

## **RECEIVED**

9:57 am, May 03, 2010

Alameda County Environmental Health

Environmental Flearm

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

Re: First Quarter 2010 Ground-Water Monitoring Report Former BP Station #11109 4280 Foothill Blvd. Oakland, California ACEH Case #RO0000426

**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:

04/30/2010

Contact:

Hollis E. Phillips

Phone:

415.374.2744 ext 13

Email:

Hollis.phillips@arcadisus.com

Our ref:

GP09BPNA.C106

Submitted by:

ARCADIS U.S., Inc.

Hollis E. Phillips, PG Project Manager

# First Quarter 2010 Ground-Water Monitoring Report

Former BP Station #11109 4280 Foothill Blvd., Oakland, California ACEH Case #RO0000426

# 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 P.O. Box 1257 San Ramon, California 94583

## Prepared by



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

30 April 2010

Project No. 09-88-646



30 April 2010

Project No. 09-88-646

ARCADIS-US, Inc. 100 Montgomery Street, Suite 300 San Francisco, California 94104 Submitted via ENFOS

Attn.: Ms. Hollis Phillips, PG - Senior Geologist

Re: First Quarter 2010 Ground-Water Monitoring Report, Former BP Service Station #11109,

4280 Foothill Boulevard, Oakland, Alameda County, California;

ACEH Case #RO0000426

Dear Ms. Phillips:

Provided herein is the *First Quarter 2010 Ground-Water Monitoring Report* for Former BP Service Station #11109 located at 4280 Foothill Boulevard, Oakland, California (Site). This report presents a summary of results from ground-water monitoring conducted at the Site during the First 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 Scientist** 

Thomas A. Venus, P.E.

Senior Engineer

Enclosure

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp Site)
Ms. Shelby Lathrop, ConocoPhillips, 76 Broadway, Sacramento, California 95818

**TEXAS** 

Electronic copy uploaded to GeoTracker

NEVADA ARIZONA CALIFORNIA

### STATION #11109 GROUND-WATER MONITORING REPORT

Facility: #11109 Address: 4280 Foothill Boulevard, Oakland

ARCADIS Project Manager: Ms. Hollis Phillips, PG

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

(530) 566-1400

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

ACEH Case #RO0000426

Consultant Project No.: 09-88-646

## **WORK PERFORMED THIS QUARTER (First Quarter 2010):**

- 1. Prepared and submitted *Fourth Quarter 2009 Ground-Water Monitoring Report* (BAI, 1/21/2010).
- 2. Conducted ground-water monitoring/sampling for First Quarter 2010. Work performed on 23 March 2010 by BAI.
- 3. Performed monthly free product gauging and bailing of wells MW-5 and MW-10 through MW-12. Work performed on 26 January, 24 February, and 23 March 2010 by BAI.

## **WORK PROPOSED FOR NEXT QUARTER (Second Quarter 2010):**

- 1. Prepare and submit this *First Quarter 2010 Ground-Water Monitoring Report* (contained herein).
- 2. Perform monthly free product gauging and bailing of wells MW-5 and MW-10 through MW-12.
- 3. Conduct ground-water monitoring/sampling for Second Quarter 2010.

## **QUARTERLY RESULTS SUMMARY:**

Current phase of project: Ground-water monitoring/sampling/DPE IRM

Frequency of ground-water monitoring: Monthly: MW-5, MW-10, MW-11, and MW-12

(Measure/Bail FP if present)

Semi-Annually (1Q & 3Q): MW-2 through MW-12

Frequency of ground-water sampling: Quarterly: MW-10, MW-11, and MW-12 (one year)

Semi-Annually (1Q & 3Q): MW-2 through MW-9

Current remediation techniques: Monthly Free Product Bailing

Is Free Product (FP) present on-site: Yes (MW-5 and MW-10)

FP recovered this quarter: 4 gallons (FP/water mixture)

Depth to ground water (below TOC): 7.10 ft (MW-5) to 11.48 ft (MW-6)

General ground-water flow direction:

Northwest

Northwest

Approximate hydraulic gradient: 0.03 ft/ft

### **DISCUSSION:**

The First Quarter 2010 semi-annual ground-water monitoring and sampling event was conducted at Former BP Station #11109 on 23 March 2010 by BAI. Water levels were gauged in ten of the eleven wells at the Site. Well MW-2 was reported as dry even though the well was originally drilled to a total depth of 20 feet below ground surface (bgs). A root mass is suspected to be present at approximately 13 feet bgs. A vehicle parked over MW-8 for the duration of the sampling event prevented access to the well. No other irregularities were noted during water level gauging. Depth to water measurements across the Site ranged from 7.10 ft at MW-5 to 11.48 ft at MW-6. Resulting ground-water surface elevations ranged from 32.79 ft above datum in well MW-11 to 28.86 ft in well MW-12. Water level elevations

Broadbent & Associates, Inc. Chico, California

associated with Station #11109 yielded a potentiometric ground-water flow direction and gradient of approximately 0.03ft/ft to the northwest. Ground-water monitoring field data sheets for Station #11109 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 for Station #11109 are presented in Drawing 2.

Ground-water samples were collected from wells MW-3 through MW-7 and MW-9 through MW-12. Well MW-2 was not sampled due to dry conditions and well MW-8 was not sampled due to the presence of a parked car. Well MW-5 purged dry before three casing volumes were removed but recovered sufficiently prior to sampling. Small droplets of product were noted in the sampling bailer from wells MW-10 and MW-12. No other irregularities were reported during sampling. Samples were submitted under chain-of-custody documentation to TestAmerica Laboratories, Inc. (Pleasanton, California) to be analyzed for Gasoline Range Organics (GRO, C6-C12); Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX); Methyl Tert-Butyl Ether (MTBE), Ethyl Tert-Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Tert-Butyl Alcohol (TBA), 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 laboratory reporting limits in five of the nine wells sampled at concentrations up to 71,000 micrograms per liter (µg/L) in MW-5. Benzene was detected above the laboratory reporting limit in five of the nine wells sampled at concentrations up to 6,500 µg/L in well MW-10. Toluene was detected above the laboratory reporting limit in four of the nine wells sampled at concentrations up to 4,800 µg/L in well MW-10. Ethylbenzene was detected above the laboratory reporting limit in four of the nine wells sampled at concentrations up to 3,100 µg/L in well MW-12. Total Xylenes were detected above the laboratory reporting limit in four of the nine wells sampled at concentrations up to 9,700 µg/L in well MW-10. MTBE was detected above the laboratory reporting limit in three of the nine wells sampled at concentrations up to 84 µg/L in MW-4. TBA was detected above the laboratory reporting limit in wells MW-4 and MW-7 at concentrations of 18 µg/L and 12 µg/L, respectively. TAME was detected above the laboratory reporting limit in well MW-4 at a concentration of 0.88 µg/L. The remaining fuel constituents were not detected above their laboratory reporting limits in the nine wells sampled this quarter. Historic laboratory analytical results for Former BP Station #11109 are summarized in Table 1 and Table 2. Drawing 2 provides First Quarter 2010 laboratory analytical results for GRO, Benzene, and MTBE constituents. 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.

Separate phase hydrocarbons (SPH, or Free Product – FP) in wells MW-5 and MW-10 through MW-12 were monitored and removed, if present, during each month of the First Quarter 2010. On 26 January 2010, FP thickness was measured in well MW-5 at 0.02 feet and in MW-10 at 0.01 feet. Approximately 1.5 gallons of FP/water mixture was bailed from well MW-5 and 0.5 gallons from MW-10 during this visit. No FP was observed in wells MW-11 and MW-12. On 24 February 2010, FP thickness was measured in well MW-5 at 0.02 feet. Approximately two gallons of FP/water mixture was bailed from well MW-5 during this visit. No FP was observed in wells MW-10 through MW-12. On 23 March 2010 (during the scheduled semi-annual site sampling/monitoring event), no FP was measured in wells MW-5 and MW-10 through MW-12 during gauging activities. However, FP droplets were observed during the purging activities conducted in wells MW-10 and MW-12. Table 4 contains a summary of FP removal data.

### **CONCLUSIONS AND RECOMMENDATIONS:**

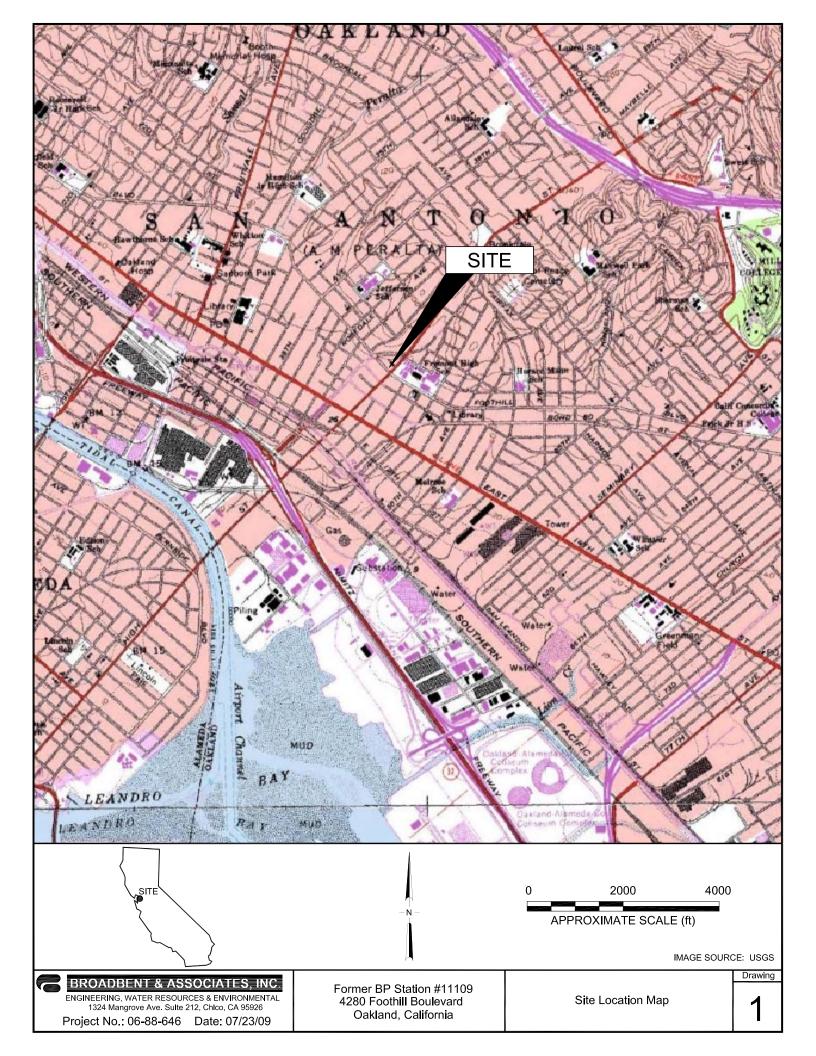
Water level elevations were between historic minimum and maximum ranges for each well gauged this quarter, with the exception of recently installed wells MW-10, MW-11, and MW-12. The potentiometric ground-water flow direction and gradient of 0.03 ft/ft to the northwest is somewhat inconsistent with historical data and might possibly be a result of the change in top of casing elevations following the recent well survey. Future gauged ground-water elevations and resultant flow directions/ gradients should be scrutinized for this potential change. Detected analyte concentrations were within the historic minimum and maximum ranges recorded for each well with the following exceptions: MTBE reached historic minimum concentrations in wells MW-3 and MW-6. ARCADIS-US, Inc. submitted the *Feasibility Study and Corrective Action Plan* on 2 December 2009 in response to the directive letter from ACEH dated 13 August 2009. ARCADIS-US, Inc. is currently awaiting a response to this submittal.

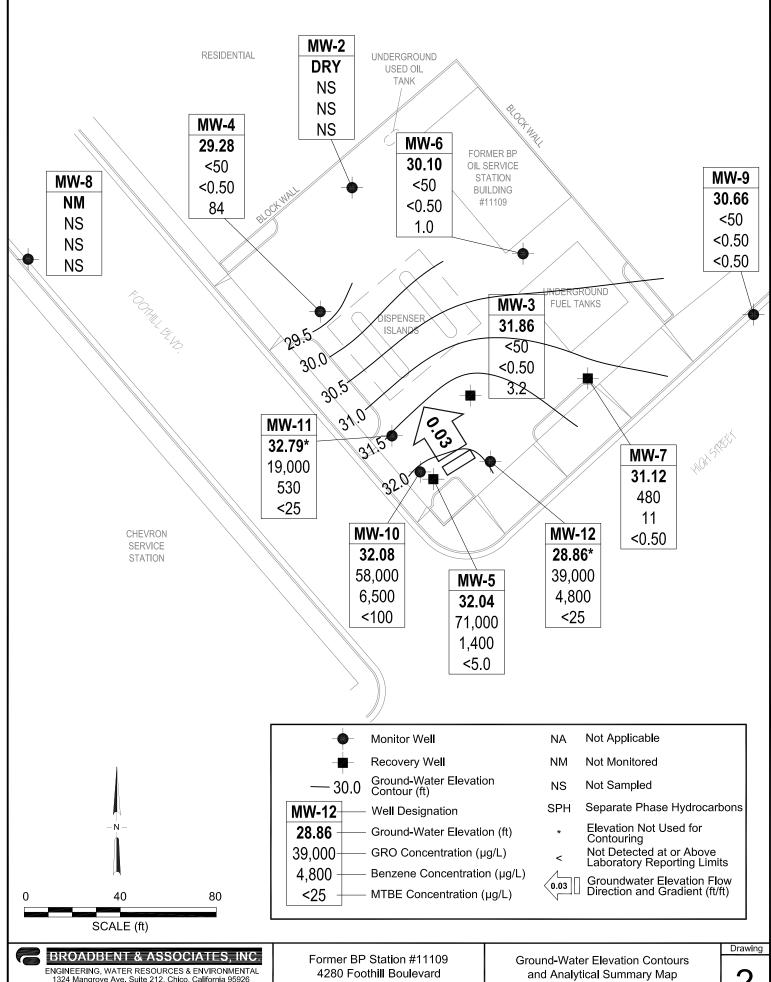
### **CLOSURE:**

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 BP Station #11109, 4280 Foothill Boulevard, Oakland, California
- Drawing 2. Ground-Water Elevation Contours and Analytical Summary Map, 23 March 2010, Former BP Station #11109, 4280 Foothill Boulevard, Oakland, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #11109, 4280 Foothill Blvd., Oakland, California
- Table 2. Summary of Fuel Additives Analytical Data, Station #11109, 4280 Foothill Blvd., Oakland, California
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #11109, 4280 Foothill Blvd., Oakland, California
- Table 4. Summary of Free Product Removal, Former BP Service Station #11109, 4280 Foothill Boulevard, Oakland, California
- Appendix A. BAI Ground-Water Sampling Data (Includes Field Data Sheets, Non-Hazardous Waste Data Form, Laboratory Report, Chain-of-Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmation Receipts





ENGINEERING, WATER RESOURCES & ENVIRONMENTAL 1324 Mangrove Ave. Suite 212, Chico, California 95926 Project No.: 09-88-646 Date: 04/27/2010 Oakland, California

23 March 2010

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			TOC		Product	Water Level		С	oncentrati	ons in (μg/	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	$(\mu g/L)$
MW-1																		
1/31/1990			38.19	15.41		22.78												
2/5/1990		С	38.19															
MW-2																		
2/5/1990			41.22	21.90		19.32	1,300	14	< 0.1	9	13			SUP				
2/14/1991		d	41.22	21.16		20.06	<50	< 0.3	< 0.3	< 0.3	< 0.3			SUP		<10000	< 5000	51
5/13/1991		e	41.22	21.32		19.90	<50	<0.3	< 0.3	< 0.3	< 0.3			SUP		<50	6,000	0.5
7/24/1991			41.22	22.92		18.30												
10/3/1991		e	41.22	24.90		16.32	<50	< 0.3	0.8	< 0.3	<0.3			SUP		<50	< 5000	0.7
10/15/1991			41.22	24.10		17.12												
12/4/1991		f	41.22															
12/16/1991			41.22	23.95		17.27												
1/6/1992			41.22	23.30		17.92	<50	<0.3	< 0.3	< 0.3	<0.3			ANA		<50	< 5000	
1/22/1992			41.22	23.14		18.08												
1/28/1992			41.22	22.99		18.23												
2/5/1992			41.22	22.63		18.59												
2/12/1992			41.22	22.04		19.18												
2/17/1992			41.22	20.84		20.38												
4/3/1992			41.22	18.29		22.93												
4/8/1992			41.22	18.86		22.36	<50	< 0.5	< 0.5	< 0.5	< 0.5			ANA		63	<5000	
4/14/1992			41.22	19.45		21.77												
4/29/1992			41.22	20.35		20.87												
5/7/1992			41.22	20.84		20.38												
7/3/1992			41.22	22.34		18.88	<50	<0.5	<0.5	<0.5	<0.5			ANA				
10/8/1992			41.22	23.73		17.49	<50	<0.5	<0.5	<0.5	<0.5			ANA				
12/31/1992			41.22	21.12		20.10	<50	<0.5	<0.5	<0.5	<0.5			ANA				
4/21/1993		g, n	41.22	17.68		23.54	<50	<0.5	<0.5	<0.5	<0.5			PACE		<50	<5000	
7/7/1993		e, n	41.22	20.30		20.92	<50	<0.5	<0.5	<0.5	<0.5	21.54		PACE				1.0
9/21/1993		n	41.22	21.93		19.29	<50	0.9	0.7	0.7	2.6	21.54		PACE				
12/17/1993			41.22	21.48		19.74								DACE.				
12/23/1993		n	41.22				<50	<0.5	< 0.5	< 0.5	0.7			PACE				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			тос		Product	Water Level		C	oncentrati	ons in (µg/	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	$(\mu g/L)$	(µg/L)
MW-2 Cont.																		
4/7/1994		n	41.22	20.25		20.97	< 50	< 0.5	< 0.5	< 0.5	< 0.5	12.2	5.9	PACE				
7/6/1994		n	41.22	20.59		20.63	< 50	< 0.5	< 0.5	< 0.5	< 0.5		3.1	PACE				
10/7/1994		n	41.22	22.04		19.18	< 50	< 0.5	< 0.5	< 0.5	< 0.5	15.2	2.8	PACE				
1/27/1995			41.22	26.12		15.10	< 50	< 0.5	< 0.5	< 0.5	<1		4.8	ATI		440	< 5000	
3/30/1995			41.22	12.34		28.88	< 50	< 0.50	< 0.50	< 0.50	<1.0		7.2	ATI				
6/20/1995			41.22	16.42		24.80	< 50	< 0.50	< 0.50	< 0.50	<1.0		6.0	ATI				
10/3/1995			41.22	20.06		21.16	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 5.0	5.7	ATI				
12/6/1995			41.22	21.31		19.91	< 50	< 0.50	< 0.50	< 0.50	<1.0	46	5.4	ATI				
3/21/1996			41.22	12.28		28.94	< 50	< 0.5	<1.0	<1.0	<1.0	<1.0	7.4	SPL				
6/21/1996			41.22	13.28		27.94	< 50	< 0.5	<1	<1	<1	<10	7.3	SPL				
9/6/1996			41.22	13.94		27.28												
9/9/1996			41.22				< 50	< 0.5	<1.0	<1.0	<1.0	<10	7.4	SPL				
12/19/1996			41.22	12.19		29.03	< 50	< 0.5	<1.0	<1.0	<1.0	<10	7.9	SPL				
3/17/1997			41.22	11.59		29.63												
8/12/1997			41.22	13.21		28.01												
12/10/1997			41.22	12.34		28.88												
3/12/1998			41.22	11.04		30.18												
6/23/1998			41.22	11.77		29.45												
3/31/1999			41.22	12.38		28.84												
8/25/1999			41.22	17.72		23.50												
3/9/2000			41.22	11.94		29.28												
3/8/2001			41.22	10.31		30.91												
3/8/2002			41.22	14.35		26.87												
3/18/2002			41.22	13.11		28.11												
3/11/2003			41.22	13.24		27.98												
12/09/2003	P	q	41.22	18.58		22.64	350	< 0.50	< 0.50	0.56	2.8	24		SEQM	6.2			
03/09/2004	P		41.22	12.52		28.70	74	< 0.50	< 0.50	0.83	4.7	27		SEQM	6.5			
09/17/2004	P		41.22	18.05		23.17	59	< 0.50	< 0.50	< 0.50	< 0.50	21		SEQM	6.3			
03/07/2005		p	41.22	2.32		38.90												
09/06/2005		r	41.22															
03/06/2006		p	41.22															

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill 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	(µg/L)	(µg/L)	(µg/L)
MW-2 Cont.																		
9/5/2006		p	41.22	10.46		30.76	79	< 0.50	5.1	< 0.50	0.73	< 0.50		TAMC	6.4			
3/5/2007		p	41.22	12.25		28.97												
9/7/2007		r	41.22															
3/6/2008		w	41.22	12.33		28.89												
9/3/2008		r	41.22															
3/4/2009		r	41.22															
9/30/2009		r, x	41.22															
10/28/2009		r	41.22															
3/23/2010		r	41.22															
MW-3																		
2/5/1990			40.74	17.45		23.29	1,400	15	<2.5	11	8			SUP				
2/14/1991			40.74	18.52		22.22	320	8	< 0.3	8	1			SUP				
5/13/1991			40.74	19.32		21.42	640	13	< 0.3	18	1			SUP				
7/24/1991			40.74	20.69		20.05												
10/3/1991			40.74	19.47		21.27	940	21	< 0.3	23	2.1			SUP				
10/15/1991			40.74	20.46		20.28												
12/4/1991			40.74	18.29		22.45												
12/16/1991			40.74	18.34		22.40												
1/6/1992			40.74	18.50		22.24	580	6.1	1	6.1	7.1			ANA				
1/22/1992			40.74	17.86		22.88												
1/28/1992			40.74	15.84		24.90												
2/5/1992			40.74	17.53		23.21												
2/12/1992			40.74	17.15		23.59												
2/17/1992			40.74	16.18		24.56												
4/3/1992			40.74	14.80		25.94												
4/8/1992			40.74	17.06		23.68	1,100	30	4.6	32	11			ANA				
4/14/1992			40.74	15.22		25.52												
4/29/1992			40.74	15.90		24.84												
5/7/1992			40.74	16.35		24.39												
7/3/1992			40.74	17.74		23.00	1,200	38	<2.5	24	<2.5			ANA				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			тос		Product	Water Level		С	oncentrati	ons in (µg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-3 Cont.																		
10/8/1992			40.74	19.06		21.68	1,400	31	< 0.5	25	13			ANA				
12/31/1992			40.74	16.61		24.13	820	12	4.1	13	5.9			ANA				
12/31/1992		h	40.74				960	11	3.6	10	3.8			ANA				
4/21/1993		h, n	40.74				390	5	< 0.5	3.7	1.5			PACE				
4/21/1993		n	40.74	14.24		26.50	420	5.6	< 0.5	3.9	1.4			PACE				
7/7/1993		i, n	40.13	15.19		24.94	54	0.6	0.6	< 0.5	< 0.5	12.68		PACE				
9/21/1993		n	40.13	16.58		23.55	540	7.9	0.9	4.7	2.4			PACE				
12/17/1993			40.13	15.82		24.31												
12/23/1993		n	40.13				500	9.8	1.5	3.3	2.1			PACE				
12/23/1993		h	40.13				480	9.2	< 0.5	5.4	5.3			PACE				
4/7/1994		h	40.13				460	20	7.7	9	11			PACE				
4/7/1994		n	40.13	28.50		11.63	460	20	7.4	8.9	11	18.2		PACE				
7/6/1994		n	40.13				300	10	0.6	1.7	6.4	5.54	4.8	PACE				
10/7/1994		n	40.13	27.65		12.48	620	28	< 0.5	2.2	12	31.4	4.4	PACE			31	
1/27/1995		j	40.13	27.65		12.48												
3/30/1995			40.13	26.05		14.08	300	10	6	3.4	18		7.6	ATI				
6/20/1995			40.13	19.49		20.64	170	7.2	3.4	0.85	15			ATI				
10/3/1995			40.13	24.93		15.20	170	2.1	< 0.50	0.81	8	6.7		ATI				
12/6/1995			40.13	25.14		14.99	1,700	6.7	3.1	2.8	210	64		ATI				
12/6/1995		h	40.13				1,400	6.1	3	1.7	190	53		ATI				
3/21/1996			40.13	9.48		30.65	< 50	0.5	<1	<1	1	<10	7.3	SPL				
6/21/1996			40.13	11.60		28.53	< 50	13	<1	<1	<1	12	7.6	SPL				
9/6/1996			40.13	12.23		27.90												
9/9/1996			40.13				<250	6.5	< 5.0	< 5.0	< 5.0	< 50	7.6	SPL				
12/19/1996			40.13	10.46		29.67	< 50	4.1	<1.0	<1.0	<1.0	<10	8.4	SPL				
3/17/1997			40.13	9.86		30.27	50	<5	<1.0	<1.0	<1.0	<10	7.4	SPL				
8/12/1997			40.13	12.11		28.02	< 50	0.79	<1.0	<1.0	<1.0	10	6.1	SPL				
12/10/1997			40.13	10.90		29.23	< 50	< 0.5	<1.0	<1.0	<1.0	<10	3.2	SPL				
3/12/1998			40.13	10.20		29.93	< 50	< 0.5	<1.0	<1.0	<1.0	<10	6.3	SPL				
3/12/1998		h	40.13				< 50	< 0.5	<1.0	<1.0	<1.0	<10		SPL				
6/23/1998			40.13	10.17		29.96	50	< 0.5	<1.0	<1.0	<1.0	<10	3.4	SPL				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill 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	$(\mu g/L)$	$(\mu g/L)$	(µg/L)
MW-3 Cont.																		
3/31/1999			40.13	11.45		28.68	60	<1.0	<1.0	<1.0	<1.0	6.2		SPL				
8/25/1999			40.13	12.52		27.61	<50	<1.0	<1.0	<1.0	<1.0	7.7		SPL				
3/9/2000			40.13	12.39		27.74	<50	< 0.5	0.54	< 0.5	1.7	6.3		PACE				
3/8/2001			40.13	10.41		29.72	<50	< 0.5	< 0.5	< 0.5	0.59	7.7		PACE				
3/8/2002			40.13	9.83		30.30	62	<0.5	<0.5	< 0.5	<1.0	11.6		PACE				
3/18/2002			40.13	9.20		30.93												
3/11/2003			40.13	10.54		29.59	<50	< 0.50	< 0.50	< 0.50	< 0.50	6.7		SEQ				
12/09/2003	P		40.13	12.88		27.25	<50	< 0.50	< 0.50	< 0.50	< 0.50	6.4		SEQM	6.3			
03/09/2004	P		40.13	9.49		30.64	<50	< 0.50	< 0.50	< 0.50	0.63	6.9		SEQM	6.1			
09/17/2004			40.13	12.76		27.37												
03/07/2005	P		40.13	7.30		32.83	<50	< 0.50	< 0.50	< 0.50	0.52	5.1		SEQM	7.0			
09/06/2005			42.92	10.81		32.11												
03/06/2006	P	u	42.92	8.85		34.07	<50	< 0.50	< 0.50	< 0.50	< 0.50	6.9		SEQM	6.8			
9/5/2006			42.92	9.86		33.06												
3/5/2007	P		42.92	8.33		34.59	<50	< 0.50	< 0.50	< 0.50	< 0.50	5.4	2.31	TAMC	6.95			
9/7/2007			42.92	11.10		31.82												
3/6/2008	P		42.92	8.92		34.00	<50	< 0.50	< 0.50	< 0.50	< 0.50	4.2	2.5	CEL	6.86			
9/3/2008			42.92	12.19		30.73												
3/4/2009	P		42.92	8.28		34.64	<50	< 0.50	< 0.50	< 0.50	< 0.50	4.9	1.19	CEL	6.71			
9/30/2009	P	х	40.13	11.60		28.53	< 50	< 0.50	< 0.50	< 0.50	< 0.50	6.8		CEL	7.12			
10/28/2009			40.13	10.40		29.73												
3/23/2010	P		40.13	8.27		31.86	<50	<0.50	<0.50	<0.50	<1.0	3.2	2.47	TAMC	6.61			
MW-4																		
2/5/1990			40.11	20.75		19.36	620	< 0.5	9	< 0.5	10			SUP				
2/14/1991			40.11	21.73		18.38	180	< 0.3	<0.3	0.4	2			SUP				
5/13/1991			40.11	18.55		21.56	72	0.7	<0.3	<0.3	<0.3			SUP				
7/24/1991			40.11	21.31		18.80												
10/3/1991			40.11	22.57		17.54	57	<0.3	<0.3	<0.3	<0.3			SUP				
10/15/1991			40.11	22.88		17.23												
12/4/1991			40.11	22.54		17.57												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			TOC		Product	Water Level		C	oncentrati	ons in (μg/l						DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(μg/L)
MW-4 Cont.																		
12/16/1991			40.11	22.59		17.52												
1/6/1992			40.11	22.00		18.11	480	0.8	3.2	1.9	7.7			ANA				
1/22/1992			40.11	21.58		18.53												
1/28/1992			40.11	21.42		18.69												
2/5/1992			40.11	21.10		19.01												
2/12/1992			40.11	20.74		19.37												
2/17/1992			40.11	19.78		20.33												
4/3/1992			40.11	16.80		23.31												
4/8/1992			40.11	17.13		22.98	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
4/14/1992			40.11	17.74		22.37												
4/29/1992			40.11	18.56		21.55												
5/7/1992			40.11	19.10		21.01												
7/3/1992			40.11	20.71		19.40	< 50	0.6	< 0.5	< 0.5	< 0.5			ANA				
10/8/1992			40.11	22.43		17.68	270	< 0.5	2.1	2.5	3.2			ANA				
12/31/1992			40.11	19.58		20.53	150	< 0.5	< 0.5	< 0.5	1.3			ANA				
4/21/1993		n	40.11	17.79		22.32	< 50	< 0.5	< 0.5	< 0.5	< 0.5			PACE				
7/7/1993		n	40.11	18.44		21.67	160	1.2	5.4	3.8	19	5.51		PACE				
9/21/1993		n	40.11	20.14		19.97	71	< 0.5	1.9	< 0.5	2.1			PACE				
12/17/1993			40.11	19.80		20.31												
12/23/1993		n	40.11				< 50	3.1	1.6	0.8	3.8	5.7		PACE				
4/7/1994		n	40.11	19.12		20.99	< 50	<0.5	<0.5	<0.5	< 0.5	11.7	6.6	PACE				
7/6/1994		n	40.11	19.90		20.21	62	< 0.5	< 0.5	< 0.5	< 0.5		4.1	PACE				
10/7/1994		n	40.11	20.07		20.04	< 50	<0.5	< 0.5	<0.5	< 0.5	7.38	3.6	PACE				
1/27/1995			40.11	13.72		26.39	< 50	< 0.5	< 0.5	< 0.5	<1		2.7	ATI				
3/30/1995			40.11	11.46		28.65	< 50	< 0.50	< 0.50	< 0.50	<1.0		8.3	ATI				
6/20/1995			40.11	14.78		25.33	< 50	< 0.50	< 0.50	< 0.50	<1.0			ATI				
10/3/1995			40.11	19.62		20.49	<50	< 0.50	< 0.50	< 0.50	<1.0	5	5.8	ATI				
12/6/1995			40.11	19.91		20.20	< 50	< 0.50	< 0.50	< 0.50	<1.0	47	5.7	ATI				
3/21/1996			40.11	11.12		28.99	<50	<0.5	<1	<1	<1	<10	7.8	SPL				
6/21/1996			40.11	12.21		27.90	< 50	< 0.5	<1	<1	<1	<10	7.9	SPL				
9/6/1996			40.11	12.89		27.22												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill 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	$(\mu g/L)$	(µg/L)	(µg/L)
MW-4 Cont.																		
9/9/1996			40.11				< 50	< 0.5	<1.0	<1.0	<1.0	<10	7.2	SPL				
12/19/1996			40.11	11.01		29.10	< 50	< 0.5	<1.0	<1.0	<1.0	<10	8.4	SPL				
3/17/1997			40.11	10.42		29.69												
8/12/1997			40.11	12.77		27.34												
12/10/1997			40.11	11.22		28.89												
3/12/1998			40.11	10.81		29.30												
6/23/1998			40.11	10.61		29.50												
3/31/1999			40.11	11.46		28.65												
8/25/1999			40.11	16.16		23.95												
3/9/2000			40.11	12.23		27.88												
3/8/2001			40.11	11.04		29.07												
3/8/2002			40.11	12.73		27.38												
3/18/2002			40.11	11.62		28.49												
3/11/2003			40.11	13.44		26.67												
12/09/2003	P		40.11	15.03		25.08	<250	<2.5	<2.5	<2.5	<2.5	130		SEQM	6.1			
03/09/2004	P		40.11	11.04		29.07	< 50	< 0.50	< 0.50	< 0.50	< 0.50	35		SEQM	5.5			
09/17/2004	P		40.11	16.75		23.36	<250	<2.5	<2.5	<2.5	<2.5	140		SEQM	6.5			
03/07/2005	P		40.11	11.02		29.09	67	< 0.50	< 0.50	< 0.50	< 0.50	42		SEQM	6.6			
09/06/2005	P	s, t	42.88	14.64		28.24	81	< 0.50	< 0.50	< 0.50	<1.5	180		SEQM	6.7			
03/06/2006	P		42.88	12.42		30.46	<100	<1.0	<1.0	<1.0	<1.0	110		SEQM	6.4			
9/5/2006			42.88	13.81		29.07	130	<1.0	<1.0	<1.0	<1.0	190		TAMC	6.5			
3/5/2007	P		42.88	10.63		32.25	<50	< 0.50	< 0.50	< 0.50	< 0.50	13	3.34	TAMC	7.11			
9/7/2007	P	s, v (MTBE)	42.88	14.77		28.11	90	<0.50	<0.50	<0.50	<0.50	130	1.14	TAMC	6.68			
3/6/2008	P		42.88	11.30		31.58	< 50	< 0.50	< 0.50	< 0.50	< 0.50	170	1.76	CEL	6.62			
9/3/2008	P		42.88	16.11		26.77	<50	<5.0	<5.0	< 5.0	<5.0	150	1.97	CEL	6.33			
3/4/2009	P		42.88	10.78		32.10	140	<5.0	< 5.0	<5.0	<5.0	110	1.31	CEL	6.47			
9/30/2009	P	x, y (GRO)	40.10	16.48		23.62	240	<2.0	<2.0	<2.0	<2.0	140	0.08	CEL	6.88			
10/28/2009			40.10	15.07		25.03												
3/23/2010	P		40.10	10.82		29.28	< 50	<0.50	< 0.50	< 0.50	<1.0	84	0.63	TAMC	6.39			

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

							,			Jakianu,								
			TOC		Product	Water Level		C	oncentrati 	ons in (µg/						DRO/		
Well and	D/NID	T 4 4 -	Elevation		Thickness	Elevation	GRO/	D	TO 1	Ethyl-	Total	MADE	DO	T . 1		TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	1 oluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(μg/L)
MW-5																		
10/3/1991			39.55	18.08		21.47	79,000	13,000	7,400	1,400	6,200			SUP				
10/15/1991			39.55	18.55		21.00												
12/4/1991		a	39.55	18.44	0.13	20.98												
12/16/1991		a	39.55	18.66	0.01	20.88												
1/6/1992		a	39.55	19.12	0.11	20.32												
1/22/1992			39.55	14.59		24.96												
1/28/1992			39.55	15.25		24.30												
2/5/1992		q	39.55	15.58		23.97												
2/12/1992		a	39.55	15.54	0.01	24.00												
2/17/1992		q	39.55	13.98		25.57												
4/3/1992		a	39.55	13.63	0.04	25.88												
4/8/1992		a	39.55	13.17	0.01	26.37												
4/14/1992		a	39.55	13.45	0.01	26.09												
4/29/1992		a	39.55	13.75	0.07	25.73												
5/7/1992		a	39.55	16.15	0.04	23.36												
7/3/1992		a	39.55	17.67	0.08	21.80												
9/1/1992		a	39.55	17.83	0.50	21.22												
10/8/1992		a	39.55	17.86	0.92	20.77												
12/31/1992		q	39.55	15.20		24.35												
4/21/1993		a	39.55	12.64	0.02	26.89												
7/7/1993		a, i	39.14	12.68	0.82	25.64												
9/21/1993		q	39.14	14.35		24.79												
12/17/1993		a	39.14	12.61	0.41	26.12												
4/7/1994		n	39.14	30.00		9.14	66,000	3,000	1,700	250	6,800	2,002		PACE				
7/6/1994		n	39.14				29,000	1,900	330	63	2,700	1,141		PACE				
10/7/1994		h	39.14				45,000	2,900	540	260	2,600			PACE				
10/7/1994		n	39.14	28.70		10.44	250,000	2,600	660	830	5,200	37.7	4.2	PACE				
1/27/1995			39.14	28.70		10.44												
3/30/1995		h	39.14				43,000	7,900	2,500	440	6,200			ATI				
3/30/1995			39.14	28.95		10.19	50,000	7,900	2,600	520	6,400		5.5	ATI				
6/20/1995		h	39.14				26,000	3,500	290	<25	3,300			ATI				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			тос		Product	Water Level		С	oncentrati	ons in (µg/l	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$
MW-5 Cont.																		
6/20/1995			39.14	22.54		16.60	34,000	5,100	1,900	300	3,700			ATI				
10/3/1995		h	39.14				12,000	46	39	10	1,600	320		ATI				
10/3/1995			39.14	18.84		20.30	12,000	68	42	11	1,600	330		ATI				
12/6/1995			39.14	19.07		20.07	16,000	1,200	93	51	700	600		ATI				
3/21/1996			39.14	7.43		31.71	1,500	89	28	6	250	<10	7.2	SPL				
3/21/1996		h	39.14				1,900	92	30	7	270	<10		SPL				
6/21/1996			39.14	9.87		29.27	3,500	740	150	19	400	<100	7.1	SPL				
6/21/1996		h	39.14				2,700	680	140	20	400	< 50		SPL				
9/6/1996			39.14	10.52		28.62												
9/9/1996		h	39.14				90,000	2,900	1,600	670	6,900	<2500		SPL				
9/9/1996			39.14				82,000	3,100	1,700	850	9,100	<2500	7.5	SPL				
12/19/1996			39.14	8.62		30.52	41,000	790	820	120	2,040	< 500	7.7	SPL				
12/19/1996		h	39.14				26,000	490	430	63	1,140	< 500		SPL				
3/17/1997			39.14	8.22		30.92	5,500	1.9	2.4	<1.0	<1.0	29	6.4	SPL				
3/17/1997		h	39.14				6,600	2.5	2.7	<1.0	<1.0	28		SPL				
8/12/1997		h	39.14				36,000	6,100	2,500	720	4,500	< 500		SPL				
8/12/1997		a	39.14	12.18	0.22	26.74	33,000	6,400	2,400	680	4,400	<1000	6.8	SPL				
12/10/1997		a	39.14	10.78	0.06	28.30	31,000	3,000	2,500	560	5,100	500	1.8	SPL				
12/10/1997		h	39.14				37,000	2,900	2,500	440	4,800			SPL				
3/12/1998		a	39.14	10.11	0.22	28.81	100,000	1,600	870	250	2,600	<250	6.1	SPL				
6/23/1998		a	39.14	10.20	0.02	28.92	27,000	2,500	840	370	2,900	<250	2.1	SPL				
6/23/1998		h	39.14				27,000	2,600	840	400	2,950	< 500		SPL				
3/31/1999		f	39.14															
8/25/1999		a	39.14	14.69	0.38	24.07	180,000	2,700	400	830	2,800	26		SPL				
3/9/2000		a	39.14	14.83	0.60	23.71	53,000	12,000	2,600	1,900	9,100	< 5.0		PACE				
3/8/2001		f	39.14															
3/8/2002		a	39.14	11.45	1.50	26.19	33,000	8,240	1,080	1,010	2,900	34.3		PACE				
3/18/2002			39.14	8.03		31.11												
3/11/2003		a	39.14	9.60	0.45	29.09												
12/09/2003		a	39.14	11.44	0.03	27.72												
03/09/2004	P		39.14	7.91		31.23	31,000	3,900	1,100	780	3,600	<50		SEQM	6.6			

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill 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)	(µg/L)
MW-5 Cont.																		
09/17/2004		a	39.14	12.13	0.15	27.13												
03/07/2005		a	39.14	8.62	0.02	27.13												
09/06/2005		a	41.98	11.16	0.18	30.96												
03/06/2006	P	a, q	41.98	8.60	SHEEN	33.38	32,000	7,500	810	1,200	2,300	< 50		SEQM	6.4			
9/5/2006		a	41.98	6.16	0.03	35.82												
3/5/2007	P	q	41.98	8.34	SHEEN	33.64	90,000	10,000	4,200	1,900	7,900	< 50	1.30	TAMC	6.91			
9/7/2007		a	41.98	15.15	0.15	26.94												
1/14/2008		a	41.98	10.30	0.49	32.05												
2/27/2008		a	41.98	13.22	0.12	28.85												
3/6/2008		a	41.98	12.90	0.14	29.19												
9/3/2008		a	41.98	12.90	0.99	29.82												
3/4/2009		a	41.98	8.45	0.16	33.65												
4/8/2009		X	39.14	9.05	0.67	30.59												
5/11/2009			39.14	9.10	0.32	30.28												
6/16/2009			39.14	9.15	0.02	30.01												
7/22/2009			39.14	9.33	0.12	29.90												
8/6/2009			39.14	10.05	0.01	29.10												
9/30/2009			39.14	10.55	0.06	28.64												
10/28/2009			39.14	10.48		28.66												
3/23/2010	P		39.14	7.10		32.04	71,000	1,400	380	620	1,800	<5.0		TAMC	6.50			
MW-6																		
10/3/1991			41.59	20.73		20.86	<50	0.7	0.8	<0.3	1.3			SUP				
10/15/1991			41.59	21.20		20.39					1.5							
12/4/1991			41.59	21.26		20.33												
12/16/1991			41.59	21.12		20.47												
1/6/1992			41.59	20.29		21.30	<50	<0.5	<0.5	<0.5	1.6			ANA				
1/22/1992			41.59	20.12		21.47								ANA				
1/28/1992			41.59	20.12		21.47												
2/5/1992			41.59	20.20		21.50												
2/12/1992			41.59	19.15		22.44												
2/12/1992			41.39	19.13		22.44												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			тос		Product	Water Level		С	oncentrati	ons in (µg/	L)					DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-6 Cont.																		
2/17/1992			41.59	18.02		23.57												
4/3/1992			41.59	16.62		24.97												
4/8/1992			41.59	17.06		24.53	<50	0.6	< 0.5	0.8	< 0.5			ANA				
4/14/1992			41.59	17.23		24.36												
4/29/1992			41.59	18.12		23.47												
5/7/1992			41.59	18.52		23.07												
7/3/1992			41.59	19.71		21.88	<50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
10/8/1992		h	41.59				< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
10/8/1992			41.59	21.22		20.37	<50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
12/31/1992			41.59	21.33		20.26	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
4/21/1993		n	41.59	16.45		25.14	<50	< 0.5	< 0.5	< 0.5	< 0.5			PACE				
7/7/1993		j, n	41.59	18.68		22.91	< 50	< 0.5	< 0.5	< 0.5	< 0.5	28.96		PACE			29	
9/21/1993		n	41.59	19.64		21.95	<50	< 0.5	< 0.5	< 0.5	1.6			PACE				
12/17/1993			41.59	21.08		20.51												
12/23/1993		n	41.59				<50	< 0.5	0.5	< 0.5	0.6	13.95		PACE				
4/7/1994		n	41.59	21.27		20.32	< 50	< 0.5	< 0.5	< 0.5	< 0.5	35.1	6.1	PACE				
7/6/1994		h	41.59				<50	< 0.5	< 0.5	< 0.5	< 0.5			PACE				
7/6/1994		n	41.59	19.81		21.78	< 50	< 0.5	< 0.5	< 0.5	< 0.5		4.0	PACE				
10/7/1994		j, n	41.59	21.25		20.34	<50	< 0.5	< 0.5	< 0.5	< 0.5	24.3	3.5	PACE			24	
1/27/1995			41.59	12.39		29.20	< 50	< 0.5	< 0.5	< 0.5	<1		4.2	ATI				
3/30/1995			41.59	11.34		30.25	<50	< 0.50	< 0.50	< 0.50	<1.0		6.1	ATI				
6/20/1995			41.59	15.12		26.47	< 50	< 0.50	< 0.50	< 0.50	<1.0			ATI				
10/3/1995			41.59	20.68		20.91	<50	< 0.50	< 0.50	< 0.50	<1.0	66	6.4	ATI				
12/6/1995			41.59	23.77		17.82	< 50	< 0.50	< 0.50	< 0.50	<1.0	45	5.7	ATI				
3/21/1996			41.59	11.55		30.04	<50	< 0.5	<1	<1	<1	41	9.1	SPL				
6/21/1996			41.59	12.60		28.99	< 50	< 0.5	<1	<1	<1	<10	8.6	SPL				
9/6/1996			41.59	13.25		28.34												
9/9/1996		k	41.59				< 50	< 0.5	<1.0	<1.0	<1.0	22/22	7.9	SPL				
12/19/1996			41.59	11.45		30.14	<50	< 0.5	<1.0	<1.0	<1.0	<10	7.7	SPL				
3/17/1997			41.59	10.80		30.79												
8/12/1997			41.59	13.11		28.48												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

Nample Date   P/NP   Footnote   (feet)   (feet)   (feet)   (feet)   TPHg   Benzene   Toluene   Benzene   Xylenes   MtBE   (mg/L)   Lab   pH   (µg/L)   (pg/L)   (pg	TOG (μg/L)
Nample Date   P/NP   Footnote   (feet)   (feet)   (feet)   (feet)	(μg/L) (μg/L)
MW-6 Cont.         Interpretation of the control	
3/12/1998        41.59       11.17        30.42  -	
6/23/1998        41.59       13.27        28.32  -	
3/31/1999        41.59       12.91        28.68  -	  
8/25/1999        41.59       15.93        25.66  -	  
3/9/2000        41.59       11.49        30.10	
3/8/2001        41.59       10.81        30.78	
3/8/2002        41.59       14.28        27.31	
3/18/2002        41.59       13.10        28.49  -	
3/11/2003 41.59 13.63 27.96	
12/09/2003       P       41.59       14.26        27.33       <50	
03/09/2004 NP 41.59 11.87 29.72 <50 <0.50 <0.50 <0.50 <0.50 10 SEQM 7.1 09/17/2004 41.59 16.45 25.14	
09/17/2004 41.59 16.45 25.14	
03/07/2005 P 41.59 13.65 27.94 <50 <0.50 <0.50 <0.50 <0.50 5.8 SEQM 6.7	
00/06/2005	
09/06/2005   44.37   14.23     30.14	
03/06/2006 P u 44.37 12.89 31.48 <50 <0.50 <0.50 <0.50 <0.50 8.1 SEQM 6.8	
9/5/2006 44.37 14.10 30.27	
3/5/2007 P 44.37 11.43 32.94 <50 <0.50 <0.50 <0.50 <0.50 5.6 2.57 TAMC 7.70	
9/7/2007 44.37 16.00 28.37	
3/6/2008 P 44.37 11.84 32.53 <50 <0.50 <0.50 <0.50 <0.50 1.9 2.34 CEL 6.81	
9/3/2008 44.37 16.24 28.13	
3/4/2009 P 44.37 11.68 32.69 <50 <0.50 <0.50 <0.50 <0.50 2.8 4.66 CEL 6.82	
9/30/2009 P x 41.58 16.83 24.75 <50 <0.50 <0.50 <0.50 <0.50 4.4 0.10 CEL 7.00	
10/28/2009 41.58 15.63 25.95	
3/23/2010 P 41.58 11.48 30.10 <50 <0.50 <0.50 <0.50 <1.0 1.0 TAMC 6.57	
MW-7	
10/3/1991 40.64 14.93 25.71 360 62 13 3.4 20 SUP	
10/15/1991 40.64 15.16 25.48	
12/4/1991 40.64 15.41 25.23	
12/16/1991 40.64 15.21 25.43	

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			TOC		Product	Water Level		C	oncentrati	ons in (μg/l						DRO/		
Well and			Elevation	DTW	Thickness	Elevation	GRO/			Ethyl-	Total		DO			TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	(µg/L)
MW-7 Cont.																		
1/6/1992			40.64	14.56		26.08	1,100	170	< 0.5	24	23			ANA				
1/22/1992			40.64	14.63		26.01												
1/28/1992			40.64	14.73		25.91												
2/5/1992			40.64	14.58		26.06												
2/12/1992			40.64	13.94		26.70												
2/17/1992			40.64	13.10		27.54												
4/3/1992			40.64	12.66		27.98												
4/8/1992			40.64	12.77		27.87	750	150	< 0.5	23	9.9			ANA				
4/14/1992			40.64	13.02		27.62												
4/29/1992			40.64	13.59		27.05												
5/7/1992			40.64	13.95		26.69												
7/3/1992			40.64	14.73		25.91	660	210	<2.5	33	8			ANA				
10/8/1992			40.64	15.75		24.89	320	49	1.4	13	6.2			ANA				
12/31/1992			40.64	13.57		27.07	900	100	<2.5	28	4.3			ANA				
4/21/1993		n	40.64	14.56		26.08	510	83	1.2	10	5.8			PACE				
7/7/1993		i, n	40.32	13.40		26.92	1,100	160	2	27	4	10.84		PACE				
7/7/1993		h, n	40.32				1,100	170	1.9	29	2.84	9.84		PACE				
9/21/1993		n	40.32	14.40		25.92	690	150	3.1	26	5.7			PACE				
9/21/1993		h, n	40.32				640	140	1.7	23	2.4			PACE				
12/17/1993			40.32	13.65		26.67												
12/23/1993		n	40.32				250	64	1.2	9	1.8	7.81		PACE				
4/7/1994		n	40.32	30.62		9.70	140	32	1.4	< 0.5	< 0.5	6.32		PACE				
7/6/1994		n	40.32	16.88		23.44	410	94	1.3	10	3.5	< 5.0	4.4	PACE				
10/7/1994		n	40.32	25.59		14.73	< 50	9.2	< 0.5	< 0.5	< 0.5	< 5.0	4.9	PACE				
1/27/1995			40.32	9.82		30.50	810	570	3	60	17		0.0	ATI				
1/27/1995		h	40.32				930	620	4	77	21			ATI				
3/30/1995			40.32	9.15		31.17	180	65	0.53	2	<1.0		7.8	ATI				
6/20/1995			40.32	11.38		28.94	2,800	980	< 5.0	< 5.0	43			ATI				
10/3/1995			40.32	29.95		10.37	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 5.0		ATI				
12/6/1995			40.32	29.85		10.47	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 5.0		ATI				
3/21/1996			40.32	9.76		30.56	1,000	390	2	40	13	<10	7.4	SPL				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

			тос		Product	Water Level	, ,									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)	(µg/L)
MW-7 Cont.																		
6/21/1996			40.32	11.01		29.31	<250	40	<5	<5	<5	<50	7.4	SPL				
9/6/1996			40.32	11.68		28.64												
9/9/1996			40.32				<250	13	<5.0	< 5.0	<5.0	<50	7.2	SPL				
12/19/1996			40.32	10.78		29.54	70	1.2	<1.0	1	<1.0	<10	8.3	SPL				
3/17/1997			40.32	9.96		30.36												
8/12/1997			40.32	11.44		28.88												
12/10/1997			40.32	10.42		29.90												
3/12/1998			40.32	9.51		30.81												
6/23/1998			40.32	9.98		30.34												
3/31/1999			40.32	10.38		29.94												
8/25/1999			40.32	12.38		27.94												
3/9/2000			40.32	8.48		31.84												
3/8/2001			40.32	8.37		31.95												
3/8/2002		f	40.32															
3/18/2002			40.32	9.94		30.38												
3/11/2003			40.32	11.26		29.06												
12/09/2003	P		40.32	12.76		27.56	270	26	< 0.50	< 0.50	< 0.50	8.7		SEQM	6.1			
03/09/2004	P		40.32	10.91		29.41	320	49	0.73	1.8	0.59	6.9		SEQM	6.2			
09/17/2004	P		40.32	13.20		27.12	330	17	< 0.50	< 0.50	< 0.50	7.0		SEQM	6.6			
03/07/2005	P		40.32	8.18		32.14	340	41	0.79	0.79	0.73	7.2		SEQM	6.9			
09/06/2005	P		43.10	11.80		31.30	1,100	130	1.2	1.8	<1.5	16		SEQM	6.7			
03/06/2006	P		43.10	8.39		34.71	440	31	0.78	0.74	0.81	8.3		SEQM	7.1			
9/5/2006			43.10	11.45		31.65	2,000	260	3.1	5.9	<2.5	12		TAMC	6.6			
3/5/2007	P		43.10	9.31		33.79	2,200	110	2.2	4.0	1.8	7.6	1.06	TAMC	7.26			
9/7/2007	P		43.10	12.18		30.92	220	8.4	< 0.50	< 0.50	< 0.50	1.2	0.98	TAMC	6.89			
3/6/2008	P		43.10	10.05		33.05	1,800	54	1.2	1.1	<1.0	<1.0		CEL	7.02			
9/3/2008	P		43.10	13.17		29.93	540	13	0.69	< 0.50	< 0.50	5.5	4.77	CEL	6.88			
3/4/2009	P		43.10	8.25		34.85	720	15	0.59	0.53	< 0.50	3.4	1.29	CEL	6.93			
9/30/2009	P	х	40.40	12.70		27.70	1,200	44	1.0	0.74	0.79	3.3	0.11	CEL	6.94			
10/28/2009			40.40	11.17		29.23												
3/23/2010	P		40.40	9.28		31.12	480	11	<0.50	<0.50	<1.0	<0.50	0.38	TAMC	6.57			

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses Station #11109, 4280 Foothill Blvd., Oakland, CA

Well and			TOC Elevation	DTW	Product Thickness	Water Level Elevation	GRO/	C	oncentrati	ons in (µg/ Ethyl-	L) Total		DO			DRO/ TPHd	TOG	нуос
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(µg/L)	$(\mu g/L)$
MW-7																		
MW-8																		
10/3/1991			38.18	22.37		15.81	< 50	<0.3	0.6	<0.3	0.9			SUP				
10/15/1991			38.18	22.70		15.48												
12/4/1991			38.18	22.44		15.74												
12/16/1991			38.18	22.47		15.71												
1/6/1992			38.18	21.94		16.24	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
1/22/1992			38.18	21.44		16.74												
1/28/1992			38.18	21.20		16.98												
2/5/1992			38.18	20.88		17.30												
2/12/1992			38.18	20.54		17.64												
2/17/1992			38.18	19.99		18.19												
4/3/1992			38.18	16.75		21.43												
4/8/1992			38.18	16.57		21.61	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
4/14/1992		f	38.18															
4/29/1992			38.18	18.61		19.57												
5/7/1992			38.18	18.41		19.77												
7/3/1992			38.18	20.35		17.83	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
10/8/1992		f	38.18	21.74		16.44												
12/31/1992			38.18	19.09		19.09	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
4/21/1993		n	38.18	18.92		19.26	< 50	<0.5	< 0.5	< 0.5	< 0.5			PACE				
7/7/1993		n	38.18	17.76		20.42	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0		PACE				
9/21/1993		n	38.18	19.71		18.47	< 50	2.9	2.2	2.2	7.1			PACE				
12/17/1993			38.18	21.33		16.85												
12/23/1993		n	38.18				< 50	<0.5	< 0.5	< 0.5	0.6	< 5.0		PACE				
4/7/1994		n	38.18	21.51		16.67	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	6.6	PACE				
7/6/1994		n	38.18	17.41		20.77	< 50	<0.5	< 0.5	< 0.5	< 0.5	< 5.0	4.4	PACE				
10/7/1994		n	38.18	19.20		18.98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	3.7	PACE				
1/27/1995			38.18	12.25		25.93	< 50	< 0.5	< 0.5	< 0.5	<1		2.9	ATI				
3/30/1995			38.18	10.35		27.83	< 50	< 0.50	< 0.50	< 0.50	<1.0		8.3	ATI				
6/20/1995			38.18	13.37		24.81	< 50	< 0.50	< 0.50	< 0.50	<1.0		6.9	ATI				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

							,		,	Jakianu, V								
			TOC		Product	Water Level	~~~	C	oncentrati 	ons in (µg/l						DRO/		
Well and	D/NID	<b>T</b> 4 4	Elevation	DTW	Thickness	Elevation	GRO/	D	TO 1	Ethyl-	Total	MADE	DO	T . 1		TPHd	TOG	HVOC
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	TPHg	Benzene	1 oluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(µg/L)	(μg/L)	(μg/L)
MW-8 Cont.																		
10/3/1995		f	38.18															
12/6/1995			38.18	18.42		19.76	<50	< 0.50	< 0.50	< 0.50	<1.0	47	5.3	ATI				
3/21/1996		f	38.18															
6/21/1996			38.18	13.03		25.15	< 50	< 0.5	<1	<1	<1	<10	7.0	SPL				
9/6/1996			38.18	13.70		24.48												
9/9/1996			38.18				< 50	< 0.5	<1.0	<1.0	<1.0	<10	7.0	SPL				
12/19/1996			38.18	11.93		26.25	<50	< 0.5	<1.0	<1.0	<1.0	<10	7.6	SPL				
3/17/1997			38.18	11.29		26.89												
8/12/1997			38.18	13.73		24.45												
12/10/1997			38.18	11.88		26.30												
3/12/1998			38.18	11.89		26.29												
6/23/1998			38.18	11.33		26.85												
3/31/1999			38.18	12.68		25.50												
8/25/1999			38.18	14.93		23.25												
3/9/2000			38.18	9.14		29.04												
3/8/2001			38.18	8.41		29.77												
3/8/2002			38.18	11.18		27.00												
3/18/2002			38.18	10.72		27.46												
3/11/2003			38.18	10.46		27.72												
03/09/2004	P		38.18	9.79		28.39	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.50		SEQM	7.2			
09/17/2004			38.18	15.35		22.83												
03/07/2005	P		38.18	7.94		30.24	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		SEQM	6.7			
09/06/2005			40.95	13.06		27.89												
03/06/2006	P	u	40.95	9.26		31.69	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.59		SEQM	7.2			
9/5/2006			40.95	12.61		28.34												
3/5/2007	P		40.95	9.12		31.83	<50	< 0.50	< 0.50	< 0.50	0.53	< 0.50	6.79	TAMC	7.17			
9/7/2007			40.95	13.56		27.39												
3/6/2008	P		40.95	9.80		31.15	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	4.14	CEL	6.86			
9/3/2008			40.95	14.20		26.75												
3/4/2009	P		40.95	9.51		31.44	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.62	CEL	6.96			
9/30/2009		X	38.19	14.92		23.27												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

Well and			TOC Elevation	DTW	Product Thickness	Water Level Elevation	GRO/	C	oncentrati	ons in (µg/l	L) Total		DO			DRO/ TPHd	TOG	нуос
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-8 Cont.																		
10/28/2009			38.19	13.56		24.63												
3/23/2010		f					-											
MW-9																		
10/3/1991			41.25	14.12		27.13	< 50	< 0.3	0.4	< 0.3	< 0.3			SUP				
10/15/1991			41.25	14.27		26.98												
12/4/1991			41.25	13.84		27.41												
12/16/1991			41.25	14.18		27.07												
1/6/1992			41.25	13.42		27.83	< 50	< 0.5	< 0.5	< 0.5	0.9			ANA				
1/22/1992			41.25	13.75		27.50												
1/28/1992			41.25	14.76		26.49												
2/5/1992			41.25	13.38		27.87												
2/12/1992			41.25	11.86		29.39												
2/17/1992			41.25	10.78		30.47												
4/3/1992			41.25	11.63		29.62												
4/8/1992			41.25	12.25		29.00	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
4/14/1992			41.25	12.32		28.93												
4/29/1992			41.25	13.07		28.18												
5/7/1992			41.25	14.43		26.82												
7/3/1992			41.25	13.85		27.40	< 50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
10/8/1992			41.25	14.89		26.36	< 50	<0.5	< 0.5	<0.5	< 0.5			ANA				
12/31/1992			41.25	11.90		29.35	< 50	<0.5	< 0.5	< 0.5	< 0.5			ANA				
4/21/1993		n	41.25	13.68		27.57	<50	<0.5	<0.5	<0.5	< 0.5			PACE				
7/7/1993		n	41.25	13.12		28.13	< 50	< 0.5	< 0.5	< 0.5	< 0.5	<5.0		PACE				
9/21/1993		n	41.25	14.00		27.25	<50	<0.5	<0.5	<0.5	0.9			PACE				
12/17/1993			41.25	12.98		28.27												
12/23/1993		n	41.25				<50	<0.5	<0.5	<0.5	0.9	<5.0		PACE				
4/7/1994		n	41.25	13.24		28.01	<50	<0.5	<0.5	<0.5	< 0.5	<5.0	4.7	PACE				
7/6/1994		n	41.25	13.77		27.48	<50	<0.5	<0.5	<0.5	<0.5		3.9	PACE				
10/7/1994		n	41.25	14.60		26.65	<50	<0.5	< 0.5	<0.5	< 0.5	<5.0	3.0	PACE				
1/27/1995			41.25	8.47		32.78	<50	<0.5	<0.5	<0.5	<1		2.5	ATI				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

XX 11 1			TOC	DEW	Product	Water Level	CDO/	C	oncentrati	ons in (µg/			DO.			DRO/	TOC	HWOG
Well and Sample Date	P/NP	Footnote	Elevation (feet)	DTW (feet bgs)	Thickness (feet)	Elevation (feet)	GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MtBE	DO (mg/L)	Lab	рH	TPHd (µg/L)	TOG (µg/L)	HVOC (μg/L)
MW-9 Cont.			( 111)	( 111 11 81 )	( 11)	(11)	-				<b>J</b>		( 8 /			4.8 /	4.8	4.8
3/30/1995			41.25	8.19		33.06	<50	< 0.50	<0.50	<0.50	<1.0		8.4	ATI				
6/20/1995			41.25	11.25		30.00	<50	< 0.50	< 0.50	< 0.50	<1.0		8.1	ATI				
10/3/1995			41.25	14.68		26.57	< 50	< 0.50	<0.50	<0.50	<1.0	<5.0	6.0	ATI				
12/6/1995			41.25	16.07		25.18	< 50	< 0.50	< 0.50	< 0.50	<1.0	46	5.4	ATI				
3/21/1996			41.25	9.60		31.65	< 50	<0.5	<1	<1	<1	<10	8.0	SPL				
6/21/1996			41.25	10.86		30.39	< 50	< 0.5	<1	<1	<1	<10	7.8	SPL				
9/6/1996			41.25	11.52		29.73												
9/9/1996		k	41.25				< 50	< 0.5	<1.0	<1.0	<1.0	20/21	7.3	SPL				
12/19/1996			41.25	10.43		30.82	<50	<0.5	<1.0	<1.0	<1.0	<10	7.3	SPL				
3/17/1997			41.25	9.87		31.38												
8/12/1997			41.25	11.44		29.81												
12/10/1997			41.25	10.44		30.81												
3/12/1998			41.25	9.50		31.75												
6/23/1998			41.25	10.06		31.19												
3/31/1999			41.25	9.06		32.19												
8/25/1999			41.25	12.00		29.25												
3/9/2000			41.25	10.57		30.68												
3/8/2001			41.25	9.73		31.52												
3/8/2002			41.25	11.89		29.36												
3/18/2002			41.25	9.68		31.57												
3/11/2003			41.25	9.21		32.04												
03/09/2004			41.25	10.99		30.26	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		SEQM	6.6			
09/17/2004			41.25	13.35		27.90												
03/07/2005	P		41.25	8.94		32.31	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		SEQM	6.9			
09/06/2005			44.06	11.99		32.07												
03/06/2006	P	u	44.06	8.26		35.80	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		SEQM	6.9			
9/5/2006			44.06	11.63		32.43												
3/5/2007	P		44.06	9.33		34.73	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.22	TAMC	7.03			
9/7/2007			44.06	12.28		31.78												
3/6/2008	P		44.06	10.11		33.95	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	3.72	CEL	6.90			
9/3/2008			44.06	13.49		30.57												

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

Well and			TOC Elevation	DTW	Product Thickness	Water Level Elevation	GRO/	C	oncentrati	ons in (µg/l Ethyl-	L) Total		DO			DRO/ TPHd	TOG	нуос
Sample Date	P/NP	Footnote	(feet)	(feet bgs)	(feet)	(feet)	ТРНд	Benzene	Toluene	Benzene	Xylenes	MtBE	(mg/L)	Lab	pН	(μg/L)	(μg/L)	(μg/L)
MW-9 Cont.																		
3/4/2009	P		44.06	8.15		35.91	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	4.03	CEL	6.84			
9/30/2009		x	41.25	12.98		28.27												
10/28/2009			41.25	11.98		29.27												
3/23/2010	P		41.25	10.59		30.66	<50	<0.50	<0.50	< 0.50	<1.0	< 0.50	0.86	TAMC	6.54			
MW-10																		
6/16/2009		X	39.78	8.60	0.01	31.19												
7/22/2009			39.78	9.68	0.01	30.11												
8/6/2009			39.78	9.48		30.30												
9/30/2009			39.78	9.69	0.01	30.10												
10/28/2009	P	z	39.78	8.53		31.25	62,000	8,300	5,300	3,100	12,000	<50	1.14	CEL	6.9			
3/23/2010	P		39.78	7.70	SHEEN	32.08	58,000	6,500	4,800	2,300	9,700	<100	0.71	TAMC	6.69			
MW-11																		
9/30/2009	P	X	40.04	10.55		29.49	30,000	850	1,400	1,000	3,700	27		CEL	7.09			
10/28/2009	P		40.04	8.00		32.04	27,000	1,100	2,300	1,500	5,800	<50	0.82	CEL	6.74			
3/23/2010	P		40.04	7.25		32.79	19,000	530	830	790	2,200	<25	0.66	TAMC	6.64			
MW-12																		
9/30/2009		X	40.32	11.02	0.02	29.32												
10/28/2009	P	z	40.32	10.40		29.92	43,000	5,800	800	2,900	6,800	< 50	0.73	CEL	6.7			
3/23/2010	P		40.32	11.46	SHEEN	28.86	39,000	4,800	1,000	3,100	6,400	<25	1.06	TAMC	6.60			
QC-2																		
10/8/1992		1	41.25				<50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
12/31/1992		1	41.25				<50	< 0.5	< 0.5	< 0.5	< 0.5			ANA				
4/21/1993		1, n	41.25											PACE				
7/7/1993		l, n	41.25				< 50	< 0.5	< 0.5	< 0.5	0.6			PACE				
9/21/1993		l, n	41.25				<50	<0.5	<0.5	<0.5	<0.5			PACE				
12/23/1993		1	41.25				< 50	< 0.5	< 0.5	< 0.5	< 0.5			PACE				
4/7/1994		1	41.25				< 50	<0.5	<0.5	<0.5	<0.5			PACE				
7/6/1994		1	41.25				< 50	< 0.5	< 0.5	< 0.5	< 0.5			PACE				

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #11109, 4280 Foothill Blvd., Oakland, CA

XX 11 1			TOC	DEM	Product	Water Level	CPO/	C	oncentrati	ons in (µg/l			DO			DRO/	TOC	HWOC
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	(mg/L)	Lab	рH	TPHd (µg/L)	TOG (µg/L)	HVOC (μg/L)
QC-2 Cont.			,		, ,	` ′									1	,,,	,,,	48 /
10/7/1994		1	41.25				< 50	< 0.5	< 0.5	< 0.5	< 0.5			PACE				
1/27/1995		1	41.25				< 50	< 0.5	0.5	< 0.5	<1			ATI				
3/30/1995		1	41.25				< 50	< 0.50	< 0.50	< 0.50	<1.0			ATI				
6/20/1995		1	41.25				< 50	< 0.50	< 0.50	< 0.50	<1.0			ATI				
10/3/1995		1	41.25				< 50	< 0.50	< 0.50	< 0.50	<1.0	< 5.0		ATI				
12/6/1995		1	41.25				< 50	< 0.50	< 0.50	< 0.50	<1.0	< 5.0		ATI				
3/21/1996		1	41.25				< 50	< 0.5	<1	<1	<1	<10		SPL				
6/21/1996		1	41.25				< 50	< 0.5	<1	<1	<1	<10		SPL				

#### ABBREVIATIONS & SYMBOLS:

- --/--- = Not analyzed/applicable/measured/available
- < = Not detected at or above specified laboratory reporting limit

DO = Dissolved oxygen

DTW = Depth to water in ft bgs

ft bgs = Feet below ground surface

GRO = Gasoline range organics, range C4-C12

OKO = Gasoffile range organics, range C4-C

GWE = Groundwater elevation in ft

mg/L = Milligrams per liter

MTBE = Methyl tert-butyl ether

ND = Not detected

NP = Well not purged prior to sampling

P = Well purged prior to sampling

TOC = Top of casing elevation in ft

TPH-g = Total petroleum hydrocarbons as gasoline

 $\mu g/L = Micrograms per liter$ 

ANA = Anametrix, Inc.

PACE = Pace, Inc.

ATI = Analytical Technologies, Inc.

CEI = Ceimic Corporation

SPL = Southern Petroleum Laboratories

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

SUP = Superior Analytical Laboratory

#### FOOTNOTES:

- (a) Free product in well.
- (c) Well destroyed during tank removal in November 1990.
- (d) Methylene chloride.
- (e) 1,2-Dichloroethane.
- (f) Well inaccessible.
- (g) Sample collected from MW-2 for TPH-d analysis received in laboratory 7 days after collection; sample exceeded EPA recommended holding time for TPH-d on a water matrix.
- (h) Blind duplicate.
- (i) TOC lowered.
- (j) A copy of the documentation for this data is included in Appendix C of Alisto report 10-014-07-001.
- (k) EPA Methods 8020/8260 used.
- (1) Travel blank.
- (n) A copy of the documentation for this data is included in the Blaine Tech Services, Inc. report 020308-DW-2. The data for samples taken on April 21, 1993, have been destroyed. No chromatograms could be located for the samples taken on: July 7, 1993, for well MW-2 and TB; September 21, 1993, for all wells MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, the DUP and TB; December 23, 1993, for wells MW-2 and MW-3; and July 6, 1994, for wells MW-2, MW-4, MW-6, and MW-9.
- (p) Well not sampled due to damage during site construction.
- (q) Sheen in well.
- (r) Well dry.
- (s) The hydrocarbon result for GRO was partly due to individual peaks in the quantification range.
- (t) MS and/or MSD were below the acceptance limits for MTBE. Matrix interference was suspected.
- (u) Possible high bias for benzene due to CCV falling outside acceptance criteria.
- (v) The sample concentration is greater than four times the spike concentration.
- (w) Insufficient water to sample.
- (x) Well surveyed 4/13/2009.
- (y) Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
- (z) Free product not observed during initial gauging activities, but was observed following or during purge.

#### NOTES:

GWE adjusted assuming a specific gravity of 0.75 for free product.

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g has been changed to GRO. The resulting data may be impacted by the potential inclusion of non-TPHg analytes within the

requested fuel range resulting in a higher concentration being reported.

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 Station #11109, 4280 Foothill Blvd., Oakland, CA

Well and				Concentration	ons in (µg/L)				
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-2									
12/09/2003	<100	<20	24	< 0.50	< 0.50	< 0.50			
03/09/2004	<100	<20	27	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
09/17/2004	<100	<20	21	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
9/5/2006	<300	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
MW-3									
12/09/2003	<100	<20	6.4	< 0.50	< 0.50	< 0.50			
03/09/2004	<100	<20	6.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/07/2005	<100	<20	5.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/06/2006	<300	<20	6.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/5/2007	<300	<20	5.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/6/2008	<300	<10	4.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/4/2009	<300	<10	4.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
9/30/2009	<300	<10	6.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/23/2010	<100	<4.0	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-4									
12/09/2003	< 500	<100	130	<2.5	<2.5	2.7			
03/09/2004	<100	<20	35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
09/17/2004	< 500	<100	140	<2.5	<2.5	2.6	<2.5	<2.5	
03/07/2005	<100	<20	42	< 0.50	< 0.50	0.56	< 0.50	< 0.50	
09/06/2005	<150	<10	180	< 0.50	< 0.50	2.8	< 0.50	< 0.50	a
03/06/2006	<600	<40	110	<1.0	<1.0	1.4	<1.0	<1.0	
9/5/2006	<600	<40	190	<1.0	<1.0	1.7	<1.0	<1.0	
3/5/2007	<300	<20	13	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
9/7/2007	<300	<20	130	< 0.50	< 0.50	1.7	< 0.50	< 0.50	b (MTBE)
3/6/2008	<300	14	170	< 0.50	< 0.50	2.1	< 0.50	< 0.50	
9/3/2008	<3,000	<100	150	<5.0	<5.0	<5.0	<5.0	< 5.0	
3/4/2009	<3,000	<100	110	<5.0	<5.0	<5.0	<5.0	< 5.0	
9/30/2009	<1,200	<40	140	<2.0	<2.0	<2.0	<2.0	<2.0	
3/23/2010	<100	18	84	<0.50	<0.50	0.88	<0.50	< 0.50	

Table 2. Summary of Fuel Additives Analytical Data Station #11109, 4280 Foothill Blvd., Oakland, CA

Well and				Concentrati	ons in (µg/L)				
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-5									
03/09/2004	<10,000	<2,000	< 50	<50	<50	< 50	96	< 50	
03/06/2006	<30,000	<2,000	<50	60	<50	< 50	<50	< 50	
3/5/2007	<30,000	<2,000	<50	57	<50	<50	<50	< 50	
3/23/2010	<1,000	<40	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
MW-6									
12/09/2003	<100	<20	12	< 0.50	< 0.50	< 0.50			
03/09/2004	<100	<20	10	< 0.50	< 0.50	< 0.50	0.58	< 0.50	
03/07/2005	<100	<20	5.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/06/2006	<300	<20	8.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/5/2007	<300	<20	5.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/6/2008	<300	<10	1.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/4/2009	<300	<10	2.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
9/30/2009	<300	<10	4.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/23/2010	<100	<4.0	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-7									
12/09/2003	<100	<20	8.7	< 0.50	< 0.50	< 0.50			
03/09/2004	<100	<20	6.9	< 0.50	< 0.50	< 0.50	1.2	< 0.50	
09/17/2004	<100	<20	7.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/07/2005	<100	<20	7.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
09/06/2005	<150	30	16	0.60	< 0.50	< 0.50	< 0.50	< 0.50	
03/06/2006	<300	<20	8.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
9/5/2006	<1,500	<100	12	<2.5	<2.5	<2.5	<2.5	<2.5	
3/5/2007	<600	<40	7.6	<1.0	<1.0	<1.0	<1.0	<1.0	
9/7/2007	<300	<20	1.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/6/2008	<600	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
9/3/2008	<300	17	5.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/4/2009	<300	12	3.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
9/30/2009	<300	<10	3.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/23/2010	<100	12	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Table 2. Summary of Fuel Additives Analytical Data Station #11109, 4280 Foothill Blvd., Oakland, CA

Well and				Concentrati	ons in (μg/L)			·	
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Comments
MW-8									
03/09/2004	<100	<20	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/07/2005	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/06/2006	<300	<20	0.59	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/5/2007	<300	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/6/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/4/2009	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
MW-9									
03/09/2004	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/07/2005	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
03/06/2006	<300	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/5/2007	<300	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/6/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/4/2009	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
3/23/2010	<100	<4.0	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	
MW-10									
10/28/2009	<10,000	<400	< 50	< 50	<50	< 50	<50	< 50	
3/23/2010	<20,000	<800	<100	<100	<100	<100	<100	<100	
MW-11									
9/30/2009	<6,000	<200	27	<10	<10	<10	<10	<10	
10/28/2009	<10,000	<400	<50	< 50	<50	< 50	<50	< 50	
3/23/2010	<5,000	<200	<25	<25	<25	<25	<25	<25	
MW-12									
10/28/2009	<10,000	<400	< 50	<50	<50	<50	<50	< 50	
3/23/2010	<5,000	<200	<25	<25	<25	<25	<25	<25	

#### ABBREVIATIONS AND SYMBOLS:

TBA = tert-Butyl alcohol

MTBE = Methyl tert-butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

TAME = tert-Amyl methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane

 $\mu g/L = micrograms per liter$ 

- < = Not detected at or above specified laboratory reporting limit
- -- = Data not available, not analyzed, or not applicable

#### FOOTNOTES:

- (a) MS and/or MSD below acceptance limits for MTBE. Matrix interference suspected.
- (b) The sample concentration is greater than four times the spike concentration.

#### NOTES:

All fuel oxygenate compounds 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 #11109, 4280 Foothill Blvd., Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
3/6/2006	Southwest	0.05
9/5/2006	Southwest	0.05
2/21/2007	Southwest	0.02
9/7/2007	Southwest	0.03
3/6/2008	Southwest	0.01
9/3/2008	Southwest	0.006
3/4/2009	Southwest	0.02
9/30/2009	Northwest	0.07
10/28/2009	Northwest	0.04
3/23/2010	Northwest	0.03

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

## APPENDIX A

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



PROJECT NO.: 69-88-646 BP 11109

DATE: 1/26/10

PERSONNEL: Tracy beades

WEATHER: 50's overcast/light rain COMMENTS: Equip: Geosquirt Tubing Bailers DO wli Ec/pH

			•						ļ			
Well ID	Time	MEASURING POINT DT SPH	DTW (FT)	PRODUCT THICKNESS	pН	Cond. (X100)	Temp. (C/F)	DO (mg/l)	Redox (mV)	Iron (mg/l)	Alk. (mg/l)	WELL HEAD CONDITION: VAULT, BOLTS, CAP, LOCK, ETC
MW-5	1224	6.41	6.43	.02								1.5 gal bailed DTW post bail 7.7. 0.5 gal bailed, DTW post bail 7.88 No Product Detected No Product Detected
MW-10	1240	7.85	7.86	.01								0.5 gal builed, OTW post bail 7.88
MW-11	1255	-	6.98	_		-						No Product Detected
MW-12		-	8,67	_								No Product Detected
												1 Product Drum on site 2/3
	:											full
		·										
	·						-					
				-								
												·
		· · · · ·										
												`
		-										

DATE: 2/24/10
PERSONNEL: Tordons
WEATHER: BULNCAGE 50.5 PROJECT NO.: 09-88-646 COMMENTS: Equip: Geosquirt Tubing Ballers DO. ..wli... Ec/pH PRODUCT THICKNESS DISPA WELL HEAD CONDITION: MEASURING Cond. Temp. Redox Iron Alk. DTW (FT) DO (mg/l) Well ID Time VAULT, BOLTS, CAP, LOCK, ETC (C/F) (X100) (mV) (mg/l) **POINT** (mg/l) MW post toil 8.28H, 2gal barled TOC .02 6.70 MW-5 1123 Nopraduct Nopraduct Nopraduct MW-10/140 7.28 MW-11 1145 7.07 MW12 1055 10,21 Product down 3/3 full 



PROJECT NO.: BP 11109 DATE: 3/23/10
PERSONNEL: C. Ford
WEATHER: COMMENTS: O wli Ec/pH Equip: Geosquirt Tubing Ballers PRODUCT THICKNESS WELL HEAD CONDITION: Alk. Temp. (C/F) Redox Iron Cond. **MEASURING** DO (mg/l) pΗ DTW (FT) VAULT, BOLTS, ÇAP, LOCK, ETC Well ID Time (mV) (mg/l) (mg/l) POINT (X100) 11 टाउ PM MW-2 10.62 MC J. Congression 7,10 MW-5 MW-6 1103 MW-7 1145 7.28 Displits of podnot MW-8 Mrg 1100 10:59 7.70 7.25 NW-18 (Cas 1170 11.46 MW-12 1468 1115 A



			MM-	3				
Vell I.D.:		tion:		1109		F	roject #	:09.88 6015
roject Nar	•	шоп		war			Date: 2	:09.88 (115 5/231/0
iampler's l		_	Pin					
urging Eq			Bu					
Sampling E		int: _	130.		· · · · · · · · · · · · · · · · · · ·			
Casing Typ				IJ	inch		*UNIT	CASING VOLUMES
Casing Dia				31.4				= 0.16 gal/lin ft.
Total Well				- 6.0				= 0.37 gal/lin ft.
Depth to V				= .33'			4"	= 0.65 gal/lin ft.
Water Colu				= <u>&amp;);</u> × 0.6;		not	6"	= 1.47 gai/lin ft.
Unit Casin				× 0.00		000	_	
Casing Wa	iter Volu	me:		<u>_</u>				
Casing Vo					each			
Estimated				= <u>UK</u> ,	M gallons			
Free prod	uct mea	suremei	nt (if pr	esent):				
Purged	Time	DO	ORP	Fe	Conductance	Temperature	pН	Observations
(gallons)	(24:00)		(mV)		(μ5)	(Fahrenheit)	670	
0	1352	2.47	-37		774,0	7.7	€,72	
[5	1357	х	х	х	770.8	71.4	6.69	W Stay III
20	1359	х	х	х	828,9	71.7	6.61	
<u>ي</u>	1400	х	х	×	86116	71.7	6.61	i) ·
	<del> </del>	х	х	х				
		x	х	х				
	-	×	×	х				`
	<u> </u>	х	x	х			<u> </u>	
		Dura	red.		75.	gallons	5	ì
Total Wa	ter voiu	He ruly	jeu. Je Colie:	ction	2943	fee	<del></del>	
Depth to	water	Ti	ie cone	CCIOTI	1409	,	– Pu	rged Dry? (Y/N)
Sample	Collecti	lon 11m	e:				_	
Commen	re*							
Commen								
		<del></del>						· 
			-					

			MW	_4				4	
ell I.D.:		_						09.88.60	16
roject Nan	ne/Local	ion: _	BP 111	04			Date: 3/	23/10	
ampler's i	Name:	٠ .	C. Fry	11/			Date:	27710	
urging Eq	uipment	: -	Pmf					<del></del>	
ampling E	quipme	nt: .	Buil	<u></u>					
asing Typ	e: PVC			y	- •	."	*IINTE C	ASING VOLU	MES
asing Dia	meter:				inch			0.16 gal/lin ft.	
otal Well	Depth:			26-				0.37 gal/lin ft.	
epth to W	-			- 10,8 - 13,0				0.65 gal/lin ft	
Vater Colu			<del></del> :			e		1.47 gal/lin ft	
Init Casing	y Volum	e*:	<del> </del>		5 gallon /	1000	0 -	I. (7 ga,	•
asing Wa	ter Volu	me:		= 10.3					
Casing Vol		·-·			3 each				
stimated	Purge V	olume:			gallons				
ree produ	ict meas	ureme	nt (if pre	esent):					
Purged	Time	DO	ORP	Fe	Conductance	Temperature (Fahrenheit)	pH	Observation	S ;
(gallons)	(24:00)		(mV)		(μ5)		6.48		
0.	1330	0.63	-15		119.7	√2.3 -72.3	<del></del> -		•
0	1332	X	х	X	715.4	69.4	6,38		
ls	1334	х	х	Х	713, c	69.5	6.35		<u>.</u>
		х	х	х				·	
<u> </u>		Х	х	X					
<del> </del>		x	х	×					₹
		X	х	х					
		×	Х	×				· 	
Total Wat	l Volue	na Dura	red:		15	gallon	5		. 3
Depth to				rtion:	70,93	fee	t		•
Sample (					1335		_ Purg	ed Dry? (Y/	(H)
Sample (	CONCLU	VII 1111	.~.					•	
Comment	:s:								
								}	
·		r.							
		1,							
	-		<u> </u>					il de la companya de	



Well I.D.:			Mu	1-5				0.0
Project Nan	ne/l ncat	ion:	BPI			F	roject #	3/23/10 3/23/10
Sampler's I			Eife		<u> </u>	<u></u>	Date:	3/43/10
Purging Eq		. <u></u>	Par	1				
Sampling E			13.1	v				
Casing Typ		''·						V
Casing Typ		1		니	inch	•		CASING VOLUMES
Total Well				32.0	7feet			= 0.16 gal/lin ft.
Depth to V	1 45			- 716	feet ·			= 0.37 gal/lin ft.
Water Colu		kness:		= 249	feet			= 0.65 gal/lin ft.
Unit Casin				x 0.6	5 gallon / fo	ot	6"	= 1.47 gal/lin ft.
Casing Wa				= 16.0	)3gallons		•	
Casing Vol					each	4		
Estimated	-	olume:		<u>- 48</u>	gallons			
Free produ	uct meas	uremer	nt (if pre	esent):	<u> </u>			
Purged	Time	DO	ORP	Fe	Conductance	Temperature	pН	Observations
(gallons)	(24:00)		(mV)		(μS)	(Fahrenheit)	1.63	. 1
0.	15/1	. "	-93		JK297316.0	71,7	6.83	<u> </u>
16	ISIC	х	х	X,	339.7	70,0	6.58	
90	1518	х	X	х	SSO, 3	70.2	6.50	
		Х	х	Х	•			
		×	х	x				,
		X	х	×				
	<u> </u>	×	×	х				
		×	х	×			<u> </u>	
Total Wa	Law Volue	na Bura	led.		20	gallon	<u>s</u>	•
Depth to	Mator 3	lic ruig f Samn	ie Collec	ction:	18,23	fee	<u>t</u>	
Sample	vvalei o Collecti	on Tim	e:		15,20	ye i i	Pu	rged Dry? (y)'/ N )
Sample		G		ング		<u> </u>		
Commen	ts: [/	(1) (2)	) (	<u> </u>				
			<u>.</u>	5 % N				
	Ty.					<u></u>		25 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
					. '			
					ž.			



0.7.5			MW	-6				
Well I.D.:	- (1	don.	BAILLA	<b>'</b> 9		F	roject #:	09.88.606
Project Nar		30n; _	G. f.				Date: 3	123110
Sampler's		-	04.0					
Purging Eq			$\frac{F^{-1}(\omega_{1})}{R}$					
Sampling E		nt: .	Dun					
Casing Typ				U	inch	•	*UNIT	CASING VOLUMES
Casing Dia				34,6		•	2" =	= 0.16 gal/lin ft.
Total Well				- <u>- 11</u>	VK feet		3" =	= 0.37 gal/lin ft.
Depth to V				= 23	<del></del>		4" =	= 0.65 gal/lin ft.
Water Col				$\mathbf{x} \stackrel{\mathcal{J}}{\leftarrow} \mathbf{x}$		foot	6" :	= 1.47 gal/lin ft.
Unit Casin					95 gallons		•	
Casing Wa		me:	<del></del>		3 each			
Casing Vo	_			= <u> 44.</u>	46 gallons			
Estimated	Purge V	olume:			90110113			
Free prod	uct meas	ureme	ent (ir pr	esent):		Temperature	рН	Observations
Purged	Time	DO	ORP	Fe	Conductance (µS)	(Fahrenheit)	р.,	
(gailons)	(24:00)		(mV) -51		673.3	711	675	.
d	1307		31		6/3	1/1/1		/
15	13(1	Х	×	x	6721	68.4	6,66	
20	1313	Х	х	×	693,4	68,3	657	
		Х	х	х				•
ļ		Х	х	X				
	<del>                                     </del>	х	х	×				
	<del> </del>	Х	x	×				•
		×	х	×				
Total Wa	ter Volu	ne Piir	ged:	<u></u>	QC	gallon	<u>5</u>	
Depth to	Water a	t Samr	ale Colle	ction:	35/12	fee	<u>t</u>	
Sample	Callesti	on Tin	ne!		1315		Pur	ged Dry? (Y(N)
Sample	Conecu	011 1111						
Commen	its:							
			<del></del>		<u> </u>	<u> </u>		
, julio					·	·		
· <del> </del>					<u> </u>			



\	Well I.D.:		_	/nw-	7 (3				09.88.646	<del></del>
	Project Nan	ne/Loca	tion: _	<u> </u>	107			Project #: Date: 3/	173/10	<del></del>
į	Sampler's		_	E. for				Date: _ 2/	2 -//-	<del></del>
	Purging Eq		: _	Prom	2					
	Sampling E		• .	Bul	<u> </u>			<del>_</del>		<del></del>
	Casing Typ			, ' , (!	. ,			*118177	CASING VOLUM	ES
	Casing Dia			<u> </u>	9	Inch			= 0.16 gal/lin ft.	
	Total Well	Depth:			3 3, 2	feet	*		= 0.10 gal/lin ft.	
	Depth to V	Vater:			- <u>9,7</u>				= 0.65 gal/lin ft.	
	Water Colu	ımn Thi	ckness:		= <u>- 24</u>	· · · · · · · · · · · · · · · · · · ·			= 1.47 gal/lin ft.	
	Unit Casin				x 1,4		סטנ			
	Casing Wa	ter Volu	ıme:		= 35.					
	Casing Vo				× 106	3 each				
	Estimated	Purge \	<u>/olume:</u>		- <del></del>	UI gallons				
	Free produ	uct mea	suremei	nt (if pr	esent): 				Observations	
	Purged	Time	DO	ORP	Fe	Conductance (µS)	Temperature (Fahrenheit)	рН	Onsei Annolis	
	(gallons)	(24:00)	030	(mV)			68.8	6.47	•	·         ~
ē	$\mid \mathcal{O} \mid$	1235	0.78	-48	<u> </u>	74412				
	39	1247	х	х	х	755,4	68,8	6.59		
	VS.	12Se	Х	х	х	762,7	69.5	6.57		
	3,534		х	х	×				•	
		<del> </del>	×	Х	х					
		<u> </u>	×	×	×					:
	, e	<del> </del>	×	×	×					
		<del> </del>	×	×	×					
	Total Wa	ter Volu		_l jed:	<u> </u>	45	gallon	5		
	Depth to	Water a	at Samp	le Colle	ction:	36.9		_		ارق
	Sample	Collect	ion Tim	e:		<u> </u>	<u> </u>	– Pui	rged Dry?(Y(/ N	<i>y</i>
						য'			_	
	Commen	ts:					42.			
	**************************************					*	<u>.                                    </u>			<del></del>
· · · . · · · .			<del></del> _	4		74	ba <b>f</b> in s		e.	1 .
- 1	. ·				<u> </u>		ŧ		1	<del></del>
		·				<u> </u>		1.3		<del></del>



			Mw-	9				
ell I.D.:		<del>-</del>	BPILION	<u>V</u>		F	roiect #	:09.88-646
oject Nan		tion: _	-			<del></del> Г	Date: 3/	23110
ampler's i		-	E. fo				<u> </u>	
urging Eqi			Bail	<u> </u>				
ampling E	quipme	nt: _	Bnilv					
asing Typ	e: PVC			$\neg$	•		*IINTT	CASING VOLUMES
asing Dia	_			$\frac{d}{2000}$	inch			= 0.16 gal/lin ft.
otal Well				790	feet feet			= 0.37 gal/lin ft.
epth to W				- <u>1013</u> - 144	<del></del>			= 0.65 gal/lin ft.
Vater Colu	_			= <u>15.5</u> x 0.1		vot		= 1.47 gai/lin ft.
init Casing				x <u>Uil</u> = 3.0			_	<b>.</b>
asing Wa	ter Volu	me:	·		<del></del>			•
Casing Vo				· ·	3 each 16 gallons			
stimated	Purge V	olume:		= <u>9.0</u>	ganons ganons			
ree produ	ıct mea:	sureme	nt (if pre	esent):				Observations
Purged	Time	DO	ORP	Fe	Conductance (µ5)	Temperature (Fahrenheit)	pН	ODSEL AUGUS
(gallons)	(24:00)		(mV)				6.49	
<b>୦</b> .	COS	0.86	-93		751.3	67,9	<b>├</b> -	
3	1 C 08	x	х	X	760.2	G8. Z	6.52	
5	161)	X	x	X	765.0	C8.3	6.54	
<u> </u>		х	Х	×				·
		×	Х	Х				
	<u> </u>	х	х	×				·
		×	×	x			<u> </u>	·
		х	Х	х				
Total Wal	tor Volu	ma Purc	red:		5	gallons	<u>5</u>	
Depth to	Water a	it Samn	ie Collec	ction:	15.38	řee	<u>t</u>	
Sample	vvalei t Callacti	ios Tím	10:		1615		Pu	rged Dry? (Y/N)
Sample	Concer							
Commen	ts:						<u> </u>	
<u> </u>								
			·					
								45
					·			

		if the	nw.	10					
Well I.D.:	f)		BPII			F	roject #	:09.88.64 5/23/10	<i>.</i> 6
Project Nar	-	don: _		110			Date:	2/53//0	
Sampler's I		-	Punt						
Purging Eq			Bnit						
Sampling E		nt: _	Dair						
Casing Typ				Ч	inch	•	*UNIT	CASING VO	LUMES
Casing Dia				30	feet		2"	= 0.16 gal/lin	ft.
Total Well			<u> </u>	- 7,70	<del></del>	•	3"	= 0.37 gal/lin	ft.
Depth to V				= <del>11/2</del>	ろ feet		4 <sup>n</sup>	= 0.65 gal/lin	ift. 🤲
Water Colu			·	× 0163	<del></del>	oot	6"	= 1.47 gal/lin	ıft.
Unit Casin				$= \frac{1918}{1918}$	gallons gallons				
Casing Wa		me:		<i>L</i> .		· · · · · · · · · · · · · · · · · · ·	٠		
Casing Vo				= <u>43.1</u>	gallons				
<b>Estimated</b>	Purge V	olume:			ganons		•		
Free prod	uct meas	sureme	nt (if pr	esent):		<del></del> _		Observat	lone
Purged	Time	DO	ORP	Fe	Conductance (µS)	Temperature (Fahrenheit)	pН	GDSel Val	101.5
(gallons)	(24:00)	0 -71	(mV)			1737	6.71		
0	11447	0.71	-114		1(0S	17.2	<del> </del> '-		
15	1450	X	х	x	10 69	70,3	6.70		
00	NYSY	Х	Х	х	1074	69,2	6.69		
× .		x	x	×				n grand Nagara	**************************************
	<del> </del>	×	×	X					**************************************
<b> </b>		×	×	×					
<u> </u>	<del> </del>		×	×		-	1		
	<del> </del> -	<del>                                     </del>	<del>  · · -</del>	<del>                                     </del>			<del>                                     </del>		
	<u> </u>	X	<u> </u>	x	<u> </u>		1		
Total Wa	ter Volu	me Purç	ged:		30	gallon	_		
Depth to	Water a	t Samp	le Colle	ction:	18175	fee			(.)
Sample	Collecti	on Tin	ne:	ž.	[456		_ Pu	rged Dry? ()	( / NL)/
<u></u>									
Commen	_					<u> </u>			
	: <b>K</b>	· :.						10 p. 20	
					•				
							<del> </del>		
	<u></u>			<del></del>			-,		



Project Name/Location:  Sampler's Name:  Purging Equipment:  Sampling Eq				Mw.	(I			·		
Date: 3/3/10   Date		// 000	-	BP/1	109		P	roject #:	09,88.60	1.4.
Purging Equipment:				€f	corre	-		-	3/23/10	+ 10
Sampling Equipment:   Park			_			. 77	vi .	·		
Casing Type: PVC Casing Diameter:  Total Well Depth:  Depth to Water:  Water Column Thickness:  Water Column Thickness:  Water Column Thickness:  Water Volume*:  Casing Water Volume*:  Casing Water Volume:  Estimated Purge Volume:  Purged Time DO ORP (MV) Fe Conductance (LS) (Fahrenheit)  (24:00) C   1/35   2.6C   - 02   1.33   - 2.6   - 6.5      1/36   X   X   X   X   115   - 3   - 6.5      1/36   X   X   X   X   115   - 3   - 6.5      1/36   X   X   X   X   - 3   - 3      1/36   X   X   X   X   - 3   - 3      1/36   X   X   X   X   - 3   - 3      1/36   X   X   X   X   - 3   - 3      1/36   X   X   X   X   - 3   - 3      1/36   X   X   X   X   - 3   - 3      1/36   X   X   X   X   - 3   - 3      1/37   1/36   - 3   - 3      1/38   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   - 3   - 3      1/30   X   X   X   X   X   X   X   X   X   - 3      1/30   X   X   X   X   X   - 3      1/30   X   X   X   X   X   X   X      1/30   X   X   X   X   X   X					· · · · ·			·		
Casing Diameter:   Total Well Depth:   Set   feet   2" = 0.16 gal/lin ft.				134.12						
Total Well Depth:    Depth to Water:			-	-	Ч	inch	•			
Depth to Water:					30	 feet				
Septit to Water   Sample Collection   Time   Temperature   Te	,				- 7,2	feet ·				
Unit Casing Volume*:  Casing Water Volume:  Casing Water Volume:  Casing Volume:  Estimated Purge Volume:  Free product measurement (if present):  Purged Time DO (mv) Fe (us) (Fahrenheit)  Callons) (24:00) (mv) Fe (us) (Fahrenheit)  Callons (1/35 0.6c − lo) (1			-knocc.			<del></del>	÷			
Casing Water Volume:  Casing Volume:  Estimated Purge Volume:  Free product measurement (if present):  Purged   Time (gallons)   C24:00)   DO   ORP (mV)   Fe (us)   (Fahrenheit)   (Fahre						<u> </u>	oot	6"	= 1.47 gal/lin	ft.
Casing Volume:						<del></del>				
Casing Volume:   =   U4/36   gallons			me:							
Purged   Time   DD   ORP   Fe   Conductance   (μs)   Temperature   Temperature   (μs)   Temperature   Temperature   (μs)   Temperature   Temperature   (μs)   Temperature   Temperature   Temperature   (μs)   Temperature   Temperatu										
Purged (gallons)         Time (24:00)         DO (MV)         Fe (µS)         Conductance (µS)         Temperature (Fahrenheit)         pH (Deservations)           O         1/23 0.6C - [0]         1/33 7/2.6 6.6/           IS         1/36 X X X X X 1153 69.7 6.65           QC         1/30 X X X X X X X X X X X X X X X X X X X	Estimated	Purge v	olume:			<u> </u>		<u> </u>		
Purged   Time   DO   ORP   Fe   Cuis)   (ps)   (Fahrenhelt)	Free produ		suremei				Temperature	nH	Observation	ons
Coalions   Caston	-		DO	1 1	Fe	l .				
S	-1		 0.6C				72.6	6.61		
C   1/30   X   X   X     1   C   C   C   C   C   C   C   C	15			Х	х	1153	69.7	6.65		
X   X   X   X   X   X   X   X   X   X	, ti	1430	×	х	Х	11 CT	69.6	6.64		
X X X   X   X   X   X   X   X   X   X	ac	ļ	X	х	X					
X X X   X   X   X   X   X   X   X   X			X	x	×					
Total Water Volume Purged:  Depth to Water at Sample Collection:  Sample Collection Time:    Y   X   X   X			<del></del>	X	×					
Total Water Volume Purged:  Depth to Water at Sample Collection:  Sample Collection Time:    Y   X   X   X	-	<del> </del>	×	×	×					
Depth to Water at Sample Collection:    17,73   feet     1432   Purged Dry? (Y/N)		<del> </del>	<del>                                     </del>	×	х					
Depth to Water at Sample Collection:    17,73   feet     1432   Purged Dry? (Y/N)		1	<u> </u>	<u> </u>	<u></u>	120	gallons			
Sample Collection Time:    1432   Purged Dry? (YM)	Total Wa	ter Volu	me Purg	jeu. Je Coller	tion:	- 42		<del></del>		
Sample Collection Time:	Depth to	Water a	it Samp	ne conec		1432		_	rged Dry? (Y	MV)
Comments:	Sample	Collect	lon iim	ie:				_	1	$\bigcup$
	Commen	its:					<u> </u>			
	Commission	•								
										10 No. 10
									·	
	62.									
		·			<u> </u>		<u> </u>		<u> </u>	
	**	٠								V.



			mv.	17	·			
Well I.D.:	//		RPIII	19	*.		roject #	: 09.89.646
Project Na			<u> </u>	form			 Date: <u></u>	123110
Sampler's		_	ñ	0				
Purging Ed			Ba.	.7		······································		
Sampling		יחנ: _	<u> </u>	<u> </u>				
Casing Typ				У	inch	•	*UNIT	CASING VOLUMES
Casing Dia				30	feet		2"	= 0.16 gal/lin ft.
Total Well		· · ·		- 11.V			3"	= 0.37 gal/lin ft.
Depth to \	_			= .18.5			4"	= 0.65 gal/lin ft.
Water Col				× 0.65	<del></del>	oot	6"	= 1.47 gal/lin ft.
Unit Casin				= 12.0				
Casing Wa		ıme:			3 each			
Casing Vo				× 36,1				
Estimated	Purge V	/olume:			<u>ganons</u>			
Free prod	uct mea	suremei	nt (ir pre			T	pН	Observations
Purged	Time	DO	ORP	Fe	Conductance (µS)	Temperature (Fahrenheit)	μπ	0836, 4845,
(gallons)	(24:00) IS34	1,06	-84 (mv)		1756	71.9	6.58	
1/2	1542	х	х	х	1150	70,0	6.59	
10	1544	х	х	х	1145	69.5	6.60	
1.6		х	х	X				•
		х	х	х			:	
	· ·	х	х	×			<u> </u>	
		х	х	х				
		х	×	×				
Total Wa	ter Volu	me Puro	jed:	<u></u>	16	gallons	<u>i</u>	
Depth to	Water a	t Samp	le Collec	tion:	13,65	· fee	_	rged Dry? (Y/N)
Sample	Collecti	U  3    1    1    1    1    1    1    1	c.			· · · · ·	<b>-</b>	
Commen	its:							
								·
				<u>;</u>				
	· ·							
					<del></del>			

# NON-HAZARDOUS WASTE DATA FORM

	$\sim 10^{-3} M_{\odot}$	BESI #	
	Generator's Name and Malling Address		•
	. I ≥	Generator's Site Address (if different than mailing address)	
	BP WEST COAST PRODUCTS, LLC	FORMER ARCO 11108	
	P.O. BOX 80249	4280 FOOTHILL BLVD	
	RANCHO SANTAMARGARITA, CA 92688	OAKLAND, CA 94601	
			•
	Generator's Phone: 949-460-5200		•
1	Container type removed from site:	24-HOUR EMERGENCY PHONE: 800-4:	24-9300
1	☐ Drums XXVacuum Truck ☐ Roll-off Truck ☐	Container type transported to receiving facility:	-
1	☐ Drums XXVacuum Truck ☐ Roll-off Truck ☐	Dump Truck 🔲 Drums 🔲 Vacuum Truck 🔲 Roll-off Truck	Dump Truck
1	Other	· · · · · · · · · · · · · · · · · · ·	— Demp Hack
<u></u>	Outler	Other	
Ö	Quantity 2016	· · · · · · · · · · · · · · · · · · ·	
₩	quarity (X)	QuantityVolume	
出			<u> </u>
GENERATOR	WASTE DESCRIPTION NON-HAZARDOUS WA	NTER GENERATING PROGRESS AND LINES AND	
18	COMPONENTS OF WASTE PPM	SENTENTING / ROCESS _ TYPELE I DIVONNO / DE	CON WATER
, ·	, WATER	COMPONENTS OF WASTE	PPM %
	1, **/\1 = \	_ 99-100% 	
	2_TPH	<1% ₄	
	Waste Profile	71	<u> </u>
	Waste Profile PROPERTIES: pH	7-10 ☐ SOUD X⊠ LIQUID ☐ SLUDGE ☐ SLURRY [	OTHER
	HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE		
		- TERSONAL PROTECTIVE EQUIPMENT.	
·	Generator Printed/Typed Name Emily Coambe	Signature	
	On Behalf of BP West Coast Products, LLC		Month Day Year
	The Generator certifies that the waste as described is 100% non-hazardous	11/9 -	13/10
	Transporter 1/Company Name		
~	- $BAI$	Phone#   107 - 455-7	70
巴	Transporter 1 Printed/Typed Name	Signature   707 - 455 - 7	290
PORTER	Eriz four		Month Day Year
	Transporter Acknowledgment of Receipt of Materials		13/18/
	Transporter 2 Company Name	Dha 6	
TRANS		Phone#	
Œ	ransporter 2 Printed/Typed Name	Signature	Marile B
			Month Day Year
	ransporter Acknowledgment of Receipt of Materials		1 1 1
.	Designated Facility Name and Site Address	Phone#	<del></del>
<u></u>			
<u> </u>	INSTRAT, INC.		
	1105 AIRPORT RD.	530-753-1829	
5			
FACI	1105 AIRPORT RD.		
IG FACII	1105 AIRPORT RD.		
/ING FACIL	1105 AIRPORT RD.		
EIVING FACIL	1105 AIRPORT RD.		
-CEIVING FACIL	1105 AIRPORT RD.	530-753-1829	
HECEIVING FACILITY	1105 AIRPORT RD. RIO VISTA, CA 94571		Month Day Year
	1105 AIRPORT RD. RIO VISTA, CA 94571	530-753-1829 Signature	Month Day Year



#### **ANALYTICAL REPORT**

Job Number: 720-26852-1

Job Description: BP #11109, Oakland

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

Attention: Hollis Phillips

Sharma

Approved for releas Dimple Sharma Project Manager I 4/23/2010 5:34 PM

Dimple Sharma
Project Manager I
dimple.sharma@testamericainc.com
04/23/2010
Revision: 1

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.

The report shall not be reproduced except in full, without the written approval of the laboratory. The client, by accepting this report, also agrees not to alter any reports whether in the hard copy or electronic format and to use reasonable efforts to preserve the reports in the form and substance originally provided by TestAmerica.

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.

#### TestAmerica Laboratories, Inc.

### Job Narrative 720-26852-1

#### 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: 720-26852-1

Lab Sample ID C	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-26852-1	MW-3(3/23/10)				
MTBE		3.2	0.50	ug/L	8260B/CA_LUFTMS
720-26852-2	MW-4(3/23/10)				
MTBE		84	0.50	ug/L	8260B/CA_LUFTMS
TBA		18	4.0	ug/L	8260B/CA_LUFTMS
TAME		0.88	0.50	ug/L	8260B/CA_LUFTMS
720-26852-3	MW-5(3/23/10)				
Benzene		1400	5.0	ug/L	8260B/CA_LUFTMS
Ethylbenzene		620	5.0	ug/L	8260B/CA_LUFTMS
Toluene		380	5.0	ug/L	8260B/CA_LUFTMS
Xylenes, Total		1800	10	ug/L	8260B/CA_LUFTMS
Gasoline Range Organ	nics (GRO)-C6-C12	71000	2500	ug/L	8260B/CA_LUFTMS
720-26852-4	MW-6(3/23/10)				
MTBE		1.0	0.50	ug/L	8260B/CA_LUFTMS
720-26852-5	MW-7(3/23/10)				
Benzene		11	0.50	ug/L	8260B/CA_LUFTMS
TBA		12	4.0	ug/L	8260B/CA_LUFTMS
Gasoline Range Organ	nics (GRO)-C6-C12	480	50	ug/L	8260B/CA_LUFTMS
720-26852-7	MW-10(3/23/10)				
Benzene		6500	100	ug/L	8260B/CA_LUFTMS
Ethylbenzene		2300	100	ug/L	8260B/CA_LUFTMS
Toluene		4800	100	ug/L	8260B/CA_LUFTMS
Xylenes, Total		9700	200	ug/L	8260B/CA_LUFTMS
Gasoline Range Organ	nics (GRO)-C6-C12	58000	10000	ug/L	8260B/CA_LUFTMS
720-26852-8	MW-11(3/23/10)				
Benzene		530	25	ug/L	8260B/CA_LUFTMS
Ethylbenzene		790	25	ug/L	8260B/CA_LUFTMS
Toluene		830	25	ug/L	8260B/CA_LUFTMS
Xylenes, Total		2200	50	ug/L	8260B/CA_LUFTMS
Gasoline Range Organ	nics (GRO)-C6-C12	19000	2500	ug/L	8260B/CA_LUFTMS

#### **EXECUTIVE SUMMARY - Detections**

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-26852-9	MW-12(3/23/10)				
Benzene		4800	50	ug/L	8260B/CA_LUFTMS
Ethylbenzene		3100	50	ug/L	8260B/CA_LUFTMS
Toluene		1000	25	ug/L	8260B/CA_LUFTMS
Xylenes, Total		6400	100	ug/L	8260B/CA_LUFTMS
Gasoline Range O	rganics (GRO)-C6-C12	39000	2500	ug/L	8260B/CA_LUFTMS

#### **METHOD SUMMARY**

Client: ARCADIS U.S., Inc.

Job Number: 720-26852-1

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: 720-26852-1

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
720-26852-1	MW-3(3/23/10)	Water	03/23/2010 1409	03/24/2010 1630
720-26852-2	MW-4(3/23/10)	Water	03/23/2010 1335	03/24/2010 1630
720-26852-3	MW-5(3/23/10)	Water	03/23/2010 1520	03/24/2010 1630
720-26852-4	MW-6(3/23/10)	Water	03/23/2010 1315	03/24/2010 1630
720-26852-5	MW-7(3/23/10)	Water	03/23/2010 1252	03/24/2010 1630
720-26852-6	MW-9(3/23/10)	Water	03/23/2010 1615	03/24/2010 1630
720-26852-7	MW-10(3/23/10)	Water	03/23/2010 1456	03/24/2010 1630
720-26852-8	MW-11(3/23/10)	Water	03/23/2010 1432	03/24/2010 1630
720-26852-9	MW-12(3/23/10)	Water	03/23/2010 1537	03/24/2010 1630

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-3(3/23/10)

Lab Sample ID: 720-26852-1 Date Sampled: 03/23/2010 1409

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA	LUETMS	8260B	/ C A	LUET	MC

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68294 Instrument ID: CHMSV2 Preparation: 5030B Lab File ID: 03251015.D Dilution: Initial Weight/Volume: 10 mL

03/25/2010 1701 Date Analyzed:

Final Weight/Volume: 10 mL Date Prepared: 03/25/2010 1701 Analyte Result (ug/L) Qualifier RL

		·· <del>·</del> ·
MTBE	3.2	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
TBA	ND	4.0
Ethanol	ND	100
DIPE	ND	0.50
TAME	ND	0.50
Ethyl t-butyl ether	ND	0.50
Gasoline Range Organics (GRO)-C6-C12	ND	50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	92		67 - 130
Toluene-d8 (Surr)	100		70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-4(3/23/10)

Lab Sample ID: 720-26852-2 Date Sampled: 03/23/2010 1335

Client Matrix: Water Date Received: 03/24/2010 1630

Method: 8260B/CA\_LUFTMS Instrument ID: CHMSV2 Analysis Batch: 720-68294 Preparation: Lab File ID: 03251016.D 5030B Initial Weight/Volume: Dilution: 10 mL 03/25/2010 1734 Date Analyzed: Final Weight/Volume: 10 mL

Date Prepared: 03/25/2010 1734

Result (ug/L) Qualifier RL Analyte MTBE 84 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 TBA 18 4.0 Ethanol ND 100 DIPE ND 0.50 **TAME** 0.88 0.50 Ethyl t-butyl ether ND 0.50 Gasoline Range Organics (GRO)-C6-C12 ND 50 Surrogate %Rec Qualifier Acceptance Limits 101 67 - 130 4-Bromofluorobenzene 1,2-Dichloroethane-d4 (Surr) 94 67 - 130 Toluene-d8 (Surr) 99 70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-5(3/23/10)

Lab Sample ID: 720-26852-3 Date Sampled: 03/23/2010 1520

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA	LUFTMS	8260B /	CA L	UFT MS

Analysis Batch: 720-68294 Method: 8260B/CA\_LUFTMS Instrument ID: CHMSV2 Preparation: 5030B Lab File ID: 03251017.D Dilution: Initial Weight/Volume: 10 mL 03/25/2010 1806 10 mL Final Weight/Volume:

Date Analyzed:

Date Prepared: 03/25/2010 1806			
Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		5.0
Benzene	1400		5.0
EDB	ND		5.0
1,2-DCA	ND		5.0
Ethylbenzene	620		5.0
Toluene	380		5.0
Xylenes, Total	1800		10
TBA	ND		40
Ethanol	ND		1000
DIPE	ND		5.0
TAME	ND		5.0
Ethyl t-butyl ether	ND		5.0
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	114		67 - 130
1,2-Dichloroethane-d4 (Surr)	95		67 - 130
Toluene-d8 (Surr)	104		70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-5(3/23/10)

Lab Sample ID: 720-26852-3 Date Sampled: 03/23/2010 1520

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA\_LUFTMS 8260B / CA LUFT MS

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68372 Instrument ID: HP12

Preparation: 5030B Lab File ID: 03261015.D Dilution: 50 Initial Weight/Volume: 10 mL

 Date Analyzed:
 03/26/2010 1631
 Final Weight/Volume:
 10 mL

 Date Prepared:
 03/26/2010 1631
 10 mL

Analyte Result (ug/L) Qualifier RL

Gasoline Range Organics (GRO)-C6-C12 71000 2500

 Surrogate
 %Rec
 Qualifier
 Acceptance Limits

 4-Bromofluorobenzene
 110
 67 - 130

 1,2-Dichloroethane-d4 (Surr)
 107
 67 - 130

 Toluene-d8 (Surr)
 99
 70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-6(3/23/10)

Lab Sample ID: 720-26852-4 Date Sampled: 03/23/2010 1315

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA_LUFTMS 8260B / CA LUFT MS
------------------------------------

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68372 Instrument ID: HP12

 Preparation:
 5030B
 Lab File ID:
 03261014.D

 Dilution:
 1.0
 Initial Weight/Volume:
 10
 mL

 Date Analyzed:
 03/26/2010 1600
 final Weight/Volume:
 10
 mL

Date Prepared: 03/26/2010 1600

Qualifier Result (ug/L) RL Analyte MTBE 1.0 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 TBA ND 4.0 Ethanol ND 100 DIPE ND 0.50 **TAME** ND 0.50 Ethyl t-butyl ether ND 0.50 Gasoline Range Organics (GRO)-C6-C12 ND 50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	99		67 - 130
1,2-Dichloroethane-d4 (Surr)	108		67 - 130
Toluene-d8 (Surr)	97		70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-7(3/23/10)

Lab Sample ID: 720-26852-5 Date Sampled: 03/23/2010 1252

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA	LUFTMS	8260B /	CA LU	JFT	MS
----------	--------	---------	-------	-----	----

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68294 Instrument ID: CHMSV2 Preparation: 5030B Lab File ID: 03251019.D Dilution: Initial Weight/Volume: 10 mL Date Analyzed: 03/25/2010 1911 Final Weight/Volume: 10 mL

Date Prepared: 03/25/2010 1911

Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		0.50
Benzene	11		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
TBA	12		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Gasoline Range Organics (GRO)-C6-C12	480		50
Surrogate	%Rec	Qualifier	Acceptance Limits

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-9(3/23/10)

Lab Sample ID: 720-26852-6 Date Sampled: 03/23/2010 1615

Client Matrix: Water Date Received: 03/24/2010 1630

Method:8260B/CA\_LUFTMSAnalysis Batch: 720-68294Instrument ID:CHMSV2Preparation:5030BLab File ID:03251020.DDilution:1.0Initial Weight/Volume:10 mL

Date Analyzed: 03/25/2010 1943 Final Weight/Volume: 10 mL

Date Prepared: 03/25/2010 1943

Analyte	Result (ug/L)	Qualifier	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
Xylenes, Total	ND		1.0
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Gasoline Range Organics (GRO)-C6-C12	ND		50
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	99		67 - 130
1,2-Dichloroethane-d4 (Surr)	90		67 - 130
Toluene-d8 (Surr)	99		70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-10(3/23/10)

Lab Sample ID: 720-26852-7 Date Sampled: 03/23/2010 1456

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA	LUFTMS	8260B /	CAL	UFT	MS
----------	--------	---------	-----	-----	----

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68372 Instrument ID: HP12

Preparation: Lab File ID: 03261016.D 5030B 200 Initial Weight/Volume: Dilution: 10 mL 03/26/2010 1702 Date Analyzed: Final Weight/Volume: 10 mL

Date Prepared: 03/26/2010 1702 Result (ug/L) Qualifier RL Analyte MTBE ND 100 Benzene 6500 100 EDB ND 100 1,2-DCA ND 100 Ethylbenzene 2300 100 Toluene 4800 100 Xylenes, Total 9700 200 TBA ND 800 Ethanol ND 20000 DIPE ND 100 **TAME** ND 100 Ethyl t-butyl ether ND 100 Gasoline Range Organics (GRO)-C6-C12 58000 10000 Surrogate %Rec Qualifier Acceptance Limits 100 67 - 130 4-Bromofluorobenzene 1,2-Dichloroethane-d4 (Surr) 108 67 - 130 Toluene-d8 (Surr) 98 70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-11(3/23/10)

Lab Sample ID: 720-26852-8 Date Sampled: 03/23/2010 1432

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA_LUFTMS 8260B / CA LUFT MS	8260B/CA	LUFTMS	8260B	/ CA	LUFT	MS
------------------------------------	----------	--------	-------	------	------	----

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68372 Instrument ID: HP12

Proposition: 5020B Instrument ID: HP12

 Preparation:
 5030B
 Lab File ID:
 03261017.D

 Dilution:
 50
 Initial Weight/Volume:
 10 mL

 Date Analyzed:
 03/26/2010 1733
 Final Weight/Volume:
 10 mL

Date Prepared: 03/26/2010 1733

Qualifier Result (ug/L) RL Analyte MTBE ND 25 25 Benzene 530 EDB 25 ND 25 1,2-DCA ND 25 Ethylbenzene 790 Toluene 830 25 Xylenes, Total 2200 50 TBA ND 200 Ethanol ND 5000 DIPE ND 25 **TAME** ND 25 Ethyl t-butyl ether ND 25 Gasoline Range Organics (GRO)-C6-C12 19000 2500

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	100		67 - 130
1,2-Dichloroethane-d4 (Surr)	105		67 - 130
Toluene-d8 (Surr)	98		70 - 130

67 - 130

70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-12(3/23/10)

Lab Sample ID: 720-26852-9 Date Sampled: 03/23/2010 1537

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA_LUFTMS 8260B / CA_LUFT MS	8260B/CA	LUFTMS	8260B	/ CA	LUFT MS
------------------------------------	----------	--------	-------	------	---------

Method:8260B/CA\_LUFTMSAnalysis Batch: 720-68372Instrument ID:HP12Preparation:5030BLab File ID:03261018.DDilution:50Initial Weight/Volume:10 mL

Dilution: 50 Initial Weight/Volume: 10 mL Date Analyzed: 03/26/2010 1804 Final Weight/Volume: 10 mL

105

99

Date Prepared: 03/26/2010 1804

1,2-Dichloroethane-d4 (Surr)

Toluene-d8 (Surr)

Analyte	Result (ug/L)	Qualifier	RL
MTBE	ND		25
EDB	ND		25
1,2-DCA	ND		25
Toluene	1000		25
TBA	ND		200
Ethanol	ND		5000
DIPE	ND		25
TAME	ND		25
Ethyl t-butyl ether	ND		25
Gasoline Range Organics (GRO)-C6-C12	39000		2500
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	101		67 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Client Sample ID: MW-12(3/23/10)

Lab Sample ID: 720-26852-9 Date Sampled: 03/23/2010 1537

Client Matrix: Water Date Received: 03/24/2010 1630

8260B/CA\_LUFTMS 8260B / CA LUFT MS

Method: 8260B/CA\_LUFTMS Analysis Batch: 720-68559 Instrument ID: CHMSV2

 Preparation:
 5030B
 Lab File ID:
 03301012.D

 Dilution:
 100
 Initial Weight/Volume:
 10 mL

Date Analyzed: 03/30/2010 1520 Final Weight/Volume: 10 mL Date Prepared: 03/30/2010 1520

AnalyteResult (ug/L)QualifierRLBenzene480050

 Ethylbenzene
 3100
 50

 Xylenes, Total
 6400
 100

Surrogate %Rec Qualifier Acceptance Limits
4-Bromofluorobenzene 103 67 - 130

 1,2-Dichloroethane-d4 (Surr)
 93
 67 - 130

 Toluene-d8 (Surr)
 101
 70 - 130

#### **DATA REPORTING QUALIFIERS**

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Section	Qualifier	Description	
-			
GC/MS VOA			
	F	RPD of the MS and MSD exceeds the control limits	

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

#### **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-6829	94				
LCS 720-68294/5	Lab Control Sample	Т	Water	8260B/CA_LUFT	
LCS 720-68294/7	Lab Control Sample	Т	Water	8260B/CA_LUFT	
LCSD 720-68294/6	Lab Control Sample Duplicate	Т	Water	8260B/CA_LUFT	
LCSD 720-68294/8	Lab Control Sample Duplicate	Т	Water	8260B/CA_LUFT	
MB 720-68294/4	Method Blank	Т	Water	8260B/CA_LUFT	
720-26852-1	MW-3(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-2	MW-4(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-3	MW-5(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-5	MW-7(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-6	MW-9(3/23/10)	Т	Water	8260B/CA_LUFT	
Analysis Batch:720-6837	72				
LCS 720-68372/4	Lab Control Sample	Т	Water	8260B/CA_LUFT	
LCS 720-68372/7	Lab Control Sample	Т	Water	8260B/CA_LUFT	
LCSD 720-68372/5	Lab Control Sample Duplicate	Т	Water	8260B/CA_LUFT	
LCSD 720-68372/8	Lab Control Sample Duplicate	Т	Water	8260B/CA_LUFT	
MB 720-68372/3	Method Blank	Т	Water	8260B/CA_LUFT	
720-26852-3	MW-5(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-4	MW-6(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-4MS	Matrix Spike	Т	Water	8260B/CA_LUFT	
720-26852-4MSD	Matrix Spike Duplicate	Т	Water	8260B/CA_LUFT	
720-26852-7	MW-10(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-8	MW-11(3/23/10)	Т	Water	8260B/CA_LUFT	
720-26852-9	MW-12(3/23/10)	Т	Water	8260B/CA_LUFT	
Analysis Batch:720-6855	59				
LCS 720-68559/5	Lab Control Sample	Т	Water	8260B/CA_LUFT	
LCSD 720-68559/6	Lab Control Sample Duplicate	Т	Water	8260B/CA_LUFT	
MB 720-68559/4	Method Blank	Т	Water	8260B/CA_LUFT	
720-26852-9	MW-12(3/23/10)	Т	Water	8260B/CA LUFT	

#### Report Basis

T = Total

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Method Blank - Batch: 720-68294

Method: 8260B/CA\_LUFTMS

Preparation: 5030B

Lab Sample ID: MB 720-68294/4

Water

Dilution: 1.0

Date Analyzed: 03/25/2010 1013 Date Prepared: 03/25/2010 1013

Client Matrix:

Analysis Batch: 720-68294

Prep Batch: N/A

Units: ug/L

Instrument ID: CHMSV2 Lab File ID: 03251004.D Initial Weight/Volume: 10 mL

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
Xylenes, Total	ND		1.0
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Gasoline Range Organics (GRO)-C6-C12	ND		50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	101	67 - 130	
1,2-Dichloroethane-d4 (Surr)	95	67 - 130	
Toluene-d8 (Surr)	100	70 - 130	

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Control Sample/ Method: 8260B/CA\_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-68294 Preparation: 5030B

LCS Lab Sample ID: LCS 720-68294/5 Analysis Batch: 720-68294 Instrument ID: CHMSV2

Client Matrix: Water Prep Batch: N/A Lab File ID: 03251005.D

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

 Date Analyzed:
 03/25/2010
 1056
 Final Weight/Volume:
 10 mL

 Date Prepared:
 03/25/2010
 1056
 \*\*\*

LCSD Lab Sample ID: LCSD 720-68294/6 Analysis Batch: 720-68294 Instrument ID: CHMSV2 Client Matrix: Water Prep Batch: N/A Lab File ID: 03251006.D

Dilution: Vater Prep Batch: N/A Lab File ID: 03251006.D Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 03/25/2010 1129 Final Weight/Volume: 10 mL

Date Prepared: 03/25/2010 1129

	<u>.</u>	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
MTBE	110	100	73 - 123	10	20		
Benzene	99	99	82 - 127	0	20		
EDB	113	102	70 - 130	10	20		
1,2-DCA	94	89	75 - 145	6	20		
Ethylbenzene	100	102	86 - 135	2	20		
Toluene	93	95	83 - 129	2	20		
TBA	86	88	85 - 110	2	20		
Ethanol	84	96	31 - 216	14	20		
DIPE	100	97	74 - 155	3	20		
TAME	118	109	79 - 129	8	20		
Ethyl t-butyl ether	103	97	70 - 130	6	20		
Surrogate	L	CS % Rec	LCSD %	Rec	Accep	tance Limits	
4-Bromofluorobenzene	1	03	102		6	7 - 130	
1,2-Dichloroethane-d4 (Surr)	9	3	87		6	7 - 130	
Toluene-d8 (Surr)	1	00	100		7	0 - 130	

70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Control Sample/ Method: 8260B/CA LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-68294 Preparation: 5030B

LCS Lab Sample ID: LCS 720-68294/7 Analysis Batch: 720-68294

Instrument ID: CHMSV2 Client Matrix: Water Prep Batch: N/A Lab File ID: 03251007.D Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

03/25/2010 1201 Final Weight/Volume: Date Analyzed: 10 mL Date Prepared: 03/25/2010 1201

LCSD Lab Sample ID: LCSD 720-68294/8 Analysis Batch: 720-68294 Instrument ID: CHMSV2 Prep Batch: N/A Lab File ID: Client Matrix: Water 03251008.D

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

03/25/2010 1234 Date Analyzed: Final Weight/Volume: 10 mL Date Prepared: 03/25/2010 1234

100

% Rec. Analyte LCS LCSD Limit **RPD** RPD Limit LCS Qual LCSD Qual Gasoline Range Organics (GRO)-C6-C12 82 70 - 130 20 82 1 Surrogate LCS % Rec LCSD % Rec Acceptance Limits 4-Bromofluorobenzene 101 104 67 - 130 1,2-Dichloroethane-d4 (Surr) 88 92 67 - 130

101

Toluene-d8 (Surr)

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Method Blank - Batch: 720-68372

Method: 8260B/CA\_LUFTMS

Preparation: 5030B

Lab Sample ID: MB 720-68372/3 Client Matrix: Water Analysis Batch: 720-68372

Instrument ID: HP12 Lab File ID: 03261004.D

Dilution: VVa

Prep Batch: N/A Units: ug/L

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

Date Analyzed: 03/26/2010 1002 Date Prepared: 03/26/2010 1002

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
Xylenes, Total	ND		1.0
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Gasoline Range Organics (GRO)-C6-C12	ND		50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	98	67 - 130	
1,2-Dichloroethane-d4 (Surr)	107	67 - 130	
Toluene-d8 (Surr)	95	70 - 130	

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Control Sample/ Method: 8260B/CA\_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-68372 Preparation: 5030B

LCS Lab Sample ID: LCS 720-68372/4 Analysis Batch: 720-68372 Instrument ID: HP12

Client Matrix: Water Prep Batch: N/A Lab File ID: 03261005.D

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

Date Analyzed: 03/26/2010 1050 Final Weight/Volume: 10 mL Date Prepared: 03/26/2010 1050

LCSD Lab Sample ID: LCSD 720-68372/5 Analysis Batch: 720-68372 Instrument ID: HP12
Client Matrix: Water Prep Batch: N/A Lab File ID: 03261006.D

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

Date Analyzed: 03/26/2010 1120 Final Weight/Volume: 10 mL

Date Prepared: 03/26/2010 1120

% Rec. Analyte LCS LCSD Limit **RPD** RPD Limit LCS Qual LCSD Qual **MTBE** 100 73 - 123 7 20 94 Benzene 89 86 82 - 127 4 20 **EDB** 104 99 70 - 130 5 20 1,2-DCA 98 94 75 - 145 4 20 Ethylbenzene 97 93 86 - 135 4 20 Toluene 100 98 2 20 83 - 129 TBA 97 93 5 20 85 - 110 2 Ethanol 110 108 31 - 216 20 DIPE 92 74 - 155 5 20 87 **TAME** 108 79 - 129 6 20 102 20 Ethyl t-butyl ether 93 88 70 - 130 6 Surrogate LCS % Rec LCSD % Rec Acceptance Limits 4-Bromofluorobenzene 101 101 67 - 130 67 - 130 1,2-Dichloroethane-d4 (Surr) 97 99 70 - 130 Toluene-d8 (Surr) 98 98

70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Control Sample/ Method: 8260B/CA\_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-68372 Preparation: 5030B

LCS Lab Sample ID: LCS 720-68372/7 Analysis Batch: 720-68372 Instrument ID: HP12

Client Matrix: Water Prep Batch: N/A Lab File ID: 03261007.D

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

Date Analyzed: 03/26/2010 1151 Final Weight/Volume: 10 mL Date Prepared: 03/26/2010 1151

LCSD Lab Sample ID: LCSD 720-68372/8 Analysis Batch: 720-68372 Instrument ID: HP12
Client Matrix: Water Prep Batch: N/A Lab File ID: 03261008.D

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

Date Analyzed: 03/26/2010 1222 Final Weight/Volume: 10 mL
Date Prepared: 03/26/2010 1222

98

% Rec. Analyte LCS LCSD Limit **RPD** RPD Limit LCS Qual LCSD Qual Gasoline Range Organics (GRO)-C6-C12 87 70 - 130 20 84 3 Surrogate LCS % Rec LCSD % Rec Acceptance Limits 4-Bromofluorobenzene 99 67 - 130 100 1,2-Dichloroethane-d4 (Surr) 102 102 67 - 130

98

Toluene-d8 (Surr)

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Matrix Spike/ Method: 8260B/CA\_LUFTMS

Matrix Spike Duplicate Recovery Report - Batch: 720-68372 Preparation: 5030B

MS Lab Sample ID: 720-26852-4 Analysis Batch: 720-68372 Instrument ID: HP12

Client Matrix: Water Prep Batch: N/A Lab File ID: 03261012.D Dilution: 1.0 Initial Weight/Volume: 10 Initial Weight/Volume

ilution: 1.0 Initial Weight/Volume: 10 mL ate Analyzed: 03/26/2010 1459 Final Weight/Volume: 10 mL

Date Analyzed: 03/26/2010 1459 Final Weight/Volume: 10 mL Date Prepared: 03/26/2010 1459

MSD Lab Sample ID: 720-26852-4 Analysis Batch: 720-68372 Instrument ID: HP12

Client Matrix: Water Prep Batch: N/A Lab File ID: 03261013.D

Dilution: 1.0 Initial Weight/Volume: 10 mL

Date Analyzed: 03/26/2010 1530 Final Weight/Volume: 10 mL
Date Prepared: 03/26/2010 1530

% Rec. RPD Analyte MS MSD Limit **RPD Limit** MS Qual MSD Qual MTBE F 85 106 60 - 138 22 20 77 90 60 - 140 15 20 Benzene EDB 88 107 60 - 140 20 20 1,2-DCA 84 100 60 - 140 18 20 Ethylbenzene 83 94 60 - 140 13 20 Toluene 88 100 60 - 140 13 20 TBA 79 60 - 140 17 20 94 Ethanol 108 60 - 140 12 20 95 DIPE 81 96 60 - 140 17 20 60 - 140 F **TAME** 93 114 21 20 Ethyl t-butyl ether 81 99 60 - 140 20 20 MS % Rec MSD % Rec Surrogate Acceptance Limits 102 67 - 130 4-Bromofluorobenzene 102 1,2-Dichloroethane-d4 (Surr) 99 99 67 - 130 Toluene-d8 (Surr) 99 98 70 - 130

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Method Blank - Batch: 720-68559

Method: 8260B/CA\_LUFTMS

Preparation: 5030B

Lab Sample ID: MB 720-68559/4

Water

1.0

Date Analyzed: 03/30/2010 1028 Date Prepared: 03/30/2010 1028

Client Matrix:

Dilution:

Analysis Batch: 720-68559

Prep Batch: N/A Units: ug/L

Instrument ID: CHMSV2 Lab File ID: 03301004.D Initial Weight/Volume: 10 mL

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
Xylenes, Total	ND		1.0
TBA	ND		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	ND		0.50
Ethyl t-butyl ether	ND		0.50
Gasoline Range Organics (GRO)-C6-C12	ND		50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	100	67 - 130	
1,2-Dichloroethane-d4 (Surr)	90	67 - 130	
Toluene-d8 (Surr)	100	70 - 130	

CHMSV2

Instrument ID:

Client: ARCADIS U.S., Inc. Job Number: 720-26852-1

Lab Control Sample/ Method: 8260B/CA\_LUFTMS

Lab Control Sample Duplicate Recovery Report - Batch: 720-68559 Preparation: 5030B

LCS Lab Sample ID: LCS 720-68559/5 Analysis Batch: 720-68559

Client Matrix: Water Prep Batch: N/A Lab File ID: 03301005.D 
Dilution: 1.0 Units: ug/L Initial Weight/Volume: 10 mL

Date Analyzed: 03/30/2010 1118 Final Weight/Volume: 10 mL Date Prepared: 03/30/2010 1118

LCSD Lab Sample ID: LCSD 720-68559/6 Analysis Batch: 720-68559 Instrument ID: CHMSV2
Client Matrix: Water Prep Batch: N/A Lab File ID: 03301006.D

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

Date Analyzed: 03/30/2010 1151 Final Weight/Volume: 10 mL

Date Prepared: 03/30/2010 1151

% Rec. Analyte LCS LCSD Limit **RPD** RPD Limit LCS Qual LCSD Qual **MTBE** 102 73 - 123 20 106 4 Benzene 99 101 82 - 127 2 20 **EDB** 110 106 70 - 130 4 20 1,2-DCA 92 90 75 - 145 2 20 Ethylbenzene 101 103 86 - 135 2 20 Toluene 95 98 2 20 83 - 129 TBA 86 87 2 20 85 - 110 Ethanol 89 87 31 - 216 2 20 DIPE 96 95 74 - 155 1 20 **TAME** 79 - 129 20 110 3 113 20 Ethyl t-butyl ether 98 97 70 - 130 1 Surrogate LCS % Rec LCSD % Rec Acceptance Limits 4-Bromofluorobenzene 102 102 67 - 130 67 - 130 1,2-Dichloroethane-d4 (Surr) 90 87 70 - 130 Toluene-d8 (Surr) 102 101

#### San Francisco

1220 Quarry Lane

Page

29

# 720-26852

Chain of Custody Record



TestAmerica Laboratories, Inc. Pleasanton, CA 94566 phone 925,484,1919 fax 925,600,3002 COC No: Date: Site Contact: Project Manager: Jason Duda Client Contact COCs Carrier: Tel/Fax: (530) 566-1400/ (530) 566-1401 Lab Contact: Dimple Sharma Broadbent & Associates Job No. Analysis Turnaround Time 1324 Mangrove Ave Suite 212 Calendar ( C ) or Work Days (W) Sto Chico, CA 95926 TAT if different from Below (530) 566-1400 SDG No. BTEX and 5 Oxys by \$160B 2 weeks (530) 566-1401 1 week Project Name: BP 11109 2 days Site: 4280 Foothill Blvd, Oakland, CA GRO by \$260B 1 day P O # GP09BPNA.C106 Sample Sample Sample Sample Specific Notes: Cont. Type Matrix Date Time Sample Identification Collecter 3/23/10 MW-2 (3/23/10 3/2010 1409 MW-3 1335 3/23/10) X MW-4 1520 3 (3/23/10) X MW-5 1315 (3)73/10) X MW-6 1353 (3/33/10) MW-7 Not collected 1615 MW-9 (3/23/10) G 14156 MW-10 (3/23/10) 1432 MW-11 (3/23/10) 1537 MW-12 (3/23/10) TB-BP11109-313110 3/2310 Hold trip blan (1 Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification Archive For Disposal By Lab Return To Client Unknown Skin Irritant Non-Hazard Flammable Special Instructions/QC Requirements & Comments: 3/2 1/0 200 Relinquished by: Date/Tupe: 10 3: 24-10 1030 Company: TASF Date/Time: Company:

## **Login Sample Receipt Check List**

Client: ARCADIS U.S., Inc.

Job Number: 720-26852-1

Login Number: 26852 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
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
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
Is the Field Sampler's name present on COC?	True
Sample Preservation Verified	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: 1Q10 GEO\_WELL 11109

Facility Global ID: T0600100217
Facility Name: BP #11109
File Name: GEO\_WELL.zip

Organization Name: Broadbent & Associates, Inc.

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

Submittal Date/Time: 4/12/2010 12:09:25 PM

Confirmation Number: 8728143155

Copyright © 2008 State of California

## 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:** 1Q10 GW Monitoring

Facility Global ID: T0600100217
Facility Name: BP #11109

<u>File Name:</u> 720-26852-1rev.zip

Organization Name: Broadbent & Associates, Inc.

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

Submittal Date/Time: 4/27/2010 10:03:59 AM

Confirmation Number: 3010644495

**VIEW QC REPORT** 

**VIEW DETECTIONS REPORT** 

Copyright © 2008 State of California