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4:26 pm, Nov 01, 2010

Alameda County Environmental Health

ARCADIS U.S., Inc.
100 Montgomery Street, Suite 300
San Francisco, California 94104
Tel 415.374.2744
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www.arcadis-us.com

Re: Third Quarter 2010 Ground-Water Monitoring Report Former BP Service Station #11102 100 MacArthur Boulevard Oakland, California ACEH Case #RO0000456

ENVIRONMENTAL

"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."

Date:

10/29/2010

Contact:

Hollis E. Phillips

Phone:

415.374.2744 ext 13

Email:

Hollis.phillips@arcadisus.com

Our ref:

GP09BPNA.C111

Submitted by:

ARCADIS U.S., Inc.

Hollis E. Phillips, PG Project Manager



Third Quarter 2010 Semi-Annual 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



1324 Mangrove Avenue, Suite 212 Chico, California 95926 (530) 566-1400 www.broadbentinc.com

October 29, 2010

Project No. 09-88-643



October 29, 2010

Project No. 09-88-643

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

Attn.: Ms. Hollis Phillips, PG

Re: Third Quarter 2010 Semi-Annual 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 2010 Semi-Annual 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 2010.

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.

Jason Duda
Project Scient

Project Scientist

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

NEVADA

ARIZONA

CALIFORNIA

TEXAS

STATION #11102 SEMI-ANNUAL GROUND-WATER MONITORING REPORT

Facility: #11102 Address: 100 MacArthur Boulevard, Oakland, California

ARCADIS Project Manager: Ms. Hollis Phillips, PG

Consulting Co./Contact Persons: Broadbent & Associates, Inc.(BAI)/Jason Duda & Tom Venus

(530) 566-1400

Consultant Project No.: 09-88-643

Primary Agency/Regulatory ID No.: Alameda County Environmental Health (ACEH)

ACEH Case #RO0000456

WORK PERFORMED THIS QUARTER (Third Quarter 2010):

1. Conducted ground-water monitoring/sampling for Third Quarter 2010. Work performed by BAI on August 16, 2010.

WORK PROPOSED FOR NEXT QUARTER (Fourth Quarter 2010):

- 1. Prepared and submitted *Third Quarter 2010 Semi-Annual Ground-Water Monitoring Report* (contained herein).
- 2. Conduct subsurface investigation as approved by ACEH in their letter dated May 27, 2010. Work to be conducted by ARCADIS-US, Inc.

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 Semi-Annually (1Q & 3Q): Wells MW-1, MW-2, MW-3 Frequency of ground-water sampling: Is free product (FP) present on-site: No Current remediation techniques: NA Depth to ground water (below TOC): 10.12 (MW-1) to 12.82 (MW-2) General ground-water flow direction: West-southwest Approximate hydraulic gradient: 0.05 ft/ft

DISCUSSION:

Third Quarter 2010 ground-water monitoring and sampling was conducted at Station #11102 on August 16, 2010 by BAI. Water levels were gauged in each of the three wells at the Site. No irregularities were noted during water level gauging. Depths to water measurements ranged from 10.12 ft at well MW-1 to 12.82 ft at well MW-2. Resulting ground-water surface elevations ranged from 80.08 ft above datum in well MW-1 to 75.09 ft in well MW-2. Water level elevations yielded a potentiometric ground-water flow direction and gradient of 0.05 ft/ft to the west-southwest. 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 at the Site. No irregularities were encountered during sampling. Samples were submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. (Pleasanton, California), for analysis of Gasoline Range Organics (GRO, C6-C12); Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX); 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),

Page 2

1,2-Dichloroethane (1,2-DCA), and Ethanol by EPA Method 8260B. No 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 two of the three wells sampled at concentrations of 1,000 micrograms per liter (μ g/L) in well MW-2 and 1,900 μ g/L in well MW-3. TAME was detected above the laboratory reporting limits in two of the three wells sampled at concentrations of 14 μ g/L in well MW-2 and 32 μ g/L in well MW-3. TBA was detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 4,800 μ g/L in well MW-2. ETBE and 1,2-DCA were detected above the laboratory reporting limits in well MW-3 at concentrations of 0.77 μ g/L and 2.3 μ g/L, respectively. Ethanol was detected above the laboratory reporting limit in well MW-1 at a concentration of 120 μ g/L. MTBE was detected above the laboratory reporting limit in each of the wells sampled at concentrations up to 2,400 μ 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. 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. The potentiometric ground-water flow direction and gradient of 0.05 ft/ft to the west-southwest 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. Overall, hydrocarbon concentrations increased in well MW-3 and remained relatively stable in wells MW-1 and MW-2 when compared to concentrations observed during the First Quarter 2010 sampling event. A subsurface investigation is scheduled to be conducted by ARCADIS-US, Inc. at the Site during the Fourth Quarter of 2010. The next semi-annual ground-water monitoring and sampling event is scheduled to be conducted during the First Quarter of 2011.

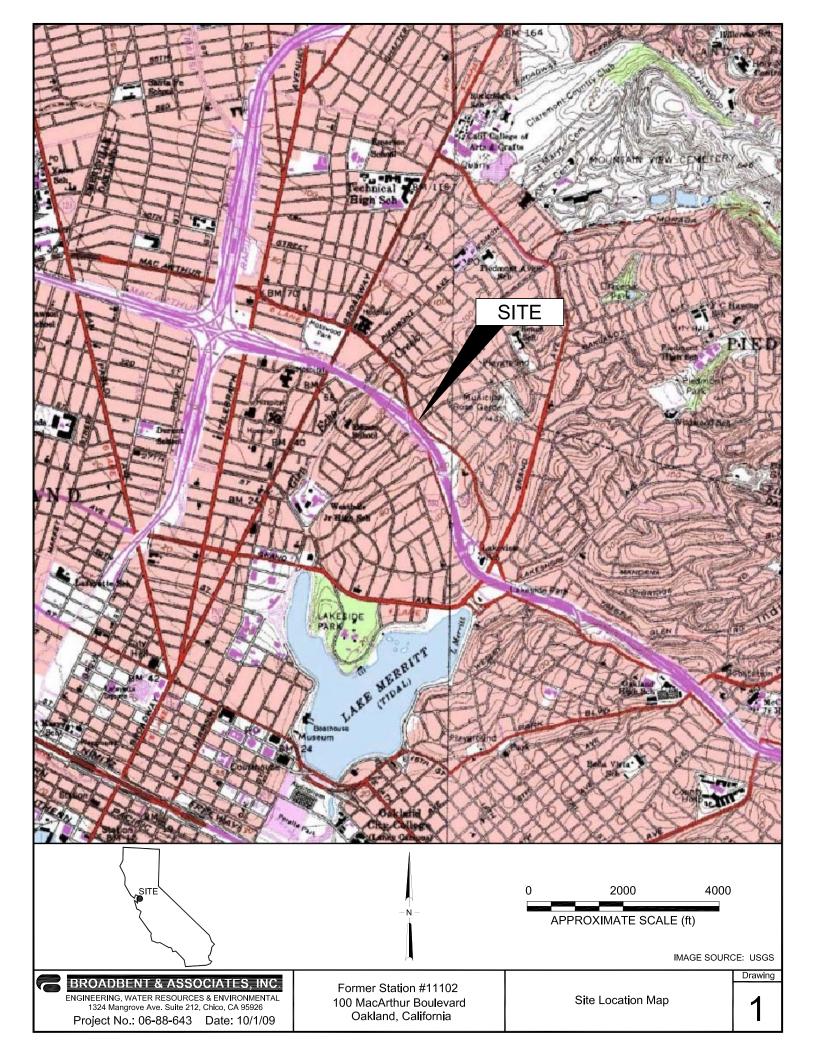
CLOSURE:

The findings presented in this report are based upon: observations of BAI field personnel (see Appendix A), the points investigated, and results of laboratory tests performed by TestAmerica Laboratories, Inc. (Pleasanton, 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, 16 August 2010, 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. BAI Ground-Water Sampling Data (Includes Field Data Sheets, Non-Hazardous Waste Data Form, Laboratory Analytical Report with Chain-of-Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmation Receipts



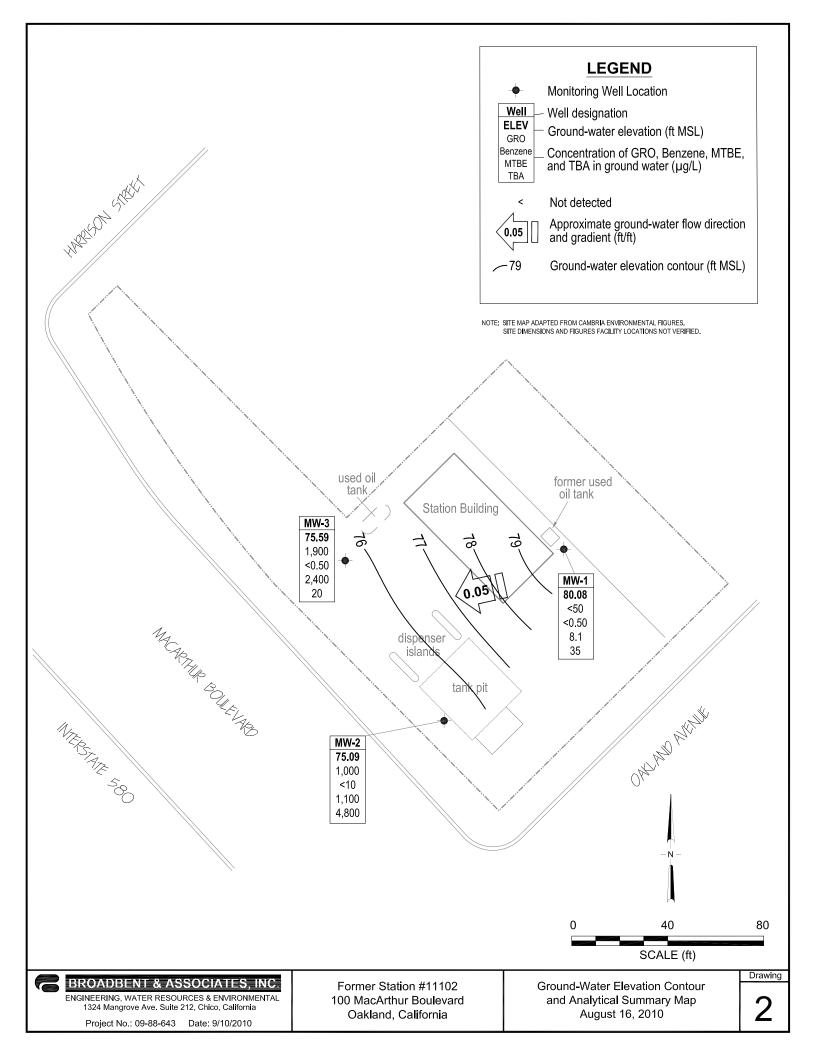


Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

			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)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(μg/L)	(μg/L)	(μg/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		c	90.20				< 500	120	<5	5	<10			ATI				
1/10/1995			90.20	10.97		79.23	< 500	120	<5	<5	<10		3.9	ATI		420		
6/21/1995		c, e	90.20				3,600	<13	< 5.0	< 5.0	<10			ATI				
6/21/1995			90.20	9.38		80.82	4,700	16	<5.0	<5.0	<10		6.7	ATI		1,300	2,900	0.6
12/27/1995			90.20	11.55		78.65	430	<2.5	<2.5	<2.5	< 5.0	1,200	6.3	ATI		2,100	640	
6/13/1996			90.20	9.28		80.92	3,200	51	<12	<12	<12	4,000	6.3	SPL		920	2,000	
12/4/1996		f	90.20	11.91		78.29	1,400	6.2	<5	<5	<5	2,600	6.7	SPL		280	2,000	6
6/10/1997			90.20	8.97		81.23	7,900	12	<10	<10	<10	15,000	6	SPL		1,700	<5	
6/10/1997		с	90.20				7,700	14	<25	<25	<25	13,000		SPL				
12/12/1997			90.20	11.37		78.83	440	8.8	<1.0	2.6	9.4	6,700	5.5	SPL		760	1,200	
6/18/1998			90.20	8.02		82.18	7,500	<2.5	< 5.0	< 5.0	< 5.0	5,600	4.9	SPL		2,900	<5	
3/9/1999			90.20	9.80		80.40	32,000	100	16	72	110	49,000		SPL				

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

			тос		Product	Water Level		C	oncentratio	ons in (µg/l	<u> </u>					DRO/		
Well and Sample Date	P/NP	Footnote	Elevation (feet)	DTW (feet bgs)	Thickness (feet)	Elevation (feet)	GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xvlenes	MtBE	DO (mg/L)	Lab	рН	TPHd (μg/L)	TOG (µg/L)	HVOC (μg/L)
	1/111	roomote	(Ieet)	(leet bgs)	(Icci)	(ICCI)	IIIIg	Delizene	Toluelle	Delizene	Aylenes	MILDE	(IIIg/L)	Lau	hii	(μg/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			
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
Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

			тос		Product	Water Level	a= 0.1	С	oncentrati	ons in (µg/	· .					DRO/		
Well and	P/NP		Elevation	DTW	Thickness	Elevation	GRO/	D	Т-1	Ethyl-	Total	MtBE	DO (TO TO TO	T - b	11	TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MIBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
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			
10/29/2009	P		90.20	12.54		77.66	< 50	< 0.50	< 0.50	< 0.50	<1.0	22	1.53	TAMC	6.73			
2/26/2010	P		90.20	10.61		79.59	< 50	< 0.50	< 0.50	< 0.50	<1.0	8.1	0.75	TAMC	6.55			
8/16/2010	P		90.20	10.12		80.08	< 50	<0.50	<0.50	<0.50	<1.0	8.1	1.27	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												
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		С	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			87.91	10.86		77.05	8,300	<2.5	<2.5	<2.5	<2.5	13,000	6.5	SPL				

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

***			TOC	DEVI	Product	Water Level	GPO/	С	oncentrati	ons in (µg/l	· .		D.C.			DRO/	TO G	HWOG
Well and Sample Date	P/NP	Footnote	Elevation (feet)	DTW (feet bgs)	Thickness (feet)	Elevation (feet)	GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xvlenes	MtBE	DO (mg/L)	Lab	pН	TPHd (µg/L)	TOG (µg/L)	HVOC (μg/L)
	1/1/1	Toomote	(Teet)	(rect bgs)	(Icct)	(ICCC)	11116	Denzene	Torucire	Denzene	21 Jenes	WEDE	(mg/L)	Lub	PII	(#g/L)	(µg/2)	(µg/2)
MW-2 Cont.																		
6/13/1996		c	87.91				8,700	<5	<5	<5	<5	13,000		SPL				
12/4/1996			87.91	13.03		74.88	5,900	<2.5	<5	<5	<5	11,000	6.3	SPL				
12/4/1996		c	87.91				5,900	<2.5	<5	<5	<5	11,000		SPL				
6/10/1997			87.91	10.04		77.87	<50	< 0.5	<1.0	<1.0	<1.0	<10	5.8	SPL				
12/12/1997			87.91	12.44		75.47	<50	< 0.5	<1.0	<1.0	<1.0	<10	5.7	SPL				
6/18/1998		c	87.91				< 50	< 0.5	<1.0	<1.0	<1.0	<10		SPL				
6/18/1998			87.91	8.89		79.02	50	< 0.5	<1.0	<1.0	<1.0	<10	5.3	SPL				
3/9/1999			87.91	10.20		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	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			

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Former BP 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)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-2 Cont.																		
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			
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			
10/29/2009	P	k	87.91	13.88		74.03	530	< 0.50	< 0.50	< 0.50	<1.0	690	1.60	TAMC	6.7			
2/26/2010	P	k	87.91	11.65		76.26	1,100	<10	<10	<10	<20	1,100	0.52	TAMC	6.64			
8/16/2010	NP		87.91	12.82		75.09	1,000	<10	<10	<10	<20	1,100	0.70	TAMC	6.60			
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				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Former BP 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)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	$(\mu g/L)$	(µg/L)	$(\mu g/L)$
MW-3 Cont.																		
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			87.02	12.61		74.41	< 50	< 0.5	<1.0	<1.0	<1.0	<10	5.6	SPL				
12/12/1997		с	87.02				< 50	< 0.5	<1.0	<1.0	<1.0	<10		SPL				
6/18/1998			87.02	9.07		77.95	50	< 0.5	<1.0	<1.0	<1.0	<10	5.3	SPL				
6/18/1998			87.02	12.80		74.22												
9/28/1999			87.02	13.76		73.26												
3/27/2000			87.02	13.77		73.25	< 50	< 0.5	< 0.5	< 0.5	< 0.5	1.6		PACE				
9/28/2000			87.02	11.28		75.74	< 50	< 0.5	7.4	< 0.5	1.3	2		PACE				
3/8/2001			87.02	11.75		75.27	< 50	< 0.5	< 0.5	< 0.5	< 0.5	60.4		PACE				
9/21/2001			87.02	11.33		75.69	< 50	< 0.5	< 0.5	< 0.5	<1.5	8.18		PACE				
2/28/2002			87.02	10.86		76.16	< 50	< 0.5	< 0.5	< 0.5	<1.0	25.5		PACE				
9/6/2002			87.02	12.73		74.29	< 50	1.2	< 0.5	< 0.5	1	16		SEQ				
2/19/2003		h	87.02	11.72		75.30	< 500	<5.0	< 5.0	< 5.0	< 5.0	110		SEQ				
7/14/2003			87.02	13.76		73.26	< 50	< 0.50	< 0.50	< 0.50	0.67	28		SEQ				
01/14/2004	P		87.02	14.83		72.19	550	<5.0	< 5.0	< 5.0	< 5.0	380		SEQM	8.1			
04/23/2004	P	1	87.02	13.17		73.85	<200	<25	<25	<25	<25	560		SEQM	6.8			
07/01/2004	P		87.02	15.19		71.83	< 50	< 0.50	< 0.50	< 0.50	0.50	48		SEQM	6.4			
10/28/2004	P		87.02	15.50		71.52	< 500	<5.0	<5.0	<5.0	<5.0	290		SEQM	6.3			
01/10/2005	P		87.02	15.00		72.02	< 50	< 0.50	< 0.50	< 0.50	< 0.50	18		SEQM	7.6			
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			

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

			TOC		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)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-3 Cont.																		
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			
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			
10/29/2009	P	k	87.02	13.04		73.98	1,000	<10	<10	<10	<20	1,500	0.97	TAMC	7.09			
2/26/2010	P	k	87.02	12.44		74.58	1,500	<10	<10	<10	<20	1,500	0.74	TAMC	6.69			
8/16/2010	P		87.02	11.43		75.59	1,900	<0.50	<0.50	<0.50	<1.0	2,400	0.52	TAMC	6.59			
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

 $\mu g/L = Micrograms per liter$

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)

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).
- 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).
- 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 September 30, 2009. GRO analysis was changed to EPA method 8260B (C6-C12) for the time period October 1, 2009 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 Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and				Concentrati	ons in (µg/L)				
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			
01/14/2004	<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	
10/29/2009	<100	210	22	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
2/26/2010	<100	240	8.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
8/16/2010	120	35	8.1	<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	

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

Well and				Concentrati	ons in (µg/L)				
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-2 Cont.									
04/23/2004	<50,000	11,000	22,000	<250	<250	420	<250	<250	
07/01/2004	<10,000	2,900	5,200	<50	<50	110	<50	<50	
10/28/2004	<5.0	6,700	6,800	<50	<50	120	<50	< 50	
01/10/2005	<50,000	<10,000	7,100	<250	<250	<250	<250	<250	
04/13/2005	<10,000	5,300	5,300	< 50	<50	95	<50	< 50	
07/11/2005	<10,000	9,000	5,300	< 50	<50	99	<50	< 50	
10/17/2005	<10,000	5,200	2,500	<50	<50	<50	<50	<50	a
01/17/2006	<30,000	8,400	2,200	<50	<50	< 50	<50	< 50	
04/21/2006									Well inaccessible
7/26/2006	<30,000	4,500	2,900	< 50	<50	< 50	<50	< 50	
10/31/2006	<15,000	9,300	2,300	<25	<25	41	<25	<25	a
1/8/2007	<7,500	7700	1700	<12	<12	38	<12	<12	
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	
10/29/2009	<100	3,900	690	< 0.50	< 0.50	12	2.4	< 0.50	
2/26/2010	<2,000	4,100	1,100	<10	<10	13	<10	<10	
8/16/2010	<2,000	4,800	1,100	<10	<10	14	<10	<10	
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	

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

Well and				Concentration	ons in (µg/L)				
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-3 Cont.									
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	1,300	<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	
10/29/2009	<2,000	110	1,500	<10	<10	17	<10	<10	
2/26/2010	<2,000	<80	1,500	<10	<10	16	<10	<10	
8/16/2010	<100	20	<0.50	<0.50	0.77	32	2.3	<0.50	

ABBREVIATIONS & SYMBOLS:

- -- = 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 Former BP 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
10/29/2009	West	0.04
2/26/2010	West	0.05
8/16/2010	West-Southwest	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 Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and	Conce	entrations in ((μg/L)					Hydrogen			
Sample Date	Total	Nitrate	Sulfate	Ferrous	ORP	DO	Conductivity	Sulfide	Methane		
	Alkalinity	NO3	SO4	Iron (mg/L)	(mV)	(mg/L)	(µS/cm)	(mg/L)	$(\mu g/L)$	pН	Comments
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	
10/29/2009		<1,000	19,000	< 0.10	20	1.53	142.8	2.9		6.73	a
2/26/2010					45	0.75	761.2			6.55	
8/16/2010					116	1.27	598.2		-	6.57	
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	
10/29/2009		<1,000	14,000	0.64		1.60	514.4	3.1		6.7	a
2/26/2010					9	0.52	577.9			6.64	
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	

Table 4. Bio-Degradation Parameters

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

Well and	Conce	entrations in (μg/L)					Hydrogen			
Sample Date	Total	Nitrate	Sulfate	Ferrous	ORP	DO	Conductivity	Sulfide	Methane		
	Alkalinity	NO3	SO4	Iron (mg/L)	(mV)	(mg/L)	(µS/cm)	(mg/L)	(µg/L)	pН	Comments
MW-3 Cont.											
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	
10/29/2009		12,000	17,000	< 0.10	-21	0.97	630	2.4		7.09	a
2/26/2010					17	0.74	665.6			6.69	

ABBREVIATIONS AND SYMBOLS:

< = Not detected at or above specified laboratory reporting limit

ORP = Oxygen reduction potential

DO = Dissolved oxygen

CO2 = Carbon dioxide

mV = Millivolts

 $\mu g/L = Micrograms per liter$

mg/L = Milligrams per liter

a = Sample analyzed for total sulfide instead of hydrogen sulfide due to holding time requirements

CL = Initial analysis within holding time but required dilution

APPENDIX A

BAI GROUND-WATER SAMPLING DATA
(INCLUDES FIELD DATA SHEETS, NON-HAZARDOUS WASTE DATA FORM,
LABORATORY ANALYTICAL REPORT WITH CHAIN-OF-CUSTODY
DOCUMENTATION, AND FIELD PROCEDURES)





PROJECT NO .: BP///e) DATE: 8/16/19 PERSONNEL: 6 f COMMENTS: Equip: Geosquirt Tubing Bailers DO wli Ec/pH WEATHER: Alk. WELL HEAD CONDITION: MEASURING PRODUCT Cond. Temp. Redox Iron DO (mg/l) DTW (FT) рΗ VAULT, BOLTS, CAP, LOCK, ETC Well ID Time THICKNESS (C/F) (X100) (mV) (mg/l) (mg/l) POINT MP 10:06 MW-2 10,23



Groundwater Sampling Data Sheet

Well I.D.:			Mr.							
Project Name/Location: Bfill 5				F(((♥) Project #:						
Sampler's Name:					Date: 8//6// 0					
Purging E		t:	Bul	/						
Sampling	Equipme	ent:	BUL	Z-						
Casing Ty	pe: PVC			ri						
Casing Dia	ameter:			<u>ا</u> ا	inch		*UNIT	CASING VOLUMES		
Total Well	Depth:			37.0	€ feet		2"	= 0.16 gal/lin ft.		
Depth to	Water:			- 101)feet		3"	= 0.37 gal/lin ft.		
Water Col	lumn Thi	ckness		=	feet		4"	= 0.65 gal/lin ft.		
Unit Casir	ng Volum	ie*:		x	gallon / f	oot	6"	= 1.47 gal/lin ft.		
Casing Wa	ater Volu	ıme:		=	gallons	4				
Casing Vo	lume:			x	3 each					
Estimated	i Purge \	/olume	<u> </u>	=	gallons					
Free prod	uct mea	sureme	ent (if pr	esent):						
Purged	Time	DO	ORP	Fe	Conductance	Temperature	pН	Observations		
(gallons)	(24:00)		(mV)		(μS)	(Fahrenheit)				
O	0933	1.7	116		509.2	66.5	7.13			
5	0435	Х	X	Х	447.2	CC.9	6.50	·		
8	0941	Х	Х	Х	509.2	66.7	6.72			
C	0141	Х	×	Х	604,3	66.5	6,60	977		
Q	0948	Х	х	Х	598.7	66.7	6.57	•		
		Х	Х	Х				÷		
		Х	X	х						
		Х	х	Х						
Total Wa	ter Volur	ne Purg	ged:		17	gallons	;			
Depth to		_	=	ction:	, angles	fee	-	_		
Sample					0950		– Pur	ged Dry? (Y/N)		
								Comme		
Commen	ts:	,								



Groundwater Sampling Data Sheet

Well I.D.:			Mw-						
Project Na	me/Loca	ation:	BP	1110)		·	Project #		
Sampler's		_	Ch	CF Date: 8/16/10					
Purging Equipment:			· ************************************						
Sampling		_	An	Lucia					
Casing Typ	e: PVC		•	ı. İs					
Casing Dia	meter:				inch		*UNIT	CASING VOLUMES	
Total Well	Depth:			<u>32</u>	.39 feet		2"	= 0.16 gal/lin ft.	
Depth to \	Vater:			- 12.8	}feet		3"	= 0.37 gal/lin ft.	
Water Col	umn Thi	ckness:		=	feet		4"	= 0.65 gal/lin ft.	
Unit Casin	g Volum	ıe*:		×	gallon / fo	oot	6"	= 1.47 gal/lin ft.	
Casing Wa	iter Volu	ıme:		==	gallons				
Casing Vo	lume:			x	3 each				
Estimated	Purge V	/olume:		=	gallons				
Free prod	uct mea	suremer	nt (if pr	esent):					
Purged	Time	DO	ORP	Fe	Conductance	Temperature	pН	Observations	
(gallons)	(24:00)	, mark	(mV)		(μS)	(Fahrenheit)	. A . A		
	10/0	0.70			4723	67.8	0.60		
		х	Х	X					
		×	Х	Х					
		×	Х	х			:		
		х	Х	Х					
		х	Х	Х					
		Х	Х	х					
		х	Х	Х					
Total Wat	er Volur	ne Purg	ed:		0	gallons	· · · · · · · · · · · · · · · · · · ·		
Depth to				ction:	Copings.	feet	- :		
Sample					1010		_ Pu:	rged Dry?(Y /(N)	
Commen	ts:	NI	a	2 12					
		ę g							
			· · · · · · · · · · · · · · · · · · ·				 		
				·					



Groundwater Sampling Data Sheet

Vell I.D.:			100	7/05			Duniost #1		
Project Name/Location: B/IIIU				Project #: Date: \$(16110					
Sampler's Name:							Date: <u>%[1</u>	5/1	
Purging Eq	•		1/00	- Er					
Sampling I		nt: -	<u> りゃ</u>	, ** •					
Casing Typ					to als		*115177 (CASING VOLUMES	
Casing Dia					inch			0.16 gal/lin ft.	
Total Well				_ \\((feet			0.37 gal/lin ft.	
Depth to V		.1		- 1110				0.65 gal/lin ft.	
Water Col				=	feet	oot		1.47 gal/lin ft.	
Jnit Casin			.,	×		σοι	0	1.47 gai/iii ic.	
Casing Wa		me:			gallons 3 each				
Casing Vo				×	gallons				
Estimated Free prod				= esent):					
Purged	Time	DO	ORP	Fe	Conductance	Temperature	рН	Observations	
(gallons)	(24:00)	- -	(mV)		(μS)	(Fahrenheit)			
0	1020	0.0	108		646.4	680	€ 55		
3	103	Х	Х	Χ	BF 5		6.59		
5	103	Х	х	х	643,9	70.7	6,57		
		Х	Х	×				·	
		Х	×	Х					
-		Х	х	Х					
		Х	х	×					
		х	х	Х				r	
Total Wat	er Volur	ne Pura	ed:	1	كوروناب	gallons	· · · · · · · · · · · · · · · · · · ·		
Depth to				tion:	diagraphic and a second	feet	_		
Sample		· ·			1035			ed Dry? (Y 🔎)	
							_		
Commen	ts:					· · · · · · · · · · · · · · · · · · ·			
				.,					



NO.683392

NON-HAZARDOUS WASTE DATA FORM

ALEXANDER OF THE PARTY OF THE P	Generator's Name and Mailing Address	Generator's Site Address (if different than mailing address)
	BP WEST COAST PRODUCTS, LLC	11102
	P.O. BOX 80249	100 MACARTHUR BLVD
	RANCHO SANTA MARGARITA. CA. 92688	OAKLAND, CA
	The bird back Country Country Spirit Country on Spiritual Country Coun	
		and a second source of contracts and motivals of contract at contract and a second contract at a second contract a
	Generator's Phone: <u>Q4Q-480-5200</u> Container type removed from site:	24_HOUR EMERGENCY PHONE: 800-424-9300 Container type transported to receiving facility:
	☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump	uck 🔲 Drums 🔲 Vacuum Truck 🔲 Roil-off Truck 🔲 Dump Truck
	Other	Other
l K		
۱Ĕ	Quantity	Quantity Volume
2		
GENERATOR	WASTE DESCRIPTION NON-HAZARDOUS WATER	GENERATING PROCESS WELL PURGING / DECON WATER
띭	COMPONENTS OF WASTE PPM	% COMPONENTS OF WASTE PPM %
	nacament	0007
	1. WATER 99	<u>uu</u> % s
	2	<u><1%</u> 4
	Waste Profile PROPERTIES: pH_7_	SOLID X LIQUID SLUDGE SLURRY OTHER
	710.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.10.01.	
	HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PE	SONAL PROTECTIVE EQUIPMENT.
	-MILY FANGE	ature Month Day Year
	On Behalf of BP West Coast Products, LLC	13/1/0
	The Generator certifies that the waste as described is 100% non-hazardous	
	Transpecter 1 Company Name	Phone# 707-455-7290
<u></u>	レベン	
RTER		ature Month Day Year
OH.	Eric twir	18 16 10
	Transporter Acknowledgment of Receipt of Materials	Charles A
TRANSP	Transporter 2 Company Name	Phone#
∣ゑ	Transporter 2 Printed/Typed Name Si	ature Month Day Year
 	The sport of 2 1 miles, types that is	
ļ	Transporter Acknowledgment of Receipt of Materials Designated Facility Name and Site Address	Phone#
	INSTRAT, INC.	530-753-1829
	1105 AIRPORT RD.	
	RIO VISTA, CA 94571	
18		
LI.		
NG F.		
IVING F		
ZEIVING F		
ECEIVING F.	Printed/Typed Name S	ature Month Day Year
RECEIVING FACILITY	Printed/Typed Name S Designated Facility Owner or Operator: Certification of receipt of materials covered by	



ANALYTICAL REPORT

Job Number: 720-30020-1

Job Description: BP #11102, Oakland

For:
ARCADIS U.S., Inc.
155 Montgomery Street
Suite 1500
San Francisco, CA 94104

Attention: Hollis Phillips

Approved for releas Dimple Sharma Project Manager I 8/25/2010 5:26 PM

Dimple Sharma
Project Manager I
dimple.sharma@testamericainc.com
08/25/2010

cc: Mr. Jason Duda Mr. Ben McKenna

CA ELAP Certification # 2496

The Chain(s) of Custody are included and are an integral part of this report.

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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

Job Narrative 720-30020-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

720-30020-1 MW-1 (8/16/10) MTBE	Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
MTBE 8.1 0.50 ug/L 8260B/CA_LUFTMS TBA 35 4.0 ug/L 8260B/CA_LUFTMS Ethanol 120 100 ug/L 8260B/CA_LUFTMS 720-30020-2 MW-2 (8/16/10) MTBE 1100 10 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1000 1000 ug/L 8260B/CA_LUFTMS TBA 4800 80 ug/L 8260B/CA_LUFTMS TAME 14 10 ug/L 8260B/CA_LUFTMS 720-30020-3 MW-3 (8/16/10) MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	700 00000 4	NNM 4 (0/40/40)				
TBA 35 4.0 ug/L 8260B/CA_LUFTMS 720-30020-2 MW-2 (8/16/10) MTBE 1100 10 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1000 1000 ug/L 8260B/CA_LUFTMS TBA 4800 80 ug/L 8260B/CA_LUFTMS TAME 14 10 ug/L 8260B/CA_LUFTMS 720-30020-3 MW-3 (8/16/10) MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS TBA 2.3 0.50 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	/20-30020-1	MW-1 (8/16/10)				
Ethanol 120 100 ug/L 8260B/CA_LUFTMS 720-30020-2 MW-2 (8/16/10) MTBE	MTBE		8.1	0.50	ug/L	8260B/CA_LUFTMS
720-30020-2 MW-2 (8/16/10) MTBE	TBA		35	4.0	ug/L	8260B/CA_LUFTMS
MTBE Gasoline Range Organics (GRO)-C6-C12 1000 1000 1000 1000 1000 1001 1000	Ethanol		120	100	ug/L	8260B/CA_LUFTMS
Gasoline Range Organics (GRO)-C6-C12 1000 1000 ug/L 8260B/CA_LUFTMS TBA 4800 80 ug/L 8260B/CA_LUFTMS TAME 14 10 ug/L 8260B/CA_LUFTMS 720-30020-3 MW-3 (8/16/10) MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	720-30020-2	MW-2 (8/16/10)				
Gasoline Range Organics (GRO)-C6-C12 1000 1000 ug/L 8260B/CA_LUFTMS TBA 4800 80 ug/L 8260B/CA_LUFTMS TAME 14 10 ug/L 8260B/CA_LUFTMS 720-30020-3 MW-3 (8/16/10) MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	MTBE		1100	10	ug/L	8260B/CA LUFTMS
TBA 4800 80 ug/L 8260B/CA_LUFTMS TAME 14 10 ug/L 8260B/CA_LUFTMS 720-30020-3 MW-3 (8/16/10) MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	Gasoline Range C	Organics (GRO)-C6-C12	1000	1000	-	<u> </u>
720-30020-3 MW-3 (8/16/10) MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS 6asoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS 74.0 ug/L 8260B/CA_LUFTMS 75.0 0.50 ug/L 8260B/CA_LUFTMS 75.0 0.50 ug/L 8260B/CA_LUFTMS 75.0 0.50 ug/L 8260B/CA_LUFTMS 75.0 0.50 ug/L 8260B/CA_LUFTMS	TBA	. ,	4800	80	ug/L	—
MTBE 2400 10 ug/L 8260B/CA_LUFTMS 1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	TAME		14	10	ug/L	8260B/CA_LUFTMS
1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	720-30020-3	MW-3 (8/16/10)				
1,2-DCA 2.3 0.50 ug/L 8260B/CA_LUFTMS Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	MTBE		2400	10	ua/L	8260B/CA LUFTMS
Gasoline Range Organics (GRO)-C6-C12 1900 1000 ug/L 8260B/CA_LUFTMS TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS					-	—
TBA 20 4.0 ug/L 8260B/CA_LUFTMS TAME 32 0.50 ug/L 8260B/CA_LUFTMS	•	Organics (GRO)-C6-C12				_
TAME 32 0.50 ug/L 8260B/CA_LUFTMS	_	J - (/				-
3					•	<u>–</u>
Etnyl t-butyl etner 0.77 0.50 ug/L 8260B/CA_LOFTMS	Ethyl t-butyl ether		0.77	0.50	ug/L	8260B/CA_LUFTMS

METHOD SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 720-30020-1

Description	Lab Location	Method Preparation Method	
Matrix Water			
8260B / CA LUFT MS	TAL SF	SW846 8260B/CA_LUFTMS	
Purge and Trap	TAL SF	SW846 5030B	

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
720-30020-1	MW-1 (8/16/10)	Water	08/16/2010 0950	08/19/2010 1233
720-30020-2	MW-2 (8/16/10)	Water	08/16/2010 1010	08/19/2010 1233
720-30020-3	MW-3 (8/16/10)	Water	08/16/2010 1035	08/19/2010 1233

Analytical Data

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Client Sample ID: MW-1 (8/16/10)

Lab Sample ID: 720-30020-1 Date Sampled: 08/16/2010 0950

Client Matrix: Water Date Received: 08/19/2010 1233

8260B/CA	LUFTMS	8260R	/ CA	LUFT	MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-76747 Instrument ID: HP4

 Preparation:
 5030B
 Lab File ID:
 082010038.D

 Dilution:
 1.0
 Initial Weight/Volume:
 10 mL

Date Analyzed: 08/21/2010 0424 Final Weight/Volume: 10 mL Date Prepared: 08/21/2010 0424

Analyte	Result (ug/L)	Qualifier	RL
MTBE	8.1		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	35		4.0
Ethanol	120		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	112		67 - 130
Toluene-d8 (Surr)	105		70 - 130

Analytical Data

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Client Sample ID: MW-2 (8/16/10)

Lab Sample ID: 720-30020-2 Date Sampled: 08/16/2010 1010

Client Matrix: Water Date Received: 08/19/2010 1233

8260B/CA_LUFTMS 8260B / CA LUFT MS	8260B/CA	LUFTMS	8260B	/ CA	LUFT	MS
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8260B/CA_LUFTMS Analysis Batch: 720-76747 HP4 Method: Instrument ID:

Preparation: 5030B Lab File ID: 082010039.D Dilution: Initial Weight/Volume: 10 mL 08/21/2010 0456 Final Weight/Volume: 10 mL

Date Analyzed:

2410711141,72041			
Date Prepared: 08/21/2010 0456			
Analyte	Result (ug/L)	Qualifier	RL
MTBE	1100		10
Benzene	ND		10
EDB	ND		10
1,2-DCA	ND		10
Ethylbenzene	ND		10
Toluene	ND		10
Xylenes, Total	ND		20
Gasoline Range Organics (GRO)-C6-C12	1000		1000
TBA	4800		80
Ethanol	ND		2000
DIPE	ND		10
TAME	14		10
Ethyl t-butyl ether	ND		10
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	109		67 - 130
Toluene-d8 (Surr)	100		70 - 130

Analytical Data

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Client Sample ID: MW-3 (8/16/10)

Lab Sample ID: 720-30020-3 Date Sampled: 08/16/2010 1035

Client Matrix: Water Date Received: 08/19/2010 1233

	8260B/CA	LUFTMS 8	8260B / 0	CA LUFT MS
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Analysis Batch: 720-76747 HP4 Method: 8260B/CA_LUFTMS Instrument ID:

Preparation: 5030B Lab File ID: 082010040.D Dilution: Initial Weight/Volume: 10 mL 08/21/2010 0528 Final Weight/Volume: 10 mL

Date Analyzed:

Bato / that year.		1 11101 11	oigna voiamo.
Date Prepared: 08/21/2010 0528			
Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	2.3		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
TBA	20		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	32		0.50
Ethyl t-butyl ether	0.77		0.50
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	109		67 - 130
Toluene-d8 (Surr)	101		70 - 130

Analytical Data

70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Client Sample ID: MW-3 (8/16/10)

Toluene-d8 (Surr)

Lab Sample ID: 720-30020-3 Date Sampled: 08/16/2010 1035

Client Matrix: Water Date Received: 08/19/2010 1233

8260B/CA_LUFTMS 8260B / CA LUFT MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-76821 Instrument ID: HP4

Preparation:5030BLab File ID:082310039.DDilution:20Initial Weight/Volume:10 mL

 Date Analyzed:
 08/24/2010
 0527
 Final Weight/Volume:
 10 mL

 Date Prepared:
 08/24/2010
 0527

Analyte Result (ug/L) Qualifier RL

 MTBE
 2400
 10

 Gasoline Range Organics (GRO)-C6-C12
 1900
 1000

Surrogate%RecQualifierAcceptance Limits4-Bromofluorobenzene9567 - 1301,2-Dichloroethane-d4 (Surr)10067 - 130

97

DATA REPORTING QUALIFIERS

Lab Section Qualifier Description

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

QC Association Summary

Report Basis Lab Sample ID **Client Sample ID Client Matrix** Method **Prep Batch** GC/MS VOA Analysis Batch:720-76747 LCS 720-76747/5 Lab Control Sample Τ Water 8260B/CA_LUFT Т 8260B/CA_LUFT LCS 720-76747/7 Lab Control Sample Water Т LCSD 720-76747/6 Lab Control Sample Duplicate 8260B/CA_LUFT Water LCSD 720-76747/8 Lab Control Sample Duplicate Т Water 8260B/CA_LUFT Method Blank 8260B/CA_LUFT MB 720-76747/4 Т Water Т 720-30020-1 MW-1 (8/16/10) Water 8260B/CA_LUFT Т 720-30020-2 MW-2 (8/16/10) Water 8260B/CA_LUFT 720-30020-3 MW-3 (8/16/10) Т Water 8260B/CA_LUFT Analysis Batch:720-76821 Т Lab Control Sample Water 8260B/CA_LUFT LCS 720-76821/6 Т LCS 720-76821/8 Lab Control Sample Water 8260B/CA_LUFT LCSD 720-76821/7 Lab Control Sample Duplicate Т Water 8260B/CA_LUFT Lab Control Sample Duplicate Т Water 8260B/CA_LUFT LCSD 720-76821/9 Method Blank Т Water 8260B/CA_LUFT MB 720-76821/5 Т 720-30020-3 MW-3 (8/16/10) Water 8260B/CA_LUFT

Report Basis

T = Total

Job Number: 720-30020-1 Client: ARCADIS U.S., Inc.

Method Blank - Batch: 720-76747

Method: 8260B/CA_LUFTMS

Preparation: 5030B

Lab Sample ID: MB 720-76747/4

Analysis Batch: 720-76747

Instrument ID: HP4

Client Matrix: Water Dilution: 1.0

Prep Batch: N/A Units: ug/L

082010025.D Lab File ID:

Initial Weight/Volume: 10 mL

Date Analyzed: 08/20/2010 2130 Date Prepared: 08/20/2010 2130

Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
m-Xylene & p-Xylene	ND		1.0
o-Xylene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	102	67 - 130	
1,2-Dichloroethane-d4 (Surr)	109	67 - 130	
Toluene-d8 (Surr)	104	70 - 130	

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Lab Control Sample/ Method: 8260B/CA_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-76747 Preparation: 5030B

LCS Lab Sample ID: LCS 720-76747/5 Analysis Batch: 720-76747 Instrument ID: HP4

Client Matrix: Water Prep Batch: N/A Lab File ID: 082010026.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

 Date Analyzed:
 08/20/2010
 2202
 Final Weight/Volume:
 10 mL

 Date Prepared:
 08/20/2010
 2202

LCSD Lab Sample ID: LCSD 720-76747/6 Analysis Batch: 720-76747 Instrument ID: HP4
Client Matrix: Water Prep Batch: N/A Lab File ID: 082010027.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 08/20/2010 2233 Final Weight/Volume: 10 mL

Date Prepared: 08/20/2010 2233

		% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
MTBE	89	90	62 - 130	1	20		
Benzene	96	96	82 - 127	0	20		
EDB	101	101	70 - 130	1	20		
1,2-DCA	96	96	70 - 126	0	20		
Ethylbenzene	95	95	86 - 135	0	20		
Toluene	95	95	83 - 129 0		20		
m-Xylene & p-Xylene	95	95	70 - 142	0	20		
o-Xylene	98	97	89 - 136	1	20		
TBA	100	101	82 - 116	1	20		
Ethanol	110	117	31 - 216	6	20		
DIPE	94	94	74 - 155	0	20		
TAME	94	94	79 - 129	1	20		
Ethyl t-butyl ether	91	90	70 - 130	1	20		
Surrogate	L	.CS % Rec	LCSD %	Rec	Accep	tance Limits	
4-Bromofluorobenzene	1	05	102		6	7 - 130	
1,2-Dichloroethane-d4 (Surr)	1	07	104		6	7 - 130	
Toluene-d8 (Surr)	1	08	106		7	0 - 130	

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Lab Control Sample/ Method: 8260B/CA_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-76747 Preparation: 5030B

LCS Lab Sample ID: LCS 720-76747/7 Analysis Batch: 720-76747 Instrument ID: HP4

Client Matrix: Water Prep Batch: N/A Lab File ID: 082010028.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 08/20/2010 2305 Final Weight/Volume: 10 mL Date Prepared: 08/20/2010 2305

LCSD Lab Sample ID: LCSD 720-76747/8 Analysis Batch: 720-76747 Instrument ID: HP4
Client Matrix: Water Prep Batch: N/A Lab File ID: 082010029.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL Date Analyzed: 08/20/2010 2337 Final Weight/Volume: 10 mL

Date Analyzed: 08/20/2010 2337 Final Weight/Volume: 10 mL Date Prepared: 08/20/2010 2337

% Rec. Analyte LCS LCSD Limit **RPD** RPD Limit LCS Qual LCSD Qual Gasoline Range Organics (GRO)-C6-C12 82 58 - 106 20 82 1 Surrogate LCS % Rec LCSD % Rec Acceptance Limits 4-Bromofluorobenzene 104 102 67 - 130 1,2-Dichloroethane-d4 (Surr) 108 103 67 - 130 Toluene-d8 (Surr) 105 105 70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Method Blank - Batch: 720-76821

Method: 8260B/CA_LUFTMS

Preparation: 5030B

70 - 130

Lab Sample ID: MB 720-76821/5

Analysis Batch: 720-76821

Instrument ID: HP4 Lab File ID: 082310027.D

Client Matrix: Water Dilution: 1.0

Prep Batch: N/A Units: ug/L

Initial Weight/Volume: 10 mL Final Weight/Volume: 10 mL

Date Analyzed: 08/23/2010 2303 Date Prepared:

Toluene-d8 (Surr)

08/23/2010 2303

Analyte	Result	Qual	RL
MTBE	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
m-Xylene & p-Xylene	ND		1.0
o-Xylene	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Surrogate	% Rec	Acceptance L	imits
4-Bromofluorobenzene	100	67 - 130	
1,2-Dichloroethane-d4 (Surr)	99	67 - 130	

99

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Lab Control Sample/ Method: 8260B/CA_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-76821 Preparation: 5030B

LCS Lab Sample ID: LCS 720-76821/6 Analysis Batch: 720-76821 Instrument ID: HP4

Client Matrix: Water Prep Batch: N/A Lab File ID: 082310023.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

 Date Analyzed:
 08/23/2010 2056
 Final Weight/Volume:
 10 mL

 Date Prepared:
 08/23/2010 2056

LCSD Lab Sample ID: LCSD 720-76821/7 Analysis Batch: 720-76821 Instrument ID: HP4
Client Matrix: Water Prep Batch: N/A Lab File ID: 082310024.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 08/23/2010 2128 Final Weight/Volume: 10 mL

Date Prepared: 08/23/2010 2128

		<u>% Rec.</u>					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
MTBE	109	103	62 - 130	5	20		
Benzene	104	102	82 - 127	2	20		
EDB	109	105	70 - 130	4	20		
1,2-DCA	97	94	70 - 126	4	20		
Ethylbenzene	105	104	86 - 135	1	20		
Toluene	104	103	83 - 129 1		20		
m-Xylene & p-Xylene	101	100	70 - 142	2	20		
o-Xylene	104	103	89 - 136	1	20		
TBA	100	100	82 - 116	0	20		
Ethanol	93	100	31 - 216	7	20		
DIPE	108	106	74 - 155	2	20		
TAME	119	114	79 - 129	4	20		
Ethyl t-butyl ether	109	106	70 - 130	3	20		
Surrogate	I	LCS % Rec	LCSD % I	Rec	Accep	tance Limits	
4-Bromofluorobenzene		102	99		6	7 - 130	
1,2-Dichloroethane-d4 (Surr)	ç	96	95		6	7 - 130	
Toluene-d8 (Surr)		103	101		7	0 - 130	

Client: ARCADIS U.S., Inc. Job Number: 720-30020-1

Lab Control Sample/ Method: 8260B/CA_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-76821 Preparation: 5030B

LCS Lab Sample ID: LCS 720-76821/8 Analysis Batch: 720-76821 Instrument ID: HP4

Client Matrix: Water Prep Batch: N/A Lab File ID: 082310025.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 08/23/2010 2159 Final Weight/Volume: 10 mL Date Prepared: 08/23/2010 2159

LCSD Lab Sample ID: LCSD 720-76821/9 Analysis Batch: 720-76821 Instrument ID: HP4
Client Matrix: Water Prep Batch: N/A Lab File ID: 082310026.D

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 08/23/2010 2231 Final Weight/Volume: 10 mL

Date Prepared: 08/23/2010 2231

% Rec. Analyte LCS LCSD Limit **RPD** RPD Limit LCS Qual LCSD Qual Gasoline Range Organics (GRO)-C6-C12 86 86 58 - 106 20 0 Surrogate LCS % Rec LCSD % Rec Acceptance Limits 4-Bromofluorobenzene 104 104 67 - 130 1,2-Dichloroethane-d4 (Surr) 98 101 67 - 130 Toluene-d8 (Surr) 101 103 70 - 130

San Francisco

1220 Quarry Lane

720 - 30020 Chain of Custody Record

<u>TestAmerica</u>

Tues - 1263579

leasanton, CA 94566																						estAmerica Laboran	ories, inc.
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Client Contact	Project Ma			C 1401					imple :	Sharm	а				C	arrier	:					of CO	Cs .
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1324 Mangrove Ave Suite 212		Analysis T	urnaround	Time											1								
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	т.	AT if different	from Below <u>St</u>	andard		が (数)															9	SDG No.	
(530) 566-1400			2 weeks			Filtered Sample RTEX & 5 Oxys by 8260B	1.2 DCA and EDB by 8260B																
(530) 566-1401 Project Name: BP 11102		1	l week			8	3														١		
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Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 720-30020-1

Login Number: 30020 List Source: TestAmerica San Francisco

Creator: Mullen, Joan List Number: 1

Question	T / F/ NA Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A
The cooler's custody seal, if present, is intact.	N/A
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	True
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
Is the Field Sampler's name present on COC?	True
There are no discrepancies between the sample IDs on the containers and the COC.	True
Samples are received within Holding Time.	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
Sample Preservation Verified	True
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True
If necessary, staff have been informed of any short hold time or quick TAT needs	True
Multiphasic samples are not present.	True
Samples do not require splitting or compositing.	True

BROADBENT & ASSOCIATES INC. FIELD PROCEDURES

A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

Field protocols have been implemented to enhance the accuracy and reliability of data collection, ground-water sample collection, transportation and laboratory analysis. Discussion of these protocols is provided below.

A.1.1 Water Level & Free-Product Measurement

Prior to ground-water sample collection from each monitoring well, the presence of separate-phase hydrocarbons (SPH or free product, FP) and depth to ground water shall be measured. Depth to ground water will be measured with a standard water level indicator that has been decontaminated prior to its use in accordance with procedures discussed below. Depth to groundwater will be gauged from a saw cut notch at the top of the well casing on each well head. Where FP is suspected, the initial gauging will be done with an oil-water interface probe. Once depth to water has been measured, the first retrieval of a new disposable bailer will be scrutinized for the presence of SPH/FP.

A.1.2 Monitoring Well Purging

Subsequent to measuring depth to ground water and prior to the collection of ground-water samples, purging of standing water within the monitoring will be performed if called for. Consistent with the American Society for Testing and Materials (ASTM) Standard D6452-99, Section 7.1, the well will be purged of approximately three wetted-casing volumes of water, or until the well is dewatered, or until monitored field parameters indicate stabilization. The well will be purged using a pre-cleaned disposable bailer or submersible pump and disposable plastic tubing dedicated to each individual well. The well will be purged at a low flow rate to minimize the possibility of purging the well dry. So that the sample collected is representative of formation water, several field parameters will be monitored during the purging process. The sample will not be collected until these parameters (i.e. temperature, pH, and conductivity) have stabilized to within 10% of the previously measured value. If a well is purged dry, the sample should not be collected until the well has recovered to a minimum 50% of its initial volume.

A.1.3 Ground-Water Sample Collection

Once the wells are satisfactorily purged, water samples will be collected from each well. Water samples for organic analyses will be collected using a pre-cleaned, new, disposable bailer and transferred into the appropriate, new, laboratory-prepared containers such that no head space or air bubbles are present in the sample container (if appropriate to the analysis). The samples will be properly labeled (i.e. sample identification, sampler initials, date/time of collection, site location, requested analyses), placed in an ice chest with bagged ice or ice substitute, and delivered to the contracted analytical laboratory.

A.1.4 Surface Water Sample Collection

Unless specified otherwise, surface water samples will be collected from mid-depth in the central area of the associated surface water body. Water samples will be collected into appropriate, new, laboratory-prepared containers by dipping the container into the surface water unless the container has a preservative present. If a sample preservative is present, a new, cleaned non-preserved surrogate container will be used to obtain the sample which will then be directly transferred into a new, laboratory-provided, preserved container. Samples will be properly labeled and transported as described above.

A.1.5 Decontamination Protocol

Prior to use in each well, re-usable ground-water sampling equipment (e.g., water level indicator, oil-interface probe, purge pump, etc.) will be decontaminated. Decontamination protocol will include thoroughly cleaning with a solution of Liquinox, rinsing with clean water, and final rinsing with control water (potable water of known quality, distilled, or de-ionized water). Pre-cleaned new disposable bailers and disposable plastic tubing will be dedicated to each individual well.

A.1.6 Chain of Custody Procedures

Sample identification documents will be carefully prepared so identification and chain of custody can be maintained and sample disposition can be controlled. The sample identification documents include Chain-of-Custody (COC) records and Daily Field Report forms. Chain of custody procedures are outlined below.

Field Custody Procedures

The field sampler is individually responsible for the care and custody of the samples collected until they are properly transferred.

Samples will have unique labels. The information on these labels will correspond to the COC which shows the identification of individual samples and the contents of the shipping container. The original COC will accompany the shipment and a copy will be retained by the field sampler.

Transfer of Custody and Shipment

A COC will accompany samples during transfer and shipment. When transferring samples, the individual relinquishing and the individual receiving the samples will each sign, date, and note the time on the COC. This documents the sample custody transfer.

Samples will be packaged properly for shipment and dispatched to the appropriate laboratory for analysis, with a separate COC accompanying each shipment. Shipments will be accompanied by the original COC. Samples will be delivered by BAI personnel to the laboratory, or shipped by responsible courier. When a shipping courier is utilized, the sample shipment number will be identified on the COC.

A.1.7 Field Records

In addition to sample identification numbers and COC records, Daily Field Report records will be maintained by field staff to provide daily records of significant events, observations, and measurements during field investigations. These documents will contain observed information such as: the personnel present, site conditions, sampling procedures, measurement procedures, calibration records, equipment used, supplies used, etc. Field measurements will be recorded on the appropriate forms. Entries on the data forms will be signed and dated. The data forms will be kept as permanent file records.

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: 3Q10 GEO_WELL 11102

Facility Global ID: T0600100908
Facility Name: BP #11102
File Name: GEO_WELL.zip

Organization Name: Broadbent & Associates, Inc.

<u>Username:</u> BROADBENT-C IP Address: 67.118.40.90

Submittal Date/Time: 9/10/2010 11:50:33 AM

Confirmation Number: 5854328930

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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 - Semi-Annually

Submittal Title: 3Q10 GW Monitoring

 Facility Global ID:
 T0600100908

 Facility Name:
 BP #11102

 File Name:
 720-30020-1.zip

Organization Name: Broadbent & Associates, Inc.

<u>Username:</u> BROADBENT-C IP Address: 67.118.40.90

Submittal Date/Time: 9/10/2010 11:51:22 AM

Confirmation Number: 1121934294

VIEW QC REPORT

VIEW DETECTIONS REPORT

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