ARCADIS Design & Consultancy for natural and built assets

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By Alameda County Environmental Health 1:53 pm, Dec 01, 2015

Mr. Mark Detterman
Senior Hazardous Waste Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Arcadis U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco, California 94104
Tel 415 374 2744
Fax 415 374 2745
www.arcadis.com

ENVIRONMENT

Subject:
Second Quarter 2015 and Third Quarter 2015
Semi-Annual Groundwater Monitoring Report
Former Atlantic Richfield Company Station No. 4931
731 West MacArthur Boulevard
Oakland, California 94609

Date:
November 30, 2015

Dear Mr. Detterman:

Arcadis U.S., Inc. (Arcadis) has prepared this report on behalf of the Atlantic Richfield Company, a BP affiliated company (ARCO), for the former ARCO service station listed below.

ARCO Facility No.	ACEH Site No.	Location
4931	RO0000076	731 West MacArthur Blvd., Oakland, CA

I declare, 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. If you have any questions or comments regarding the content of this report, please contact Hollis Phillips by telephone at 415.432.6903 or by e-mail at hollis.phillips@arcadis.com. Note new e-mail address.

Contact:
Hollis Phillips

Phone:
415.432.6903

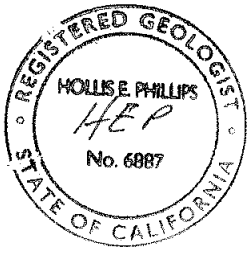
Email:
Hollis.Phillips@arcadis.com

Our ref:
GP09BPNA.C110.N0000

Sincerely,

Arcadis U.S., Inc.

Hollis E. Phillips, P.G. (No. 6887)
Principal Geologist/Project Manager



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GP09BPNA.C110.N0000

Dear Mr. Detterman:

Arcadis U.S., Inc. (Arcadis) has prepared this Second Quarter 2015 and Third Quarter 2015 Semi-annual Groundwater Monitoring Report to document the results of groundwater monitoring and sampling at the former ARCO service station No. 4931, located at 731 West MacArthur Boulevard in Oakland, California (the Site; Figure 1).

1. Summary

A summary of the work performed at the Site during this reporting period and the proposed work for the next reporting period are provided below.

Work Performed – This Semi-Annual Reporting Period (April 1, 2015 to September 30, 2015)

- Submitted the *Semi-Annual Groundwater Monitoring Report*, dated April 15, 2015 (Arcadis 2015a), to Alameda County Environmental Health (ACEH) which summarized the groundwater monitoring and sampling activities performed on February 27, 2015.

- On May 12, 2015, advanced soil boring SB-7 west and downgradient of groundwater monitoring well A-8 to collect soil and groundwater samples. Additionally, installed and sampled soil vapor probes SV-7 and SV-8 located

along the eastern portion of the Site adjacent to the upgradient residential property at 725 West MacArthur Boulevard.

- Prepared and submitted the *Site Investigation Report* (Arcadis 2015b), including an updated sensitive receptor survey, to ACEH on June 26, 2015 per the requests in their directive letter dated February 11, 2015 (ACEH 2015a).

- Submitted the *Response to ACEH Comments Letter – August 19, 2015* (Arcadis 2015c) to ACEH on September 30, 2015 in response to the ACEH directive letter dated August 19, 2015 (ACEH 2015b).

- Performed semi-annual groundwater monitoring and sampling on October 19, 2015. Groundwater monitoring wells AR-1, AR-2, and AR-3 were sampled as requested in the ACEH directive letter dated October 13, 2014 (ACEH 2014).

Work Proposed – Next Semi-Annual Reporting Period (October 1, 2015 to March 31, 2016)

- Submit the *Second Quarter 2015 and Third Quarter 2015 Semi-Annual Groundwater Monitoring Report*, contained herein.

2. Background

The Site is a former ARCO service station and is currently operated as a Westco -branded retail fuel dispensing facility (Figures 1 and 2). Improvements to the Site include four 10,000-gallon double-wall fiberglass gasoline underground storage tanks (USTs) installed on April 8, 1992. Product lines were excavated, removed, inspected, and replaced on October 2, 2002. Soil boring and well construction details are summarized in Table 1. Previous investigation information and site history are summarized in Appendix A.

3. Groundwater Monitoring/Sampling Activities and Results

Historical and current groundwater monitoring and sampling results are summarized in Table 2. Current groundwater monitoring and sampling data are graphically presented on Figures 3 and 4. A rose diagram illustrating historical groundwater flow directions and gradients is provided on Figure 5.

Before groundwater samples were collected, depth to groundwater was measured to within 0.01 foot below top of casing in groundwater monitoring wells

A-2 through A-5, A-7, A-8, and A-10 through A-12, AR-1, and AR-3 using a water level indicator. The total well depth at A-9 could not be accurately gauged due to an obstruction at 6 feet within the well. Groundwater monitoring wells AR-2, A-6 and A-13 could not be gauged due to the wells currently being paved over.

Groundwater monitoring wells A-2, A-3, A-4, A-5, A-7, A-8, A-10, A-12, and AR-3 were sampled on October 19, 2015 by Broadbent & Associates, Inc. (BAI). Groundwater monitoring well A-9 was not sampled due to an obstruction at 6 feet within the well. Groundwater monitoring well A-11 was not sampled due to an obstruction at 9.8 feet within the well. Groundwater monitoring well AR-1 was not sampled as a result of the Hydrasleeve® falling into the well and not being retrievable. Field activities conducted by BAI were reviewed and certified by a BAI California Professional Geologist. The groundwater sampling data package and laboratory analytical report for the current monitoring period are included in Appendices B and C, respectively.

Collected groundwater samples were submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. (TestAmerica), a California-certified laboratory located in Pleasanton, California.

Collected groundwater samples from monitoring wells A-2, A-3, A-4, A-5, A-7, A-8, A-10, A-12, and AR-3 were analyzed for the following:

- Fuel additive methyl tert-butyl ether (MTBE) by United States Environmental Protection Agency (USEPA) Method 8260.

Collected groundwater samples from monitoring wells A-4, A-5, A-8, A-12, and AR-3 were additionally analyzed for the following:

- Gasoline range organics (C6-C12) (GRO) using USEPA Method 8260B Modified.

Collected groundwater samples from monitoring wells A-4, A-8, A-12and AR-3 were additionally analyzed for the following:

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), ethylene dibromide (EDB), and 1,2-dichloroethane (1,2-DCA) using USEPA Method 8260B; and

- Tert-amyl-methyl ether (TAME), tert-butyl alcohol (TBA), di-isopropyl ether (DIPE), ethanol, and ethyl t-butyl ether (ETBE) by USEPA Method 8260B.

4. Discussion

- As shown on Figure 3, groundwater flow direction during the reporting period was to the southwest at an approximate gradient of 0.02 foot per foot (ft/ft). Historical data indicates the groundwater flow direction is predominantly toward the west as shown on Figure 5.

- GRO was detected in two of five wells sampled at concentrations ranging from 830 micrograms per liter (µg/L) (A-8) to 1,500 µg/L (A-4). GRO was not detected above the laboratory reporting limit of 50 µg/L at the other three wells sampled (A-5, A-12, and AR-3).

- Benzene was detected in one of four wells sampled at a concentration of 95 µg/L (A-8). Benzene was not detected above the laboratory reporting limit of 0.50 µg/L at the other three wells sampled (A-4, A-12, and AR-3).

- Toluene was detected in one of three wells sampled at a concentration of 0.84 µg/L (A-4). Toluene was not detected above the laboratory reporting limit of 0.50 µg/L at two of the other wells sampled (A-12 and AR-3), or above the laboratory reporting limit of 2.5 µg/L at the one other well sampled (A-8).

- Total xylenes was only detected in one of four wells sampled at a concentration of 3.0 µg/L (A-4). Total xylenes were not detected above the laboratory reporting limit of 1.0 µg/L at two of the other wells sampled (A-12 and AR-3), or above the laboratory reporting limit of 5.0 µg/L at the one other well sampled (A-8)

- MTBE was detected in seven of nine wells sampled at concentrations ranging from 1.6 µg/L (A-12) to 31 µg/L (A-4). MTBE was not detected above the laboratory reporting limit of 0.50 µg/L at the other two wells sampled (A-3 and A-7).

- TAME was detected in two of four wells sampled at concentrations of 4.5 µg/L (A-8) and 8.1 µg/L (A-4). TAME was not detected above the laboratory reporting limit of 0.50 µg/L at the other wells sampled (A-12 and AR-3).

- TBA was detected in two of four wells sampled at concentrations of 220 µg/L (A-8) and 1,500 µg/L (A-4). TBA was not detected above the laboratory reporting limit of 20 µg/L at the two other wells sampled (A-12 and AR-3).

- Ethylbenzene, DIPE, ETBE, Ethanol, EDB, and 1,2-DCA were not detected in the four wells (A-4, A-8, A-12, and AR-3) sampled and analyzed for these constituents.

5. Recommendations

Arcadis respectfully requests that the Site be reconsidered for Low Threat Closure (LTC) according to the State Water Resources Control Board's (SWRCB) LTC Policy based on the low levels of petroleum hydrocarbon-affected groundwater at the Site and on the data presented in the letter submitted to ACEH on September 30, 2015.

If you have any questions or comments regarding the contents of this report, please contact Hollis Phillips by telephone (415.432.6903) or by e-mail (hollis.phillips@arcadis.com). Note new email address.

Sincerely,

Arcadis, U.S. Inc.

Approved by:

Hollis E. Phillips, P.G. (No. 6887)
Principal Geologist/Project Manager

Copies:

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

Enclosures:

Tables

1. Soil Boring and Well Construction Details
2. Historical and Current Groundwater Monitoring and Analytical Data

Figures

1. Site Location Map
2. Site Plan
3. Groundwater Elevation Contour Map- October 19, 2015
4. Analytical Summary Map- October 19, 2015
5. Groundwater Flow Direction Rose Diagram

Attachments

1. Previous Investigations and Site History Summary
2. Groundwater Sampling Data Package
3. Certified Laboratory Analytical Report

References:

Alameda County Environmental Health (ACEH), 2014. Request for Data Gap Work Plan and Focused Site Conceptual Model; Fuel Leak Case No. RO0000076 and GeoTracker Global ID T0600100110, ARCO #04931, 731 W. Macarthur Blvd., Oakland, CA 94609. October 13.

ACEH, 2015a. Conditional Work Plan Approval; Fuel Leak Case No. RO0000076 and GeoTracker Global ID T0600100110, ARCO #04931, 731 W. Macarthur Blvd., Oakland, CA 94609. February 11.

ACEH, 2015b. Request for Brief Data Gap Work Plan; Fuel Leak Case No. RO0000076 and GeoTracker Global ID T0600100110, ARCO #04931, 731 W. Macarthur Blvd., Oakland, CA 94609. August 19.

Arcadis U.S., Inc. (Arcadis), 2015a. Fourth Quarter 2014 and First Quarter 2015 Semi-Annual Groundwater Monitoring Report; Fuel Leak Case No. RO0000076 and GeoTracker Global ID T0600100110, ARCO #04931, 731 W. Macarthur Blvd., Oakland, CA 94609. April 15.

Arcadis, 2015b. Site Investigation Report; Fuel Leak Case No. RO0000076 and GeoTracker Global ID T0600100110, ARCO #04931, 731 W. Macarthur Blvd., Oakland, CA 94609. June 26.

Arcadis, 2015c. Response to ACEH Comments Letter- August 19, 2015; Fuel Leak Case No. RO0000076 and GeoTracker Global ID T0600100110, ARCO #04931, 731 W. Macarthur Blvd., Oakland, CA 94609. September 30.

TABLES

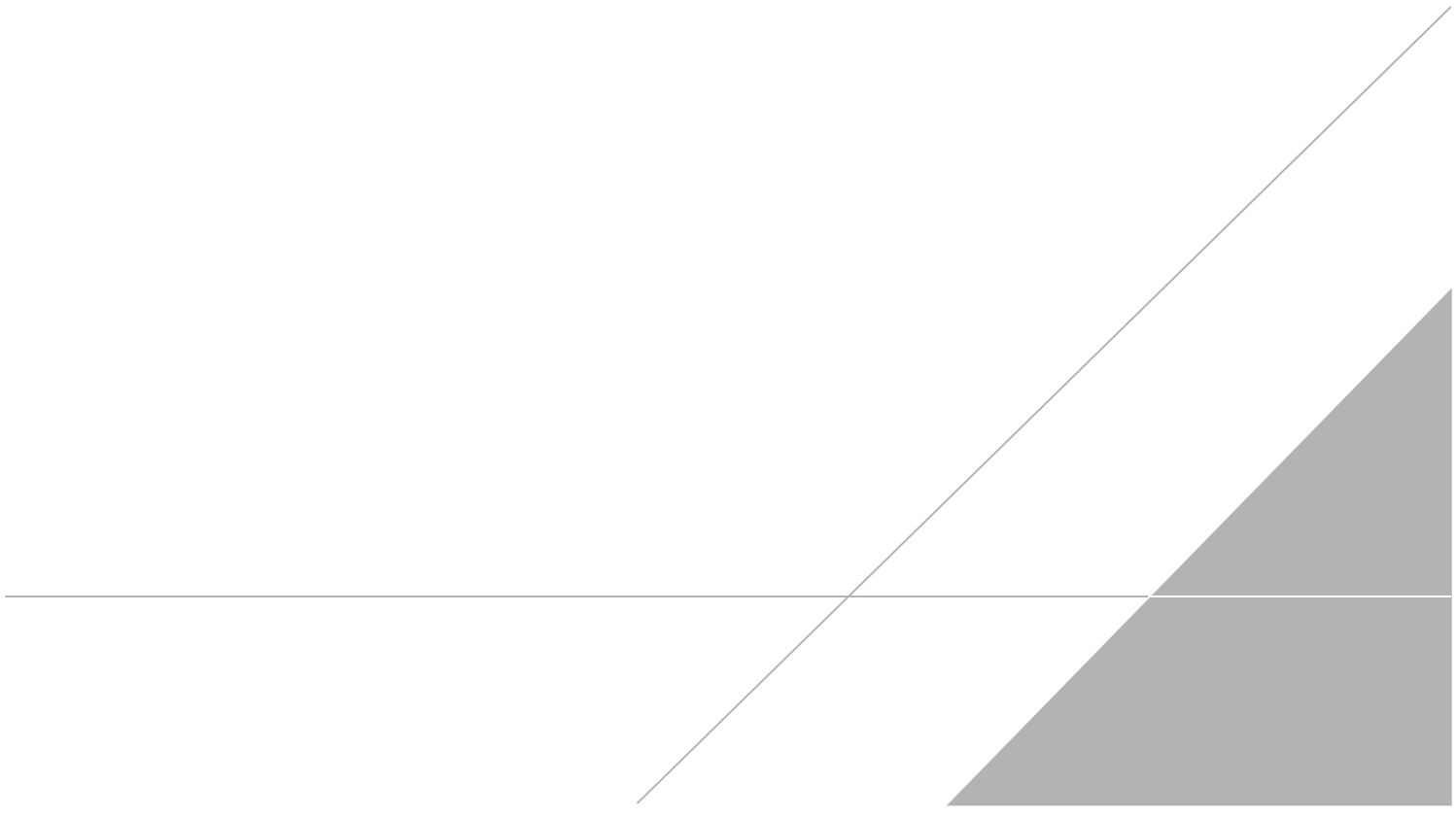

Table 1
Soil Boring and Well Construction Details
Former Atlantic-Richfield Oil Company Station No. 4931
731 West MacArthur Boulevard, Oakland, California

Well I.D.	Drill Date	Well		Screen		Screen Length (feet)
		Depth (feet bgs)	Diameter (inches)	Top (feet bgs)	Bottom (feet bgs)	
Monitoring Wells						
A-2	--	--	--	--	--	--
A-3	--	--	--	--	--	--
A-4	--	--	--	--	--	--
A-5	--	--	--	--	--	--
A-6	--	--	--	--	--	--
A-7	--	--	--	--	--	--
A-8	--	--	--	--	--	--
A-9	12/15/87	40	6	5	40	35
A-10	12/15/87	30	3	5	30	25
A-11	12/16/87	30	3	5	30	25
A-12	12/16/87	30	3	5	30	25
A-13	06/15/92	30	3	10	30	20
AR-1	06/15/92	30	6	10	30	20
AR-2	06/15/92	30	6	8	28	20
AR-3	06/16/92	30	4	10	30	20
Soil Vapor Extraction Well						
AV-1	01/17/92	16	2	5	15	10

Notes

-- = Soil Boring Log and Well Construction Details are not available

Wells are constructed of poly-vinyl-chloride (PVC).

bgs = Below ground surface

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-2	6/21/2000		55.48	6.85	--	48.63	<50	--	<0.5	<0.5	<0.5	<1.0	<3.0	--	--	--	--	--	--	--	--	
A-2	9/20/2000		55.48	10.45	--	45.03	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-2	12/26/2000		55.48	6.27	--	49.21	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-2	3/20/2001		55.48	4.57	--	50.91	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-2	6/12/2001		55.48	9.27	--	46.21	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-2	9/23/2001		55.48	10.75	--	44.73	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-2	12/31/2001		55.48	4.13	--	51.35	<50	--	<0.5	<0.5	1	3.2	<2.5	--	--	--	--	--	--	--	--	
A-2	3/21/2002		55.48	3.26	--	52.22	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-2	4/17/2002		55.48	3.72	--	51.76	<50	--	<0.5	<0.5	<0.5	<0.5	3.1	--	--	--	--	--	--	--	--	
A-2	8/12/2002		55.48	9.95	--	45.53	<10	--	<0.10	<0.10	<0.10	<0.10	<0.50	--	--	--	--	--	--	--	3.1	
A-2	12/6/2002		55.48	10.01	--	45.47	<50	--	<0.50	<0.50	<0.50	<0.50	6	--	--	--	--	--	--	--	3.1	
A-2	1/30/2003		55.48	5.08	--	50.40	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<40	--	--	2.6	
A-2	5/28/2003		55.48	4.82	--	50.66	<50	--	<0.50	<0.50	<0.50	<0.50	1.1	<20	<0.50	<0.50	<0.50	<100	--	--	5.7	
A-2	8/6/2003		55.48	9.73	--	45.75	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	2.3	
A-2	11/14/2003		55.48	9.36	--	46.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	2/2/2004		60.65	4.45	--	56.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	5/4/2004		60.65	6.79	--	53.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	9/2/2004		60.65	10.51	--	50.14	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	3.1	
A-2	11/10/2004		60.65	6.10	--	54.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	2/2/2005		60.65	4.00	--	56.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	5/9/2005		60.65	4.35	--	56.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/11/2005		60.65	9.08	--	51.57	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	3.2	
A-2	11/18/2005		60.65	8.53	--	52.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	2/15/2006		60.65	3.89	--	56.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	5/30/2006		60.65	4.45	--	56.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/11/2006		60.65	9.03	--	51.62	160	--	<0.50	<0.50	<0.50	<0.50	3.6	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.16	
A-2	11/1/2006		60.65	9.98	--	50.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	2/7/2007		60.65	7.51	--	53.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	5/9/2007		60.65	4.57	--	56.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/7/2007		60.65	9.67	--	50.98	<50	--	<0.50	<0.50	<0.50	<0.50	3.4	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	2.18	
A-2	11/14/2007		60.65	7.84	--	52.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	2/28/2008		60.65	3.30	--	57.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	5/23/2008		60.65	8.80	--	51.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/13/2008		60.65	10.20	--	50.45	<50	--	<0.50	<0.50	<0.50	<0.50	19	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.87	
A-2	11/19/2008		60.65	9.20	--	51.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	2/10/2009		60.65	7.83	--	52.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	5/7/2009		60.65	4.40	--	56.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	9/3/2009		60.65	10.07	--	50.58	<50	--	<0.50	<0.50	<0.50	<0.50	12	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.03	
A-2	3/23/2010		60.65	3.67	--	56.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/16/2010		60.65	9.40	--	51.25	<50	--	<0.50	<0.50	<0.50	<1.0	6.1	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-2	3/18/2011		60.65	2.89	--	57.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/18/2011		60.65	7.63	--	53.02	--	--	--	--	--	--	0.74	--	--	--	--	--	--	--	--	
A-2	2/29/2012		60.65	8.42	--	52.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/24/2012		60.65	10.54	--	50.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/31/2012		60.65	10.70	--	49.95	--	--	--	--	--	--	9.6	--	--	--	--	--	--	--	--	
A-2	2/8/2013		60.65	4.51	--	56.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
A-2	8/7/2013		60.65	10.07	--	50.58	--	--	--	--	--	--	12	--	--	--	--	--	--	--	1.50	(NSP)
A-2	2/13/2014		60.65	5.34	--	55.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	8/28/2014		60.65	12.11	--	48.54	--	--	--	--	--	--	8.9	--	--	--	--	--	--	--	1.33	
A-2	2/27/2015		60.65	4.41	--	56.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-2	10/19/2015		60.65	13.80	--	46.85	--	--	--	--	--	--	7.8	--	--	--	--	--	--	--	17.13	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-3	6/21/2000		54.66	9.48	--	45.18	<50	--	<0.5	<0.5	<0.5	<1.0	46	--	--	--	--	--	--	--	--	
A-3	9/20/2000		54.66	10.24	--	44.42	<50	--	<0.5	<0.5	<0.5	<0.5	89.6	--	--	--	--	--	--	--	--	
A-3	12/26/2000		54.66	9.58	--	45.08	<50	--	<0.5	<0.5	<0.5	<0.5	7.11	--	--	--	--	--	--	--	--	
A-3	3/20/2001		54.66	6.34	--	48.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	6/12/2001		54.66	9.76	--	44.90	<50	--	<0.5	<0.5	<0.5	<0.5	86	--	--	--	--	--	--	--	--	
A-3	9/23/2001		54.66	10.55	--	44.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	12/31/2001		54.66	3.70	--	50.96	<50	--	<0.5	<0.5	<0.5	1	60	--	--	--	--	--	--	--	--	
A-3	3/21/2002		54.66	5.75	--	48.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	4/17/2002		54.66	7.27	--	47.39	<50	--	<0.5	<0.5	<0.5	<0.5	45	--	--	--	--	--	--	--	--	
A-3	8/12/2002		54.66	9.71	--	44.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	12/6/2002		54.66	9.55	--	45.11	<500	--	<5.0	<5.0	<5.0	<5.0	150	--	--	--	--	--	--	--	2.4	
A-3	1/30/2003		54.66	6.05	--	48.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	5/28/2003		54.66	8.06	--	46.60	74	--	<0.50	<0.50	<0.50	<0.50	43	<20	<0.50	<0.50	24	<100	--	--	1.5	
A-3	8/6/2003		54.66	9.91	--	44.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	11/14/2003		54.66	9.52	--	45.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	2/2/2004		59.32	5.63	--	53.69	<50	--	<0.50	<0.50	<0.50	<0.50	13	<20	<0.50	<0.50	4.6	<100	<0.50	<0.50	1.2	
A-3	5/4/2004		59.32	8.14	--	51.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	9/2/2004		59.32	10.10	--	49.22	<250	--	<2.5	<2.5	<2.5	<2.5	62	<100	<2.5	<2.5	15	<500	<2.5	<2.5	1.3	
A-3	11/10/2004		59.32	7.89	--	51.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	2/2/2005		59.32	5.00	--	54.32	<50	--	<0.50	<0.50	<0.50	<0.50	6.8	<20	<0.50	<0.50	2.4	<100	<0.50	<0.50	1.9	
A-3	5/9/2005		59.32	5.96	--	53.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	8/11/2005		59.32	9.28	--	50.04	<50	--	<0.50	<0.50	<0.50	<0.50	39	<20	<0.50	<0.50	4.2	<100	<0.50	<0.50	1.8	
A-3	11/18/2005		59.32	8.61	--	50.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	2/15/2006		59.32	4.36	--	54.96	<50	--	<0.50	<0.50	<0.50	<0.50	2.2	<20	<0.50	<0.50	0.58	<300	<0.50	<0.50	3.6	
A-3	5/30/2006		59.32	6.28	--	53.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	8/11/2006		59.32	9.27	--	50.05	<50	--	<0.50	<0.50	<0.50	<0.50	4.1	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	2.10	
A-3	11/1/2006		59.32	9.52	--	49.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	2/7/2007		59.32	7.90	--	51.42	<50	--	<0.50	<0.50	<0.50	<0.50	0.58	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.74	
A-3	5/9/2007		59.32	6.55	--	52.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	8/7/2007		59.32	9.57	--	49.75	<50	--	<0.50	<0.50	<0.50	<0.50	3.9	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.95	
A-3	11/14/2007		59.32	8.00	--	51.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	2/28/2008		59.32	3.75	--	55.57	<50	--	<0.50	<0.50	<0.50	<0.50	0.58	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	6.16	
A-3	5/23/2008		59.32	9.10	--	50.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	8/13/2008		59.32	9.80	--	49.52	<50	--	<0.50	<0.50	<0.50	<0.50	0.55	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.69	
A-3	11/19/2008		59.32	8.31	--	51.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	2/10/2009		59.32	7.30	--	52.02	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.90	
A-3	5/7/2009		59.32	6.10	--	53.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	9/3/2009		59.32	9.50	--	49.82	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.01	
A-3	3/23/2010		59.32	4.45	--	54.87	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-3	8/16/2010		59.32	9.45	--	49.87	<50	--	<0.50	<0.50	<0.50	<1.0	0.72	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-3	3/18/2011		59.32	4.00	--	55.32	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-3	8/18/2011		59.32	8.62	--	50.70	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-3	2/29/2012		59.32	7.22	--	52.10	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-3	8/24/2012		59.32	9.31	--	50.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-3	8/31/2012		59.32	9.41	--	49.91	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-3	2/8/2013		59.32	6.33	--	52.99	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-3	8/7/2013		59.32	9.45	--	49.87	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	2.25	(NSP)
A-3	2/13/2014		59.32	5.89	--	53.43	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	7.72	
A-3	8/28/2014		59.32	9.61	--	49.71	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	2.90	
A-3	2/27/2015		59.32	6.63	--	52.69	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	5.23	
A-3	10/19/2015		59.32	10.20	--	49.12	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	16.04	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-4	6/21/2000		54.73	9.49	--	45.24	2,100	--	110	2.1	11	5.9	2,000	--	--	--	--	--	--	--	--	
A-4	9/20/2000		54.73	10.33	--	44.40	1,540	--	127	<5.0	9.07	7.42	1,940	--	--	--	--	--	--	--	--	
A-4	12/26/2000		54.73	9.34	--	45.39	1,550	--	42.7	<5.0	11	10.9	1,210	--	--	--	--	--	--	--	--	
A-4	3/20/2001		54.73	7.56	--	47.17	913	--	40.9	<5.0	15.5	14.6	<25	--	--	--	--	--	--	--	--	
A-4	6/12/2001		54.73	9.83	--	44.90	2,000	--	230	<20	21	<20	4,700	--	--	--	--	--	--	--	--	
A-4	9/23/2001		54.73	10.54	--	44.19	1,600	--	35	<10	<10	<10	3,000	--	--	--	--	--	--	--	--	
A-4	12/31/2001		54.73	5.42	--	49.31	<500	--	<5.0	<5.0	<5.0	<5.0	880	--	--	--	--	--	--	--	--	
A-4	3/21/2002		54.73	6.18	--	48.55	<5,000	--	<50	<50	<50	<50	1,400	--	--	--	--	--	--	--	--	
A-4	4/17/2002		54.73	7.34	--	47.39	1,300	--	79	31	17	55	2,200	--	--	--	--	--	--	--	--	
A-4	8/12/2002		54.73	9.56	--	45.17	2,400	--	120	<5.0	<5.0	<5.0	2,100	--	--	--	--	--	--	--	2	
A-4	12/6/2002		54.73	10.02	--	44.71	2,200	--	110	10	42	56	2,000	--	--	--	--	--	--	--	--	
A-4	1/30/2003		54.73	7.55	--	47.18	6,000	--	180	<50	85	<50	2,100	<2,000	<50	<50	530	<4,000	--	--	1.8	
A-4	5/28/2003		54.73	8.94	--	45.79	6,000	--	120	<50	<50	<50	2,500	<2,000	<50	<50	590	<10,000	--	--	1.5	
A-4	8/6/2003		54.73	10.03	--	44.70	5,800	--	100	<25	<25	33	2,500	<1,000	<25	<25	560	<5,000	<25	<25	1.5	
A-4	11/14/2003		54.73	10.37	--	44.36	1,000	--	17	<5.0	<5.0	<5.0	310	320	<5.0	<5.0	76	<1,000	--	--	1.6	
A-4	2/2/2004		59.59	6.70	--	52.89	3,600	--	46	<25	<25	<25	1,500	<1,000	<25	<25	350	<5,000	<25	<25	1.0	
A-4	5/4/2004		59.59	9.12	--	50.47	<5,000	--	<50	<50	<50	<50	2,300	<2,000	<50	<50	510	<10,000	<50	<50	6.4	
A-4	9/2/2004		59.59	9.95	--	49.64	3,000	--	<25	<25	<25	<25	1,200	1,200	<25	<25	280	<5,000	<25	<25	9.1	
A-4	11/10/2004		59.59	8.68	--	50.91	1,800	--	16	<10	<10	<10	1,100	910	<10	<10	270	<2,000	<10	<10	2.0	
A-4	2/2/2005		59.59	6.92	--	52.67	3,300	--	120	<10	66	11	1,700	2,100	<10	<10	430	<2,000	<10	<10	1.5	
A-4	5/9/2005		59.59	7.21	--	52.38	<5,000	--	140	<50	62	<50	1,800	2,000	<50	<50	460	<10,000	<50	<50	1.64	
A-4	8/11/2005		59.59	9.71	--	49.88	1,700	--	51	<10	<10	<10	1,200	2,400	<10	<10	310	<2,000	<10	<10	--	
A-4	11/18/2005		59.59	9.45	--	50.14	1,300	--	23	<2.5	7.2	11	310	1,400	<2.5	<2.5	98	<500	<2.5	<2.5	1.4	
A-4	2/15/2006		59.59	7.12	--	52.47	2,200	--	46	<2.5	29	7.0	910	2,700	<2.5	<2.5	270	<1,500	<2.5	<2.5	0.9	
A-4	5/30/2006		59.59	7.95	--	51.64	3,300	--	95	<10	55	<10	1,200	3,000	<10	<10	340	<6,000	<10	<10	1.76	
A-4	8/11/2006		59.59	9.50	--	50.09	350	--	93	<10	<10	<10	1,200	3,200	<10	<10	350	<6,000	<10	<10	1.4	
A-4	11/1/2006		59.59	9.93	--	49.66	1,300	--	<10	<10	<10	<10	360	1,700	<10	<10	95	<6,000	--	<10	4.56	
A-4	2/7/2007		59.59	8.82	--	50.77	4,900	--	85	<10	40	<10	1,500	3,000	<10	<10	460	<6,000	<10	<10	0.72	
A-4	5/9/2007		59.59	7.56	--	52.03	1,700	--	19	<10	<10	<10	340	2,200	<10	<10	91	<6,000	<10	<10	3.00	
A-4	8/7/2007		59.59	9.80	--	49.79	2,700	--	69	<5.0	<5.0	<5.0	510	1,800	<5.0	<5.0	140	<3,000	<5.0	<5.0	1.04	
A-4	11/14/2007		59.59	8.65	--	50.94	500	--	4.9	<0.50	<0.50	<0.50	280	600	<0.50	<0.50	90	<300	<0.50	<0.50	1.27	
A-4	2/28/2008		59.59	6.15	--	53.44	850	--	17	<0.50	4.4	1.4	350	1,600	<0.50	<0.50	73	<300	<0.50	<0.50	1.76	
A-4	5/23/2008		59.59	9.40	--	50.19	1,900	--	75	<20	<20	<20	1,000	2,500	<20	<20	270	<12,000	<20	<20	1.28	
A-4	8/13/2008		59.59	9.92	--	49.67	3,100	--	47	<10	<10	<10	530	3,200	<10	<10	190	<6,000	<10	<10	0.89	
A-4	11/19/2008		59.59	9.19	--	50.40	1,800	--	70	<10	21	<10	430	2,000	<10	<10	140	<6,000	<10	<10	0.83	
A-4	2/10/2009		59.59	7.68	--	51.91	1,900	--	33	<10	14	<10	400	2,300	<10	<10	120	<6,000	<10	<10	0.87	
A-4	5/7/2009		59.59	7.31	--	52.28	<50	--	<0.50	<0.50	<0.50	<0.50	9.9	11	<0.50	<0.50	2.0	<300	<0.50	<0.50	2.40	
A-4	9/3/2009		59.59	10.02	--	49.57	3,800	--	49	<10	<10	<10	360	3,200	<10	<10	120	<6,000	<10	<10	0.79	
A-4	3/23/2010		59.59	6.62	--	52.97	1,000	--	17	<0.50	5.0	1.3	150	1,600	<0.50	<0.50	45	<100	<0.50	<0.50	--	
A-4	8/16/2010		59.59	9.85	--	49.74	1,600	--	18	0.50	0.56	<1.0	160	3,400	<0.50	<0.50	47	<100	<0.50	<0.50	--	
A-4	3/18/2011		59.59	5.34	--	54.25	490	--	9.9	<0.50	1.9	<1.0	66	1,400	<0.50	<0.50	18	<250	<0.50	<0.50	--	
A-4	8/18/2011		59.59	9.08	--	50.51	650	--	1.9	<0.50	<0.50	<1.0	53	1,400	<0.50	<0.50	15	<250	<0.50	<0.50	--	
A-4	2/29/2012		59.59	6.70	--	52.89	1,300	--	12	<0.50	4.2	1.1	140	2,200	<0.50	<0.50	38	<250	<0.50	<0.50	--	
A-4	8/24/2012		59.59	9.95	--	49.64	720	--	<0.50	<0.50	<0.50	<1.0	5.7	370	<0.50	<0.50	<0.50	<250	<0.50	<0.50	--	
A-4	2/8/2013		59.59	7.05	--	52.54	890	--	5.0	<0.50	1.6	<1.0	--	1,600	<0.50	<0.50	19	<250	<0.50	<0.50	--	
A-4	8/7/2013		59.59	9.26	--	50.33	1,500	--	2.7	<0.50	<0.50	<1.0	56	1,600	<0.50	<0.50	16	<250	<0.50	<0.50	1.53	
A-4	2/13/2014		59.59	6.86	--	52.73	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	3.77	
A-4	8/28/2014		59.59	9.65	--	49.94	1,900	--	<5.0	<5.0	<5.0	<10	41	1,600	<5.0	<5.0	11	<5,000	<5.0	<5.0	3.36	
A-4	2/27/2015		59.59	7.87	--	51.72	470	--	<0.50	<0.50	<0.50	<1.0	2.2	220	<0.50	<0.50	<0.50	<500	<0.50	<0.50	3.62	
A-4	10/19/2015		59.59	10.26	--	49.33	1,500	--	<0.50	0.84	<0.50	3.0	31	1,500	<0.50	<0.50	8.1	<500	<0.50	<0.50	11.08	(Strong HC odor)
A-5	6/21/2000		54.17	9.29	--	44.88	980	--	<0.5	<0.5	<0.5	<1.0	2,000	--	--	--	--	--	--	--	--	

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Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-5	9/20/2000		54.17	10.23	--	43.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	12/26/2000		54.17	9.65	--	44.52	525	--	<0.5	<0.5	<0.5	<0.5	1,200	--	--	--	--	--	--	--	--	
A-5	3/20/2001		54.17	8.05	--	46.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	6/12/2001		54.17	9.81	--	44.36	830	--	<5.0	<5.0	<5.0	<5.0	3,200	--	--	--	--	--	--	--	--	
A-5	9/23/2001		54.17	10.42	--	43.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	12/31/2001		54.17	6.03	--	48.14	320	--	<0.5	<0.5	<0.5	<0.5	60	--	--	--	--	--	--	--	--	
A-5	3/21/2002		54.17	6.71	--	47.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	4/17/2002		54.17	8.01	--	46.16	1,600	--	<10	<10	<10	<10	3,200	--	--	--	--	--	--	--	--	
A-5	8/12/2002		54.17	9.87	--	44.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	12/6/2002		54.17	9.66	--	44.51	310	--	<0.50	<0.50	<0.50	<0.50	330	--	--	--	--	--	--	--	1.9	
A-5	1/30/2003		54.17	7.67	--	46.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	5/28/2003		54.17	8.56	--	45.61	<5,000	--	<50	<50	<50	<50	1,500	<2,000	<50	<50	620	<10,000	--	--	1.6	
A-5	8/6/2003		54.17	9.58	--	44.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	11/14/2003		54.17	9.81	--	44.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/2/2004		58.78	7.43	--	51.35	390	--	<2.5	9.2	<2.5	2.6	140	170	<2.5	<2.5	54	<500	<2.5	<2.5	1.0	
A-5	5/4/2004		58.78	9.98	--	48.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	9/2/2004		58.78	9.65	--	49.13	<250	--	<2.5	<2.5	<2.5	<2.5	66	150	<2.5	<2.5	29	<500	<2.5	<2.5	1.1	
A-5	11/10/2004		58.78	8.48	--	50.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/2/2005		58.78	7.10	--	51.68	68	--	<0.50	<0.50	<0.50	<0.50	17	840	<0.50	<0.50	7.6	<100	<0.50	<0.50	1.0	
A-5	5/9/2005		58.78	7.20	--	51.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	8/11/2005		58.78	9.21	--	49.57	<50	--	<0.50	<0.50	<0.50	<0.50	6.8	530	<0.50	<0.50	7.1	<100	<0.50	<0.50	1.3	
A-5	11/18/2005		58.78	9.10	--	49.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/15/2006		58.78	7.16	--	51.62	<50	--	<0.50	<0.50	<0.50	<0.50	5.1	460	<0.50	<0.50	4.2	<300	<0.50	<0.50	1.2	
A-5	5/30/2006		58.78	7.87	--	50.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	8/11/2006		58.78	8.90	--	49.88	920	--	<0.50	<0.50	<0.50	<0.50	12	1,100	<0.50	<0.50	5.0	<300	<0.50	<0.50	1.4	
A-5	11/1/2006		58.78	9.30	--	49.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/7/2007		58.78	8.50	--	50.28	60	--	<0.50	<0.50	<0.50	<0.50	1.5	600	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.73	
A-5	5/9/2007		58.78	7.60	--	51.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	8/7/2007		58.78	9.30	--	49.48	<50	--	<0.50	<0.50	<0.50	<0.50	0.81	79	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.41	
A-5	11/14/2007		58.78	8.48	--	50.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/28/2008		58.78	6.21	--	52.57	<50	--	<0.50	<0.50	<0.50	<0.50	0.97	230	<0.50	<0.50	<0.50	<300	<0.50	<0.50	2.24	
A-5	5/23/2008		58.78	8.97	--	49.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	8/13/2008		58.78	9.42	--	49.36	<50	--	<0.50	<0.50	<0.50	<0.50	0.69	33	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.62	
A-5	11/19/2008		58.78	8.91	--	49.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/10/2009		58.78	7.80	--	50.98	<50	--	<0.50	<0.50	<0.50	<0.50	1.6	18	<0.50	<0.50	0.59	<300	<0.50	<0.50	0.85	
A-5	5/7/2009		58.78	7.37	--	51.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	9/3/2009		58.78	9.33	--	49.45	<50	--	<0.50	<0.50	<0.50	<0.50	20	<10	<0.50	<0.50	9.1	<300	<0.50	<0.50	0.91	
A-5	3/23/2010		58.78	6.84	--	51.94	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	33	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-5	8/16/2010		58.78	8.85	--	49.93	<50	--	<0.50	<0.50	<0.50	<1.0	7.9	35	<0.50	<0.50	3.1	<100	<0.50	<0.50	--	
A-5	3/18/2011		58.78	5.45	--	53.33	<50	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-5	8/18/2011		58.78	8.37	--	50.41	<50	--	--	--	--	--	0.81	--	--	--	--	--	--	--	--	
A-5	2/29/2012		58.78	8.12	--	50.66	<50	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-5	8/24/2012		58.78	9.15	--	49.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-5	2/8/2013		58.78	7.65	--	51.13	<2,500	--	--	--	--	--	240	--	--	--	--	--	--	--	--	
A-5	8/7/2013		58.78	9.02	--	49.76	<50	--	--	--	--	--	13	--	--	--	--	--	--	--	2.16	
A-5	2/13/2014		58.78	6.55	--	52.23	<50	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	1.34	
A-5	8/28/2014		58.78	9.06	--	49.72	<50	--	--	--	--	--	3.7	--	--	--	--	--	--	--	0.27	
A-5	2/27/2015		58.78	7.14	--	51.64	<50	--	--	--	--	--	2.0	--	--	--	--	--	--	--	4.02	
A-5	10/19/2015		58.78	10.62	--	48.16	<50	--	--	--	--	--	2.0	--	--	--	--	--	--	--	18.92	
A-6	6/21/2000		55.17	8.67	--	46.50	<50	--	<0.5	<0.5	<0.5	<1.0	<3.0	--	--	--	--	--	--	--	--	
A-6	9/20/2000		55.17	9.34	--	45.83	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-6	12/26/2000		55.17	8.65	--	46.52	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-6	3/20/2001		55.17	6.84	--	48.33	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-6	6/12/2001		55.17	8.93	--	46.24	<50	--	<0.5	<0.5	<0.5	<0.5	7	--	--	--	--	--	--	--	--	
A-6	9/23/2001		55.17	9.74	--	45.43	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-6	12/31/2001		55.17	4.81	--	50.36	<50	--	<0.5	<0.5	<0.5	<0.5	3.2	--	--	--	--	--	--	--	--	
A-6	3/21/2002		55.17	5.44	--	49.73	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-6	4/17/2002		55.17	6.95	--	48.22	<50	--	<0.5	<0.5	<0.5	<0.5	3.1	--	--	--	--	--	--	--	--	
A-6	8/12/2002		55.17	8.90	--	46.27	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	4.3	
A-7	6/21/2000		54.71	8.58	--	46.13	<50	--	<0.5	<0.5	<0.5	<1.0	<3.0	--	--	--	--	--	--	--	--	
A-7	9/20/2000		54.71	9.19	--	45.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	12/26/2000		54.71	8.50	--	46.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	3/20/2001		54.71	6.75	--	47.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	6/12/2001		54.71	8.80	--	45.91	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-7	9/23/2001		54.71	9.59	--	45.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	12/31/2001		54.71	4.78	--	49.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	3/21/2002		54.71	5.35	--	49.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	4/17/2002		54.71	6.88	--	47.83	<50	--	<0.5	<0.5	<0.5	<0.5	2.5	--	--	--	--	--	--	--	--	
A-7	8/12/2002		54.71	8.77	--	45.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	12/6/2002		54.71	9.07	--	45.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	1/30/2003		54.71	6.65	--	48.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/28/2003		54.71	7.63	--	47.08	<50	--	<0.50	<0.50	<0.50	<0.50	3.8	<20	<0.50	<0.50	0.94	<100	--	--	2.3	
A-7	8/6/2003		54.71	8.90	--	45.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	11/14/2003		54.71	9.08	--	45.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	2/2/2004		59.75	5.96	--	53.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/4/2004		59.75	8.21	--	51.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	9/2/2004		59.75	9.02	--	50.73	<50	--	<0.50	<0.50	<0.50	<0.50	8.9	<20	<0.50	<0.50	3.0	<100	<0.50	<0.50	3.0	
A-7	11/10/2004		59.75	7.50	--	52.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	2/2/2005		59.75	6.10	--	53.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/9/2005		59.75	6.48	--	53.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/11/2005		59.75	8.45	--	51.30	<50	--	<0.50	<0.50	<0.50	<0.50	18	<20	<0.50	<0.50	4.4	<100	<0.50	<0.50	1.6	
A-7	11/18/2005		59.75	8.65	--	51.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	2/15/2006		59.75	6.51	--	53.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/30/2006		59.75	7.13	--	52.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/11/2006		59.75	8.46	--	51.29	<50	--	<0.50	<0.50	<0.50	<0.50	3.6	<20	<0.50	<0.50	0.91	<300	<0.50	0.54	1.7	
A-7	11/1/2006		59.75	8.99	--	50.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	2/7/2007		59.75	8.12	--	51.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/9/2007		59.75	7.04	--	52.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/7/2007		59.75	9.10	--	50.65	<50	--	<0.50	<0.50	<0.50	<0.50	2.7	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.34	
A-7	11/14/2007		59.75	8.00	--	51.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	2/28/2008		59.75	5.81	--	53.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/23/2008		59.75	8.74	--	51.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/13/2008		59.75	9.27	--	50.48	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.05	
A-7	11/19/2008		59.75	8.67	--	51.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	2/10/2009		59.75	7.47	--	52.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	5/7/2009		59.75	6.88	--	52.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	9/3/2009		59.75	9.25	--	50.50	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.93	
A-7	3/23/2010		59.75	6.33	--	53.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/16/2010		59.75	9.13	--	50.62	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-7	3/18/2011		59.75	5.20	--	54.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/18/2011		59.75	8.54	--	51.21	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-7	2/29/2012		59.75	8.00	--	51.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-7	8/24/2012		59.75	9.06	--	50.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/31/2012		59.75	9.04	--	50.71	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-7	2/8/2013		59.75	7.44	--	52.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
A-7	8/7/2013		59.75	8.96	--	50.79	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	2.07	
A-7	2/13/2014		59.75	6.58	--	53.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	8/28/2014		59.75	9.15	--	50.60	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	0.22	
A-7	2/27/2015		59.75	6.81	--	52.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-7	10/19/2015		59.75	9.66	--	50.09	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	19.99	
A-8	6/21/2000		53.77	9.07	--	44.70	810	--	<0.5	<0.5	<0.5	810	1,500	--	--	--	--	--	--	--	--	
A-8	9/20/2000		53.77	9.72	--	44.05	10,800	--	2,680	46	439	370	4,410	--	--	--	--	--	--	--	--	
A-8	12/26/2000		53.77	9.20	--	44.57	7,700	--	1,440	<50	202	106	2,230	--	--	--	--	--	--	--	--	
A-8	3/20/2001		53.77	7.51	--	46.26	<5,000	--	1,280	<50	53.9	<50	2,880	--	--	--	--	--	--	--	--	
A-8	6/12/2001		53.77	9.53	--	44.24	5,600	--	1,700	<50	61	54	2,900	--	--	--	--	--	--	--	--	
A-8	9/23/2001		53.77	10.08	--	43.69	10,000	--	3,500	<50	110	64	6,500	--	--	--	--	--	--	--	--	
A-8	12/31/2001		53.77	4.34	--	49.43	4,300	--	610	<10	60	24	520	--	--	--	--	--	--	--	--	
A-8	3/21/2002		53.77	6.67	--	47.10	6,600	--	1,400	<50	130	<50	2,700	--	--	--	--	--	--	--	--	
A-8	4/17/2002		53.77	7.72	--	46.05	3,800	--	540	<10	<10	12	3,100	--	--	--	--	--	--	--	--	
A-8	8/12/2002		53.77	9.64	--	44.13	9,400	--	1,800	<20	35	28	4,200	--	--	--	--	--	--	--	1	
A-8	12/6/2002		53.77	9.62	--	44.15	5,300	--	1,100	11	11	<10	2,200	--	--	--	--	--	--	--	1.4	
A-8	1/30/2003		53.77	7.49	--	46.28	<10,000	--	1,100	<100	<100	<100	2,200	<4,000	<100	<100	900	<8,000	--	--	1.5	
A-8	5/28/2003		53.77	9.17	--	44.60	7,700	--	1,700	<50	<50	<50	2,100	<2,000	<50	<50	1,100	<10,000	--	--	1	
A-8	8/6/2003		53.77	9.67	--	44.10	13,000	--	2,400	<50	<50	<50	3,000	<2,000	<50	<50	1,200	<10,000	<50	<50	0.9	
A-8	11/14/2003		53.77	9.80	--	43.97	3,100	--	570	<5.0	<5.0	<5.0	850	<200	<5.0	<5.0	320	<1,000	--	--	2.3	
A-8	2/2/2004		58.70	7.10	--	51.60	3,900	--	300	<25	<25	<25	1,100	<1,000	<25	<25	380	<5,000	<25	<25	1.1	
A-8	5/4/2004		58.70	9.44	--	49.26	<5,000	--	490	<50	<50	<50	1,600	<2,000	<50	<50	440	<10,000	<50	<50	1.0	
A-8	9/2/2004		58.70	9.67	--	49.03	<2,500	--	30	<25	<25	<25	680	<1,000	<25	<25	170	<5,000	<25	<25	1.0	
A-8	11/10/2004		58.70	8.15	--	50.55	580	--	61	<2.5	<2.5	<2.5	290	<100	<2.5	<2.5	66	<500	<2.5	<2.5	1.5	
A-8	2/2/2005		58.70	6.53	--	52.17	5,000	--	890	<25	<25	<25	1,900	<1,000	<25	<25	510	<5,000	<25	<25	1.0	
A-8	5/9/2005		58.70	6.31	--	52.39	69	--	0.90	<0.50	<0.50	<0.50	66	<20	<0.50	<0.50	2.9	<100	<0.50	<0.50	4.1	
A-8	8/11/2005		58.70	9.15	--	49.55	1,400	--	1,300	<12	<12	<12	1,100	<500	<12	<12	310	<2,500	<12	<12	0.7	
A-8	11/18/2005		58.70	8.89	--	49.81	1,200	--	420	<5.0	<5.0	<5.0	340	<200	<5.0	<5.0	120	<1,000	<5.0	<5.0	0.7	
A-8	2/15/2006		58.70	6.34	--	52.36	3,200	--	970	<10	<10	<10	1,100	880	<10	<10	330	<6,000	<10	<10	0.9	
A-8	5/30/2006		58.70	7.53	--	51.17	510	--	210	<2.5	<2.5	<2.5	140	<100	<2.5	<2.5	43	<1,500	<2.5	<2.5	2.6	
A-8	8/11/2006		58.70	8.90	--	49.80	1,300	--	500	<5.0	<5.0	<5.0	290	<200	<5.0	<5.0	92	<3,000	<5.0	<5.0	0.7	
A-8	11/1/2006		58.70	9.15	--	49.55	4,800	--	790	6.6	<5.0	<5.0	910	1,200	<5.0	<5.0	250	<3,000	<5.0	<5.0	1.72	
A-8	2/7/2007		58.70	8.48	--	50.22	7,600	--	2,300	<25	<25	<25	1,200	<1,000	<25	<25	330	<15,000	<25	<25	1.25	
A-8	5/9/2007		58.70	7.25	--	51.45	750	--	180	<2.5	<2.5	<2.5	55	<100	<2.5	<2.5	16	<1,500	<2.5	<2.5	1.75	
A-8	8/7/2007		58.70	9.17	--	49.53	2,100	--	700	4.0	<2.5	<2.5	430	140	<2.5	<2.5	160	<1,500	<2.5	<2.5	0.77	
A-8	11/14/2007		58.70	7.77	--	50.93	990	--	300	2.5	0.68	0.96	100	28	<0.50	<0.50	44	<300	<0.50	<0.50	1.01	
A-8	2/28/2008		58.70	5.14	--	53.56	2,100	--	670	<5.0	<5.0	<5.0	220	230	<5.0	<5.0	72	<3,000	<5.0	<5.0	1.67	
A-8	8/13/2008		58.70	9.48	--	49.22	3,100	--	970	<25	<25	<25	250	<500	<25	<25	86	<15,000	<25	<25	0.84	
A-8	11/19/2008		58.70	8.87	--	49.83	3,800	--	1,000	<20	<20	<20	230	<400	<20	<20	100	<12,000	<20	<20	0.89	
A-8	2/10/2009		58.70	7.11	--	51.59	3,600	--	1,300	<25	<25	<25	320	<500	<25	<25	120	<15,000	<25	<25	0.89	
A-8	5/7/2009		58.70	6.47	--	52.23	270	--	65	<1.0	<1.0	<1.0	12	20	<1.0	<1.0	3.3	<600	<1.0	<1.0	0.97	
A-8	9/3/2009		58.70	9.47	--	49.23	3,200	--	1,400	<25	<25	<25	100	<500	<25	<25	52	<15,000	<25	<25	0.87	
A-8	3/23/2010		58.70	6.12	--	52.58	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-8	8/16/2010		58.70	9.27	--	49.43	4,300	--	1,600	12	5.3	6.1	110	<4.0	<0.50	<0.50	41	<100	<0.50	<0.50	--	
A-8	3/18/2011		58.70	5.01	--	53.69	2,000	--	620	4.7	0.96	1.4	87	220	<0.50	<0.50	43	<250	<0.50	<0.50	--	
A-8	8/18/2011		58.70	8.76	--	49.94	3,300	--	1,500	13	5.4	<10	120	<40	<5.0	<5.0	57	<2,500	<5.0	<5.0	--	
A-8	2/29/2012		58.70	8.19	--	50.51	3,400	--	1,700	10	3.4	3.9	160	460	<0.50	<0.50	71	<250	<0.50	<0.50	--	
A-8	8/24/2012		58.70	9.44	--	49.26	3,700	--	1,800	<25	<25	<50	64	220	<25	<25	33	<13,000	<25	<25	--	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-8	2/8/2013		58.70	7.35	--	51.35	<50	--	6.0	<0.50	<0.50	<1.0	--	<4.0	<0.50	<0.50	0.92	<250	<0.50	<0.50	--	
A-8	8/7/2013		58.70	9.20	--	49.50	1,400	--	940	5.5	1.6	1.5	27	67	<0.50	<0.50	14	<250	<0.50	<0.50	2.20	
A-8	2/13/2014		58.70	6.51	--	52.19	190	--	4.4	<0.50	<0.50	<1.0	0.85	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	1.33	
A-8	8/28/2014		58.70	9.35	--	49.35	1,000	--	130	<5.0	<5.0	<10	15	210	<5.0	<5.0	5.3	<5,000	<5.0	<5.0	0.43	
A-8	2/27/2015		58.70	6.99	--	51.71	370	--	70	<0.50	<0.50	<1.0	7.5	61	<0.50	<0.50	4.8	<500	<0.50	<0.50	3.11	
A-8	10/19/2015		58.70	9.02	--	49.68	830	--	95	<2.5	<2.5	<5.0	11	220	<2.5	<2.5	4.5	<2,500	<2.5	<2.5	17.52	
A-9	6/21/2000		53.04	8.56	--	44.48	<50	--	<0.5	<0.5	<0.5	<1.0	5	--	--	--	--	--	--	--	--	
A-9	9/20/2000		53.04	9.05	--	43.99	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	12/26/2000		53.04	8.49	--	44.55	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	3/20/2001		53.04	6.95	--	46.09	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	6/12/2001		53.04	8.67	--	44.37	<50	--	<0.5	<0.5	<0.5	<0.5	4.8	--	--	--	--	--	--	--	--	
A-9	9/23/2001		53.04	9.21	--	43.83	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	12/31/2001		53.04	4.57	--	48.47	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	3/21/2002		53.04	5.60	--	47.44	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	4/17/2002		53.04	6.89	--	46.15	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-9	8/12/2002		53.04	8.71	--	44.33	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--	--	--	--	--	4	
A-9	12/6/2002		53.04	8.77	--	44.27	<50	--	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--	--	--	--	--	1.1	
A-9	1/30/2003		53.04	6.88	--	46.16	<50	--	<0.50	<0.50	<0.50	<0.50	1.1	<20	<0.50	<0.50	<0.50	<40	--	--	0.9	
A-9	5/28/2003		53.04	9.75	--	43.29	<50	--	<0.50	<0.50	<0.50	<0.50	0.74	<20	<0.50	<0.50	<0.50	<100	--	--	1.9	
A-9	8/6/2003		53.04	9.00	--	44.04	<50	--	<0.50	<0.50	<0.50	<0.50	1.8	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	2.2	
A-9	11/14/2003		53.04	8.82	--	44.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	2/2/2004		57.73	7.10	--	50.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	5/4/2004		57.73	8.12	--	49.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	9/2/2004		57.73	8.78	--	48.95	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	6.6	
A-9	11/10/2004		57.73	7.88	--	49.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	2/2/2005		57.73	6.40	--	51.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	5/9/2005		57.73	6.82	--	50.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/11/2005		57.73	8.37	--	49.36	<50	--	<0.50	<0.50	<0.50	<0.50	1.5	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	1.8	
A-9	11/18/2005		57.73	8.24	--	49.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	2/15/2006		57.73	6.38	--	51.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	5/30/2006		57.73	7.17	--	50.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/11/2006		57.73	8.20	--	49.53	<50	--	<0.50	<0.50	<0.50	<0.50	1.6	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.02	
A-9	11/1/2006		57.73	8.90	--	48.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	2/7/2007		57.73	7.83	--	49.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	5/9/2007		57.73	6.92	--	50.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/7/2007		57.73	8.58	--	49.15	<50	--	<0.50	<0.50	<0.50	<0.50	0.64	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.81	
A-9	11/14/2007		57.73	7.77	--	49.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	2/28/2008		57.73	5.61	--	52.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/13/2008		57.73	8.65	--	49.08	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.55	
A-9	11/19/2008		57.73	8.49	--	49.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	2/10/2009		57.73	7.07	--	50.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	5/7/2009		57.73	6.65	--	51.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	9/3/2009		57.73	8.56	--	49.17	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.89	
A-9	3/23/2010		57.73	5.98	--	51.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/16/2010		57.73	8.32	--	49.41	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-9	3/18/2011		57.73	4.40	--	53.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/18/2011		57.73	7.94	--	49.79	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--	--	
A-9	2/29/2012		57.73	7.48	--	50.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-9	8/24/2012		57.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(Dry)
A-9	2/8/2013		57.73	6.63	--	51.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
A-9	8/7/2013		57.73	8.08	--	49.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NS - Obstruction in well)

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-9	2/13/2014		57.73	5.62	--	52.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
A-9	8/28/2014		57.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(No measured water; NS)
A-9	2/27/2015		57.73	3.00	--	51.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(Shallow bottom)
A-9	10/19/2015		57.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(Obstruction at 6 ft.; no hydrasleeve present; NS)
A-10	6/21/2000		54.26	10.47	--	43.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	9/20/2000		54.26	10.76	--	43.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	11/14/2003		54.26	10.37	--	43.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	2/2/2004		59.39	7.97	--	51.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	5/4/2004		59.39	8.69	--	50.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	9/2/2004		59.39	10.55	--	48.84	<500	--	<5.0	<5.0	<5.0	<5.0	270	<200	<5.0	<5.0	44	<1,000	<5.0	<5.0	0.8	
A-10	11/10/2004		59.39	9.16	--	50.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	2/2/2005		59.39	7.90	--	51.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	5/9/2005		59.39	8.21	--	51.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/11/2005		59.39	10.02	--	49.37	69	--	<0.50	<0.50	<0.50	<0.50	97	<20	<0.50	<0.50	14	<100	<0.50	<0.50	0.9	
A-10	11/18/2005		59.39	9.86	--	49.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	2/15/2006		59.39	7.53	--	51.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	5/30/2006		59.39	8.82	--	50.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/11/2006		59.39	9.88	--	49.51	<50	--	<0.50	<0.50	<0.50	<0.50	46	<20	<0.50	<0.50	7.3	<300	<0.50	<0.50	1.3	
A-10	11/1/2006		59.39	10.28	--	49.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	2/7/2007		59.39	9.50	--	49.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	5/9/2007		59.39	8.67	--	50.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/7/2007		59.39	10.25	--	49.14	<50	--	<0.50	<0.50	<0.50	<0.50	8.9	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.59	
A-10	11/14/2007		59.39	9.48	--	49.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	2/28/2008		59.39	7.23	--	52.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	5/23/2008		59.39	9.94	--	49.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/13/2008		59.39	10.30	--	49.09	<50	--	<0.50	<0.50	<0.50	<0.50	28	<10	<0.50	<0.50	6.9	<300	<0.50	<0.50	0.74	
A-10	11/19/2008		59.39	9.90	--	49.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	2/10/2009		59.39	8.74	--	50.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	5/7/2009		59.39	8.23	--	51.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	3/23/2010		59.39	7.65	--	51.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/16/2010		59.39	10.05	--	49.34	<50	--	<0.50	<0.50	<0.50	<1.0	3.9	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-10	3/18/2011		59.39	6.52	--	52.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/18/2011		59.39	9.58	--	49.81	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	
A-10	2/29/2012		59.39	9.02	--	50.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/24/2012		59.39	10.03	--	49.36	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	
A-10	2/8/2013		59.39	8.30	--	51.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
A-10	8/7/2013		59.39	9.95	--	49.44	--	--	--	--	--	--	20	--	--	--	--	--	--	--	1.63	
A-10	2/13/2014		59.39	7.40	--	51.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	8/28/2014		59.39	9.93	--	49.46	--	--	--	--	--	--	6.1	--	--	--	--	--	--	--	0.76	
A-10	2/27/2015		59.39	8.09	--	51.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-10	10/19/2015		59.39	10.44	--	48.95	--	--	--	--	--	--	7.6	--	--	--	--	--	--	--	15.53	(Large well vault; no handle. Safety hazard)
A-11	6/21/2000		53.74	9.54	--	44.20	<50	--	<0.5	<0.5	<0.5	<1.0	4	--	--	--	--	--	--	--	--	
A-11	9/20/2000		53.74	10.62	--	43.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	12/26/2000		53.74	10.03	--	43.71	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-11	3/20/2001		53.74	8.49	--	45.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	6/12/2001		53.74	10.21	--	43.53	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-11	9/23/2001		53.74	10.77	--	42.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	12/31/2001		53.74	6.06	--	47.68	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-11	3/21/2002		53.74	7.14	--	46.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	4/17/2002		53.74	8.41	--	45.33	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-11	8/12/2002		53.74	10.25	--	43.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	12/6/2002		53.74	10.43	--	43.31	<50	--	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--	--	--	--	--	2.4	
A-11	1/30/2003		53.74	8.42	--	45.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/28/2003		53.74	9.30	--	44.44	<50	--	<0.50	<0.50	<0.50	<0.50	0.53	<20	<0.50	<0.50	<0.50	<100	--	--	1.8	
A-11	8/6/2003		53.74	10.28	--	43.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	11/14/2003		53.74	10.40	--	43.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	2/2/2004		59.16	7.95	--	51.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/4/2004		59.16	8.72	--	50.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	9/2/2004		59.16	10.44	--	48.72	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	2.6	
A-11	11/10/2004		59.16	9.20	--	49.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	2/2/2005		59.16	7.95	--	51.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/9/2005		59.16	8.07	--	51.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	8/11/2005		59.16	9.87	--	49.29	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	3.8	
A-11	11/18/2005		59.16	8.88	--	50.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	2/15/2006		59.16	7.90	--	51.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/30/2006		59.16	8.78	--	50.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	8/11/2006		59.16	10.33	--	48.83	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	3.8	
A-11	11/1/2006		59.16	10.10	--	49.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	2/7/2007		59.16	9.35	--	49.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/9/2007		59.16	8.48	--	50.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	8/7/2007		59.16	10.10	--	49.06	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	2.67	
A-11	11/14/2007		59.16	9.31	--	49.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	2/28/2008		59.16	7.12	--	52.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/23/2008		59.16	9.77	--	49.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	8/13/2008		59.16	10.08	--	49.08	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.89	
A-11	11/19/2008		59.16	9.75	--	49.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	2/10/2009		59.16	8.67	--	50.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	5/7/2009		59.16	8.20	--	50.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	9/3/2009		59.16	10.15	--	49.01	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	0.98	
A-11	3/23/2010		59.16	7.70	--	51.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	8/16/2010		59.16	9.90	--	49.26	<50	--	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50	--	
A-11	8/24/2012		59.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-11	2/8/2013		59.16	8.47	--	50.69	<50	--	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<250	<0.50	<0.50	--	
A-11	8/7/2013		59.16	9.66	--	49.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
A-11	2/13/2014		59.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-11	8/28/2014		59.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(No measured water; NS)
A-11	2/27/2015		59.16	7.92	--	51.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-11	10/19/2015		59.16	9.80	--	49.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(Obstruction at 9.8 ft; NS.)
A-12	6/21/2000		52.05	9.28	--	42.77	<50	--	<0.5	<0.5	<0.5	<1.0	18	--	--	--	--	--	--	--	--	
A-12	9/20/2000		52.05	9.55	--	42.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	12/26/2000		52.05	9.05	--	43.00	<50	--	<0.5	<0.5	<0.5	<0.5	17.3	--	--	--	--	--	--	--	--	
A-12	3/20/2001		52.05	7.92	--	44.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	6/12/2001		52.05	9.26	--	42.79	<50	--	<0.5	<0.5	<0.5	<0.5	25	--	--	--	--	--	--	--	--	
A-12	9/23/2001		52.05	9.68	--	42.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	12/31/2001		52.05	5.74	--	46.31	<50	--	<0.5	<0.5	<0.5	<0.5	9.5	--	--	--	--	--	--	--	--	
A-12	3/21/2002		52.05	6.64	--	45.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	4/17/2002		52.05	7.68	--	44.37	<50	--	<0.5	<0.5	<0.5	<0.5	29	--	--	--	--	--	--	--	--	
A-12	8/12/2002		52.05	9.30	--	42.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	12/6/2002		52.05	9.38	--	42.67	<50	--	<0.50	<0.50	<0.50	<0.50	13	--	--	--	--	--	--	--	2.3	

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ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-12	1/30/2003		52.05	7.87	--	44.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	5/28/2003		52.05	8.51	--	43.54	50	--	<0.50	<0.50	<0.50	<0.50	10	<20	<0.50	<0.50	2.5	<100	--	--	1.4	
A-12	8/6/2003		52.05	9.28	--	42.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	11/14/2003		52.05	9.37	--	42.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	2/2/2004		57.06	7.90	--	49.16	<50	--	<0.50	<0.50	<0.50	<0.50	0.91	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	1.0	
A-12	5/4/2004		57.06	8.74	--	48.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	9/2/2004		57.06	9.41	--	47.65	<50	--	<0.50	<0.50	<0.50	<0.50	6.2	<20	<0.50	<0.50	1.7	<100	<0.50	<0.50	1.1	
A-12	11/10/2004		57.06	8.32	--	48.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	2/2/2005		57.06	7.45	--	49.61	<50	--	<0.50	<0.50	<0.50	<0.50	8.3	<20	<0.50	<0.50	2.2	<100	<0.50	<0.50	1.4	
A-12	5/9/2005		57.06	7.57	--	49.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	8/11/2005		57.06	9.05	--	48.01	<50	--	<0.50	<0.50	<0.50	<0.50	5.4	<20	<0.50	<0.50	1.1	<100	<0.50	<0.50	0.9	
A-12	11/18/2005		57.06	8.90	--	48.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	2/15/2006		57.06	7.47	--	49.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	5/30/2006		57.06	8.21	--	48.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	8/11/2006		57.06	8.85	--	48.21	<50	--	<0.50	<0.50	<0.50	<0.50	7.4	<20	<0.50	<0.50	2.5	<300	<0.50	<0.50	1.8	
A-12	11/1/2006		57.06	9.17	--	47.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	2/7/2007		57.06	8.58	--	48.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	5/9/2007		57.06	7.93	--	49.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	8/7/2007		57.06	9.20	--	47.86	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.49	
A-12	11/14/2007		57.06	8.52	--	48.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	2/28/2008		57.06	7.04	--	50.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	5/23/2008		57.06	9.00	--	48.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	8/13/2008		57.06	9.38	--	47.68	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50	1.03	
A-12	11/19/2008		57.06	9.01	--	48.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	2/10/2009		57.06	8.10	--	48.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	5/7/2009		57.06	7.80	--	49.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	9/3/2009		57.06	9.40	--	47.66	<50	--	<0.50	<0.50	<0.50	<0.50	3.6	<10	<0.50	<0.50	1.0	<300	<0.50	<0.50	0.98	
A-12	3/23/2010		57.06	7.68	--	49.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	8/16/2010		57.06	9.30	--	47.76	<50	--	<0.50	<0.50	<0.50	<1.0	3.6	<4.0	<0.50	<0.50	0.85	<100	<0.50	<0.50	--	
A-12	8/24/2012		57.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-12	2/8/2013		57.06	8.38	--	48.68	<50	--	<0.50	<0.50	<0.50	<1.0	3.3	<4.0	<0.50	<0.50	1.2	<250	<0.50	<0.50	--	
A-12	8/7/2013		57.06	9.37	--	47.69	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	1.85	(NSP)
A-12	2/13/2014		57.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-12	8/28/2014		57.06	9.30	--	47.76	<50	--	<0.50	<0.50	<0.50	<1.0	1.9	<20	<0.50	<0.50	<0.50	<500	<0.50	<0.50	0.78	
A-12	2/27/2015		57.06	8.09	--	48.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-12	10/19/2015		57.06	9.90	--	47.16	<50	--	<0.50	<0.50	<0.50	<1.0	1.6	<20	<0.50	<0.50	<0.50	<500	<0.50	<0.50	15.98	
A-13	3/21/2002		55.11	6.70	--	48.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	4/17/2002		55.11	7.95	--	47.16	<50	--	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
A-13	8/12/2002		55.11	10.11	--	45.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	12/6/2002		55.11	10.26	--	44.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	1/30/2003		55.11	7.81	--	47.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/28/2003		55.11	9.06	--	46.05	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	--	--	1.9	
A-13	8/6/2003		55.11	10.22	--	44.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	11/14/2003		55.11	10.27	--	44.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	2/2/2004		60.26	7.92	--	52.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/4/2004		60.26	10.06	--	50.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	9/2/2004		60.26	10.34	--	49.92	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	2.0	
A-13	11/10/2004		60.26	8.95	--	51.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	2/2/2005		60.26	7.28	--	52.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/9/2005		60.26	7.85	--	52.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	8/11/2005		60.26	9.70	--	50.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
A-13	11/18/2005		60.26	9.27	--	50.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	2/15/2006		60.26	7.24	--	53.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/30/2006		60.26	8.38	--	51.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	8/11/2006		60.26	9.55	--	50.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	11/1/2006		60.26	9.98	--	50.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	2/7/2007		60.26	9.07	--	51.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/9/2007		60.26	8.15	--	52.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	8/7/2007		60.26	10.05	--	50.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	11/14/2007		60.26	9.20	--	51.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	2/28/2008		60.26	6.82	--	53.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/23/2008		60.26	9.67	--	50.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	8/13/2008		60.26	10.17	--	50.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	11/19/2008		60.26	9.63	--	50.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	2/10/2009		60.26	8.48	--	51.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	5/7/2009		60.26	7.97	--	52.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	9/3/2009		60.26	10.14	--	50.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	3/23/2010		60.26	7.29	--	52.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	8/16/2010		60.26	9.92	--	50.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	3/18/2011		60.26	6.33	--	53.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
A-13	8/24/2012		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(Well has been paved over)
A-13	2/8/2013		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-13	8/7/2013		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-13	2/13/2014		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
A-13	8/28/2014		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA: Paved over)
A-13	2/27/2015		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA: Paved over)
A-13	10/19/2015		60.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA; Paved over)
AR-1	12/26/2000		54.72	9.95	--	44.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	3/20/2001		54.72	8.34	--	46.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	6/12/2001		54.72	10.17	--	44.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	9/23/2001		54.72	10.72	--	44.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	12/31/2001		54.72	5.91	--	48.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	3/21/2002		54.72	7.00	--	47.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	4/17/2002		54.72	8.33	--	46.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/12/2002		54.72	10.18	--	44.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	12/6/2002		54.72	10.21	--	44.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	1/30/2003		54.72	8.22	--	46.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	5/28/2003		54.72	9.62	--	45.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/6/2003		54.72	10.47	--	44.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	11/14/2003		54.72	10.40	--	44.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	2/2/2004		59.52	7.96	--	51.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	5/4/2004		59.52	10.17	--	49.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	9/2/2004		59.52	10.28	--	49.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	11/10/2004		59.52	9.15	--	50.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	2/2/2005		59.52	7.80	--	51.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	5/9/2005		59.52	7.03	--	52.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/11/2005		59.52	9.82	--	49.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	11/18/2005		59.52	9.83	--	49.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	2/15/2006		59.52	7.78	--	51.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	5/30/2006		59.52	8.65	--	50.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/11/2006		59.52	9.69	--	49.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	11/1/2006		59.52	10.07	--	49.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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AR-1	2/7/2007		59.52	9.33	--	50.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	5/9/2007		59.52	8.45	--	51.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/7/2007		59.52	10.12	--	49.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	11/14/2007		59.52	9.31	--	50.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	2/28/2008		59.52	7.05	--	52.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/13/2008		59.52	10.20	--	49.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	11/19/2008		59.52	9.73	--	49.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	2/10/2009		59.52	8.61	--	50.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	5/7/2009		59.52	8.17	--	51.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	9/3/2009		59.52	10.19	--	49.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/24/2012		59.52	9.65	--	49.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	2/8/2013		59.52	8.44	--	51.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
AR-1	8/7/2013		59.52	10.08	--	49.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
AR-1	2/13/2014		59.52	7.39	--	52.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-1	8/28/2014		59.52	9.88	--	49.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
AR-1	2/27/2015		59.52	6.95	--	52.57	660	--	2.0	<0.50	<0.50	1.1	25	910	<0.50	<0.50	7.3	<500	<0.50	<0.50	3.76	
AR-1	10/19/2015		59.52	10.39	--	49.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(Hydrasleeve fell in well; NS)
AR-2	3/20/2001		54.77	3.13	--	51.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	6/12/2001		54.77	4.51	--	50.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	9/23/2001		54.77	6.05	--	48.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	12/31/2001		54.77	2.79	--	51.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	3/21/2002		54.77	7.75	--	47.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	4/17/2002		54.77	2.24	--	52.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	8/12/2002		54.77	4.93	--	49.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	12/6/2002		54.77	6.09	--	48.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	1/30/2003		54.77	3.89	--	50.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	5/28/2003		54.77	3.33	--	51.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	8/6/2003		54.77	5.05	--	49.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	11/14/2003		54.77	6.01	--	48.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/2/2004		59.18	3.88	--	55.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	5/4/2004		59.18	6.01	--	53.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	9/2/2004		59.18	5.65	--	53.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	11/10/2004		59.18	5.48	--	53.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/2/2005		59.18	2.62	--	56.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	5/9/2005		59.18	2.84	--	56.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	8/11/2005		59.18	4.33	--	54.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	11/18/2005		59.18	5.34	--	53.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/15/2006		59.18	2.49	--	56.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	5/30/2006		59.18	3.02	--	56.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	8/11/2006		59.18	4.32	--	54.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	11/1/2006		59.18	5.25	--	53.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/7/2007		59.18	4.64	--	54.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	5/9/2007		59.18	3.15	--	56.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	8/7/2007		59.18	4.55	--	54.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	11/14/2007		59.18	5.03	--	54.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/28/2008		59.18	1.82	--	57.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	8/13/2008		59.18	5.05	--	54.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	11/19/2008		59.18	5.49	--	53.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/10/2009		59.18	5.10	--	54.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	5/7/2009		59.18	2.90	--	56.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	9/3/2009		59.18	5.99	--	53.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

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AR-2	8/24/2012		59.18	4.55	--	54.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-2	2/8/2013		59.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
AR-2	8/7/2013		59.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
AR-2	2/13/2014		59.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA)
AR-2	8/28/2014		59.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA: Storage unit)
AR-2	2/27/2015		59.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA: Paved over)
AR-2	10/19/2015		59.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(INA: Paved over)
AR-3	12/26/2000		54.19	9.70	--	44.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	9/23/2001		54.19	10.43	--	43.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	12/31/2001		54.19	5.18	--	49.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	3/21/2002		54.19	6.78	--	47.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	4/17/2002		54.19	8.06	--	46.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/12/2002		54.19	9.94	--	44.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	12/6/2002		54.19	9.99	--	44.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	1/30/2003		54.19	7.96	--	46.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	5/28/2003		54.19	8.94	--	45.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/6/2003		54.19	9.94	--	44.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	11/14/2003		54.19	10.03	--	44.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/2/2004		59.10	6.90	--	52.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	5/4/2004		59.10	9.12	--	49.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	9/2/2004		59.10	10.15	--	48.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	11/10/2004		59.10	8.79	--	50.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/2/2005		59.10	7.30	--	51.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	5/9/2005		59.10	7.71	--	51.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/11/2005		59.10	9.54	--	49.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	11/18/2005		59.10	9.43	--	49.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/15/2006		59.10	7.50	--	51.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	5/30/2006		59.10	8.82	--	50.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/11/2006		59.10	9.38	--	49.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	11/1/2006		59.10	9.75	--	49.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/7/2007		59.10	9.00	--	50.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	5/9/2007		59.10	8.12	--	50.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/7/2007		59.10	9.75	--	49.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	11/14/2007		59.10	8.91	--	50.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/28/2008		59.10	6.73	--	52.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/13/2008		59.10	9.85	--	49.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	11/19/2008		59.10	9.35	--	49.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/10/2009		59.10	8.29	--	50.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	5/7/2009		59.10	7.83	--	51.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
AR-3	9/3/2009		59.10	9.80	--	49.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/24/2012		59.10	9.10	--	50.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	2/8/2013		59.10	7.62	--	51.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
AR-3	8/7/2013		59.10	9.47	--	49.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
AR-3	2/13/2014		59.10	7.00	--	52.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-3	8/28/2014		59.10	9.45	--	49.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(NSP)
AR-3	2/27/2015		59.10	7.60	--	51.50	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	<20	<0.50	<0.50	<0.50	<500	<0.50	<0.50	3.80	
AR-3	10/19/2015		59.10	10.02	--	49.08	<50	--	<0.50	<0.50	<0.50	<1.0	2.3	<20	<0.50	<0.50	<0.50	<500	<0.50	<0.50	--	(Insufficient water for parameters)
SB-7	5/12/2015		--	--	--	--	<50	--	<0.50	<0.50	<0.50	<1.0	4.3	<20	<0.50	<0.50	1.4	<500	<0.50	<0.50	--	

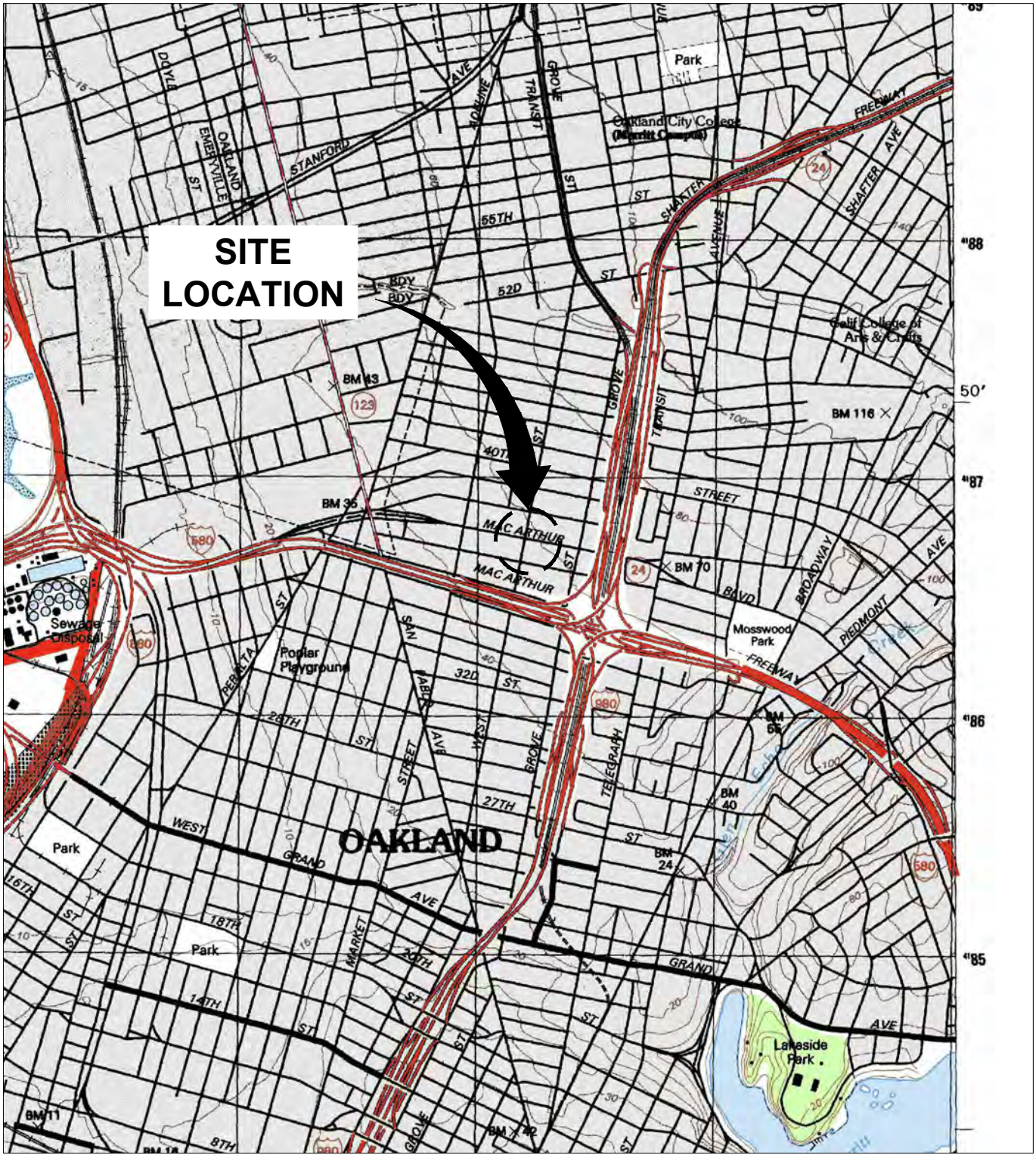
Table 2
Historical and Current Groundwater Monitoring and Analytical Data
CA-04931
731 West MacArthur Boulevard, Oakland, CA 94609

Well ID	Date	Type	TOC (ft msl)	DTW (f btoc)	Measured LNAPL Thickness (ft btoc)	GW Elev (ft msl)	GRO (µg/L)	DRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes

Notes:

-- = Not analyzed/applicable/measured/available
< = Not detected at or above laboratory reporting limit
ft = Feet
ft btoc = Feet below top of casing
ft msl = Feet above mean sea level
µg/L = Micrograms per liter
mg/L = Milligrams per liter
TOC = Top of casing measured in ft msl
DTW = Depth to water in ft btoc
LNAPL = Light non-aqueous phase liquid
GW Elev = Groundwater elevation measured in ft msl
GRO = Gasoline range organics
TPH-g = Total petroleum hydrocarbons as gasoline
DRO = Diesel range organics
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
MTBE = Methyl tert butyl ether
TBA = Tert-butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = Tert-amyl methyl ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
DO = Dissolved oxygen
HC = Hydrocarbon
INA = Well inaccessible during monitoring event.
NS = Well not sampled
NSP = Well not sampled in accordance with groundwater sampling schedule
Dry = Well dry during monitoring event
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 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 August 2009 was provided to ARCADIS U.S., Inc. (ARCADIS) by Atlantic Richfield Company and their previous consultants. ARCADIS has not verified the accuracy of this information.

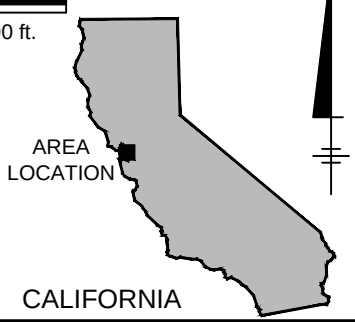
FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND WEST, CALIFORNIA, 1993.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



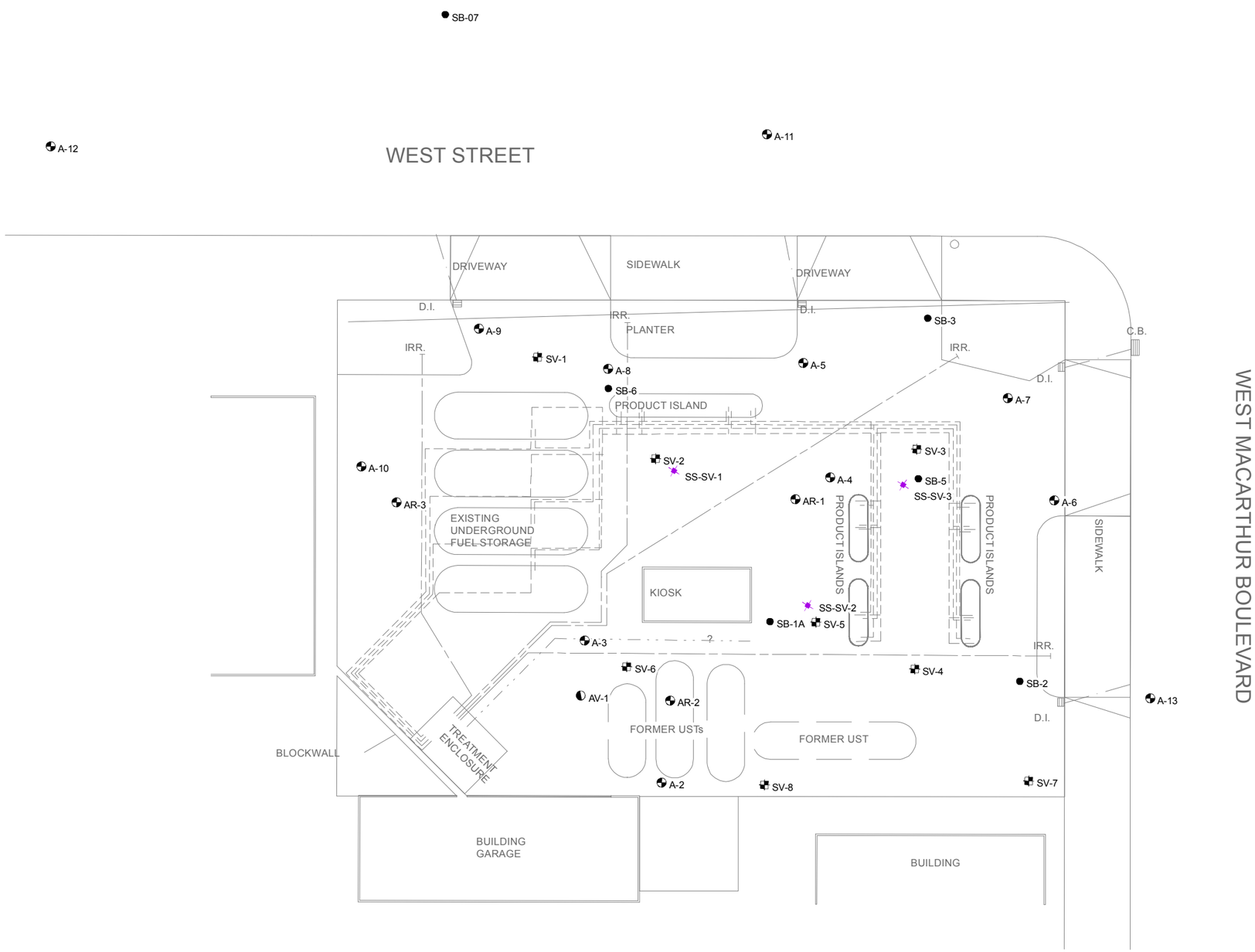
FORMER ARCO STATION #4931
731 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\RETURN-TO\EMERYVILLE, CA\GP09BPNAIC110N00003Q12\DWG\GP09BPNAC110-N01.dwg LAYOUT: 1 SAVED: 10/1/2012 11:40 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 10/1/2012 11:59 AM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ---
Oakland West.jpg



LEGEND:

- SUB-SLAB SOIL VAPOR SAMPLING LOCATION
- SOIL VAPOR SAMPLE LOCATION
- SOIL BORING
- GROUNDWATER MONITORING WELL
- SOIL VAPOR EXTRACTION WELL
- PRODUCT/VENT LINE
- WATER
- SANITARY SEWER
- STORM DRAIN

0 30 60

SCALE IN FEET

NOTE:
SITE MAP ADOPTED FROM FIGURES BY OTHERS.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

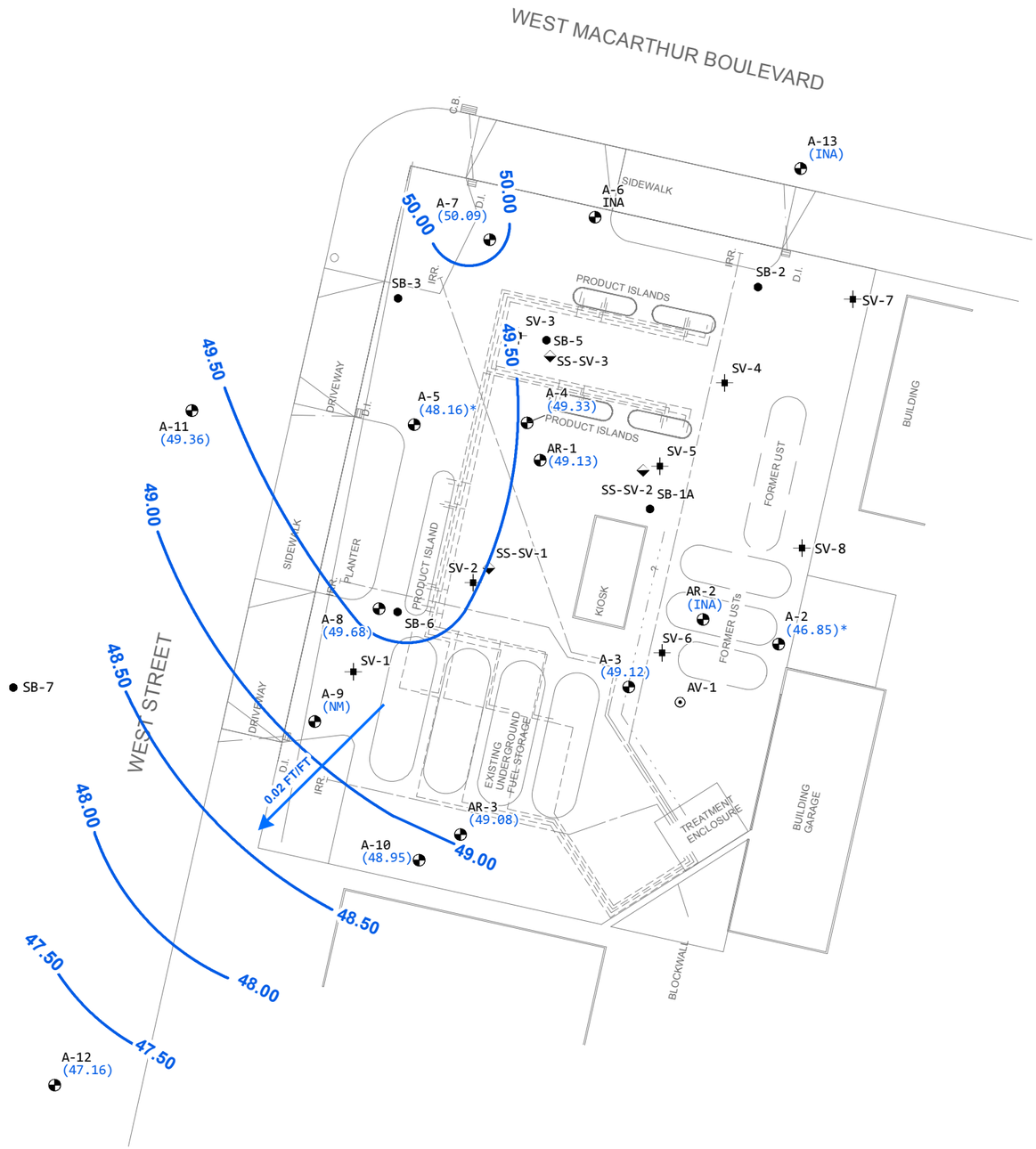
FORMER BP STATION No. 04931
731 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY: SAN FRANCISCO DIV/GROUP: ENV/IM DB: kgpeters LD: PIC: PM: TM:
PROJECT: PATH: Z:\GISPROJECTS_ENV\BP_FOXGLOVE\CA\04931\GIS\MXD\CA-04931-Fig2_STPL_Sitemap.mxd DATE: 11/17/2015 5:43:20 PM



LEGEND:

- GROUNDWATER MONITORING WELL
- SOIL BORING
- SOIL VAPOR EXTRACTION WELL
- SOIL VAPOR SAMPLE LOCATION
- SUB-SLAB SOIL VAPOR SAMPLING LOCATION
- (49.68) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- 49.00 GROUNDWATER ELEVATION CONTOUR LINE (DASHED WHERE INFERRED)
- 0.02 FT/FT GROUNDWATER FLOW DIRECTION (FOOT PER FOOT)
- (INA) WELL INACCESSIBLE
- (NM) NOT MEASURED DUE TO OBSTRUCTION IN WELL
- * NOT USED IN CONTOURING

0 30 60

SCALE IN FEET

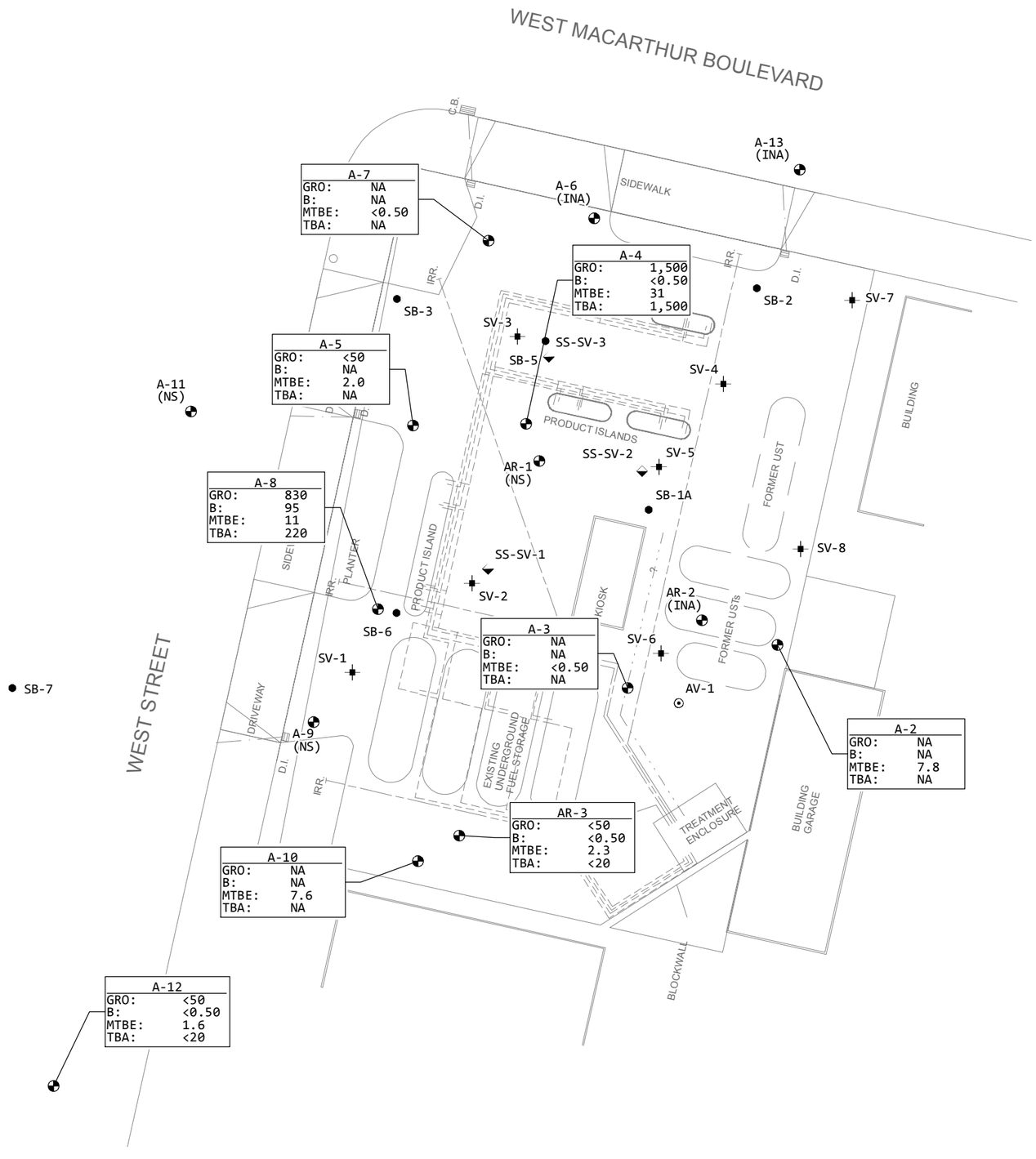
FORMER ARCO No. 4931
731 WEST MACARTHUR BOULEVARD,
OAKLAND, CALIFORNIA
SECOND QUARTER 2015 AND THIRD QUARTER 2015 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION CONTOUR MAP OCTOBER 19, 2015

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

CITY: SAN FRANCISCO DIV/GROUP: ENV/IM DB: kgpeters LD: PIC: PM: TM:
PROJECT: PATH: Z:\GIS\PROJECTS_ENV\BP_FOXGLOVE\CA\CA04931\GIS\MXD\3q2015\CA-04931-Fig3_GWE.mxd DATE: 11/17/2015 5:32:25 PM



LEGEND:

- GROUNDWATER MONITORING WELL
- SOIL BORING
- SOIL VAPOR EXTRACTION WELL
- SOIL VAPOR SAMPLE LOCATION
- SUB-SLAB SOIL VAPOR SAMPLING LOCATION

A-4	
GRO:	1,500
B:	<0.50
MTBE:	31
TBA:	1,500

SAMPLE LOCATION ID

CONCENTRATION IN MICROGRAMS PER LITER (µg/L)

ANALYTE

GRO	GASOLINE RANGE ORGANICS (C6-C12)
B	BENZENE
MTBE	METHYL TERTIARY-BUTYL ETHER
TBA	TERTIARY-BUTYL ALCOHOL
<	NOT DETECTED AT OR ABOVE STATED LABORATORY REPORTING LIMIT
NA	NOT ANALYZED
NS	NOT SAMPLED
NSP	NOT SAMPLED IN ACCORDANCE WITH GROUNDWATER SAMPLING SCHEDULE
INA	WELL INACCESSIBLE

0 30 60

SCALE IN FEET

FORMER ARCO No. 4931
731 WEST MACARTHUR BOULEVARD,
OAKLAND, CALIFORNIA

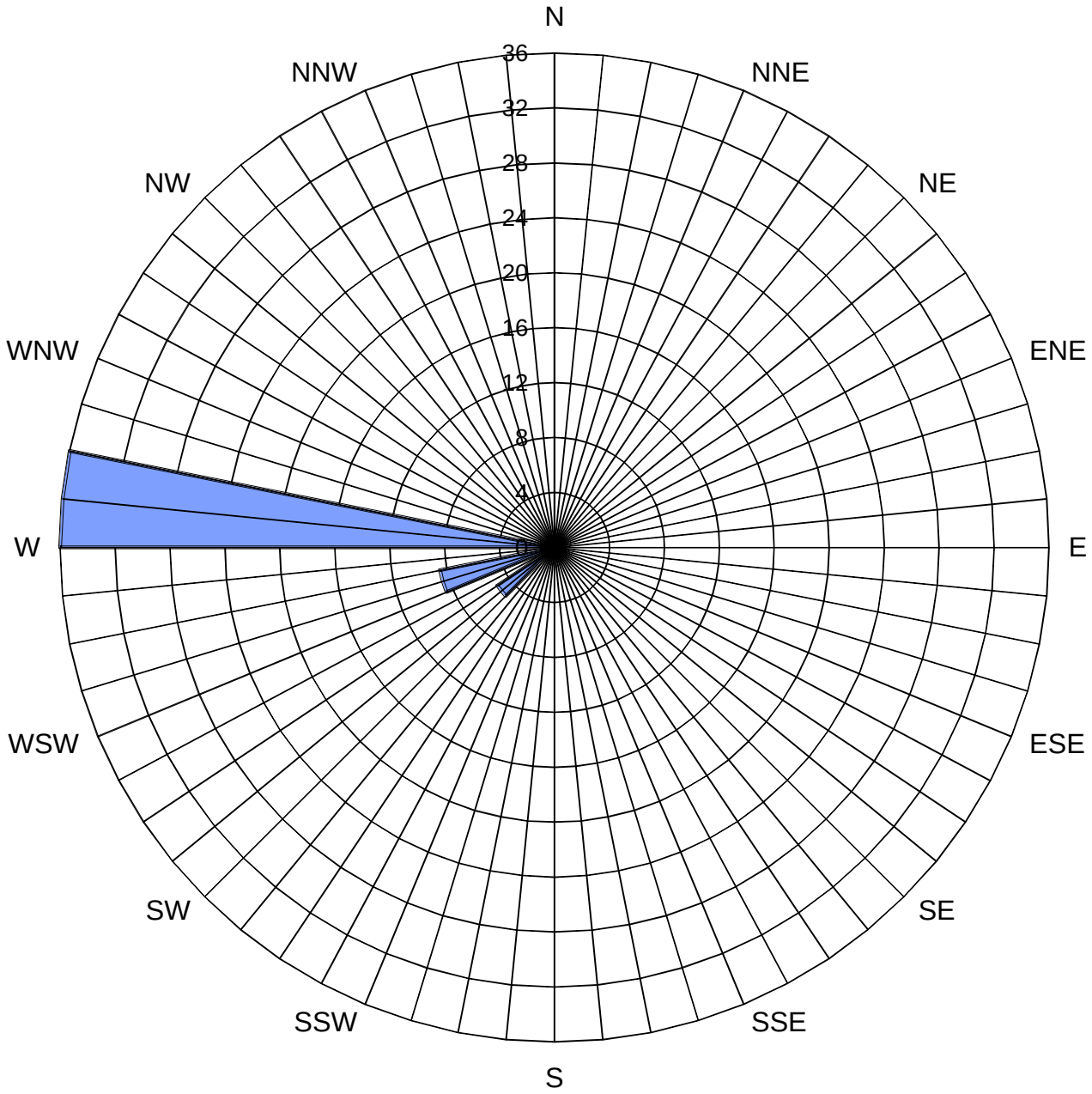
SECOND QUARTER 2015 AND THIRD QUARTER 2015 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

ANALYTICAL SUMMARY MAP OCTOBER 19, 2015

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

CITY: SAN FRANCISCO DIV/GROUP: ENV/IM DB: kgpeters LD: PIC: PM: TM:
PROJECT: PATH: Z:\GISPROJECTS_ENV\BP_FOXGLOVE\CA\CA0493\1\GIS\MXD\3q20151CA-04931-Fig4_GWE_Analytical.mxd DATE: 11/17/2015 5:41:45 PM



LEGEND

CONCENTRIC CIRCLES REPRESENT **50** MONITORING EVENTS CONDUCTED BETWEEN THE SECOND QUARTER 2000 THROUGH THE FOURTH QUARTER 2015.

GROUNDWATER FLOW DIRECTION

FORMER ARCO No. 4931
731 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SECOND QUARTER 2015 AND THIRD QUARTER 2015 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

ARCADIS Design & Consultancy for natural and built assets

FIGURE **5**

ATTACHMENT 1

Previous Investigations and Site History Summary

The Site is located at 731 West MacArthur Boulevard in Oakland, California. It is an active Westco-branded gasoline station. Improvements to the Site include four 10,000 gallon double-wall fiberglass gasoline underground storage tanks (USTs) installed on April 8, 1992. Product lines were excavated, removed, inspected, and replaced October 2, 2002. The majority of the Site surface is paved with concrete and asphalt.

The Site is bound by West MacArthur Boulevard to the north-northeast, West Street to the west-northwest and single-family residential dwellings to the south-southwest and east-southeast. Interstate 580 is located approximately 620 feet south-southwest of the Site.

A super unleaded product leak was reported to have occurred in November 1982 at the Site, however the quantity of product released is unknown (Gettler-Ryan, 4/3/1989). Wells A-1 through A-4 are known to have been installed prior to December 1982; however exact dates and consultants responsible are unknown. Wells A-5 through A-8 were installed by Groundwater Technology, Inc. (GTI) in March 1983. Wells A-9 through A-12 were installed by Pacific Environmental Group, Inc. (PEG) in December 1987. Soil samples were reportedly collected from borings A-9 through A-12 at five-foot intervals for logging purposes, but were not analyzed. Well A-9 was advanced to 45 ft below ground surface (bgs) and constructed with six- inch diameter PVC casing. Wells A-10 through A-12 were advanced to 30.5 ft bgs and constructed with three-inch diameter PVC casing and 0.020 inch slotted screen (PEG, 1/20/1988). GeoStrategies, Inc. (GSI) reported in their May 15, 1991 *Remedial Action Plan* that well A-1 was destroyed during underground storage tank (UST) replacement activities in August 1983. Additional information pertaining to the 1983 UST replacement activities was not available.

In late 1987, PEG conducted a water-supply well search within a 0.5 mile radius of the Site, as reported in their January 20, 1988 *Soil and Groundwater Investigation Report*. The Department of Water Resources (DWR) reported three historical wells within 0.5 miles of the Site. Two wells were identified approximately 1,300 feet northwest of the site. One was of an unknown depth and use, drilled in 1928. The second was drilled in 1926 to a depth of either 575 or 420 feet. The well was abandoned in 1956. The third well was identified approximately 2,400 feet west (downgradient) of the Site. It was drilled in 1927 to 97 ft bgs for industrial use.

In April 1991, GSI performed a hybrid step-drawdown/constant-rate aquifer test utilizing well A-9. The test consisted of four pumping steps followed by a recovery step. Transmissivity was calculated as 1,092 to 2,668 gallons per day per foot (gpd/ft) using the Cooper-Jacob method, and 996 to 2,502 gpd/ft using the

Neuman method. Storativity was calculated to be $1.18x10^{-2}$ to $4.24x10^{-6}$, which was reportedly indicative of a heterogeneous environment. According to GSI, "Specific yield [sic – capacity?] values ranged from $1.74x10^{-2}$ to $9.65x10^{-3}$," suggesting unconfined to semi-confined subsurface conditions (GSI, 7/10/1991). In GSI's *Remedial Action Plan* dated May 15, 1991, approximately 30 years of pumping on well A-9 was modeled, which suggested that hydrodynamic control of the hydrocarbon plume within the groundwater was achievable at the Site. A groundwater extraction treatment system was proposed within the same report, designed to pump from well A-9 and treat groundwater onsite using carbon vessels.

In January 1992, GSI observed the advancement of one vapor extraction well (AV-1). AV-1 was installed to a depth of 15 ft bgs and screened from 5 ft bgs to total depth. Three Vapor Extraction Monitoring Points (VEMPs) were also installed at this time. The VEMPs were 0.75-inch diameter metal pipe driven to a depth of eight ft bgs, then withdrawn six to eight inches. The VEMPs were located at approximately four foot intervals linearly east of well AV-1. GSI conducted a four-hour vapor extraction test on 20 January 1992 on well AV-1, utilizing an internal combustion engine to create vacuum and combust vapors. Vacuum pressure in well AV-1 was sustained between 158.0 to 169.3 inches of water, while manometers were used to measure pressure changes at the VEMPs. No measurable influence was recorded at the three VEMPs, indicating less than a four-foot radius of influence for well AV-1. GSI subsequently concluded that vapor extraction was not likely to be a feasible remedial option at the Site (GSI, 5/21/1992).

Between November 18, 1991 and April 8, 1992, Roux Associates (RA) observed the UST removal and replacement installation activities. Paradiso Construction Company (Paradiso) removed one 12,000 gallon single-walled fiberglass tank, two 8,000 gallon single-walled steel tanks, and one 6,000 single-walled steel tank on November 19.1991. It was reported that according to the ACEH and RA personnel, the former tanks appeared to be in good condition, with no holes or obvious leaks. Two preexisting four-inch tank observation wells near tank T1 were also removed at this time. Black oil staining was observed on the inside of the tank observation well casing, as well as on the surface of the exposed groundwater near where the wells were located. A vacuum truck was utilized on November 21,1991 to remove approximately 2,800 gallons of oil/groundwater mixture from the tank cavity. Due to reported soil staining and hydrocarbon odors, the tank cavity was over-excavated on November 21,1991. The south end of the tank cavity (former tanks T2, T3, and T4) was excavated to approximately 14 ft bgs, while the north end (former tank T1) was excavated to approximately 12 ft

bgs. Further over-excavation along the north and west side-walls of the tank cavity occurred between December 20, 1991 and February 13, 1992. The former tank cavity was backfilled on February 27, 1992 with two to four feet of pea gravel and road base aggregate to near the surface. Product lines associated with the former UST complex were excavated and removed on December 1-2, 1991. Select locations along the former product line trenches were over-excavated on December 20, 1991. The current UST pit excavation was initiated on March 9, 1992. Four double-walled 10,000 gallon fiberglass tanks were installed at 14 ft bgs on 8 April 1992. One 12-inch diameter slotted PVC conductor casing was installed to 13 ft bgs in the new UST cavity (RA, 7/20/1992).

On June 15-16, 1992, GSI observed the advancement of one soil boring offsite (A-13) and three soil borings onsite (AR-1, AR-2, and AR-3). Monitoring well A-13 was installed to a depth of 30 ft bgs and constructed with three-inch diameter Schedule 40 PVC casing and screened from 10 to 30 ft bgs with 0.020-inch machine slotted casing. Recovery wells AR-1 and AR-3 were installed to a depth of 30 ft bgs and constructed with six-inch diameter Schedule 40 PVC casing and screened from 10 to 30 ft bgs with 0.020-inch slotted carbon steel casing. Recovery well AR-2 was installed to a depth of 28 ft bgs and constructed with six-inch diameter Schedule 40 PVC casing and screened from 8 to 28 ft bgs with 0.020-inch slotted carbon steel casing. Also during second quarter 1992, a passive product skimmer was installed in well A-8 (GSI, 11/13/1992).

In late 1992, GSI oversaw the installation of an interim groundwater extraction remediation system (GWETS). The system began operation on 10 November 1992, utilizing two pumps in each of wells A-9, AR-1, AR-2, and AR-3, removing hydrocarbon impacted groundwater and free product (FP) from the subsurface.

Collected FP was contained in 55-gallon drums. Groundwater was passed through a centrifugal separator, particulate filter, three in-series 1,500 pound activated carbon vessels, and ultimately discharged into the sanitary sewer system (GSI, 2/22/1994). In their *Recovery System Evaluation Report, First Quarter 1994*, dated June 27,1994, GSI reports that the GWETS wells A-9, AR-1, AR-2, and AR-3 contained only one pump each for groundwater, and a product pump was installed in well A-8. The GWETS was shut down on July 5, 1995 for the following reasons cited by Pacific Environment Group, Inc. (PEG) in their *Quarterly Report – Second Quarter 1995, Remedial System Performance Evaluation*, dated September 29, 1995: 1). Since system startup only 2.74 pounds (0.45 gallons) total petroleum hydrocarbons in the gasoline range (TPHg) and 0.46 pounds (0.06 gallons) of benzene had been removed; and 2). Downgradient wells A-11 and A-12 had remained non-detect for TPHg and benzene since groundwater

monitoring began in 1988, indicating that the plume had stabilized and downgradient migration was minimal. At shutdown, the system had removed and treated approximately 4,643,696 gallons of groundwater. As of December 31, 1995, 23 pounds (3.75 gallons) of free product have been removed from the Site (PEG, 3/15/1996).

After the GWETS had been shut down and pumps removed from the remediation wells, PEG initiated an in-situ bioremediation enhancement program. On November 17, 1995, eight oxygen releasing compound (ORC) socks were installed in well A-9. ORC is a magnesium peroxide powder, which slowly releases oxygen when hydrated (PEG, 3/15/1996).

On October 2, 2002, URS Corporation (URS) observed product line upgrade activities at the Site. The product lines were excavated, removed, inspected, and replaced.

URS reported no observable cracks or deterioration of the former product lines. Soil samples were collected and analyzed from the product line trenches as well as from beneath the former dispenser islands. Two locations required minor over-excavation due to observed soil staining and hydrocarbon odors. The new product lines were replaced within the same trenches (URS, 1/21/2003).

Quarterly groundwater monitoring at the Site was initiated in the First Quarter 1989 by Gettler- Ryan, Inc. The site is currently monitored on a semiannual basis by Broadbent & Associates, Inc. (BAI) during the first and third calendar quarters.

ATTACHMENT 2

Groundwater Sampling Data Package

Groundwater Monitoring Field Data For
ARCADIS-4931

A-10

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	10.44
				Well Depth (ft)	29.59
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:41			15.53	19.3	7.27	569	148	286	

Sampling Summary

Sample ID	A-10	Purge Rate (LPM)	
Sample Date	10/20/2015	VOA Preserved #	3
Sample Time	10:50	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-11

Date	10/19/2015	Well Head Integrity	Okay	Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	9.8
				Well Depth (ft)	29.79
Weather Conditions	Sunny				
Waste Container					
Waste Location					
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
11:53		9.8	0.	0	0	0	0		

Sampling Summary

Sample ID		Purge Rate (LPM)	0
Sample Date		VOA Preserved #	
Sample Time		VOA Un-preserved #	
DTW at Sampling (ft)	0	Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	No sample taken due to obstruction at 9.8 ft

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-12

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	9.90
				Well Depth (ft)	29.78
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:36			15.98	21.9	6.73	640	209	140	

Sampling Summary

Sample ID	A-12	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	10:15	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-13

Date	10/19/2015	Well Head Integrity	Okay	Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	
				Well Depth (ft)	
Weather Conditions					
Waste Container					
Waste Location					
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
15:51	-	-	-	-	-	-	-		

Sampling Summary

Sample ID		Purge Rate (LPM)	-
Sample Date		VOA Preserved #	
Sample Time		VOA Un-preserved #	
DTW at Sampling (ft)	-	Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-2

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	13.80
				Well Depth (ft)	19.49
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:49			17.13	19.2	6.54	434	-52		

Sampling Summary

Sample ID	A-2	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	12:05	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature 

Groundwater Monitoring Field Data For
ARCADIS-4931

A-3

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	10.20
				Well Depth (ft)	16.29
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
13:01			16.04	22.1	7.41	578	-21	15	

Sampling Summary

Sample ID	A-3	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	11:45	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-4

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	10.26
				Well Depth (ft)	
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:57			11.08	21.5	6.67	1070	-77	66	strong hydrocarbon odor

Sampling Summary

Sample ID	A-4	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	13:20	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-5

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	10.62
				Well Depth (ft)	23.80
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:54			18.92	21.6	6.88	578	105	155	

Sampling Summary

Sample ID	A-5	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	13:00	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-7

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	9.66
				Well Depth (ft)	26.32
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:52			19.99	22.7	6.96	579	78	240	

Sampling Summary

Sample ID	A-7	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	12:45	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-8

Date	10/19/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	9.02
				Well Depth (ft)	16.30
Weather Conditions	Sunny				
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
12:43			17.52	23.4	6.94	886	-122	172	

Sampling Summary

Sample ID	A-8	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	11:05	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

A-9

Date	10/19/2015	Well Head Integrity	Okay	Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	
				Well Depth (ft)	
Weather Conditions					
Waste Container					
Waste Location					
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
15:53	-	-	-	-	-	-	-		

Sampling Summary

Sample ID		Purge Rate (LPM)	-
Sample Date		VOA Preserved #	
Sample Time		VOA Un-preserved #	
DTW at Sampling (ft)	-	Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

AR-1

Date	10/19/2015	Well Head Integrity	Okay	Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	
				Well Depth (ft)	
Weather Conditions					
Waste Container					
Waste Location					
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
15:54	-	-	-	-	-	-	-	-	

Sampling Summary

Sample ID		Purge Rate (LPM)	-
Sample Date		VOA Preserved #	
Sample Time		VOA Un-preserved #	
DTW at Sampling (ft)	-	Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature 

Groundwater Monitoring Field Data For
ARCADIS-4931

AR-3

Date	10/20/2015	Well Head Integrity		Pump Inlet Depth (ft)	
Project_Number	09-88-624	Well Head Comments		Well Diameter (in)	
Location	731 W. Macarthur Boulevard,, Oakland, CA			Initial DTW (ft)	10.02
				Well Depth (ft)	
Weather Conditions					
Waste Container	Tank				
Waste Location	Off site				
Sampler	Jessica Collado				

Field Parameters

Time	Purge Volume (L)	DTW (ft)	DO (mg/L)	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
13:05	0		0	0	0	0	0	0	no sufficient water to measure parameters

Sampling Summary

Sample ID	AR-3	Purge Rate (LPM)	
Sample Date	10/19/2015	VOA Preserved #	3
Sample Time	10:55	VOA Un-preserved #	
DTW at Sampling (ft)		Liter Amber #	
Sampled using		Plastic Bottles #	
		Other	
		Remarks	

Sampler's Signature

Groundwater Monitoring Field Data For
ARCADIS-4931

Gauging Data

Date	10/19/2015
Project_Number	09-88-624
Location	731 W. Macarthur Boulevard,, Oakland, CA
Sampler	Jessica Collado

Well	Date/Time	Well Depth (ft)	Depth To Water (ft)	Depth to LNAPL (ft)	Remarks
A-10	10/19/2015 08:55		10.44		Large well vault with no handle. Safety hazard
A-11	10/19/2015 10:00	29.79	9.80		Obstruction at 9.8 ft. Hydrasleeve will not drop below 9.8 ft. No sample taken.
A-12	10/19/2015 10:12	29.78	9.90		
A-13	10/20/2015 11:57	-	-		
A-2	10/20/2015 09:33	19.49	13.80		
A-3	10/19/2015 09:30	16.29	10.20		
A-4	10/19/2015 09:35	29.05	10.26		
A-5	10/19/2015 09:43	23.80	10.62		
A-7	10/19/2015 09:30	26.32	9.66		
A-8	10/19/2015 09:15	16.30	9.02		
A-9	10/19/2015 11:47	8.10	0		Obstruction at 6 ft. No hydrasleeve present
AR-1	10/19/2015 09:48	19.37	10.39		Hydrasleeve fell in well. No sample collection
AR-2	10/19/2015 08:30	-	-		
AR-3	10/19/2015 08:55	28.90	10.02		needs Hydrasleeve

ATTACHMENT 3

Certified Laboratory Analytical Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

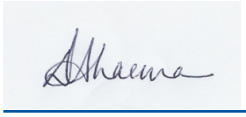
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-68088-1
Client Project/Site: BP #4931, Oakland

For:
ARCADIS U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco, California 94104

Attn: Hollis Phillips



Authorized for release by:
10/29/2015 3:37:12 PM

Dimple Sharma, Senior Project Manager
(925)484-1919
dimple.sharma@testamericainc.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Job ID: 720-68088-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-68088-1

Comments
No additional comments.

Receipt
The samples were received on 10/19/2015 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 14.2º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-5 — Lab Sample ID: 720-68088-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2.0		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: A-12 — Lab Sample ID: 720-68088-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	1.6		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: A-10 — Lab Sample ID: 720-68088-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	7.6		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: A-8 — Lab Sample ID: 720-68088-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	11		2.5		ug/L	5		8260B/CA_LUFT MS	Total/NA
Benzene	95		2.5		ug/L	5		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C6-C12	830		250		ug/L	5		8260B/CA_LUFT MS	Total/NA
TBA	220		100		ug/L	5		8260B/CA_LUFT MS	Total/NA
TAME	4.5		2.5		ug/L	5		8260B/CA_LUFT MS	Total/NA

Client Sample ID: A-3 — Lab Sample ID: 720-68088-5

No Detections.

Client Sample ID: A-2 — Lab Sample ID: 720-68088-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	7.8		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: A-7 — Lab Sample ID: 720-68088-7

No Detections.

Client Sample ID: A-4 — Lab Sample ID: 720-68088-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	31		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	0.84		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	3.0		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C6-C12	1500		50		ug/L	1		8260B/CA_LUFT MS	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: A-4 (Continued) — Lab Sample ID: 720-68088-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
TBA	1500		20		ug/L	1		8260B/CA_LUFT MS	Total/NA
TAME	8.1		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: AR-3 — Lab Sample ID: 720-68088-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	2.3		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

This Detection Summary does not include radiochemical test results.

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-5
Date Collected: 10/19/15 13:00
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	**2.0**		0.50		ug/L			10/28/15 11:43	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			10/28/15 11:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*67 - 130*		*10/28/15 11:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*72 - 130*		*10/28/15 11:43*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*10/28/15 11:43*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-12
Date Collected: 10/19/15 10:15
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**1.6**		0.50		ug/L			10/29/15 02:18	1
Benzene	ND		0.50		ug/L			10/29/15 02:18	1
EDB	ND		0.50		ug/L			10/29/15 02:18	1
1,2-DCA	ND		0.50		ug/L			10/29/15 02:18	1
Ethylbenzene	ND		0.50		ug/L			10/29/15 02:18	1
Toluene	ND		0.50		ug/L			10/29/15 02:18	1
Xylenes, Total	ND		1.0		ug/L			10/29/15 02:18	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			10/29/15 02:18	1
TBA	ND		20		ug/L			10/29/15 02:18	1
Ethanol	ND		500		ug/L			10/29/15 02:18	1
DIPE	ND		0.50		ug/L			10/29/15 02:18	1
TAME	ND		0.50		ug/L			10/29/15 02:18	1
Ethyl t-butyl ether	ND		0.50		ug/L			10/29/15 02:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*67 - 130*		*10/29/15 02:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*87*		*72 - 130*		*10/29/15 02:18*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*10/29/15 02:18*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-10
Date Collected: 10/19/15 10:50
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	7.6		0.50		ug/L			10/27/15 13:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*67 - 130*		*10/27/15 13:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*72 - 130*		*10/27/15 13:26*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*10/27/15 13:26*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-8
Date Collected: 10/19/15 11:05
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**11**		2.5		ug/L			10/29/15 11:37	5
Benzene	**95**		2.5		ug/L			10/29/15 11:37	5
EDB	ND		2.5		ug/L			10/29/15 11:37	5
1,2-DCA	ND		2.5		ug/L			10/29/15 11:37	5
Ethylbenzene	ND		2.5		ug/L			10/29/15 11:37	5
Toluene	ND		2.5		ug/L			10/29/15 11:37	5
Xylenes, Total	ND		5.0		ug/L			10/29/15 11:37	5
Gasoline Range Organics (GRO) -C6-C12	**830**		250		ug/L			10/29/15 11:37	5
TBA	**220**		100		ug/L			10/29/15 11:37	5
Ethanol	ND		2500		ug/L			10/29/15 11:37	5
DIPE	ND		2.5		ug/L			10/29/15 11:37	5
TAME	**4.5**		2.5		ug/L			10/29/15 11:37	5
Ethyl t-butyl ether	ND		2.5		ug/L			10/29/15 11:37	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*67 - 130*		*10/29/15 11:37*	*5*
1,2-Dichloroethane-d4 (Surr)	*103*		*72 - 130*		*10/29/15 11:37*	*5*
Toluene-d8 (Surr)	*99*		*70 - 130*		*10/29/15 11:37*	*5*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-3
Date Collected: 10/19/15 11:45
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/27/15 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*67 - 130*		*10/27/15 13:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*72 - 130*		*10/27/15 13:56*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*10/27/15 13:56*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-2
Date Collected: 10/19/15 12:05
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	7.8		0.50		ug/L			10/27/15 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*67 - 130*		*10/27/15 14:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*72 - 130*		*10/27/15 14:25*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*10/27/15 14:25*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-7
Date Collected: 10/19/15 12:45
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/27/15 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*10/27/15 14:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*72 - 130*		*10/27/15 14:54*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*10/27/15 14:54*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-4
Date Collected: 10/19/15 13:20
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**31**		0.50		ug/L			10/29/15 03:14	1
Benzene	ND		0.50		ug/L			10/29/15 03:14	1
EDB	ND		0.50		ug/L			10/29/15 03:14	1
1,2-DCA	ND		0.50		ug/L			10/29/15 03:14	1
Ethylbenzene	ND		0.50		ug/L			10/29/15 03:14	1
Toluene	**0.84**		0.50		ug/L			10/29/15 03:14	1
Xylenes, Total	**3.0**		1.0		ug/L			10/29/15 03:14	1
Gasoline Range Organics (GRO) -C6-C12	**1500**		50		ug/L			10/29/15 03:14	1
TBA	**1500**		20		ug/L			10/29/15 03:14	1
Ethanol	ND		500		ug/L			10/29/15 03:14	1
DIPE	ND		0.50		ug/L			10/29/15 03:14	1
TAME	**8.1**		0.50		ug/L			10/29/15 03:14	1
Ethyl t-butyl ether	ND		0.50		ug/L			10/29/15 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*67 - 130*		*10/29/15 03:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*72 - 130*		*10/29/15 03:14*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*10/29/15 03:14*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: AR-3
Date Collected: 10/19/15 00:00
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**2.3**		0.50		ug/L			10/29/15 03:42	1
Benzene	ND		0.50		ug/L			10/29/15 03:42	1
EDB	ND		0.50		ug/L			10/29/15 03:42	1
1,2-DCA	ND		0.50		ug/L			10/29/15 03:42	1
Ethylbenzene	ND		0.50		ug/L			10/29/15 03:42	1
Toluene	ND		0.50		ug/L			10/29/15 03:42	1
Xylenes, Total	ND		1.0		ug/L			10/29/15 03:42	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			10/29/15 03:42	1
TBA	ND		20		ug/L			10/29/15 03:42	1
Ethanol	ND		500		ug/L			10/29/15 03:42	1
DIPE	ND		0.50		ug/L			10/29/15 03:42	1
TAME	ND		0.50		ug/L			10/29/15 03:42	1
Ethyl t-butyl ether	ND		0.50		ug/L			10/29/15 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*67 - 130*		*10/29/15 03:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*72 - 130*		*10/29/15 03:42*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*10/29/15 03:42*	*1*

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(67-130)	(72-130)	(70-130)
720-68088-1	A-5	100	105	97
720-68088-2	A-12	92	87	98
720-68088-3	A-10	100	105	97
720-68088-3 MS	A-10	102	100	100
720-68088-3 MSD	A-10	102	98	101
720-68088-4	A-8	99	103	99
720-68088-5	A-3	95	109	97
720-68088-6	A-2	98	111	96
720-68088-7	A-7	96	110	98
720-68088-8	A-4	102	90	100
720-68088-9	AR-3	93	89	100
LCS 720-191473/5	Lab Control Sample	99	100	97
LCS 720-191566/5	Lab Control Sample	99	99	99
LCS 720-191566/7	Lab Control Sample	105	107	99
LCS 720-191610/5	Lab Control Sample	95	85	101
LCS 720-191610/7	Lab Control Sample	97	89	101
LCS 720-191634/5	Lab Control Sample	95	98	99
LCS 720-191634/7	Lab Control Sample	97	101	98
LCSD 720-191473/6	Lab Control Sample Dup	97	98	97
LCSD 720-191566/6	Lab Control Sample Dup	102	100	101
LCSD 720-191566/8	Lab Control Sample Dup	103	106	99
LCSD 720-191610/6	Lab Control Sample Dup	93	86	100
LCSD 720-191610/8	Lab Control Sample Dup	95	89	101
LCSD 720-191634/6	Lab Control Sample Dup	95	99	99
LCSD 720-191634/8	Lab Control Sample Dup	97	106	98
MB 720-191473/4	Method Blank	94	102	94
MB 720-191566/4	Method Blank	98	100	97
MB 720-191610/4	Method Blank	93	88	99
MB 720-191634/4	Method Blank	93	100	96

Surrogate Legend

BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

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

Lab Sample ID: MB 720-191473/4
Matrix: Water
Analysis Batch: 191473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/27/15 08:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*67 - 130*		*10/27/15 08:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*72 - 130*		*10/27/15 08:35*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*10/27/15 08:35*	*1*

Lab Sample ID: LCS 720-191473/5
Matrix: Water
Analysis Batch: 191473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methyl tert-butyl ether			25.0	24.7		ug/L		99	62 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 720-191473/6
Matrix: Water
Analysis Batch: 191473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether			25.0	24.0		ug/L		96	62 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: 720-68088-3 MS
Matrix: Water
Analysis Batch: 191473

Client Sample ID: A-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methyl tert-butyl ether	7.6		25.0	33.3		ug/L		103	60 - 138		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: 720-68088-3 MSD
Matrix: Water
Analysis Batch: 191473

Client Sample ID: A-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	7.6		25.0	32.6		ug/L		100	60 - 138	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 720-191566/4
Matrix: Water
Analysis Batch: 191566

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/28/15 09:18	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			10/28/15 09:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*67 - 130*		*10/28/15 09:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*10/28/15 09:18*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*10/28/15 09:18*	*1*

Lab Sample ID: LCS 720-191566/5
Matrix: Water
Analysis Batch: 191566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methyl tert-butyl ether			25.0	24.6		ug/L		98	62 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*72 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCS 720-191566/7
Matrix: Water
Analysis Batch: 191566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C12			500	530		ug/L		106	58 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*72 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-191566/6
Matrix: Water
Analysis Batch: 191566

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether			25.0	26.6		ug/L		107	62 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 720-191566/8
Matrix: Water
Analysis Batch: 191566

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12			500	528		ug/L		106	58 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*106*		*72 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 720-191610/4
Matrix: Water
Analysis Batch: 191610

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		0.50		ug/L			10/28/15 19:18	1
Benzene	ND		0.50		ug/L			10/28/15 19:18	1
EDB	ND		0.50		ug/L			10/28/15 19:18	1
1,2-DCA	ND		0.50		ug/L			10/28/15 19:18	1
Ethylbenzene	ND		0.50		ug/L			10/28/15 19:18	1
Toluene	ND		0.50		ug/L			10/28/15 19:18	1
Xylenes, Total	ND		1.0		ug/L			10/28/15 19:18	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			10/28/15 19:18	1
TBA	ND		20		ug/L			10/28/15 19:18	1
Ethanol	ND		500		ug/L			10/28/15 19:18	1
DIPE	ND		0.50		ug/L			10/28/15 19:18	1
TAME	ND		0.50		ug/L			10/28/15 19:18	1
Ethyl t-butyl ether	ND		0.50		ug/L			10/28/15 19:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*67 - 130*		*10/28/15 19:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*72 - 130*		*10/28/15 19:18*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*10/28/15 19:18*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-191610/5
Matrix: Water
Analysis Batch: 191610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MTBE	25.0	25.3		ug/L		101	62 - 130
Benzene	25.0	26.5		ug/L		106	79 - 130
EDB	25.0	27.8		ug/L		111	70 - 130
1,2-DCA	25.0	23.7		ug/L		95	61 - 132
Ethylbenzene	25.0	26.2		ug/L		105	80 - 120
Toluene	25.0	25.6		ug/L		102	78 - 120
m-Xylene & p-Xylene	25.0	25.6		ug/L		102	70 - 142
o-Xylene	25.0	25.5		ug/L		102	70 - 130
TBA	250	251		ug/L		100	70 - 130
Ethanol	1000	979		ug/L		98	31 - 216
DIPE	25.0	28.1		ug/L		112	69 - 134
TAME	25.0	26.9		ug/L		108	79 - 130
Ethyl t-butyl ether	25.0	26.2		ug/L		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*85*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCS 720-191610/7
Matrix: Water
Analysis Batch: 191610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	500	473		ug/L		95	58 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*89*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 720-191610/6
Matrix: Water
Analysis Batch: 191610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MTBE	25.0	25.3		ug/L		101	62 - 130	0	20
Benzene	25.0	26.6		ug/L		106	79 - 130	0	20
EDB	25.0	27.8		ug/L		111	70 - 130	0	20
1,2-DCA	25.0	23.6		ug/L		94	61 - 132	0	20
Ethylbenzene	25.0	26.0		ug/L		104	80 - 120	1	20
Toluene	25.0	25.7		ug/L		103	78 - 120	1	20
m-Xylene & p-Xylene	25.0	25.4		ug/L		102	70 - 142	0	20
o-Xylene	25.0	25.5		ug/L		102	70 - 130	0	20
TBA	250	255		ug/L		102	70 - 130	1	20
Ethanol	1000	994		ug/L		99	31 - 216	2	30
DIPE	25.0	28.5		ug/L		114	69 - 134	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-191610/6
Matrix: Water
Analysis Batch: 191610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TAME			25.0	26.1		ug/L		105	79 - 130	3	20
Ethyl t-butyl ether			25.0	26.4		ug/L		106	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*86*		*72 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 720-191610/8
Matrix: Water
Analysis Batch: 191610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12			500	482		ug/L		96	58 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*89*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 720-191634/4
Matrix: Water
Analysis Batch: 191634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		0.50		ug/L			10/29/15 09:04	1
Benzene	ND		0.50		ug/L			10/29/15 09:04	1
EDB	ND		0.50		ug/L			10/29/15 09:04	1
1,2-DCA	ND		0.50		ug/L			10/29/15 09:04	1
Ethylbenzene	ND		0.50		ug/L			10/29/15 09:04	1
Toluene	ND		0.50		ug/L			10/29/15 09:04	1
Xylenes, Total	ND		1.0		ug/L			10/29/15 09:04	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			10/29/15 09:04	1
TBA	ND		20		ug/L			10/29/15 09:04	1
Ethanol	ND		500		ug/L			10/29/15 09:04	1
DIPE	ND		0.50		ug/L			10/29/15 09:04	1
TAME	ND		0.50		ug/L			10/29/15 09:04	1
Ethyl t-butyl ether	ND		0.50		ug/L			10/29/15 09:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*67 - 130*		*10/29/15 09:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*10/29/15 09:04*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*10/29/15 09:04*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-191634/5
Matrix: Water
Analysis Batch: 191634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MTBE	25.0	23.3		ug/L		93	62 - 130
Benzene	25.0	22.5		ug/L		90	79 - 130
EDB	25.0	25.8		ug/L		103	70 - 130
1,2-DCA	25.0	23.4		ug/L		94	61 - 132
Ethylbenzene	25.0	22.8		ug/L		91	80 - 120
Toluene	25.0	22.2		ug/L		89	78 - 120
m-Xylene & p-Xylene	25.0	22.0		ug/L		88	70 - 142
o-Xylene	25.0	22.0		ug/L		88	70 - 130
TBA	250	274		ug/L		110	70 - 130
Ethanol	1000	1050		ug/L		105	31 - 216
DIPE	25.0	22.8		ug/L		91	69 - 134
TAME	25.0	24.9		ug/L		99	79 - 130
Ethyl t-butyl ether	25.0	24.0		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCS 720-191634/7
Matrix: Water
Analysis Batch: 191634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	500	509		ug/L		102	58 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*101*		*72 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 720-191634/6
Matrix: Water
Analysis Batch: 191634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MTBE	25.0	23.7		ug/L		95	62 - 130	2	20
Benzene	25.0	22.3		ug/L		89	79 - 130	1	20
EDB	25.0	25.7		ug/L		103	70 - 130	0	20
1,2-DCA	25.0	26.4		ug/L		105	61 - 132	12	20
Ethylbenzene	25.0	22.3		ug/L		89	80 - 120	2	20
Toluene	25.0	21.9		ug/L		88	78 - 120	1	20
m-Xylene & p-Xylene	25.0	21.7		ug/L		87	70 - 142	2	20
o-Xylene	25.0	21.8		ug/L		87	70 - 130	1	20
TBA	250	268		ug/L		107	70 - 130	2	20
Ethanol	1000	1010		ug/L		101	31 - 216	3	30
DIPE	25.0	22.8		ug/L		91	69 - 134	0	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-191634/6
Matrix: Water
Analysis Batch: 191634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TAME			25.0	24.9		ug/L		100	79 - 130	0	20
Ethyl t-butyl ether			25.0	24.3		ug/L		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*72 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 720-191634/8
Matrix: Water
Analysis Batch: 191634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12			500	504		ug/L		101	58 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*106*		*72 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

GC/MS VOA

Analysis Batch: 191473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-68088-3	A-10	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-3 MS	A-10	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-3 MSD	A-10	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-5	A-3	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-6	A-2	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-7	A-7	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-191473/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191473/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-191473/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 191566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-68088-1	A-5	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-191566/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-191566/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191566/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191566/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-191566/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 191610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-68088-2	A-12	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-8	A-4	Total/NA	Water	8260B/CA_LUFT MS	
720-68088-9	AR-3	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-191610/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-191610/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191610/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191610/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-191610/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 191634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-68088-4	A-8	Total/NA	Water	8260B/CA_LUFT MS	

GC/MS VOA (Continued)

Analysis Batch: 191634 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-191634/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-191634/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191634/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-191634/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-191634/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-5
Date Collected: 10/19/15 13:00
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191566	10/28/15 11:43	PRD	TAL PLS

Client Sample ID: A-12
Date Collected: 10/19/15 10:15
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191610	10/29/15 02:18	PRD	TAL PLS

Client Sample ID: A-10
Date Collected: 10/19/15 10:50
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191473	10/27/15 13:26	PRD	TAL PLS

Client Sample ID: A-8
Date Collected: 10/19/15 11:05
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		5	191634	10/29/15 11:37	PRD	TAL PLS

Client Sample ID: A-3
Date Collected: 10/19/15 11:45
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191473	10/27/15 13:56	PRD	TAL PLS

Client Sample ID: A-2
Date Collected: 10/19/15 12:05
Date Received: 10/19/15 14:30

Lab Sample ID: 720-68088-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191473	10/27/15 14:25	PRD	TAL PLS

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Client Sample ID: A-7

Lab Sample ID: 720-68088-7

Date Collected: 10/19/15 12:45
Date Received: 10/19/15 14:30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191473	10/27/15 14:54	PRD	TAL PLS

Client Sample ID: A-4

Lab Sample ID: 720-68088-8

Date Collected: 10/19/15 13:20
Date Received: 10/19/15 14:30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191610	10/29/15 03:14	PRD	TAL PLS

Client Sample ID: AR-3

Lab Sample ID: 720-68088-9

Date Collected: 10/19/15 00:00
Date Received: 10/19/15 14:30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	191610	10/29/15 03:42	PRD	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS

Protocol References:

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

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #4931, Oakland

TestAmerica Job ID: 720-68088-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-68088-1	A-5	Water	10/19/15 13:00	10/19/15 14:30
720-68088-2	A-12	Water	10/19/15 10:15	10/19/15 14:30
720-68088-3	A-10	Water	10/19/15 10:50	10/19/15 14:30
720-68088-4	A-8	Water	10/19/15 11:05	10/19/15 14:30
720-68088-5	A-3	Water	10/19/15 11:45	10/19/15 14:30
720-68088-6	A-2	Water	10/19/15 12:05	10/19/15 14:30
720-68088-7	A-7	Water	10/19/15 12:45	10/19/15 14:30
720-68088-8	A-4	Water	10/19/15 13:20	10/19/15 14:30
720-68088-9	AR-3	Water	10/19/15 00:00	10/19/15 14:30

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

720-68088

TESTAMERICA Pleasanton Chain of Custody
1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 16 4476

Date 10/9/15 Page 1 of 1

10/29/2015

Report To

Attn:
Company: Broadbent and Associates
Address: 4820 Business Center Dr. Suite 110
Email: amartinez@broadbentinc.com
Bill To:
Sampled By: Jessica Collado
Attn:
Phone: 707-455-7290

Analysis Request

Sample ID	Date	Time	Matrix	Preserv	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B	HVOCs by ☐ EPA 8260B	EPA 8260B ☐ Gas ☐ BTEX ☐ 5 Oxygenates ☐ DCA, EDB ☐ Ethanol	TEPH EPA 8015B ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	SemiVolatile Organics GC/MS ☐ EPA 8270C	PNA/PAH's by ☐ 8270C ☐ 8270C SIM	Oil and Grease (EPA 1664/9071) ☐ Petroleum ☐ Total	Pesticides ☐ EPA 8081 PCBs ☐ EPA 8082	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ 6010B ☐ 200.7 ☐ Lead ☐ LUFT ☐ RCRA Other:	Metals: ☐ 6020 ☐ 200.8 (ICP-MS)	W.E.T (STLC) W.E.T (DI) ☐ TCLP	Hex Chrom by ☐ EPA 7196 ☐ or EPA 7199	pH ☐ 9040 ☐ SM4500	☐ Spec. Cond. ☐ Alkalinity ☐ TSS ☐ SS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	☐ Perchlorate by EPA 314.0	COD ☐ EPA 410.4 ☐ SM5220D ☐ Turbidity	MTBE	8260	Number of Containers
A-5	10/9/15	1300			X		X															X	X	3
A-12		1015					✓																	3
A-10		1050			X		X															X		3
A-8		1105					✓																	3
A-3		1145			X		X															X		3
A-2		1205			X		X															X		3
A-7		1245			X		X															X		3
A-4		1320					✓																	3
AR-3							✓																	3
TB																								2

Project Info.

Project Name/ #: Arcadia 4931
PO#:
Credit Card Y/N: If yes, please call with payment information ASAP

Sample Receipt

of Containers: 27
Head Space:
Temp: 14.2 C°

TAT: (10 Day) 5 Day | 4 Day | 3 Day | 2 Day | 1 Day | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ EDF
Special Instructions / Comments: ☐ Global ID

See Terms and Conditions on reverse

1) Relinquished by: Signature — Time 1430
Printed Name: Jessica Collado — Date 10/9/15
Company: Broadbent

2) Relinquished by: Signature — Time
Printed Name — Date
Company

3) Relinquished by: Signature — Time
Printed Name — Date
Company

720-68088 Chain of Custody

1) Received by: Signature — Time 1430
Printed Name: Dennis Avalos — Date 10/9/15
Company: TA

2) Received by: Signature — Time
Printed Name — Date
Company

3) Received by: Signature — Time
Printed Name — Date
Company

Rev.10/2012

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 720-68088-1

Login Number: 68088
List Number: 1
Creator: Arauz, Dennis

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

Submittal Type:	**GEO_REPORT**
Report Title:	**Second Quarter 2015 and Third Quarter 2015 Semi-Annual Groundwater Monitoring Report 120115**
Report Type:	**Request for Closure**
Report Date:	**12/1/2015**
Facility Global ID:	**T0600100110**
Facility Name:	**ARCO #04931**
File Name:	**CA 4931 151130 BP- 2Q15-3Q15 SAGWMR.pdf**
Organization Name:	**ARCADIS**
Username:	**ARCADISBP**
IP Address:	**108.171.135.189**
Submittal Date/Time:	**12/1/2015 10:12:47 AM**
Confirmation Number:	**2553931891**