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ARCADIS U.S., Inc.
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Third Quarter 2012

Semiannual Groundwater Monitoring Report
Former BP Station #11109,
4280 Foothill Blvd
Oakland, California
ACEH Case #RO0000426

ENVIRONMENT

"I declare that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Date:
October 30, 2012

Submitted by:

Contact:
Hollis E. Phillips

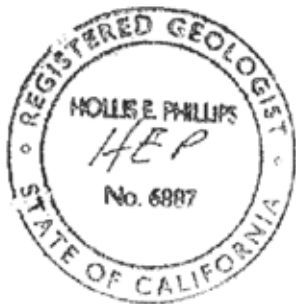
ARCADIS U.S., Inc

Phone:
415.432.6903

Email:
Hollis.phillips@arcadis-us.com

Hollis E. Phillips, PG
Project Manager

Our ref:
GP09BPNA.C106



Imagine the result



Ms. Dilan Roe, P.E.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject:

Third Quarter 2012
Quarterly Groundwater Monitoring and Remediation Progress Report
Former BP Station #11109,
4280 Foothill Blvd, Oakland, California
ACEH Case #RO0000426

Dear Ms. Roe:

ARCADIS U.S., Inc. (ARCADIS) has prepared this *Third Quarter 2012* groundwater monitoring report (GMR) to document the results of groundwater monitoring and sampling at the station #11109 located at 4280 Foothill Boulevard in Oakland, Alameda County, 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 is provided below.

Work Performed – This Quarter (July 01, 2012 to September 30, 2012)

- Performed a two week DPE pilot test including light non-aqueous phase liquid (LNAPL) removal from July 16-30, 2012 as proposed in the *Feasibility Study and Corrective Action Plan* (ARCADIS 2011). The results will be discussed in a separate report.
- Conducted Third Quarter 2012 semi-annual groundwater monitoring event on September 5, 2012.
- Conducted LNAPL removal activities on September 13, 2012. Currently waiting for regulatory approval to resume these activities.

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ENVIRONMENT

Date:
October 30, 2012

Contact:
Arpen Shah

Phone:
415.432.6916

Email:
Arpen.Shah@arcadis-us.com

Our ref:
GP09BPNA.C106.N0000

Work Proposed – Next Quarter (October 01, 2012 to December 31, 2012)

- Submit the second semi-annual report documenting the *Third Quarter 2012 semi-annual groundwater monitoring results*.
- Prepare for semiannual groundwater monitoring activities to be conducted in First Quarter 2013.

2. Groundwater Monitoring/Sampling Activities and Results

Third Quarter 2012 groundwater monitoring was conducted on September 5, 2012 by Broadbent & Associates, Inc. (BAI) personnel. LNAPL was observed in wells MW-5 (1.40 ft), MW-10 (0.01 ft) and MW-12 (1.43 ft). MW-8 could not be located and BAI personnel noted that Foothill Blvd appeared to have been recently paved. No other irregularities were noted during water level gauging. Depth to water measurements ranged from 10.25 ft at MW-10 to 15.90 ft at MW-4. Resulting groundwater surface elevations ranged from 26.98 ft at MW-4 to 32.88 ft at MW-9. Water level elevations yielded a potentiometric groundwater gradient to the west-northwest at approximately 0.035 ft/ft. Field methods used during groundwater monitoring are provided in Appendix A, and field data sheets are included in Appendix B. Groundwater elevations are summarized in Table 1, and a groundwater elevation contour map is presented in Figure 2.

Groundwater samples were collected on September 5, 2012 from wells MW-3, MW-4, MW-6, MW-7, and MW-11 using low-flow sampling methodology. Samples were not collected from wells MW-5, MW-10, and MW-12 due to the presence of LNAPL. No irregularities were reported during sampling. Samples were submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. (Pleasanton, California) for analysis of Gasoline-Range Organics (GRO, C6-C12) by EPA Method 8015M (MW-4, MW-7, MW-11); for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Ethyl Tertiary Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Tert-Butyl Alcohol (TBA) and Ethanol by EPA Method 8260 (MW-7, MW-11); and Methyl Tertiary Butyl Ether (MTBE) by EPA Method 8260 (MW-3, MW-4, MW-6). No significant irregularities were encountered during analysis of the samples. The laboratory analytical report, including chain-of-custody documentation, is provided in Appendix C.

Groundwater monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix D.

3. LNAPL Baildown Activities

Following sampling activities, BAI conducted LNAPL removal on September 13, 2012. Field personnel removed free product from wells that contained product during sampling activities (MW-5, MW-10, and MW-12). The product thickness measured prior to bailing ranged from 0.01 ft in MW-10 to 1.30 ft in MW-12. Approximately 14 gallons of LNAPL/water mixture was removed from the wells. A summary of LNAPL removal data is presented in Table 3.

4. Discussion/Conclusions

- Groundwater levels were between historic minimum and maximum elevations for all wells monitored. Groundwater elevations yielded a potentiometric groundwater flow direction and horizontal gradient to the north-northwest at approximately 0.005 ft/ft, generally consistent with the historic flow direction and gradient data presented in Table 2.
- Groundwater analytical results are presented in Table 1. A groundwater analytical summary map is presented as Figure 3.
 - GRO was detected in three wells ranging from 56 µg/L (MW-4) to 22,000 µg/L (MW-11).
 - Benzene was detected in two wells with concentrations of 16 µg/L (MW-7) and 1,000 µg/L (MW-11)
 - Toluene was detected in two wells with concentrations of 1.3 µg/L (MW-7) and 1,600 µg/L (MW-11)
 - Ethylbenzene was detected in two wells with concentrations of 0.66 µg/L (MW-7) and 1,200 µg/L (MW-11)
 - Total Xylenes was detected in two wells with concentrations of 1.4 µg/L (MW-7) and 4,500 µg/L (MW-11)
 - MTBE was detected in five wells ranging from 2.1 µg/L (MW-6) to 47 µg/L (MW-4)
 - Concentrations of GRO and BTEX at MW-11 were an order magnitude higher than concentrations detected in first quarter 2012. Concentrations were the highest observed since first quarter 2009.
 - Concentrations detected at MW-6 and MW-7 are consistent with historical data.

5. Recommendations

ARCADIS recommends continued groundwater monitoring and sampling on a semi-annual basis in accordance with the approved schedule. HydraSleeve™ sampling methodology will be utilized during the next scheduled groundwater monitoring and sampling event. In addition, ARCADIS proposes to bail product from wells that contain LNAPL (MW-5, MW-10, and MW-12) on a monthly basis for three consecutive months, as described in October 11, 2012 letter to ACEH.

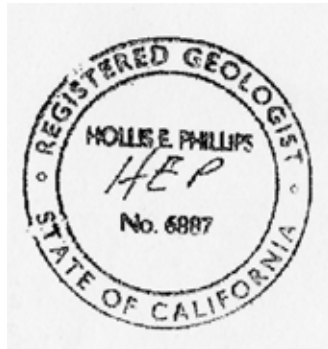
6. Limitations

The findings presented in this report are based upon observations of field personnel, points investigated, results of laboratory tests performed by TestAmerica Laboratories, Inc. (Pleasanton, California), and our understanding of Alameda County Environmental Health (ACEH) requirements. Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of ARCADIS-US, Inc. and Atlantic Richfield Company. It is possible that variations in soil or groundwater conditions could exist beyond points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

If you have any questions or comments regarding the contents of this report, please contact Arpen Shah by telephone (415.432.6916) or by e-mail (Arpen.Shah@arcadis-us.com), or contact Hollis Phillips by telephone (415.432.6903) or by e-mail (Hollis.Phillips@arcadis-us.com).

Sincerely,

ARCADIS



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

ATTACHMENTS:

- Figure 1: Site Location Map
- Figure 2: Groundwater Elevation Map, September 5, 2012
- Figure 3: Analytical Summary Map, September 5, 2012

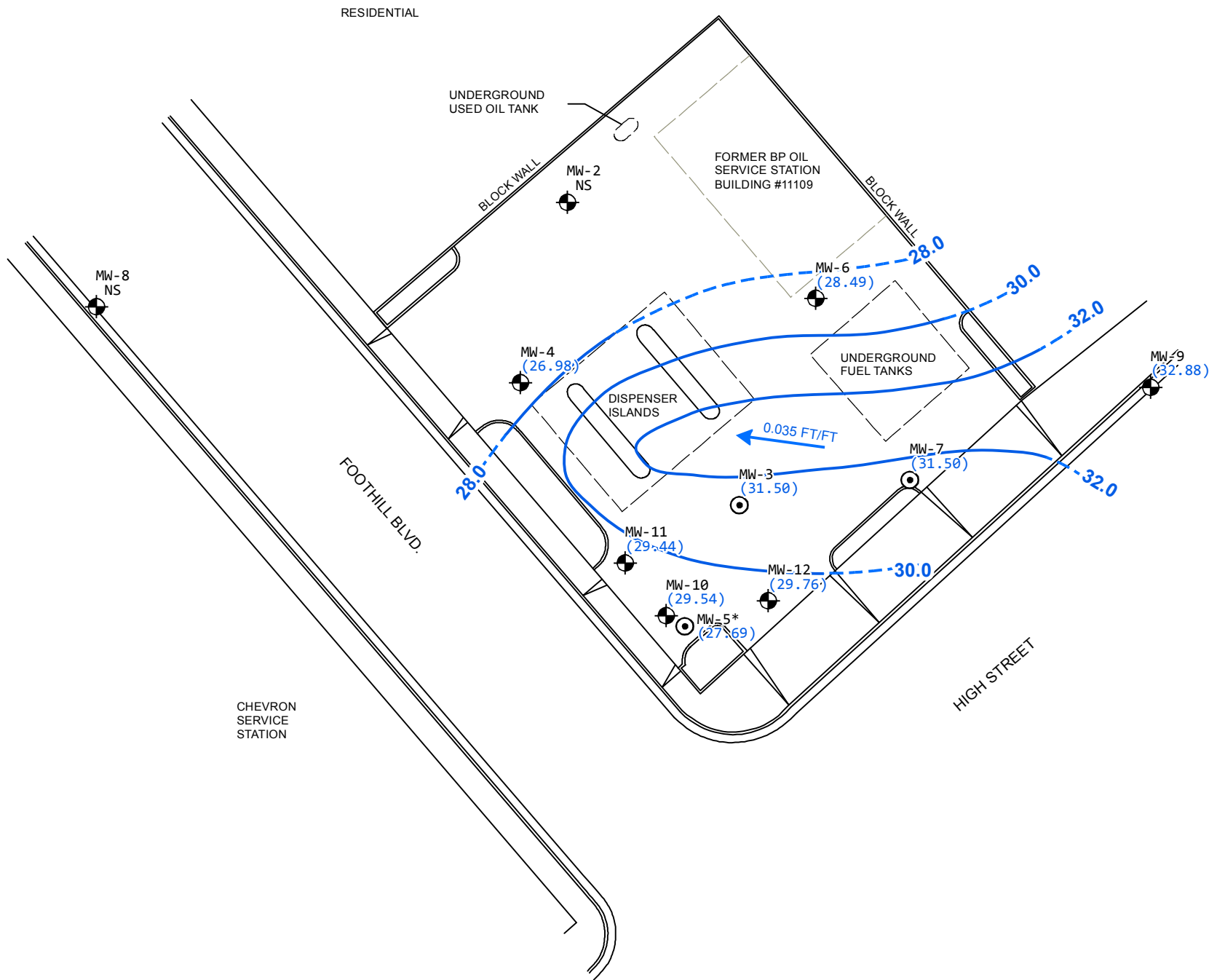
- Table 1: Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
- Table 2: Historical Groundwater Flow Direction and Gradient
- Table 3: Summary of LNAPL Removal

- Appendix A: Field Methods
- Appendix B: Field Data Sheets
- Appendix C: Laboratory Report and Chain-of-Custody Documentation
- Appendix D: GeoTracker Upload Confirmation Receipts

LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:

- | | | | |
|----------|---|--------|--------------------------------|
| ACEH: | Alameda County Environmental Health | ft/ft: | feet per foot |
| BAI: | Broadbent & Associates, Inc. | gal: | Gallons |
| BTEX: | Benzene, Toluene, Ethylbenzene, Total Xylenes | GRO: | Gasoline-Range Organics |
| 1,2-DCA: | 1,2-Dichloroethane | LNAPL: | Light Non-Aqueous Phase Liquid |
| DIPE: | Di-Isopropyl Ether | MTBE: | Methyl Tertiary Butyl Ether |
| DO: | Dissolved Oxygen | TAME: | Tert-Amyl Methyl Ether |
| DRO: | Diesel-Range Organics | TBA: | Tertiary Butyl Ether |
| EDB: | 1,2-Dibromomethane | TOC: | Top of Casing |
| EPA: | Environmental Protection Agency | mg/L: | Micrograms per liter |
| ETBE: | Ethyl Tertiary Butyl Ether | | |

Figures

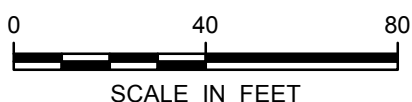


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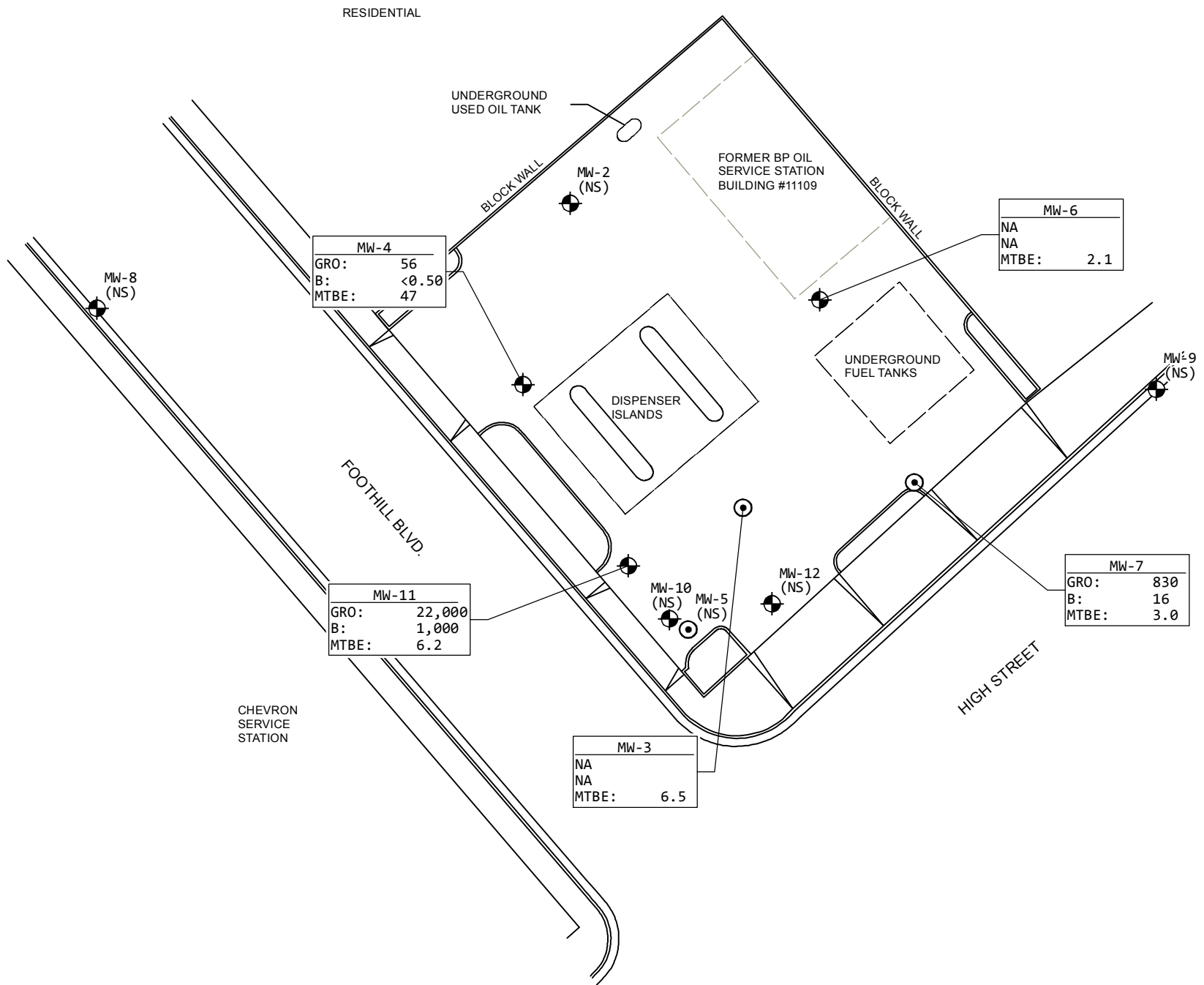
- MONITORING WELL
- RECOVERY WELL
- (28.49) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- 32.0 GROUNDWATER ELEVATION CONTOUR LINE (DASHED WHERE INFERRED)
- 0.035 FT/FT → GROUNDWATER FLOW DIRECTION (FOOT PER FOOT)
- NS NOT SAMPLED
- * NOT USED IN CONTOURING

NOTES:

1. BASE MAP PROVIDED BY BROADBENT & ASSOCIATES, INC. DATED 10/26/2009, REFERENCE 06-88-646, AT A SCALE OF 1"=40'.



FORMER BP STATION #11109 4280 FOOTHILL BOULEVARD OAKLAND, CALIFORNIA	
GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 5, 2012	
	FIGURE 2



LEGEND:

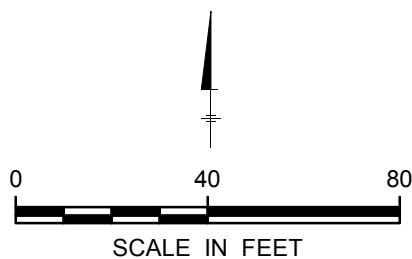
- ⊕ MONITORING WELL
- ⊙ RECOVERY WELL

MW-1	SAMPLE LOCATION ID
GRO: <100	CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
B: <5.0	
MTBE: <5.0	
	ANALYTE

- GRO GASOLINE RANGE ORGANICS
- B BENZENE
- MTBE METHYL TERTIARY-BUTYL ETHER
- < NOT DETECTED AT OR ABOVE STATED LABORATORY REPORTING LIMIT
- NS NOT SAMPLED
- NA NOT ANALYZED

NOTES:

1. BASE MAP PROVIDED BY BROADBENT & ASSOCIATES, INC. DATED 10/26/2009, REFERENCE 06-88-646, AT A SCALE OF 1"=40'.



FORMER BP STATION #11109
 4280 FOOTHILL BOULEVARD
 OAKLAND, CALIFORNIA

**ANALYTICAL SUMMARY MAP
 SEPTEMBER 5, 2012**





Tables

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-1	1/31/1990		38.19	15.41	22.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	9/16/2010		--	--	--	--	5,500	400	250	320	410	11	<20	<2.5	<2.5	<2.5	<500	<2.5	<2.5
MW-2	2/5/1990		41.22	21.90	19.32	--	1,300	14	<0.1	9	13	--	--	--	--	--	--	--	--
MW-2	2/14/1991		41.22	21.16	20.06	<10,000	<50	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-2	5/13/1991		41.22	21.32	19.90	<50	<50	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-2	7/24/1991		41.22	22.92	18.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	10/3/1991		41.22	24.90	16.32	<50	<50	<0.3	0.8	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-2	10/15/1991		41.22	24.10	17.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/16/1991		41.22	23.95	17.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/6/1992		41.22	23.30	17.92	<50	<50	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-2	1/22/1992		41.22	23.14	18.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/28/1992		41.22	22.99	18.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	2/5/1992		41.22	22.63	18.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	2/12/1992		41.22	22.04	19.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	2/17/1992		41.22	20.84	20.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/3/1992		41.22	18.29	22.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/8/1992		41.22	18.86	22.36	63	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	4/14/1992		41.22	19.45	21.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/20/1992		41.22	20.35	20.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	5/7/1992		41.22	20.84	20.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	7/3/1992		41.22	22.34	18.88	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	10/8/1992		41.22	23.73	17.49	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	12/31/1992		41.22	21.12	20.10	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	4/21/1993	a	41.22	17.68	23.54	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	7/7/1993		41.22	20.30	20.92	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	9/21/1993		41.22	21.93	19.29	--	<50	0.9	0.7	0.7	2.6	21.54	--	--	--	--	--	--	--
MW-2	12/17/1993		41.22	21.48	19.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/23/1993		--	--	--	--	<50	<0.5	<0.5	<0.5	0.7	--	--	--	--	--	--	--	--
MW-2	4/7/1994		41.22	20.25	20.97	--	<50	<0.5	<0.5	<0.5	<0.5	12.2	--	--	--	--	--	--	--
MW-2	7/6/1994		41.22	20.59	20.63	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	10/7/1994		41.22	22.04	19.18	--	<50	<0.5	<0.5	<0.5	<0.5	15.2	--	--	--	--	--	--	--
MW-2	1/27/1995		41.22	26.12	15.10	440	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-2	3/30/1995		41.22	12.34	28.88	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-2	6/20/1995		41.22	16.42	24.80	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-2	10/3/1995		41.22	20.06	21.16	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--
MW-2	12/6/1995		41.22	21.31	19.91	--	<50	<0.50	<0.50	<0.50	<1.0	46	--	--	--	--	--	--	--
MW-2	3/21/1996		41.22	12.28	28.94	--	<50	<0.5	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	--
MW-2	6/21/1996		41.22	13.28	27.94	--	<50	<0.5	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	--
MW-2	9/6/1996		41.22	13.94	27.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	9/9/1996		--	--	--	--	<50	<1.0	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-2	12/19/1996		41.22	12.19	29.03	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-2	3/17/1997		41.22	11.59	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	8/12/1997		41.22	13.21	28.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/10/1997		41.22	12.34	28.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/12/1998		41.22	11.04	30.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	6/23/1998		41.22	11.77	29.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/31/1999		41.22	12.38	28.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	8/25/1999		41.22	17.72	23.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/9/2000		41.22	11.94	29.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/8/2001		41.22	10.31	30.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/8/2002		41.22	14.35	26.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/19/2002		41.22	13.11	28.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/11/2003		41.22	13.24	27.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/9/2003	b	41.22	18.58	22.84	--	350	<0.50	<0.50	0.56	2.8	24	<20	<0.50	<0.50	<0.50	<100	--	--
MW-2	3/9/2004		41.22	12.52	28.70	--	74	<0.50	<0.50	0.83	4.7	27	<20	<0.50	<0.50	<100	<0.50	<0.50	<0.50
MW-2	9/17/2004		41.22	18.05	23.17	--	59	<0.50	<0.50	<0.50	<0.50	21	<20	<0.50	<0.50	<100	<0.50	<0.50	<0.50
MW-2	3/7/2005	c	41.22	2.32	38.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	9/5/2006	c	41.22	10.46	30.76	--	79	<0.50	5.1	<0.50	0.73	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-2	3/5/2007	c	41.22	12.25	28.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/6/2008	d	41.22	12.33	28.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	9/5/2012	d	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/5/1990		40.74	17.45	23.29	--	1,400	15	<2.5	11	8	--	--	--	--	--	--	--	--
MW-3	2/14/1991		40.74	18.52	22.22	--	320	8	<0.3	8	1	--	--	--	--	--	--	--	--
MW-3	5/13/1991		40.74	19.32	21.42	--	640	13	<0.3	18	1	--	--	--	--	--	--	--	--
MW-3	7/24/1991		40.74	20.69	20.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	10/3/1991		40.74	19.47	21.27	--	940	21	<0.3	23	2.1	--	--	--	--	--	--	--	--
MW-3	10/15/1991		40.74	20.46	20.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	12/4/1991		40.74	18.29	22.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	12/16/1991		40.74	18.34	22.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	1/6/1992		40.74	18.50	22.24	--	580	6.1	1	6.1	7.1	--	--	--	--	--	--	--	--
MW-3	1/22/1992		40.74	17.86	22.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	1/28/1992		40.74	15.84	24.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/5/1992		40.74	17.53	23.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/12/1992		40.74	17.15	23.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/17/1992		40.74	16.18	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	4/3/1992		40.74	14.80	25.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	4/8/1992		40.74	17.06	23.68	--	1,100	30	4.6	32	11	--	--	--	--	--	--	--	--
MW-3	4/14/1992		40.74	15.22	25.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-3	4/29/1992		40.74	15.90	24.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/7/1992		40.74	16.35	24.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	7/31/1992		40.74	17.74	23.00	--	1,200	38	<2.5	24	<2.5	--	--	--	--	--	--	--	--
MW-3	10/31/1992		40.74	19.06	21.68	--	1,400	31	<0.5	25	13	--	--	--	--	--	--	--	--
MW-3	12/31/1992		40.74	16.61	24.13	--	820	12	4.1	13	5.9	--	--	--	--	--	--	--	--
MW-3	12/31/1992	e	40.74	16.61	24.13	--	960	11	3.6	10	3.8	--	--	--	--	--	--	--	--
MW-3	4/21/1993		40.74	14.24	26.50	--	420	5.6	<0.5	3.9	1.4	--	--	--	--	--	--	--	--
MW-3	4/21/1993	e	40.74	14.24	26.50	--	390	5	<0.5	3.7	1.5	--	--	--	--	--	--	--	--
MW-3	7/7/1993	f	40.13	15.19	24.94	--	54	0.6	0.6	<0.5	<0.5	12.68	--	--	--	--	--	--	--
MW-3	9/21/1993		40.13	16.58	23.55	--	540	7.9	0.9	4.7	2.4	--	--	--	--	--	--	--	--
MW-3	12/17/1993		40.13	15.82	24.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	12/23/1993		--	--	--	--	500	9.8	1.5	3.3	2.1	--	--	--	--	--	--	--	--
MW-3	12/23/1993	e	--	--	--	--	480	9.2	<0.5	5.4	5.3	--	--	--	--	--	--	--	--
MW-3	4/7/1994		40.13	28.50	11.63	--	460	20	7.4	8.9	11	18.2	--	--	--	--	--	--	--
MW-3	4/7/1994	e	40.13	28.50	11.63	--	460	20	7.7	9	11	--	--	--	--	--	--	--	--
MW-3	7/6/1994		--	--	--	--	300	10	0.6	1.7	6.4	5.54	--	--	--	--	--	--	--
MW-3	10/7/1994		40.13	27.65	12.48	--	620	28	<0.5	2.2	12	31.4	--	--	--	--	--	--	--
MW-3	12/7/1995		40.13	27.65	12.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/30/1995		40.13	26.05	14.08	--	300	10	6	3.4	18	--	--	--	--	--	--	--	--
MW-3	6/20/1995		40.13	19.49	20.64	--	170	7.2	3.4	0.85	15	--	--	--	--	--	--	--	--
MW-3	10/3/1995		40.13	24.93	15.20	--	170	2.1	<0.50	0.81	8	6.7	--	--	--	--	--	--	--
MW-3	12/6/1995		40.13	25.14	14.99	--	1,700	6.7	3.1	2.8	210	64	--	--	--	--	--	--	--
MW-3	12/6/1995	e	40.13	25.14	14.99	--	1,400	6.1	3	1.7	190	53	--	--	--	--	--	--	--
MW-3	3/21/1996		40.13	9.48	30.65	--	<50	0.5	<1.0	<1.0	1	<10	--	--	--	--	--	--	--
MW-3	6/21/1996		40.13	11.60	28.53	--	<50	13	<1.0	<1.0	12	--	--	--	--	--	--	--	--
MW-3	9/6/1996		40.13	12.23	27.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	9/9/1996		--	--	--	--	<250	6.5	<5.0	<5.0	<5.0	--	--	--	--	--	--	--	--
MW-3	12/19/1996		40.13	10.46	29.67	--	<50	4.1	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-3	3/17/1997		40.13	9.86	30.27	--	50	<5.0	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-3	8/12/1997		40.13	12.11	28.02	--	<50	0.79	<1.0	<1.0	<1.0	10	--	--	--	--	--	--	--
MW-3	12/10/1997		40.13	10.90	29.23	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-3	3/12/1998		40.13	10.20	29.93	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-3	3/12/1998	e	40.13	10.20	29.93	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-3	6/23/1998		40.13	10.17	29.96	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-3	3/31/1999		40.13	11.45	28.68	--	60	<1.0	<1.0	<1.0	<1.0	6.2	--	--	--	--	--	--	--
MW-3	8/25/1999		40.13	12.52	27.61	--	<50	<1.0	<1.0	<1.0	<1.0	7.7	--	--	--	--	--	--	--
MW-3	3/9/2000		40.13	12.39	27.74	--	<50	<0.5	0.54	<0.5	1.7	6.3	--	--	--	--	--	--	--
MW-3	3/8/2001		40.13	10.41	29.72	--	<50	<0.5	<0.5	0.69	7.7	--	--	--	--	--	--	--	--
MW-3	3/8/2002		40.13	9.83	30.30	--	62	<0.5	<0.5	<0.5	<1.0	11.6	--	--	--	--	--	--	--
MW-3	3/18/2002		40.13	9.20	30.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/11/2003		40.13	10.54	29.59	--	<50	<0.50	<0.50	<0.50	<0.50	6.7	--	--	--	--	--	--	--
MW-3	12/9/2003		40.13	12.88	27.25	--	<50	<0.50	<0.50	<0.50	<0.50	6.4	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-3	3/9/2004		40.13	9.49	30.64	--	<50	<0.50	<0.50	<0.50	0.63	6.9	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-3	9/17/2004		40.13	12.76	27.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/7/2005		40.13	7.30	32.83	--	<50	<0.50	<0.50	<0.50	0.52	5.1	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-3	9/6/2005		42.92	10.81	32.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/6/2006		42.92	8.85	34.07	--	<50	<0.50	<0.50	<0.50	<0.50	6.9	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-3	9/5/2006		42.92	9.86	33.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/5/2007		42.92	8.33	34.59	--	<50	<0.50	<0.50	<0.50	<0.50	5.4	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-3	9/7/2007		42.92	11.10	31.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/6/2008		42.92	8.92	34.00	--	<50	<0.50	<0.50	<0.50	<0.50	4.2	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-3	9/3/2008		42.92	12.19	30.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/4/2009		42.92	8.28	34.64	--	<50	<0.50	<0.50	<0.50	<0.50	4.9	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-3	9/30/2009		42.92	11.60	31.32	--	<50	<0.50	<0.50	<0.50	<0.50	6.8	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-3	10/28/2009		42.92	10.40	32.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/23/2010		42.92	8.27	34.65	--	<50	<0.50	<0.50	<0.50	<1.0	3.2	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-3	6/10/2010		42.92	9.40	33.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	9/16/2010		42.92	11.14	31.78	--	<50	<0.50	<0.50	<0.50	<1.0	5.9	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-3	2/23/2011		42.92	8.71	34.21	--	--	--	--	--	--	0.58	--	--	--	--	--	--	--
MW-3	9/28/2011		42.92	11.14	31.78	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--
MW-3	3/8/2012		42.92	11.01	31.91	--	--	--	--	--	--	<0.50(*)	--	--	--	--	--	--	--
MW-3	9/5/2012		42.92	11.42	31.50	--	--	--	--	--	--	6.5	--	--	--	--	--	--	--
MW-4	2/5/1990		40.11	20.75	19.36	--	620	<0.5	9	<0.5	10	--	--	--	--	--	--	--	--
MW-4	2/14/1991		40.11	21.73	18.38	--	180	<0.3	<0.3	0.4	2	--	--	--	--	--	--	--	--
MW-4	5/13/1991		40.11	18.55	21.56	--	72	0.7	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-4	7/24/1991		40.11	21.31	18.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	10/3/1991		40.11	22.57	17.54	--	57	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-4	10/15/1991		40.11	22.88	17.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	1/24/1991		40.11	22.54	17.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/16/1991		40.11	22.59	17.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	1/6/1992		40.11	22.00	18.11	--	480	0.8	3.2	1.9	7.7	--	--	--	--	--	--	--	--
MW-4	1/22/1992		40.11	21.58	18.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	1/28/1992		40.11	21.42	18.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	2/5/1992		40.11	21.10	19.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	2/12/1992		40.11	20.74	19.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	2/17/1992		40.11	19.78	20.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	4/3/1992		40.11	16.80	23.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	4/8/1992		40.11	17.13	22.98	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	4/14/1992		40.11	17.74	22.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
 CA-11109
 4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-4	4/29/1992		40.11	18.56	21.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/7/1992		40.11	19.10	21.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/3/1992		40.11	20.71	19.40	--	<50	0.6	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	10/31/1992		40.11	22.43	17.88	--	270	<0.5	2.1	2.5	3.2	--	--	--	--	--	--	--	--
MW-4	12/31/1992		40.11	19.58	20.53	--	150	<0.5	<0.5	<0.5	<1.3	--	--	--	--	--	--	--	--
MW-4	4/21/1993		40.11	17.79	22.32	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	7/7/1993		40.11	18.44	21.67	--	160	1.2	5.4	3.8	19	5.51	--	--	--	--	--	--	--
MW-4	9/21/1993		40.11	20.14	19.97	--	71	<0.5	1.9	<0.5	2.1	--	--	--	--	--	--	--	--
MW-4	12/17/1993		40.11	19.80	20.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/23/1993		--	--	--	--	<50	3.1	1.6	0.8	3.8	5.7	--	--	--	--	--	--	--
MW-4	4/7/1994		40.11	19.12	20.99	--	<50	<0.5	<0.5	<0.5	<0.5	11.7	--	--	--	--	--	--	--
MW-4	7/6/1994		40.11	19.90	20.21	--	62	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	10/7/1994		40.11	20.07	20.04	--	<50	<0.5	<0.5	<0.5	<0.5	7.38	--	--	--	--	--	--	--
MW-4	1/27/1995		40.11	13.72	26.39	--	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-4	3/30/1995		40.11	11.46	28.65	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-4	6/20/1995		40.11	14.78	25.33	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-4	10/3/1995		40.11	19.62	20.49	--	<50	<0.50	<0.50	<0.50	<1.0	5	--	--	--	--	--	--	--
MW-4	12/6/1995		40.11	19.91	20.20	--	<50	<0.50	<0.50	<0.50	<1.0	47	--	--	--	--	--	--	--
MW-4	3/21/1996		40.11	11.12	28.99	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-4	6/21/1996		40.11	12.21	27.90	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-4	9/6/1996		40.11	12.89	27.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	9/9/1996		--	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-4	12/19/1996		40.11	11.01	29.10	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-4	3/17/1997		40.11	10.42	29.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	8/12/1997		40.11	12.77	27.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/10/1997		40.11	11.22	28.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/12/1998		40.11	10.81	29.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	6/23/1998		40.11	10.61	29.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/31/1999		40.11	11.46	28.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	8/25/1999		40.11	16.16	23.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/9/2000		40.11	12.23	27.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/8/2001		40.11	11.04	29.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/8/2002		40.11	12.73	27.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/18/2002		40.11	11.62	28.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/11/2003		40.11	13.44	26.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/9/2003		40.11	15.03	25.08	--	<250	<2.5	<2.5	<2.5	<2.5	130	<100	<2.5	<2.5	2.7	<500	--	--
MW-4	3/9/2004		40.11	11.04	29.07	--	<50	<0.50	<0.50	<0.50	<0.50	35	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-4	9/17/2004		40.11	16.75	23.36	--	<250	<2.5	<2.5	<2.5	<2.5	140	<100	<2.5	<2.5	2.6	<500	<2.5	<2.5
MW-4	3/7/2005		40.11	11.02	29.09	--	67	<0.50	<0.50	<0.50	<0.50	42	<20	<0.50	<0.50	0.56	<100	<0.50	<0.50
MW-4	9/6/2005		42.88	14.64	28.24	--	81	<0.50	<0.50	<0.50	<1.5	180	<10	<0.50	<0.50	2.8	<150	<0.50	<0.50
MW-4	3/6/2006		42.88	12.42	30.46	--	<100	<1.0	<1.0	<1.0	<1.0	<40	<1.0	<1.0	<1.0	1.4	<600	<1.0	<1.0
MW-4	9/5/2006		42.88	13.81	29.07	--	130	<1.0	<1.0	<1.0	<1.0	190	<40	<1.0	<1.0	1.7	<600	<1.0	<1.0
MW-4	3/5/2007		42.88	10.63	32.25	--	<50	<0.50	<0.50	<0.50	<0.50	13	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-4	9/7/2007		42.88	14.77	28.11	--	90	<0.50	<0.50	<0.50	<0.50	130	<20	<0.50	<0.50	1.7	<300	<0.50	<0.50
MW-4	3/6/2008		42.88	11.30	31.58	--	<50	<0.50	<0.50	<0.50	<0.50	170	14	<0.50	<0.50	2.1	<300	<0.50	<0.50
MW-4	9/3/2008		42.88	16.11	26.77	--	<50	<5.0	<5.0	<5.0	<5.0	150	<100	<5.0	<5.0	<5.0	<3,000	<5.0	<5.0
MW-4	3/4/2009		42.88	10.78	32.10	--	140	<5.0	<5.0	<5.0	<5.0	110	<100	<5.0	<5.0	<5.0	<3,000	<5.0	<5.0
MW-4	9/30/2009		42.88	16.48	26.40	--	240	<2.0	<2.0	<2.0	<2.0	140	<40	<2.0	<2.0	<2.0	<1,200	<2.0	<2.0
MW-4	10/28/2009		42.88	15.07	27.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/23/2010		42.88	10.82	32.06	--	<50	<0.50	<0.50	<0.50	<1.0	84	18	<0.50	<0.50	0.88	<100	<0.50	<0.50
MW-4	6/10/2010		42.88	12.67	30.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	9/16/2010		42.88	15.72	27.16	--	120	<0.50	<0.50	<0.50	<1.0	72	8.0	<0.50	<0.50	0.82	<100	<0.50	<0.50
MW-4	2/23/2011		42.88	11.43	31.45	--	<50	--	--	--	--	55	--	--	--	--	--	--	--
MW-4	9/28/2011		42.88	15.34	27.54	--	150	--	--	--	--	62	--	--	--	--	--	--	--
MW-4	3/8/2012		42.88	15.03	27.85	--	120	--	--	--	--	42	--	--	--	--	--	--	--
MW-4	9/5/2012		42.88	15.90	26.98	--	56	<0.50	<0.50	<0.50	<1.0	47	18	<0.50	<0.50	<0.50	<250	<0.50	<0.50
MW-5	10/3/1991		39.55	18.08	21.47	--	79,000	13,000	7,400	1,400	6,200	--	--	--	--	--	--	--	--
MW-5	10/15/1991		39.55	18.55	21.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/4/1991	g	39.55	18.44	20.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/16/1991	g	39.55	18.66	20.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	1/6/1992	g	39.55	19.12	20.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	1/22/1992		39.55	14.59	24.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	1/28/1992		39.55	15.25	24.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/5/1992	b	39.55	15.58	23.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/12/1992	g	39.55	15.54	24.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/17/1992	b	39.55	13.98	25.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/3/1992	g	39.55	13.63	25.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/8/1992	g	39.55	13.17	26.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/14/1992	g	39.55	13.45	26.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/28/1992	g	39.55	13.75	25.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	5/7/1992	g	39.55	16.15	23.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	7/3/1992	g	39.55	17.67	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/1/1992	g	39.55	17.83	21.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	10/8/1992	g	39.55	17.86	20.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/31/1992	b	39.55	15.20	24.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/21/1993	g	39.55	12.64	26.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	7/7/1993	g,f	39.14	12.68	25.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/21/1993	b	39.14	14.35	24.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/17/1993	g	39.14	12.61	26.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-5	4/7/1994		39.14	30.00	9.14	--	66,000	3,000	1,700	250	6,800	2,002	--	--	--	--	--	--	--
MW-5	7/6/1994		--	--	--	--	29,000	1,900	330	63	2,700	1,141	--	--	--	--	--	--	--
MW-5	10/7/1994		39.14	28.70	10.44	--	250,000	2,600	660	830	5,200	37.7	--	--	--	--	--	--	--
MW-5	10/7/1994	e	39.14	28.70	10.44	--	45,000	2,900	540	260	2,600	--	--	--	--	--	--	--	--
MW-5	12/7/1995		39.14	28.70	10.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/30/1995		39.14	28.95	10.19	--	50,000	7,900	2,600	520	6,400	--	--	--	--	--	--	--	--
MW-5	3/30/1995	e	39.14	28.95	10.19	--	43,000	7,900	2,500	440	6,200	--	--	--	--	--	--	--	--
MW-5	6/20/1995		39.14	22.54	16.60	--	34,000	5,100	1,900	300	3,700	--	--	--	--	--	--	--	--
MW-5	6/20/1995	e	39.14	22.54	16.60	--	26,000	3,500	290	<25	3,300	--	--	--	--	--	--	--	--
MW-5	10/3/1995		39.14	18.84	20.30	--	12,000	68	42	11	1,600	330	--	--	--	--	--	--	--
MW-5	10/3/1995	e	39.14	18.84	20.30	--	12,000	46	39	10	1,600	320	--	--	--	--	--	--	--
MW-5	12/6/1995		39.14	19.07	20.07	--	16,000	1,200	93	51	700	600	--	--	--	--	--	--	--
MW-5	3/21/1996		39.14	7.43	31.71	--	1,500	89	28	6	250	<10	--	--	--	--	--	--	--
MW-5	3/21/1996	e	39.14	7.43	31.71	--	1,900	92	30	7	270	<10	--	--	--	--	--	--	--
MW-5	6/21/1996		39.14	9.87	29.27	--	3,500	740	150	19	400	<100	--	--	--	--	--	--	--
MW-5	6/21/1996	e	39.14	9.87	29.27	--	2,700	680	140	20	400	<50	--	--	--	--	--	--	--
MW-5	9/6/1996		39.14	10.52	28.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/9/1996		--	--	--	--	82,000	3,100	1,700	850	9,100	<2,500	--	--	--	--	--	--	--
MW-5	9/9/1996	e	--	--	--	--	90,000	2,900	1,600	670	6,900	<2,500	--	--	--	--	--	--	--
MW-5	12/9/1996		39.14	8.62	30.52	--	41,000	790	820	120	2,040	<500	--	--	--	--	--	--	--
MW-5	12/19/1996	e	39.14	8.62	30.52	--	26,000	490	63	63	1,140	<500	--	--	--	--	--	--	--
MW-5	3/17/1997		39.14	8.22	30.92	--	5,500	1.9	2.4	<1.0	<1.0	29	--	--	--	--	--	--	--
MW-5	3/17/1997	e	39.14	8.22	30.92	--	6,600	2.5	2.7	<1.0	<1.0	28	--	--	--	--	--	--	--
MW-5	8/12/1997	q	39.14	12.18	26.74	--	33,000	6,400	2,400	680	4,400	<1,000	--	--	--	--	--	--	--
MW-5	8/12/1997	e	39.14	12.18	26.74	--	36,000	6,100	2,500	720	4,500	<500	--	--	--	--	--	--	--
MW-5	12/10/1997	q	39.14	10.78	28.30	--	31,000	3,000	2,500	560	5,100	500	--	--	--	--	--	--	--
MW-5	12/10/1997	e	39.14	10.78	28.30	--	37,000	2,900	2,500	440	4,800	--	--	--	--	--	--	--	--
MW-5	3/12/1998	q	39.14	10.11	28.81	--	100,000	1,600	870	250	2,600	<250	--	--	--	--	--	--	--
MW-5	6/23/1998		39.14	10.20	28.92	--	27,000	2,500	840	370	2,900	<250	--	--	--	--	--	--	--
MW-5	6/23/1998	e	39.14	10.20	28.92	--	27,000	2,600	840	400	2,950	<500	--	--	--	--	--	--	--
MW-5	8/25/1999	q	39.14	14.69	24.07	--	180,000	2,700	400	830	2,800	26	--	--	--	--	--	--	--
MW-5	3/9/2000	q	39.14	14.83	23.71	--	53,000	12,000	2,600	1,900	9,100	<5.0	--	--	--	--	--	--	--
MW-5	3/8/2002	q	39.14	11.45	26.19	--	33,000	8,240	1,080	1,010	2,900	34.3	--	--	--	--	--	--	--
MW-5	3/18/2002		39.14	8.03	31.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/11/2003	q	39.14	9.60	29.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/9/2003	q	39.14	11.44	27.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/9/2004		39.14	7.91	31.23	--	31,000	3,900	1,100	780	3,600	<50	<2,000	<50	<50	<50	<10,000	96	<50
MW-5	9/17/2004	q	39.14	12.13	27.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/7/2005	q	39.14	8.62	30.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/6/2005	q	39.14	11.16	27.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/6/2006	q,b	39.14	8.60	30.54	--	32,000	7,500	810	1,200	2,300	<50	<2,000	60	<50	<50	<30,000	<50	<50
MW-5	9/5/2006	q	39.14	6.16	32.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/5/2007	b	39.14	8.34	30.80	--	90,000	10,000	4,200	1,900	7,900	<50	<2,000	57	<50	<50	<30,000	<50	<50
MW-5	9/7/2007	q	39.14	15.15	23.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	1/14/2008	q	39.14	10.30	28.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/27/2008	q	39.14	13.22	25.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/6/2008	q	39.14	12.90	26.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/3/2008	q	39.14	12.90	26.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/4/2009	q	39.14	8.45	30.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/8/2009		39.14	9.05	30.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	5/11/2009		39.14	9.10	30.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	6/16/2009		39.14	9.15	29.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	7/22/2009		39.14	9.33	29.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	8/6/2009		39.14	10.05	28.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/30/2009		39.14	10.55	28.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	10/28/2009		39.14	10.48	28.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/23/2010		39.14	7.10	32.04	--	67,000	1,400	380	620	1,800	<5.0	<40	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0
MW-5	6/10/2010		39.14	8.26	30.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/16/2010		39.14	9.14	30.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/23/2011		39.14	8.33	30.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/28/2011		39.14	10.46	28.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/8/2012		39.14	10.27	28.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/5/2012		39.14	11.80	27.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	10/3/1991		41.59	20.73	20.86	--	<50	0.7	0.8	<0.3	1.3	--	--	--	--	--	--	--	--
MW-6	10/15/1991		41.59	21.20	20.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/4/1991		41.59	21.26	20.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/16/1991		41.59	21.12	20.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	1/6/1992		41.59	20.29	21.30	--	<50	<0.5	<0.5	<0.5	1.6	--	--	--	--	--	--	--	--
MW-6	1/22/1992		41.59	20.12	21.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	1/28/1992		41.59	20.20	21.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	2/5/1992		41.59	20.09	21.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	2/12/1992		41.59	19.15	22.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	2/17/1992		41.59	18.02	23.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	4/3/1992		41.59	16.62	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	4/8/1992		41.59	17.06	24.53	--	<50	0.6	<0.5	0.8	<0.5	--	--	--	--	--	--	--	--
MW-6	4/14/1992		41.59	17.23	24.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	4/29/1992		41.59	18.12	23.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	5/7/1992		41.59	18.52	23.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	7/3/1992		41.59	19.71	21.88	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
 CA-11109
 4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-6	10/8/1992		41.59	21.22	20.37	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	10/8/1992	e	41.59	21.22	20.37	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	12/31/1992		41.59	21.33	20.26	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	4/2/1993		41.59	16.45	25.14	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	7/7/1993		41.59	18.68	22.91	--	<50	<0.5	<0.5	<0.5	<0.5	28.96	--	--	--	--	--	--	--
MW-6	9/21/1993		41.59	19.64	21.95	--	<50	<0.5	<0.5	<0.5	<0.5	1.6	--	--	--	--	--	--	--
MW-6	12/17/1993		41.59	21.08	20.51	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	12/23/1993		--	--	--	--	<50	<0.5	0.5	<0.5	0.6	13.95	--	--	--	--	--	--	--
MW-6	4/7/1994		41.59	21.27	20.32	--	<50	<0.5	<0.5	<0.5	<0.5	35.1	--	--	--	--	--	--	--
MW-6	7/6/1994		41.59	19.81	21.78	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	7/6/1994	e	41.59	19.81	21.78	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	10/7/1994		41.59	21.25	20.34	--	<50	<0.5	<0.5	<0.5	<0.5	24.3	--	--	--	--	--	--	--
MW-6	1/27/1995		41.59	12.39	29.20	--	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-6	3/30/1995		41.59	11.34	30.25	--	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-6	6/20/1995		41.59	15.12	26.47	--	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-6	10/3/1995		41.59	20.68	20.91	--	<50	<0.5	<0.5	<0.5	<1.0	66	--	--	--	--	--	--	--
MW-6	12/6/1995		41.59	23.77	17.82	--	<50	<0.5	<0.5	<0.5	<1.0	45	--	--	--	--	--	--	--
MW-6	3/21/1996		41.59	11.55	30.04	--	<50	<0.5	<1.0	<1.0	<1.0	41	--	--	--	--	--	--	--
MW-6	6/21/1996		41.59	12.60	28.99	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-6	9/6/1996		41.59	13.25	28.34	--	<50	<0.5	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	--
MW-6	9/9/1996		--	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	22	--	--	--	--	--	--	--
MW-6	12/19/1996		41.59	11.45	30.14	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-6	3/17/1997		41.59	10.80	30.79	--	<50	<0.5	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	--
MW-6	8/12/1997		41.59	13.11	28.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/10/1997		41.59	13.84	27.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/12/1998		41.59	11.17	30.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	6/23/1998		41.59	13.27	28.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/31/1999		41.59	12.91	28.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	8/25/1999		41.59	15.93	25.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/9/2000		41.59	11.49	30.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/8/2001		41.59	10.81	30.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/8/2002		41.59	14.28	27.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/18/2002		41.59	13.10	28.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/11/2003		41.59	13.63	27.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/9/2003		41.59	14.26	27.33	--	<50	<0.5	<0.5	<0.5	<0.5	12	<20	<0.50	<0.50	<0.50	<100	--	--
MW-6	3/9/2004		41.59	11.87	29.72	--	<50	<0.50	<0.50	<0.50	<0.50	10	<20	<0.50	<0.50	<0.50	<100	0.58	<0.50
MW-6	9/17/2004		41.59	16.45	25.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/7/2005		41.59	13.65	27.94	--	<50	<0.50	<0.50	<0.50	<0.50	5.8	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-6	9/6/2005		44.37	14.23	30.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/6/2006		44.37	12.89	31.48	--	<50	<0.50	<0.50	<0.50	<0.50	8.1	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-6	9/5/2006		44.37	14.10	30.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/5/2007		44.37	11.43	32.94	--	<50	<0.50	<0.50	<0.50	<0.50	5.6	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-6	9/7/2007		44.37	16.00	28.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/6/2008		44.37	11.84	32.53	--	<50	<0.50	<0.50	<0.50	<0.50	1.9	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-6	9/3/2008		44.37	16.24	28.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/4/2009		44.37	11.68	32.69	--	<50	<0.50	<0.50	<0.50	<0.50	2.8	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-6	9/30/2009		44.37	16.83	27.54	--	<50	<0.50	<0.50	<0.50	<0.50	4.4	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-6	10/28/2009		44.37	15.63	28.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/23/2010		44.37	11.48	32.89	--	<50	<0.50	<0.50	<0.50	<1.0	1.0	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-6	6/10/2010		44.37	12.54	31.83	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--
MW-6	9/16/2010		44.37	15.95	28.42	--	<50	<0.50	<0.50	<0.50	<1.0	0.80	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-6	2/23/2011		44.37	12.34	32.03	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--
MW-6	9/28/2011		44.37	15.81	28.56	--	--	--	--	--	--	3.4	--	--	--	--	--	--	--
MW-6	3/8/2012		44.37	15.51	28.86	--	--	--	--	--	--	0.58	--	--	--	--	--	--	--
MW-6	9/5/2012		44.37	15.88	28.49	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--
MW-7	10/3/1991		40.64	14.93	25.71	--	360	62	13	3.4	20	--	--	--	--	--	--	--	--
MW-7	10/15/1991		40.64	15.16	25.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/4/1991		40.64	15.41	25.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/16/1991		40.64	15.21	25.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	1/6/1992		40.64	14.56	26.08	--	1,100	170	<0.5	24	23	--	--	--	--	--	--	--	--
MW-7	1/22/1992		40.64	14.63	26.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	1/28/1992		40.64	14.73	25.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/5/1992		40.64	14.58	26.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/12/1992		40.64	13.94	26.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/17/1992		40.64	13.10	27.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	4/3/1992		40.64	12.66	27.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	4/8/1992		40.64	12.77	27.87	--	750	150	<0.5	23	9.9	--	--	--	--	--	--	--	--
MW-7	4/14/1992		40.64	13.02	27.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	4/29/1992		40.64	13.59	27.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	5/7/1992		40.64	13.95	26.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	7/3/1992		40.64	14.73	25.91	--	660	210	<2.5	33	8	--	--	--	--	--	--	--	--
MW-7	10/8/1992		40.64	15.75	24.89	--	320	49	1.4	13	6.2	--	--	--	--	--	--	--	--
MW-7	12/31/1992		40.64	13.57	27.07	--	900	100	<2.5	28	4.3	--	--	--	--	--	--	--	--
MW-7	4/21/1993		40.64	14.56	26.08	--	510	83	1.2	10	5.8	--	--	--	--	--	--	--	--
MW-7	7/7/1993	f	40.32	13.40	26.92	--	1,100	160	2	27	4	10.84	--	--	--	--	--	--	--
MW-7	7/7/1993	e	40.32	13.40	26.92	--	1,100	170	1.9	29	2.84	9.84	--	--	--	--	--	--	--
MW-7	9/21/1993		40.32	14.40	25.92	--	690	150	3.1	26	5.7	--	--	--	--	--	--	--	--
MW-7	9/21/1993	e	40.32	14.40	25.92	--	640	140	1.7	23	2.4	--	--	--	--	--	--	--	--
MW-7	12/17/1993		40.32	13.65	26.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-7	12/23/1993		--	--	--	--	250	64	1.2	9	1.8	7.81	--	--	--	--	--	--	--
MW-7	4/7/1994		40.32	30.62	9.70	--	140	32	1.4	<0.5	6.32	--	--	--	--	--	--	--	--
MW-7	7/6/1994		40.32	16.88	23.44	--	410	84	1.3	10	3.5	<5.0	--	--	--	--	--	--	--
MW-7	10/7/1994		40.32	25.59	14.73	--	<50	9.2	--	<0.5	<5.0	--	--	--	--	--	--	--	--
MW-7	1/27/1995		40.32	9.82	30.50	--	810	570	3	60	17	--	--	--	--	--	--	--	--
MW-7	1/27/1995	e	40.32	9.82	30.50	--	830	620	4	77	21	--	--	--	--	--	--	--	--
MW-7	3/30/1995		40.32	9.15	31.17	--	180	65	0.53	2	<1.0	--	--	--	--	--	--	--	--
MW-7	6/20/1995		40.32	11.38	28.94	--	2,800	980	<5.0	<5.0	43	--	--	--	--	--	--	--	--
MW-7	10/3/1995		40.32	29.95	10.37	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--
MW-7	12/6/1995		40.32	29.85	10.47	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--
MW-7	3/21/1996		40.32	9.76	30.56	--	1,000	390	2	40	13	<10	--	--	--	--	--	--	--
MW-7	6/21/1996		40.32	11.01	29.31	--	<250	40	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	--	--
MW-7	9/6/1996		40.32	11.68	28.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	9/9/1996		--	--	--	--	<250	13	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	--	--
MW-7	12/19/1996		40.32	10.78	29.54	--	70	1.2	<1.0	1	<1.0	<10	--	--	--	--	--	--	--
MW-7	3/17/1997		40.32	9.96	30.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	8/12/1997		40.32	11.44	28.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/10/1997		40.32	10.42	29.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/12/1998		40.32	9.51	30.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	6/23/1998		40.32	9.98	30.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/31/1999		40.32	10.38	29.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	8/25/1999		40.32	12.38	27.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/9/2000		40.32	8.48	31.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/8/2001		40.32	8.37	31.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/18/2002		40.32	9.94	30.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/11/2003		40.32	11.26	29.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/9/2003		40.32	12.76	27.56	--	270	26	<0.50	<0.50	8.7	<20	<0.50	<0.50	<0.50	<100	<1.0	--	--
MW-7	3/9/2004		40.32	10.91	29.41	--	320	49	0.73	1.8	0.59	6.9	<20	<0.50	<0.50	<0.50	<100	1.2	<0.50
MW-7	9/17/2004		40.32	13.20	27.12	--	330	17	<0.50	<0.50	7.0	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50	<0.50
MW-7	3/7/2005		40.32	8.18	32.14	--	340	41	0.79	0.79	0.73	7.2	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-7	9/6/2005		43.10	11.80	31.30	--	1,100	130	1.2	1.8	<1.5	16	30	0.60	<0.50	<0.50	<150	<0.50	<0.50
MW-7	3/6/2006		43.10	8.39	34.71	--	440	31	<0.78	0.74	0.81	8.3	<20	<0.50	<0.50	<300	<0.50	<0.50	<0.50
MW-7	9/5/2006		43.10	11.45	31.65	--	2,000	260	3.1	5.9	<2.5	12	<100	<2.5	<2.5	<1,500	<2.5	<2.5	<2.5
MW-7	3/5/2007		43.10	9.31	33.79	--	2,200	110	2.2	4.0	1.8	7.6	<40	<1.0	<1.0	<1.0	<600	<1.0	<1.0
MW-7	9/7/2007		43.10	12.18	30.92	--	220	8.4	<0.50	<0.50	1.2	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50	<0.50
MW-7	3/6/2008		43.10	10.05	33.05	--	1,800	54	1.2	1.1	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<600	<1.0	<1.0
MW-7	3/3/2008		43.10	13.17	29.93	--	540	13	0.69	<0.50	5.5	17	<0.50	<0.50	<0.50	<300	<0.50	<0.50	<0.50
MW-7	3/4/2009		43.10	8.26	34.85	--	720	15	0.59	0.53	<0.50	3.4	17	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-7	9/30/2009		43.10	12.70	30.40	--	1,200	44	1.0	0.74	0.79	3.3	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-7	10/28/2009		43.10	11.17	31.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/23/2010		43.10	9.28	33.82	--	610	11	<0.50	<0.50	<1.0	<0.50	12	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-7	6/10/2010		43.10	10.24	32.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	9/16/2010		43.10	12.16	30.94	--	4,700	130	<5.0	7.4	<10	<5.0	<40	<5.0	<5.0	<5.0	<1,000	<5.0	<5.0
MW-7	2/23/2011		43.10	9.62	33.48	--	2,200	26	1.1	1.4	1.6	4.0	<4.0	<0.50	<0.50	<0.50	<250	<0.50	<0.50
MW-7	9/28/2011		43.10	11.80	31.30	--	3,800	380	4.8	28	4.3	9.5	13	<0.50	<0.50	<0.50	<250	<0.50	<0.50
MW-7	3/8/2012		43.10	11.69	31.41	--	550	1.4	<0.50	<0.50	<1.0	2.3	<4.0	<0.50	<0.50	<0.50	<250	<0.50	<0.50
MW-7	9/5/2012		43.10	11.60	31.50	--	830	16	1.3	0.66	1.4	3.0	<4.0	<0.50	<0.50	<0.50	<250	<0.50	<0.50
MW-8	10/3/1991		38.18	22.37	15.81	--	<50	<0.3	0.6	<0.3	0.9	--	--	--	--	--	--	--	--
MW-8	10/15/1991		38.18	22.70	15.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	12/4/1991		38.18	22.44	15.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	12/16/1991		38.18	22.47	15.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/6/1992		38.18	21.94	16.24	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-8	1/21/1992		38.18	21.44	16.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/28/1992		38.18	21.20	16.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/5/1992		38.18	20.88	17.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/12/1992		38.18	20.54	17.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/17/1992		38.18	19.99	18.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/3/1992		38.18	16.75	21.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/8/1992		38.18	16.57	21.61	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-8	4/29/1992		38.18	18.61	19.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	5/7/1992		38.18	18.41	19.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	7/3/1992		38.18	20.35	17.83	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-8	10/8/1992		38.18	21.74	16.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	12/31/1992		38.18	19.09	19.09	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-8	4/21/1993		38.18	18.92	19.26	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-8	7/7/1993		38.18	17.76	20.42	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
MW-8	9/21/1993		38.18	19.71	18.47	--	<50	2.9	2.2	2.2	7.1	--	--	--	--	--	--	--	--
MW-8	12/17/1993		38.18	21.33	16.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	12/23/1993		38.18	21.33	16.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/7/1994		38.18	21.51	16.67	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
MW-8	7/6/1994		38.18	17.41	20.77	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
MW-8	10/7/1994		38.18	19.20	18.98	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
MW-8	1/27/1995		38.18	12.25	25.93	--	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-8	3/30/1995		38.18	10.35	27.83	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-8	6/20/1995		38.18	13.37	24.81	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-8	12/6/1995		38.18	18.42	19.76	--	<50	<0.50	<0.50	<0.50	<1.0	47	--	--	--	--	--	--	--
MW-8	6/21/1996		38.18	13.03	25.15	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-8	9/6/1996		38.18	13.70	24.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	9/9/1996																		

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-8	12/19/1996		38.18	11.93	26.25	--	<50	<0.5	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--
MW-8	3/17/1997		38.18	11.29	26.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	8/12/1997		38.18	13.73	24.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	12/10/1997		38.18	11.88	26.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/12/1998		38.18	11.89	26.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	6/23/1998		38.18	11.33	26.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/31/1999		38.18	12.68	25.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	8/25/1999		38.18	14.93	23.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/9/2000		38.18	9.14	29.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/8/2001		38.18	8.41	29.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/8/2002		38.18	11.18	27.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/18/2002		38.18	10.72	27.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/11/2003		38.18	10.46	27.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/9/2004		38.18	9.79	28.39	--	<50	<0.50	<0.50	<0.50	<0.50	0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-8	9/17/2004		38.18	15.35	22.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/7/2005		38.18	7.94	30.24	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-8	9/6/2005		40.95	13.06	27.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/6/2006		40.95	9.26	31.69	--	<50	<0.50	<0.50	<0.50	<0.50	0.59	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-8	9/5/2006		40.95	12.61	28.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/5/2007		40.95	9.12	31.83	--	<50	<0.50	<0.50	<0.50	0.53	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-8	9/7/2007		40.95	13.56	27.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/6/2008		40.95	9.80	31.15	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-8	9/3/2008		40.95	14.20	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/4/2009		40.95	9.51	31.44	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-8	9/30/2009		40.95	14.92	26.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	10/28/2009		40.95	13.56	27.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	6/10/2010		40.95	11.06	29.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	9/16/2010		40.95	14.41	26.54	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-8	9/28/2011		40.95	13.87	27.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/8/2012		40.95	13.27	27.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	9/5/2012		40.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	10/3/1991		41.25	14.12	27.13	--	<50	<0.3	0.4	<0.3	<0.3	--	--	--	--	--	--	--	--
MW-9	10/15/1991		41.25	14.27	26.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/4/1991		41.25	13.84	27.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/16/1991		41.25	14.18	27.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	1/6/1992		41.25	13.42	27.83	--	<50	<0.5	<0.5	<0.5	0.9	--	--	--	--	--	--	--	--
MW-9	1/22/1992		41.25	13.75	27.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	1/28/1992		41.25	14.76	26.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	2/5/1992		41.25	13.38	27.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	2/12/1992		41.25	11.86	29.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	2/17/1992		41.25	10.78	30.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	4/3/1992		41.25	11.63	29.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	4/8/1992		41.25	12.25	29.00	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-9	4/14/1992		41.25	12.32	28.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	4/29/1992		41.25	13.07	28.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/7/1992		41.25	14.43	26.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	7/3/1992		41.25	13.85	27.40	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-9	10/8/1992		41.25	14.89	26.36	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-9	12/31/1992		41.25	11.90	29.35	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-9	4/21/1993		41.25	13.68	27.57	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-9	7/7/1993		41.25	13.12	28.13	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
MW-9	9/21/1993		41.25	14.00	27.25	--	<50	<0.5	<0.5	<0.5	0.9	--	--	--	--	--	--	--	--
MW-9	12/17/1993		41.25	12.98	28.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/23/1993		41.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	4/7/1994		41.25	13.24	28.01	--	<50	<0.5	<0.5	<0.5	0.9	<5.0	--	--	--	--	--	--	--
MW-9	7/6/1994		41.25	13.77	27.48	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-9	10/7/1994		41.25	14.60	26.65	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
MW-9	1/27/1995		41.25	8.47	32.78	--	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
MW-9	3/30/1995		41.25	8.19	33.06	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-9	6/20/1995		41.25	11.25	30.00	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
MW-9	10/3/1995		41.25	14.68	26.57	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--
MW-9	12/6/1995		41.25	16.07	25.18	--	<50	<0.50	<0.50	<0.50	<1.0	46	--	--	--	--	--	--	--
MW-9	3/21/1996		41.25	9.60	31.65	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-9	6/21/1996		41.25	10.86	30.39	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-9	9/6/1996		41.25	11.52	29.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	9/9/1996		--	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	21	--	--	--	--	--	--	--
MW-9	12/19/1996		41.25	10.43	30.82	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
MW-9	3/17/1997		41.25	9.87	31.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	8/12/1997		41.25	11.44	29.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/10/1997		41.25	10.44	30.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/12/1998		41.25	9.50	31.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	6/23/1998		41.25	10.06	31.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/31/1999		41.25	9.06	32.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	8/25/1999		41.25	12.00	29.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/9/2000		41.25	10.57	30.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/8/2001		41.25	9.73	31.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/8/2002		41.25	11.89	29.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/18/2002		41.25	9.68	31.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/11/2003		41.25	9.21	32.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-9	3/9/2004		41.25	10.99	30.26	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-9	9/17/2004		41.25	13.35	27.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/7/2005		41.25	8.94	32.31	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-9	9/6/2005		44.06	11.99	32.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/6/2006		44.06	8.26	35.80	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-9	9/5/2006		44.06	11.63	32.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/5/2007		44.06	9.33	34.73	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-9	9/7/2007		44.06	12.28	31.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/6/2008		44.06	10.11	33.95	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-9	9/3/2008		44.06	13.49	30.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/4/2009		44.06	8.15	35.91	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.50	<0.50
MW-9	9/30/2009		44.06	12.98	31.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	10/28/2009		44.06	11.98	32.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/23/2010		44.06	10.59	33.47	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.50	<0.50
MW-9	6/10/2010		44.06	10.25	33.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	2/23/2011		44.06	9.71	34.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	9/28/2011		44.06	11.66	32.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/8/2012		44.06	11.56	32.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	9/5/2012		44.06	11.18	32.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	6/16/2009		39.78	8.60	31.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	7/22/2009		39.78	9.68	30.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	8/6/2009		39.78	9.48	30.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	9/30/2009		39.78	9.69	30.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/28/2009		39.78	8.53	31.25	--	62,000	8,300	5,300	3,100	12,000	<50	<400	<50	<50	<50	<10,000	<50	<50
MW-10	3/23/2010		39.78	7.70	32.08	--	59,000	6,500	4,800	2,300	9,700	<100	<800	<100	<100	<100	<20,000	<100	<100
MW-10	6/10/2010		39.78	8.93	30.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	9/16/2010		39.78	9.69	30.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	2/23/2011		39.78	7.99	31.79	--	61,000	7,000	5,300	2,800	12,000	<100	<800	<100	<100	<100	<50,000	<100	<100
MW-10	9/28/2011		39.78	10.36	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/8/2012		39.78	10.51	29.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	9/5/2012		39.78	10.25	29.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	9/30/2009		40.04	10.55	29.49	--	30,000	850	1,400	1,000	3,700	27	<200	<10	<10	<10	<6,000	<10	<10
MW-11	10/28/2009		40.04	8.00	32.04	--	27,000	1,100	2,300	1,500	5,800	<50	<400	<50	<50	<50	<10,000	<50	<50
MW-11	3/23/2010		40.04	7.25	32.79	--	21,000	530	830	790	2,200	<25	<200	<25	<25	<25	<5,000	<25	<25
MW-11	6/10/2010		40.04	9.65	30.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	9/16/2010		40.04	9.42	30.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	2/23/2011		40.04	7.60	32.44	--	10,000	380	260	330	540	7.2	<40	<5.0	<5.0	<5.0	<2,500	<5.0	<5.0
MW-11	9/28/2011		40.04	9.88	30.16	--	5,900	230	92	260	370	6.4	26	<2.5	<2.5	<2.5	<1,300	<2.5	<2.5
MW-11	3/8/2012		40.04	9.71	30.33	--	5,000	280	170	250	380	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5.0	<5.0
MW-11	9/5/2012		40.04	10.60	29.44	--	22,000	1,000	1,600	1,200	4,500	6.2	<40	<5.0	<5.0	<5.0	<2,500	<5.0	<5.0
MW-12	9/30/2009		40.32	11.02	29.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	10/28/2009		40.32	10.40	29.92	--	43,000	5,800	800	2,900	6,800	<50	<400	<50	<50	<50	<10,000	<50	<50
MW-12	3/23/2010		40.32	11.46	28.86	--	39,000	4,800	1,000	3,100	6,400	<25	<200	<25	<25	<25	<5,000	<25	<25
MW-12	6/10/2010		40.32	11.35	29.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	9/16/2010		40.32	11.54	28.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	2/23/2011		40.32	10.80	29.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	9/28/2011		40.32	11.48	28.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	3/8/2012		40.32	11.92	28.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	9/5/2012		40.32	11.63	29.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
QC-2	10/8/1992	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	12/31/1992	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	7/7/1993	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	9/21/1993	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	12/23/1993	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	4/7/1994	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	7/6/1994	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	10/7/1994	h	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
QC-2	1/27/1995	h	--	--	--	--	<50	<0.5	0.5	<0.5	<1.0	--	--	--	--	--	--	--	--
QC-2	3/30/1995	h	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
QC-2	6/20/1995	h	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
QC-2	10/3/1995	h	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--
QC-2	12/6/1995	h	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--
QC-2	3/21/1996	h	--	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--
QC-2	6/21/1996	h	--	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--

Table 1
Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date	Notes	TOC (ft msl)	DTW (ft)	GW Elev (ft msl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
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Notes:

- DRO = Diesel range organics, range C10-C28
- GRO = Gasoline range organics, range C4-C12
- ETBE = Ethyl tert butyl ether
- MTBE = Methyl tert butyl ether
- TAME = Ter-amyl methyl ether
- 1,2-DCA = 1,2-Dichloroethane
- EDB = 1,2-Dibromomethane
- DO= Dissolved oxygen
- µg/L= Micrograms per liter
- mg/L = Milligrams per liter
- ft bgs = Feet below ground surface
- = Not analyzed/applicable/measured/ available
- < = Not detected at or above reported detection limit
- DTW = Depth to water in ft bgs
- TOC = Top of casing measured in ft
- GWE = Groundwater measured in ft
- (a) Sample exceeded EPA recommended holding time
- (b) Sheen in well
- (c) Well not sampled due to damage during site construction
- (d) Insufficient water to sample
- (e) Blind duplicate
- (f) TOC lowered
- (g) Free product in well
- (h) Trip Blank

GWE adjusted assuming specific gravity of 0.75 for free product

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

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

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.

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

Table 2
Historical Groundwater Flow Direction and Gradient
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
3/6/2006	Southwest	0.05
9/5/2006	Southwest	0.05
2/21/2007	Southwest	0.02
9/7/2007	Southwest	0.03
3/6/2008	Southwest	0.01
9/3/2008	Southwest	0.006
3/4/2009	Southwest	0.02
9/30/2009	Northwest	0.07
10/28/2009	Northwest	0.04
3/23/2010	Northwest	0.03
6/10/2010	Northwest	0.02
9/16/2010	Northwest	0.07
2/23/2011	Northwest	0.04
9/28/2011	Northwest	0.02
3/8/2012	Northwest	0.06
9/5/2012	West-Northwest	0.04

Notes:

N/A = Not Available

ft/ft = Feet per foot

Note: All data collected following April 2006 was collected by Broadbent & Associates, Inc. The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants.

Table 3
Summary of LNAPL Removal
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date of Removal Event	DTW (feet)	Product Thickness (feet)	Product Removed (gallons)	Cumulative Product Removed (gallons)
MW-5	11/5/1992	--	--	0.200	0.200
MW-5	2/25/1993	--	--	0.100	0.300
MW-5	3/18/1993	--	--	0.100	0.400
MW-5	4/13/1993	--	--	0.100	0.500
MW-5	4/23/1993	--	--	13.0*	13.500
MW-5	5/24/1993	--	--	0.100	13.600
MW-5	10/14/1993	--	--	0.300	13.900
MW-5	11/10/1993	--	--	0.400	14.300
MW-5	12/23/1993	--	--	0.400	14.700
MW-5	8/12/1997	12.18	0.22	--	14.700
MW-5	12/10/1997	10.78	0.06	--	14.700
MW-5	3/12/1998	10.11	0.22	0.200	14.900
MW-5	6/23/1998	10.20	0.02	<0.050	14.900
MW-5	9/11/1998	11.61	0.04	0.100	15.000
MW-5	8/25/1999	14.69	0.38	0.070	15.070
MW-5	3/9/2000	14.83	0.60	0.400	15.470
MW-5	7/14/2003	12.72	0.03	0.019	15.489
MW-5	8/25/2003	14.04	0.00	0.000	15.489
MW-5	9/25/2003	14.38	0.08	0.052	15.542
MW-5	10/3/2003	12.15	0.06	0.040	15.582
MW-5	11/12/2003	12.74	0.19	0.120	15.702
MW-5	12/9/2003	11.44	0.03	0.040	15.742
MW-5	2/2/2004	6.47	0.04	0.030	15.772
MW-5	2/9/2004	10.61	0.04	0.030	15.802
MW-5	3/9/2004	7.91	--	--	15.802
MW-5	4/13/2004	9.68	0.28	0.200	16.002
MW-5	5/5/2004	11.93	Sheen	--	16.002
MW-5	6/3/2004	12.60	Sheen	--	16.002
MW-5	7/2/2004	11.11	0.10	0.060	16.062
MW-5	8/31/2004	12.80	0.05	0.132	16.194
MW-5	9/17/2004	12.13	0.15	--	16.194
MW-5	10/25/2004	10.66	0.26	0.170	16.364
MW-5	11/8/2004	9.98	0.02	0.020	16.384
MW-5	12/15/2004	8.76	0.01	0.010	16.394
MW-5	1/13/2005	7.12	--	--	16.394
MW-5	2/1/2005	8.10	0.01	0.007	16.400
MW-5	3/7/2005	8.62	0.02	0.013	16.413
MW-5	4/29/2005	9.39	--	--	16.413
MW-5	5/12/2005	7.51	0.01	0.007	16.420
MW-5	6/23/2005	7.70	--	--	16.420
MW-5	7/2/2005	10.81	--	--	16.420
MW-5	8/24/2005	10.53	--	--	16.420
MW-5	9/6/2005	11.16	0.18	0.119	16.539
MW-5	1/27/2006	9.02	0.02	0.013	16.433
MW-5	2/15/2006	8.38	0.02	0.013	16.446
MW-5	3/6/2006	8.60	Sheen	--	16.446
MW-5	4/21/2006	8.02	0.27	0.251	16.697
MW-5	5/30/2006	9.13	0.07	0.045	16.742
MW-5	6/27/2006	9.49	0.09	0.058	16.801
MW-5	7/31/2006	10.08	0.08	0.052	16.853
MW-5	8/28/2006	10.75	0.09	0.059	16.911
MW-5	9/5/2006	6.16	0.03	0.020	16.931
MW-5	10/1/2006	--	--	--	16.931
MW-5	11/1/2006	--	--	--	16.931
MW-5	12/1/2006	--	--	--	16.931
MW-5	1/1/2007	--	--	--	16.931
MW-5	2/1/2007	--	--	--	16.931
MW-5	3/5/2007	8.34	Sheen	--	16.931
MW-5	4/1/2007	--	--	--	16.931
MW-5	5/1/2007	--	--	--	16.931
MW-5	6/1/2007	--	--	--	16.931
MW-5	7/1/2007	--	--	--	16.931
MW-5	8/1/2007	--	--	--	16.931
MW-5	9/7/2007	15.15	0.15	--	16.931
MW-5	9/12/2007	15.42	0.02	4.00*	20.931
MW-5	10/17/2007	12.50	0.35	5.5*	26.431

Table 3
Summary of LNAPL Removal
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date of Removal Event	DTW (feet)	Product Thickness (feet)	Product Removed (gallons)	Cumulative Product Removed (gallons)
MW-5	11/8/2007	13.20	0.40	5.0*	31.431
MW-5	12/12/2007	12.25	0.52	3.5*	34.931
MW-5	1/14/2008	10.30	0.49	5.0*	39.931
MW-5	2/27/2008	13.22	0.12	4.0*	43.931
MW-5	3/6/2008	12.90	0.14	3.0*	46.931
MW-5	4/1/2008	9.52	0.07	4.0*	50.931
MW-5	5/20/2008	8.68	0.07	7.0*	57.931
MW-5	6/18/2008	10.46	0.18	0.00	57.931
MW-5	7/16/2008	11.25	0.00	0.0375	57.968
MW-5	8/13/2008	--	--	2.125*	60.093
MW-5	9/3/2008	12.90	0.99	3.0*	63.093
MW-5	9/15/2008	12.75	0.15	4.0*	67.093
MW-5	10/15/2008	13.43	0.50	5.0*	72.093
MW-5	11/20/2008	13.55	0.63	2.625*	74.718
MW-5	12/18/2008	12.62	0.37	3.625*	78.343
MW-5	1/14/2009	12.43	0.11	4.0*	82.343
MW-5	2/17/2009	8.80	0.33	4.0*	86.343
MW-5	3/4/2009	8.46	0.16	4.0*	90.343
MW-5	4/8/2009	9.05	0.22	6.0*	96.343
MW-5	5/11/2009	9.10	0.32	8.0*	104.343
MW-5	6/16/2009	9.15	0.02	5.5*	109.843
MW-5	7/22/2009	9.33	0.12	6.0*	115.843
MW-5	8/6/2009	10.05	0.01	5.0*	120.843
MW-5	9/30/2009	10.55	0.06	8.0*	128.843
MW-5	10/28/2009	10.48	0	0	128.843
MW-5	11/13/2009	8.61	0.01	0.5*	129.343
MW-5	12/11/2009	7.83	0.01	1.0*	130.343
MW-5	1/26/2010	6.43	0.02	1.5*	131.843
MW-5	2/24/2010	6.72	0.02	2.0*	133.843
MW-5	3/23/2010	7.10	0.00	0	133.843
MW-5	4/19/2010	7.53	Sheen	0	133.843
MW-5	5/18/2010	8.96	Sheen	0	133.843
MW-5	6/10/2010	8.26	0.06	2.0*	135.843
MW-5	7/27/2010	8.60	0.09	1.5*	137.343
MW-5	8/31/2010	8.99	0.01	0	137.343
MW-5	9/16/2010	9.14	0.04	0	137.343
MW-5	10/26/2010	9.40	0.05	2.0*	139.343
MW-5	11/15/2010	9.50	0.01	0.5*	139.843
MW-5	12/15/2011	6.52	0	0	139.843
MW-5	1/31/2011	9.31	0.01	0.5*	140.343
MW-5	2/23/2011	8.33	0.01	0	140.343
MW-5	3/18/2011	7.65	Sheen	0	140.343
MW-5	9/28/2011	10.46	0.06	0	140.343
MW-5	3/8/2012	10.27	0.03	2.5	142.843
MW-5	9/13/2012	11.41	1.21	0.72	143.562
MW-10	6/16/2009	8.60	0.01	2.5*	2.500
MW-10	7/22/2009	9.68	0.01	3.0*	5.500
MW-10	8/6/2009	9.48	0	0	5.500
MW-10	9/30/2009	9.69	0.01	3.0*	8.500
MW-10	10/28/2009	8.53	0	0	8.500
MW-10	11/13/2009	9.11	0	0	8.500
MW-10	12/11/2009	8.81	0	0	8.500
MW-10	1/26/2010	7.86	0.01	0.5*	9.000
MW-10	2/24/2010	7.28	0	0	9.000
MW-10	3/23/2010	7.70	0.00	0	9.000
MW-10	4/19/2010	8.10	0	0	9.000
MW-10	5/18/2010	8.83	0	0	9.000
MW-10	6/10/2010	8.93	0.01	2.0*	11.000

Table 3
Summary of LNAPL Removal
CA-11109
4280 Foothill Blvd., Oakland, CA 94601

Well ID	Date of Removal Event	DTW (feet)	Product Thickness (feet)	Product Removed (gallons)	Cumulative Product Removed (gallons)
MW-10	7/27/2010	8.81	0	0	11.000
MW-10	8/31/2010	9.41	0	0	11.000
MW-10	9/16/2010	9.69	0.01	0	11.000
MW-10	10/26/2010	9.98	0.03	1.0*	12.000
MW-10	11/15/2010	10.15	0.00	0	12.000
MW-10	12/15/2010	8.71	0	0	12.000
MW-10	1/31/2011	9.05	0	0	12.000
MW-10	2/23/2011	7.99	0	0	12.000
MW-10	3/18/2011	8.10	0.00	0	12.000
MW-10	9/28/2011	10.36	0.29	0	12.000
MW-10	3/8/2012	10.51	0.32	4.5	16.500
MW-10	9/13/2012	10.73	0.01	0.0	16.507
MW-11	10/28/2009	8.00	0.00	0	0.000
MW-11	11/13/2009	9.24	0	0	0.000
MW-11	12/11/2009	9.06	0	0	0.000
MW-11	1/26/2010	6.98	0	0	0.000
MW-11	2/24/2010	7.07	0	0	0.000
MW-11	3/23/2010	7.25	0	0	0.000
MW-11	4/19/2010	7.95	0	0	0.000
MW-11	5/18/2010	8.26	0	0	0.000
MW-11	6/10/2010	9.65	Sheen	2.0*	2.000
MW-11	7/27/2010	8.61	0.00	0	2.000
MW-11	8/31/2010	9.35	0	0	2.000
MW-11	9/16/2010	9.42	0	0	2.000
MW-11	10/26/2010	9.90	0	0	2.000
MW-11	11/15/2010	10.00	0	0	2.000
MW-11	12/15/2010	8.51	0	0	2.000
MW-11	1/31/2011	9.07	0	0	2.000
MW-11	2/23/2011	7.60	0	0.00	2.000
MW-11	3/18/2011	7.01	0.00	0	2.000
MW-11	9/28/2011	9.88	0	0	2.000
MW-11	3/8/2012	9.71	0.00	0	2.000
MW-11	9/5/2012	10.6	Sheen	0	2.000
MW-12	9/30/2009	11.01	0.02	4.0*	4.000
MW-12	10/28/2009	10.40	0	0	4.000
MW-12	11/13/2009	10.13	0.00	0	4.000
MW-12	12/11/2009	10.22	0	0	4.000
MW-12	1/26/2010	8.67	0	0	4.000
MW-12	2/24/2010	10.21	0	0	4.000
MW-12	3/23/2010	11.16	Sheen	0	4.000
MW-12	4/19/2010	11.52	Sheen	0.5*	4.500
MW-12	5/18/2010	11.50	0	0	4.500
MW-12	6/10/2010	11.35	Sheen	1.0*	5.500
MW-12	7/27/2010	10.65	0.01	0.5*	6.000
MW-12	8/31/2010	10.71	0.1	1	7.000
MW-12	9/16/2010	11.54	0.02	0	7.000
MW-12	10/26/2010	11.35	0.02	1.0*	8.000
MW-12	11/15/2010	11.48	0.02	0.5*	8.500
MW-12	12/15/2010	12.78	0	0	8.500
MW-12	1/31/2011	11.45	0.01	0.5*	9.000
MW-12	2/23/2011	10.80	0.10	0	9.000
MW-12	3/18/2011	11.40	Sheen	0	9.000
MW-12	9/28/2011	11.48	0.2	0	9.000
MW-12	3/8/2012	11.92	0.32	4.5	13.500
MW-12	9/13/2012	11.72	1.3	0.72	14.219

Free Product Removed this Quarter: **1.445**
Total Free Product Removed: **176.288**

ACRONYMS:

-- = Not available/applicable/measured/calculated
* = FP/water mixture

NOTES:

All data collected following April 2006 was collected by Broadbent & Associates, Inc. The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants.



Appendix A

Field Methods

QUALITY ASSURANCE/QUALITY CONTROL FIELD METHODS

Field methods discussed herein were implemented to provide for accuracy and reliability of field activities, data collection, sample collection, and handling. Discussion of these methods is provided below.

1.0 Equipment Calibration

Equipment calibration was performed per equipment manufacturer specifications before use.

2.0 Depth to Groundwater and Light Non-Aqueous Phase Liquid Measurement

Depth to groundwater was measured in wells identified for gauging in the scope of work using a decontaminated water level indicator. The depth to water measurement was taken from a cut notch or permanent mark at the top of the well casing to which the well head elevation was originally surveyed.

Once depth to water was measured, an oil/water interface meter or a new disposable bailer was utilized to evaluate the presence and, if present, to measure the “apparent” thickness of light non-aqueous phase liquid (LNAPL) in the well. If LNAPL was present in the well, groundwater purging and sampling were not performed, unless sampling procedures in the scope of work specified collection of samples in the presence of LNAPL. Otherwise, time allowing, LNAPL was bailed from the well using either a new disposable bailer, or the disposal bailer previously used for initial LNAPL assessment. Bailing of LNAPL continued until the thickness of LNAPL (or volume) stabilized in each bailer pulled from the well, or LNAPL was no longer present. After LNAPL thickness either stabilized or was eliminated, periodic depth to water and depth to LNAPL measurements were collected as product came back into the well to evaluate product recovery rate and to aid in further assessment of LNAPL in the subsurface. LNAPL thickness measurements were recorded as “apparent.” If a bailer was used for LNAPL thickness measurement, the field sampler noted the bailer entry diameter and chamber diameter to enable correction of thickness measurements. Recovered LNAPL was stored on-site in a labeled steel drum(s) or other appropriate container(s) prior to disposal.

3.0 Well Purging and Groundwater Sample Collection

Well purging and groundwater sampling were performed in wells specified in the scope of work after measuring depth to groundwater and evaluating the presence of LNAPL. Purging and sampling were performed using one of the methods detailed below. The method used was noted in the field records. Purge water was stored on-site in labeled steel drum(s) or other appropriate container(s) prior to disposal or on-site treatment (in cases where treatment using an on-site system is authorized).

3.1 Purging a Predetermined Well Volume

Purging a predetermined well volume is performed per ASTM International (ASTM) D4448-01. This purging method has the objective of removing a predetermined volume of stagnant water from the well prior to sampling. The volume of stagnant water

is defined as either the volume of water contained within the well casing, or the volume within the well casing and sand/gravel in the annulus if natural flow through these is deemed insufficient to keep them flushed out.

This purging method involves removal of a minimum of three stagnant water volumes from the well using a decontaminated pump with new disposable plastic discharge or suction tubing, dedicated well tubing, or using a new disposable or decontaminated reusable bailer. If a new disposable bailer was used for assessment of LNAPL, that bailer may be used for purging. The withdrawal rate used is one that minimizes drawdown while satisfying time constraints.

To evaluate when purging is complete, one or more groundwater stabilization parameters are monitored and recorded during purging activities until stabilization is achieved. Most commonly, stabilization parameters include temperature, conductivity, and pH, but field procedures detailed in the scope of work may also include monitoring of dissolved oxygen concentrations, oxidation reduction potential, and/or turbidity¹. Parameters are considered stable when two (2) consecutive readings recorded three (3) minutes apart fall within ranges provided below in Table 1. In the event that the parameters have not stabilized and five (5) well casing volumes have been removed, purging activities will cease and be considered complete. Once the well is purged, a groundwater sample(s) is collected from the well using a new disposable bailer. If a new disposable bailer was used for purging, that bailer may be used to collect the sample(s). A sample is not collected if the well is inadvertently purged dry.

Table 1. Criteria for Defining Stabilization of Water-Quality Indicator Parameters

Parameter	Stabilization Criterion
Temperature	± 0.2°C (± 0.36°F)
pH	± 0.1 standard units
Conductivity	± 3%
Dissolved oxygen	± 10%
Oxidation reduction potential	± 10 mV
Turbidity ¹	± 10% or 1.0 NTU (whichever is greater)

3.2 Low-Flow Purging and Sampling

“Low-Flow”, “Minimal Drawdown”, or “Low-Stress” purging is performed per ASTM D6771-02. It is a method of groundwater removal from within a well’s screened interval that is intended to minimize drawdown and mixing of the water column in the well casing. This is accomplished by pumping the well using a decontaminated pump with new disposable plastic discharge or suction tubing or dedicated well tubing at a low flow rate while evaluating the groundwater elevation during pumping.

¹ As stated in ASTM D6771-02, turbidity is not a chemical parameter and not indicative of when formation-quality water is being purged; however, turbidity may be helpful in evaluating stress on the formation during purging. Turbidity measurements are taken at the same time that stabilization parameter measurements are made, or, at a minimum, once when purging is initiated and again just prior to sample collection, after stabilization parameters have stabilized. To avoid artifacts in sample analysis, turbidity should be as low as possible when samples are collected. If turbidity values are persistently high, the withdrawal rate is lowered until turbidity decreases. If high turbidity persists even after lowering the withdrawal rate, the purging is stopped for a period of time until turbidity settles, and the purging process is then restarted. If this fails to solve the problem, the purging/sampling process for the well is ceased, and well maintenance or redevelopment is considered.

The low flow pumping rate is well specific and is generally established at a volume that is less than or equal to the natural recovery rate of the well. A pump with adjustable flow rate control is positioned with the intake at or near the mid-point of the submerged well screen. The pumping rate used during low-flow purging is low enough to minimize mobilization of particulate matter and drawdown (stress) of the water column. Low-flow purging rates will vary based on the individual well characteristics; however, the purge rate should not exceed 1.0 Liter per minute (L/min) or 0.25 gallon per minute (gal/min). Low-flow purging should begin at a rate of approximately 0.1 L/min (0.03 gal/min)², or the lowest rate possible, and be adjusted based on an evaluation of drawdown. Water level measurements should be recorded at approximate one (1) to two (2) minute intervals until the low-flow rate has been established, and drawdown is minimized. As a general rule, drawdown should not exceed 25% of the distance between the top of the water column and the pump in-take.

To evaluate when purging is complete, one or more groundwater stabilization parameters are monitored and recorded during purging activities until stabilization is achieved. Most commonly, stabilization parameters include temperature, conductivity, and pH, but field procedures detailed in the scope of work may also include monitoring of dissolved oxygen concentrations, oxidation reduction potential, and/or turbidity¹. The frequency between measurements will be at an interval of one (1) to three (3) minutes; however, if a flow cell is used, the frequency will be determined based on the time required to evacuate one cell volume. Stabilization is defined as three (3) consecutive readings recorded several minutes apart falling within ranges provided in Table 1. Samples will be collected by filling appropriate containers from the pump discharge tubing at a rate not to exceed the established pumping rate.

3.3 Minimal Purge, Discrete Depth, and Passive Sampling

Per ASTM D4448-01, sampling techniques that do not rely on purging, or require only minimal purging, may be used if a particular zone within a screened interval is to be sampled or if a well is not capable of yielding sufficient groundwater for purging. To properly use these sampling techniques, a water sample is collected within the screened interval with little or no mixing of the water column within the casing. These techniques include minimal purge sampling which uses a dedicated sampling pump capable of pumping rates of less than 0.1 L/min (0.03 gal/min)², discrete depth sampling using a bailer that allows groundwater entry at a controlled depth (e.g. differential pressure bailer), or passive (diffusion) sampling. These techniques are based on certain studies referenced in ASTM D4448-01 that indicate that under certain conditions, natural groundwater flow is laminar and horizontal with little or no mixing within the well screen.

² According to ASTM D4448-01, studies have indicated that at flow rates of 0.1 L/min, low-density polyethylene (LDPE) and plasticized polypropylene tubing materials are prone to sorption. Therefore, TFE-fluorocarbon or other appropriate tubing material is used, particularly when tubing lengths of 50 feet or longer are used.

4.0 Decontamination

Reusable groundwater sampling equipment were cleaned using a solution of Alconox or other acceptable detergent, rinsed with tap water, and finally rinsed with distilled water prior to use in each well. Decontamination water was stored on-site in labeled steel drum(s) or other appropriate container(s) prior to disposal.

5.0 Sample Containers, Labeling, and Storage

Samples were collected in laboratory prepared containers with appropriate preservative (if preservative was required). Samples were properly labeled (site name, sample I.D., sampler initials, date, and time of collection) and stored chilled (refrigerator or ice chest with ice) until delivery to a certified laboratory, under chain of custody procedures.

6.0 Chain of Custody Record and Procedure

The field sampler was personally responsible for care and custody of the samples collected until they were properly transferred to another party. To document custody and transfer of samples, a Chain of Custody Record was prepared. The Chain of Custody Record provided identification of the samples corresponding to sample labels and specified analyses to be performed by the laboratory. The original Chain of Custody Record accompanied the shipment, and a copy of the record was stored in the project file. When the samples were transferred, the individuals relinquishing and receiving them signed, dated, and noted the time of transfer on the record.

7.0 Field Records

Daily Report and data forms were completed by staff personnel to provide daily record of significant events, observations, and measurements. Field records were signed, dated, and stored in the project file.



Appendix B

Field Data Sheets



GROUNDWATER MONITORING SITE SHEET

Project: Arcadis 11109

Project No.: 09-80-646 Date: 9/5/12

Field Representative: JR

Elevation: _____

Formation recharge rate is historically: High Low (circle one)

W. L. Indicator ID #: _____ Oil/Water Interface ID #: _____ (List #s of all equip used.)

WELL ID RECORD					WELL GAUGING RECORD					LAB ANALYSES					
Well ID	Well Sampling Order	As-Built Well Diameter (inches)	As-Built Well Screen Interval (ft)	Previous Depth to Water (ft)	Time (24:00)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)*	Depth to Water (ft)	Well Total Depth (ft)						
MW-2					0808			dry	12.81						
MW-3					0925			11.42	31.42						
MW-4					0952	10.40		15.90	26.74					11.80	
MW-5					1121	11.40		15.80	32.07					10.90	
MW-6					1029			15.80	34.49						
MW-7					0841			11.60	33.32						
MW-8					-			-	29.45					* COULD NOT TAG ROAD APPEARS TO BE RECENTLY PAVED	
MW-9					0826			11.18	29.17						
MW-10					1131	10.24	0.01	10.25	30.00						
MW-11					1058			10.60	30.00						
MW-12					1152	10.20	1.43	11.63	30.00						

* Device used to measure LNAPL thickness: Bailer Oil/Water Interface Meter (circle one)
 If bailer used, note bailer dimensions (inches): Entry Diameter _____ Chamber Diameter _____

Signature: _____



GROUNDWATER SAMPLING DATA SHEET

Page 2 of 4

Project: Arcadis 11109 Project No.: 09-88-646 Date: 9/5/12

Field Representative: JR

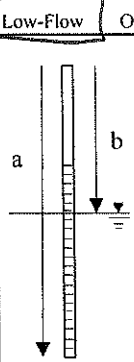
Well ID: MW-3 Start Time: _____ End Time: _____ Total Time (minutes): _____

PURGE EQUIPMENT _____ Disp. Bailer _____ 120V Pump _____ Flow Cell
 Disp. Tubing _____ 12V Pump Peristaltic Pump Other/ID#: _____

WELL HEAD INTEGRITY (cap, lock, vault, etc.) _____ Comments: _____
 Good _____ Improvement Needed _____ (circle one)

PURGING/SAMPLING METHOD _____ Predetermined Well Volume Low-Flow _____ Other: _____ (circle one)

PREDETERMINED WELL VOLUME					LOW-FLOW	
Casing Diameter Unit Volume (gal/ft) (circle one)					Previous Low-Flow Purge Rate: _____ (lpm)	
1" (0.04) 1.25" (0.08) 2" (0.17) 3" (0.38) Other: _____					Total Well Depth (a): <u>31.42</u> (ft)	
4" (0.66) 6" (1.50) 8" (2.60) 12" (5.81) _____ (____)					Initial Depth to Water (b): <u>11.42</u> (ft)	
Total Well Depth (a): _____ (ft)					Pump In-take Depth = b + (a-b)/2: <u>21.42</u> (ft)	
Initial Depth to Water (b): _____ (ft)					Maximum Allowable Drawdown = (a-b)/8: <u>2.5</u> (ft)	
Water Column Height (WCH) = (a - b): _____ (ft)					Low-Flow Purge Rate: <u>0.25</u> (Lpm)*	
Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)					Comments: _____	
Three Casing Volumes = WCV x 3: _____ (gal)						
Five Casing Volumes = WCV x 5: _____ (gal)						
Pump Depth (if pump used): _____ (ft)						



GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (L)	Temperature °C	pH	Conductivity (µS or mS)	DO mg/L	ORP mV	Turbidity NTU	NOTES Odor, color, sheen or other
0930	0	21.0	7.08	752	6.66	190		
0932	0.5	21.9	7.00	750	1.51	192		
0934	1.0	22.3	6.92	750	1.05	191		
0936	1.5	22.4	6.89	740	0.98	193		

Previous Stabilized Parameters _____

PURGE COMPLETION RECORD Low Flow & Parameters Stable _____ 3 Casing Volumes & Parameters Stable _____ 5 Casing Volumes
 Other: _____

SAMPLE COLLECTION RECORD		GEOCHEMICAL PARAMETERS	
Depth to Water at Sampling: <u>12.43</u> (ft)		Parameter	Time
Sample Collected Via: _____ Disp. Bailer _____ Dedicated Pump Tubing		DO (mg/L)	<u>0936</u>
<input checked="" type="checkbox"/> Disp. Pump Tubing _____ Other: _____		Ferrous Iron (mg/L)	
Sample ID: <u>MW-3(9/5/12)</u> Sample Collection Time: <u>0940</u> (24:00)		Redox Potential (mV)	<u>193</u>
Containers (#): <u>3</u> VOA (<input checked="" type="checkbox"/> preserved or _____ unpreserved) _____ Liter Amber		Alkalinity (mg/L)	
Other: _____ Other: _____		Other: <u>Turbidity</u>	<u>0.0</u>
Other: _____ Other: _____		Other: _____	

Signature: [Signature] Revision: 8/19/11



GROUNDWATER SAMPLING DATA SHEET

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Project: Acedis 11109 Project No.: 09-88-646 Date: 9/5/12
 Field Representative: JR
 Well ID: MW-4 Start Time: _____ End Time: _____ Total Time (minutes): _____

PURGE EQUIPMENT _____ Disp. Bailer _____ 120V Pump _____ Flow Cell
 Disp. Tubing _____ 12V Pump Peristaltic Pump Other/ID#: _____

WELL HEAD INTEGRITY (cap, lock, vault, etc.) _____ Comments: _____
 Good Improvement Needed (circle one)

PURGING/SAMPLING METHOD Predetermined Well Volume Low-Flow Other: _____ (circle one)

PREDETERMINED WELL VOLUME					LOW-FLOW	
Casing Diameter Unit Volume (gal/ft) (circle one)					Previous Low-Flow Purge Rate: _____ (lpm)	
1" (0.04)	1.25" (0.08)	2" (0.17)	3" (0.38)	Other: _____	Total Well Depth (a): <u>26.74</u> (ft)	
4" (0.66)	6" (1.50)	8" (2.60)	12" (5.81)	_____ (____)	Initial Depth to Water (b): <u>15.90</u> (ft)	
Total Well Depth (a): _____ (ft)					Pump In-take Depth = b + (a-b)/2: <u>21.32</u> (ft)	
Initial Depth to Water (b): _____ (ft)					Maximum Allowable Drawdown = (a-b)/8: <u>1.36</u> (ft)	
Water Column Height (WCH) = (a - b): _____ (ft)					Low-Flow Purge Rate: <u>0.25</u> (Lpm)*	
Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)					Comments: _____	
Three Casing Volumes = WCV x 3: _____ (gal)					*Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.	
Five Casing Volumes = WCV x 5: _____ (gal)						
Pump Depth (if pump used): _____ (ft)						

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (L)	Temperature °C	pH	Conductivity µS or mS	DO mg/L	ORP mV	Turbidity NTU	NOTES Odor, color, sheen or other
<u>09:09</u>	<u>0</u>	<u>19.7</u>	<u>6.90</u>	<u>630</u>	<u>1.78</u>	<u>85</u>		
<u>10:01</u>	<u>0.5</u>	<u>20.1</u>	<u>6.81</u>	<u>638</u>	<u>1.41</u>	<u>78</u>		
<u>10:03</u>	<u>1.0</u>	<u>20.2</u>	<u>6.78</u>	<u>633</u>	<u>1.19</u>	<u>53</u>		
<u>10:05</u>	<u>1.5</u>	<u>20.3</u>	<u>6.63</u>	<u>631</u>	<u>1.09</u>	<u>51</u>		
<u>10:07</u>	<u>2.0</u>	<u>20.4</u>	<u>6.60</u>	<u>629</u>	<u>1.04</u>	<u>50</u>		

Previous Stabilized Parameters _____

PURGE COMPLETION RECORD Low Flow & Parameters Stable _____ 3 Casing Volumes & Parameters Stable _____ 5 Casing Volumes
 Other: _____

SAMPLE COLLECTION RECORD		GEOCHEMICAL PARAMETERS	
Depth to Water at Sampling: <u>16.93</u> (ft)		Parameter	Time
Sample Collected Via: _____ Disp. Bailer _____ Dedicated Pump Tubing		DO (mg/L)	<u>1007</u>
<input checked="" type="checkbox"/> Disp. Pump Tubing Other: _____		Ferrous Iron (mg/L)	
Sample ID: <u>MW-4 (9/5/12)</u> Sample Collection Time: <u>100</u> (24:00)		Redox Potential (mV)	<u>1007</u>
Containers (#): <u>3</u> VOA (_____ preserved or _____ unpreserved) _____ Liter Amber		Alkalinity (mg/L)	
Other: _____ Other: _____		Other: <u>Turbidity</u>	<u>3.7</u>
Other: _____ Other: _____		Other: _____	

Signature:



GROUNDWATER SAMPLING DATA SHEET

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Project: Acad's 11109 Project No.: 09-86-646 Date: 9/5/12
 Field Representative: JR
 Well ID: MW-0 Start Time: _____ End Time: _____ Total Time (minutes): _____

PURGE EQUIPMENT _____ Disp. Bailer _____ 120V Pump _____ Flow Cell
 Disp. Tubing _____ 12V Pump Peristaltic Pump Other/ID#: _____

WELL HEAD INTEGRITY (cap, lock, vault, etc.) _____ Comments: _____
 Good _____ Improvement Needed _____ (circle one)

PURGING/SAMPLING METHOD _____ Predetermined Well Volume Low-Flow _____ Other: _____ (circle one)

PREDETERMINED WELL VOLUME					LOW-FLOW	
Casing Diameter Unit Volume (gal/ft) (circle one)					Previous Low-Flow Purge Rate: _____ (lpm)	
1" (0.04)	1.25" (0.08)	2" (0.17)	3" (0.38)	Other: _____	Total Well Depth (a): <u>34.49</u> (ft)	
4" (0.66)	6" (1.50)	8" (2.60)	12" (5.81)	_____ (____)	Initial Depth to Water (b): <u>15.28</u> (ft)	
Total Well Depth (a): _____ (ft)					Pump In-take Depth = b + (a-b)/2: <u>25.19</u> (ft)	
Initial Depth to Water (b): _____ (ft)					Maximum Allowable Drawdown = (a-b)/8: <u>2.33</u> (ft)	
Water Column Height (WCH) = (a - b): _____ (ft)					Low-Flow Purge Rate: <u>0.25</u> (Lpm)*	
Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)					Comments: _____	
Three Casing Volumes = WCV x 3: _____ (gal)					*Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.	
Five Casing Volumes = WCV x 5: _____ (gal)						
Pump Depth (if pump used): _____ (ft)						

Time (24:00)	Cumulative Volume (L)	Temperature °C	pH	Conductivity (µS or mS)	DO mg/L	ORP mV	Turbidity NTU	NOTES Odor, color, sheen or other
<u>1030</u>	<u>0</u>	<u>22.3</u>	<u>6.81</u>	<u>550</u>	<u>2.16</u>	<u>207</u>		
<u>1035</u>	<u>0.5</u>	<u>21.1</u>	<u>6.63</u>	<u>557</u>	<u>1.82</u>	<u>208</u>		
<u>1040</u>	<u>1.0</u>	<u>21.0</u>	<u>6.55</u>	<u>555</u>	<u>1.17</u>	<u>212</u>		
<u>1042</u>	<u>1.5</u>	<u>21.0</u>	<u>6.58</u>	<u>554</u>	<u>1.17</u>	<u>213</u>		

Previous Stabilized Parameters _____

PURGE COMPLETION RECORD Low Flow & Parameters Stable _____ 3 Casing Volumes & Parameters Stable _____ 5 Casing Volumes
 Other: _____

SAMPLE COLLECTION RECORD		GEOCHEMICAL PARAMETERS	
Depth to Water at Sampling: <u>17.04</u> (ft)		Parameter	Measurement
Sample Collected Via: _____ Disp. Bailer _____ Dedicated Pump Tubing		DO (mg/L)	<u>1.10</u>
<input checked="" type="checkbox"/> Disp. Pump Tubing _____ Other: _____		Ferrous Iron (mg/L)	
Sample ID: <u>MW-6(9/5/12)</u> Sample Collection Time: <u>1045</u> (24:00)		Redox Potential (mV)	<u>1042</u> <u>213</u>
Containers (#): <u>3</u> VOA (<input checked="" type="checkbox"/> preserved or _____ unpreserved) _____ Liter Amber		Alkalinity (mg/L)	
Other: _____ Other: _____		Other: <u>turbidity</u>	<u>0.0</u>
Other: _____ Other: _____		Other: _____	

Signature: [Handwritten Signature]



GROUNDWATER SAMPLING DATA SHEET

Project: Arcaclis 11109 Project No.: 09-88-646 Date: 9/5/12

Field Representative: JR

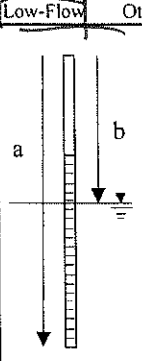
Well ID: MW-7 Start Time: _____ End Time: _____ Total Time (minutes): _____

PURGE EQUIPMENT Disp. Bailer 120V Pump Flow Cell
 Disp. Tubing 12V Pump Peristaltic Pump Other/ID#: _____

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments: _____
 Good Improvement Needed (circle one)

PURGING/SAMPLING METHOD Predetermined Well Volume Low-Flow Other: _____ (circle one)

PREDETERMINED WELL VOLUME					LOW-FLOW	
Casing Diameter Unit Volume (gal/ft) (circle one)					Previous Low-Flow Purge Rate: _____ (lpm)	
1" (0.04)	1.25" (0.08)	2" (0.17)	3" (0.38)	Other: _____	Total Well Depth (a): <u>33.32</u> (ft)	
4" (0.66)	6" (1.50)	8" (2.60)	12" (5.81)	_____ (____)	Initial Depth to Water (b): <u>11.60</u> (ft)	
Total Well Depth (a): _____ (ft)					Pump In-take Depth = b + (a-b)/2: <u>22.46</u> (ft)	
Initial Depth to Water (b): _____ (ft)					Maximum Allowable Drawdown = (a-b)/8: <u>2.72</u> (ft)	
Water Column Height (WCH) = (a - b): _____ (ft)					Low-Flow Purge Rate: _____ (Lpm)*	
Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)					Comments: _____	
Three Casing Volumes = WCV x 3: _____ (gal)					*Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.	
Five Casing Volumes = WCV x 5: _____ (gal)						
Pump Depth (if pump used): _____ (ft)						



GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (L)	Temperature °C	pH	Conductivity (µS or mS)	DO mg/L	ORP mV	Turbidity NTU	NOTES
<u>0854</u>	<u>0</u>	<u>20.4</u>	<u>7.31</u>	<u>637</u>	<u>2.55</u>	<u>130</u>		<u>Clear; HC odor</u>
<u>0956</u>	<u>0.5</u>	<u>20.6</u>	<u>7.40</u>	<u>685</u>	<u>2.07</u>	<u>106</u>		
<u>0858</u>	<u>1.0</u>	<u>20.7</u>	<u>7.39</u>	<u>660</u>	<u>1.79</u>	<u>76</u>		
<u>0900</u>	<u>1.5</u>	<u>20.7</u>	<u>7.36</u>	<u>663</u>	<u>1.73</u>	<u>75</u>		
Previous Stabilized Parameters								

PURGE COMPLETION RECORD Low Flow & Parameters Stable 3 Casing Volumes & Parameters Stable 5 Casing Volumes
 Other: _____

SAMPLE COLLECTION RECORD		GEOCHEMICAL PARAMETERS	
Depth to Water at Sampling: <u>12.72</u> (ft)		Parameter	Time
Sample Collected Via: <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Dedicated Pump Tubing		DO (mg/L)	<u>0900</u>
<input checked="" type="checkbox"/> Disp. Pump Tubing Other: _____		Ferrous Iron (mg/L)	
Sample ID: <u>MW-7(9/5/12)</u> Sample Collection Time: <u>0905</u> (24:00)		Redox Potential (mV)	<u>0900</u>
Containers (#): <u>3</u> VOA (<input checked="" type="checkbox"/> preserved or <input type="checkbox"/> unpreserved) <input type="checkbox"/> Liter Amber		Alkalinity (mg/L)	
Other: _____ Other: _____		Other: <u>Turbidity</u>	<u>53.4</u>
Other: _____ Other: _____		Other: _____	

Signature:



GROUNDWATER SAMPLING DATA SHEET

Page 7 of 9

Project: Arcadis 11109 Project No.: 09-88-646 Date: 9/5/12

Field Representative: JR

Well ID: MW-10 Start Time: End Time: Total Time (minutes):

PURGE EQUIPMENT: Disp. Bailer, 120V Pump, Flow Cell, Disp. Tubing, 12V Pump, Peristaltic Pump, Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments: Good Improvement Needed (circle one)

PURGING/SAMPLING METHOD: Predetermined Well Volume, Low-Flow, Other: (circle one)

PREDETERMINED WELL VOLUME and LOW-FLOW sections with diagrams and calculation fields for well depth, water column height, and volume.

GROUNDWATER STABILIZATION PARAMETER RECORD

Table with 9 columns: Time (24:00), Cumulative Volume (L), Temperature (°C), pH, Conductivity (µS or mS), DO (mg/L), ORP (mV), Turbidity (NTU), NOTES. Includes handwritten notes: 'well contained', '0.01' of product', 'did not sample'.

Previous Stabilized Parameters

PURGE COMPLETION RECORD: Low Flow & Parameters Stable, 3 Casing Volumes & Parameters Stable, 5 Casing Volumes, Other:

SAMPLE COLLECTION RECORD and GEOCHEMICAL PARAMETERS sections. Includes fields for depth to water, sample collection time, containers, and parameters like DO, Ferrous Iron, Redox Potential, Alkalinity.

Signature: [Handwritten Signature]

Chain of Custody Record

Pleasanton, CA 94566

phone 925.484.1919 fax 925.600.3002

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Kristine Tidwell				Site Contact:				Date:				COC No:	
Broadbent and Associates, Inc.		Tel/Fax: 707-455-7290 / 707-455-7295				Lab Contact: Dimple Sharma				Carrier:				_____ of _____ COCs	
Address: 875 Cotting Lane, Suite G		Analysis Turnaround Time				Filtered Sample GRO by 8260B BTEX and 5 Olys by 8260B EDB, 1,2-DCA and Ethanol by 8260B MTBE by 8260B								Job No.	
City/State/Zip: Vallejo, CA 94591		Calendar (C) or Work Days (W) _____												SDG No.	
(707) 455-7290 Phone		TAT if different from Below ___Standard_X_												Sample Specific Notes:	
(707) 455-7295 FAX		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day													
Project Name: BP 11109															
Site: 4280 Foothill, Oakland															
P O # GP09BPNA.C106															
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	GRO by 8260B	BTEX and 5 Olys by 8260B	EDB, 1,2-DCA and Ethanol by 8260B	MTBE by 8260B					
MW-3 (9/5/12)	9/5/12	0940	GRAB	AQ	3					X					
MW-4 (9/5/12)		1010	GRAB	AQ	3		X	X	X	X					
MW-5 (9/5/12)			GRAB	AQ	3		X	X	X						
MW-6 (9/5/12)		1045	GRAB	AQ	3					X					
MW-7 (9/5/12)		0905	GRAB	AQ	3		X	X	X						
MW-10 (9/5/12)			GRAB	AQ	3		X	X	X						
MW-11 (9/5/12)		1115	GRAB	AQ	3		X	X	X						
MW-12 (9/5/12)			GRAB	AQ	3		X	X	X						
TB-11109-09052012	9/5/12	1230		AQ	1						ON HOLD				
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
Possible Hazard Identification						Return To Client									
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements & Comments:															
MW-11 had a sheet upon sampling.															
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:					
		Broadbent		9/5/12 1527		Joan Mueller		TestAmerica		9/5/12 1527		4-38			
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:					
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:					



DAILY REPORT

Page 1 of 1

Project: Arcadis 11109 Project No.: 09-88-646

Field Representative(s): Alex Martinez Day: Thursday Date: 9/13/12

Time Onsite: From: 0715 To: 1015 ; From: To: ; From: To:

- x Signed HASP x Safety Glasses x Hard Hat x Steel Toe Boots x Safety Vest
x UST Emergency System Shut-off Switches Located x Proper Gloves
x Proper Level of Barricading Other PPE (describe)

Weather: Overcast

Equipment In Use: Bailers, interface probe

Visitors: None

TIME:

WORK DESCRIPTION:

0715 Arrived onsite / conducted safety tailgate

0725 Set up for product bailing @ MW-5/10

0920 Set up @ MW-12

Product from wells are stored in a 55 gallon drum onsite (High St. side of the site). Approximately one quarter of the drum is filled.

1015 Completed fieldwork and offsite

Signature: Alex Martinez



Appendix C

Laboratory Report and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

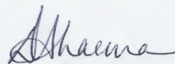
ANALYTICAL REPORT

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

TestAmerica Job ID: 720-44360-1
Client Project/Site: BP #11109, Oakland

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

Attn: Hollis Phillips



Authorized for release by:
9/12/2012 4:36:07 PM

Dimple Sharma
Project Manager I
dimple.sharma@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
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 #11109, Oakland

TestAmerica Job ID: 720-44360-1

Job ID: 720-44360-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-44360-1

Comments

No additional comments.

Receipt

The samples were received on 9/5/2012 3:27 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3° C.

GC/MS VOA

No analytical or quality issues were noted.

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW-3 (9/5/12)

Lab Sample ID: 720-44360-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	6.5		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW-4 (9/5/12)

Lab Sample ID: 720-44360-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	47		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C6-C12	56		50		ug/L	1		8260B/CA_LUFT MS	Total/NA
TBA	18		4.0		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW- 6 (9/5/12)

Lab Sample ID: 720-44360-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2.1		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW-7 (9/5/12)

Lab Sample ID: 720-44360-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	3.0		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Benzene	16		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	0.66		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	1.3		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	1.4		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C6-C12	830		50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW-11 (9/5/12)

Lab Sample ID: 720-44360-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	6.2		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Benzene	1000		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	1200		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Toluene	1600		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	4500		100		ug/L	100		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C6-C12	22000		5000		ug/L	100		8260B/CA_LUFT MS	Total/NA

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW-3 (9/5/12)

Lab Sample ID: 720-44360-1

Date Collected: 09/05/12 09:40

Matrix: Water

Date Received: 09/05/12 15:27

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	6.5		0.50		ug/L			09/07/12 14:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		67 - 130					09/07/12 14:15	1
1,2-Dichloroethane-d4 (Surr)	95		75 - 138					09/07/12 14:15	1
Toluene-d8 (Surr)	100		70 - 130					09/07/12 14:15	1



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW-4 (9/5/12)

Lab Sample ID: 720-44360-2

Date Collected: 09/05/12 10:10

Matrix: Water

Date Received: 09/05/12 15:27

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	47		0.50		ug/L			09/07/12 03:17	1
Benzene	ND		0.50		ug/L			09/07/12 03:17	1
EDB	ND		0.50		ug/L			09/07/12 03:17	1
1,2-DCA	ND		0.50		ug/L			09/07/12 03:17	1
Ethylbenzene	ND		0.50		ug/L			09/07/12 03:17	1
Toluene	ND		0.50		ug/L			09/07/12 03:17	1
Xylenes, Total	ND		1.0		ug/L			09/07/12 03:17	1
Gasoline Range Organics (GRO)	56		50		ug/L			09/07/12 03:17	1
-C6-C12									
TBA	18		4.0		ug/L			09/07/12 03:17	1
Ethanol	ND		250		ug/L			09/07/12 03:17	1
DIPE	ND		0.50		ug/L			09/07/12 03:17	1
TAME	ND		0.50		ug/L			09/07/12 03:17	1
Ethyl t-butyl ether	ND		0.50		ug/L			09/07/12 03:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		67 - 130					09/07/12 03:17	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 138					09/07/12 03:17	1
Toluene-d8 (Surr)	101		70 - 130					09/07/12 03:17	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW- 6 (9/5/12)

Lab Sample ID: 720-44360-3

Date Collected: 09/05/12 10:45

Matrix: Water

Date Received: 09/05/12 15:27

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	2.1		0.50		ug/L			09/07/12 14:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		67 - 130					09/07/12 14:46	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 138					09/07/12 14:46	1
Toluene-d8 (Surr)	99		70 - 130					09/07/12 14:46	1



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW-7 (9/5/12)

Lab Sample ID: 720-44360-4

Date Collected: 09/05/12 09:05

Matrix: Water

Date Received: 09/05/12 15:27

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	3.0		0.50		ug/L			09/07/12 03:47	1
Benzene	16		0.50		ug/L			09/07/12 03:47	1
EDB	ND		0.50		ug/L			09/07/12 03:47	1
1,2-DCA	ND		0.50		ug/L			09/07/12 03:47	1
Ethylbenzene	0.66		0.50		ug/L			09/07/12 03:47	1
Toluene	1.3		0.50		ug/L			09/07/12 03:47	1
Xylenes, Total	1.4		1.0		ug/L			09/07/12 03:47	1
Gasoline Range Organics (GRO)	830		50		ug/L			09/07/12 03:47	1
-C6-C12									
TBA	ND		4.0		ug/L			09/07/12 03:47	1
Ethanol	ND		250		ug/L			09/07/12 03:47	1
DIPE	ND		0.50		ug/L			09/07/12 03:47	1
TAME	ND		0.50		ug/L			09/07/12 03:47	1
Ethyl t-butyl ether	ND		0.50		ug/L			09/07/12 03:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		67 - 130					09/07/12 03:47	1
1,2-Dichloroethane-d4 (Surr)	100		75 - 138					09/07/12 03:47	1
Toluene-d8 (Surr)	104		70 - 130					09/07/12 03:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW-11 (9/5/12)

Lab Sample ID: 720-44360-5

Date Collected: 09/05/12 11:15

Matrix: Water

Date Received: 09/05/12 15:27

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	6.2		5.0		ug/L			09/07/12 04:17	10
Benzene	1000		5.0		ug/L			09/07/12 04:17	10
EDB	ND		5.0		ug/L			09/07/12 04:17	10
1,2-DCA	ND		5.0		ug/L			09/07/12 04:17	10
Ethylbenzene	1200		50		ug/L			09/08/12 04:59	100
Toluene	1600		5.0		ug/L			09/07/12 04:17	10
Xylenes, Total	4500		100		ug/L			09/08/12 04:59	100
Gasoline Range Organics (GRO)	22000		5000		ug/L			09/08/12 04:59	100
-C6-C12									
TBA	ND		40		ug/L			09/07/12 04:17	10
Ethanol	ND		2500		ug/L			09/07/12 04:17	10
DIPE	ND		5.0		ug/L			09/07/12 04:17	10
TAME	ND		5.0		ug/L			09/07/12 04:17	10
Ethyl t-butyl ether	ND		5.0		ug/L			09/07/12 04:17	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		67 - 130					09/07/12 04:17	10
4-Bromofluorobenzene	107		67 - 130					09/08/12 04:59	100
1,2-Dichloroethane-d4 (Surr)	95		75 - 138					09/07/12 04:17	10
1,2-Dichloroethane-d4 (Surr)	114		75 - 138					09/08/12 04:59	100
Toluene-d8 (Surr)	102		70 - 130					09/07/12 04:17	10
Toluene-d8 (Surr)	101		70 - 130					09/08/12 04:59	100

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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

Lab Sample ID: MB 720-120430/4

Matrix: Water

Analysis Batch: 120430

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			09/06/12 19:45	1
Benzene	ND		0.50		ug/L			09/06/12 19:45	1
EDB	ND		0.50		ug/L			09/06/12 19:45	1
1,2-DCA	ND		0.50		ug/L			09/06/12 19:45	1
Ethylbenzene	ND		0.50		ug/L			09/06/12 19:45	1
Toluene	ND		0.50		ug/L			09/06/12 19:45	1
Xylenes, Total	ND		1.0		ug/L			09/06/12 19:45	1
Gasoline Range Organics (GRO)	ND		50		ug/L			09/06/12 19:45	1
-C6-C12									
TBA	ND		4.0		ug/L			09/06/12 19:45	1
Ethanol	ND		250		ug/L			09/06/12 19:45	1
DIPE	ND		0.50		ug/L			09/06/12 19:45	1
TAME	ND		0.50		ug/L			09/06/12 19:45	1
Ethyl t-butyl ether	ND		0.50		ug/L			09/06/12 19:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		67 - 130		09/06/12 19:45	1
1,2-Dichloroethane-d4 (Surr)	106		75 - 138		09/06/12 19:45	1
Toluene-d8 (Surr)	98		70 - 130		09/06/12 19:45	1

Lab Sample ID: LCS 720-120430/5

Matrix: Water

Analysis Batch: 120430

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	26.9		ug/L		108	62 - 130
Benzene	25.0	26.3		ug/L		105	79 - 130
EDB	25.0	28.3		ug/L		113	70 - 130
1,2-DCA	25.0	26.6		ug/L		106	61 - 132
Ethylbenzene	25.0	25.7		ug/L		103	80 - 120
Toluene	25.0	26.1		ug/L		104	78 - 120
m-Xylene & p-Xylene	50.0	52.9		ug/L		106	70 - 142
o-Xylene	25.0	27.0		ug/L		108	70 - 130
TBA	500	479		ug/L		96	70 - 130
Ethanol	500	532		ug/L		106	31 - 216
DIPE	25.0	26.4		ug/L		105	69 - 134
TAME	25.0	27.6		ug/L		110	79 - 130
Ethyl t-butyl ether	25.0	26.5		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		75 - 138
Toluene-d8 (Surr)	102		70 - 130

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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

Lab Sample ID: LCS 720-120430/7

Matrix: Water

Analysis Batch: 120430

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	540		ug/L		108	58 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	102		75 - 138
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: LCSD 720-120430/6

Matrix: Water

Analysis Batch: 120430

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	27.0		ug/L		108	62 - 130	0	20
Benzene	25.0	26.4		ug/L		106	79 - 130	0	20
EDB	25.0	28.5		ug/L		114	70 - 130	1	20
1,2-DCA	25.0	26.0		ug/L		104	61 - 132	2	20
Ethylbenzene	25.0	25.8		ug/L		103	80 - 120	0	20
Toluene	25.0	26.5		ug/L		106	78 - 120	2	20
m-Xylene & p-Xylene	50.0	53.2		ug/L		106	70 - 142	1	20
o-Xylene	25.0	27.2		ug/L		109	70 - 130	1	20
TBA	500	482		ug/L		96	70 - 130	1	20
Ethanol	500	527		ug/L		105	31 - 216	1	30
DIPE	25.0	26.8		ug/L		107	69 - 134	1	20
TAME	25.0	27.9		ug/L		112	79 - 130	1	20
Ethyl t-butyl ether	25.0	26.6		ug/L		107	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	104		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		75 - 138
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: LCSD 720-120430/8

Matrix: Water

Analysis Batch: 120430

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	543		ug/L		109	58 - 120	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	99		75 - 138
Toluene-d8 (Surr)	103		70 - 130

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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

Lab Sample ID: MB 720-120462/4

Matrix: Water

Analysis Batch: 120462

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			09/07/12 08:43	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		67 - 130					09/07/12 08:43	1
1,2-Dichloroethane-d4 (Surr)	93		75 - 138					09/07/12 08:43	1
Toluene-d8 (Surr)	101		70 - 130					09/07/12 08:43	1

Lab Sample ID: LCS 720-120462/5

Matrix: Water

Analysis Batch: 120462

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	27.0		ug/L		108	62 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	98		67 - 130				
1,2-Dichloroethane-d4 (Surr)	94		75 - 138				
Toluene-d8 (Surr)	103		70 - 130				

Lab Sample ID: LCSD 720-120462/6

Matrix: Water

Analysis Batch: 120462

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	25.9		ug/L		103	62 - 130	5	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	100		67 - 130						
1,2-Dichloroethane-d4 (Surr)	91		75 - 138						
Toluene-d8 (Surr)	103		70 - 130						

Lab Sample ID: 720-44360-1 MS

Matrix: Water

Analysis Batch: 120462

Client Sample ID: MW-3 (9/5/12)

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	6.5		25.0	32.3		ug/L		103	60 - 138
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene	102		67 - 130						
1,2-Dichloroethane-d4 (Surr)	94		75 - 138						
Toluene-d8 (Surr)	104		70 - 130						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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

Lab Sample ID: 720-44360-1 MSD

Matrix: Water

Analysis Batch: 120462

Client Sample ID: MW-3 (9/5/12)

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	6.5		25.0	32.2		ug/L		103	60 - 138	0	20
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene	100		67 - 130								
1,2-Dichloroethane-d4 (Surr)	94		75 - 138								
Toluene-d8 (Surr)	102		70 - 130								

Lab Sample ID: MB 720-120521/4

Matrix: Water

Analysis Batch: 120521

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.50		ug/L			09/07/12 19:54	1
Xylenes, Total	ND		1.0		ug/L			09/07/12 19:54	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			09/07/12 19:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		67 - 130					09/07/12 19:54	1
1,2-Dichloroethane-d4 (Surr)	113		75 - 138					09/07/12 19:54	1
Toluene-d8 (Surr)	101		70 - 130					09/07/12 19:54	1

Lab Sample ID: LCS 720-120521/5

Matrix: Water

Analysis Batch: 120521

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	25.0	26.3		ug/L		105	80 - 120
m-Xylene & p-Xylene	50.0	53.4		ug/L		107	70 - 142
o-Xylene	25.0	27.3		ug/L		109	70 - 130
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene	104		67 - 130				
1,2-Dichloroethane-d4 (Surr)	109		75 - 138				
Toluene-d8 (Surr)	101		70 - 130				

Lab Sample ID: LCS 720-120521/7

Matrix: Water

Analysis Batch: 120521

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	504		ug/L		101	58 - 120
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene	109		67 - 130				
1,2-Dichloroethane-d4 (Surr)	116		75 - 138				
Toluene-d8 (Surr)	102		70 - 130				

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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

Lab Sample ID: LCSD 720-120521/6

Matrix: Water

Analysis Batch: 120521

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
Ethylbenzene	25.0	26.7		ug/L		107	80 - 120	1	20
m-Xylene & p-Xylene	50.0	54.0		ug/L		108	70 - 142	1	20
o-Xylene	25.0	27.8		ug/L		111	70 - 130	2	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	105		67 - 130
1,2-Dichloroethane-d4 (Surr)	111		75 - 138
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: LCSD 720-120521/8

Matrix: Water

Analysis Batch: 120521

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	498		ug/L		100	58 - 120	1	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	108		67 - 130
1,2-Dichloroethane-d4 (Surr)	114		75 - 138
Toluene-d8 (Surr)	102		70 - 130

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

GC/MS VOA

Analysis Batch: 120430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-44360-2	MW-4 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-44360-4	MW-7 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-44360-5	MW-11 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-120430/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-120430/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-120430/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-120430/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-120430/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 120462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-44360-1	MW-3 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-44360-1 MS	MW-3 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-44360-1 MSD	MW-3 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-44360-3	MW- 6 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-120462/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-120462/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-120462/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 120521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-44360-5	MW-11 (9/5/12)	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-120521/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-120521/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-120521/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-120521/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-120521/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Client Sample ID: MW-3 (9/5/12)

Lab Sample ID: 720-44360-1

Date Collected: 09/05/12 09:40

Matrix: Water

Date Received: 09/05/12 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	120462	09/07/12 14:15	AC	TAL SF

Client Sample ID: MW-4 (9/5/12)

Lab Sample ID: 720-44360-2

Date Collected: 09/05/12 10:10

Matrix: Water

Date Received: 09/05/12 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	120430	09/07/12 03:17	LL	TAL SF

Client Sample ID: MW- 6 (9/5/12)

Lab Sample ID: 720-44360-3

Date Collected: 09/05/12 10:45

Matrix: Water

Date Received: 09/05/12 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	120462	09/07/12 14:46	AC	TAL SF

Client Sample ID: MW-7 (9/5/12)

Lab Sample ID: 720-44360-4

Date Collected: 09/05/12 09:05

Matrix: Water

Date Received: 09/05/12 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	120430	09/07/12 03:47	LL	TAL SF

Client Sample ID: MW-11 (9/5/12)

Lab Sample ID: 720-44360-5

Date Collected: 09/05/12 11:15

Matrix: Water

Date Received: 09/05/12 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		10	120430	09/07/12 04:17	LL	TAL SF
Total/NA	Analysis	8260B/CA_LUFTMS		100	120521	09/08/12 04:59	AC	TAL SF

Laboratory References:

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

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

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	01-31-14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTM S	8260B / CA LUFT MS	SW846	TAL SF

Protocol References:

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

Laboratory References:

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



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11109, Oakland

TestAmerica Job ID: 720-44360-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-44360-1	MW-3 (9/5/12)	Water	09/05/12 09:40	09/05/12 15:27
720-44360-2	MW-4 (9/5/12)	Water	09/05/12 10:10	09/05/12 15:27
720-44360-3	MW- 6 (9/5/12)	Water	09/05/12 10:45	09/05/12 15:27
720-44360-4	MW-7 (9/5/12)	Water	09/05/12 09:05	09/05/12 15:27
720-44360-5	MW-11 (9/5/12)	Water	09/05/12 11:15	09/05/12 15:27

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

San Francisco
1220 Quarry Lane

720.44360

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Pleasanton, CA 94566
phone 925.484.1919 fax 925.600.3002

140575

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Kristine Tidwell			Site Contact:			Date:			COC No:		
Broadbent and Associates, Inc.		Tel/Fax: 707-455-7290 / 707-455-7295			Lab Contact: Dimple Sharma			Carrier:			_____ of _____ COCs		
Address: 875 Cotting Lane, Suite G		Analysis Turnaround Time			Filtered Sample GRO by 8260B BTX and 5 Oxy by 8260B EDB, 1,2-DCA and Ethanol by 8260B MTBE by 8260B						Job No.		
City/State/Zip: Vallejo, CA 94591		Calendar (C) or Work Days (W) _____											
(707) 455-7290 Phone		TAT if different from Below ___ Standard_X_											
(707) 455-7295 FAX		<input type="checkbox"/> 2 weeks											
Project Name: BP 11109		<input type="checkbox"/> 1 week											
Site: 4280 Foothill, Oakland		<input type="checkbox"/> 2 days						SDG No.					
P O # GP09BPNA.C106		<input type="checkbox"/> 1 day											
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.				Sample Specific Notes:				
MW-3 (9/5/12)	9-5-12	0940	GRAB	AQ	3								
MW-4 (9/5/12)		1010	GRAB	AQ	3	X	X	X	X				
MW-5 (9/5/12)			GRAB	AQ	3	X	X	X	X				
MW-6 (9/5/12)		1045	GRAB	AQ	3					X			
MW-7 (9/5/12)		0905	GRAB	AQ	3	X	X	X					
MW-10 (9/5/12)			GRAB	AQ	3	X	X	X					
MW-11 (9/5/12)		1115	GRAB	AQ	3	X	X	X					
MW-12 (9/5/12)			GRAB	AQ	3	X	X	X					
TB -11109- 09052012	9-5-12	1230		AQ	1							ON HOLD	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Special Instructions/QC Requirements & Comments: MW-11 had a sheen upon sampling.													
Relinquished by:		Company: Broadbent		Date/Time: 9-5-12 1527		Received by: Joan Mueller		Company: A Amir		Date/Time: 9-5-12 1527		4-38	
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:			
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:			

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 720-44360-1

Login Number: 44360

List Number: 1

Creator: Apostol, Anita

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Appendix D

GeoTracker Upload Confirmation Receipts

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A GEO_WELL FILE

SUCCESS

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

<u>Submittal Type:</u>	GEO_WELL
<u>Report Title:</u>	3Q12 GEO Well BP 11109
<u>Facility Global ID:</u>	T0600100217
<u>Facility Name:</u>	BP #11109
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	ARCADIS
<u>Username:</u>	ARCADISBP
<u>IP Address:</u>	216.207.98.101
<u>Submittal Date/Time:</u>	10/18/2012 7:45:20 AM
<u>Confirmation Number:</u>	7819732606

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STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

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

<u>Submittal Type:</u>	EDF
<u>Report Title:</u>	3Q12 EDF BP 11109
<u>Report Type:</u>	Monitoring Report - Semi-Annually
<u>Facility Global ID:</u>	T0600100217
<u>Facility Name:</u>	BP #11109
<u>File Name:</u>	720-44360-1.zip
<u>Organization Name:</u>	ARCADIS
<u>Username:</u>	ARCADISBP
<u>IP Address:</u>	216.207.98.101
<u>Submittal Date/Time:</u>	10/10/2012 2:32:59 PM
<u>Confirmation Number:</u>	1731933534

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)

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STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	Groundwater Monitoring Report, 2012-Q3
<u>Report Type:</u>	Monitoring Report - Semi-Annually
<u>Report Date:</u>	10/30/2012
<u>Facility Global ID:</u>	T0600100217
<u>Facility Name:</u>	BP #11109
<u>File Name:</u>	BP11109_3Q12_GWMR.pdf
<u>Organization Name:</u>	ARCADIS
<u>Username:</u>	ARCADISBP
<u>IP Address:</u>	67.169.68.204
<u>Submittal Date/Time:</u>	10/30/2012 6:55:17 PM
<u>Confirmation Number:</u>	5548124194

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STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	Third Quarter 2012 Quarterly Groundwater Monitoring and Remediation Progress Report 111615
<u>Report Type:</u>	Monitoring Report - Quarterly
<u>Report Date:</u>	11/16/2015
<u>Facility Global ID:</u>	T0600100217
<u>Facility Name:</u>	BP #11109
<u>File Name:</u>	RO0000426_GWM_R_2012-10-30.pdf
<u>Organization Name:</u>	ARCADIS
<u>Username:</u>	ARCADISBP
<u>IP Address:</u>	108.171.135.188
<u>Submittal Date/Time:</u>	11/16/2015 1:05:21 PM
<u>Confirmation Number:</u>	6304602086

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