinsed with de-ionized water.

APPENDIX B

GEOTRACKER UPLOAD CONFIRMATION RECEIPTS

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_WELL FILE

SUCCESS

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

Submittal Type:	**GEO_WELL**
Submittal Title:	**3Q09 GEO_WELL 11102**
Facility Global ID:	**T0600100908**
Facility Name:	**BP #11102**
File Name:	**GEO_WELL.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**9/29/2009 12:04:43 PM**
Confirmation Number:	**2125107288**

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

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

Submittal Type:	**EDF - Monitoring Report - Quarterly**
Submittal Title:	**3Q09 GW Monitoring**
Facility Global ID:	**T0600100908**
Facility Name:	**BP #11102**
File Name:	**09090352.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**9/29/2009 12:06:30 PM**
Confirmation Number:	**3640786588**

VIEW QC REPORT

VIEW DETECTIONS REPORT