Ms. Karel Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94602
Oakland, California 94609

Arcadis U.S., Inc.
101 Creekside Ridge Court
Suite 200
Roseville
California 95678
Tel 916.786.0320
www.arcadis.com

ENVIRONMENT

Subject:
Third Quarter 2018 Groundwater Monitoring Report
Former BP Facility No. 0374
6407 Telegraph Avenue, Oakland, California 94609
Alameda County LOP Case #RO0000078
SF-RWQCB Case #01-0114

Date:
October 23, 2018

Contact:
Brittani Jacobsen, P.G.

Phone:
916.865.3145

Email:
Brittani.Jacobsen@arcadis.com

Our ref:
GP16BPNA.CA01

Dear Ms. Detterman:

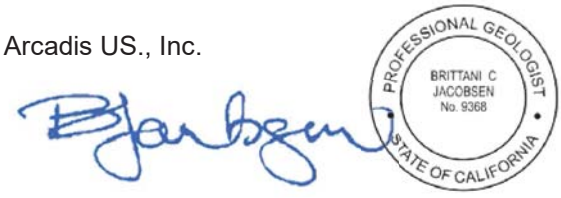
On behalf of BP West Coast Products, LLC (BP), Arcadis U.S., Inc. (Arcadis) is submitting the enclosed Semi-Annual Monitoring Report for the Third Quarter 2018. The enclosed quarterly report was prepared for the above-referenced case number.

"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."

If you have any questions, please contact the undersigned.

Sincerely,

Arcadis US., Inc.



Brittani Jacobsen, P.G.
Project Manager

Copies:
San Francisco Regional Water Quality Control Board - GeoTracker

SEMI-ANNUAL MONITORING AND STATUS REPORT
Third Quarter 2018
October 23, 2018

Station No:	0374	Address:	6407 Telegraph Avenue, Oakland, CA 94609

Arcadis Contact/Phone No.:	Brittani Jacobsen / 916.865.3145
Arcadis Project No.:	GP16BPNA.CA01.40000
Primary Agency/Regulatory ID No.:	Alameda County Local Oversight Program / Karel Detterman / Case No. RO0000078
Other Agencies to Receive Copies:	San Francisco Regional Water Quality Control Board / Case No. 01-0114

WORK PERFORMED DURING THIRD QUARTER 2018:

1. Conducted semi-annual groundwater sampling on September 12, 2018. Figures illustrating the Site location and Site features are provided as **Figure 1** and **Figure 2**, respectively. The following summarizes the Third Quarter 2018 event:

    - Prior to gauging, all monitoring wells were left open for at least 15 minutes for the water column to equilibrate with atmospheric pressure.
    - Gauged monitoring wells MW-1 through MW-4 and MW-7 through MW-9. Sampled monitoring wells MW-1 through MW-4, and MW-7 through MW-9. Monitoring well MW-5 and MW-6 were not gauged or sampled as the monitoring wells were inaccessible. A copy of the field notes for the September 12, 2018 groundwater monitoring event are provided as **Attachment 1**.
    - Monitoring wells were sampled for the analysis of Gasoline Range Organics (GRO), benzene, toluene, ethylbenzene, total xylenes (collectively BTEX), fuel oxygenates including methyl tert butyl ether (MTBE), tert butyl alcohol (TBA), diisopropyl ether (DIPE), and ether tert butyl ether (ETBE), tert-amyl methyl ether (TAME), and lead scavengers including 1,2-Dichloroethane (1,2-DCA), ethylene dibromide (EDB), and ethanol according to United States Environmental Protection Agency (USEPA) Method 8260B. A copy of the laboratory analytical report is provided as **Attachment 2**.

2. A review of the analytical laboratory results, summarized in **Table 1** and **Table 2**, indicates the following:

    - GRO concentrations were detected exceeding the San Francisco Bay Regional Water Quality Control Board (SFB-RWQCB) Environmental Screening Level (ESL) at monitoring well MW-4. GRO concentrations at MW-1, MW-2, MW-7, MW-8, and MW-9 were not detected above the laboratory report limit (LRL). GRO concentration was detected above LRL at monitoring well MW-3 but was below ESL.
    - Benzene concentrations were detected exceeding the ESL at monitoring wells MW-3, MW-4 and MW-8. Benzene concentrations at MW-1, MW-2, MW-7, and MW-9 were not detected above the LRL.

- Toluene was detected above the LRL at monitoring well MW-4 but was below ESL. Toluene concentrations at MW-1, MW-2, MW-3, MW-7, MW-8, and MW-9 were not detected above the LRL.
- Ethylbenzene was detected above the LRL in MW-4 but was below the ESL. Ethylbenzene concentrations at MW-1, MW-2, MW-3, MW-7, MW-8, and MW-9 were not detected above the LRL.
- Xylenes (total) concentrations were detected exceeding the ESL at monitoring well MW-4. Xylenes (total) concentrations at MW-1, MW-2, MW-3, MW-7, MW-8, and MW-9 were not detected above the LRL.
- MTBE concentrations were detected exceeding the ESL at wells MW-1, MW-2, MW-7, MW-8, and MW-9. The MTBE concentration at MW-3 and MW-4 was not detected above the LRL.

3. Prepared and Submitted the Third Quarter 2018 Groundwater Monitoring Report.
4. Submitted the Soil, Soil Vapor, and Groundwater Investigation and Updated Site Conceptual Model Report on September 7, 2018.

PROPOSED WORK:

1. Evaluate the case against the SFB-RWQCB ESLs and the State Water Resource Control Board's Low Threat Closure Policy Criteria (SWRCB 2012).
2. Conduct semi-annual groundwater monitoring and sampling in the First Quarter 2019.
3. Conduct soil vapor probe sampling in the First Quarter 2019.
4. Prepare the First Quarter 2019 Groundwater Monitoring Report.

Current Phase of Project:	Monitoring
Frequency of Monitoring/Sampling:	Semi-annual
Is Light Non-Aqueous Phase Liquid (LNAPL) Present On-site:	No
LNAPL Detected During the current quarter (thickness in feet):	Not Applicable
Approximate Depth to Groundwater (feet below top of casing):	Range: 6.97 (MW-3) to 8.64 (MW-8)
Groundwater Flow Direction:	Southwest
Groundwater Flow Magnitude (foot/foot):	0.02
Agency Directive Requirements:	Semi-annual monitoring and reporting

DISCUSSION

The Third Quarter 2018 gradient magnitude and direction is generally consistent with previous monitoring events. In general, depth-to-groundwater increased on average of 2.28-feet. A figure illustrating the potentiometric surface, as determined from the September 12, 2018 monitoring data, is provided as **Figure 3**. Groundwater flow is presented in a rose diagram in **Figure 4**.

The most elevated GRO and benzene concentrations continue to be detected at monitoring well MW-4; however, concentrations are within the historical range of detections. While concentrations of benzene continue to exceed the SFB-RWQCB ESL in MW-4 and MW-8, the groundwater benzene concentrations are below the Groundwater Specific Criteria of the State Water Resources Control Board's Low Threat Closure Policy (SWRCB 2012). Current groundwater monitoring and analytical data are summarized in **Table 1, Table 2,** and on **Figure 5**. Historic groundwater monitoring and analytical data are summarized in **Table 3**. Hydrographs for select monitoring wells are presented in **Attachment 3**. GRO, benzene, and MTBE concentrations maps are shown on **Figure 6** through **Figure 8**, respectively.

Arcadis submitted the *Soil, Soil Vapor, and Groundwater Investigation and Updated Site Conceptual Model* dated September 2018 to reassess historic soil analytical data and further delineate the groundwater plume in accordance with the *Shallow Soil Assessment and Monitoring Well Installation Work Plan*, dated August 23, 2017.

Bi-annual groundwater monitoring will also continue, as required, on the current schedule. The next groundwater monitoring event is scheduled to occur during the First Quarter of 2019.

ENCLOSURES:

Tables

Table 1 – Current Groundwater Monitoring and Analytical Data – GRO/BTEX
Table 2 – Current Analytical Data - Oxygenates
Table 3 – Historical Groundwater Monitoring and Analytical Data

Figures

Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Groundwater Elevation Contour Map September 12, 2018
Figure 4 – Groundwater Flow Direction Rose Diagram
Figure 5 – Groundwater Analysis Concentration Map September 12, 2018
Figure 6 – GRO Concentration Map September 12, 2018
Figure 7 – Benzene Concentration Map September 12, 2018
Figure 8 – MTBE Concentration Map September 12, 2018

Attachments

Attachment 1 – Groundwater Monitoring Field Forms
Attachment 2 – Groundwater Analytical Laboratory Report
Attachment 3 – Hydrographs

TABLES

Table 1. Current Groundwater Monitoring and Analytical Data - GRO/BTEX
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	DO (mg/L)	Notes
MW-1	9/12/2018	164.45	8.36	--	156.09	<50	<0.50	<0.50	<0.50	<1.0	--	
MW-2	9/12/2018	163.49	8.56	--	154.93	<50	<0.50	<0.50	<0.50	<1.0	--	
MW-3	9/12/2018	166.80	6.97	--	159.83	54	**4.9**	<0.50	<0.50	<1.0	--	
MW-4	9/12/2018	162.48	8.29	--	154.19	**5,000**	**750**	39	17	**64**	--	
MW-5	9/12/2018	156.90	--	--	--	--	--	--	--	--	--	Not sampled
MW-6	9/12/2018	159.41	--	--	--	--	--	--	--	--	--	Not sampled
MW-7	9/12/2018	164.80	8.16	--	156.64	<50	<0.50	<0.50	<0.50	<1.0	--	
MW-8	9/12/2018	164.14	8.64	--	155.50	<50	**7.2**	<0.50	<0.50	<1.0	--	
MW-9	9/12/2018	163.77	8.31	--	155.46	<50	<0.50	<0.50	<0.50	<1.0	--	
					SF-RWQCB ESLs	**220**	**1.0**	**40**	**30**	**20**		

Notes:
TOC = top of casing measured
DTW = depth to water
LNAPL = light non-aqueous phase liquid
GW Elev = groundwater elevation
GRO = gasoline range organics
B = benzene
T = toluene
E = ethylbenzene
X = total xylenes
DO = dissolved oxygen

BOLD = concentration exceeds SF-RWQCB ESLs
SF-RWQCB ESLs - San Francisco Regional Water Quality Control Board Envrionmental Screening Level - Direct Exposure Human Health Risk levels - MCL Priority
ft msl = feet above mean sea level
-- = not analyzed/applicable/measured/available
< = not detected at or above specified laboratory reporting limit
µg/L = micrograms per liter
mg/L = milligrams per liter
Values for DO were obtained through field measurements

Table 2. Current Analytical Data - Oxygenates
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Notes
MW-1	**69**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	
MW-2	**16**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	
MW-3	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	
MW-4	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<1,500	
MW-5	--	--	--	--	--	--	--	--	
MW-6	--	--	--	--	--	--	--	--	
MW-7	**57**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	
MW-8	**53**	<10	<0.50	<0.50	<0.50	<0.50	0.83	<150	
MW-9	**70**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	
SF-RWQCB ESLs	**5.0**	**12**	**0.5**	**0.05**	--	--	--	--	--

Notes:

MTBE = methyl tert-butyl ether
TBA = tert-butyl alcohol
1,2-DCA = 1,2-dichloroethane
EDB = 1,2-dibromoethane
DIPE = di-isopropyl ether
ETBE = ethyl tert-butyl ether
TAME= tert-Amyl methyl ether

BOLD = concentration exceeds SF-RWQCB ESLs
SF-RWQCB ESLs = San Francisco Regional Water Quality Control Board Environmental Screening Levels - Direct Exposure Human Health Risk levels - MCL Priority
-- = not analyzed/applicable/measured/available
< = not detected at or above specified laboratory reporting limit
µg/L = micrograms per liter
ID= Analyte identified by RT & presence of single mass ion

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-1	6/20/2000	158.91	6.86	--	152.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/28/2000	158.91	7.50	--	151.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/17/2000	158.91	7.49	--	151.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/23/2001	158.91	5.90	--	153.01	<50	<0.5	<0.5	<0.5	<0.5	2,710	--	--	--	--	--	--	--	--	
	6/21/2001	158.91	7.45	--	151.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/23/2001	158.91	8.46	--	150.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/31/2001	158.91	5.50	--	153.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/21/2002	158.91	4.71	--	154.20	<5,000	<50	<50	<50	<50	2,000	--	--	--	--	--	--	--	--	
	4/17/2002	158.91	5.54	--	153.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/8/2002	158.91	7.77	--	151.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/12/2002	158.91	7.65	--	151.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/29/2003	158.91	5.88	--	153.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	b
	5/23/2003	158.91	5.62	--	153.29	<10,000	<100	<100	<100	<100	1,600	<4,000	--	<100	<100	--	<100	<20,000	1.30	
	4/9/2003	158.91	7.85	--	151.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	11/20/2003	158.91	8.17	--	150.74	1,600	<10	<10	<10	<10	1,500	<400	--	<10	<10	--	<10	<2,000	1.70	a2
	2/2/2004	164.57	6.71	--	157.86	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00	f
	5/14/2004	164.57	7.08	--	157.49	<2,500	<25	<25	<25	<25	1,200	<1,000	<25	<25	<25	<25	<25	<5,000	1.40	
	2/9/2004	164.57	8.12	--	156.45	580	<5.0	<5.0	<5.0	<5.0	660	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<1,000	3.80	
	4/11/2004	164.57	7.38	--	157.19	1,700	<10	<10	<10	<10	580	<400	<10	<10	<10	<10	<10	<2,000	6.00	
	8/2/2005	164.57	6.60	--	157.97	<1,000	<10	<10	<10	<10	610	<400	<10	<10	<10	<10	<10	<2,000	0.71	
	9/5/2005	164.57	6.84	--	157.73	540	<5.0	<5.0	<5.0	6	620	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<1,000	3.12	a2
	11/8/2005	164.57	7.36	--	157.21	540	<2.5	<2.5	<2.5	4	390	250	<2.5	<2.5	<2.5	<2.5	2.60	<500	0.80	a2
	11/18/2005	164.57	8.02	--	156.55	350	<2.5	<2.5	<2.5	<2.5	340	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<500	2.60	a2, e
	2/16/2006	164.57	6.44	--	158.13	350	<2.5	<2.5	<2.5	<2.5	340	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	1.60	e
	5/30/2006	164.57	6.87	--	157.70	270	<2.5	<2.5	<2.5	<2.5	420	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	4.73	a2
	8/24/2006	164.57	7.75	--	156.82	95	<5.0	<5.0	<5.0	<5.0	180	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	0.65	
	1/11/2006	164.57	8.28	--	156.29	120	<5.0	<5.0	<5.0	<5.0	220	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	1.65	a2
	7/2/2007	164.57	7.40	--	157.17	120	<5.0	<5.0	<5.0	<5.0	190	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	1.88	e
	8/5/2007	164.57	6.50	--	158.07	<500	<5.0	<5.0	<5.0	<5.0	420	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	1.21	
	8/8/2007	164.57	8.17	--	156.40	82	<0.50	<0.50	<0.50	<0.50	110	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.16	e
	11/14/2007	164.57	8.01	--	156.56	170	<2.5	<2.5	<2.5	<2.5	210	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	1.92	
	2/22/2008	164.57	6.00	--	158.57	<50	<0.50	<0.50	<0.50	<0.50	250	<10	<0.50	<0.50	<0.50	<0.50	1.50	<300	2.57	
	5/24/2008	164.57	7.58	--	156.99	<50	<5.0	<5.0	<5.0	<5.0	380	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	2.28	
	8/21/2008	164.57	8.60	--	155.97	<50	<2.5	<2.5	<2.5	<2.5	170	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	2.16	
	11/19/2008	164.57	8.88	--	155.69	<50	<0.50	<0.50	<0.50	<0.50	30	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.12	
	2/23/2009	164.57	6.40	--	158.17	78	<2.5	<2.5	<2.5	<2.5	240	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	2.19	
	5/14/2009	164.57	6.67	--	157.90	53	<0.50	<0.50	<0.50	<0.50	200	<10	<0.50	<0.50	<0.50	<0.50	1.30	<300	1.75	
	8/20/2009	164.57	8.25	--	156.32	150	<2.0	<2.0	<2.0	<2.0	170	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<1200	2.14	l (GRO)
	2/19/2010	164.57	6.07	--	158.50	<50	<0.50	<0.50	<0.50	<0.50	170	<10	<0.50	<0.50	<0.50	<0.50	1.20	<300	0.92	
	10/8/2010	164.57	7.58	--	156.99	<50	<2.5	<2.5	<2.5	<2.5	230	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	3.86	
	12/16/2010	164.45	6.64	--	157.81	<50	<2.0	<2.0	<2.0	<2.0	140	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<1,200	1.20	j
	2/14/2011	164.45	7.10	--	157.35	<50	<2.5	<2.5	<2.5	<2.5	170	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	1.18	
	5/20/2011	164.45	6.38	--	158.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2011	164.45	7.24	--	157.21	<50	<2.5	<2.5	<2.5	<2.5	130	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	2.54	
	2/2/2012	164.45	7.32	--	157.13	<50	<1.0	<1.0	<1.0	<1.0	66	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<600	1.01	
	9/8/2012	164.45	6.69	--	157.76	<50	<0.50	<0.50	<0.50	<1.0	170	<10	<0.50	<0.50	<0.50	<0.50	0.78	<150	1.65	
	2/14/2013	164.45	5.97	--	158.48	<50	<0.50	<0.50	<0.50	<1.0	140	<10	<0.50	<0.50	<0.50	<0.50	0.58	<150	1.74	
	8/22/2013	164.45	7.87	--	156.58	<50	<0.50	<0.50	<0.50	<1.0	91	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	5.69	
	11/2/2014	164.45	7.75	--	156.70	<50	<0.50	<0.50	<0.50	<1.0	26	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	2.02	
	8/15/2014	164.45	8.51	--	155.94	<50	<0.50	<0.50	<0.50	<1.0	120	<10	<0.50	<0.50	<0.50	<0.50	0.61	<150	1.82	
	12/2/2015	164.45	6.57	--	157.88	<50	<0.50	<0.50	<0.50	<1.0	130	<10	<0.50	<0.50	<0.50	<0.50	0.57	<150	1.00	
	8/31/2015	164.45	8.88	--	155.57	<50	<0.50	<0.50	<0.50	<1.0	110	<10	<0.50	<0.50	<0.50	<0.50	0.63	<150	1.32	
	3/17/2016	164.45	4.82	--	159.63	<50	<0.50	<0.50	<0.50	<1.0	140	<10	<0.50	<0.50	<0.50	<0.50	0.68	<150	11.94	
	9/9/2016	164.45	8.97	--	155.48	<50	<0.50	<0.50	<0.50	<1.0	110	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	--	
	3/14/2017	164.45	4.24	--	160.21	<50	<0.50	<0.50	<0.50	<1.0	98	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	0.59	
	9/19/2017	164.45	8.21	--	156.24	<50	<0.50	<0.50	<0.50	<1.0	39	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.51	
	1/19/2018	164.45	6.88	--	157.57	<50	<0.50	<0.50	<0.50	<1.0	8.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.28	
	9/12/2018	164.45	8.36	--	156.09	<50	<0.50	<0.50	<0.50	<1.0	69	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-2	6/20/2000	157.92	7.67	--	150.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/28/2000	157.92	8.51	--	149.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/17/2000	157.92	8.14	--	149.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/23/2001	157.92	7.21	--	150.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	6/21/2001	157.92	7.99	--	149.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/23/2001	157.92	8.52	--	149.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/31/2001	157.92	6.01	--	151.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/21/2002	157.92	5.95	--	151.97	<50	<0.5	<0.5	<0.5	<0.5	45	--	--	--	--	--	--	--	--	
	4/17/2002	157.92	6.45	--	151.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/8/2002	157.92	8.08	--	149.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/12/2002	157.92	8.29	--	149.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/29/2003	157.92	7.22	--	150.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	b
	5/23/2003	157.92	6.85	--	151.07	<50	<0.50	<0.50	<0.50	<0.50	55	<20	--	<0.50	<0.50	--	0.53	<100	1.40	
	4/9/2003	157.92	7.94	--	149.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	11/20/2003	157.92	8.05	--	149.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/2/2004	163.46	7.00	--	156.46	74	<0.50	<0.50	<0.50	<0.50	37	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	1.10	f
	5/14/2004	163.46	7.97	--	155.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/9/2004	163.46	8.19	--	155.27	<250	<2.5	<2.5	<2.5	<2.5	67	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<500	2.70	
	4/11/2004	163.46	7.54	--	155.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/2/2005	163.46	6.72	--	156.74	<50	<0.50	<0.50	<0.50	<0.50	30	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.86	
	9/5/2005	163.46	7.16	--	156.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	11/8/2005	163.46	7.85	--	155.61	<50	<0.50	<0.50	<0.50	<0.50	35	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	1.00	a
	11/18/2005	163.46	8.23	--	155.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/16/2006	163.46	6.82	--	156.64	<50	<0.50	<0.50	<0.50	<0.50	39	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.30	
	5/30/2006	163.46	7.23	--	156.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/24/2006	163.46	8.00	--	155.46	60	<0.50	<0.50	<0.50	<0.50	25	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.90	
	1/11/2006	163.46	8.38	--	155.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/2/2007	163.46	7.88	--	155.58	<50	0.5	<0.50	<0.50	<0.50	7	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.94	
	8/5/2007	163.46	7.28	--	156.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/8/2007	163.46	8.38	--	155.08	88	3.2	<0.50	<0.50	<0.50	7	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.94	
	11/14/2007	163.46	8.10	--	155.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/22/2008	163.46	6.75	--	156.71	<50	<0.50	<0.50	<0.50	<0.50	24	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.18	
	5/24/2008	163.46	7.98	--	155.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/21/2008	163.46	8.58	--	154.88	<50	2.6	<0.50	<0.50	<0.50	5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.20	
	11/19/2008	163.46	8.66	--	154.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/23/2009	163.46	6.67	--	156.79	74	1	<0.50	<0.50	<0.50	24	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.25	
	5/14/2009	163.46	7.02	--	156.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/20/2009	163.46	8.41	--	155.05	82	2.4	<0.50	<0.50	<0.50	8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.19	
	2/19/2010	163.46	7.36	--	156.10	<50	<0.50	<0.50	<0.50	<0.50	22	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.81	
	10/8/2010	163.46	7.69	--	155.77	<50	<0.50	<0.50	<0.50	<0.50	23	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.40	
	12/16/2010	163.49	7.12	--	156.37	<50	<0.50	<0.50	<0.50	<0.50	17	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.69	j
	2/14/2011	163.49	7.35	--	156.14	<50	<0.50	<0.50	<0.50	<0.50	11	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.87	
	5/20/2011	163.49	7.02	--	156.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2011	163.49	7.62	--	155.87	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.45	
	2/2/2012	163.49	7.56	--	155.93	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.85	
	9/8/2012	163.49	6.31	--	157.18	<50	<0.50	<0.50	<0.50	<1.0	73	<10	<0.50	<0.50	<0.50	<0.50	0.61	<150	1.28	
	2/14/2013	163.49	6.03	--	157.46	<50	<0.50	<0.50	<0.50	<1.0	46	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.71	
	8/22/2013	163.49	7.79	--	155.70	<50	<0.50	<0.50	<0.50	<1.0	82	<10	<0.50	<0.50	<0.50	<0.50	1.10	<150	4.16	
	11/2/2014	163.49	7.12	--	156.37	<50	<0.50	<0.50	<0.50	<1.0	8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	2.32	
	8/15/2014	163.49	8.53	--	154.96	<50	<0.50	<0.50	<0.50	<1.0	61	<10	<0.50	<0.50	<0.50	<0.50	0.73	<150	2.90	
	12/2/2015	163.49	6.98	--	156.51	<50	<0.50	<0.50	<0.50	<1.0	57	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.78	
	8/31/2015	163.49	8.77	--	154.72	<50	<0.50	<0.50	<0.50	<1.0	40	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.90	
	3/17/2016	163.49	5.54	--	157.95	<50	<0.50	<0.50	<0.50	<1.0	49	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.00	
	9/9/2016	163.49	9.02	--	154.47	<50	<0.50	<0.50	<0.50	<1.0	20	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	--	
	3/14/2017	163.49	6.24	--	157.25	<50	<0.50	<0.50	<0.50	<1.0	45	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	0.70	
	9/20/2017	163.49	8.38	--	155.11	<50	<0.50	<0.50	<0.50	<1.0	18	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.15	
	1/19/2018	163.49	7.05	--	156.44	<50	<0.50	<0.50	<0.50	<1.0	24	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.11	
	9/12/2018	163.49	8.56	--	154.93	<50	<0.50	<0.50	<0.50	<1.0	16	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-3	6/20/2000	153.64	6.42	--	147.22	<50	<0.5	<0.5	<0.5	<1.0	<10	--	--	--	--	--	--	--	--	
	9/28/2000	153.64	7.31	--	146.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/17/2000	153.64	6.45	--	147.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	3/23/2001	153.64	6.01	--	147.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/21/2001	153.64	6.80	--	146.84	110	5.5	<0.5	5	4	3	--	--	--	--	--	--	--	--	
	9/23/2001	153.64	7.32	--	146.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/31/2001	153.64	4.48	--	149.16	<50	<0.5	<0.5	<0.5	<0.5	5	--	--	--	--	--	--	--	--	
	3/21/2002	153.64	4.36	--	149.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	4/17/2002	153.64	5.31	--	148.33	<50	<0.5	<0.5	<0.5	<0.5	9	--	--	--	--	--	--	--	--	
	12/8/2002	153.64	7.00	--	146.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/12/2002	153.64	7.32	--	146.32	<50	<0.5	<0.5	<0.5	<0.5	6	--	--	--	--	--	--	--	1.40	
	1/29/2003	153.64	6.07	--	147.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	b
	5/23/2003	153.64	6.45	--	147.19	<50	<0.50	<0.50	<0.50	<0.50	2	<20	--	<0.50	<0.50	--	<0.50	<100	0.90	
	4/9/2003	153.64	6.93	--	146.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c
	11/20/2003	153.64	7.04	--	146.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c
	2/2/2004	159.21	5.92	--	153.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	f
	5/14/2004	159.21	7.52	--	151.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/9/2004	159.21	7.19	--	152.02	<50	<0.50	<0.50	<0.50	<0.50	7	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	9.30	
	4/11/2004	159.21	6.40	--	152.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/2/2005	159.21	6.01	--	153.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/5/2005	159.21	6.74	--	152.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	11/8/2005	159.21	6.77	--	152.44	<50	<0.50	<0.50	<0.50	<0.50	11	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	1.90	a
	11/18/2005	159.21	7.83	--	151.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/16/2006	159.21	7.26	--	151.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/30/2006	159.21	5.82	--	153.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/24/2006	159.21	7.00	--	152.21	<50	<0.50	<0.50	<0.50	<0.50	8	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.15	
	1/11/2006	159.21	7.50	--	151.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/2/2007	159.21	6.90	--	152.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/5/2007	159.21	5.95	--	153.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/8/2007	159.21	7.47	--	151.74	<50	<0.50	<0.50	<0.50	<0.50	1	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.21	
	11/14/2007	159.21	7.05	--	152.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/22/2008	159.21	5.50	--	153.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/24/2008	159.21	7.03	--	152.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/21/2008	159.21	7.80	--	151.41	<50	<0.50	<0.50	<0.50	<0.50	3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.11	
	11/19/2008	159.21	7.69	--	151.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/23/2009	159.21	7.28	--	151.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/14/2009	159.21	6.17	--	153.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/20/2009	159.21	7.38	--	151.83	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.05	
	2/19/2010	159.21	5.31	--	153.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/8/2010	159.21	7.12	--	152.09	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.27	
	12/16/2010	159.21	5.65	--	153.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	j
	2/14/2011	159.21	6.20	--	153.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/20/2011	159.21	5.77	--	153.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2011	159.21	6.41	--	152.80	<50	<0.50	<0.50	<0.50	<0.50	1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.04	
	2/2/2012	159.21	6.34	--	152.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/8/2012	159.21	6.62	--	152.59	<50	<0.50	<0.50	<0.50	<1.0	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.16	
	2/14/2013	159.21	6.09	--	153.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/22/2013	159.21	7.15	--	152.06	<50	<0.50	<0.50	<0.50	<1.0	1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	4.35	
	11/2/2014	159.21	5.79	--	153.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2014	159.21	6.30	--	152.91	<50	<0.50	<0.50	<0.50	<1.0	1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.15	
	12/2/2015	159.21	3.41	--	155.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/31/2015	159.21	7.30	--	151.91	<50	<0.50	<0.50	<0.50	<1.0	1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.90	
	3/16/2016	159.21	2.50	--	156.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/8/2016	166.80	7.56	--	159.24	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	--	
	3/14/2017	166.80	2.70	--	164.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/20/2017	166.80	6.64	--	160.16	<50	<0.50	<0.50	<0.50	<1.0	1.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.19	
	1/19/2018	166.80	4.20		162.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/12/2018	166.80	6.97	--	159.83	54	4.9	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-4	6/20/2000	156.53	7.50	--	149.03	20,000	5,100	440	1,000	1,700	<250	--	--	--	--	--	--	--	--	c
	9/28/2000	156.53	8.20	--	148.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/17/2000	156.53	8.11	--	148.42	4,320	1,240	<20	27	249	<100	--	--	--	--	--	--	--	--	
	3/23/2001	156.53	6.69	--	149.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/21/2001	156.53	8.01	--	148.52	2,800	470	16	19	160	130	--	--	--	--	--	--	--	--	
	9/23/2001	156.53	8.91	--	147.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/31/2001	156.53	4.42	--	152.11	4,600	1,500	100	160	210	160	--	--	--	--	--	--	--	--	
	3/21/2002	156.53	4.98	--	151.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	4/17/2002	156.53	6.23	--	150.30	7,100	2,200	110	290	450	<250	--	--	--	--	--	--	--	--	
	12/8/2002	156.53	8.24	--	148.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/12/2002	156.53	8.42	--	148.11	1,500	410	7	20	29	43	--	--	--	--	--	--	--	1.10	a
	1/29/2003	156.53	7.20	--	149.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	b
	5/23/2003	156.53	7.18	--	149.35	<5,000	1,300	89	210	260	<50	<2,000	--	<50	<50	--	<50	<10,000	1.40	
	4/9/2003	156.53	8.15	--	148.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c
	11/20/2003	156.53	8.73	--	147.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c
	2/2/2004	163.25	6.25	--	157.00	980	280	21	29	38	29	<100	<2.5	<2.5	<2.5	<2.5	2.60	<500	1.40	c, f, g
	5/14/2004	163.25	8.38	--	154.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
	2/9/2004	163.25	8.36	--	154.89	260	11	<1.0	6	14	28	<40	<1.0	<1.0	<1.0	<1.0	<1.0	<200	2.40	g
	4/11/2004	163.25	7.71	--	155.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c, g
	8/2/2005	163.25	6.27	--	156.98	7,500	1,700	320	480	920	45	<1,000	<25	<25	<25	<25	<25	<5,000	0.65	g
	9/5/2005	163.25	5.90	--	157.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
	11/8/2005	163.25	7.96	--	155.29	3,100	1,100	41	160	110	32	<400	<10	<10	<10	<10	<10	<2,000	0.60	g
	11/18/2005	163.25	8.57	--	154.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
	2/16/2006	163.25	6.28	--	156.97	9,400	1,800	130	600	420	35	<400	<10	<10	<10	<10	<10	<6,000	0.50	g
	5/30/2006	162.47	7.02	--	155.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
	8/24/2006	162.47	8.26	--	154.21	3,600	1,400	21	110	70	39	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<1,500	1.00	
	1/11/2006	162.47	8.67	--	153.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/2/2007	162.47	8.02	--	154.45	3,100	570	17	170	110	67	<400	<10	<10	<10	<10	<10	<6,000	0.95	
	8/5/2007	162.47	7.03	--	155.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/8/2007	162.47	8.60	--	153.87	2,900	630	22	67	57	72	<400	<10	<10	<10	<10	<10	<6,000	0.93	
	11/14/2007	162.47	8.53	--	153.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/22/2008	162.47	6.25	--	156.22	3,900	880	39	180	92	70	<200	<10	<10	<10	<10	<10	<6,000	2.31	
	5/24/2008	162.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	8/21/2008	162.47	8.96	--	153.51	3,700	1,100	26	85	130	53	<400	<20	<20	<20	<20	<20	<12,000	2.26	
	11/19/2008	162.47	9.20	--	153.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/23/2009	162.47	6.35	--	156.12	3,000	220	9	23	19	39	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	2.21	
	5/14/2009	162.47	7.00	--	155.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/20/2009	162.47	8.05	--	154.42	5,700	1,100	35	110	100	23	<400	<20	<20	<20	<20	<20	<12,000	2.17	
	2/19/2010	162.47	5.71	--	156.76	12,000	1,200	120	230	390	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<3,000	0.81	i
	10/8/2010	162.47	7.59	--	154.88	9,700	1,500	120	400	400	<20	<400	<20	<20	<20	<20	<20	<12,000	3.81	
	12/16/2010	162.48	6.83	--	155.65	15,000	1,800	82	270	210	<25	<500	<25	<25	<25	<25	<25	<15,000	0.49	j
	2/14/2011	162.48	7.33	--	155.15	260	<0.50	<0.50	3	11	13	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.80	
	5/20/2011	162.48	6.89	--	155.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2011	162.48	7.59	--	154.89	8,600	2,100	86	250	210	<12	<250	<12	<12	<12	<12	<12	<7,500	1.02	l
	2/2/2012	162.48	7.71	--	154.77	4,600	1,000	34	23	33	<12	<250	<12	<12	<12	<12	<12	<7,500	0.60	
	9/8/2012	162.48	6.57	--	155.91	3,200	660	44	53	57	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<1,500	1.09	
	2/14/2013	162.48	6.26	--	156.22	7,200	1,400	150	390	700	<10	<200	<10	<10	<10	<10	<10	<3,000	1.20	
	8/22/2013	162.48	7.59	--	154.89	6,900	1,600	100	120	330	<10	<200	<10	<10	<10	<10	<10	<3,000	4.50	
	11/2/2014	162.48	7.13	--	155.35	140	800	80	84	230	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<1,500	1.03	
	8/15/2014	162.48	8.33	--	154.15	6,300	900	45	38	92	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<1,500	0.21	
	12/2/2015	162.48	5.98	--	156.50	7,000	120	8	31	22	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<1,500	0.61	
	8/31/2015	162.48	8.66	--	153.82	6,300	570	43	27	52	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<1,500	0.88	
	3/17/2016	162.48	3.25	--	159.23	8,700	1,100	160	870	560	<10	<200	<10	--	<10	<10	<10	<3,000	0.00	
	9/9/2016	162.48	8.80	--	153.68	4,400	1,100	51	14	61	<10	<400	<10	<10	<10	<10	<10	<10,000	--	
	3/14/2017	162.48	3.75	--	158.73	6,800	770	97	650	420	<10	<400	<10	<10	<10	<10	<10	<10,000	0.57	
	9/20/2017	162.48	8.10	--	154.38	6,900	1,100	61	27	130	<10	<200	<10	<10	<10	<10	<10	<3,000	0.36	
	1/19/2018	162.48	6.34	--	156.14	<5,000	490	40	40	49	<10	<200	<10	<10	<10	<10	<10	<3,000	0.1	
	9/12/2018	162.48	8.29	--	154.19	5,000	750	39	17	64	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<1,500	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-5	6/20/2000	151.33	7.84	--	143.49	<50	<0.5	<0.5	<0.5	<1.0	<10	--	--	--	--	--	--	--	--	
	9/28/2000	151.33	8.37	--	142.96	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	12/17/2000	151.33	8.36	--	142.97	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	3/23/2001	151.33	7.55	--	143.78	<50	<0.5	<0.5	<0.5	<0.5	<2.5									
	6/21/2001	151.33	8.20	--	143.13	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	9/23/2001	151.33	8.68	--	142.65	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	12/31/2001	151.33	7.57	--	143.76	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	3/21/2002	151.33	6.12	--	145.21	<50	<0.5	<0.5	<0.5	<0.5	3	--	--	--	--	--	--	--	--	
	4/17/2002	151.33	6.61	--	144.72	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	12/8/2002	151.33	8.14	--	143.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	4.10	
	6/12/2002	151.33	8.65	--	142.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	1.10	
	1/29/2003	151.33	7.22	--	144.11	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<20	--	<0.50	<0.50	--	<0.50	<40	1.00	b
	5/23/2003	151.33	7.31	--	144.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	--	<0.50	<0.50	--	<0.50	<100	1.10	
	4/9/2003	151.33	9.50	--	141.83	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	3.20	
	11/20/2003	151.33	8.31	--	143.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/2/2004	151.33	6.92	--	144.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c, f, h
	5/14/2004	151.33	8.56	--	142.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	h
	2/9/2004	151.33	8.79	--	142.54	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	3.50	h
	4/11/2004	151.33	8.33	--	143.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	c, h
	8/2/2005	151.33	7.28	--	144.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	h
	9/5/2005	151.33	8.19	--	143.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	h
	11/8/2005	151.33	8.39	--	142.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	1.20	h
	11/18/2005	151.33	11.25	--	140.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	h
	2/16/2006	151.33	9.22	--	142.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	h
	5/30/2006	151.33	7.52	--	143.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	h
	8/24/2006	151.33	7.95	--	143.38	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.60	
	1/11/2006	151.33	8.32	--	143.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/2/2007	151.33	8.25	--	143.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/5/2007	151.33	7.60	--	143.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/8/2007	151.33	8.12	--	143.21	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	3.26	
	11/14/2007	151.33	9.10	--	142.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/22/2008	151.33	7.48	--	143.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/24/2008	151.33	8.12	--	143.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/21/2008	151.33	8.65	--	142.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.14	
	11/19/2008	151.33	11.86	--	139.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/23/2009	151.33	10.20	--	141.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/14/2009	151.33	9.63	--	141.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/20/2009	151.33	8.52	--	142.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.01	
	2/19/2010	151.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	10/8/2010	156.90	8.05	--	148.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.15	
	12/16/2010	156.90	8.10	--	148.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	j
	2/14/2011	156.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	5/20/2011	156.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	8/15/2011	156.90	7.91	--	148.99	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.46	
	2/2/2012	156.90	8.08	--	148.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/8/2012	156.90	8.02	--	148.88	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.25	
	2/14/2013	156.90	7.54	--	149.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/22/2013	156.90	8.34	--	148.56	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	4.33	
	11/2/2014	156.90	7.61	--	149.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2014	156.90	8.06	--	148.84	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	2.33	
	12/2/2015	156.90	5.32	--	151.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/31/2015	156.90	7.78	--	149.12	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.83	
	3/17/2016	156.90	3.75	--	153.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/8/2016	156.90	7.29	--	149.61	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	--	
	3/14/2017	156.90	4.29	--	152.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/21/2017	156.90	5.75	--	151.15	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.13	
	1/19/2018	156.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	9/12/2018	156.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-6	6/20/2000	153.84	4.79	--	149.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/28/2000	153.84	5.39	--	148.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/17/2000	153.84	4.71	--	149.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/23/2001	153.84	4.69	--	149.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--	--	
	6/21/2001	153.84	5.22	--	148.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/23/2001	153.84	5.40	--	148.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/31/2001	153.84	3.95	--	149.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/21/2002	153.84	2.94	--	150.90	<50	<0.5	<0.5	<0.5	<0.5	5	--	--	--	--	--	--	--	--	
	4/17/2002	153.84	5.11	--	148.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/8/2002	153.84	5.23	--	148.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/6/2002	153.84	5.29	--	148.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/29/2003	153.84	4.79	--	149.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	b
	5/23/2003	153.84	4.31	--	149.53	<50	<0.50	<0.50	<0.50	<0.50	9	<20	--	<0.50	<0.50	--	<0.50	<100	1.00	
	4/9/2003	153.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	11/20/2003	153.84	6.31	--	147.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/2/2004	159.41	4.78	--	154.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	f
	5/14/2004	159.41	6.29	--	153.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/9/2004	159.41	5.79	--	153.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	4/11/2004	159.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	8/2/2005	159.41	5.13	--	154.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/5/2005	159.41	4.52	--	154.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	11/8/2005	159.41	5.02	--	154.39	<50	<0.50	<0.50	<0.50	<0.50	8	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<100	2.10	a2
	11/18/2005	159.41	6.31	--	153.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/16/2006	159.41	4.24	--	155.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/30/2006	159.41	4.45	--	154.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/24/2006	159.41	5.18	--	154.23	<50	<0.50	<0.50	<0.50	<0.50	12	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	3.40	
	1/11/2006	159.41	6.05	--	153.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/2/2007	159.41	5.00	--	154.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/5/2007	159.41	4.30	--	155.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/8/2007	159.41	5.51	--	153.90	<50	<0.50	<0.50	<0.50	<0.50	1	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<300	2.94	
	11/14/2007	159.41	5.38	--	154.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/22/2008	159.41	4.70	--	154.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/24/2008	159.41	5.25	--	154.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/21/2008	159.41	6.14	--	153.27	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.99	
	11/19/2008	159.41	5.94	--	153.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2/23/2009	159.41	5.00	--	154.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/14/2009	159.41	4.60	--	154.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/20/2009	159.41	5.65	--	153.76	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.98	
	2/19/2010	159.41	7.28	--	152.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/8/2010	159.41	5.02	--	154.39	<50	<0.50	<0.50	<0.50	<0.50	4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.99	
	12/16/2010	159.41	4.50	--	154.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	j
	2/14/2011	159.41	4.80	--	154.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/20/2011	159.41	4.29	--	155.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2011	159.41	4.52	--	154.89	<50	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.55	
	2/2/2012	159.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	9/8/2012	159.41	4.65	--	154.76	<50	<0.50	<0.50	<0.50	<1.0	4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.14	
	2/14/2013	159.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	8/22/2013	159.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	d
	11/2/2014	159.41	4.67	--	154.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/2014	159.41	2.84	--	156.57	<50	<0.50	<0.50	<0.50	<1.0	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.08	
	12/2/2015	159.41	1.40	--	158.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/31/2015	159.41	5.19	--	154.22	<50	<0.50	<0.50	<0.50	<1.0	1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.05	
	3/17/2016	159.41	1.32	--	158.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/8/2016	159.41	5.97	--	153.44	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	--	
	3/14/2017	159.41	1.34	--	158.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/19/2017	159.41	5.40	--	154.01	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.30	
	1/19/2018	159.41	2.16	--	157.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	9/12/2018	159.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

Well ID	Date	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	EDB (µg/L)	TAME (µg/L)	Ethanol (µg/L)	DO (mg/l)	Notes
MW-7	12/16/2010	164.80	6.52	--	158.28	700	<0.50	<0.50	15	32	62	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	--	j
	2/14/2011	164.80	6.77	--	158.03	7,100	1,700	98	260	210	<20	<400	<20	<20	<20	<20	<20	<12,000	1.02	
	5/20/2011	164.80	5.84	--	158.96	570	<0.50	<0.50	37	25	5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	1.66	l (GRO)
	8/15/2011	164.80	6.96	--	157.84	420	<1.0	<1.0	49	7	14	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<600	0.58	
	2/2/2012	164.80	7.15	--	157.65	<50	<0.50	<0.50	<0.50	<0.50	6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.45	
	9/8/2012	164.80	5.05	--	159.75	85	<0.50	<0.50	6	1	7	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.04	
	2/14/2013	164.80	4.38	--	160.42	310	1	<0.50	2	6	5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.31	
	8/22/2013	164.80	7.39	--	157.41	78	<0.50	<0.50	4	<1.0	3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	4.01	
	11/2/2014	164.80	7.37	--	157.43	<50	<0.50	<0.50	<0.50	<1.0	12	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.90	
	8/15/2014	164.80	8.39	--	156.41	<50	<0.50	<0.50	<0.50	<1.0	50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.14	
	12/2/2015	164.80	6.76	--	158.04	<50	<0.50	<0.50	<0.50	<1.0	4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.65	
	8/31/2015	164.80	8.50	--	156.30	<50	<0.50	<0.50	<0.50	<1.0	27	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.80	
	3/17/2016	164.80	5.03	--	159.77	<50	<0.50	<0.50	<0.50	<1.0	2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.32	
	9/9/2016	164.80	8.69	--	156.11	<50	<0.50	<0.50	<0.50	<1.0	72	<20	<0.50	<0.50	<0.50	<0.50	0.52	<500	--	
	3/14/2017	164.80	4.97	--	159.83	<50	1.8	<0.50	1.3	1.0	1.3	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	0.55	
	9/20/2017	164.80	8.00	--	156.80	<50	<0.50	<0.50	<0.50	<1.0	42	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.18	
	1/19/2018	164.80	6.67	--	158.13	<50	<0.50	<0.50	<0.50	<1.0	36	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.12	
	9/12/2018	164.80	8.16	--	156.64	<50	<0.50	<0.50	<0.50	<1.0	57	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	--	
MW-8	12/16/2010	164.14	6.85	--	157.29	520	43	<0.50	4	21	150	<10	<0.50	<0.50	<0.50	<0.50	1.70	<300	0.46	j
	2/14/2011	164.14	7.30	--	156.84	<50	<2.0	<2.0	<2.0	<2.0	110	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<1,200	1.07	
	5/20/2011	164.14	6.88	--	157.26	<50	<2.0	<2.0	<2.0	<2.0	88	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<1,200	1.35	
	8/15/2011	164.14	6.00	--	158.14	<50	5.2	<1.0	10	<1.0	57	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<600	0.51	
	2/2/2012	164.14	7.57	--	156.57	<50	<0.50	<0.50	<0.50	<0.50	4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.68	
	9/8/2012	164.14	6.08	--	158.06	110	67	<0.50	<0.50	<1.0	150	31	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.16	
	2/14/2013	164.14	5.70	--	158.44	720	350	<2.0	<2.0	<4.0	240	150	<2.0	<2.0	<2.0	<2.0	5.20	<600	1.23	
	8/22/2013	164.14	7.95	--	156.19	<50	1.5	<0.50	<0.50	<1.0	180	39	<0.50	<0.50	<0.50	<0.50	2.80	<150	3.96	
	11/2/2014	164.14	7.56	--	156.58	<50	<0.50	<0.50	<0.50	<1.0	78	<10	<0.50	<0.50	<0.50	<0.50	0.83	<150	1.93	
	8/15/2014	164.14	8.65	--	155.49	<50	<0.50	<0.50	<0.50	<1.0	21	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.92	
	12/2/2015	164.14	7.13	--	157.01	<50	<0.50	<0.50	<0.50	<1.0	47	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	6.27	
	8/31/2015	164.14	8.83	--	155.31	230	57	<0.50	<0.50	<1.0	110	<10	<0.50	<0.50	<0.50	<0.50	2.30	<150	1.15	
	3/17/2016	164.14	5.86	--	158.28	<50	6.1	<0.50	<0.50	<1.0	69	<10	<0.50	<0.50	<0.50	<0.50	0.52	<150	0.47	
	9/9/2016	164.14	9.14	--	155.00	75	37	<0.50	<0.50	<1.0	67	<20	<0.50	<0.50	<0.50	<0.50	1.20	<500	--	
	3/14/2017	164.14	6.30	--	157.84	270	10	<0.50	1.1	<1.0	45	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	0.55	
	9/21/2017	164.14	8.48	--	155.66	370	19	<0.50	1.3	<1.0	64	<10	<0.50	<0.50	<0.50	<0.50	0.85	<150	0.11	
	1/19/2018	164.14	7.10	--	157.04	830	73	<0.50	3.9	<1.0	57	<10	<0.50	<0.50	<0.50	<0.50	0.77	<150	0.21	
	9/12/2018	164.14	8.64	--	155.50	<50	7.2	<0.50	<0.50	<1.0	53	<10	<0.50	<0.50	<0.50	<0.50	0.83	<150	--	
MW-9	12/16/2010	163.77	6.63	--	157.14	330	18	<0.50	11	38	390	40	<0.50	<0.50	<0.50	<0.50	4.10	<300	0.57	j
	2/14/2011	163.77	6.85	--	156.92	<50	<4.0	<4.0	<4.0	<4.0	270	<80	<4.0	<4.0	<4.0	<4.0	<4.0	<2,400	0.98	
	5/20/2011	163.77	6.39	--	157.38	66	<4.0	<4.0	<4.0	<4.0	280	<80	<4.0	<4.0	<4.0	<4.0	<4.0	<2,400	1.64	l (GRO)
	8/15/2011	163.77	7.09	--	156.68	<50	<2.0	<2.0	<2.0	<2.0	120	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<1,200	0.88	
	2/2/2012	163.77	7.18	--	156.59	<50	<0.50	<0.50	<0.50	<0.50	34	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<300	0.65	
	9/8/2012	163.77	5.68	--	158.09	82	1.9	<0.50	<0.50	<1.0	19	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.61	
	2/14/2013	163.77	5.27	--	158.50	250	5.2	<0.50	<0.50	1	25	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.23	
	8/22/2013	163.77	7.46	--	156.31	290	0.71	<0.50	<0.50	1	31	<10	<0.50	<0.50	<0.50	<0.50	0.55	<150	4.71	
	11/2/2014	163.77	7.07	--	156.70	250	<0.50	<0.50	<0.50	<1.0	39	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	1.12	
	8/15/2014	163.77	8.27	--	155.50	180	<0.50	<0.50	<0.50	<1.0	68	<10	<0.50	<0.50	<0.50	<0.50	0.67	<150	0.10	
	12/2/2015	163.77	6.63	--	157.14	<50	<0.50	<0.50	<0.50	<1.0	90	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.61	
	8/31/2015	163.77	8.50	--	155.27	<50	<0.50	<0.50	<0.50	<1.0	62	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.78	
	3/17/2016	163.77	4.82	--	158.95	76	0.97	<0.50	<0.50	<1.0	18	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.00	
	9/9/2016	163.77	8.94	--	154.83	<50	<0.50	<0.50	<0.50	<1.0	79	<20	<0.50	<0.50	<0.50	<0.50	0.61	<500	--	
	3/14/2017	163.77	4.98	--	158.79	190	9.7	<0.50	0.88	<1.0	23	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<500	0.56	
	9/20/2017	163.77	8.10	--	155.67	<50	<0.50	<0.50	<0.50	<1.0	84	17 ID	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.21	
	1/19/2018	163.77	6.79	--	156.98	<50	<0.50	<0.50	<0.50	<1.0	61	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	0.09	
	9/12/2018	163.77	8.31	--	155.46	<50	<0.50	<0.50	<0.50	<1.0	70	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<150	--	

Table 3. Historical Groundwater Monitoring and Analytical Data
Former BP Service Station No. 0374
6407 Telegraph Avenue
Oakland, California

ARCADIS Design & Consultancy for natural and built assets

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

Notes:

TOC = top of casing measured
DTW = depth to water
LNAPL = light non-aqueous phase liquid
GW Elev = groundwater elevation
GRO = gasoline range organics
B = benzene
T = toluene
E = ethylbenzene
X = total xylenes
MTBE = methyl tert-butyl ether
TBA = tert-butyl alcohol

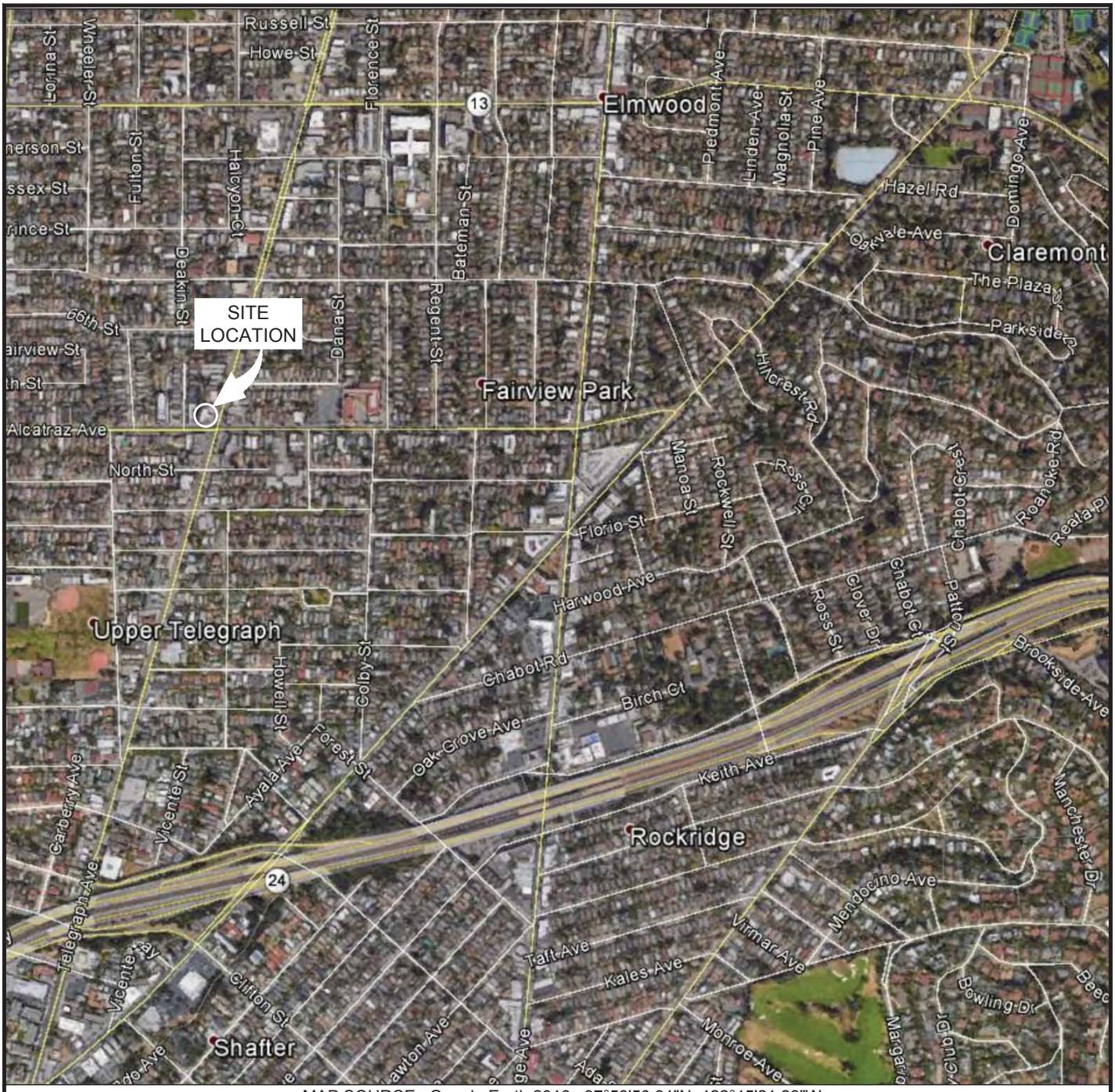
1,2-DCA = 1,2-dichloroethane
DIPE = di-isopropyl ether
ETBE = ethyl tert-butyl ether
EDB = 1,2-dibromoethane
TAME= tert-Amyl methyl ether
DO = dissolved oxygen

ft msl = feet above mean sea level
-- = not analyzed/applicable/measured/available
< = not detected at or above specified laboratory reporting limit
mg/L = milligrams per liter
µg/L = micrograms per liter
Values for DO were obtained through field measurements
ID= Analyte identified by RT & presence of single mass ion

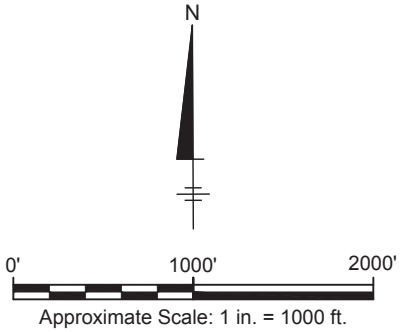
a = Chromatogram pattern: Gasoline C6-C10 for GRO/TPH-goxygenates
b = Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel
c = Wells gauged with ORC sock in well
d = Well inaccessible
e = The hydrocarbon result for GRO was partly due to individual peaks in the quantitative range
f = Well resurveyed on 1/27/2004 to NAVD88
g = Upon review of survey data (1/27/2004), TOC elevation for MW-4 is actually 162.47 ft.
h = Upon review of survey data (1/27/2004), MW-5 was not surveyed from the TOC. MW-5 was surveyed from the pavement due to inaccessibility to the TOC. Therefore, survey data for MW-5 from the TOC is unavailable. Historic data prior to 5/30/2006 (change in consultant) not modified

i = Quantitation of unknown hydrocarbon(s) in sample based on gasoline
j = Surveyed 12/9/2010
k = Grab groundwater sample
l = Quantitated against gasoline
a2 = The continuing calibration verification for ethanol was outside of client contractual limits, however, it was within method acceptance limits. The data should still be useful for its intended purpose

FIGURES



MAP SOURCE: Google Earth 2016, 37°50'50.91"N, 122°15'21.28"W



Approximate Scale: 1 in. = 1000 ft.

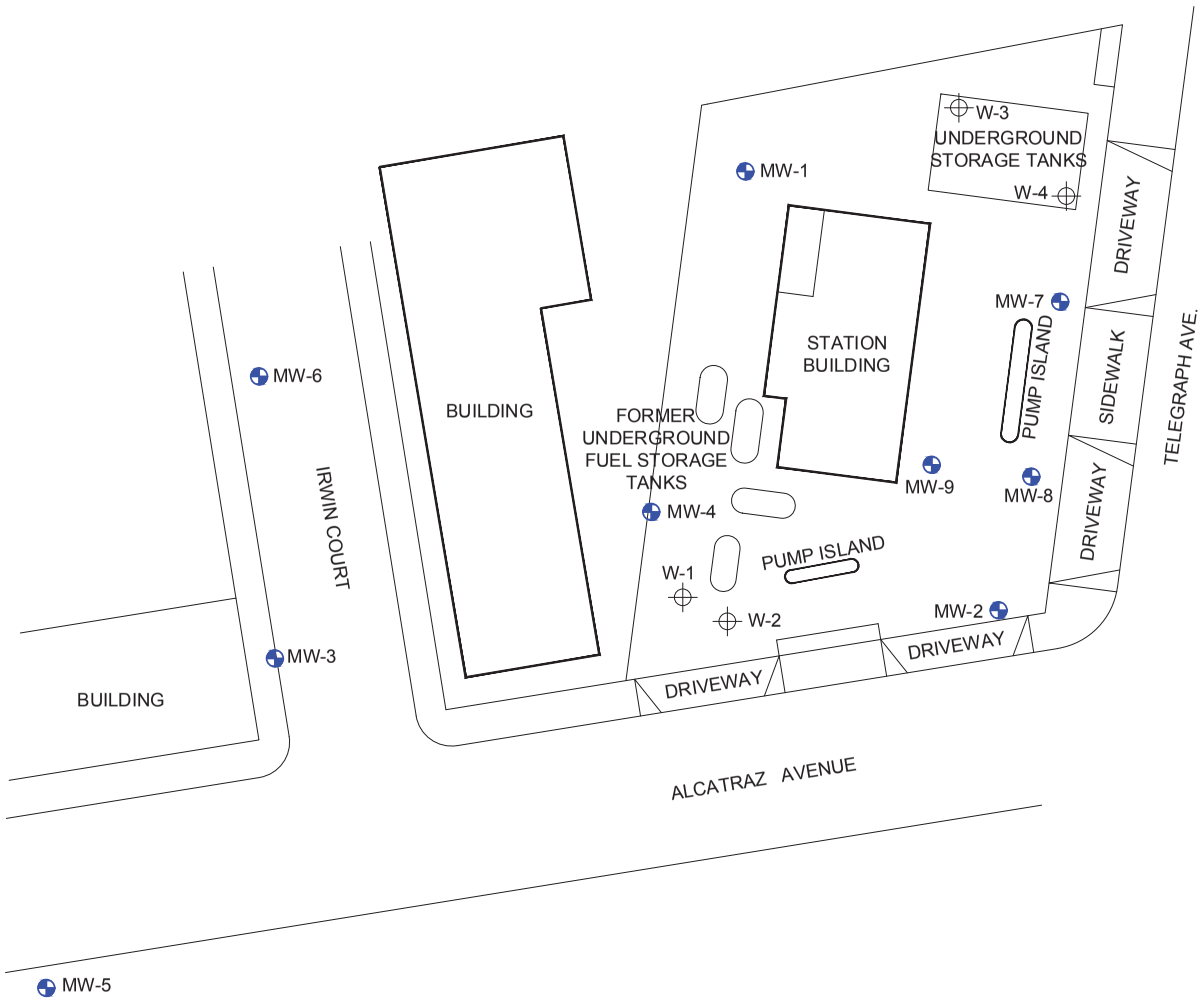
FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:MUMBAI, INDIA DIV/GROUP:ENVCAD DB: S DSOUZA LD: PIC: PM: TM: ES:
D:\OneDrive-Do_Not_Delete\OneDrive - ARCADIS\BIM 360 Docs\BP AMOCO CORPORATION\BP Foxglove 4 - CA-374\2018\GP16BPNA.CA01\01-DWG\Fig 1- 0374_ Site Location Map.dwg LAYOUT: LAYOUT1 SAVED: 10/12/2018 12:38 PM ACADVER: 21.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE:
PLTFULL.CTB PLOTTED: 10/12/2018 12:39 PM BY: JAYAPAL, DINESH KUMAR



LEGEND:

- MONITORING WELL LOCATION
- TANK PIT MONITORING WELL LOCATION

NOTES:

1) SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
2) SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

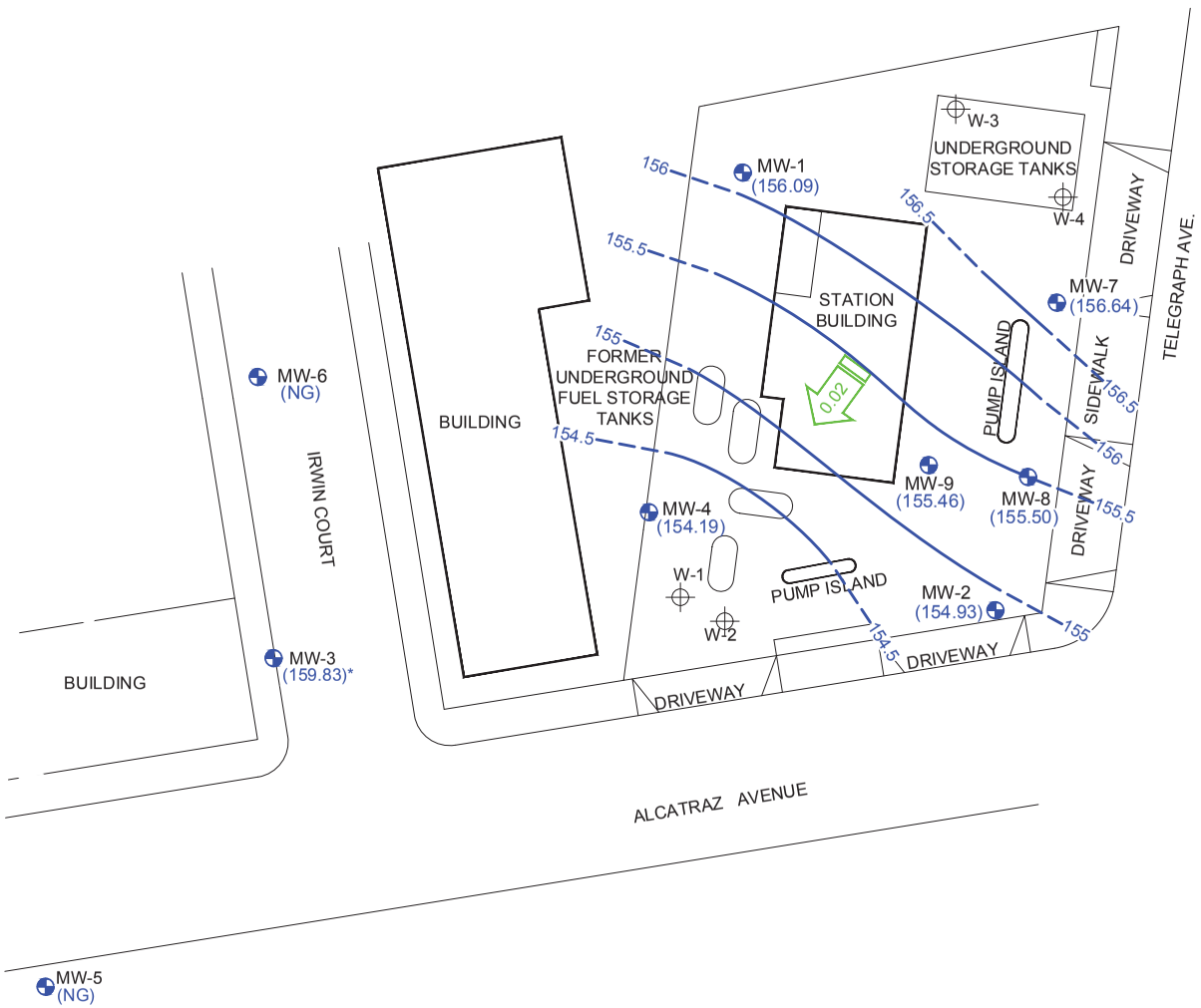
0' 30' 60'
SCALE IN FEET

FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

SITE PLAN

ARCADIS

FIGURE
2



LEGEND:

- MONITORING WELL LOCATION
- TANK PIT MONITORING WELL LOCATION
- 156.5 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE SITE DATUM; DASHED WHERE INFERRED)
- 0.02 — GROUNDWATER GRADIENT (FT/FT)
- * — WELL NOT USED IN CONTOURING
- (156.64) — GROUNDWATER ELEVATION (FEET RELATIVE TO DATUM)
- (NG) — NOT GAUGED

NOTES:

1) SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
2) SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.
3) GROUNDWATER MONITORING WELLS GAUGED AND SAMPLED ON SEPTEMBER 12, 2018.

0 30' 60'
GRAPHIC SCALE

FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

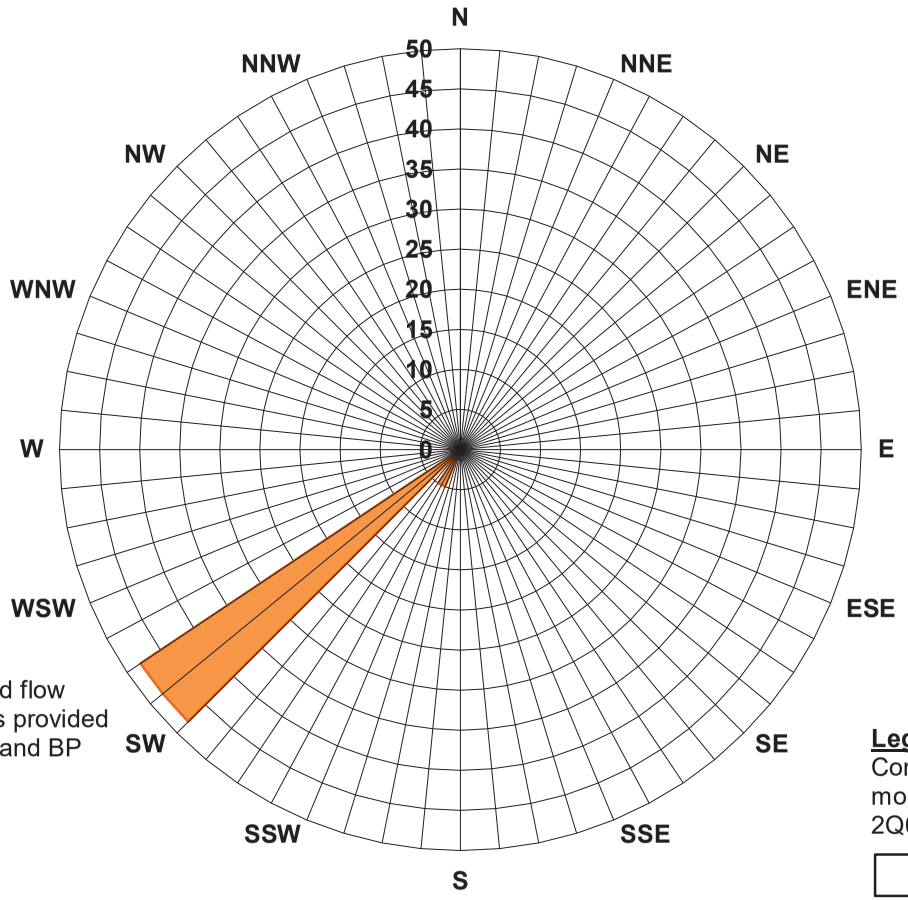
GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 12, 2018

ARCADIS

FIGURE 3

Figure 4
GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

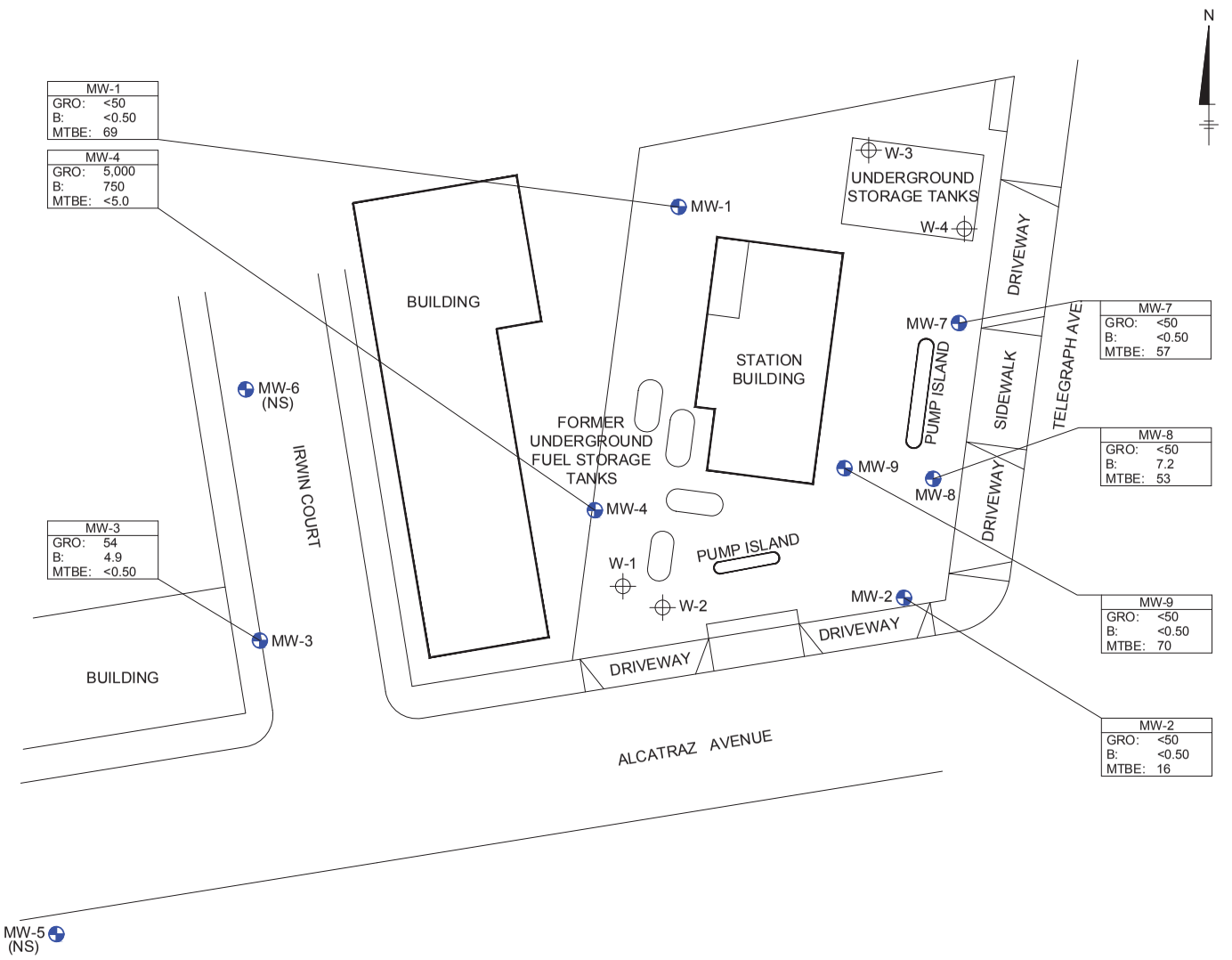
CA BP-0374
6407 Telegraph Avenue
Oakland, California 94619



Note
Historic groundwater gradient and flow direction data, prior to 3Q16, was provided by Broadbent & Associates, Inc. and BP West Coast Products, LLC.

Legend
Concentric circles represent 53 monitoring events beginning 2Q00 through 3Q18.

Groundwater Flow Direction



LEGEND:

- MONITORING WELL LOCATION
- TANK PIT MONITORING WELL LOCATION
- < LESS THAN LABORATORY REPORTING LIMIT
- (NS) NOT SAMPLED

MW-8	
GRO:	<50
B:	7.2
MTBE:	53

SAMPLE LOCATION ID
CONCENTRATIONS (µg/L)
GRO: GASOLINE RANGE ORGANICS
B: BENZENE
MTBE: METHYL TERT BUTYL ETHER

NOTES:

1) SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
2) SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.
3) GROUNDWATER MONITORING WELLS GAUGED AND SAMPLED ON SEPTEMBER 12, 2018.

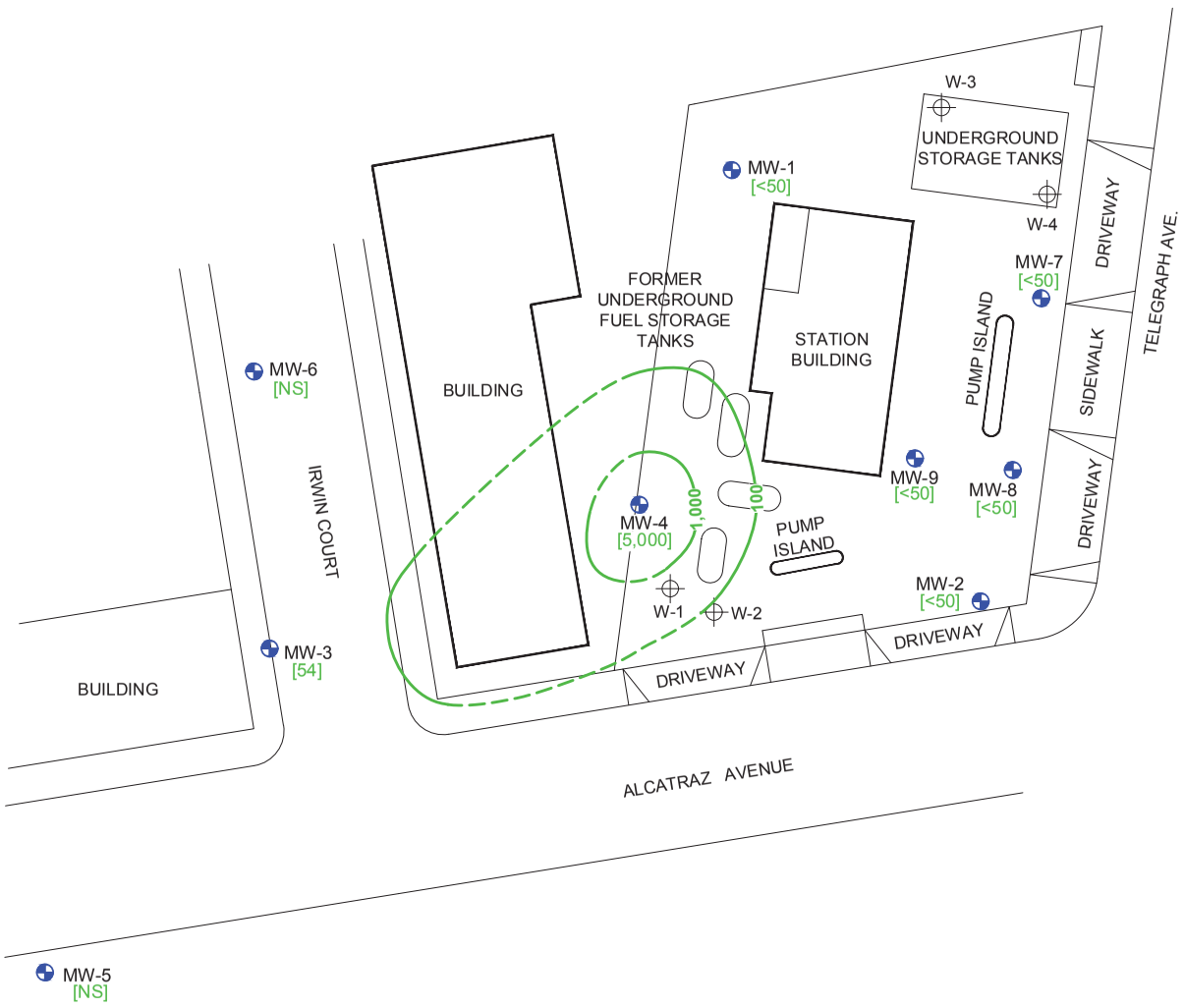
0 30' 60'
GRAPHIC SCALE

FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

GROUNDWATER ANALYSIS CONCENTRATION MAP SEPTEMBER 12, 2018

ARCADIS

FIGURE 5



N

LEGEND:

- MONITORING WELL LOCATION
- TANK PIT MONITORING WELL LOCATION
- [5,000] GASOLINE RANGE ORGANICS CONCENTRATION (µg/L)
- 1,000 GRO CONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- < LESS THAN LABORATORY REPORTING LIMIT
- [NS] NOT SAMPLED

NOTES:

1) SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
2) SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.
3) GROUNDWATER MONITORING WELLS GAUGED AND SAMPLED ON SEPTEMBER 12, 2018.

0 30' 60'

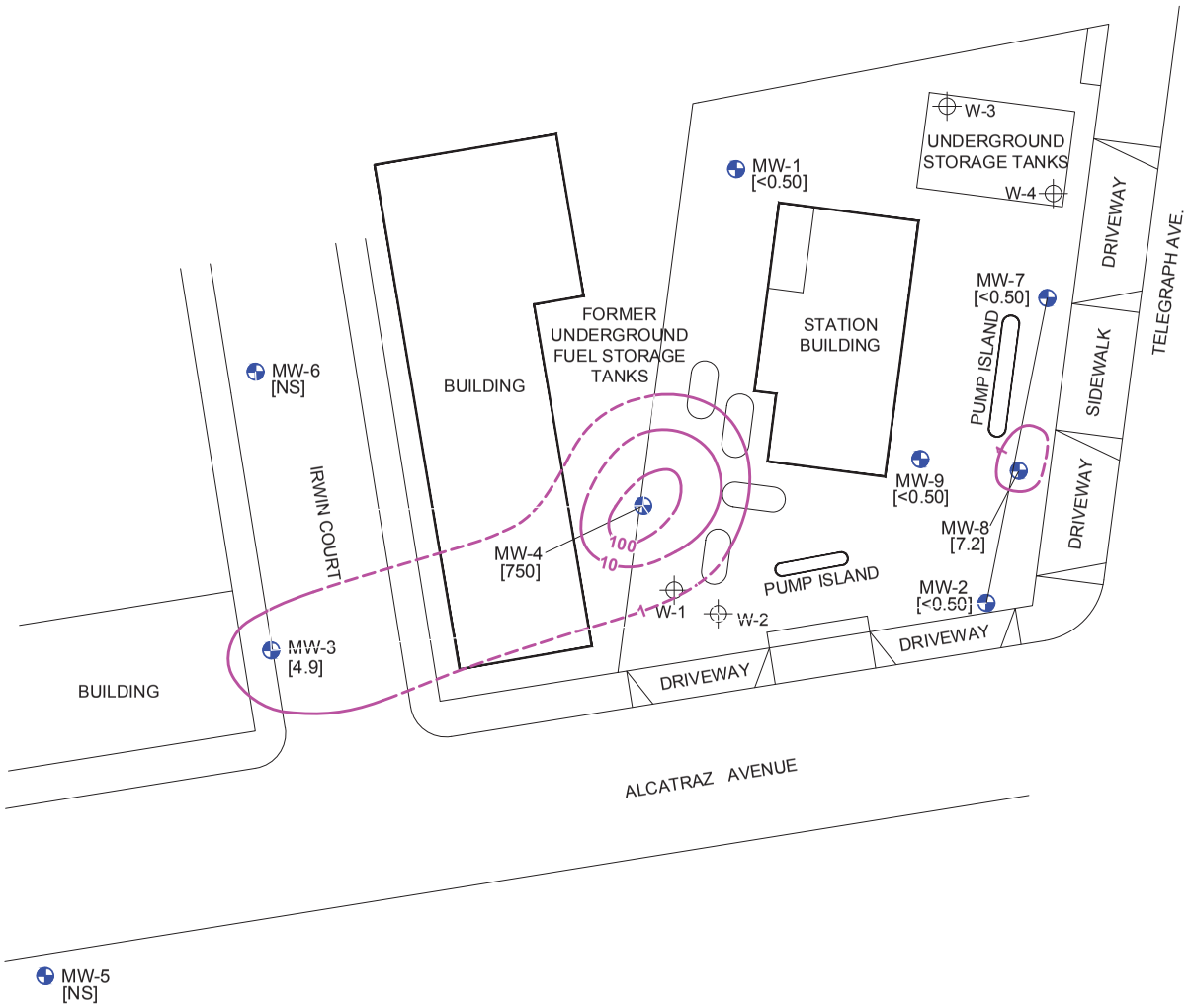
GRAPHIC SCALE

FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

GRO CONCENTRATION MAP
SEPTEMBER 12, 2018

ARCADIS

FIGURE
6



N

LEGEND:

- MONITORING WELL LOCATION
- TANK PIT MONITORING WELL LOCATION
- [750] BENZENE CONCENTRATION (µg/L)
- 100 BENZENE CONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- < LESS THAN LABORATORY REPORTING LIMIT
- [NS] NOT SAMPLED

NOTES:

1) SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
2) SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.
3) GROUNDWATER MONITORING WELLS GAUGED AND SAMPLED ON SEPTEMBER 12, 2018.

0 30' 60'

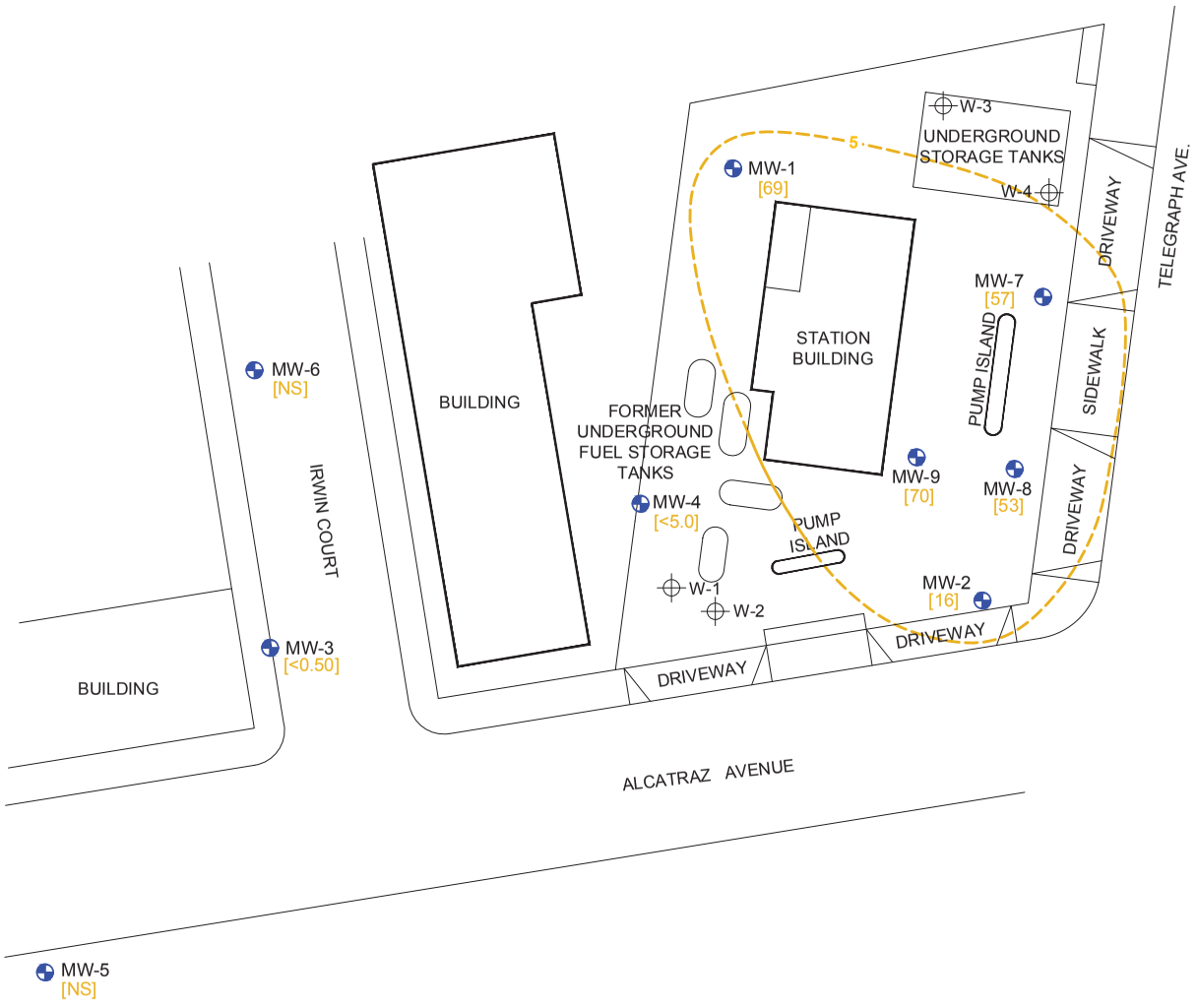
GRAPHIC SCALE

FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

BENZENE CONCENTRATION MAP
SEPTEMBER 12, 2018

ARCADIS

FIGURE
7



LEGEND:

- MONITORING WELL LOCATION
- TANK PIT MONITORING WELL LOCATION
- [70] MTBE CONCENTRATION (µg/L)
- 5 MTBE CONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- < LESS THAN LABORATORY REPORTING LIMIT
- [NS] NOT SAMPLED

NOTES:

1) SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
2) SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.
3) GROUNDWATER MONITORING WELLS GAUGED AND SAMPLED ON SEPTEMBER 12, 2018.

0 30' 60'

GRAPHIC SCALE

FORMER BP SERVICE STATION NO. 0374
6407 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

MTBE CONCENTRATION MAP
SEPTEMBER 12, 2018

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FIGURE
8

ATTACHMENT 1

Groundwater Monitoring Field Forms

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Groundwater Gauging Form

Project No.: 6P16BPNA.CA01.400000 Page 1 of 1

Site Location: 6073 Telegraph Avenue, Oakland, CA

Prepared By: Nicholas Vadney Date: 9/12/16

Gauging Equipment: Water Probe / Oil-Water Interface Probe Other _____

Well ID	Time	Sheen or Odor	LNAPL Depth	LNAPL Thickness	DTW	TD	PID	Notes
MW-1	10:14	none			8.36	26.80		
MW-2	10:18	none			8.56	26.41		
MW-3	10:21	none			6.97	26.90		
MW-4	10:25	strong odor			8.29	27.00		
MW-5								Could not access; car parked over well
MW-6								" "
MW-7	10:28	none			8.16	19.70		
MW-8	10:29	none			8.64	19.45		
MW-9	10:31	none			8.31	19.27		

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Page 1 of 1

Project No. GP16BPNA.CA01.40000 Well ID MW-9 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 8.31 Total Depth (ft-bmp) 19.27 Water Column/ Gallons in Well 10.96 / 7.1 gal

MP Elevation _____ Pump Intake (ft-bmp) 18 Purge Method: _____ Sample Method low-flow

Pump On/Off 11:46 / 12:10 Volumes Purged 5400 mL Centrifugal _____ Submersible _____ Other Peristaltic

Sample Time: Label 1135 Start 12:00 End 12:10 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
11:48	2	225	8.56		6.85	667	1090	6.84	26.1	-42.3	brown	none
11:49	3	225	8.79		6.79	656	967	1.9	25.1	-39.8		
11:50	4	225	8.92		6.76	654	999	1.8	25.3	-40.1		
11:51	5	225	9.05		6.75	654	983	1.8	25.3	-43.3	↓	
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: (Yes) / No

Condition of Well: Fair Well Locked at Departure: (Yes) / No

Well Completion: (Flush Mount) / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Project No. GP16BPNA.CA01.40000 Well ID MW-4 Date 9/12/14

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 8.64 Total Depth (ft-bmp) 19.45 Water Column/ Gallons in Well 10.81/7 gal

MP Elevation _____ Pump Intake (ft-bmp) 15 Purge Method: Centrifugal ___ Submersible ___ Other Peristaltic Sample Method low-flow

Pump On/Off 12:20/12:35 Volumes Purged 3000 mL

Sample Time: Label 12:26 Start 12:30 End 12:35 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
12:21	1	200	8.86		6.67	553	441	8.8	24	25.5	clear	none
12:22	2	200	9.12		6.64	542	386	4.0	23.3	46.6		
12:23	3	200	9.33		6.66	542	86.3	3.0	23.2	58.6		
12:24	4	200	9.45		660	541	76.8	2.8	23.2	62.7		
12:25	5	200	9.54		6.56	540	70.3	2.7	23.2	65.4		
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: Fair Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Page 1 of 1

Project No. GP16BPNA.CA01.40000 Well ID MW-7 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 8.16 Total Depth (ft-bmp) 19.70 Water Column/ Gallons in Well 11.54 / 7.5 gal

MP Elevation _____ Pump Intake (ft-bmp) 15 Purge Method: Centrifugal ___ Submersible ___ Other Peristaltic Sample Method low-flow

Pump On/Off 12:50 / 13:10 Volumes Purged 3500 mL

Sample Time: Label 12:57 Start 13:00 End 13:10 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
12:51	1	175	8.23		6.93	777	70.5	8.3	23.5	123.0	clear	none
12:53	3	175	8.45		6.44	824	40.2	7.6	23.6	121.7		
12:54	4	175	8.61		6.83	835	39.7	5.4	22.1	121.1		
12:55	5	175	8.77		6.81	837	38.4	5.3	21.9	121.1		
12:56	6	175	8.82		6.79	838	36.9	5.4	21.9	120.7		
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: Fair Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Project No. GP16BPNA.CA01.40000 Well ID MW-5 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather

Measuring Pt. Description | Screen Setting (ft-bmp) | Casing Diameter (in.) | Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) | Total Depth (ft-bmp) | Water Column/ Gallons in Well

MP Elevation | Pump Intake (ft-bmp) | Purge Method: Centrifugal / Submersible / Other | Sample Method low-flow

Pump On/Off | Volumes Purged

Sample Time: Label / Start / End | Replicate/ Code No. | Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
Could not sample; car parked over well			

Well Casing Volumes

Gallons/Foot 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Well Information

Well Location: Well Locked at Arrival: Yes / No

Condition of Well: Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well:

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Project No. _____ Well ID MW-6 Date 9/12/14

Project Name/Location BP 0374 Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) _____ Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) _____ Total Depth (ft-bmp) _____ Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-bmp) _____ Purge Method: _____ Sample Method _____

Pump On/Off _____ Volumes Purged _____ Centrifugal _____ Submersible _____ Other _____

Sample Time: Label _____ Start _____ End _____ Replicate/ Code No. _____ Sampled by _____

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
could not sample; car parked over well			

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Project No. GP16BPNA.CA01.40000 Well ID MW-4 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material / PVC ___ SS

Static Water Level (ft-bmp) 8.29 Total Depth (ft-bmp) 27.00 Water Column/ Gallons in Well 18.71 / 12.2 gal

MP Elevation _____ Pump Intake (ft-bmp) 23 Purge Method: _____ Sample Method low-flow

Pump On/Off 14:20 / 14:40 Volumes Purged 4000 mL Centrifugal _____ Submersible _____ Other Peristaltic

Sample Time: Label 14:30 Start 14:35 End 14:40 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
14:21	1	200	8.34		6.46	808	15.3	8.5	20.6	-12.2	clear	strong
14:22	2	200	8.48		6.63	861	13.6	5.0	19.2	-54.2		
14:23	3	200	8.59		6.60	865	12.1	3.4	19.0	-65.6		
14:24	4	200	8.66		6.58	867	11.0	3.0	18.9	-69.9		
14:25	5	200	8.79		6.57	866	10.6	2.7	18.9	-72.9		
14:26	6	200	8.84		6.57	868	10.5	2.9	18.9	-74.9		
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: Fair Well Locked at Departure: Yes / No

Well Completion: ~~Flush Mount~~ / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Page 1 of 1

Project No. GP16BPNA.CA01.40000 Well ID MW-3 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 6.97 Total Depth (ft-bmp) 26.90 Water Column/ Gallons in Well 19.93/13 gal

MP Elevation _____ Pump Intake (ft-bmp) 22 Purge Method: Centrifugal ___ Submersible ___ Other Peristaltic Sample Method low-flow

Pump On/Off 15:00 / 15:15 Volumes Purged 1500 mL

Sample Time: Label 15:07 Start 15:10 End 15:15 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
15:01	1	100	7.06		7.05	562	18.7	8.4	210	4.4	clear	none
15:03	3	100	7.32		6.90	549.2	12.3	6.4	20.2	13.0		
15:04	4	100	7.44		6.83	547.1	11.0	6.3	20.2	16.4		
15:05	5	100	7.56		6.76	916.2	10.8	6.2	20.3	20.2		
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: Fair Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Project No. GP16BPNA.CA01.40000 Well ID MW-2 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather Sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 4.56 Total Depth (ft-bmp) 26.41 Water Column/ Gallons in Well 17.85 / 11.6 gal

MP Elevation _____ Pump Intake (ft-bmp) 20 Purge Method: Centrifugal _____ Submersible _____ Other Peristaltic Sample Method low-flow

Pump On/Off 13:43/14:00 Volumes Purged 3400 mL

Sample Time: Label 13:51 Start 13:55 End 14:00 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
13:44	1	200	8.74		7.42	586	61.3	7.4	24.2	153.6	clear	none
13:45	2	200	8.83		7.17	576	43.8	6.4	24.0	155.8		
13:46	3	200	8.92		7.14	573	39.6	5.3	24.0	156.0		
13:48	5	200	9.32		7.10	572	36.5	4.8	24.0	156.4		
13:49	6	200	9.44		7.06	570	30.9	4.5	24.0	156.6		
13:50	7	200	9.56		7.02	570	29.4	4.1	23.9	156.7		
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40 mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: (Yes) / No

Condition of Well: Fair Well Locked at Departure: (Yes) / No

Well Completion: (Flush Mount) / Stick Up Key Number To Well: _____

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER SAMPLING LOG

Project No. GP16BPNA.CA01.40000 Well ID MW-1 Date 9/12/16

Project Name/Location BP CA-0374 Telegraph Avenue, Oakland, CA Weather sunny

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 4 Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 8.36 Total Depth (ft-bmp) 26.80 Water Column/ Gallons in Well 18.44/12 gal

MP Elevation _____ Pump Intake (ft-bmp) 22 Purge Method: Centrifugal ___ Submersible ___ Other Peristaltic Sample Method low-flow

Pump On/Off 10:55/11:20 Volumes Purged 3750 mL

Sample Time: Label 11:05 Start 11:15 End 11:20 Replicate/ Code No. _____ Sampled by NAV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
10:56	1	150	8.51		6.68	851	10.6	8.6	19.0	110	clear	none
10:57	2	150	8.67		6.69	845	8.3	4.5	19.1	106.9		
10:59	4	150	8.88		6.68	846	7.4	4.3	19.4	105.3		
11:01	6	150	8.98		6.66	846	11.4	4.2	19.7	103.4		
Stabilization Parameters (3 readings):					±0.1	3%	10%	10%	3%	±10 mv		

Constituents Sampled	Container	Number	Preservative
VOCs	40 mL VOA	6	HCl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 (4" = 0.65) 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: (Yes) / No

Condition of Well: Fair Well Locked at Departure: (Yes) / No

Well Completion: (Flush Mount) / Stick Up Key Number To Well: _____

ATTACHMENT 2

Groundwater Analytical Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-220271-1
Client Project/Site: ARCO 0374, Oakland

For:
ARCADIS U.S. Inc
101 Creekside Ridge Court
2nd Floor
Roseville, California 95678

Attn: Brittani Jacobsen

Authorized for release by:
9/29/2018 8:14:39 AM

Kathleen Robb, Project Manager II
(949)261-1022
kathleen.robb@testamericainc.com

Table of Contents

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 440-220271-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-220271-1	MW-1	Water	09/12/18 11:15	09/14/18 09:45
440-220271-2	MW-2	Water	09/12/18 13:55	09/14/18 09:45
440-220271-3	MW-3	Water	09/12/18 15:10	09/14/18 09:45
440-220271-4	MW-4	Water	09/12/18 14:35	09/14/18 09:45
440-220271-5	MW-7	Water	09/12/18 13:00	09/14/18 09:45
440-220271-6	MW-8	Water	09/12/18 12:30	09/14/18 09:45
440-220271-7	MW-9	Water	09/12/18 12:00	09/14/18 09:45

Job ID: 440-220271-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-220271-1

Comments
No additional comments.

Receipt
The samples were received on 9/14/2018 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9º C.

GC/MS VOA
Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was 3 and the following sample was analyzed after 7 days from sampling: MW-9 (440-220271-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) 8015B: The following volatile samples were analyzed with significant headspace in the sample vial(s): MW-2 (440-220271-2), MW-3 (440-220271-3) and MW-9 (440-220271-7). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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

Client Sample ID: MW-1

Lab Sample ID: 440-220271-1

Date Collected: 09/12/18 11:15

Matrix: Water

Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			09/21/18 09:45	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/18 09:45	1
Benzene	ND		0.50		ug/L			09/21/18 09:45	1
Ethanol	ND		150		ug/L			09/21/18 09:45	1
Ethylbenzene	ND		0.50		ug/L			09/21/18 09:45	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			09/21/18 09:45	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			09/21/18 09:45	1
m,p-Xylene	ND		1.0		ug/L			09/21/18 09:45	1
Methyl-t-Butyl Ether (MTBE)	**69**		0.50		ug/L			09/21/18 09:45	1
o-Xylene	ND		0.50		ug/L			09/21/18 09:45	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			09/21/18 09:45	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			09/21/18 09:45	1
Toluene	ND		0.50		ug/L			09/21/18 09:45	1
Xylenes, Total	ND		1.0		ug/L			09/21/18 09:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/21/18 09:45*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*09/21/18 09:45*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/21/18 09:45*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			09/19/18 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*65 - 140*		*09/19/18 15:57*	*1*

Client Sample ID: MW-2

Lab Sample ID: 440-220271-2

Date Collected: 09/12/18 13:55

Matrix: Water

Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			09/21/18 11:11	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/18 11:11	1
Benzene	ND		0.50		ug/L			09/21/18 11:11	1
Ethanol	ND		150		ug/L			09/21/18 11:11	1
Ethylbenzene	ND		0.50		ug/L			09/21/18 11:11	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			09/21/18 11:11	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			09/21/18 11:11	1
m,p-Xylene	ND		1.0		ug/L			09/21/18 11:11	1
Methyl-t-Butyl Ether (MTBE)	**16**		0.50		ug/L			09/21/18 11:11	1
o-Xylene	ND		0.50		ug/L			09/21/18 11:11	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			09/21/18 11:11	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			09/21/18 11:11	1
Toluene	ND		0.50		ug/L			09/21/18 11:11	1
Xylenes, Total	ND		1.0		ug/L			09/21/18 11:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/21/18 11:11*	*1*

Client Sample ID: MW-2

Lab Sample ID: 440-220271-2
Date Collected: 09/12/18 13:55
Matrix: Water
Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/21/18 11:11*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*09/21/18 11:11*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50	ug/L			09/19/18 16:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*		*09/19/18 16:25*	*1*

Client Sample ID: MW-3

Lab Sample ID: 440-220271-3
Date Collected: 09/12/18 15:10
Matrix: Water
Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50	ug/L			09/21/18 11:39	1
1,2-Dichloroethane	ND		0.50	ug/L			09/21/18 11:39	1
Benzene	**4.9**		0.50	ug/L			09/21/18 11:39	1
Ethanol	ND		150	ug/L			09/21/18 11:39	1
Ethylbenzene	ND		0.50	ug/L			09/21/18 11:39	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	ug/L			09/21/18 11:39	1
Isopropyl Ether (DIPE)	ND		0.50	ug/L			09/21/18 11:39	1
m,p-Xylene	ND		1.0	ug/L			09/21/18 11:39	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	ug/L			09/21/18 11:39	1
o-Xylene	ND		0.50	ug/L			09/21/18 11:39	1
Tert-amyl-methyl ether (TAME)	ND		0.50	ug/L			09/21/18 11:39	1
tert-Butyl alcohol (TBA)	ND		10	ug/L			09/21/18 11:39	1
Toluene	ND		0.50	ug/L			09/21/18 11:39	1
Xylenes, Total	ND		1.0	ug/L			09/21/18 11:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/21/18 11:39*	*1*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*09/21/18 11:39*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*09/21/18 11:39*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**54**		50	ug/L			09/19/18 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*		*09/19/18 16:53*	*1*

Client Sample ID: MW-4

Lab Sample ID: 440-220271-4
Date Collected: 09/12/18 14:35
Matrix: Water
Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		5.0	ug/L			09/21/18 12:08	10
1,2-Dichloroethane	ND		5.0	ug/L			09/21/18 12:08	10

Client Sample ID: MW-4

Date Collected: 09/12/18 14:35
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-4
Matrix: Water

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**750**		5.0		ug/L			09/21/18 12:08	10
Ethanol	ND		1500		ug/L			09/21/18 12:08	10
Ethylbenzene	**17**		5.0		ug/L			09/21/18 12:08	10
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/21/18 12:08	10
Isopropyl Ether (DIPE)	ND		5.0		ug/L			09/21/18 12:08	10
m,p-Xylene	**64**		10		ug/L			09/21/18 12:08	10
Methyl-t-Butyl Ether (MTBE)	ND		5.0		ug/L			09/21/18 12:08	10
o-Xylene	ND		5.0		ug/L			09/21/18 12:08	10
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			09/21/18 12:08	10
tert-Butyl alcohol (TBA)	ND		100		ug/L			09/21/18 12:08	10
Toluene	**39**		5.0		ug/L			09/21/18 12:08	10
Xylenes, Total	**64**		10		ug/L			09/21/18 12:08	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/21/18 12:08*	*10*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*09/21/18 12:08*	*10*
Toluene-d8 (Surr)	*103*		*80 - 128*		*09/21/18 12:08*	*10*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**5000**		500		ug/L			09/19/18 17:22	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*65 - 140*		*09/19/18 17:22*	*10*

Client Sample ID: MW-7

Date Collected: 09/12/18 13:00
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-5
Matrix: Water

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			09/21/18 12:35	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/18 12:35	1
Benzene	ND		0.50		ug/L			09/21/18 12:35	1
Ethanol	ND		150		ug/L			09/21/18 12:35	1
Ethylbenzene	ND		0.50		ug/L			09/21/18 12:35	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			09/21/18 12:35	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			09/21/18 12:35	1
m,p-Xylene	ND		1.0		ug/L			09/21/18 12:35	1
Methyl-t-Butyl Ether (MTBE)	**57**		0.50		ug/L			09/21/18 12:35	1
o-Xylene	ND		0.50		ug/L			09/21/18 12:35	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			09/21/18 12:35	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			09/21/18 12:35	1
Toluene	ND		0.50		ug/L			09/21/18 12:35	1
Xylenes, Total	ND		1.0		ug/L			09/21/18 12:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/21/18 12:35*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*09/21/18 12:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/21/18 12:35*	*1*

Client Sample ID: MW-7

Lab Sample ID: 440-220271-5

Date Collected: 09/12/18 13:00

Matrix: Water

Date Received: 09/14/18 09:45

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			09/19/18 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*		*09/19/18 17:50*	*1*

Client Sample ID: MW-8

Lab Sample ID: 440-220271-6

Date Collected: 09/12/18 12:30

Matrix: Water

Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			09/21/18 13:03	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/18 13:03	1
Benzene	**7.2**		0.50		ug/L			09/21/18 13:03	1
Ethanol	ND		150		ug/L			09/21/18 13:03	1
Ethylbenzene	ND		0.50		ug/L			09/21/18 13:03	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			09/21/18 13:03	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			09/21/18 13:03	1
m,p-Xylene	ND		1.0		ug/L			09/21/18 13:03	1
Methyl-t-Butyl Ether (MTBE)	**53**		0.50		ug/L			09/21/18 13:03	1
o-Xylene	ND		0.50		ug/L			09/21/18 13:03	1
Tert-amyl-methyl ether (TAME)	**0.83**		0.50		ug/L			09/21/18 13:03	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			09/21/18 13:03	1
Toluene	ND		0.50		ug/L			09/21/18 13:03	1
Xylenes, Total	ND		1.0		ug/L			09/21/18 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*09/21/18 13:03*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*09/21/18 13:03*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*09/21/18 13:03*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			09/19/18 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*65 - 140*		*09/19/18 18:18*	*1*

Client Sample ID: MW-9

Lab Sample ID: 440-220271-7

Date Collected: 09/12/18 12:00

Matrix: Water

Date Received: 09/14/18 09:45

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			09/21/18 13:32	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/18 13:32	1
Benzene	ND		0.50		ug/L			09/21/18 13:32	1
Ethanol	ND		150		ug/L			09/21/18 13:32	1
Ethylbenzene	ND		0.50		ug/L			09/21/18 13:32	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			09/21/18 13:32	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			09/21/18 13:32	1

Client: ARCADIS U.S. Inc
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 440-220271-1

Client Sample ID: MW-9
Date Collected: 09/12/18 12:00
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-7
Matrix: Water

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		1.0		ug/L			09/21/18 13:32	1
Methyl-t-Butyl Ether (MTBE)	**70**		0.50		ug/L			09/21/18 13:32	1
o-Xylene	ND		0.50		ug/L			09/21/18 13:32	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			09/21/18 13:32	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			09/21/18 13:32	1
Toluene	ND		0.50		ug/L			09/21/18 13:32	1
Xylenes, Total	ND		1.0		ug/L			09/21/18 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/21/18 13:32*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*09/21/18 13:32*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*09/21/18 13:32*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			09/19/18 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*		*09/19/18 18:47*	*1*

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 440-220271-1

Method	Method Description	Protocol	Laboratory
8260B/5030B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B/5030B	Gasoline Range Organics (GC)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

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

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Client Sample ID: MW-1

Date Collected: 09/12/18 11:15
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	10 mL	10 mL	500319	09/21/18 09:45	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	10 mL	10 mL	499844	09/19/18 15:57	IM	TAL IRV

Client Sample ID: MW-2

Date Collected: 09/12/18 13:55
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	10 mL	10 mL	500319	09/21/18 11:11	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	10 mL	10 mL	499844	09/19/18 16:25	IM	TAL IRV

Client Sample ID: MW-3

Date Collected: 09/12/18 15:10
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	10 mL	10 mL	500319	09/21/18 11:39	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	10 mL	10 mL	499844	09/19/18 16:53	IM	TAL IRV

Client Sample ID: MW-4

Date Collected: 09/12/18 14:35
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		10	10 mL	10 mL	500319	09/21/18 12:08	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		10	10 mL	10 mL	499844	09/19/18 17:22	IM	TAL IRV

Client Sample ID: MW-7

Date Collected: 09/12/18 13:00
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	10 mL	10 mL	500319	09/21/18 12:35	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	10 mL	10 mL	499844	09/19/18 17:50	IM	TAL IRV

Client Sample ID: MW-8

Date Collected: 09/12/18 12:30
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	10 mL	10 mL	500319	09/21/18 13:03	HR	TAL IRV

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 440-220271-1

Client Sample ID: MW-8

Date Collected: 09/12/18 12:30
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B/5030B		1	10 mL	10 mL	499844	09/19/18 18:18	IM	TAL IRV

Client Sample ID: MW-9

Date Collected: 09/12/18 12:00
Date Received: 09/14/18 09:45

Lab Sample ID: 440-220271-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	10 mL	10 mL	500319	09/21/18 13:32	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	10 mL	10 mL	499844	09/19/18 18:47	IM	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-500319/4
Matrix: Water
Analysis Batch: 500319

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			09/21/18 08:19	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/18 08:19	1
Benzene	ND		0.50		ug/L			09/21/18 08:19	1
Ethanol	ND		150		ug/L			09/21/18 08:19	1
Ethylbenzene	ND		0.50		ug/L			09/21/18 08:19	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			09/21/18 08:19	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			09/21/18 08:19	1
m,p-Xylene	ND		1.0		ug/L			09/21/18 08:19	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50		ug/L			09/21/18 08:19	1
o-Xylene	ND		0.50		ug/L			09/21/18 08:19	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			09/21/18 08:19	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			09/21/18 08:19	1
Toluene	ND		0.50		ug/L			09/21/18 08:19	1
Xylenes, Total	ND		1.0		ug/L			09/21/18 08:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/21/18 08:19*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*09/21/18 08:19*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/21/18 08:19*	*1*

Lab Sample ID: LCS 440-500319/5
Matrix: Water
Analysis Batch: 500319

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dibromoethane (EDB)			25.0	29.G		ug/L		118	70 - 130		
1,2-Dichloroethane			25.0	27.2		ug/L		109	57 - 138		
Benzene			25.0	25.8		ug/L		103	G8 - 130		
Ethanol			1000	1100		ug/L		110	50 - 149		
Ethylbenzene			25.0	24.2		ug/L		97	70 - 130		
Ethyl-t-butyl ether (ETBE)			25.0	2G4		ug/L		105	G0 - 13G		
Isopropyl Ether (DIPE)			25.0	2G2		ug/L		105	58 - 139		
m,p-Xylene			25.0	25.1		ug/L		101	70 - 130		
Methyl-t-Butyl Ether (MTBE)			25.0	2G4		ug/L		10G	G3 - 131		
o-Xylene			25.0	2G0		ug/L		104	70 - 130		
Tert-amyl-methyl ether (TAME)			25.0	25.7		ug/L		103	57 - 139		
tert-Butyl alcohol (TBA)			250	2GG		ug/L		10G	70 - 130		
Toluene			25.0	24.1		ug/L		9G	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-220271-1 MS
Matrix: Water
Analysis Batch: 500319

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane (EDB)	ND		25.0	28.1		ug/L		112	70 - 131
1,2-Dichloroethane	ND		25.0	28.4		ug/L		114	5G- 14G
Benzene	ND		25.0	2G5		ug/L		10G	GG- 130
Ethanol	ND		1000	1150		ug/L		115	54 - 150
Ethylbenzene	ND		25.0	23.4		ug/L		93	70 - 130
Ethyl-t-butyl ether (ETBE)	ND		25.0	28.2		ug/L		113	70 - 130
Isopropyl Ether (DIPE)	ND		25.0	27.7		ug/L		111	G4 - 138
m,p-Xylene	ND		25.0	24.9		ug/L		100	70 - 133
Methyl-t-Butyl Ether (MTBE)	G9		25.0	101		ug/L		12G	70 - 130
o-Xylene	ND		25.0	2G0		ug/L		104	70 - 133
Tert-amyl-methyl ether (TAME)	ND		25.0	2G9		ug/L		107	G8 - 133
tert-Butyl alcohol (TBA)	ND		250	284		ug/L		114	70 - 130
Toluene	ND		25.0	23.7		ug/L		95	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*76 - 132*
Toluene-d8 (Surr)	*95*		*80 - 128*

Lab Sample ID: 440-220271-1 MSD
Matrix: Water
Analysis Batch: 500319

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane (EDB)	ND		25.0	28.8		ug/L		115	70 - 131	3	25
1,2-Dichloroethane	ND		25.0	27.7		ug/L		111	5G- 14G	2	20
Benzene	ND		25.0	27.1		ug/L		109	GG- 130	2	20
Ethanol	ND		1000	1140		ug/L		114	54 - 150	1	30
Ethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130	8	20
Ethyl-t-butyl ether (ETBE)	ND		25.0	27.9		ug/L		111	70 - 130	1	25
Isopropyl Ether (DIPE)	ND		25.0	28.1		ug/L		113	G4 - 138	2	25
m,p-Xylene	ND		25.0	2G7		ug/L		107	70 - 133	7	25
Methyl-t-Butyl Ether (MTBE)	G9		25.0	98.3		ug/L		11G	70 - 130	2	25
o-Xylene	ND		25.0	27.2		ug/L		109	70 - 133	5	20
Tert-amyl-methyl ether (TAME)	ND		25.0	2GG		ug/L		107	G8 - 133	1	30
tert-Butyl alcohol (TBA)	ND		250	277		ug/L		111	70 - 130	2	25
Toluene	ND		25.0	25.0		ug/L		100	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*96*		*80 - 128*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Lab Sample ID: MB 440-499844/5
Matrix: Water
Analysis Batch: 499844

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
v RO (CG-C12)	ND		50		ug/L			09/19/18 09:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*		*09/19/18 09:58*	*1*

Lab Sample ID: LCS 440-499844/6
Matrix: Water
Analysis Batch: 499844

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
v RO (C4-C12)			800	838		ug/L		105	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*65 - 140*

Lab Sample ID: 440-219835-A-1 MS
Matrix: Water
Analysis Batch: 499844

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
v RO (C4-C12)	ND		800	823		ug/L		103	G5 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*65 - 140*

Lab Sample ID: 440-219835-A-1 MSD
Matrix: Water
Analysis Batch: 499844

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
v RO (C4-C12)	ND		800	825		ug/L		103	G5 - 140	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*65 - 140*

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 440-220271-1

GC/MS VOA

Analysis Batch: 500319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220271-1	MW-1	Total/NA	Water	8260B/5030B	
440-220271-2	MW-2	Total/NA	Water	8260B/5030B	
440-220271-3	MW-3	Total/NA	Water	8260B/5030B	
440-220271-4	MW-4	Total/NA	Water	8260B/5030B	
440-220271-5	MW-7	Total/NA	Water	8260B/5030B	
440-220271-6	MW-8	Total/NA	Water	8260B/5030B	
440-220271-7	MW-9	Total/NA	Water	8260B/5030B	
MB 440-500319/4	Method Blank	Total/NA	Water	8260B/5030B	
LCS 440-500319/5	Lab Control Sample	Total/NA	Water	8260B/5030B	
440-220271-1 MS	MW-1	Total/NA	Water	8260B/5030B	
440-220271-1 MSD	MW-1	Total/NA	Water	8260B/5030B	

GC VOA

Analysis Batch: 499844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220271-1	MW-1	Total/NA	Water	8015B/5030B	
440-220271-2	MW-2	Total/NA	Water	8015B/5030B	
440-220271-3	MW-3	Total/NA	Water	8015B/5030B	
440-220271-4	MW-4	Total/NA	Water	8015B/5030B	
440-220271-5	MW-7	Total/NA	Water	8015B/5030B	
440-220271-6	MW-8	Total/NA	Water	8015B/5030B	
440-220271-7	MW-9	Total/NA	Water	8015B/5030B	
MB 440-499844/5	Method Blank	Total/NA	Water	8015B/5030B	
LCS 440-499844/6	Lab Control Sample	Total/NA	Water	8015B/5030B	
440-219835-A-1 MS	Matrix Spike	Total/NA	Water	8015B/5030B	
440-219835-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B/5030B	

Glossary

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

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 440-220271-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Avenue
Suite 100
Irvine, CA 92614-5843
phone 949.261.1022 fax 949.260.3299

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

9/29/2018

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kathleen Robb	Site Contact: Nick Vadpey	Date: 9/13/18	COC No:
Arcadis	Tel/Fax:	Lab Contact: Kathleen Robb	Carrier: FedEx	of COCs
101 Creekside Ridge Court, Suite 200	Analysis Turnaround Time			Sampler:
Roseville, CA 95678	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
916-865-3150 Phone	TAT if different from Below STD			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: BP CA-374 Oakland	☐ 1 week			
Site: 6407 Telegraph Avenue, Oakland, CA	☐ 2 days			Job / SDG No.:
P O # GP16BPNA.CA01.40000	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	GRO Method 8015M	BTEX, MTBE, TBA, DIPE, ETBE, 1,2-DCA, EDB ethanol by Method 8260B	Sample Specific Notes:
MW-1	9/12/18	11:15	G	W	6			X	X	1,2
MW-2	9/12/18	13:55	G	W	6			X	X	1,2
MW-3	9/12/18	15:10	G	W	6			X	X	1,2
MW-4	9/12/18	14:35	G	W	6			X	X	1,2
~~MW-5~~			G	W				X	X	1,2
~~MW-6~~			G	W				X	X	1,2
MW-7	9/12/18	13:00	G	W	6			X	X	1,2
MW-8	9/12/18	12:30	G	W	6			X	X	1,2
MW-9	9/12/18	12:00	G	W	6			X	X	1,2
TB								H	H	

440-220271 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for Months

Special Instructions/QC Requirements & Comments:
contact MCS Airstrong for on-hold TB clarification

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:	Corr'd:	Therm ID No.: 1.6/1.9
Relinquished by: Nicholas Vadpey	Company: Arcadis	Date/Time: 9/13/18 1830	Received by:	Company: Date/Time: 1R66
Relinquished by:	Company:	Date/Time:	Received by:	Company: Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: A Renney	Company: TA IRV Date/Time: 9:45 9/14/18

FedEx 782777718695

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 440-220271-1

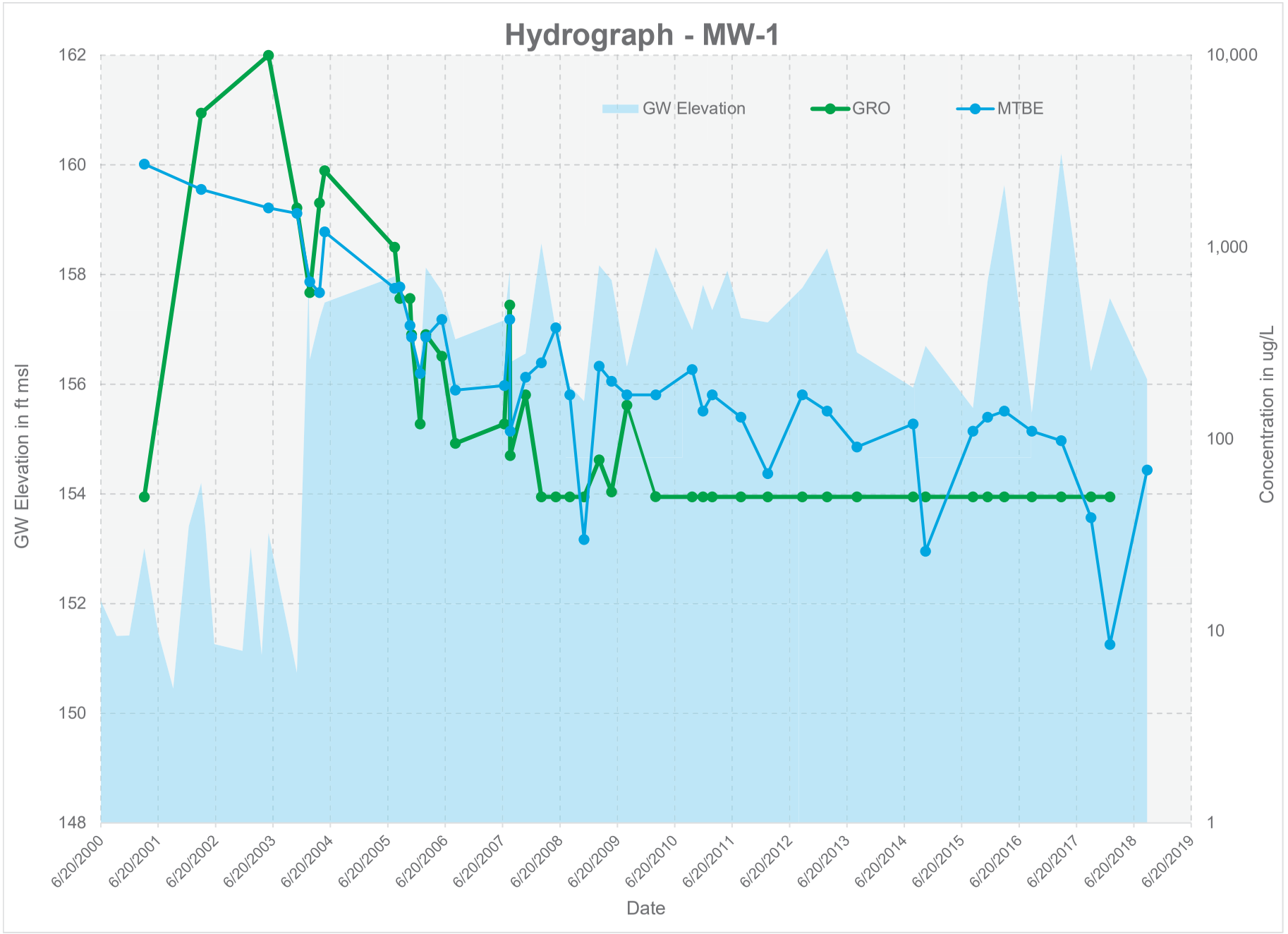
Login Number: 220271
List Number: 1
Creator: Skinner, Alma D

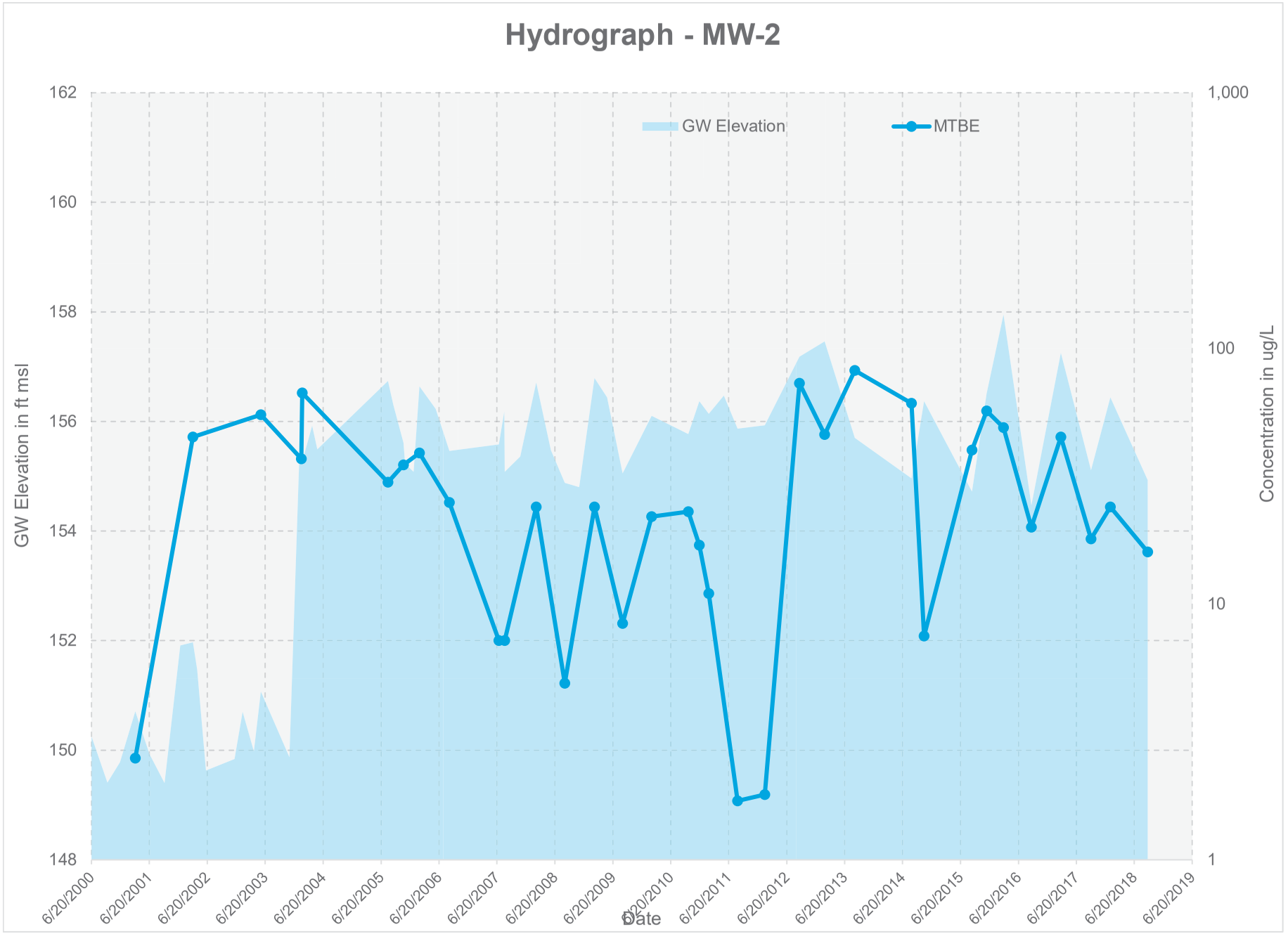
List Source: TestAmerica Irvine

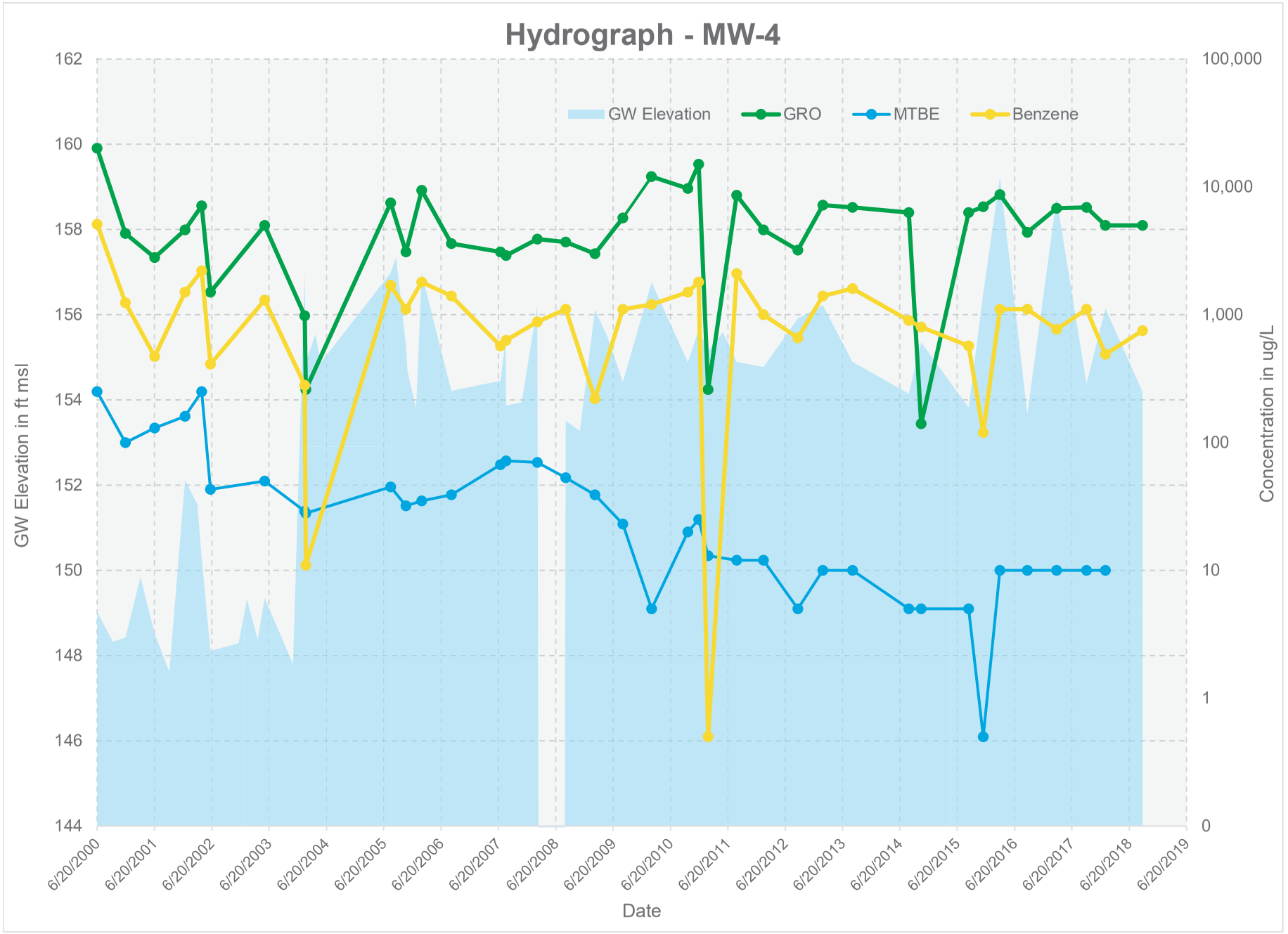
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or 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 (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

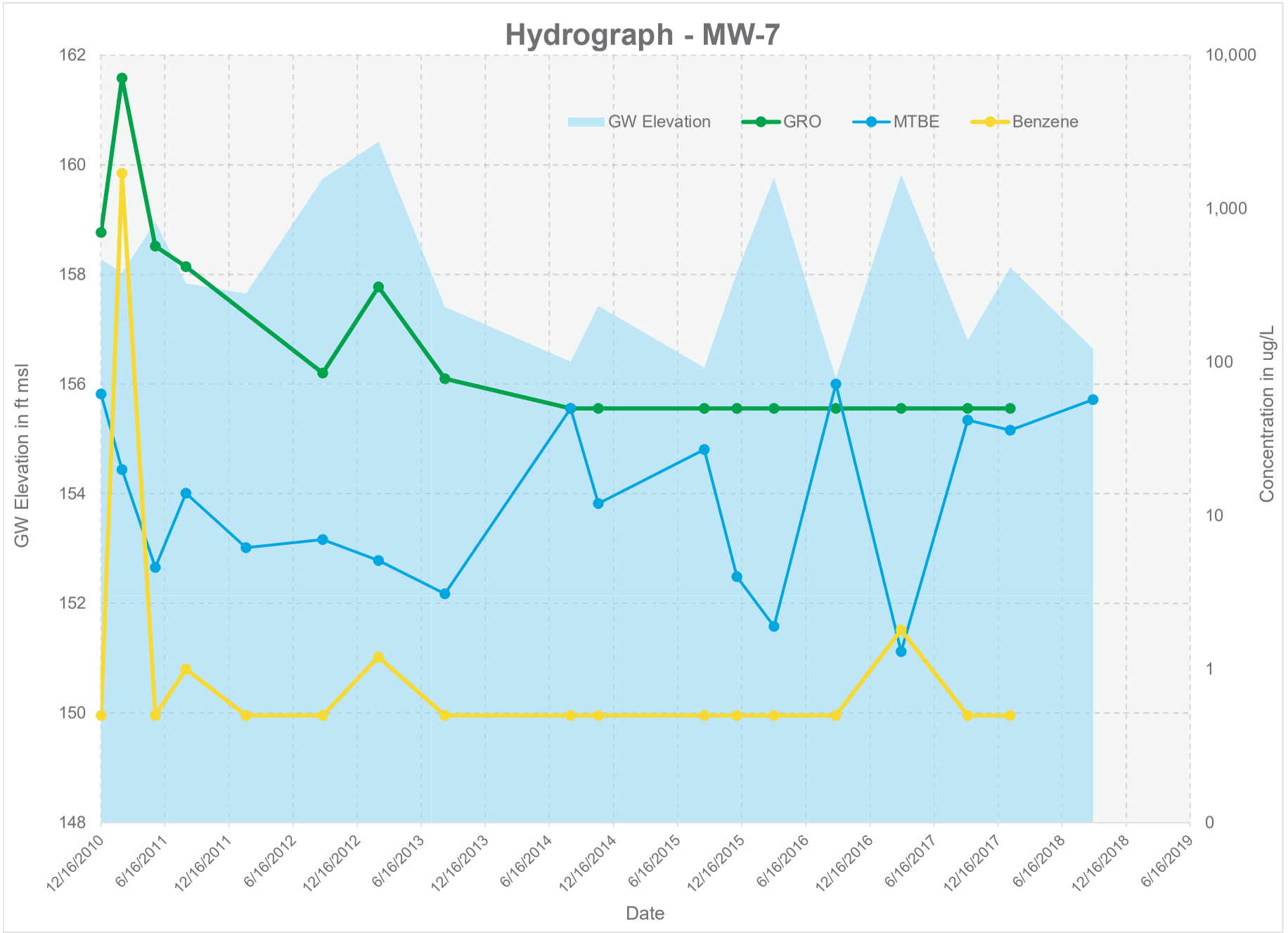
ATTACHMENT 3

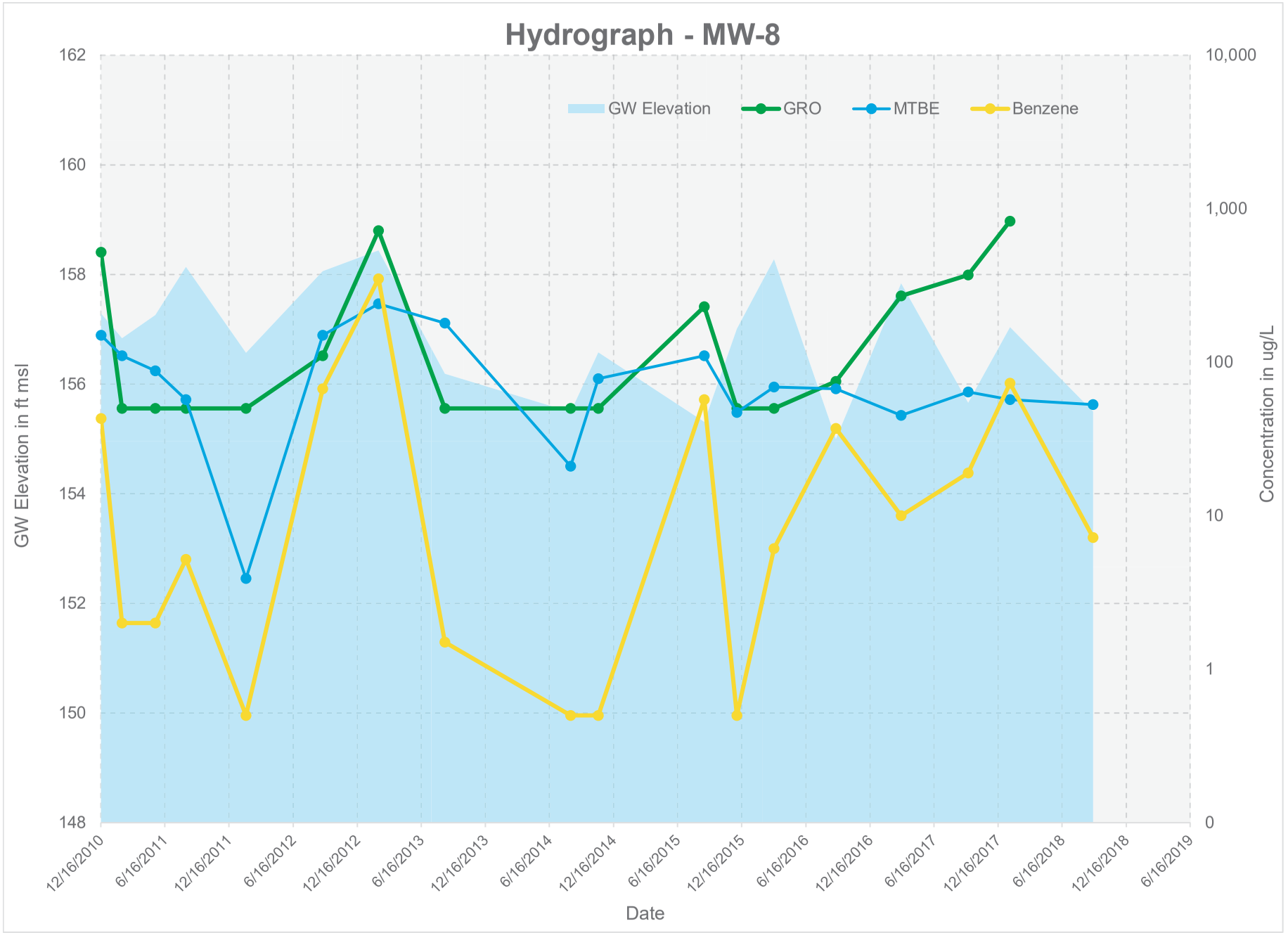
Hydrographs

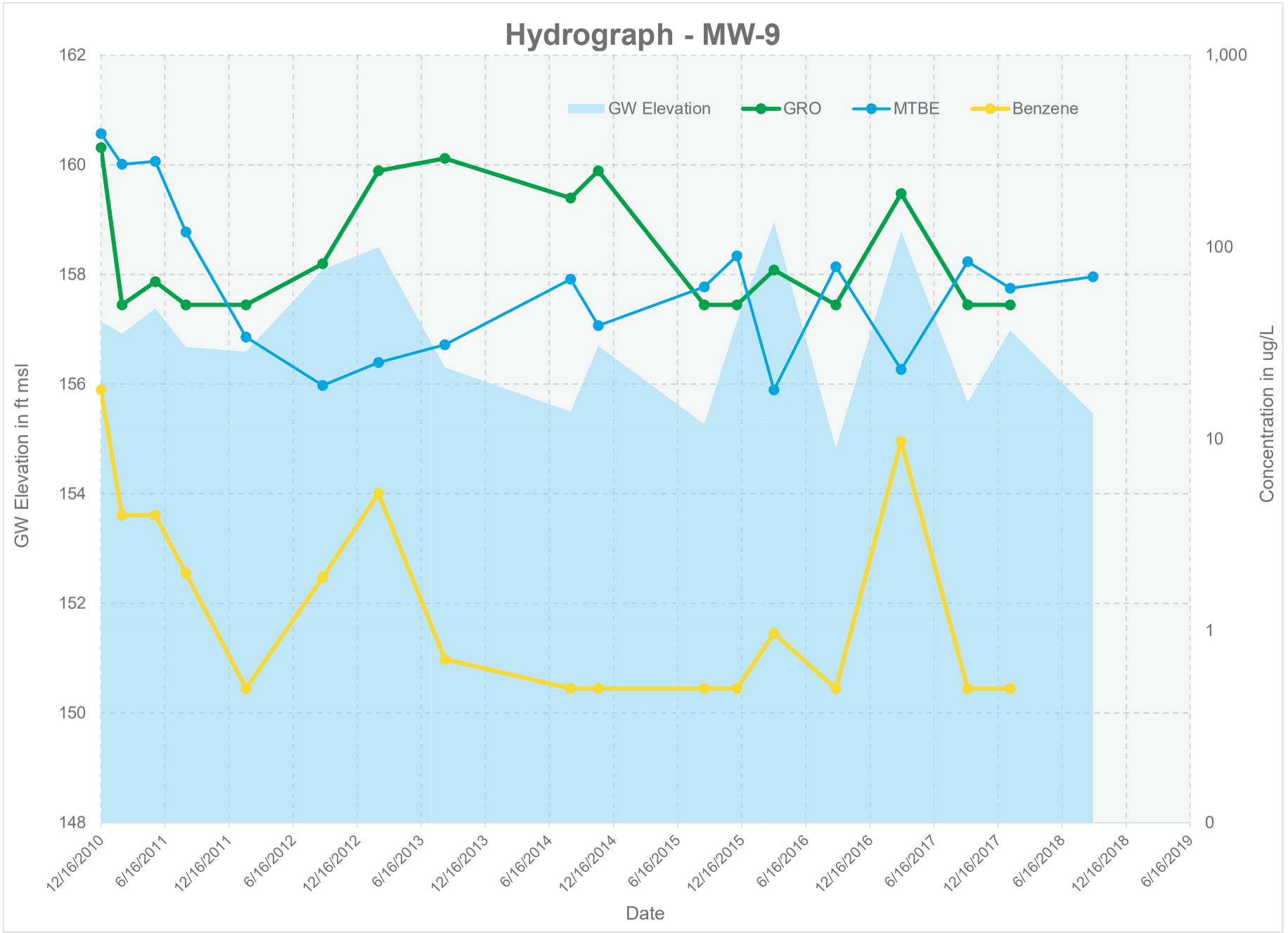

Hydrograph - MW-1
GW Elevation
GRO
MTBE
GW Elevation in ft msl
Concentration in ug/L
Date
162
160
158
156
154
152
150
148
10,000
1,000
100
10
1
6/20/2000
6/20/2001
6/20/2002
6/20/2003
6/20/2004
6/20/2005
6/20/2006
6/20/2007
6/20/2008
6/20/2009
6/20/2010
6/20/2011
6/20/2012
6/20/2013
6/20/2014
6/20/2015
6/20/2016
6/20/2017
6/20/2018
6/20/2019


Hydrograph - MW-2
GW Elevation
MTBE
GW Elevation in ft msl
Concentration in ug/L
Date
162
160
158
156
154
152
150
148
1,000
100
10
1
6/20/2000
6/20/2001
6/20/2002
6/20/2003
6/20/2004
6/20/2005
6/20/2006
6/20/2007
6/20/2008
6/20/2009
6/20/2010
6/20/2011
6/20/2012
6/20/2013
6/20/2014
6/20/2015
6/20/2016
6/20/2017
6/20/2018
6/20/2019


Hydrograph - MW-4
GW Elevation
GRO
MTBE
Benzene
GW Elevation in ft msl
Concentration in ug/L
Date
162
160
158
156
154
152
150
148
146
144
100,000
10,000
1,000
100
10
1
0
6/20/2000
6/20/2001
6/20/2002
6/20/2003
6/20/2004
6/20/2005
6/20/2006
6/20/2007
6/20/2008
6/20/2009
6/20/2010
6/20/2011
6/20/2012
6/20/2013
6/20/2014
6/20/2015
6/20/2016
6/20/2017
6/20/2018
6/20/2019


Hydrograph - MW-7
GW Elevation
GRO
MTBE
Benzene
GW Elevation in ft msl
Concentration in ug/L
Date
162
160
158
156
154
152
150
148
10,000
1,000
100
10
1
0
12/16/2010
6/16/2011
12/16/2011
6/16/2012
12/16/2012
6/16/2013
12/16/2013
6/16/2014
12/16/2014
6/16/2015
12/16/2015
6/16/2016
12/16/2016
6/16/2017
12/16/2017
6/16/2018
12/16/2018
6/16/2019


Hydrograph - MW-8
GW Elevation
GRO
MTBE
Benzene
GW Elevation in ft msl
Concentration in ug/L
Date
162
160
158
156
154
152
150
148
10,000
1,000
100
10
1
0
12/16/2010
6/16/2011
12/16/2011
6/16/2012
12/16/2012
6/16/2013
12/16/2013
6/16/2014
12/16/2014
6/16/2015
12/16/2015
6/16/2016
12/16/2016
6/16/2017
12/16/2017
6/16/2018
12/16/2018
6/16/2019


Hydrograph - MW-9
GW Elevation
GRO
MTBE
Benzene
GW Elevation in ft msl
Concentration in ug/L
Date
162
160
158
156
154
152
150
148
1,000
100
10
1
0
12/16/2010
6/16/2011
12/16/2011
6/16/2012
12/16/2012
6/16/2013
12/16/2013
6/16/2014
12/16/2014
6/16/2015
12/16/2015
6/16/2016
12/16/2016
6/16/2017
12/16/2017
6/16/2018
12/16/2018
6/16/2019