



RECEIVED

10:02 am, May 03, 2010

Alameda County  
Environmental Health

Re: First Quarter 2010 Semi-Annual Ground-Water Monitoring Report  
Former BP Station #4931  
731 West MacArthur Blvd.  
Oakland, California  
ACEH Case #RO0000076

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](http://www.arcadis-us.com)

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

Submitted by:  
ARCADIS U.S., Inc.

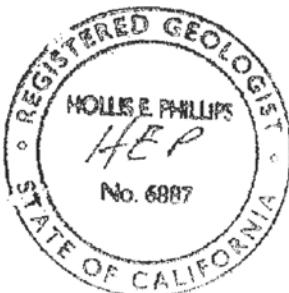
Hollis E. Phillips, PG  
Project Manager

Contact:  
Hollis E. Phillips

Phone:  
415.374.2744 ext 13

Email:  
[Hollis.phillips@arcadis-us.com](mailto:Hollis.phillips@arcadis-us.com)

Our ref:  
GP09BPNA.C110



Imagine the result

Prepared for

Ms. Hollis Phillips, PG

Senior Geologist

ARCADIS-US, Inc.

100 Montgomery Street, Ste. 300  
San Francisco, California 94104

On behalf of

Atlantic Richfield Company

PO Box 1257

San Ramon, California 94583

Prepared by



1324 Mangrove Avenue, Suite 212  
Chico, California 95926  
(530) 566-1400  
[www.broadbentinc.com](http://www.broadbentinc.com)

30 April 2010

Project No. 09-88-624

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



30 April 2010

Project No. 09-88-624

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

Attn.: Ms. Hollis Phillips, PG

Re: First Quarter 2010 Semi-Annual Ground-Water Monitoring Report, Former Atlantic Richfield Company Station #4931, 731 West MacArthur Blvd, Oakland, California; ACEH Case #RO0000076

Dear Ms. Phillips:

Provided herein is the *First Quarter 2010 Semi-Annual Ground-Water Monitoring Report* for Former Atlantic Richfield Company Station #4931 located at 731 West MacArthur Boulevard, Oakland, Alameda County, California (Site). This report presents a status update and the results of 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.

A handwritten signature in black ink that reads "Jason Duda".

Jason Duda  
Project Scientist

A handwritten signature in black ink that reads "Thomas A. Venus".

Thomas A. Venus, P.E.  
Senior Engineer

Enclosures



cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH FTP site)  
Mr. Nick Goyal, Owner, electronic copy e-mailed (nick@vintnersdist.com)  
Electronic copy uploaded to GeoTracker

## STATION #4931 SEMI-ANNUAL GROUND-WATER MONITORING REPORT

Facility: #4931	Address: 731 MacArthur Blvd, 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 #RO0000076
Consultant Project No.:	09-88-624
Facility Permits/Permitting Agency:	NA

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

1. Submitted *Fourth Quarter 2009 Status Report* (BAI, 1/29/2010).
2. Conducted semi-annual ground-water monitoring/sampling for First Quarter 2010.

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

1. Prepared and submitted this *First Quarter 2010 Semi-Annual Ground-Water Monitoring Report* (contained herein).
2. No environmental work is scheduled at the Site for the Second Quarter of 2010.

### RESULTS SUMMARY:

Current phase of project:	<b>Ground-water monitoring/sampling</b>
Frequency of ground-water monitoring:	<b>Semi-Annually (1Q &amp; 3Q) = A-2 through A-5, A-7 through A-13, AR-1 through AR-3</b>
Frequency of ground-water sampling:	<b>Semi-Annually (1Q &amp; 3Q) = A-3, A-4, A-5 and A-8 Annually (3Q) = A-2, A-7, A-9, A-10, A-11, and A-12</b>
Is free product (FP) present on-site:	<b>No</b>
Current remediation techniques:	<b>NA</b>
Depth to ground water (below TOC):	<b>1.94 ft (AR-2) to 7.70 ft (A-11)</b>
General ground-water flow direction:	<b>West</b>
Approximate hydraulic gradient:	<b>0.03 ft/ft</b>

### DISCUSSION:

The First Quarter 2010 ground-water monitoring and sampling event was conducted at Station #4931 by BAI on 23 March 2010. Water levels were gauged in monitoring wells A-2 through A-5, A-7 through A-13, and AR-1 through AR-3. No irregularities were noted during water level gauging at Station #4931. Depth to water measurements at the Site ranged from 1.94 ft at well AR-2 to 7.70 ft at A-11. Resulting ground-water surface elevations at the Site ranged from 57.24 ft above datum (NAVD88) in well AR-2 to 49.38 ft in well A-12. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the west at 0.03 ft/ft. Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to ground water and respective ground-water elevations are summarized in Table 1. Current and historic ground-water flow directions and gradients are provided within Table 3. A Site Location Map is provided as Drawing 1. Potentiometric ground-water elevation contours are presented in Drawing 2.

Consistent with the current ground-water sampling schedule, water samples were collected from wells A-3, A-4, A-5 and A-8. No irregularities were encountered during sampling at the Site. The

samples were submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. (Pleasanton, California) for analysis of Gasoline Range Organics (GRO, C6-12), Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), and Methyl Tert-Butyl Ether (MTBE), Ethyl Tert-Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tert-Amyl Methyl Ether (TAME), Tert-Butyl Alcohol (TBA), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), and Ethanol by EPA Method 8260B. No significant irregularities were reported during 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 were detected above the laboratory reporting limit one of the four wells sampled at a concentration of 820 micrograms per liter ( $\mu\text{g}/\text{L}$ ) in well A-4. Benzene was detected above the laboratory reporting limit in one of the four wells sampled at a concentration of 17  $\mu\text{g}/\text{L}$  in well A-4. Ethylbenzene was detected above the laboratory reporting limit in one of the four wells sampled at a concentration of 5.0  $\mu\text{g}/\text{L}$  in well A-4. Total Xylenes were detected above laboratory reporting limits in one of the four wells sampled at a concentration of 1.3  $\mu\text{g}/\text{L}$  in well A-4. MTBE was detected above the laboratory reporting limit in one of the four wells sampled at a concentration of 150  $\mu\text{g}/\text{L}$  in well A-4. TAME was detected above the laboratory reporting limit in one of the four wells sampled at a concentration of 45  $\mu\text{g}/\text{L}$  in well A-4. TBA was detected above the laboratory reporting limit in two of the four wells sampled at concentrations of 1600  $\mu\text{g}/\text{L}$  in A-4 and 33  $\mu\text{g}/\text{L}$  in A-5. The remaining analytes were not detected above their respective laboratory reporting limits in the four wells sampled this quarter. Historic laboratory analytical results for the Site are summarized in Table 1. The most recent GRO, Benzene, and MTBE concentrations are also presented in Drawing 2. Ground-water monitoring data (GEO\_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix B.

## **CONCLUSIONS AND RECOMMENDATIONS:**

Water level elevations were between historic minimum and maximum ranges for each well. The potentiometric ground-water flow direction and gradient of 0.03 ft/ft to the west is consistent with historical data. Detected concentrations of petroleum hydrocarbons were within the historic minimum and maximum ranges recorded for each well sampled this quarter with the following exceptions: MTBE reached a historic minimum concentration in well A-5 and GRO, MTBE, and TAME each reached historic minimum concentrations in well A-8. Overall, hydrocarbon concentrations decreased in wells A-4 and A-8, and remained generally non-detect in wells A-3 and A-5 when compared to concentrations observed during the Third Quarter 2009 sampling event. No environmental work is scheduled to occur at the site during the Second Quarter of 2010. The next semi-annual ground-water monitoring and sampling event will be conducted during the Third Quarter of 2010.

## **CLOSURE:**

The findings presented in this report are based upon: observations of BAI 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 and Atlantic Richfield Company. It is possible that variations in soil or ground-water conditions could exist beyond points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

**ATTACHMENTS:**

- Drawing 1. Site Location Map, Station #4931, 731 West MacArthur Blvd, Oakland, CA
- Drawing 2. Ground-Water Elevation Contour and Analytical Summary Map, 23 March 2010, Station #4931, 731 West MacArthur Blvd, Oakland, CA
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analysis, Station #4931, 731 West MacArthur Blvd, Oakland, CA
- Table 2. Summary of Fuel Additives Analytical Data, Station #4931, 731 West MacArthur Blvd, Oakland, CA
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #4931, 731 West MacArthur Blvd, Oakland, CA
- Appendix A. BAI Ground-Water Sampling Data Package (Includes Field Data Sheets, Laboratory Report, Chain-of-Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmation Receipts

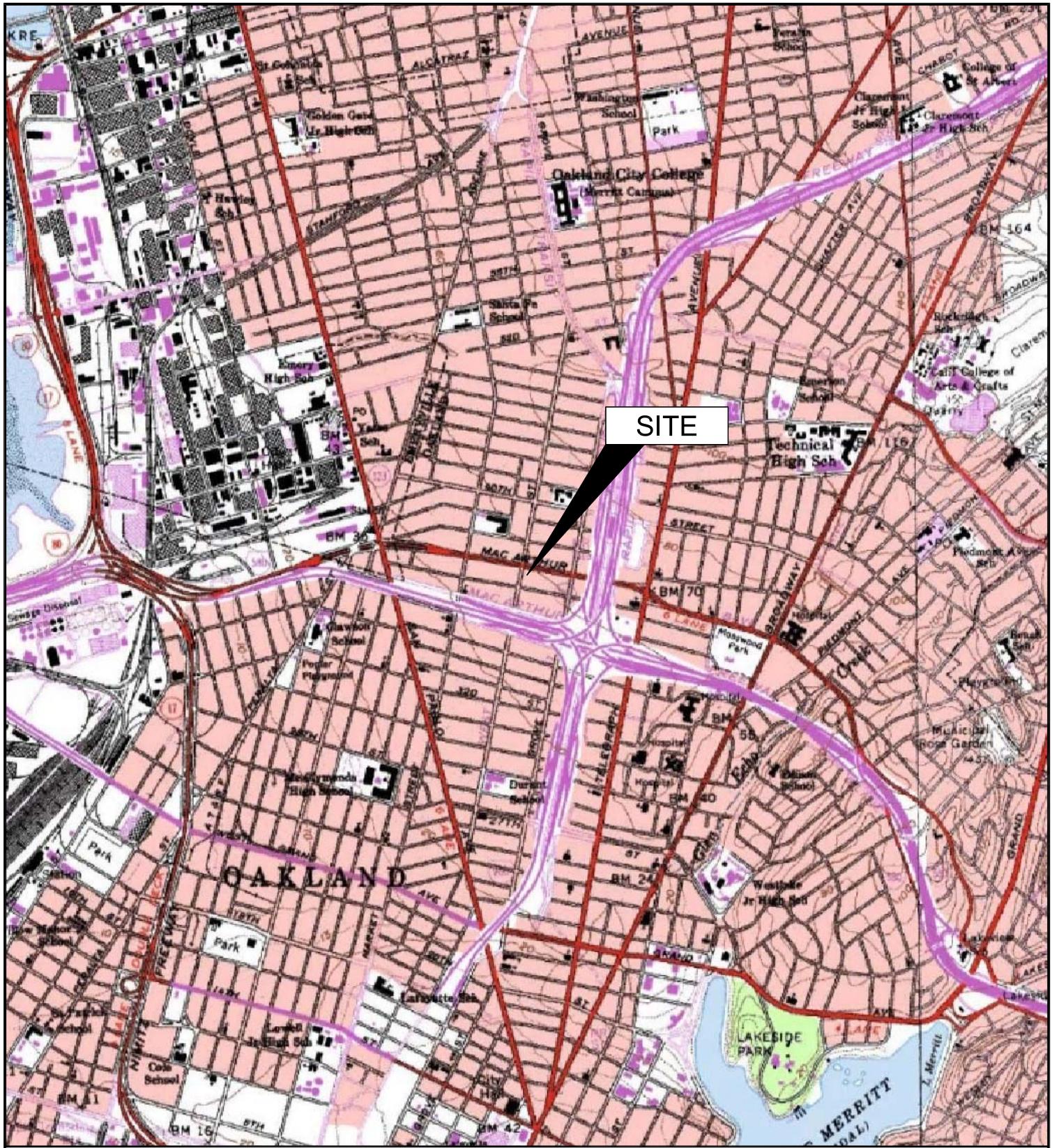


IMAGE SOURCE: USGS



**BROADBENT & ASSOCIATES, INC.**

ENGINEERING, WATER RESOURCES & ENVIRONMENTAL  
1324 Mangrove Ave. Suite 212, Chico, CA 95926

Project No.: 06-88-624 Date: 10/1/09

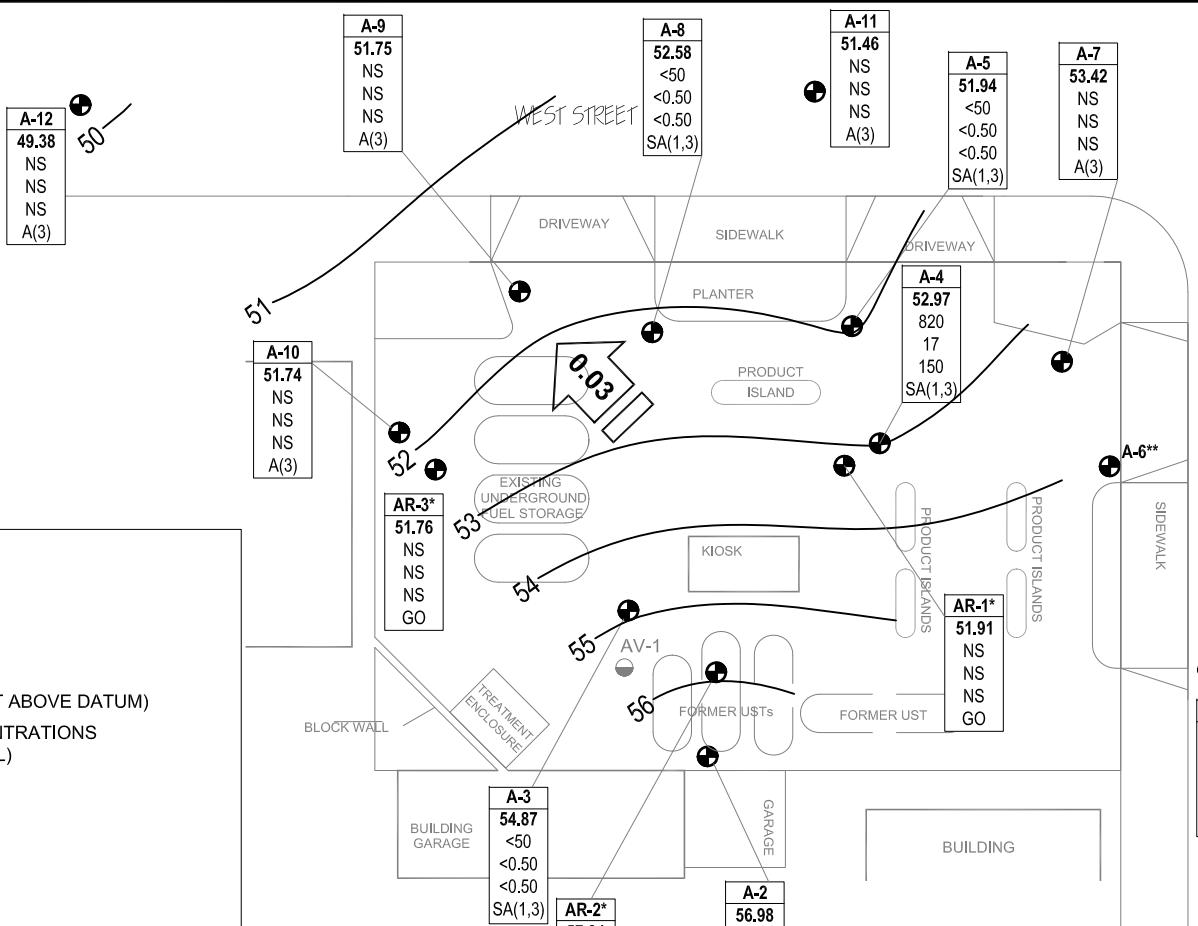
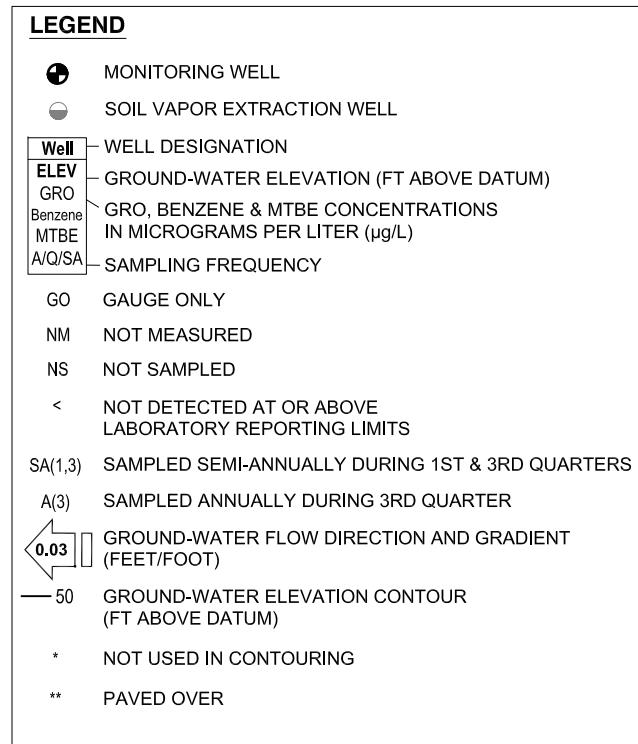
Station #4931  
731 West MacArthur Boulevard  
Oakland, California

Site Location Map

Drawing

**1**

WEST MACARTHUR BOULEVARD



NOTE: SITE MAP ADAPTED FROM URS FIGURES.  
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

0 40 80  
SCALE (ft)



**BROADBENT & ASSOCIATES, INC.**  
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL  
1324 Mangrove Ave. Suite 212, Chico, California 95926  
Project No.: 09-88-624 Date: 04/27/2010

Station #4931  
731 West MacArthur Boulevard  
Oakland, California

Ground-Water Elevation Contour  
and Analytical Summary Map  
23 March 2010

Drawing  
**2**

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-2															
6/21/2000	--		55.48	5.00	20.00	6.85	48.63	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
9/20/2000	--		55.48	5.00	20.00	10.45	45.03	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/26/2000	--		55.48	5.00	20.00	6.27	49.21	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		55.48	5.00	20.00	4.57	50.91	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/12/2001	--		55.48	5.00	20.00	9.27	46.21	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/23/2001	--		55.48	5.00	20.00	10.75	44.73	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/31/2001	--		55.48	5.00	20.00	4.13	51.35	<50	<0.5	<0.5	1	3.2	<2.5	--	--
3/21/2002	--		55.48	5.00	20.00	3.26	52.22	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/17/2002	--		55.48	5.00	20.00	3.72	51.76	<50	<0.5	<0.5	<0.5	<0.5	3.1	--	--
8/12/2002	NP		55.48	5.00	20.00	9.95	45.53	<10	<0.10	<0.10	<0.10	<0.10	<0.50	3.1	7.7
12/6/2002	NP		55.48	5.00	20.00	10.01	45.47	<50	<0.50	<0.50	<0.50	<0.50	6	3.1	6.1
1/30/2003	NP		55.48	5.00	20.00	5.08	50.40	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	6.7
5/28/2003	--		55.48	5.00	20.00	4.82	50.66	<50	<0.50	<0.50	<0.50	<0.50	1.1	5.7	6.8
8/6/2003	--		55.48	5.00	20.00	9.73	45.75	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	7.7
11/14/2003	--		55.48	5.00	20.00	9.36	46.12	--	--	--	--	--	--	--	--
02/02/2004	--	g	60.65	5.00	20.00	4.45	56.20	--	--	--	--	--	--	--	--
05/04/2004	--		60.65	5.00	20.00	6.79	53.86	--	--	--	--	--	--	--	--
09/02/2004	NP		60.65	5.00	20.00	10.51	50.14	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	--
11/10/2004	--		60.65	5.00	20.00	6.10	54.55	--	--	--	--	--	--	--	--
02/02/2005	--		60.65	5.00	20.00	4.00	56.65	--	--	--	--	--	--	--	--
05/09/2005	--		60.65	5.00	20.00	4.35	56.30	--	--	--	--	--	--	--	--
08/11/2005	NP	h	60.65	5.00	20.00	9.08	51.57	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	6.9
11/18/2005	--		60.65	5.00	20.00	8.53	52.12	--	--	--	--	--	--	--	--
02/15/2006	--		60.65	5.00	20.00	3.89	56.76	--	--	--	--	--	--	--	--
5/30/2006	--		60.65	5.00	20.00	4.45	56.20	--	--	--	--	--	--	--	--
8/11/2006	NP		60.65	5.00	20.00	9.03	51.62	160	<0.50	<0.50	<0.50	<0.50	3.6	0.16	5.9
11/1/2006	--		60.65	5.00	20.00	9.98	50.67	--	--	--	--	--	--	--	--
2/7/2007	--		60.65	5.00	20.00	7.51	53.14	--	--	--	--	--	--	--	--
5/9/2007	--		60.65	5.00	20.00	4.57	56.08	--	--	--	--	--	--	--	--
8/7/2007	NP		60.65	5.00	20.00	9.67	50.98	<50	<0.50	<0.50	<0.50	<0.50	3.4	2.18	7.17
11/14/2007	--		60.65	5.00	20.00	7.84	52.81	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-2 Cont.															
2/28/2008	--		60.65	5.00	20.00	3.30	57.35	--	--	--	--	--	--	--	--
5/23/2008	--		60.65	5.00	20.00	8.80	51.85	--	--	--	--	--	--	--	--
8/13/2008	NP		60.65	5.00	20.00	10.20	50.45	<50	<0.50	<0.50	<0.50	<0.50	19	0.87	9.29
11/19/2008	--		60.65	5.00	20.00	9.20	51.45	--	--	--	--	--	--	--	--
2/10/2009	--		60.65	5.00	20.00	7.83	52.82	--	--	--	--	--	--	--	--
5/7/2009	--		60.65	5.00	20.00	4.40	56.25	--	--	--	--	--	--	--	--
9/3/2009	NP	k	60.65	5.00	20.00	10.07	50.58	<50	<0.50	<0.50	<0.50	<0.50	12	1.03	6.86
3/23/2010	--		60.65	5.00	20.00	3.67	56.98	--	--	--	--	--	--	--	--
A-3															
6/21/2000	--		54.66	5.00	20.00	9.48	45.18	<50	<0.5	<0.5	<0.5	<1.0	46	--	--
9/20/2000	--		54.66	5.00	20.00	10.24	44.42	<50	<0.5	<0.5	<0.5	<0.5	89.6	--	--
12/26/2000	--		54.66	5.00	20.00	9.58	45.08	<50	<0.5	<0.5	<0.5	<0.5	7.11	--	--
3/20/2001	--		54.66	5.00	20.00	6.34	48.32	--	--	--	--	--	--	--	--
6/12/2001	--		54.66	5.00	20.00	9.76	44.90	<50	<0.5	<0.5	<0.5	<0.5	86	--	--
9/23/2001	--		54.66	5.00	20.00	10.55	44.11	--	--	--	--	--	--	--	--
12/31/2001	--		54.66	5.00	20.00	3.70	50.96	<50	<0.5	<0.5	<0.5	1	60	--	--
3/21/2002	--		54.66	5.00	20.00	5.75	48.91	--	--	--	--	--	--	--	--
4/17/2002	--		54.66	5.00	20.00	7.27	47.39	<50	<0.5	<0.5	<0.5	<0.5	45	--	--
8/12/2002	--		54.66	5.00	20.00	9.71	44.95	--	--	--	--	--	--	--	--
12/6/2002	P		54.66	5.00	20.00	9.55	45.11	<500	<5.0	<5.0	<5.0	<5.0	150	2.4	6.6
1/30/2003	--		54.66	5.00	20.00	6.05	48.61	--	--	--	--	--	--	--	--
1/30/2003	--		54.66	5.00	20.00	6.05	48.61	--	--	--	--	--	--	--	--
5/28/2003	--		54.66	5.00	20.00	8.06	46.60	74	<0.50	<0.50	<0.50	<0.50	43	1.5	6.9
8/6/2003	--		54.66	5.00	20.00	9.91	44.75	--	--	--	--	--	--	--	--
11/14/2003	--		54.66	5.00	20.00	9.52	45.14	--	--	--	--	--	--	--	--
02/02/2004	P	g	59.32	5.00	20.00	5.63	53.69	<50	<0.50	<0.50	<0.50	<0.50	13	1.2	7.1
05/04/2004	--		59.32	5.00	20.00	8.14	51.18	--	--	--	--	--	--	--	--
09/02/2004	P		59.32	5.00	20.00	10.10	49.22	<250	<2.5	<2.5	<2.5	<2.5	62	1.3	6.6
11/10/2004	--		59.32	5.00	20.00	7.89	51.43	--	--	--	--	--	--	--	--
02/02/2005	P		59.32	5.00	20.00	5.00	54.32	<50	<0.50	<0.50	<0.50	<0.50	6.8	1.9	6.9

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-3 Cont.															
05/09/2005	--		59.32	5.00	20.00	5.96	53.36	--	--	--	--	--	--	--	--
08/11/2005	P	h	59.32	5.00	20.00	9.28	50.04	<50	<0.50	<0.50	<0.50	<0.50	39	1.8	5.5
11/18/2005	--		59.32	5.00	20.00	8.61	50.71	--	--	--	--	--	--	--	--
02/15/2006	P		59.32	5.00	20.00	4.36	54.96	<50	<0.50	<0.50	<0.50	<0.50	2.2	3.6	7.2
5/30/2006	--		59.32	5.00	20.00	6.28	53.04	--	--	--	--	--	--	--	--
8/11/2006	P		59.32	5.00	20.00	9.27	50.05	<50	<0.50	<0.50	<0.50	<0.50	4.1	2.10	6.4
11/1/2006	--		59.32	5.00	20.00	9.52	49.80	--	--	--	--	--	--	--	--
2/7/2007	NP		59.32	5.00	20.00	7.90	51.42	<50	<0.50	<0.50	<0.50	<0.50	0.58	1.74	7.70
5/9/2007	--		59.32	5.00	20.00	6.55	52.77	--	--	--	--	--	--	--	--
8/7/2007	NP		59.32	5.00	20.00	9.57	49.75	<50	<0.50	<0.50	<0.50	<0.50	3.9	0.95	6.82
11/14/2007	--		59.32	5.00	20.00	8.00	51.32	--	--	--	--	--	--	--	--
2/28/2008	P		59.32	5.00	20.00	3.75	55.57	<50	<0.50	<0.50	<0.50	<0.50	0.58	6.16	6.92
5/23/2008	--		59.32	5.00	20.00	9.10	50.22	--	--	--	--	--	--	--	--
8/13/2008	NP		59.32	5.00	20.00	9.80	49.52	<50	<0.50	<0.50	<0.50	<0.50	0.55	0.69	8.63
11/19/2008	--		59.32	5.00	20.00	8.31	51.01	--	--	--	--	--	--	--	--
2/10/2009	NP		59.32	5.00	20.00	7.30	52.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.90	7.14
5/7/2009	--		59.32	5.00	20.00	6.10	53.22	--	--	--	--	--	--	--	--
9/3/2009	NP		59.32	5.00	20.00	9.50	49.82	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.01	6.95
<b>3/23/2010</b>	<b>NP</b>		<b>59.32</b>	<b>5.00</b>	<b>20.00</b>	<b>4.45</b>	<b>54.87</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;0.50</b>	<b>1.58</b>	<b>6.71</b>
A-4															
6/21/2000	--		54.73	5.00	20.00	9.49	45.24	2,100	110	2.1	11	5.9	2,000	--	--
9/20/2000	--		54.73	5.00	20.00	10.33	44.40	1,540	127	<5.0	9.07	7.42	1,940	--	--
12/26/2000	--		54.73	5.00	20.00	9.34	45.39	1,550	42.7	<5.0	11	10.9	1,210	--	--
3/20/2001	--		54.73	5.00	20.00	7.56	47.17	913	40.9	<5.0	15.5	14.6	<25	--	--
6/12/2001	--		54.73	5.00	20.00	9.83	44.90	2,000	230	<20	21	<20	4,700	--	--
9/23/2001	--		54.73	5.00	20.00	10.54	44.19	1,600	35	<10	<10	<10	3,000	--	--
12/31/2001	--		54.73	5.00	20.00	5.42	49.31	<500	<5.0	<5.0	<5.0	<5.0	880	--	--
3/21/2002	--		54.73	5.00	20.00	6.18	48.55	<5,000	<50	<50	<50	<50	1,400	--	--
4/17/2002	--		54.73	5.00	20.00	7.34	47.39	1,300	79	31	17	55	2,200	--	--
8/12/2002	P	a	54.73	5.00	20.00	9.56	45.17	2,400	120	<5.0	<5.0	<5.0	2,100	2	7.2

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-4 Cont.															
12/6/2002	P		54.73	5.00	20.00	10.02	44.71	2,200	110	10	42	56	2,000	--	6.7
1/30/2003	P		54.73	5.00	20.00	7.55	47.18	6,000	180	<50	85	<50	2,100	1.8	6.8
5/28/2003	--		54.73	5.00	20.00	8.94	45.79	6,000	120	<50	<50	<50	2,500	1.5	6.7
8/6/2003	--		54.73	5.00	20.00	10.03	44.70	5,800	100	<25	<25	33	2,500	1.5	6.7
11/14/2003	P	d, f	54.73	5.00	20.00	10.37	44.36	1,000	17	<5.0	<5.0	<5.0	310	1.6	6.8
02/02/2004	P	d, g	59.59	5.00	20.00	6.70	52.89	3,600	46	<25	<25	<25	1,500	1.0	7.1
05/04/2004	P	d	59.59	5.00	20.00	9.12	50.47	<5,000	<50	<50	<50	<50	2,300	6.4	6.8
09/02/2004	P		59.59	5.00	20.00	9.95	49.64	3,000	<25	<25	<25	<25	1,200	9.1	6.8
11/10/2004	P		59.59	5.00	20.00	8.68	50.91	1,800	16	<10	<10	<10	1,100	2.0	7.2
02/02/2005	P		59.59	5.00	20.00	6.92	52.67	3,300	120	<10	66	11	1,700	1.5	6.5
05/09/2005	P		59.59	5.00	20.00	7.21	52.38	<5,000	140	<50	62	<50	1,800	1.64	6.6
08/11/2005	P	f, h	59.59	5.00	20.00	9.71	49.88	1,700	51	<10	<10	<10	1,200	--	6.9
11/18/2005	P		59.59	5.00	20.00	9.45	50.14	1,300	23	<2.5	7.2	11	310	1.4	6.7
02/15/2006	P		59.59	5.00	20.00	7.12	52.47	2,200	46	<2.5	29	7.0	910	0.9	6.8
5/30/2006	P		59.59	5.00	20.00	7.95	51.64	3,300	95	<10	55	<10	1,200	1.76	6.5
8/11/2006	P		59.59	5.00	20.00	9.50	50.09	350	93	<10	<10	<10	1,200	1.4	6.6
11/1/2006	P		59.59	5.00	20.00	9.93	49.66	1,300	<10	<10	<10	<10	360	4.56	6.94
2/7/2007	NP		59.59	5.00	20.00	8.82	50.77	4,900	85	<10	40	<10	1,500	0.72	6.86
5/9/2007	NP		59.59	5.00	20.00	7.56	52.03	1,700	19	<10	<10	<10	340	3.00	7.03
8/7/2007	NP		59.59	5.00	20.00	9.80	49.79	2,700	69	<5.0	<5.0	<5.0	510	1.04	6.95
11/14/2007	NP		59.59	5.00	20.00	8.65	50.94	500	4.9	<0.50	<0.50	<0.50	280	1.27	6.94
2/28/2008	NP		59.59	5.00	20.00	6.15	53.44	850	17	<0.50	4.4	1.4	350	1.76	7.03
5/23/2008	NP		59.59	5.00	20.00	9.40	50.19	1,900	75	<20	<20	<20	1,000	1.28	6.58
8/13/2008	NP		59.59	5.00	20.00	9.92	49.67	3,100	47	<10	<10	<10	530	0.89	8.97
11/19/2008	NP		59.59	5.00	20.00	9.19	50.40	1,800	70	<10	21	<10	430	0.83	6.50
2/10/2009	NP		59.59	5.00	20.00	7.68	51.91	1,900	33	<10	14	<10	400	0.87	7.31
5/7/2009	NP		59.59	5.00	20.00	7.31	52.28	<50	<0.50	<0.50	<0.50	<0.50	9.9	2.40	7.10
9/3/2009	NP		59.59	5.00	20.00	10.02	49.57	3,800	49	<10	<10	<10	360	0.79	6.75
3/23/2010	NP		59.59	5.00	20.00	6.62	52.97	820	17	<0.50	5.0	1.3	150	1.37	6.54
A-5															

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-5 Cont.															
6/21/2000	--		54.17	3.00	24.00	9.29	44.88	980	<0.5	<0.5	<0.5	<1.0	2,000	--	--
9/20/2000	--		54.17	3.00	24.00	10.23	43.94	--	--	--	--	--	--	--	--
12/26/2000	--		54.17	3.00	24.00	9.65	44.52	525	<0.5	<0.5	<0.5	<0.5	1,200	--	--
3/20/2001	--		54.17	3.00	24.00	8.05	46.12	--	--	--	--	--	--	--	--
6/12/2001	--		54.17	3.00	24.00	9.81	44.36	830	<5.0	<5.0	<5.0	<5.0	3,200	--	--
9/23/2001	--		54.17	3.00	24.00	10.42	43.75	--	--	--	--	--	--	--	--
12/31/2001	--		54.17	3.00	24.00	6.03	48.14	320	<0.5	<0.5	<0.5	<0.5	60	--	--
3/21/2002	--		54.17	3.00	24.00	6.71	47.46	--	--	--	--	--	--	--	--
4/17/2002	--		54.17	3.00	24.00	8.01	46.16	1,600	<10	<10	<10	<10	3,200	--	--
8/12/2002	--		54.17	3.00	24.00	9.87	44.30	--	--	--	--	--	--	--	--
12/6/2002	P		54.17	3.00	24.00	9.66	44.51	310	<0.50	<0.50	<0.50	<0.50	330	1.9	6.6
1/30/2003	--		54.17	3.00	24.00	7.67	46.50	--	--	--	--	--	--	--	--
5/28/2003	--		54.17	3.00	24.00	8.56	45.61	<5,000	<50	<50	<50	<50	1,500	1.6	6.6
8/6/2003	--		54.17	3.00	24.00	9.58	44.59	--	--	--	--	--	--	--	--
11/14/2003	--		54.17	3.00	24.00	9.81	44.36	--	--	--	--	--	--	--	--
02/02/2004	P	g	58.78	3.00	24.00	7.43	51.35	390	<2.5	9.2	<2.5	2.6	140	1.0	6.8
05/04/2004	--		58.78	3.00	24.00	9.98	48.80	--	--	--	--	--	--	--	--
09/02/2004	P		58.78	3.00	24.00	9.65	49.13	<250	<2.5	<2.5	<2.5	<2.5	66	1.1	6.4
11/10/2004	--		58.78	3.00	24.00	8.48	50.30	--	--	--	--	--	--	--	--
02/02/2005	P		58.78	3.00	24.00	7.10	51.68	68	<0.50	<0.50	<0.50	<0.50	17	1.0	7.2
05/09/2005	--		58.78	3.00	24.00	7.20	51.58	--	--	--	--	--	--	--	--
08/11/2005	P	h	58.78	3.00	24.00	9.21	49.57	<50	<0.50	<0.50	<0.50	<0.50	6.8	1.3	6.2
11/18/2005	--		58.78	3.00	24.00	9.10	49.68	--	--	--	--	--	--	--	--
02/15/2006	P		58.78	3.00	24.00	7.16	51.62	<50	<0.50	<0.50	<0.50	<0.50	5.1	1.2	6.9
5/30/2006	--		58.78	3.00	24.00	7.87	50.91	--	--	--	--	--	--	--	--
8/11/2006	P		58.78	3.00	24.00	8.90	49.88	920	<0.50	<0.50	<0.50	<0.50	12	1.4	6.7
11/1/2006	--		58.78	3.00	24.00	9.30	49.48	--	--	--	--	--	--	--	--
2/7/2007	NP	i	58.78	3.00	24.00	8.50	50.28	60	<0.50	<0.50	<0.50	<0.50	1.5	0.73	7.14
5/9/2007	--		58.78	3.00	24.00	7.60	51.18	--	--	--	--	--	--	--	--
8/7/2007	NP		58.78	3.00	24.00	9.30	49.48	<50	<0.50	<0.50	<0.50	<0.50	0.81	0.41	7.18
11/14/2007	--		58.78	3.00	24.00	8.48	50.30	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>A-5 Cont.</b>															
2/28/2008	NP		58.78	3.00	24.00	6.21	52.57	<50	<0.50	<0.50	<0.50	<0.50	0.97	2.24	7.40
5/23/2008	--		58.78	3.00	24.00	8.97	49.81	--	--	--	--	--	--	--	--
8/13/2008	NP		58.78	3.00	24.00	9.42	49.36	<50	<0.50	<0.50	<0.50	<0.50	0.69	0.62	8.96
11/19/2008	--		58.78	3.00	24.00	8.91	49.87	--	--	--	--	--	--	--	--
2/10/2009	NP		58.78	3.00	24.00	7.80	50.98	<50	<0.50	<0.50	<0.50	<0.50	1.6	0.85	7.52
5/7/2009	--		58.78	3.00	24.00	7.37	51.41	--	--	--	--	--	--	--	--
9/3/2009	NP		58.78	3.00	24.00	9.33	49.45	<50	<0.50	<0.50	<0.50	<0.50	20	0.91	6.68
3/23/2010	NP		58.78	3.00	24.00	6.84	51.94	<50	<0.50	<0.50	<0.50	<1.0	<0.50	1.20	6.67
<b>A-6</b>															
6/21/2000	--		55.17	3.00	25.00	8.67	46.50	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
9/20/2000	--		55.17	3.00	25.00	9.34	45.83	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/26/2000	--		55.17	3.00	25.00	8.65	46.52	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		55.17	3.00	25.00	6.84	48.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/12/2001	--		55.17	3.00	25.00	8.93	46.24	<50	<0.5	<0.5	<0.5	<0.5	7	--	--
9/23/2001	--		55.17	3.00	25.00	9.74	45.43	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/31/2001	--		55.17	3.00	25.00	4.81	50.36	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--
3/21/2002	--		55.17	3.00	25.00	5.44	49.73	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/17/2002	--		55.17	3.00	25.00	6.95	48.22	<50	<0.5	<0.5	<0.5	<0.5	3.1	--	--
8/12/2002	NP		55.17	3.00	25.00	8.90	46.27	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4.3	7.9
12/6/2002	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
1/30/2003	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
5/28/2003	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
8/6/2003	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
11/14/2003	--	Well inaccessible e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
02/02/2004	--	Well inaccessible e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
05/04/2004	--	Well inaccessible e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
09/02/2004	--	Well inaccessible e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
11/10/2004	--	Well inaccessible e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
02/02/2005	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
05/09/2005	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>A-6 Cont.</b>															
08/11/2005	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
11/18/2005	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
2/15/2006	--	e	--	3.00	25.00	--	--	--	--	--	--	--	--	--	--
5/30/2006	--	e	--	3.00	25.00	--	--	--	--	--	--	--	--	--	--
8/11/2006	--	e	--	3.00	25.00	--	--	--	--	--	--	--	--	--	--
11/1/2006	--	e	--	3.00	25.00	--	--	--	--	--	--	--	--	--	--
<b>A-7</b>															
6/21/2000	--		54.71	3.00	22.00	8.58	46.13	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
9/20/2000	--		54.71	3.00	22.00	9.19	45.52	--	--	--	--	--	--	--	--
12/26/2000	--		54.71	3.00	22.00	8.50	46.21	--	--	--	--	--	--	--	--
3/20/2001	--		54.71	3.00	22.00	6.75	47.96	--	--	--	--	--	--	--	--
6/12/2001	--		54.71	3.00	22.00	8.80	45.91	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/23/2001	--		54.71	3.00	22.00	9.59	45.12	--	--	--	--	--	--	--	--
12/31/2001	--		54.71	3.00	22.00	4.78	49.93	--	--	--	--	--	--	--	--
3/21/2002	--		54.71	3.00	22.00	5.35	49.36	--	--	--	--	--	--	--	--
4/17/2002	--		54.71	3.00	22.00	6.88	47.83	<50	<0.5	<0.5	<0.5	<0.5	2.5	--	--
8/12/2002	--		54.71	3.00	22.00	8.77	45.94	--	--	--	--	--	--	--	--
12/6/2002	--		54.71	3.00	22.00	9.07	45.64	--	--	--	--	--	--	--	--
1/30/2003	--		54.71	3.00	22.00	6.65	48.06	--	--	--	--	--	--	--	--
5/28/2003	--		54.71	3.00	22.00	7.63	47.08	<50	<0.50	<0.50	<0.50	<0.50	3.8	2.3	6.7
8/6/2003	--		54.71	3.00	22.00	8.90	45.81	--	--	--	--	--	--	--	--
11/14/2003	--		54.71	3.00	22.00	9.08	45.63	--	--	--	--	--	--	--	--
02/02/2004	--	g	59.75	3.00	22.00	5.96	53.79	--	--	--	--	--	--	--	--
05/04/2004	--		59.75	3.00	22.00	8.21	51.54	--	--	--	--	--	--	--	--
09/02/2004	P		59.75	3.00	22.00	9.02	50.73	<50	<0.50	<0.50	<0.50	<0.50	8.9	3.0	6.7
11/10/2004	--		59.75	3.00	22.00	7.50	52.25	--	--	--	--	--	--	--	--
02/02/2005	--		59.75	3.00	22.00	6.10	53.65	--	--	--	--	--	--	--	--
05/09/2005	--		59.75	3.00	22.00	6.48	53.27	--	--	--	--	--	--	--	--
08/11/2005	P	h	59.75	3.00	22.00	8.45	51.30	<50	<0.50	<0.50	<0.50	<0.50	18	1.6	6.6
11/18/2005	--		59.75	3.00	22.00	8.65	51.10	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-7 Cont.															
02/15/2006	--		59.75	3.00	22.00	6.51	53.24	--	--	--	--	--	--	--	--
5/30/2006	--		59.75	3.00	22.00	7.13	52.62	--	--	--	--	--	--	--	--
8/11/2006	P		59.75	3.00	22.00	8.46	51.29	<50	<0.50	<0.50	<0.50	<0.50	3.6	1.7	6.7
11/1/2006	--		59.75	3.00	22.00	8.99	50.76	--	--	--	--	--	--	--	--
2/7/2007	--		59.75	3.00	22.00	8.12	51.63	--	--	--	--	--	--	--	--
5/9/2007	--		59.75	3.00	22.00	7.04	52.71	--	--	--	--	--	--	--	--
8/7/2007	NP		59.75	3.00	22.00	9.10	50.65	<50	<0.50	<0.50	<0.50	<0.50	2.7	1.34	7.09
11/14/2007	--		59.75	3.00	22.00	8.00	51.75	--	--	--	--	--	--	--	--
2/28/2008	--		59.75	3.00	22.00	5.81	53.94	--	--	--	--	--	--	--	--
5/23/2008	--		59.75	3.00	22.00	8.74	51.01	--	--	--	--	--	--	--	--
8/13/2008	NP		59.75	3.00	22.00	9.27	50.48	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.05	8.45
11/19/2008	--		59.75	3.00	22.00	8.67	51.08	--	--	--	--	--	--	--	--
2/10/2009	--		59.75	3.00	22.00	7.47	52.28	--	--	--	--	--	--	--	--
5/7/2009	--		59.75	3.00	22.00	6.88	52.87	--	--	--	--	--	--	--	--
9/3/2009	NP		59.75	3.00	22.00	9.25	50.50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.93	6.78
3/23/2010	--		59.75	3.00	22.00	6.33	53.42	--	--	--	--	--	--	--	--
A-8															
6/21/2000	--		53.77	3.00	25.00	9.07	44.70	810	<0.5	<0.5	<0.5	810	1,500	--	--
9/20/2000	--		53.77	3.00	25.00	9.72	44.05	10,800	2,680	46	439	370	4,410	--	--
12/26/2000	--		53.77	3.00	25.00	9.20	44.57	7,700	1,440	<50	202	106	2,230	--	--
3/20/2001	--		53.77	3.00	25.00	7.51	46.26	<5,000	1,280	<50	53.9	<50	2,880	--	--
6/12/2001	--		53.77	3.00	25.00	9.53	44.24	5,600	1,700	<50	61	54	2,900	--	--
9/23/2001	--		53.77	3.00	25.00	10.08	43.69	10,000	3,500	<50	110	64	6,500	--	--
12/31/2001	--		53.77	3.00	25.00	4.34	49.43	4,300	610	<10	60	24	520	--	--
3/21/2002	--		53.77	3.00	25.00	6.67	47.10	6,600	1,400	<50	130	<50	2,700	--	--
4/17/2002	--		53.77	3.00	25.00	7.72	46.05	3,800	540	<10	<10	12	3,100	--	--
8/12/2002	NP		53.77	3.00	25.00	9.64	44.13	9,400	1,800	<20	35	28	4,200	1	6.7
12/6/2002	NP	b	53.77	3.00	25.00	9.62	44.15	5,300	1,100	11	11	<10	2,200	1.4	6.7
1/30/2003	NP		53.77	3.00	25.00	7.49	46.28	<10,000	1,100	<100	<100	<100	2,200	1.5	6.9
5/28/2003	--		53.77	3.00	25.00	9.17	44.60	7,700	1,700	<50	<50	<50	2,100	1	6.8

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-8 Cont.															
8/6/2003	--		53.77	3.00	25.00	9.67	44.10	13,000	2,400	<50	<50	<50	3,000	0.9	6.5
11/14/2003	NP	d	53.77	3.00	25.00	9.80	43.97	3,100	570	<5.0	<5.0	<5.0	850	2.3	6.2
02/02/2004	NP	d, g	58.70	3.00	25.00	7.10	51.60	3,900	300	<25	<25	<25	1,100	1.1	6.8
05/04/2004	NP		58.70	3.00	25.00	9.44	49.26	<5,000	490	<50	<50	<50	1,600	1.0	6.9
09/02/2004	NP		58.70	3.00	25.00	9.67	49.03	<2,500	30	<25	<25	<25	680	1.0	6.2
11/10/2004	NP		58.70	3.00	25.00	8.15	50.55	580	61	<2.5	<2.5	<2.5	290	1.5	6.4
02/02/2005	NP		58.70	3.00	25.00	6.53	52.17	5,000	890	<25	<25	<25	1,900	1.0	7.4
05/09/2005	NP		58.70	3.00	25.00	6.31	52.39	69	0.90	<0.50	<0.50	<0.50	66	4.1	7.2
08/11/2005	NP	h	58.70	3.00	25.00	9.15	49.55	1,400	1,300	<12	<12	<12	1,100	0.7	6.4
11/18/2005	NP		58.70	3.00	25.00	8.89	49.81	1,200	420	<5.0	<5.0	<5.0	340	0.7	7.0
02/15/2006	NP		58.70	3.00	25.00	6.34	52.36	3,200	970	<10	<10	<10	1,100	0.9	6.1
5/30/2006	NP		58.70	3.00	25.00	7.53	51.17	510	210	<2.5	<2.5	<2.5	140	2.6	6.7
8/11/2006	P	i	58.70	3.00	25.00	8.90	49.80	1,300	500	<5.0	<5.0	<5.0	290	0.7	7.0
11/1/2006	P		58.70	3.00	25.00	9.15	49.55	4,800	790	6.6	<5.0	<5.0	910	1.72	7.11
2/7/2007	NP		58.70	3.00	25.00	8.48	50.22	7,600	2,300	<25	<25	<25	1,200	1.25	7.11
5/9/2007	NP		58.70	3.00	25.00	7.25	51.45	750	180	<2.5	<2.5	<2.5	55	1.75	7.14
8/7/2007	NP		58.70	3.00	25.00	9.17	49.53	2,100	700	4.0	<2.5	<2.5	430	0.77	6.95
11/14/2007	NP		58.70	3.00	25.00	7.77	50.93	990	300	2.5	0.68	0.96	100	1.01	6.73
2/28/2008	NP		58.70	3.00	25.00	5.14	53.56	2,100	670	<5.0	<5.0	<5.0	220	1.67	7.09
5/23/2008	--	j	58.70	3.00	25.00	--	--	--	--	--	--	--	--	--	--
8/13/2008	NP		58.70	3.00	25.00	9.48	49.22	3,100	970	<25	<25	<25	250	0.84	8.73
11/19/2008	NP		58.70	3.00	25.00	8.87	49.83	3,800	1,000	<20	<20	<20	230	0.89	6.87
2/10/2009	NP		58.70	3.00	25.00	7.11	51.59	3,600	1,300	<25	<25	<25	320	0.89	6.87
5/7/2009	NP		58.70	3.00	25.00	6.47	52.23	270	65	<1.0	<1.0	<1.0	12	0.97	6.56
9/3/2009	NP		58.70	3.00	25.00	9.47	49.23	3,200	1,400	<25	<25	<25	100	0.87	6.51
3/23/2010	NP		58.70	3.00	25.00	6.12	52.58	<50	<0.50	<0.50	<0.50	<1.0	<0.50	1.69	6.75
A-9															
6/21/2000	--		53.04	5.00	40.00	8.56	44.48	<50	<0.5	<0.5	<0.5	<1.0	5	--	--
9/20/2000	--		53.04	5.00	40.00	9.05	43.99	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/26/2000	--		53.04	5.00	40.00	8.49	44.55	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-9 Cont.															
3/20/2001	--		53.04	5.00	40.00	6.95	46.09	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/12/2001	--		53.04	5.00	40.00	8.67	44.37	<50	<0.5	<0.5	<0.5	<0.5	4.8	--	--
9/23/2001	--		53.04	5.00	40.00	9.21	43.83	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/31/2001	--		53.04	5.00	40.00	4.57	48.47	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		53.04	5.00	40.00	5.60	47.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/17/2002	--		53.04	5.00	40.00	6.89	46.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/12/2002	P		53.04	5.00	40.00	8.71	44.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	4	7.6
12/6/2002	P		53.04	5.00	40.00	8.77	44.27	<50	<0.50	<0.50	<0.50	<0.50	<2.0	1.1	6.7
1/30/2003	P		53.04	5.00	40.00	6.88	46.16	<50	<0.50	<0.50	<0.50	<0.50	1.1	0.9	6.8
5/28/2003	--		53.04	5.00	40.00	9.75	43.29	<50	<0.50	<0.50	<0.50	<0.50	0.74	1.9	6.8
8/6/2003	--		53.04	5.00	40.00	9.00	44.04	<50	<0.50	<0.50	<0.50	<0.50	1.8	2.2	6.7
11/14/2003	--	d	53.04	5.00	40.00	8.82	44.22	--	--	--	--	--	--	--	--
02/02/2004	--	d, g	57.73	5.00	40.00	7.10	50.63	--	--	--	--	--	--	--	--
05/04/2004	--		57.73	5.00	40.00	8.12	49.61	--	--	--	--	--	--	--	--
09/02/2004	P		57.73	5.00	40.00	8.78	48.95	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.6	6.5
11/10/2004	--		57.73	5.00	40.00	7.88	49.85	--	--	--	--	--	--	--	--
02/02/2005	--		57.73	5.00	40.00	6.40	51.33	--	--	--	--	--	--	--	--
05/09/2005	--		57.73	5.00	40.00	6.82	50.91	--	--	--	--	--	--	--	--
08/11/2005	P		57.73	5.00	40.00	8.37	49.36	<50	<0.50	<0.50	<0.50	<0.50	1.5	1.8	6.7
11/18/2005	--		57.73	5.00	40.00	8.24	49.49	--	--	--	--	--	--	--	--
02/15/2006	--		57.73	5.00	40.00	6.38	51.35	--	--	--	--	--	--	--	--
5/30/2006	--		57.73	5.00	40.00	7.17	50.56	--	--	--	--	--	--	--	--
8/11/2006	P		57.73	5.00	40.00	8.20	49.53	<50	<0.50	<0.50	<0.50	<0.50	1.6	1.02	6.6
11/1/2006	--		57.73	5.00	40.00	8.90	48.83	--	--	--	--	--	--	--	--
2/7/2007	--		57.73	5.00	40.00	7.83	49.90	--	--	--	--	--	--	--	--
5/9/2007	--		57.73	5.00	40.00	6.92	50.81	--	--	--	--	--	--	--	--
8/7/2007	NP		57.73	5.00	40.00	8.58	49.15	<50	<0.50	<0.50	<0.50	<0.50	0.64	1.81	6.90
11/14/2007	--		57.73	5.00	40.00	7.77	49.96	--	--	--	--	--	--	--	--
2/28/2008	--		57.73	5.00	40.00	5.61	52.12	--	--	--	--	--	--	--	--
5/23/2008	--	j	57.73	5.00	40.00	--	--	--	--	--	--	--	--	--	--
8/13/2008	NP		57.73	5.00	40.00	8.65	49.08	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.55	9.04

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Station #4931, 731 West MacArthur Blvd., Oakland, CA

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-9 Cont.								--	--	--	--	--	--	--	--
11/19/2008	--		57.73	5.00	40.00	8.49	49.24	--	--	--	--	--	--	--	--
2/10/2009	--		57.73	5.00	40.00	7.07	50.66	--	--	--	--	--	--	--	--
5/7/2009	--		57.73	5.00	40.00	6.65	51.08	--	--	--	--	--	--	--	--
9/3/2009	NP		57.73	5.00	40.00	8.56	49.17	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.89	6.86
<b>3/23/2010</b>	--		<b>57.73</b>	<b>5.00</b>	<b>40.00</b>	<b>5.98</b>	<b>51.75</b>	--	--	--	--	--	--	--	--
A-10								--	--	--	--	--	--	--	--
6/21/2000	--		54.26	5.00	30.00	10.47	43.79	--	--	--	--	--	--	--	--
9/20/2000	--		54.26	5.00	30.00	10.76	43.50	--	--	--	--	--	--	--	--
12/26/2000	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
3/20/2001	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
9/23/2001	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
12/31/2001	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
3/21/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
4/17/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
8/12/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
12/6/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
1/30/2003	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
5/28/2003	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
8/6/2003	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
11/14/2003	--		54.26	5.00	30.00	10.37	43.89	--	--	--	--	--	--	--	--
02/02/2004	--	g	59.39	5.00	30.00	7.97	51.42	--	--	--	--	--	--	--	--
05/04/2004	--		59.39	5.00	30.00	8.69	50.70	--	--	--	--	--	--	--	--
09/02/2004	P		59.39	5.00	30.00	10.55	48.84	<500	<5.0	<5.0	<5.0	<5.0	270	0.8	6.6
11/10/2004	--		59.39	5.00	30.00	9.16	50.23	--	--	--	--	--	--	--	--
02/02/2005	--		59.39	5.00	30.00	7.90	51.49	--	--	--	--	--	--	--	--
05/09/2005	--		59.39	5.00	30.00	8.21	51.18	--	--	--	--	--	--	--	--
08/11/2005	P	h, i	59.39	5.00	30.00	10.02	49.37	69	<0.50	<0.50	<0.50	<0.50	97	0.9	6.6
11/18/2005	--		59.39	5.00	30.00	9.86	49.53	--	--	--	--	--	--	--	--
02/15/2006	--		59.39	5.00	30.00	7.53	51.86	--	--	--	--	--	--	--	--
5/30/2006	--		59.39	5.00	30.00	8.82	50.57	--	--	--	--	--	--	--	--

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Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>A-10 Cont.</b>															
8/11/2006	P		59.39	5.00	30.00	9.88	49.51	<50	<0.50	<0.50	<0.50	<0.50	46	1.3	6.8
11/1/2006	--		59.39	5.00	30.00	10.28	49.11	--	--	--	--	--	--	--	--
2/7/2007	--		59.39	5.00	30.00	9.50	49.89	--	--	--	--	--	--	--	--
5/9/2007	--		59.39	5.00	30.00	8.67	50.72	--	--	--	--	--	--	--	--
8/7/2007	NP		59.39	5.00	30.00	10.25	49.14	<50	<0.50	<0.50	<0.50	<0.50	8.9	0.59	6.89
11/14/2007	--		59.39	5.00	30.00	9.48	49.91	--	--	--	--	--	--	--	--
2/28/2008	--		59.39	5.00	30.00	7.23	52.16	--	--	--	--	--	--	--	--
5/23/2008	--		59.39	5.00	30.00	9.94	49.45	--	--	--	--	--	--	--	--
8/13/2008	NP		59.39	5.00	30.00	10.30	49.09	<50	<0.50	<0.50	<0.50	<0.50	28	0.74	9.16
11/19/2008	--		59.39	5.00	30.00	9.90	49.49	--	--	--	--	--	--	--	--
2/10/2009	--		59.39	5.00	30.00	8.74	50.65	--	--	--	--	--	--	--	--
5/7/2009	--	1	59.39	5.00	30.00	8.23	51.16	--	--	--	--	--	--	--	--
9/3/2009	--	j, 1	59.39	5.00	30.00	--	--	--	--	--	--	--	--	--	--
3/23/2010	--		59.39	5.00	30.00	7.65	51.74	--	--	--	--	--	--	--	--
<b>A-11</b>															
6/21/2000	--		53.74	5.00	30.00	9.54	44.20	<50	<0.5	<0.5	<0.5	<1.0	4	--	--
9/20/2000	--		53.74	5.00	30.00	10.62	43.12	--	--	--	--	--	--	--	--
12/26/2000	--		53.74	5.00	30.00	10.03	43.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		53.74	5.00	30.00	8.49	45.25	--	--	--	--	--	--	--	--
6/12/2001	--		53.74	5.00	30.00	10.21	43.53	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/23/2001	--		53.74	5.00	30.00	10.77	42.97	--	--	--	--	--	--	--	--
12/31/2001	--		53.74	5.00	30.00	6.06	47.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		53.74	5.00	30.00	7.14	46.60	--	--	--	--	--	--	--	--
4/17/2002	--		53.74	5.00	30.00	8.41	45.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/12/2002	--		53.74	5.00	30.00	10.25	43.49	--	--	--	--	--	--	--	--
12/6/2002	P		53.74	5.00	30.00	10.43	43.31	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.4	6.7
1/30/2003	--		53.74	5.00	30.00	8.42	45.32	--	--	--	--	--	--	--	--
5/28/2003	--		53.74	5.00	30.00	9.30	44.44	<50	<0.50	<0.50	<0.50	<0.50	0.53	1.8	7
8/6/2003	--		53.74	5.00	30.00	10.28	43.46	--	--	--	--	--	--	--	--
11/14/2003	--		53.74	5.00	30.00	10.40	43.34	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>A-11 Cont.</b>															
02/02/2004	--	g	59.16	5.00	30.00	7.95	51.21	--	--	--	--	--	--	--	--
05/04/2004	--		59.16	5.00	30.00	8.72	50.44	--	--	--	--	--	--	--	--
09/02/2004	P		59.16	5.00	30.00	10.44	48.72	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	6.6
11/10/2004	--		59.16	5.00	30.00	9.20	49.96	--	--	--	--	--	--	--	--
02/02/2005	--		59.16	5.00	30.00	7.95	51.21	--	--	--	--	--	--	--	--
05/09/2005	--		59.16	5.00	30.00	8.07	51.09	--	--	--	--	--	--	--	--
08/11/2005	P	h	59.16	5.00	30.00	9.87	49.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.8	6.7
11/18/2005	--		59.16	5.00	30.00	8.88	50.28	--	--	--	--	--	--	--	--
02/15/2006	--		59.16	5.00	30.00	7.90	51.26	--	--	--	--	--	--	--	--
5/30/2006	--		59.16	5.00	30.00	8.78	50.38	--	--	--	--	--	--	--	--
8/11/2006	P		59.16	5.00	30.00	10.33	48.83	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.8	6.8
11/1/2006	--		59.16	5.00	30.00	10.10	49.06	--	--	--	--	--	--	--	--
2/7/2007	--		59.16	5.00	30.00	9.35	49.81	--	--	--	--	--	--	--	--
5/9/2007	--		59.16	5.00	30.00	8.48	50.68	--	--	--	--	--	--	--	--
8/7/2007	NP		59.16	5.00	30.00	10.10	49.06	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.67	7.07
11/14/2007	--		59.16	5.00	30.00	9.31	49.85	--	--	--	--	--	--	--	--
2/28/2008	--		59.16	5.00	30.00	7.12	52.04	--	--	--	--	--	--	--	--
5/23/2008	--		59.16	5.00	30.00	9.77	49.39	--	--	--	--	--	--	--	--
8/13/2008	NP		59.16	5.00	30.00	10.08	49.08	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.89	8.94
11/19/2008	--		59.16	5.00	30.00	9.75	49.41	--	--	--	--	--	--	--	--
2/10/2009	--		59.16	5.00	30.00	8.67	50.49	--	--	--	--	--	--	--	--
5/7/2009	--		59.16	5.00	30.00	8.20	50.96	--	--	--	--	--	--	--	--
9/3/2009	NP		59.16	5.00	30.00	10.15	49.01	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.98	6.78
3/23/2010	--		59.16	5.00	30.00	7.70	51.46	--	--	--	--	--	--	--	--
<b>A-12</b>															
6/21/2000	--		52.05	5.00	30.00	9.28	42.77	<50	<0.5	<0.5	<0.5	<1.0	18	--	--
9/20/2000	--		52.05	5.00	30.00	9.55	42.50	--	--	--	--	--	--	--	--
12/26/2000	--		52.05	5.00	30.00	9.05	43.00	<50	<0.5	<0.5	<0.5	<0.5	17.3	--	--
3/20/2001	--		52.05	5.00	30.00	7.92	44.13	--	--	--	--	--	--	--	--
6/12/2001	--		52.05	5.00	30.00	9.26	42.79	<50	<0.5	<0.5	<0.5	<0.5	25	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-12 Cont.															
9/23/2001	--		52.05	5.00	30.00	9.68	42.37	--	--	--	--	--	--	--	--
12/31/2001	--		52.05	5.00	30.00	5.74	46.31	<50	<0.5	<0.5	<0.5	<0.5	9.5	--	--
3/21/2002	--		52.05	5.00	30.00	6.64	45.41	--	--	--	--	--	--	--	--
4/17/2002	--		52.05	5.00	30.00	7.68	44.37	<50	<0.5	<0.5	<0.5	<0.5	29	--	--
8/12/2002	--		52.05	5.00	30.00	9.30	42.75	--	--	--	--	--	--	--	--
12/06/02	P	c	52.05	5.00	30.00	9.38	42.67	<50	<0.50	<0.50	<0.50	<0.50	13	2.3	6.5
1/30/2003	--		52.05	5.00	30.00	7.87	44.18	--	--	--	--	--	--	--	--
5/28/2003	--		52.05	5.00	30.00	8.51	43.54	50	<0.50	<0.50	<0.50	<0.50	10	1.4	7
8/6/2003	--		52.05	5.00	30.00	9.28	42.77	--	--	--	--	--	--	--	--
11/14/2003	--		52.05	5.00	30.00	9.37	42.68	--	--	--	--	--	--	--	--
02/02/2004	P	g	57.06	5.00	30.00	7.90	49.16	<50	<0.50	<0.50	<0.50	<0.50	0.91	1.0	6.9
05/04/2004	--		57.06	5.00	30.00	8.74	48.32	--	--	--	--	--	--	--	--
09/02/2004	P		57.06	5.00	30.00	9.41	47.65	<50	<0.50	<0.50	<0.50	<0.50	6.2	1.1	6.5
11/10/2004	--		57.06	5.00	30.00	8.32	48.74	--	--	--	--	--	--	--	--
02/02/2005	P		57.06	5.00	30.00	7.45	49.61	<50	<0.50	<0.50	<0.50	<0.50	8.3	1.4	7.1
05/09/2005	--		57.06	5.00	30.00	7.57	49.49	--	--	--	--	--	--	--	--
08/11/2005	P	h	57.06	5.00	30.00	9.05	48.01	<50	<0.50	<0.50	<0.50	<0.50	5.4	0.9	6.4
11/18/2005	--		57.06	5.00	30.00	8.90	48.16	--	--	--	--	--	--	--	--
02/15/2006	--		57.06	5.00	30.00	7.47	49.59	--	--	--	--	--	--	--	--
5/30/2006	--		57.06	5.00	30.00	8.21	48.85	--	--	--	--	--	--	--	--
8/11/2006	P		57.06	5.00	30.00	8.85	48.21	<50	<0.50	<0.50	<0.50	<0.50	7.4	1.8	6.9
11/1/2006	--		57.06	5.00	30.00	9.17	47.89	--	--	--	--	--	--	--	--
2/7/2007	--		57.06	5.00	30.00	8.58	48.48	--	--	--	--	--	--	--	--
5/9/2007	--		57.06	5.00	30.00	7.93	49.13	--	--	--	--	--	--	--	--
8/7/2007	NP		57.06	5.00	30.00	9.20	47.86	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.49	7.34
11/14/2007	--		57.06	5.00	30.00	8.52	48.54	--	--	--	--	--	--	--	--
2/28/2008	--		57.06	5.00	30.00	7.04	50.02	--	--	--	--	--	--	--	--
5/23/2008	--		57.06	5.00	30.00	9.00	48.06	--	--	--	--	--	--	--	--
8/13/2008	NP		57.06	5.00	30.00	9.38	47.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.03	8.39
11/19/2008	--		57.06	5.00	30.00	9.01	48.05	--	--	--	--	--	--	--	--
2/10/2009	--		57.06	5.00	30.00	8.10	48.96	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-12 Cont.								--	--	--	--	--	--	--	--
5/7/2009	--		57.06	5.00	30.00	7.80	49.26	--	--	--	--	--	--	--	--
9/3/2009	NP		57.06	5.00	30.00	9.40	47.66	<50	<0.50	<0.50	<0.50	<0.50	3.6	0.98	7.14
<b>3/23/2010</b>	<b>--</b>		<b>57.06</b>	<b>5.00</b>	<b>30.00</b>	<b>7.68</b>	<b>49.38</b>	--	--	--	--	--	--	--	--
A-13															
6/21/2000	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
9/20/2000	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
12/26/2000	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
3/20/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
6/12/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
9/23/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
12/31/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
3/21/2002	--		55.11	10.00	10.00	6.70	48.41	--	--	--	--	--	--	--	--
4/17/2002	--		55.11	10.00	10.00	7.95	47.16	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/12/2002	--		55.11	10.00	10.00	10.11	45.00	--	--	--	--	--	--	--	--
12/6/2002	--		55.11	10.00	10.00	10.26	44.85	--	--	--	--	--	--	--	--
1/30/2003	--		55.11	10.00	10.00	7.81	47.30	--	--	--	--	--	--	--	--
5/28/2003	--		55.11	10.00	10.00	9.06	46.05	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.9	6.5
8/6/2003	--		55.11	10.00	10.00	10.22	44.89	--	--	--	--	--	--	--	--
11/14/2003	--	g	55.11	10.00	10.00	10.27	44.84	--	--	--	--	--	--	--	--
02/02/2004	--		60.26	10.00	10.00	7.92	52.34	--	--	--	--	--	--	--	--
05/04/2004	--		60.26	10.00	10.00	10.06	50.20	--	--	--	--	--	--	--	--
09/02/2004	P		60.26	10.00	10.00	10.34	49.92	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.0	6.6
11/10/2004	--		60.26	10.00	10.00	8.95	51.31	--	--	--	--	--	--	--	--
02/02/2005	--		60.26	10.00	10.00	7.28	52.98	--	--	--	--	--	--	--	--
05/09/2005	--		60.26	10.00	10.00	7.85	52.41	--	--	--	--	--	--	--	--
08/11/2005	--		60.26	10.00	10.00	9.70	50.56	--	--	--	--	--	--	--	--
11/18/2005	--		60.26	10.00	10.00	9.27	50.99	--	--	--	--	--	--	--	--
02/15/2006	--		60.26	10.00	10.00	7.24	53.02	--	--	--	--	--	--	--	--
5/30/2006	--		60.26	10.00	10.00	8.38	51.88	--	--	--	--	--	--	--	--
8/11/2006	--		60.26	10.00	10.00	9.55	50.71	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-13 Cont.								--	--	--	--	--	--	--	--
11/1/2006	--		60.26	10.00	10.00	9.98	50.28	--	--	--	--	--	--	--	--
2/7/2007	--		60.26	10.00	10.00	9.07	51.19	--	--	--	--	--	--	--	--
5/9/2007	--		60.26	10.00	10.00	8.15	52.11	--	--	--	--	--	--	--	--
8/7/2007	--		60.26	10.00	10.00	10.05	50.21	--	--	--	--	--	--	--	--
11/14/2007	--		60.26	10.00	10.00	9.20	51.06	--	--	--	--	--	--	--	--
2/28/2008	--		60.26	10.00	10.00	6.82	53.44	--	--	--	--	--	--	--	--
5/23/2008	--		60.26	10.00	10.00	9.67	50.59	--	--	--	--	--	--	--	--
8/13/2008	--		60.26	10.00	10.00	10.17	50.09	--	--	--	--	--	--	--	--
11/19/2008	--		60.26	10.00	10.00	9.63	50.63	--	--	--	--	--	--	--	--
2/10/2009	--		60.26	10.00	10.00	8.48	51.78	--	--	--	--	--	--	--	--
5/7/2009	--		60.26	10.00	10.00	7.97	52.29	--	--	--	--	--	--	--	--
9/3/2009	--		60.26	10.00	10.00	10.14	50.12	--	--	--	--	--	--	--	--
3/23/2010	--		60.26	10.00	10.00	7.29	52.97	--	--	--	--	--	--	--	--
AR-1															
6/21/2000	--		54.72	10.00	30.00	--	--	--	--	--	--	--	--	--	--
9/20/2000	--		54.72	10.00	30.00	--	--	--	--	--	--	--	--	--	--
12/26/2000	--		54.72	10.00	30.00	9.95	44.77	--	--	--	--	--	--	--	--
3/20/2001	--		54.72	10.00	30.00	8.34	46.38	--	--	--	--	--	--	--	--
6/12/2001	--		54.72	10.00	30.00	10.17	44.55	--	--	--	--	--	--	--	--
9/23/2001	--		54.72	10.00	30.00	10.72	44.00	--	--	--	--	--	--	--	--
12/31/2001	--		54.72	10.00	30.00	5.91	48.81	--	--	--	--	--	--	--	--
3/21/2002	--		54.72	10.00	30.00	7.00	47.72	--	--	--	--	--	--	--	--
4/17/2002	--		54.72	10.00	30.00	8.33	46.39	--	--	--	--	--	--	--	--
8/12/2002	--		54.72	10.00	30.00	10.18	44.54	--	--	--	--	--	--	--	--
12/6/2002	--		54.72	10.00	30.00	10.21	44.51	--	--	--	--	--	--	--	--
1/30/2003	--		54.72	10.00	30.00	8.22	46.50	--	--	--	--	--	--	--	--
5/28/2003	--		54.72	10.00	30.00	9.62	45.10	--	--	--	--	--	--	--	--
8/6/2003	--		54.72	10.00	30.00	10.47	44.25	--	--	--	--	--	--	--	--
11/14/2003	--	d	54.72	10.00	30.00	10.40	44.32	--	--	--	--	--	--	--	--
02/02/2004	--	d, g	59.52	10.00	30.00	7.96	51.56	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>AR-1 Cont.</b>															
05/04/2004	--	d	59.52	10.00	30.00	10.17	49.35	--	--	--	--	--	--	--	--
09/02/2004	--		59.52	10.00	30.00	10.28	49.24	--	--	--	--	--	--	--	--
11/10/2004	--		59.52	10.00	30.00	9.15	50.37	--	--	--	--	--	--	--	--
02/02/2005	--		59.52	10.00	30.00	7.80	51.72	--	--	--	--	--	--	--	--
05/09/2005	--		59.52	10.00	30.00	7.03	52.49	--	--	--	--	--	--	--	--
08/11/2005	--		59.52	10.00	30.00	9.82	49.70	--	--	--	--	--	--	--	--
11/18/2005	--		59.52	10.00	30.00	9.83	49.69	--	--	--	--	--	--	--	--
02/15/2006	--		59.52	10.00	30.00	7.78	51.74	--	--	--	--	--	--	--	--
5/30/2006	--		59.52	10.00	30.00	8.65	50.87	--	--	--	--	--	--	--	--
8/11/2006	--		59.52	10.00	30.00	9.69	49.83	--	--	--	--	--	--	--	--
11/1/2006	--		59.52	10.00	30.00	10.07	49.45	--	--	--	--	--	--	--	--
2/7/2007	--		59.52	10.00	30.00	9.33	50.19	--	--	--	--	--	--	--	--
5/9/2007	--		59.52	10.00	30.00	8.45	51.07	--	--	--	--	--	--	--	--
8/7/2007	--		59.52	10.00	30.00	10.12	49.40	--	--	--	--	--	--	--	--
11/14/2007	--		59.52	10.00	30.00	9.31	50.21	--	--	--	--	--	--	--	--
2/28/2008	--		59.52	10.00	30.00	7.05	52.47	--	--	--	--	--	--	--	--
5/23/2008	--	j	59.52	10.00	30.00	--	--	--	--	--	--	--	--	--	--
8/13/2008	--		59.52	10.00	30.00	10.20	49.32	--	--	--	--	--	--	--	--
11/19/2008	--		59.52	10.00	30.00	9.73	49.79	--	--	--	--	--	--	--	--
2/10/2009	--		59.52	10.00	30.00	8.61	50.91	--	--	--	--	--	--	--	--
5/7/2009	--		59.52	10.00	30.00	8.17	51.35	--	--	--	--	--	--	--	--
9/3/2009	--		59.52	10.00	30.00	10.19	49.33	--	--	--	--	--	--	--	--
<b>3/23/2010</b>	--		<b>59.52</b>	<b>10.00</b>	<b>30.00</b>	<b>7.61</b>	<b>51.91</b>	--	--	--	--	--	--	--	--
<b>AR-2</b>															
6/21/2000	--		54.77	8.00	28.00	--	--	--	--	--	--	--	--	--	--
9/20/2000	--		54.77	8.00	28.00	--	--	--	--	--	--	--	--	--	--
12/26/2000	--		54.77	8.00	28.00	--	--	--	--	--	--	--	--	--	--
3/20/2001	--		54.77	8.00	28.00	3.13	51.64	--	--	--	--	--	--	--	--
6/12/2001	--		54.77	8.00	28.00	4.51	50.26	--	--	--	--	--	--	--	--
9/23/2001	--		54.77	8.00	28.00	6.05	48.72	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>AR-2 Cont.</b>															
12/31/2001	--		54.77	8.00	28.00	2.79	51.98	--	--	--	--	--	--	--	--
3/21/2002	--		54.77	8.00	28.00	7.75	47.02	--	--	--	--	--	--	--	--
4/17/2002	--		54.77	8.00	28.00	2.24	52.53	--	--	--	--	--	--	--	--
8/12/2002	--		54.77	8.00	28.00	4.93	49.84	--	--	--	--	--	--	--	--
12/6/2002	--		54.77	8.00	28.00	6.09	48.68	--	--	--	--	--	--	--	--
1/30/2003	--		54.77	8.00	28.00	3.89	50.88	--	--	--	--	--	--	--	--
5/28/2003	--		54.77	8.00	28.00	3.33	51.44	--	--	--	--	--	--	--	--
8/6/2003	--		54.77	8.00	28.00	5.05	49.72	--	--	--	--	--	--	--	--
11/14/2003	--		54.77	8.00	28.00	6.01	48.76	--	--	--	--	--	--	--	--
02/02/2004	--	g	59.18	8.00	28.00	3.88	55.30	--	--	--	--	--	--	--	--
05/04/2004	--		59.18	8.00	28.00	6.01	53.17	--	--	--	--	--	--	--	--
09/02/2004	--		59.18	8.00	28.00	5.65	53.53	--	--	--	--	--	--	--	--
11/10/2004	--		59.18	8.00	28.00	5.48	53.70	--	--	--	--	--	--	--	--
02/02/2005	--		59.18	8.00	28.00	2.62	56.56	--	--	--	--	--	--	--	--
05/09/2005	--		59.18	8.00	28.00	2.84	56.34	--	--	--	--	--	--	--	--
08/11/2005	--		59.18	8.00	28.00	4.33	54.85	--	--	--	--	--	--	--	--
11/18/2005	--		59.18	8.00	28.00	5.34	53.84	--	--	--	--	--	--	--	--
02/15/2006	--		59.18	8.00	28.00	2.49	56.69	--	--	--	--	--	--	--	--
5/30/2006	--		59.18	8.00	28.00	3.02	56.16	--	--	--	--	--	--	--	--
8/11/2006	--		59.18	8.00	28.00	4.32	54.86	--	--	--	--	--	--	--	--
11/1/2006	--		59.18	8.00	28.00	5.25	53.93	--	--	--	--	--	--	--	--
2/7/2007	--		59.18	8.00	28.00	4.64	54.54	--	--	--	--	--	--	--	--
5/9/2007	--		59.18	8.00	28.00	3.15	56.03	--	--	--	--	--	--	--	--
8/7/2007	--		59.18	8.00	28.00	4.55	54.63	--	--	--	--	--	--	--	--
11/14/2007	--		59.18	8.00	28.00	5.03	54.15	--	--	--	--	--	--	--	--
2/28/2008	--		59.18	8.00	28.00	1.82	57.36	--	--	--	--	--	--	--	--
5/23/2008	--	j	59.18	8.00	28.00	--	--	--	--	--	--	--	--	--	--
8/13/2008	--		59.18	8.00	28.00	5.05	54.13	--	--	--	--	--	--	--	--
11/19/2008	--		59.18	8.00	28.00	5.49	53.69	--	--	--	--	--	--	--	--
2/10/2009	--		59.18	8.00	28.00	5.10	54.08	--	--	--	--	--	--	--	--
5/7/2009	--		59.18	8.00	28.00	2.90	56.28	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>AR-2 Cont.</b>															
9/3/2009	--		59.18	8.00	28.00	5.99	53.19	--	--	--	--	--	--	--	--
3/23/2010	--		<b>59.18</b>	<b>8.00</b>	<b>28.00</b>	<b>1.94</b>	<b>57.24</b>	--	--	--	--	--	--	--	--
<b>AR-3</b>															
6/21/2000	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
9/20/2000	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
12/26/2000	--		54.19	10.00	30.00	9.70	44.49	--	--	--	--	--	--	--	--
3/20/2001	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
6/12/2001	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
9/23/2001	--		54.19	10.00	30.00	10.43	43.76	--	--	--	--	--	--	--	--
12/31/2001	--		54.19	10.00	30.00	5.18	49.01	--	--	--	--	--	--	--	--
3/21/2002	--		54.19	10.00	30.00	6.78	47.41	--	--	--	--	--	--	--	--
4/17/2002	--		54.19	10.00	30.00	8.06	46.13	--	--	--	--	--	--	--	--
8/12/2002	--		54.19	10.00	30.00	9.94	44.25	--	--	--	--	--	--	--	--
12/6/2002	--		54.19	10.00	30.00	9.99	44.20	--	--	--	--	--	--	--	--
1/30/2003	--		54.19	10.00	30.00	7.96	46.23	--	--	--	--	--	--	--	--
5/28/2003	--		54.19	10.00	30.00	8.94	45.25	--	--	--	--	--	--	--	--
8/6/2003	--		54.19	10.00	30.00	9.94	44.25	--	--	--	--	--	--	--	--
11/14/2003	--		54.19	10.00	30.00	10.03	44.16	--	--	--	--	--	--	--	--
02/02/2004	--	g	59.10	10.00	30.00	6.90	52.20	--	--	--	--	--	--	--	--
05/04/2004	--		59.10	10.00	30.00	9.12	49.98	--	--	--	--	--	--	--	--
09/02/2004	--		59.10	10.00	30.00	10.15	48.95	--	--	--	--	--	--	--	--
11/10/2004	--		59.10	10.00	30.00	8.79	50.31	--	--	--	--	--	--	--	--
02/02/2005	--		59.10	10.00	30.00	7.30	51.80	--	--	--	--	--	--	--	--
05/09/2005	--		59.10	10.00	30.00	7.71	51.39	--	--	--	--	--	--	--	--
08/11/2005	--		59.10	10.00	30.00	9.54	49.56	--	--	--	--	--	--	--	--
11/18/2005	--		59.10	10.00	30.00	9.43	49.67	--	--	--	--	--	--	--	--
02/15/2006	--		59.10	10.00	30.00	7.50	51.60	--	--	--	--	--	--	--	--
5/30/2006	--		59.10	10.00	30.00	8.82	50.28	--	--	--	--	--	--	--	--
8/11/2006	--		59.10	10.00	30.00	9.38	49.72	--	--	--	--	--	--	--	--
11/1/2006	--		59.10	10.00	30.00	9.75	49.35	--	--	--	--	--	--	--	--

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

Station #4931, 731 West MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>AR-3 Cont.</b>															
2/7/2007	--		59.10	10.00	30.00	9.00	50.10	--	--	--	--	--	--	--	--
5/9/2007	--		59.10	10.00	30.00	8.12	50.98	--	--	--	--	--	--	--	--
8/7/2007	--		59.10	10.00	30.00	9.75	49.35	--	--	--	--	--	--	--	--
11/14/2007	--		59.10	10.00	30.00	8.91	50.19	--	--	--	--	--	--	--	--
2/28/2008	--		59.10	10.00	30.00	6.73	52.37	--	--	--	--	--	--	--	--
5/23/2008	--	j	59.10	10.00	30.00	--	--	--	--	--	--	--	--	--	--
8/13/2008	--		59.10	10.00	30.00	9.85	49.25	--	--	--	--	--	--	--	--
11/19/2008	--		59.10	10.00	30.00	9.35	49.75	--	--	--	--	--	--	--	--
2/10/2009	--		59.10	10.00	30.00	8.29	50.81	--	--	--	--	--	--	--	--
5/7/2009	--		59.10	10.00	30.00	7.83	51.27	--	--	--	--	--	--	--	--
9/3/2009	--		59.10	10.00	30.00	9.80	49.30	--	--	--	--	--	--	--	--
<b>3/23/2010</b>	<b>--</b>		<b>59.10</b>	<b>10.00</b>	<b>30.00</b>	<b>7.34</b>	<b>51.76</b>	--	--	--	--	--	--	--	--

**SYMBOLS AND ABBREVIATIONS:**

-- = Not analyzed/applicable/measured/available  
< = Not detected at or above laboratory reporting limit  
DO = Dissolved oxygen  
DTW = Depth to water in ft bgs  
ft bgs = feet below ground surface  
GRO = Gasoline range organics  
GWE = Groundwater elevation measured in ft  
mg/L = Milligrams per liter  
MTBE = Methyl tert butyl ether  
NP = Not purged prior to sampling  
P = Purged prior to sampling  
TOC = Top of casing measured in ft  
TPH-g = Total petroleum hydrocarbons as gasoline  
µg/L = Micrograms per liter  
BTEX = Benzene, toluene, ethylbenzene and xylenes

**FOOTNOTES:**

a = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel for GRO/TPH-g.  
b = The concentration indicated for this analyte (MTBE) was an estimated value above the calibration range of the instrument.  
c = This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.  
d = ORC sock in well.  
e = Well inaccessible; well paved over.  
f = Sheen in well.  
g = Well surveyed to NAVD '88 datum on January 28, 2004.  
h = Possible low bias due to CCV falling outside acceptance criteria for GRO.  
i = Hydrocarbon result partly due to individual peak(s) in quantitative range for GRO.  
j = Well inaccessible.  
k = Sample taken from VOA vial with air bubble > 6mm diameter.  
l = Incorrect TOC utilized in 2nd and 3rd Quarter 2009 Ground-Water Monitoring Report.

**NOTES:**

Top and bottom of screen measurements for wells A-2 through A-5 were estimated from the EMCON sampling sheet.

Beginning in the first quarter 2003 (1/30/2003), groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates. Prior to 1/30/03, TPH-g was analyzed using EPA Method 8015B modified and MTBE by 8021B unless otherwise noted.

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12.

Values for DO and pH were obtained through field measurements.

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

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

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-2</b>									
1/30/2003	<40	<20	--	<0.50	<0.50	<0.50	--	--	a
5/28/2003	<100	<20	1.1	<0.50	<0.50	<0.50	--	--	
8/6/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
8/11/2006	<300	<20	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	
8/7/2007	<300	<20	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/13/2008	<300	<10	19	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<300	<10	12	<0.50	<0.50	<0.50	<0.50	<0.50	d
<b>A-3</b>									
1/30/2003	--	--	--	--	--	--	--	--	
5/28/2003	<100	<20	43	<0.50	<0.50	24	--	--	
8/6/2003	--	--	--	--	--	--	--	--	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	<100	<20	13	<0.50	<0.50	4.6	<0.50	<0.50	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<500	<100	62	<2.5	<2.5	15	<2.5	<2.5	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	<100	<20	6.8	<0.50	<0.50	2.4	<0.50	<0.50	b
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	39	<0.50	<0.50	4.2	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	<300	<20	2.2	<0.50	<0.50	0.58	<0.50	<0.50	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-3 Cont.</b>									
8/11/2006	<300	<20	4.1	<0.50	<0.50	<0.50	<0.50	<0.50	
2/7/2007	<300	<20	0.58	<0.50	<0.50	<0.50	<0.50	<0.50	
8/7/2007	<300	<20	3.9	<0.50	<0.50	<0.50	<0.50	<0.50	b
2/28/2008	<300	<10	0.58	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2008	<300	<10	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<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	
<b>A-4</b>									
1/30/2003	<4,000	<2,000	2,100	<50	<50	530	--	--	a
5/28/2003	<10,000	<2,000	2,500	<50	<50	590	--	--	
8/6/2003	<5,000	<1,000	2,500	<25	<25	560	<25	<25	
11/14/2003	<1,000	320	310	<5.0	<5.0	76	--	--	
02/02/2004	<5,000	<1,000	1,500	<25	<25	350	<25	<25	
05/04/2004	<10,000	<2,000	2,300	<50	<50	510	<50	<50	
09/02/2004	<5,000	1,200	1,200	<25	<25	280	<25	<25	
11/10/2004	<2,000	910	1,100	<10	<10	270	<10	<10	
02/02/2005	<2,000	2,100	1,700	<10	<10	430	<10	<10	b
05/09/2005	<10,000	2,000	1,800	<50	<50	460	<50	<50	
08/11/2005	<2,000	2,400	1,200	<10	<10	310	<10	<10	
11/18/2005	<500	1,400	310	<2.5	<2.5	98	<2.5	<2.5	b
02/15/2006	<1,500	2,700	910	<2.5	<2.5	270	<2.5	<2.5	
5/30/2006	<6,000	3,000	1,200	<10	<10	340	<10	<10	
8/11/2006	<6,000	3,200	1,200	<10	<10	350	<10	<10	
11/1/2006	<6,000	1,700	360	<10	<10	95	<10	--	b
2/7/2007	<6,000	3,000	1,500	<10	<10	460	<10	<10	
5/9/2007	<6,000	2,200	340	<10	<10	91	<10	<10	
8/7/2007	<3,000	1,800	510	<5.0	<5.0	140	<5.0	<5.0	b
11/14/2007	<300	600	280	<0.50	<0.50	90	<0.50	<0.50	
2/28/2008	<300	1,600	350	<0.50	<0.50	73	<0.50	<0.50	
5/23/2008	<12,000	2,500	1,000	<20	<20	270	<20	<20	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-4 Cont.</b>									
8/13/2008	<6,000	3,200	530	<10	<10	190	<10	<10	
11/19/2008	<6,000	2,000	430	<10	<10	140	<10	<10	
2/10/2009	<6,000	2,300	400	<10	<10	120	<10	<10	
5/7/2009	<300	11	9.9	<0.50	<0.50	2.0	<0.50	<0.50	
9/3/2009	<6,000	3,200	360	<10	<10	120	<10	<10	
<b>3/23/2010</b>	<b>&lt;100</b>	<b>1,600</b>	<b>150</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>45</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>A-5</b>									
1/30/2003	--	--	--	--	--	--	--	--	
5/28/2003	<10,000	<2,000	1,500	<50	<50	620	--	--	
8/6/2003	--	--	--	--	--	--	--	--	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	<500	170	140	<2.5	<2.5	54	<2.5	<2.5	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<500	150	66	<2.5	<2.5	29	<2.5	<2.5	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	<100	840	17	<0.50	<0.50	7.6	<0.50	<0.50	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	530	6.8	<0.50	<0.50	7.1	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	<300	460	5.1	<0.50	<0.50	4.2	<0.50	<0.50	
8/11/2006	<300	1,100	12	<0.50	<0.50	5.0	<0.50	<0.50	
2/7/2007	<300	600	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	
8/7/2007	<300	79	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	b
2/28/2008	<300	230	0.97	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2008	<300	33	0.69	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2009	<300	18	1.6	<0.50	<0.50	0.59	<0.50	<0.50	
9/3/2009	<300	<10	20	<0.50	<0.50	9.1	<0.50	<0.50	
<b>3/23/2010</b>	<b>&lt;100</b>	<b>33</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>A-6</b>									
11/14/2003	--	--	--	--	--	--	--	--	Well inaccessible

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-6 Cont.</b>									
02/02/2004	--	--	--	--	--	--	--	--	Well inaccessible
05/04/2004	--	--	--	--	--	--	--	--	Well inaccessible
09/02/2004	--	--	--	--	--	--	--	--	Well inaccessible
11/10/2004	--	--	--	--	--	--	--	--	Well inaccessible
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
8/11/2005	--	--	--	--	--	--	--	--	Well inaccessible
08/11/2005	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	
8/11/2006	--	--	--	--	--	--	--	--	Well inaccessible
<b>A-7</b>									
1/30/2003	--	--	--	--	--	--	--	--	
5/28/2003	<100	<20	3.8	<0.50	<0.50	0.94	--	--	
8/6/2003	--	--	--	--	--	--	--	--	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<100	<20	8.9	<0.50	<0.50	3.0	<0.50	<0.50	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	18	<0.50	<0.50	4.4	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
8/11/2006	<300	<20	3.6	<0.50	<0.50	0.91	0.54	<0.50	
8/7/2007	<300	<20	2.7	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/13/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>A-8</b>									
1/30/2003	<8,000	<4,000	2,200	<100	<100	900	--	--	a

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-8 Cont.									
5/28/2003	<10,000	<2,000	2,100	<50	<50	1,100	--	--	
8/6/2003	<10,000	<2,000	3,000	<50	<50	1,200	<50	<50	
11/14/2003	<1,000	<200	850	<5.0	<5.0	320	--	--	
02/02/2004	<5,000	<1,000	1,100	<25	<25	380	<25	<25	
05/04/2004	<10,000	<2,000	1,600	<50	<50	440	<50	<50	
09/02/2004	<5,000	<1,000	680	<25	<25	170	<25	<25	
11/10/2004	<500	<100	290	<2.5	<2.5	66	<2.5	<2.5	
02/02/2005	<5,000	<1,000	1,900	<25	<25	510	<25	<25	b
05/09/2005	<100	<20	66	<0.50	<0.50	2.9	<0.50	<0.50	
08/11/2005	<2,500	<500	1,100	<12	<12	310	<12	<12	
11/18/2005	<1,000	<200	340	<5.0	<5.0	120	<5.0	<5.0	b
02/15/2006	<6,000	880	1,100	<10	<10	330	<10	<10	
5/30/2006	<1,500	<100	140	<2.5	<2.5	43	<2.5	<2.5	
8/11/2006	<3,000	<200	290	<5.0	<5.0	92	<5.0	<5.0	
11/1/2006	<3,000	1,200	910	<5.0	<5.0	250	<5.0	<5.0	
2/7/2007	<15,000	<1,000	1,200	<25	<25	330	<25	<25	
5/9/2007	<1,500	<100	55	<2.5	<2.5	16	<2.5	<2.5	
8/7/2007	<1,500	140	430	<2.5	<2.5	160	<2.5	<2.5	b
11/14/2007	<300	28	100	<0.50	<0.50	44	<0.50	<0.50	
2/28/2008	<3,000	230	220	<5.0	<5.0	72	<5.0	<5.0	
5/23/2008	--	--	--	--	--	--	--	--	c
8/13/2008	<15,000	<500	250	<25	<25	86	<25	<25	
11/19/2008	<12,000	<400	230	<20	<20	100	<20	<20	
2/10/2009	<15,000	<500	320	<25	<25	120	<25	<25	
5/7/2009	<600	20	12	<1.0	<1.0	3.3	<1.0	<1.0	
9/3/2009	<15,000	<500	100	<25	<25	52	<25	<25	
3/23/2010	<100	<4.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
A-9									
1/30/2003	<40	<20	1.1	<0.50	<0.50	<0.50	--	--	
5/28/2003	<100	<20	0.74	<0.50	<0.50	<0.50	--	--	
8/6/2003	<100	<20	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-9 Cont.</b>									
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
8/11/2006	<300	<20	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	
8/7/2007	<300	<20	0.64	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/13/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>A-10</b>									
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<1,000	<200	270	<5.0	<5.0	44	<5.0	<5.0	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	97	<0.50	<0.50	14	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
8/11/2006	<300	<20	46	<0.50	<0.50	7.3	<0.50	<0.50	
8/7/2007	<300	<20	8.9	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/13/2008	<300	<10	28	<0.50	<0.50	6.9	<0.50	<0.50	
<b>A-11</b>									
1/30/2003	--	--	--	--	--	--	--	--	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-11 Cont.</b>									
5/28/2003	<100	<20	0.53	<0.50	<0.50	<0.50	--	--	
8/6/2003	--	--	--	--	--	--	--	--	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
8/11/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/7/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/13/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>A-12</b>									
1/30/2003	--	--	--	--	--	--	--	--	
5/28/2003	<100	<20	10	<0.50	<0.50	2.5	--	--	
8/6/2003	--	--	--	--	--	--	--	--	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	<100	<20	0.91	<0.50	<0.50	<0.50	<0.50	<0.50	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<100	<20	6.2	<0.50	<0.50	1.7	<0.50	<0.50	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	<100	<20	8.3	<0.50	<0.50	2.2	<0.50	<0.50	b
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	<100	<20	5.4	<0.50	<0.50	1.1	<0.50	<0.50	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
8/11/2006	<300	<20	7.4	<0.50	<0.50	2.5	<0.50	<0.50	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>A-12 Cont.</b>									
8/7/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/13/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<300	<10	3.6	<0.50	<0.50	1.0	<0.50	<0.50	
<b>A-13</b>									
1/30/2003	--	--	--	--	--	--	--	--	
5/28/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
8/6/2003	--	--	--	--	--	--	--	--	
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
<b>AR-1</b>									
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	--	--	--	--	--	--	--	--	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
<b>AR-2</b>									
11/14/2003	--	--	--	--	--	--	--	--	

**Table 2. Summary of Fuel Additives Analytical Data**  
**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>AR-2 Cont.</b>									
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	--	--	--	--	--	--	--	--	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	
<b>AR-3</b>									
11/14/2003	--	--	--	--	--	--	--	--	
02/02/2004	--	--	--	--	--	--	--	--	
05/04/2004	--	--	--	--	--	--	--	--	
09/02/2004	--	--	--	--	--	--	--	--	
11/10/2004	--	--	--	--	--	--	--	--	
02/02/2005	--	--	--	--	--	--	--	--	
05/09/2005	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	
02/15/2006	--	--	--	--	--	--	--	--	

**ABBREVIATIONS:**

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

**FOOTNOTES:**

a = The result for TBA was reported with a possible high bias due to the continuing calibration verification falling outside acceptance criteria.  
b = The calibration verification for ethanol was within the method limits but outside the contract limits.  
c = Well Inaccessible.  
d = Sample taken from VOA vial with air bubble > 6mm diameter.

**NOTES:**

All volatile organic 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 #4931, 731 West MacArthur Blvd., Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
6/21/2000	West-Southwest	0.031
9/20/2000	Southwest	0.013
12/26/2000	West	0.028
3/20/2001	West	0.046
6/12/2001	West	0.014
9/23/2001	West	0.012
12/31/2001	West	0.024
3/21/2002	West	0.047
4/17/2002	West	0.03
8/12/2002	West	0.016
12/6/2002	West	0.015
1/30/2003	West	Variable
5/28/2003	West	0.022 a
8/6/2003	West-Southwest	0.018
11/14/2003	West	0.02
2/2/2004	West	0.04
5/4/2004	West to North	0.025 to 0.033
9/2/2004	West	0.033
11/10/2004	West	0.031
2/2/2005	West-Southwest	0.04
5/9/2005	Northwest-Southwest	0.04
8/11/2005	West	0.02
11/18/2005	West	0.03
2/15/2006	Southwest	0.04
5/30/2006	West	0.05
8/11/2006	West	0.01
11/1/2006	West	0.01
2/7/2007	West	0.02
5/9/2007	West	0.05
8/7/2007	West	0.02
11/14/2007	West	0.02
2/28/2008	West	0.05
5/23/2008	West	0.03
8/13/2008	West	0.01
11/19/2008	West-Southwest	0.02
2/10/2009	West	0.02
5/7/2009	West	0.03
9/3/2009	West	0.01
3/23/2010	West	<b>0.03</b>

**Table 3. Historical Ground-Water Flow Direction and Gradient**

**Station #4931, 731 West MacArthur Blvd., Oakland, CA**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
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FOOTNOTES:

a = Using wells AR-1 and A-9

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 PACKAGE**  
(Includes Field Data Sheets, Laboratory Analytical Report with Chain-of-Custody  
Documentation, and Field Procedures)



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

## FIELD DATA REPORT

DATE: 3/23/16

PERSONNEL: E. Foss

## WEATHER:

PROJECT NO.:

---

**COMMENTS:**

Equip:	Geosquirt	Tubing	Ballers	DO	wli	Ec/pH
--------	-----------	--------	---------	----	-----	-------

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

**Groundwater Sampling Data Sheet**

Well I.D.:

A-8

Project Name/Location:

BP 4391

Project #: 09.88.624

Sampler's Name:

E. Farrau

Date: 3/23/10

Purging Equipment:

-

Sampling Equipment:

Baker

Casing Type: PVC

Casing Diameter:

inch

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.

Total Well Depth:

feet

3" = 0.37 gal/lin ft.

Depth to Water:

6.12

feet

4" = 0.65 gal/lin ft.

Water Column Thickness:

feet

6" = 1.47 gal/lin ft.

Unit Casing Volume\*:

x gallon / foot

Casing Water Volume:

gallons

Casing Volume:

x each

Estimated Purge Volume:

gallons

Free product measurement (if present):

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance ( $\mu$ S)	Temperature (Fahrenheit)	pH	Observations
C	1001	1.69	-50	X	603.7	62.6	6.75	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged:

3 gallons

Depth to Water at Sample Collection:

6.12 feet

Sample Collection Time:

1001

Purged Dry? (Y/N)

Comments: No purge @ 3'



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

**Groundwater Sampling Data Sheet**

Well I.D.:

A-5

Project Name/Location:

BP 4341

Project #: 09-88-604

Sampler's Name:

E. Ferr

Date: 5/23/10

Purging Equipment:

-

Sampling Equipment:

Bwl

Casing Type: PVC

Casing Diameter: \_\_\_\_\_ inch

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.

Total Well Depth: \_\_\_\_\_ feet

3" = 0.37 gal/lin ft.

Depth to Water: \_\_\_\_\_ feet

4" = 0.65 gal/lin ft.

Water Column Thickness: \_\_\_\_\_ feet

6" = 1.47 gal/lin ft.

Unit Casing Volume\*: \_\_\_\_\_ x \_\_\_\_\_ gallon / foot

Casing Water Volume: \_\_\_\_\_ = \_\_\_\_\_ gallons

Casing Volume: \_\_\_\_\_ x 3 \_\_\_\_\_ each

Estimated Purge Volume: \_\_\_\_\_ = \_\_\_\_\_ gallons

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	0950	1.20	-65		826.1	62.4	6.67	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons

Depth to Water at Sample Collection: 6.84 feet

Sample Collection Time: 0950

Purged Dry? (Y / N)

Comments: No pulse @ 3'

Well is screened to surface



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

**Groundwater Sampling Data Sheet**

Well I.D.:

A-4

Project Name/Location:

BP 4391

Project #: 09.88.624

Sampler's Name:

E.farr

Date: 3/23/10

Purging Equipment:

Bn. 2

Sampling Equipment:

Casing Type: PVC

Casing Diameter:

inch

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/in ft.

Total Well Depth:

feet

3" = 0.37 gal/in ft.

Depth to Water:

6.62

feet

4" = 0.65 gal/in ft.

Water Column Thickness:

feet

6" = 1.47 gal/in ft.

Unit Casing Volume\*:

gallon / foot

Casing Water Volume:

gallons

Casing Volume:

each

Estimated Purge Volume:

gallons

Free product measurement (if present):

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	0936	1.37	-16		1175	61.7	6.54	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged:

0 gallons

Depth to Water at Sample Collection:

6.62 feet

Sample Collection Time:

0936

Purged Dry? (Y/N)

Comments: No PWFC @ 5'



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

**Groundwater Sampling Data Sheet**

Well I.D.:

A-3

Project Name/Location:

BP 4341

Project #: 09.85.624

Sampler's Name:

E. Forn

Date: 3/23/10

Purging Equipment:

—

Sampling Equipment:

Baile

Casing Type: PVC

4

inch

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.

Casing Diameter:

16.18

feet

3" = 0.37 gal/lin ft.

Total Well Depth:

4.45

feet

4" = 0.65 gal/lin ft.

Depth to Water:

11.73

feet

6" = 1.47 gal/lin ft.

Water Column Thickness:

x 0.65

gallon / foot

Unit Casing Volume\*:

= 7.62

gallons

Casing Water Volume:

x 3

each

Casing Volume:

= 22.87

gallons

Estimated Purge Volume:

= 22.87

gallons

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance ( $\mu$ S)	Temperature (Fahrenheit)	pH	Observations
0	105	1.55	-1		4145.5	63.3	6.71	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged:

0 gallons

Depth to Water at Sample Collection:

4.45 feet

Sample Collection Time:

1015

Purged Dry? (Y/N)

Comments: Well is screened to surface - no purge

## ANALYTICAL REPORT

Job Number: 720-26851-1

Job Description: BP #4931, Oakland

For:

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

Attention: Hollis Phillips



Approved for release.  
Dimple Sharma  
Project Manager I  
4/23/2010 5:24 PM

---

Dimple Sharma  
Project Manager I  
[dimple.sharma@testamericainc.com](mailto: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.

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

**Job Narrative**  
**720-26851-1**

**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: 720-26851-1

Lab Sample ID Analyte	Client Sample ID Analyte	Result / Qualifier	Reporting Limit	Units	Method
<b>720-26851-2 A-4(3/23/10)</b>					
Methyl tert-butyl ether		150	0.50	ug/L	8260B/CA_LUFTMS
Benzene		17	0.50	ug/L	8260B/CA_LUFTMS
Ethylbenzene		5.0	0.50	ug/L	8260B/CA_LUFTMS
Xylenes, Total		1.3	1.0	ug/L	8260B/CA_LUFTMS
TBA		1600	4.0	ug/L	8260B/CA_LUFTMS
TAME		45	0.50	ug/L	8260B/CA_LUFTMS
Gasoline Range Organics (GRO)-C6-C12		820	50	ug/L	8260B/CA_LUFTMS
<b>720-26851-3 A-5(3/23/10)</b>					
TBA		33	4.0	ug/L	8260B/CA_LUFTMS

## METHOD SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

Description	Lab Location	Method	Preparation Method
Matrix    Water			
8260B / CA LUFT MS Purge and Trap	TAL SF TAL SF	SW846 8260B/CA_LUFTMS 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: 720-26851-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-26851-1	A-3(3/23/10)	Water	03/23/2010 1015	03/24/2010 1630
720-26851-2	A-4(3/23/10)	Water	03/23/2010 0936	03/24/2010 1630
720-26851-3	A-5(3/23/10)	Water	03/23/2010 0950	03/24/2010 1630
720-26851-4	A-8(3/23/10)	Water	03/23/2010 1001	03/24/2010 1630

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Client Sample ID:** A-3(3/23/10)

Lab Sample ID: 720-26851-1

Date Sampled: 03/23/2010 1015

Client Matrix: Water

Date Received: 03/24/2010 1630

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

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-68452	Instrument ID:	CHMSV2
Preparation:	5030B		Lab File ID:	03271011.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1448		Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1448			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	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)	101		67 - 130
Toluene-d8 (Surr)	99		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

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

Lab Sample ID: 720-26851-2

Date Sampled: 03/23/2010 0936

Client Matrix: Water

Date Received: 03/24/2010 1630

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

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-68452	Instrument ID:	CHMSV2
Preparation:	5030B		Lab File ID:	03271014.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1626		Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1626			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	150		0.50
Benzene	17		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	5.0		0.50
Toluene	ND		0.50
Xylenes, Total	1.3		1.0
TBA	1600		4.0
Ethanol	ND		100
DIPE	ND		0.50
TAME	45		0.50
Ethyl t-butyl ether	ND		0.50
Gasoline Range Organics (GRO)-C6-C12	820		50

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	107		67 - 130
1,2-Dichloroethane-d4 (Surr)	101		67 - 130
Toluene-d8 (Surr)	102		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

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

Lab Sample ID: 720-26851-3

Date Sampled: 03/23/2010 0950

Client Matrix: Water

Date Received: 03/24/2010 1630

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

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-68452	Instrument ID:	CHMSV2
Preparation:	5030B		Lab File ID:	03271015.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1658		Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1658			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	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
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	100		67 - 130
1,2-Dichloroethane-d4 (Surr)	98		67 - 130
Toluene-d8 (Surr)	101		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

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

Lab Sample ID: 720-26851-3

Date Sampled: 03/23/2010 0950

Client Matrix: Water

Date Received: 03/24/2010 1630

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

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-68564	Instrument ID:	HP9
Preparation:	5030B		Lab File ID:	03301020.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	03/30/2010 2045		Final Weight/Volume:	10 mL
Date Prepared:	03/30/2010 2045			

Analyte	Result (ug/L)	Qualifier	RL
TBA	33		4.0
<hr/>			
Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	99		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	96		70 - 130

**Analytical Data**

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Client Sample ID:** A-8(3/23/10)

Lab Sample ID: 720-26851-4

Date Sampled: 03/23/2010 1001

Client Matrix: Water

Date Received: 03/24/2010 1630

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

Method:	8260B/CA_LUFTMS	Analysis Batch: 720-68452	Instrument ID:	CHMSV2
Preparation:	5030B		Lab File ID:	03271016.D
Dilution:	1.0		Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1730		Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1730			

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	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	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	98		67 - 130
Toluene-d8 (Surr)	98		70 - 130

## DATA REPORTING QUALIFIERS

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
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## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC/MS VOA</b>					
<b>Analysis Batch:720-68452</b>					
LCS 720-68452/5	Lab Control Sample	T	Water	8260B/CA_LUFT	
LCS 720-68452/7	Lab Control Sample	T	Water	8260B/CA_LUFT	
LCSD 720-68452/6	Lab Control Sample Duplicate	T	Water	8260B/CA_LUFT	
LCSD 720-68452/8	Lab Control Sample Duplicate	T	Water	8260B/CA_LUFT	
MB 720-68452/4	Method Blank	T	Water	8260B/CA_LUFT	
720-26851-1	A-3(3/23/10)	T	Water	8260B/CA_LUFT	
720-26851-1MS	Matrix Spike	T	Water	8260B/CA_LUFT	
720-26851-1MSD	Matrix Spike Duplicate	T	Water	8260B/CA_LUFT	
720-26851-2	A-4(3/23/10)	T	Water	8260B/CA_LUFT	
720-26851-3	A-5(3/23/10)	T	Water	8260B/CA_LUFT	
720-26851-4	A-8(3/23/10)	T	Water	8260B/CA_LUFT	
<b>Analysis Batch:720-68564</b>					
LCS 720-68564/5	Lab Control Sample	T	Water	8260B/CA_LUFT	
LCSD 720-68564/6	Lab Control Sample Duplicate	T	Water	8260B/CA_LUFT	
MB 720-68564/4	Method Blank	T	Water	8260B/CA_LUFT	
720-26851-3	A-5(3/23/10)	T	Water	8260B/CA_LUFT	

#### Report Basis

T = Total

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Method Blank - Batch: 720-68452**

**Method: 8260B/CA\_LUFTMS**

**Preparation: 5030B**

Lab Sample ID: MB 720-68452/4  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/27/2010 1029  
Date Prepared: 03/27/2010 1029

Analysis Batch: 720-68452  
Prep Batch: N/A  
Units: ug/L

Instrument ID: CHMSV2  
Lab File ID: 03271004.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		0.50
Benzene	ND		0.50
EDB	ND		0.50
1,2-DCA	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
m-Xylene & p-Xylene	ND		1.0
o-Xylene	ND		0.50
Xylenes, Total	ND		1.0
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)	93	67 - 130	
Toluene-d8 (Surr)	101	70 - 130	

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 720-68452**

**Method: 8260B/CA\_LUFTMS  
Preparation: 5030B**

LCS Lab Sample ID:	LCS 720-68452/5	Analysis Batch:	720-68452	Instrument ID:	CHMSV2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	03271005.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1121			Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1121				

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LCSD Lab Sample ID:	LCSD 720-68452/6	Analysis Batch:	720-68452	Instrument ID:	CHMSV2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	03271006.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1154			Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1154				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Methyl tert-butyl ether	106	101	73 - 123	5	20	
Benzene	96	98	82 - 127	2	20	
EDB	108	103	70 - 130	5	20	
1,2-DCA	90	89	75 - 145	1	20	
Ethylbenzene	99	100	86 - 135	1	20	
Toluene	92	93	83 - 129	1	20	
m-Xylene & p-Xylene	101	102	70 - 142	1	20	
o-Xylene	100	101	89 - 136	2	20	
TBA	86	87	85 - 110	2	20	
Ethanol	82	89	31 - 216	8	20	
DIPE	95	97	74 - 155	1	20	
TAME	113	110	79 - 129	3	20	
Ethyl t-butyl ether	99	98	70 - 130	1	20	
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits	
4-Bromofluorobenzene	101		101		67 - 130	
1,2-Dichloroethane-d4 (Surr)	92		89		67 - 130	
Toluene-d8 (Surr)	101		101		70 - 130	

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 720-68452**

**Method: 8260B/CA\_LUFTMS  
Preparation: 5030B**

LCS Lab Sample ID:	LCS 720-68452/7	Analysis Batch:	720-68452	Instrument ID:	CHMSV2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	03271007.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1226			Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1226				

LCSD Lab Sample ID:	LCSD 720-68452/8	Analysis Batch:	720-68452	Instrument ID:	CHMSV2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	03271008.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	03/27/2010 1259			Final Weight/Volume:	10 mL
Date Prepared:	03/27/2010 1259				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Gasoline Range Organics (GRO)-C6-C12	83	82	70 - 130	1	20		
Surrogate		LCS % Rec	LCSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	103		104			67 - 130	
1,2-Dichloroethane-d4 (Surr)	94		93			67 - 130	
Toluene-d8 (Surr)	102		101			70 - 130	

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 720-68452****Method: 8260B/CA\_LUFTMS****Preparation: 5030B**

MS Lab Sample ID: 720-26851-1      Analysis Batch: 720-68452  
Client Matrix: Water      Prep Batch: N/A  
Dilution: 1.0  
Date Analyzed: 03/27/2010 1520  
Date Prepared: 03/27/2010 1520

Instrument ID: CHMSV2  
Lab File ID: 03271012.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

---

MSD Lab Sample ID: 720-26851-1      Analysis Batch: 720-68452  
Client Matrix: Water      Prep Batch: N/A  
Dilution: 1.0  
Date Analyzed: 03/27/2010 1553  
Date Prepared: 03/27/2010 1553

Instrument ID: CHMSV2  
Lab File ID: 03271013.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Methyl tert-butyl ether	107	103	60 - 138	4	20		
Benzene	95	93	60 - 140	1	20		
EDB	108	104	60 - 140	4	20		
1,2-DCA	93	90	60 - 140	4	20		
Ethylbenzene	93	92	60 - 140	2	20		
Toluene	88	87	60 - 140	1	20		
m-Xylene & p-Xylene	95	93	60 - 140	2	20		
o-Xylene	98	96	60 - 140	1	20		
TBA	85	83	60 - 140	2	20		
Ethanol	85	79	60 - 140	6	20		
DIPE	99	98	60 - 140	1	20		
TAME	114	112	60 - 140	2	20		
Ethyl t-butyl ether	102	100	60 - 140	2	20		
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	101		100		67 - 130		
1,2-Dichloroethane-d4 (Surr)	96		95		67 - 130		
Toluene-d8 (Surr)	101		101		70 - 130		

## Quality Control Results

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

### Method Blank - Batch: 720-68564

Method: 8260B/CA\_LUFTMS

Preparation: 5030B

Lab Sample ID: MB 720-68564/4  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/30/2010 1218  
Date Prepared: 03/30/2010 1218

Analysis Batch: 720-68564  
Prep Batch: N/A  
Units: ug/L

Instrument ID: HP9  
Lab File ID: 03301005.D  
Initial Weight/Volume: 10 mL  
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
TBA	ND		4.0
Surrogate	% Rec		Acceptance Limits
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	98		67 - 130
Toluene-d8 (Surr)	97		70 - 130
<b>Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 720-68564</b>		Method: 8260B/CA_LUFTMS	
		Preparation: 5030B	
LCS Lab Sample ID: LCS 720-68564/5	Analysis Batch: 720-68564	Instrument ID: HP9	
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 1251		Final Weight/Volume: 10 mL	
Date Prepared: 03/30/2010 1251			
LCSD Lab Sample ID: LCSD 720-68564/6	Analysis Batch: 720-68564	Instrument ID: HP9	
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 03301007.D	
Dilution: 1.0	Units: ug/L	Initial Weight/Volume: 10 mL	
Date Analyzed: 03/30/2010 1323		Final Weight/Volume: 10 mL	
Date Prepared: 03/30/2010 1323			

Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
TBA	94	91	85 - 110	3	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	98		98		67 - 130		
1,2-Dichloroethane-d4 (Surr)	97		94		67 - 130		
Toluene-d8 (Surr)	97		96		70 - 130		

San Francisco  
1220 Quarry Lane

720-2685

Chain of Custody Record

Pleasanton, CA 94566  
phone 925.484.1919 fax 925.600.3002

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

123239

TestAmerica Laboratories, Inc.

COC No:  
of COCs

Job No.

SDG No.

Sample Specific Notes:

Client Contact	Project Manager: Jason Duda	Site Contact:			Date:	COC No:
Broadbent & Associates 1324 Mangrove Ave Suite 212 Chico, CA 95926 (530) 566-1400 (530) 566-1401 Project Name: BP 4931 Site: 731 W. MacArthur Blvd., Oakland, CA P.O. # GP09BPNA.C110	Tel/Fax: (530) 566-1400/ (530) 566-1401 Analysis Turnaround Time Calendar (C) or Work Days (W) TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days. <input type="checkbox"/> 1 day	Lab Contact: Dimple Sharma			Carrier:	
		# of Cont.	Filtered Sample			
			GRO by 8260B			
			BTTEX and 5 Oxy's by 8260B			
			1,2-DCA, EDB, and Ethanol by 8260B			
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	
A-3 (3/23/10)	3/23/10	1015		AQ	3	X X X
A-4 (3/23/10)		0936		1	3	X X X
A-5 (3/23/10)		0950		1	3	X X X
A-8 (3/23/10)		1001		1	3	X X X
5 TB-BP4931-3/23/10	3/23/10					Hold Trip Blank
Preservation Used: 1= ice, 2= HCl; 3= H <sub>2</sub> SO <sub>4</sub> ; 4=HNO <sub>3</sub> ; 5=NaOH; 6= Other						
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Special Instructions/QC Requirements & Comments: 3.2cc						
Relinquished by: E. Martinez	Company: BAI	Date/Time: 3/24/10 1200	Received by: E. Martinez	Company: TRF	Date/Time: 3-24-10 1200	
Relinquished by: E. Martinez	Company: TASF	Date/Time: 3-24-10 1030	Received by: J. Martinez	Company: bAI	Date/Time: 3-24-10 1630	
Relinquished by: E. Martinez	Company:	Date/Time:	Received by:	Company:	Date/Time:	

## Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 720-26851-1

**Login Number:** 26851

**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 well 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**

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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!

<u>Submittal Type:</u>	GEO_WELL
<u>Submittal Title:</u>	1Q10 GEO_WELL 4931
<u>Facility Global ID:</u>	T0600100110
<u>Facility Name:</u>	ARCO #04931
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	Broadbent & Associates, Inc.
<u>Username:</u>	BROADBENT-C
<u>IP Address:</u>	67.118.40.90
<u>Submittal Date/Time:</u>	4/20/2010 8:55:00 AM
<u>Confirmation Number:</u>	<b>6245545744</b>

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: T0600100110  
Facility Name: ARCO #04931  
File Name: 720-26851-1rev.zip  
Organization Name: Broadbent & Associates, Inc.  
Username: BROADBENT-C  
IP Address: 67.118.40.90  
Submittal Date/Time: 4/27/2010 9:50:10 AM  
Confirmation Number: **1741288542**

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[VIEW DETECTIONS REPORT](#)