Nicole M. Arceneaux
Project Manager
Marketing Business Unit

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January 15, 2016

RECEIVED
By Alameda County Environmental Health 11:21 am, Jan 15, 2016

Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **76 Station No. 7124 (351638)**
Second Semi-Annual 2015 Groundwater Monitoring Report
10151 International Blvd, Oakland, California
Fuel Leak Case No.: RO0002444
GeoTracker Global ID #T0600173591

I have reviewed the attached report dated January 15, 2016.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by AECOM, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13257(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Nicole Arceneaux
Project Manager

Attachment: Second Semi-Annual 2015 Groundwater Monitoring Report by AECOM

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

(805) 388-3775 tel
(805) 388-3577 fax

January 14, 2016

Mr. Keith Nowell
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
(*via internet upload*)

Subject: **Second Semi-Annual 2015 Groundwater Monitoring Report**
76 Station No. 7124 (351638)
10151 International Boulevard, Oakland, California
Fuel Leak Case #RO0002444
GeoTracker Global ID #T0600173591

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (EMC's) affiliate, Union Oil Company of California ("Union Oil"), AECOM has prepared this second semi-annual 2015 groundwater monitoring report for the site located at 10151 International Boulevard in Oakland, California (site) (**Figure 1**). The locations of former and current site features are illustrated on **Figure 2**. Groundwater monitoring event is conducted to evaluate the distribution of petroleum hydrocarbon constituents in groundwater beneath the site. Groundwater sampling was performed by Gettler-Ryan Inc. (Gettler-Ryan) of Dublin, California. This report summarizes results of the sampling event conducted on December 15, 2015.

Groundwater Monitoring Field Data

On December 15, 2015, the depth to groundwater was measured and recorded in four monitoring wells (MW-1 through MW-4) at the site. The depth to groundwater at the site ranged from 17.98 to 19.56 feet below the top of well casings (18.80 to 19.39 feet above mean sea level). Depth to groundwater measurements were converted to groundwater elevations and used to construct a groundwater elevation contour map, included as **Figure 3**. The groundwater flow direction was calculated to the west/southwest with an average hydraulic gradient of approximately 0.0058 feet per foot (**Figure 3**). A summary of depths to groundwater and elevations for this event are presented in **Table 1**. A copy of the groundwater gauging logs is included in **Attachment A**.

Groundwater Sampling and Analytical Results

On December 15, 2015, groundwater samples were collected from monitoring wells MW-1 through MW-4, after first purging a minimum of three well volumes at each well. Temperature, pH, oxidation-reduction potential, dissolved oxygen, and electrical conductivity readings were recorded during purging, and a copy of the purge logs is presented in **Attachment A**.

Laboratory analysis of the groundwater samples was performed by BC Laboratories, Inc. (BC Labs) of Bakersfield, California. A copy of the certified laboratory analytical report and chain-of-custody documentation is included as **Attachment B**. Groundwater samples were analyzed for the following, based on historical trends at each monitoring well:

- Total petroleum hydrocarbons-gasoline range organics (TPH-GRO) by Environmental Protection Agency (EPA) Method 8015B;

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B; and
- Fuel oxygenates, including Methyl t-butyl ether (MTBE), t-Amyl Methyl ether (TAME), t-Butyl alcohol (TBA), Diisopropyl ether (DIPE), Ethyl t-butyl ether (ETBE), ethanol, 1,2-Dibromoethane (EDB), and 1,2-Dichloroethane (EDC) by EPA Method 8260B.

Analytical results for the second semi-annual 2015 groundwater monitoring event are consistent with previous reporting periods (**Table 1 through Table 5** and **Figure 4**). The following presents a brief summary of the analytical sample results:

- BTEX, TBA, ethanol, DIPE, ETBE, TAME, EDB, and EDC were not detected in the groundwater samples collected from MW-1 through MW-4.
- TPH-GRO was detected in the groundwater samples collected from MW-2, MW-3, and MW-4 at 66 micrograms per liter (µg/L), 490 µg/L, and 110 µg/L respectively;
- MTBE was detected in the groundwater samples collected from MW-3 and MW-4 at 20 µg/L and 0.51 µg/L, respectively;

A summary of historical groundwater analytical data is presented in **Tables 4 through 6**.

The purge water and decontamination water generated during sampling activities were transported by Clean Harbors Environmental Services to Seaport Environmental located in Redwood City, California.

Conclusions and Recommendations

Based on the results of historical groundwater monitoring and analytical results of groundwater sampling conducted at the site, AECOM provides the following conclusions and recommendations:

- No BTEX was detected.
- Groundwater levels appear to fluctuate on a seasonal basis with the highest groundwater elevations generally recorded during the first and second quarters and the lowest elevations recorded during the third and fourth quarters.
- MTBE concentrations fluctuate seasonally, but are generally stable or declining.
- Closure was requested for this site November 21, 2014. Groundwater concentrations reported in this document are all consistent with that request.

Remarks/Signatures

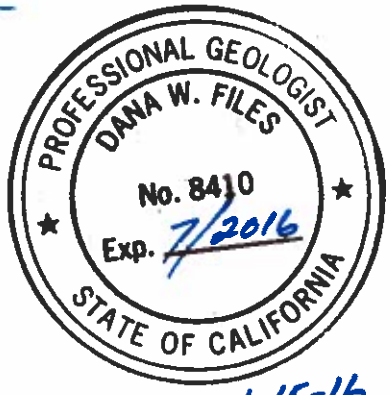
The interpretations in this report represent AECOM's professional opinions and are based, in part, on the information supplied by Gettler-Ryan and BC labs. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding this project, please contact Chad Roper at (805) 764-4027.

Sincerely,

Chad Roper, PhD
Project Manager

Dana Files, PG #8410
Project Geologist



1-15-16

cc: Nicole Arceneaux, EMC (via electronic copy)

Enclosures:

Tables

Table 1 - Current Groundwater Monitoring Data and Analytical Results

Table 2 - Current Groundwater Analytical Results - Oxygenate Compounds

Table 3 – Current Groundwater Analytical Results - Monitored Natural Attenuation Parameters

Table 4 - Historical Groundwater Monitoring Data and Analytical Results

Table 5 - Historical Groundwater Analytical Results - Oxygenate Compounds

Table 6 - Historical Groundwater Analytical Results - Monitored Natural Attenuation Parameters

Figures

Figure 1 - Site Location Map

Figure 2 - Site Plan

Figure 3 - Second Semi-Annual 2015 Groundwater Elevation Map

Figure 4 - Second Semi-Annual 2015 Groundwater Analytical Data Map

Figure 5 - Second Semi-Annual 2015 TPH-GRO Concentration Map

Figure 6 - Second Semi-Annual 2015 Benzene Concentration Map

Figure 7 - Second Semi-Annual 2015 MTBE Concentration Map

Charts

Chart 1 - Hydrograph for MW-1

Chart 2 - Hydrograph for MW-2

Chart 3 - Hydrograph for MW-3

Chart 4 - Hydrograph for MW-4

Attachments

Attachment A - Groundwater Monitoring and Sampling Field Data Sheets

Attachment B - Laboratory Analytical Report and Chain-of-Custody Documentation

Tables

Table 1
Current Groundwater Monitoring Data and Analytical Results
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	37.37	12/15/2015	17.98	19.39	0	<50	<0.50	<0.50	<0.50	<1.0	
MW-2	37.87	12/15/2015	19.00	18.87	0	66	<0.50	<0.50	<0.50	<1.0	
MW-3	37.72	12/15/2015	18.83	18.89	0	490	<0.50	<0.50	<0.50	<1.0	
MW-4	38.36	12/15/2015	19.56	18.80	0	110	<0.50	<0.50	<0.50	<1.0	
QA	--	12/15/2015	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	

NOTES:

* TOC and GWE are in feet above mean sea level

BTEX analyzed by Environmental Protection Agency (EPA) Method 8260B

TPH-GRO analyzed by EPA Method 8015B

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

µg/L = Micrograms per liter

-- = Not available/not sampled

B = Benzene

DTW = Depth to water

E = Ethylbenzene

ft = Feet

GWE = Groundwater elevation

ID = Identification

LNAPL = Light non-aqueous phase liquid

QA = Quality assurance/trip blank

T = Toluene

TOC = Top of casing

TPH-GRO = Total petroleum hydrocarbons-gasoline range organics

X = Total xylenes

Table 2
Current Groundwater Analytical Results - Oxygenate Compounds
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	12/15/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	12/15/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	12/15/2015	20	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-4	12/15/2015	0.51	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
QA	12/15/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:

Oxygenate compounds analyzed by Environmental Protection Agency Method 8260B
<# = Analyte not detected at or above indicated laboratory practical quantitation limit
µg/L = Micrograms per liter
-- = Not available/not sampled
DIPE = Diisopropyl Ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
ETBE = Ethyl t-butyl ether
ID = Identification
MTBE = Methyl t-butyl ether
QA = Quality assurance/trip blank
TAME = t-Amyl Methyl ether
TBA = t-Butyl alcohol

Table 3
Current Groundwater Analytical Results - Monitored Natural Attenuation Parameters
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	DATE	METHANE (mg/L)	TOTAL ALKALINITY AS CaCO3 (mg/L)	NITRATE AS NO3 (mg/L)	SULFATE (mg/L)	IRON (II) SPECIES (µg/L)	NITRATE AS NO2 (mg/L)	TOTAL SULFIDE (mg/L)	NON-VOLATILE ORGANIC CARBON (mg/L)	DISSOLVED IRON (µg/L)	TOTAL MANGANESE (µg/L)
MW-1	12/15/2015	<0.0010	170	34	26	<100	<0.17	<0.10	1.0	<50	11,000
MW-2	12/15/2015	0.027	210	<0.44	23	1,700	<0.17	<0.10	1.3	140	6,300
MW-3	12/15/2015	0.13	280	<0.44	<1.0	5,900	<0.17	<0.10	1.6	140	6,900
MW-4	12/15/2015	0.057	200	2.5	37	2,900	<0.17	<0.10	17	<50	4,200

NOTES:
Methane analyzed by Method RSK-175M
Total alkalinity as CaCO3 analyzed by Environmental Protection Agency (EPA) Method 310.1
Nitrate as NO3 and sulfate analyzed by EPA Method 300.0
Iron (II) species analyzed by Method SM-3500-FeD
Nitrate as NO2 analyzed by EPA Method 353.2
Total sulfide analyzed by Method SM-4500SD
Non-volatile organic carbon analyzed by EPA Method 415.1
Dissolved iron and total manganese analyzed by EPA Method 6010B
<# = Analyte not detected at or above indicated laboratory practical quantitation limit
µg/L = Micrograms per liter
-- = Not available/not sampled
ID = Identification
mg/L = Milligrams per liter

Table 4
Historical Groundwater Monitoring Data and Analytical Results
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	37.37	11/2/2011	17.52	19.85	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	4/6/2012	14.20	23.17	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	6/12/2013	16.81	20.56	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	10/7/2013	17.62	19.75	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	4/8/2014	17.52	19.85	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	10/15/2014	18.29	19.08	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	6/17/2015	17.30	20.07	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.37	**12/15/2015**	**17.98**	**19.39**	**0**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-2	37.87	11/2/2011	17.15	20.72	0	96	<0.50	<0.50	<0.50	<1.0	
	37.87	4/6/2012	15.63	22.24	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.87	6/12/2013	18.03	19.84	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.87	10/7/2013	18.74	19.13	0	99	<0.50	<0.50	<0.50	<1.0	
	37.87	4/8/2014	17.80	20.07	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.87	10/15/2014	19.31	18.56	0	100	<0.50	<0.50	<0.50	<1.0	
	37.87	6/17/2015	18.55	19.32	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.87	**12/15/2015**	**19.00**	**18.87**	**0**	**66**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-3	37.72	11/2/2011	17.55	20.17	0	880	<0.50	<0.50	<0.50	<1.0	
	37.72	4/6/2012	16.40	21.32	0	1,000	<0.50	<0.50	<0.50	<1.0	
	37.72	6/12/2013	17.95	19.77	0	<50	<0.50	<0.50	<0.50	<1.0	
	37.72	10/7/2013	18.62	19.10	0	880	<0.50	<0.50	<0.50	<1.0	
	37.72	4/8/2014	17.10	20.62	0	320	<0.50	<0.50	<0.50	<1.0	
	37.72	10/15/2014	19.17	18.55	0	1,600	<0.50	<0.50	<0.50	<1.0	
	37.72	6/17/2015	18.34	19.38	0	250	<0.50	<0.50	<0.50	<1.0	
	37.72	**12/15/2015**	**18.83**	**18.89**	**0**	**490**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-4	38.36	11/2/2011	18.27	20.09	0	170	<0.50	<0.50	<0.50	<1.0	
	38.36	4/6/2012	15.68	22.68	0	200	<0.50	<0.50	<0.50	<1.0	
	38.36	6/12/2013	18.65	19.71	0	<50	<0.50	<0.50	<0.50	<1.0	
	38.36	10/7/2013	19.33	19.03	0	95	<0.50	<0.50	<0.50	<1.0	
	38.36	4/8/2014	18.04	20.32	0	<50	<0.50	<0.50	<0.50	<1.0	

Table 4
Historical Groundwater Monitoring Data and Analytical Results
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
	38.36	10/15/2014	19.88	18.48	0	190	<0.50	<0.50	<0.50	<1.0	
	38.36	6/17/2015	19.04	19.32	0	78	<0.50	<0.50	<0.50	<1.0	
	38.36	**12/15/2015**	**19.56**	**18.80**	**0**	**110**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
QA	**--**	**12/15/2015**	**--**	**--**	**--**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	

NOTES:

* TOC and GWE are in feet above mean sea level

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

µg/L = Micrograms per liter

-- = Not available/not sampled

B = Benzene

DTW = Depth to water below TOC

E = Ethylbenzene

ft = Feet

GWE = Groundwater elevation

ID = Identification

LNAPL = Light non-aqueous phase liquid

QA = Quality assurance/trip blank

T = Toluene

TOC = Top of casing

TPH-GRO = Total petroleum hydrocarbons-gasoline range organics

X = Total xylenes

Table 5
Historical Groundwater Analytical Results - Oxygenate Compounds
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	11/2/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/6/2012	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/12/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/7/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/8/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	**<0.50**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-2	11/2/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/6/2012	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/12/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/7/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/8/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	**<0.50**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-3	11/2/2011	35	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/6/2012	210	85	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/12/2013	6.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/7/2013	12	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/8/2014	150	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/2014	27	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	3.2	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	**20**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-4	11/2/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/6/2012	1.7	58	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/12/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/7/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	4/8/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/2014	0.63	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	**0.51**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
QA	**12/15/2015**	**<0.50**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**

Table 5
Historical Groundwater Analytical Results - Oxygenate Compounds
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)

NOTES:

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

µg/L = Micrograms per liter

-- = Not available/not sampled

DIPE = Diisopropyl Ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

ETBE = Ethyl t-butyl ether

ID = Identification

MTBE = Methyl t-butyl ether

QA = Quality assurance/trip blank

TAME = t-Amyl methyl ether

TBA = t-Butyl alcohol

Table 6
Historical Groundwater Analytical Results - Monitored Natural Attenuation Parameters
76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

WELL ID	DATE	METHANE (mg/L)	TOTAL ALKALINITY AS CaCO3 (mg/L)	NITRATE AS NO3 (mg/L)	SULFATE (mg/L)	IRON (II) SPECIES (µg/L)	NITRATE AS NO2 (mg/L)	TOTAL SULFIDE (mg/L)	NON-VOLATILE ORGANIC CARBON (mg/L)	DISSOLVED IRON (µg/L)	TOTAL MANGANESE (µg/L)
MW-1	6/13/2013	<0.0010	17.52	24	23	<100	<0.17	<0.50	1.1	<50	31,000
	10/7/2013	0.0015	150	0	22	<100	<0.17	<0.10	3.4	<50	13,000
	4/8/2014	0.0049	170	22	25	<100	<0.17	<0.10	1.3	<50	11,000
	10/15/2014	<0.001	160	27	26	<100	<0.17	<0.50	<1.0	<50	39,000
	6/17/2015	<0.001	170	28	28	<100	<0.17	<0.10	<1.0	<50	2,900
	12/15/2015	**<0.0010**	**170**	**34**	**26**	**<100**	**<0.17**	**<0.10**	**1.0**	**<50**	**11,000**
MW-2	6/13/2013	<0.0010	180	<0.44	20	250	<0.17	<0.10	1.0	120	9,700
	10/7/2013	0.0049	200	<0.44	9.6	2,700	<0.17	<0.10	3.2	260	5,600
	4/8/2014	0.007	210	<0.44	33	1,700	<0.17	<0.10	1.4	140	8,400
	10/15/2014	0.011	210	<0.44	20	19,000	<0.17	<0.50	<1.0	200	6,400
	6/17/2015	<0.001	210	<0.44	34	2,500	<0.17	<0.10	<1.0	320	5,300
	12/15/2015	**0.027**	**210**	**<0.44**	**23**	**1,700**	**<0.17**	**<0.10**	**1.3**	**140**	**6,300**
MW-3	6/13/2013	0.0075	260	<0.44	<1.0	3,200	<0.17	<0.10	1.4	160	5,700
	10/7/2013	0.071	260	<0.44	<1.0	9,000	<0.17	<0.10	3.1	710	9,600
	4/8/2014	0.034	290	<0.44	2.1	1,200	<0.17	<0.10	1.3	220	6,000
	10/15/2014	0.069	290	<0.44	<1.0	<100	<0.17	<0.50	<1.0	93	6,900
	6/17/2015	0.11	310	<0.44	<1.0	4,700	<0.17	<0.50	25.0	350	6,300
	12/15/2015	**0.13**	**280**	**<0.44**	**<1.0**	**5,900**	**<0.17**	**<0.10**	**1.6**	**140**	**6,900**
MW-4	6/13/2013	<0.0010	210	<0.44	15	5,200	<0.17	<0.50	4.7	<50	7,900
	10/7/2013	<0.0010	190	<0.44	18	13,000	<0.17	<0.10	8.2	220	5,000
	4/8/2014	<0.0010	130	5	17	280	<0.17	<0.10	12.0	200	1,200
	10/15/2014	0.17	210	<0.44	24	5,800	<0.17	<0.50	1.5	<50	8,000
	6/17/2015	0.0027	210	<0.44	51	2,100	<0.17	<0.10	1.9	<50	2,400
	12/15/2015	**0.057**	**200**	**2.5**	**37**	**2,900**	**<0.17**	**<0.10**	**17**	**<50**	**4,200**

NOTES:
<# = Analyte not detected at or above indicated laboratory practical quantitation limit
µg/L = Micrograms per liter
ID = Identification
mg/L = Milligrams per liter

Figures

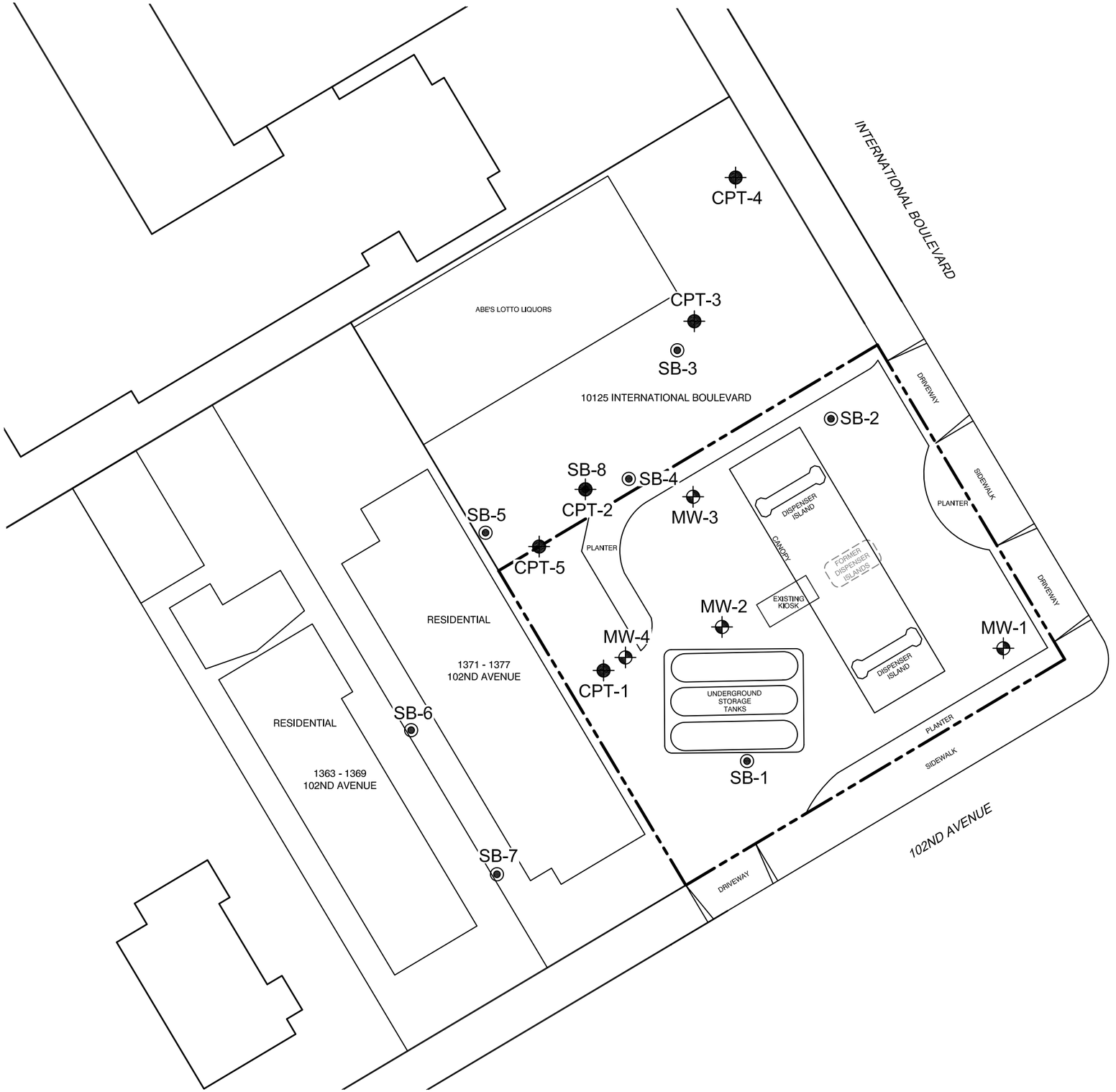
AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: 805.388.3775
FAX: 805.388.3557
WEB: HTTP://WWW.AECOM.COM

SITE LOCATION MAP

76 Station No. 7124 (351638)
10151 International Boulevard
Oakland, California

FIGURE NUMBER:
1

DRAWN BY:	DATE:	PROJECT NUMBER:	SHEET NUMBER:
T. Quiroz	01/13/2016	60439890	1 of 1



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- SOIL BORING
- CPT LOCATION

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

N

0 15' 30' 60'

SCALE IN FEET

REVISED			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
TQ	TQ	DF	CR

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

SITE PLAN

76 STATION NO. 7124 (351638)
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	01/13/2016	60439890

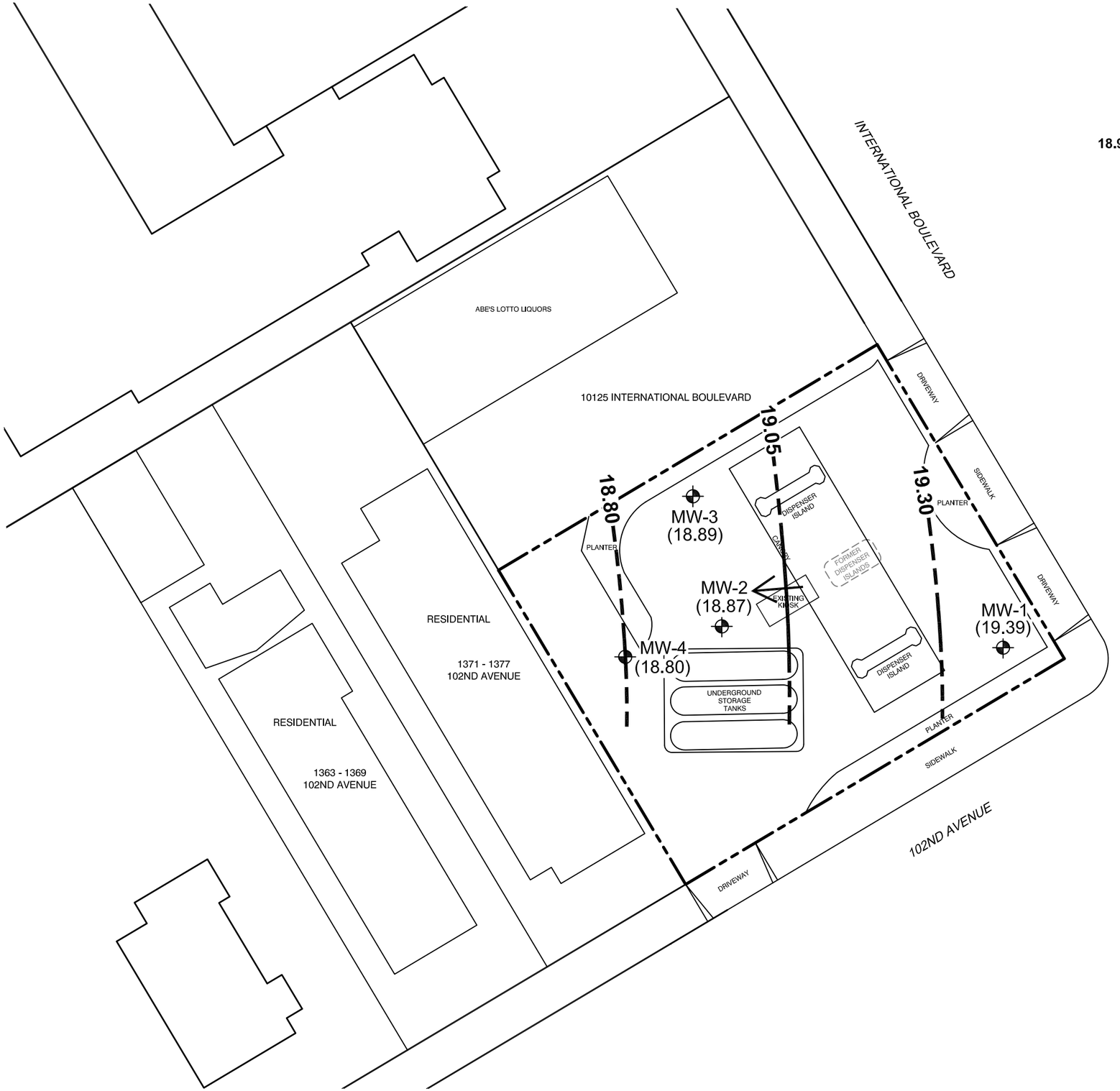
FIGURE NUMBER:

2

SHEET NUMBER:

1 of 1

FILENAME: J:\Client--Projects\76_Products\351638_7124_Oakland_10151_International_Blvd\500--Deliverables\501 4Q2015 GWMR\Figs\CADD\47297B01.dwg



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- (#) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 18.95 CONTOUR OF GROUNDWATER ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

HYDRAULIC GRADIENT = 0.0058 FEET PER FOOT

NOTES:
1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

N

0 15' 30' 60'

SCALE IN FEET

REVISED BY	NO.	DESCRIPTION	DATE	BY
TQ				

DESIGNED BY: TQ
DRAWN BY: TQ
CHECKED BY: DF
APPROVED BY: CR

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

SECOND SEMI-ANNUAL 2015 GROUNDWATER ELEVATION MAP

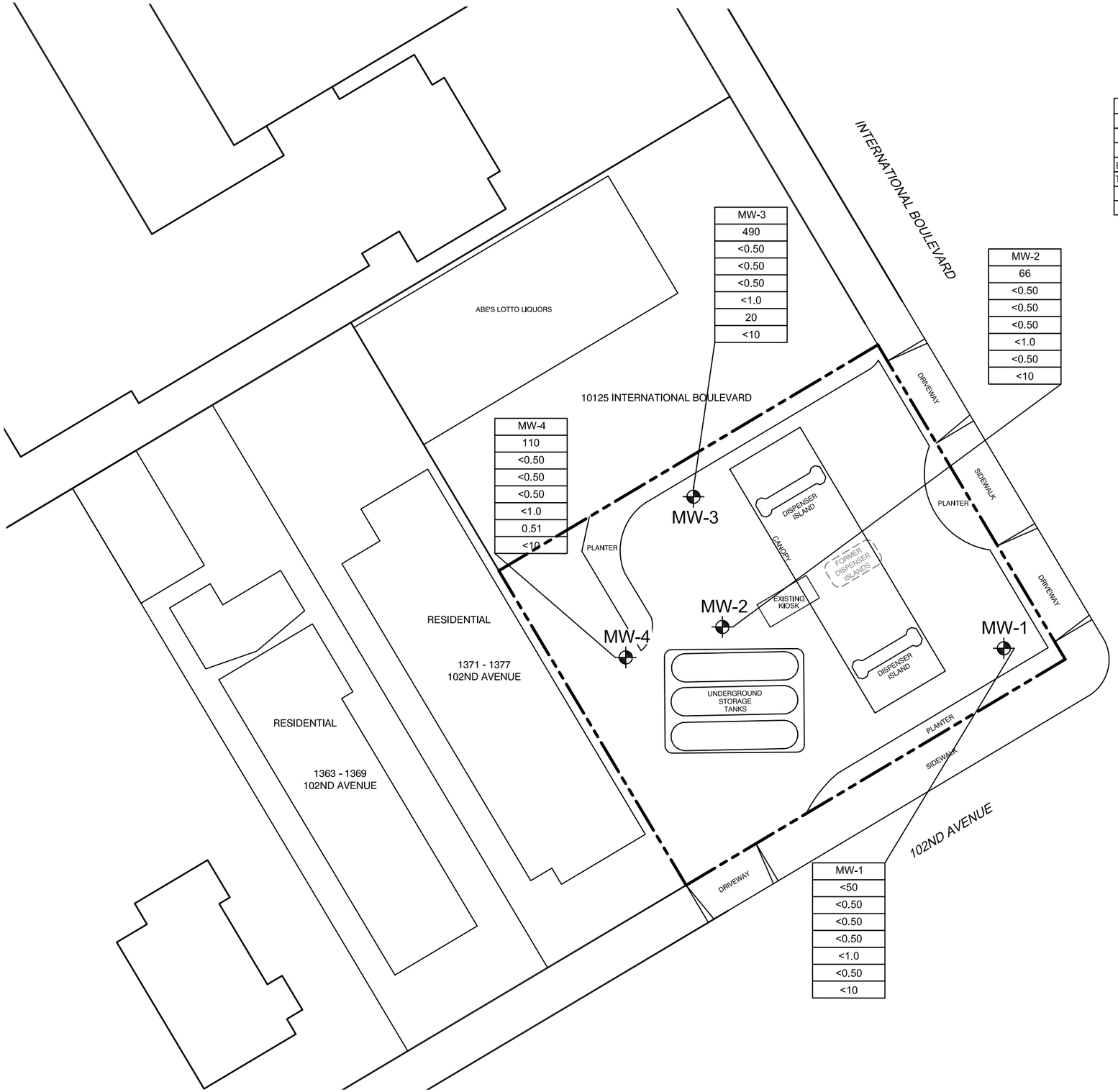
76 STATION NO. 7124 (351638)
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SCALE: 1" = 30'
DATE: 01/13/2016
PROJECT NUMBER: 60439890

FIGURE NUMBER: 3

SHEET NUMBER: 1 of 1

FILENAME: J:\Client--Projects\76_Products\351638_7124_Oakland_10151_International_Blvd\500--Deliverables\501 4Q2015 GWMR\Figs\CADD\47297B01.dwg



LEGEND

APPROXIMATE PROPERTY BOUNDARY

GROUNDWATER MONITORING WELL

WELL ID
TPH-GRO
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES
MTBE
TBA

ID = IDENTIFICATION

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS-GASOLINE RANGE ORGANICS

MTBE = METHYL T-BUTYL ETHER

TBA = T-BUTYL ALCOHOL

<# = ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY PRACTICAL QUANTITATION LIMIT

ANALYTE RESULTS EXPRESSED IN MICROGRAMS PER LITER

NOTES:
1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

N

0 15' 30' 60'

SCALE IN FEET

REVISED			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY: TQ
DRAWN BY: TQ
CHECKED BY: DF
APPROVED BY: CR

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

SECOND SEMI-ANNUAL 2015 GROUNDWATER ANALYTICAL DATA MAP

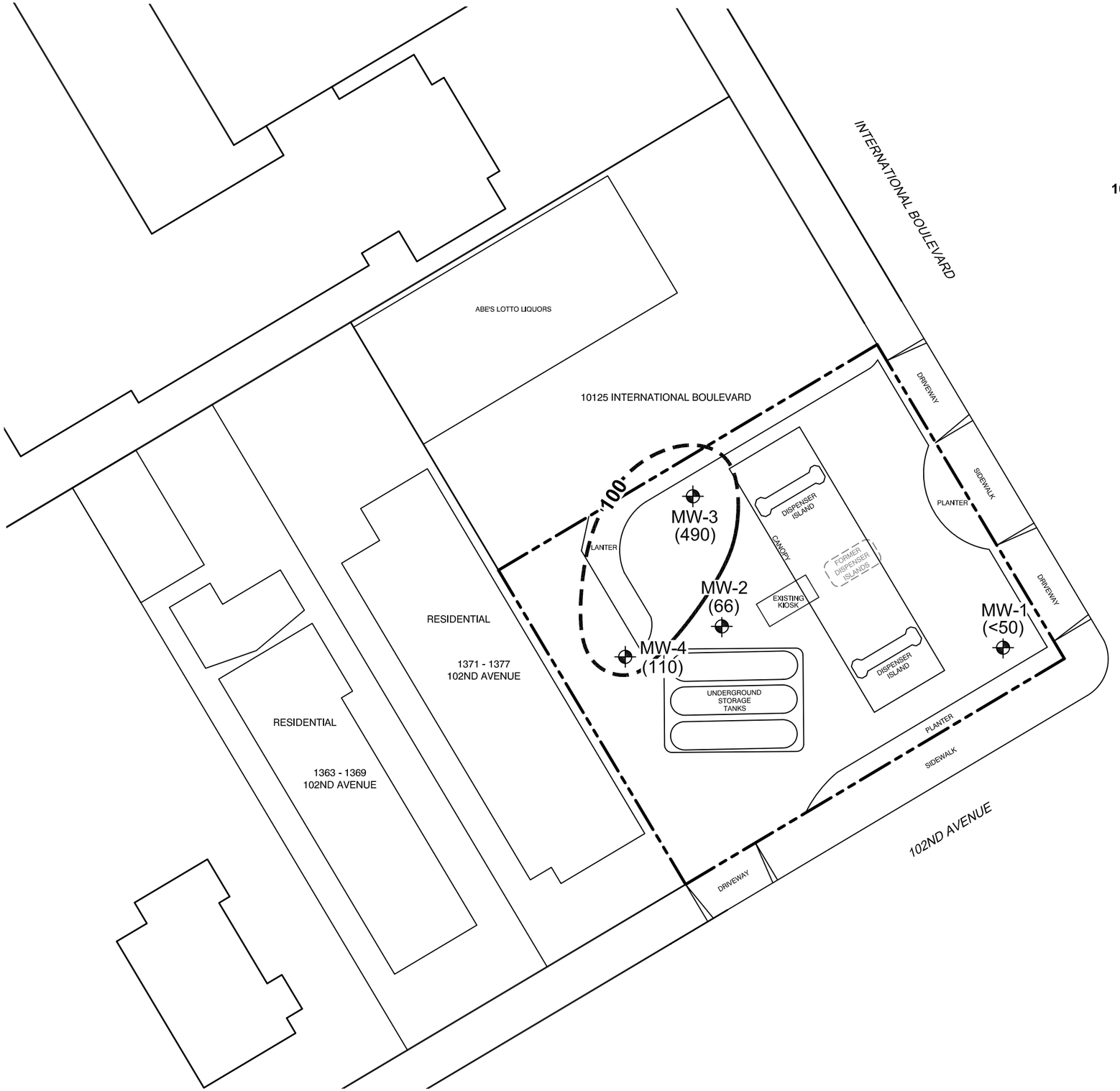
76 STATION NO. 7124 (351638)
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SCALE: 1" = 30'
DATE: 01/13/2016
PROJECT NUMBER: 60439890

FIGURE NUMBER: **4**

SHEET NUMBER: 1 of 1

FILENAME: J:\Client--Projects\76_Products\351638_7124_Oakland_10151_International_Blvd\500--Deliverables\501 4Q2015 GWMR\Figs\CADD\47297B01.dwg



LEGEND

APPROXIMATE PROPERTY BOUNDARY

GROUNDWATER MONITORING WELL

TPH-GRO TOTAL PETROLEUM HYDROCARBONS-GASOLINE RANGE ORGANICS

(#) TPH-GRO CONCENTRATION IN MICROGRAMS PER LITER

100 CONTOUR OF TPH-GRO CONCENTRATIONS IN MICROGRAMS PER LITER (DASHED WHERE INFERRED)

(<#) ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY PRACTICAL QUANTITATION LIMIT

NOTES:
1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

N

0 15' 30' 60'

SCALE IN FEET

REVISED			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY: TQ
DRAWN BY: TQ
CHECKED BY: DF
APPROVED BY: CR

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

SECOND SEMI-ANNUAL 2015 TPH-GRO CONCENTRATION MAP

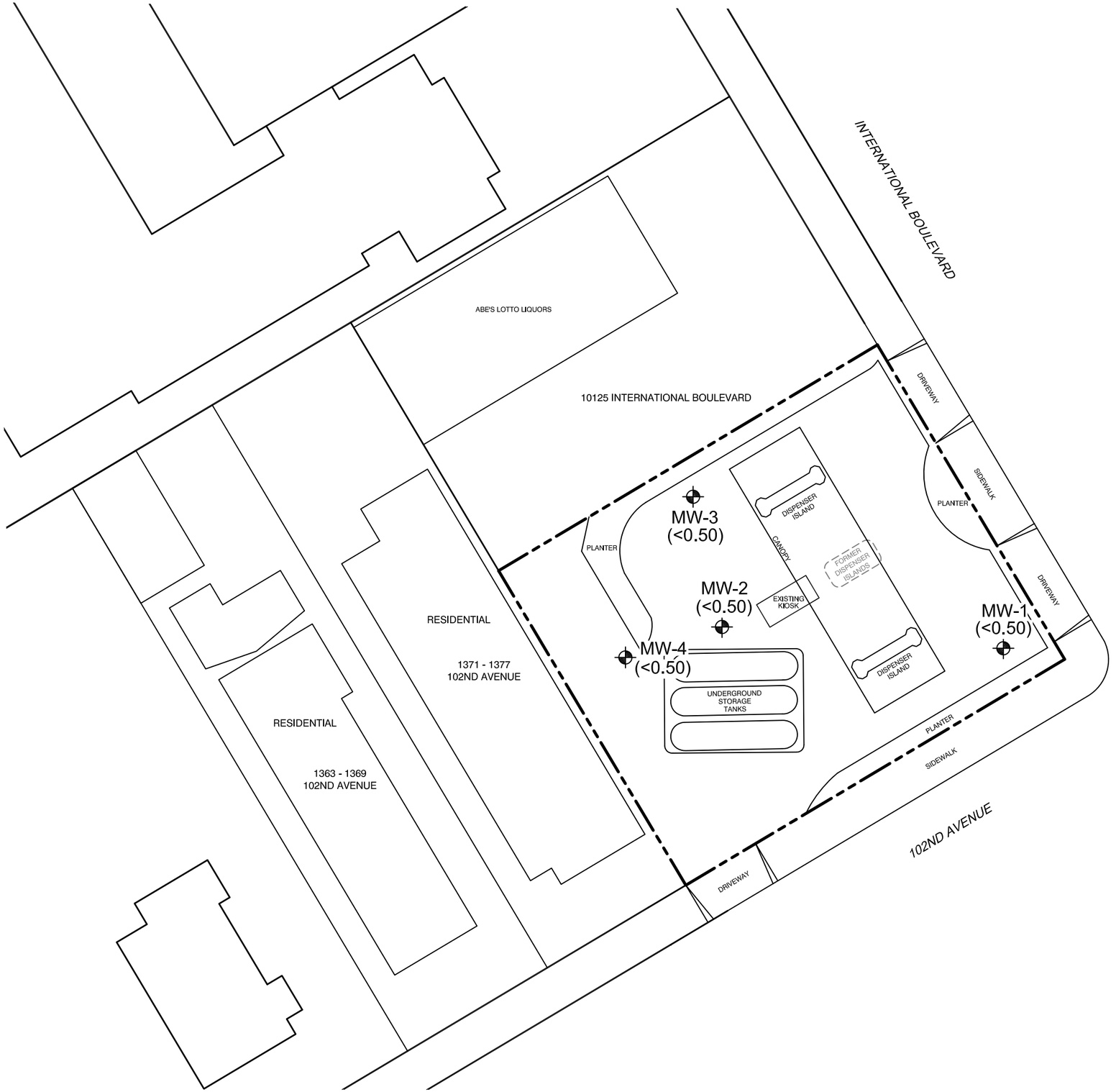
76 STATION NO. 7124 (351638)
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SCALE: 1" = 30'
DATE: 01/13/2016
PROJECT NUMBER: 60439890

FIGURE NUMBER: **5**

SHEET NUMBER: 1 of 1

FILENAME: J:\Client--Projects\76_Products\351638_7124_Oakland_10151_International_Blvd\500--Deliverables\501 4Q2015 GWMR\Figs\CADD\47297B01.dwg



LEGEND

APPROXIMATE PROPERTY BOUNDARY

GROUNDWATER MONITORING WELL

(<#) ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY PRACTICAL QUANTITATION LIMIT

NOTES:
1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

REVISED:			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY: TQ
DRAWN BY: TQ
CHECKED BY: DF
APPROVED BY: CR

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

SECOND SEMI-ANNUAL 2015 BENZENE CONCENTRATION MAP

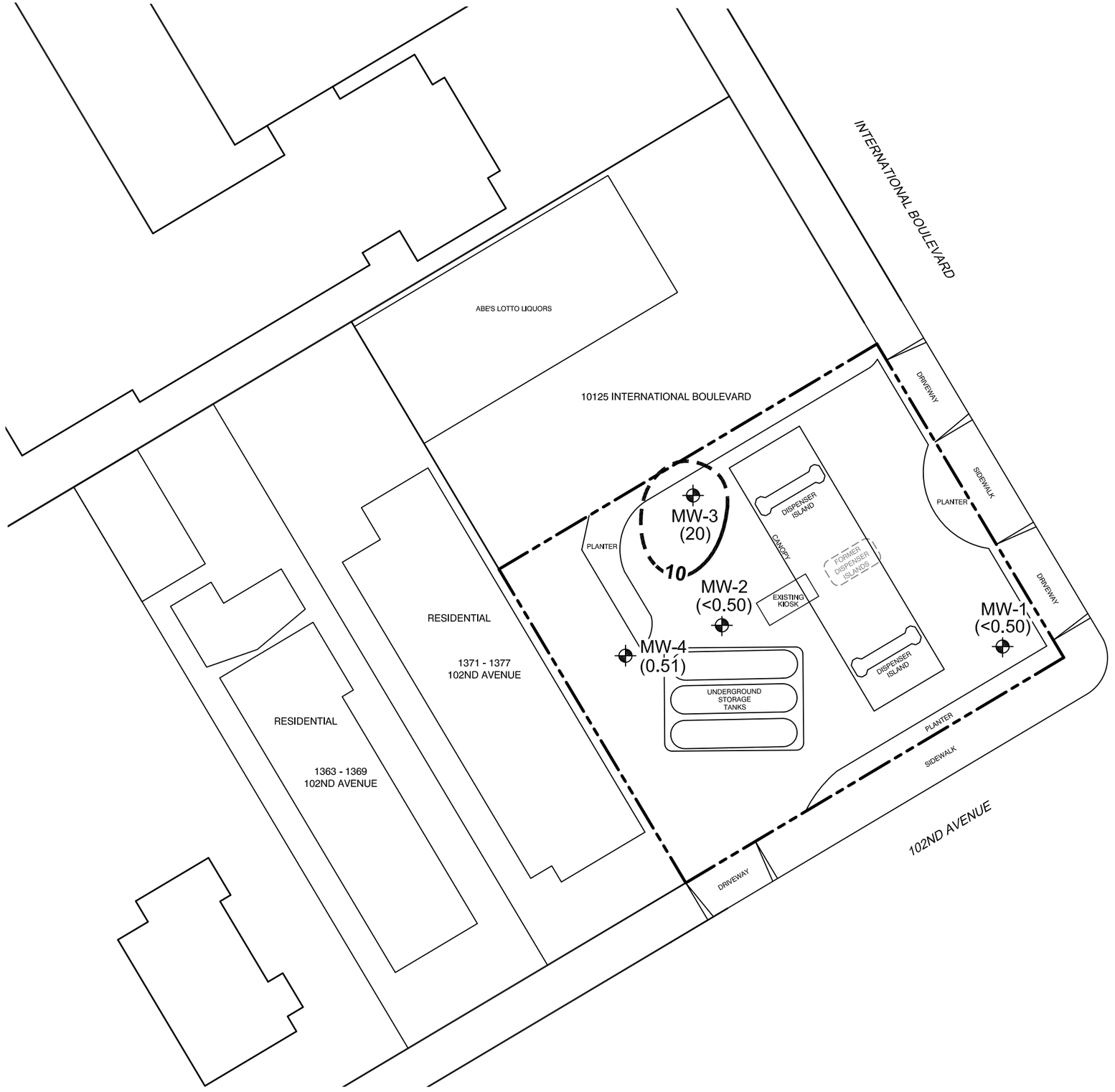
76 STATION NO. 7124 (351638)
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SCALE: 1" = 30'
DATE: 01/13/2016
PROJECT NUMBER: 60439890

FIGURE NUMBER: **6**

SHEET NUMBER: 1 of 1

FILENAME: J:\Client--Projects\76_Products\351638_7124_Oakland_10151_International_Blvd\500--Deliverables\501 4Q2015 GWMR\Figs\CADD\47297B01.dwg



LEGEND

APPROXIMATE PROPERTY BOUNDARY

GROUNDWATER MONITORING WELL

MTBE METHYL T-BUTYL ETHER

(#) MTBE CONCENTRATION IN MICROGRAMS PER LITER

10 CONTOUR OF MTBE CONCENTRATIONS IN MICROGRAMS PER LITER (DASHED WHERE INFERRED)

(<#) ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY PRACTICAL QUANTITATION LIMIT

NOTES:
1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

N

0 15' 30' 60'

SCALE IN FEET

REVISED:			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
TQ	TQ	DF	CR

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

SECOND SEMI-ANNUAL 2015 MTBE CONCENTRATION MAP

76 STATION NO. 7124 (351638)
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	01/13/2016	60439890

FIGURE NUMBER:
7

SHEET NUMBER:
1 of 1

FILENAME: J:\Client--Projects\76_Products\351638_7124_Oakland_10151_International_Blvd\500--Deliverables\501 4Q2015 GWMR\Figs\CADD\47297B01.dwg

Charts

Chart 1 - Hydrograph for Well MW-1

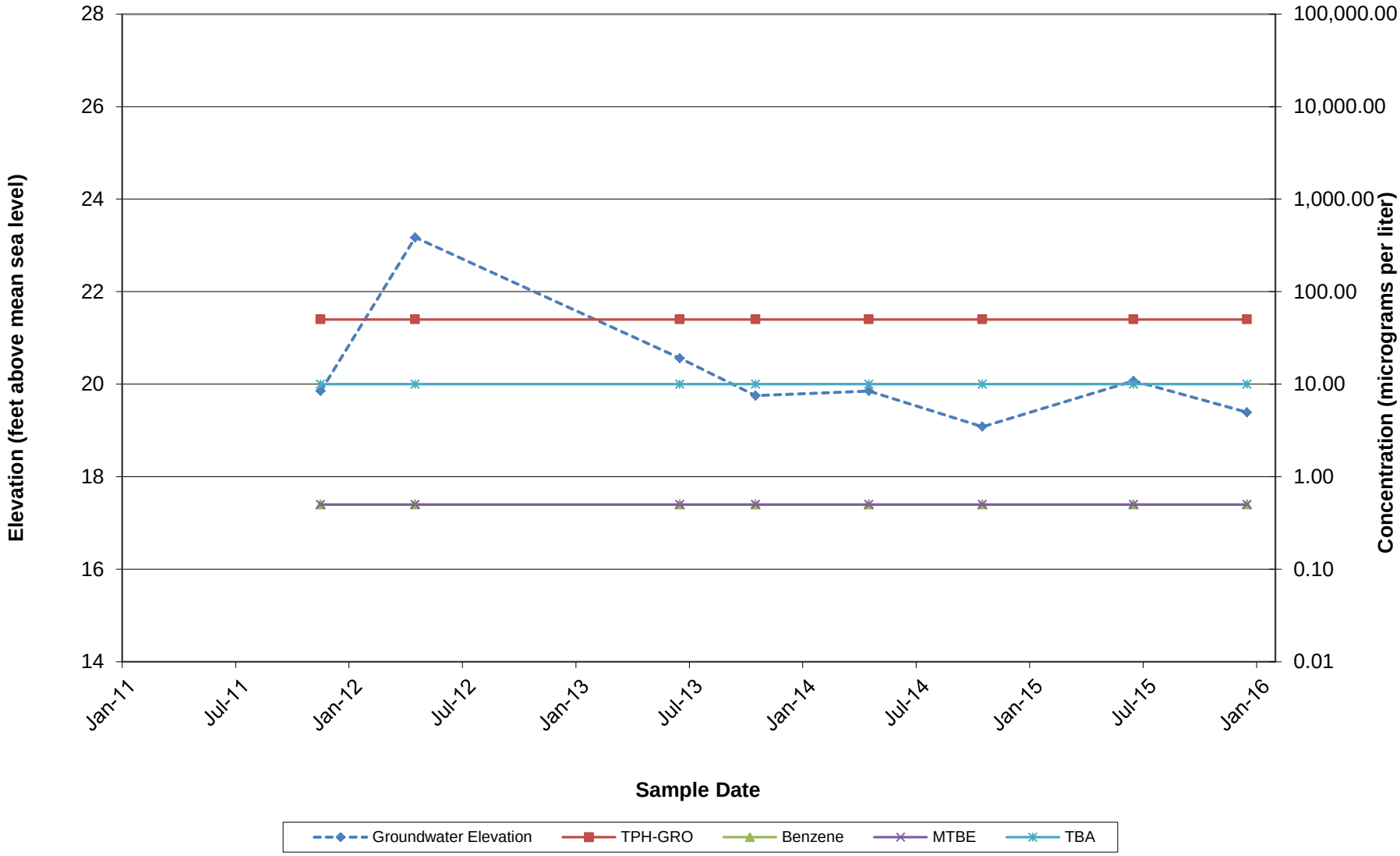


Chart 2 - Hydrograph for Well MW-2

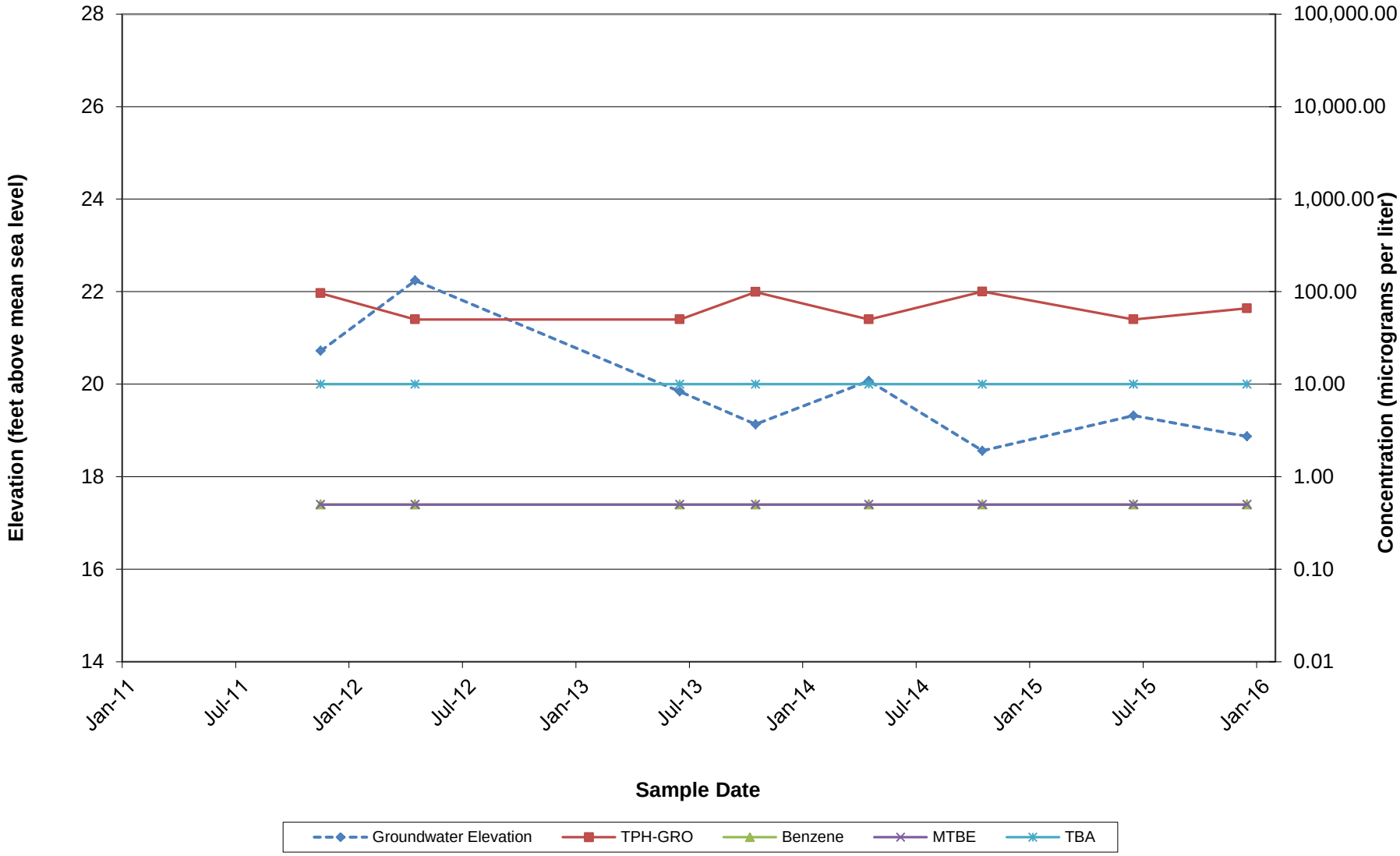


Chart 3 - Hydrograph for Well MW-3

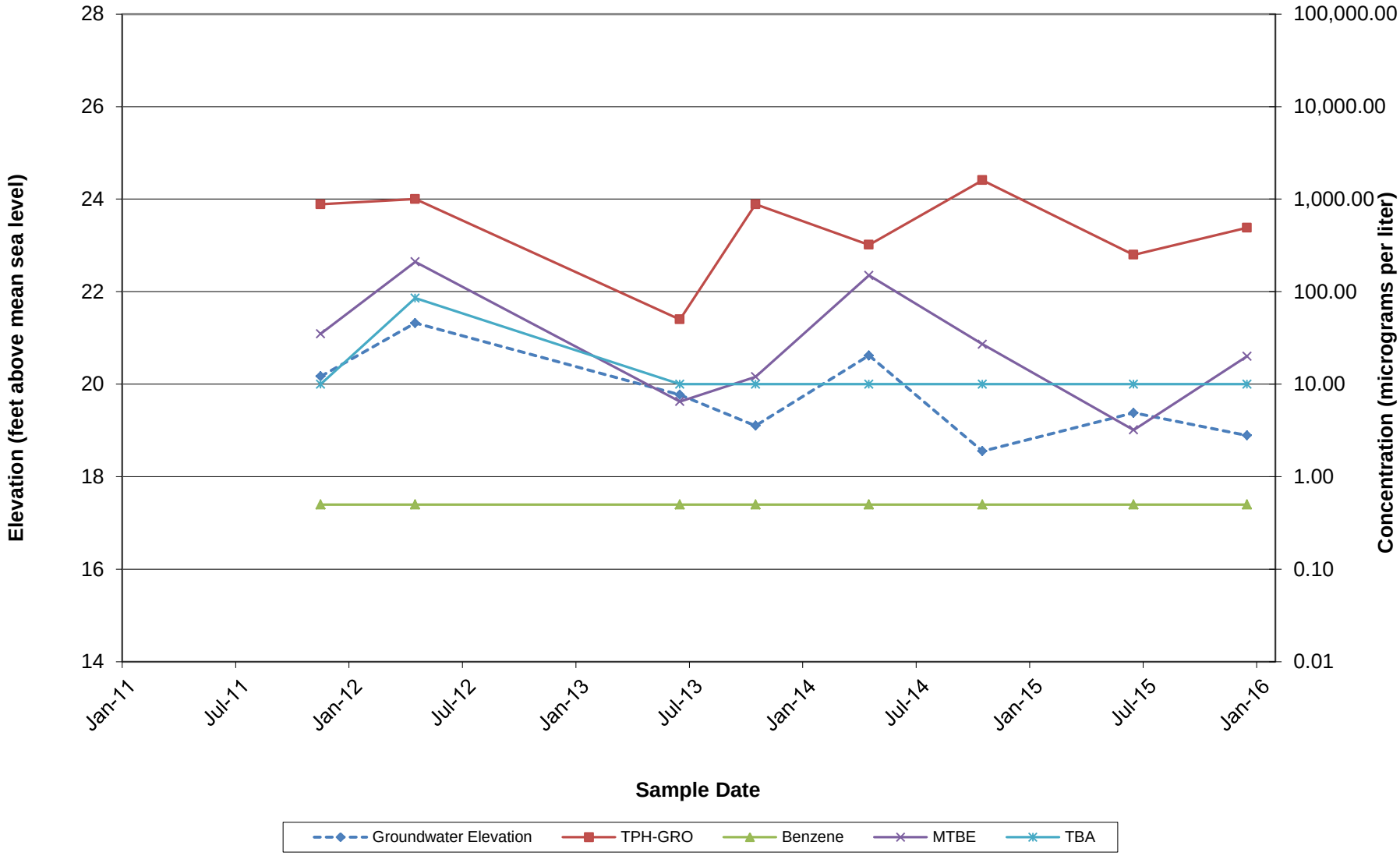
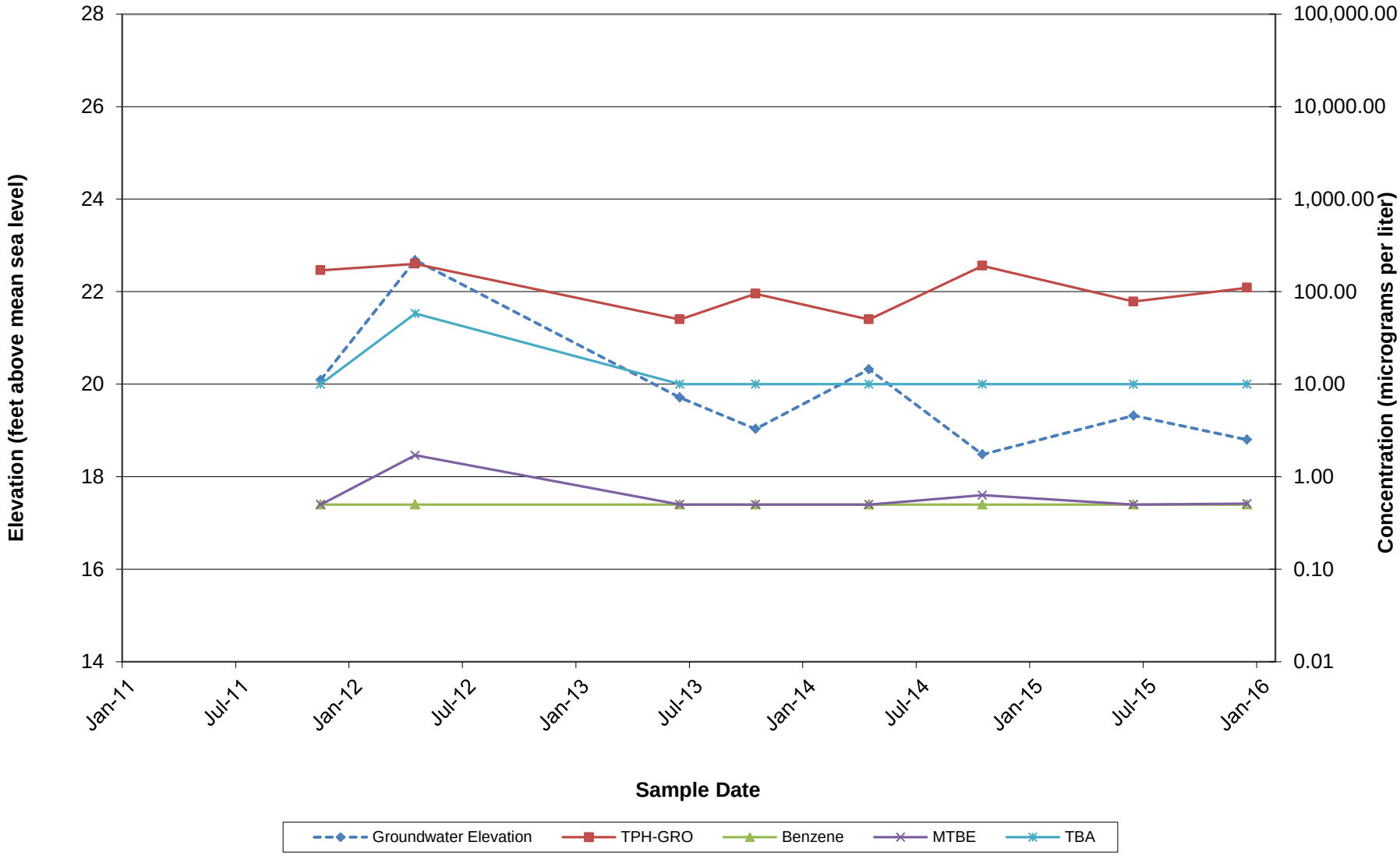


Chart 4 - Hydrograph for Well MW-4



Attachment A

Groundwater Monitoring and Sampling Field Data Sheets

GETTLER-RYAN INC.

TRANSMITTAL

December 22, 2015
G-R #385639

TO: Mr. Chad Roper
AECOM
1220 Avenida Acaso
Camarillo, CA 93012

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6805 Sierra Court, Suite G
Dublin, California 94568

RE: Chevron Facility
#351638/7124
10151 International Boulevard
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **Second Semi-Annual Event of December 15, 2015**

COMMENTS:

Pursuant to your request, we are providing you with copies of the above referenced data for your use.

Please provide us the updated historical data prior to the next monitoring and sampling event for our field use.

Please feel free to contact me if you have any comments/questions.

trans/351638 7124

WELL CONDITION STATUS SHEET

Client/
Facility #: Chevron #351638 / 7124

Site Address: 10151 International Blvd.

City: Oakland, CA

Job #: 385639

Event Date: 12.15.15

Sampler: FF

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=Retap	Apron Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) Inches from TOC	Casing (Condition prevents tight cap seal)	REPLACE LOCK Y/(N)	REPLACE CAP Y/(N)	WELL VAULT Manufacture/Size/ # of Bolts	Pictures Taken Y/(N)
MW-1	OK									Emco 12"/2	
MW-2	OK										
MW-3	OK										
MW-4	OK	OK	M=1	B=1	OK					Mommser 12"/2	

Comments

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards, as directed by the scope of work. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron Environmental Management Company, the purge water and decontamination water generated during sampling activities is transported by Clean Harbors Environmental Services to Seaport Environmental located in Redwood City, California.

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 12.15.15 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-1 Date Monitored: 12.15.15
Well Diameter 4 in.
Total Depth 29.80 ft.
Depth to Water 17.98 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

11.82 xVF .66 = 7.80 x3 case volume = Estimated Purge Volume: 23.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 20.34

Purge Equipment:

Disposable Bailer	
Stainless Steel Bailer	
Stack Pump	✓
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:

Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 0945 Weather Conditions: Sunny
Sample Time/Date: 1010 / 12.15.15 Water Color: LT. BROWN Odor: Y / (N)
Approx. Flow Rate: ≈2.0 gpm. Sediment Description: S. SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 19.10

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0949	7.5	7.08	521	18.4	PRE: 2.3	PRE: 75
0953	15.0	7.04	528	18.7		
0957	23.0	7.01	535	19.0		
					POST: 2.1	POST: 88

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE(376.2)
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 12.15.15 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-2 Date Monitored: 12-15-15
Well Diameter 4 in.
Total Depth 25.24 ft.
Depth to Water 19.00 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.24 xVF .66 = 4.11 x3 case volume = Estimated Purge Volume: 12.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 20.24

Purge Equipment:		Sampling Equipment:	
Disposable Bailer		Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump	✓	Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1025 Weather Conditions: SUNNY
Sample Time/Date: 1050 /12-15-15 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ≈ 1.0 gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 20.13

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1029	4.0	6.48	425	18.8	PRE: 2.1	PRE: -25
1033	8.0	6.51	434	18.9		
1037	12.0	6.55	439	19.2		
					POST: 1.9	POST: -32

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE(376.2)
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 12.15.15 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-3 Date Monitored: 12.15.15
Well Diameter 4 in.
Total Depth 25.18 ft.
Depth to Water 18.83 ft. ☐ Check if water column is less then 0.50 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

6.35 xVF .66 = 4.19 x3 case volume = Estimated Purge Volume: 13.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 20.10

Purge Equipment:
Disposable Bailer
Stainless Steel Bailer
Stack Pump ✓
Peristaltic Pump
QED Bladder Pump
Other:

Sampling Equipment:
Disposable Bailer ✓
Pressure Bailer
Metal Filters
Peristaltic Pump
QED Bladder Pump
Other:

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1155 Weather Conditions: SUNNY
Sample Time/Date: 1220 / 12-15-15 Water Color: LT. GRAY Odor: Ⓨ / N MODERATE
Approx. Flow Rate: ≈ 1.0 gpm. Sediment Description: S. SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 19.22

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (Ⓤ / mS µmhos/cm)	Temperature (Ⓒ / F)	D.O. (mg/L)	ORP (mV)
1159	4.0	6.56	484	18.2	PRE: 1.5	PRE: -109
1203	8.0	6.53	490	18.6		
1208	13.0	6.50	499	19.0		
					POST: 1.3	POST: 120

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE(376.2)
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 12.15.15 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-4 Date Monitored: 12.15.15
Well Diameter 4 in.
Total Depth 24.91 ft.
Depth to Water 19.56 ft. ☐ Check if water column is less then 0.50 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

5.35 xVF .66 = 3.53 x3 case volume = Estimated Purge Volume: 11.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 20.63

Purge Equipment:

Disposable Bailer	
Stainless Steel Bailer	
Stack Pump	✓
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1110 Weather Conditions: SUNNY
Sample Time/Date: 1135 /12.15.15 Water Color: LT. BRN. Odor: (Y) / N SLIGHT
Approx. Flow Rate: ≈ 1.0 gpm. Sediment Description: S. SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 20.56

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1114	3.5	6.67	453	18.7	PRE: 1.8	PRE: -98
1118	7.0	6.70	460	19.0		
1122	11.0	6.73	468	19.3		
					POST: 1.7	POST: -110

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	4 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE(376.2)
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 1 of 1

Union Oil Site ID: 7124	Union Oil Consultant: AECOM
Site Global ID: T0600173591	Consultant Contact: CHAD ROPER
Site Address: 10151 INTERNATIONAL BLVD. OAKLAND, CA	Consultant Phone No.: (805) 764-4027
Union Oil PM: NICOLE M. HAGENEMAN	Sampling Company: GETTLER-RYAN
Union Oil PM Phone No.: (925) 790-6912 (510) 363-7354	Sampled By (PRINT): FRANK TERRANONI
Charge Code: NWRTB-0 351638 -0- LAB	Sampler Signature:
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

Turnaround Time (TAT): Standard ☒ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

SAMPLE ID						ANALYSES REQUIRED											
Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by GC-FID (8015)	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B OXYS (8)	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON	SULFIDE (376.2)	TOC	FERROUS IRON	TOTAL MANGANESE	METHANE	Notes / Comments
MW-1	W-S-A		151215	1010	13		X	X		X	X	X	X	X	X	X	
MW-2	W-S-A			1050	13												
MW-3	W-S-A			1220	13												
MW-4	W-S-A			1135	13												
QA	W-S-A				2												
QA	W-S-A				~~0~~					X							
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

Relinquished By	Company	Date / Time:
[signature]	GTNJ	12.15.15 (1500)
Relinquished By	Company	Date / Time :
Relinquished By	Company	Date / Time:

Received By	Company	Date / Time:
Doug Bryan	BCLab	12-15-15 1540
Received By	Company	Date / Time :
Received By	Company	Date / Time:

Attachment B

Laboratory Analytical Report and Chain-of-Custody Documentation

Date of Report: 12/30/2015

Chad Roper

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Client Project:	351638
BCL Project:	7124
BCL Work Order:	1532187
Invoice ID:	B222746

Enclosed are the results of analyses for samples received by the laboratory on 12/15/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

Table of Contents

CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583 COC 1 of 1

Union Oil Site ID: 7124	Union Oil Consultant: AECOM
Site Global ID: T0600173591	Consultant Contact: CHAD ROPER
Site Address: 10151 INTERNATIONAL BLVD. OAKLAND, CA	Consultant Phone No.: (805) 764-4027
Union Oil PM: NICOLE M. ANCENEAUX	Sampling Company: GETTLER-RYAN
Union Oil PM Phone No.: (925) 790-6912/(510) 363-7354	Sampled By (PRINT): FRANK TENNINONI
Charge Code: NWRTB- 0 351638 -0- LAB 15.32187	Sampler Signature:
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

ANALYSES REQUIRED

Turnaround Time (TAT): Standard ☒ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

SAMPLE ID																				Notes / Comments
Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by [redacted] (GC-FID) (Gas)	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] OXYS (8)	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON	SULFIDE (376.2)	TOC	FERROUS IRON	TOTAL MANGANESE	METHANE				
-1 MW-1	W S-A		151215	1010	13		X	X		X	X	X	X	X	X	X				
-2 MW-2	W-S-A			1050	13															
-3 MW-3	W-S-A			1220	13															
-4 MW-4	W-S-A			1135	13															
-5 QA	W-S-A				2		X	X		[redacted]										
QA	W-S-A				0					X										
	W-S-A																			
	W-S-A																			
	W-S-A																			
	W-S-A																			
	W-S-A																			
	W-S-A																			
	W-S-A																			

TIME: pH NO3 NO2 OP SS Cl BOD MBAS COT

CHK BY KLB

DISTRIBUTION SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
[signature]	G-RINC.	12.15.15 (1500)	Tony Bogen	BCLAB	12-15-15 1930	[signature]	BCLAB	12/15/15
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
Tony Bogen	BCLAB	12-15-15 1540	[signature]	BCLAB	12/15/15 19:30	[signature]	BCLAB	12/15/15 2040

Chain of Custody and Cooler Receipt Form for 1532187 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 15.32187

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____	Other ☐ (Specify)_____	

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 208 Date/Time 12/15/15

Temperature: (A) 1.8 °C / (C) 1.3 °C Analyst Init KIB 2039

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	1	1	1	1						
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	J	J	J	J						
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE	K	K	K	K						
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON	L	L	L	L						
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK					AB					
40ml VOA VIAL	A-F	A-F	A-F	A-F						
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504	GH	GH	GH	GH						
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON	M	M	M	M						
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: M Date/Time: 12-15-15 2319

A = Actual / C = Corrected

Rev 20 07/24/2015

{S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20}

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1532187-01	**COC Number:**	---	**Receive Date:** 12/15/2015 22:40
	Project Number:	7124	**Sampling Date:** 12/15/2015 10:10
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-1-W-151215	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
	Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): MW-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:		
1532187-02	**COC Number:**	---	**Receive Date:** 12/15/2015 22:40
	Project Number:	7124	**Sampling Date:** 12/15/2015 10:50
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-2-W-151215	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
	Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:		
1532187-03	**COC Number:**	---	**Receive Date:** 12/15/2015 22:40
	Project Number:	7124	**Sampling Date:** 12/15/2015 12:20
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-3-W-151215	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
	Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:		

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1532187-04	**COC Number:**	---	**Receive Date:**	12/15/2015 22:40
	Project Number:	7124	**Sampling Date:**	12/15/2015 11:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-W-151215	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:			
1532187-05	**COC Number:**	---	**Receive Date:**	12/15/2015 22:40
	Project Number:	7124	**Sampling Date:**	12/15/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-151215	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Blank Water
	Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): QA Matrix: W Sample QC Type (SACode): CS Cooler ID:			

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1532187-01 | **Client Sample Name:** 7124, MW-1-W-151215, 12/15/2015 10:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Toluene	ND	ug/L	0.50		EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0		EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10		EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Ethanol	ND	ug/L	250		EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.4	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	96.9	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.5	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/16/15	12/17/15 03:25	JMS	MS-V14	1	BYL1399

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1532187-01 | **Client Sample Name:** 7124, MW-1-W-151215, 12/15/2015 10:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50		EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	102	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	12/28/15	12/28/15 12:16	AKM	GC-V9	1	BYL2427

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Gas Testing in Water

BCL Sample ID: 1532187-01 | **Client Sample Name:** 7124, MW-1-W-151215, 12/15/2015 10:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	ND	mg/L	0.0010		RSK-175M	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	12/21/15	12/22/15 13:24	JH2	GC-V1	1	BYL1996

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Water Analysis (General Chemistry)

BCL Sample ID: 1532187-01 | **Client Sample Name:** 7124, MW-1-W-151215, 12/15/2015 10:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**170**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	**34**	**mg/L**	**0.44**		**EPA-300.0**	ND		2
Sulfate	**26**	**mg/L**	**1.0**		**EPA-300.0**	ND		2
Iron (II) Species	ND	ug/L	100		SM-3500-FeD	ND		3
Nitrite as NO2	ND	mg/L	0.17		EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.10		SM-4500SD	ND		5
Non-Volatile Organic Carbon	**1.0**	**mg/L**	**1.0**		**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	12/21/15	12/21/15 21:50	RML	MET-1	1	BYL2052
2	EPA-300.0	12/16/15	12/16/15 09:08	OLH	IC2	1	BYL1549
3	SM-3500-FeD	12/16/15	12/16/15 15:18	TDC	KONE-1	1	BYL1993
4	EPA-353.2	12/16/15	12/16/15 08:42	TDC	KONE-1	1	BYL1585
5	SM-4500SD	12/21/15	12/21/15 12:30	DIW	SPEC05	1	BYL2093
6	EPA-415.1	12/16/15	12/16/15 10:26	ALW	A537730907	1	BYL1542

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Metals Analysis

BCL Sample ID: 1532187-01 | **Client Sample Name:** 7124, MW-1-W-151215, 12/15/2015 10:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50		EPA-6010B	ND		1
Total Manganese	**11000**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	12/15/15	12/23/15 09:41	JCC	PE-OP3	1	BYL2035
2	EPA-6010B	12/21/15	12/21/15 16:06	JCC	PE-OP3	1	BYL1939

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1532187-02 | **Client Sample Name:** 7124, MW-2-W-151215, 12/15/2015 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Toluene	ND	ug/L	0.50		EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0		EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10		EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Ethanol	ND	ug/L	250		EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	96.5	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	97.9	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/16/15	12/17/15 03:47	JMS	MS-V14	1	BYL1399

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1220 Avenida Acaso
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Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1532187-02 | **Client Sample Name:** 7124, MW-2-W-151215, 12/15/2015 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	**66**	**ug/L**	**50**		**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	104	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	12/28/15	12/28/15 12:36	AKM	GC-V9	1	BYL2427

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1220 Avenida Acaso
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Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Gas Testing in Water

BCL Sample ID: 1532187-02 | **Client Sample Name:** 7124, MW-2-W-151215, 12/15/2015 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.027**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	12/21/15	12/22/15 13:28	JH2	GC-V1	1	BYL1996

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Water Analysis (General Chemistry)

BCL Sample ID: 1532187-02 | **Client Sample Name:** 7124, MW-2-W-151215, 12/15/2015 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**210**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44		EPA-300.0	ND		2
Sulfate	**23**	**mg/L**	**1.0**		**EPA-300.0**	ND		2
Iron (II) Species	**1700**	**ug/L**	**100**		**SM-3500-FeD**	ND		3
Nitrite as NO2	ND	mg/L	0.17		EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.10		SM-4500SD	ND		5
Non-Volatile Organic Carbon	**1.3**	**mg/L**	**1.0**		**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	12/21/15	12/21/15 22:03	RML	MET-1	1	BYL2052
2	EPA-300.0	12/16/15	12/16/15 10:23	OLH	IC2	1	BYL1549
3	SM-3500-FeD	12/16/15	12/16/15 15:04	TDC	KONE-1	1	BYL1993
4	EPA-353.2	12/16/15	12/16/15 08:42	TDC	KONE-1	1	BYL1585
5	SM-4500SD	12/21/15	12/21/15 12:30	DIW	SPEC05	1	BYL2093
6	EPA-415.1	12/16/15	12/16/15 11:37	ALW	A537730907	1	BYL1542

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Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Metals Analysis

BCL Sample ID: 1532187-02 | **Client Sample Name:** 7124, MW-2-W-151215, 12/15/2015 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	**140**	**ug/L**	**50**		**EPA-6010B**	ND		1
Total Manganese	**6300**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	12/15/15	12/23/15 09:33	JCC	PE-OP3	1	BYL2035
2	EPA-6010B	12/21/15	12/21/15 16:08	JCC	PE-OP3	1	BYL1939

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Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1532187-03 | **Client Sample Name:** 7124, MW-3-W-151215, 12/15/2015 12:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	**20**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50		EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0		EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10		EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Ethanol	ND	ug/L	250		EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.6	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	151	%	80 - 120 (LCL - UCL)		EPA-8260B		S09	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/16/15	12/17/15 04:09	JMS	MS-V14	1	BYL1399

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1532187-03 | **Client Sample Name:** 7124, MW-3-W-151215, 12/15/2015 12:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	**490**	**ug/L**	**50**		**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	117	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	12/28/15	12/28/15 19:24	AKM	GC-V9	1	BYL2427

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Gas Testing in Water

BCL Sample ID: 1532187-03 | **Client Sample Name:** 7124, MW-3-W-151215, 12/15/2015 12:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.13**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	12/21/15	12/22/15 13:33	JH2	GC-V1	1	BYL1996

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Water Analysis (General Chemistry)

BCL Sample ID: 1532187-03 | **Client Sample Name:** 7124, MW-3-W-151215, 12/15/2015 12:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**280**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44		EPA-300.0	ND		2
Sulfate	ND	mg/L	1.0		EPA-300.0	ND		2
Iron (II) Species	**5900**	**ug/L**	**1000**		**SM-3500-FeD**	ND	**A07**	3
Nitrite as NO2	ND	mg/L	0.17		EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.10		SM-4500SD	ND		5
Non-Volatile Organic Carbon	**1.6**	**mg/L**	**1.0**		**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	12/21/15	12/21/15 22:09	RML	MET-1	1	BYL2052
2	EPA-300.0	12/16/15	12/16/15 10:42	OLH	IC2	1	BYL1549
3	SM-3500-FeD	12/16/15	12/16/15 15:14	TDC	KONE-1	10	BYL1993
4	EPA-353.2	12/16/15	12/16/15 09:01	TDC	KONE-1	1	BYL1585
5	SM-4500SD	12/21/15	12/21/15 12:30	DIW	SPEC05	1	BYL2093
6	EPA-415.1	12/16/15	12/16/15 11:51	ALW	A537730907	1	BYL1542

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Metals Analysis

BCL Sample ID: 1532187-03 | **Client Sample Name:** 7124, MW-3-W-151215, 12/15/2015 12:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	**140**	**ug/L**	**50**		**EPA-6010B**	ND		1
Total Manganese	**6900**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	12/15/15	12/23/15 09:35	JCC	PE-OP3	1	BYL2035
2	EPA-6010B	12/21/15	12/21/15 16:09	JCC	PE-OP3	1	BYL1939

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1532187-04 | **Client Sample Name:** 7124, MW-4-W-151215, 12/15/2015 11:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	**0.51**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50		EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0		EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10		EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Ethanol	ND	ug/L	250		EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	97.7	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/16/15	12/17/15 04:32	JMS	MS-V14	1	BYL1399

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1532187-04 | **Client Sample Name:** 7124, MW-4-W-151215, 12/15/2015 11:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	**110**	**ug/L**	**50**		**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	101	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	12/28/15	12/28/15 12:56	AKM	GC-V9	1	BYL2427

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Gas Testing in Water

BCL Sample ID: 1532187-04 | **Client Sample Name:** 7124, MW-4-W-151215, 12/15/2015 11:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.057**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	12/21/15	12/22/15 13:37	JH2	GC-V1	1	BYL1996

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Water Analysis (General Chemistry)

BCL Sample ID: 1532187-04 | **Client Sample Name:** 7124, MW-4-W-151215, 12/15/2015 11:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**200**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	**2.5**	**mg/L**	**0.44**		**EPA-300.0**	ND		2
Sulfate	**37**	**mg/L**	**1.0**		**EPA-300.0**	ND		2
Iron (II) Species	**2900**	**ug/L**	**100**		**SM-3500-FeD**	ND		3
Nitrite as NO2	ND	mg/L	0.17		EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.10		SM-4500SD	ND		5
Non-Volatile Organic Carbon	**17**	**mg/L**	**5.0**		**EPA-415.1**	ND	**A07**	6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	12/21/15	12/21/15 22:16	RML	MET-1	1	BYL2052
2	EPA-300.0	12/16/15	12/16/15 11:00	OLH	IC2	1	BYL1549
3	SM-3500-FeD	12/16/15	12/16/15 15:04	TDC	KONE-1	1	BYL1993
4	EPA-353.2	12/16/15	12/16/15 09:01	TDC	KONE-1	1	BYL1585
5	SM-4500SD	12/21/15	12/21/15 12:30	DIW	SPEC05	1	BYL2093
6	EPA-415.1	12/16/15	12/17/15 10:50	ALW	A537730907	5	BYL1542

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Metals Analysis

BCL Sample ID: 1532187-04 | **Client Sample Name:** 7124, MW-4-W-151215, 12/15/2015 11:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50		EPA-6010B	ND		1
Total Manganese	**4200**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	12/15/15	12/23/15 09:40	JCC	PE-OP3	1	BYL2035
2	EPA-6010B	12/21/15	12/21/15 16:11	JCC	PE-OP3	1	BYL1939

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Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1532187-05 | **Client Sample Name:** 7124, QA-W-151215, 12/15/2015 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Toluene	ND	ug/L	0.50		EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0		EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10		EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Ethanol	ND	ug/L	250		EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	93.4	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.5	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/16/15	12/17/15 00:49	JMS	MS-V14	1	BYL1399

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1532187-05 | **Client Sample Name:** 7124, QA-W-151215, 12/15/2015 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50		EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	98.7	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	12/28/15	12/28/15 11:55	AKM	GC-V9	1	BYL2427

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYL1399						
Benzene	BYL1399-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BYL1399-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BYL1399-BLK1	ND	ug/L	0.50		
Ethylbenzene	BYL1399-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BYL1399-BLK1	ND	ug/L	0.50		
Toluene	BYL1399-BLK1	ND	ug/L	0.50		
Total Xylenes	BYL1399-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BYL1399-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BYL1399-BLK1	ND	ug/L	10		
Diisopropyl ether	BYL1399-BLK1	ND	ug/L	0.50		
Ethanol	BYL1399-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BYL1399-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BYL1399-BLK1**	**91.0**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BYL1399-BLK1**	**99.0**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BYL1399-BLK1**	**96.6**	%	**80 - 120 (LCL - UCL)**		

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1220 Avenida Acaso
Camarillo, CA 93012

Reported: 12/30/2015 8:27
Project: 7124
Project Number: 351638
Project Manager: Chad Roper

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYL1399										
Benzene	BYL1399-BS1	LCS	27.262	25.000	ug/L	109		70 - 130		
Toluene	BYL1399-BS1	LCS	27.179	25.000	ug/L	109		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BYL1399-BS1	LCS	9.6400	10.000	ug/L	96.4		75 - 125		
Toluene-d8 (Surrogate)	BYL1399-BS1	LCS	9.8600	10.000	ug/L	98.6		80 - 120		
4-Bromofluorobenzene (Surrogate)	BYL1399-BS1	LCS	10.100	10.000	ug/L	101		80 - 120		

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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYL1399	Used client sample: Y - Description: MW-1-W-151215, 12/15/2015 10:10										
Benzene	MS	1532187-01	ND	26.278	25.000	ug/L		105		70 - 130	
	MSD	1532187-01	ND	27.298	25.000	ug/L	3.8	109	20	70 - 130	
Toluene	MS	1532187-01	ND	26.557	25.000	ug/L		106		70 - 130	
	MSD	1532187-01	ND	27.928	25.000	ug/L	5.0	112	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1532187-01	ND	9.4200	10.000	ug/L		94.2		75 - 125	
	MSD	1532187-01	ND	9.5900	10.000	ug/L	1.8	95.9		75 - 125	
Toluene-d8 (Surrogate)	MS	1532187-01	ND	9.7000	10.000	ug/L		97.0		80 - 120	
	MSD	1532187-01	ND	9.9500	10.000	ug/L	2.5	99.5		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1532187-01	ND	10.200	10.000	ug/L		102		80 - 120	
	MSD	1532187-01	ND	9.6400	10.000	ug/L	5.6	96.4		80 - 120	

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYL2427						
Gasoline Range Organics (C6 - C12)	BYL2427-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	**BYL2427-BLK1**	**99.0**	%	**70 - 130 (LCL - UCL)**		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYL2427										
Gasoline Range Organics (C6 - C12)	BYL2427-BS1	LCS	886.31	1000.0	ug/L	88.6		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BYL2427-BS1	LCS	40.284	40.000	ug/L	101		70 - 130		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYL2427	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1532390-02	ND	926.10	1000.0	ug/L		92.6		70 - 130	
	MSD	1532390-02	ND	1040.5	1000.0	ug/L	11.6	104	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1532390-02	ND	36.195	40.000	ug/L		90.5		70 - 130	
	MSD	1532390-02	ND	40.049	40.000	ug/L	10.1	100		70 - 130	

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Gas Testing in Water

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYL1996						
Methane	BYL1996-BLK1	ND	mg/L	0.0010		

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Gas Testing in Water

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYL1996										
Methane	BYL1996-BS1	LCS	0.011161	0.010843	mg/L	103		80 - 120		
	BYL1996-BSD1	LCSD	0.011349	0.010843	mg/L	105	1.7	80 - 120	20	

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Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYL1542						
Non-Volatile Organic Carbon	BYL1542-BLK1	ND	mg/L	1.0		
QC Batch ID: BYL1549						
Nitrate as NO3	BYL1549-BLK1	ND	mg/L	0.44		
Sulfate	BYL1549-BLK1	ND	mg/L	1.0		
QC Batch ID: BYL1585						
Nitrite as NO2	BYL1585-BLK1	ND	mg/L	0.17		
QC Batch ID: BYL1993						
Iron (II) Species	BYL1993-BLK1	ND	ug/L	100		
QC Batch ID: BYL2052						
Total Alkalinity as CaCO3	BYL2052-BLK1	ND	mg/L	4.1		
QC Batch ID: BYL2093						
Total Sulfide	BYL2093-BLK1	ND	mg/L	0.10		

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Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYL1542										
Non-Volatile Organic Carbon	BYL1542-BS1	LCS	5.0720	5.0000	mg/L	101		85 - 115		
QC Batch ID: BYL1549										
Nitrate as NO3	BYL1549-BS1	LCS	22.758	22.134	mg/L	103		90 - 110		
Sulfate	BYL1549-BS1	LCS	104.07	100.00	mg/L	104		90 - 110		
QC Batch ID: BYL1585										
Nitrite as NO2	BYL1585-BS1	LCS	1.6247	1.6425	mg/L	98.9		90 - 110		
QC Batch ID: BYL1993										
Iron (II) Species	BYL1993-BS1	LCS	2584.5	2500.0	ug/L	103		90 - 110		
QC Batch ID: BYL2052										
Total Alkalinity as CaCO3	BYL2052-BS3	LCS	100.26	100.00	mg/L	100		90 - 110		
QC Batch ID: BYL2093										
Total Sulfide	BYL2093-BS1	LCS	0.51015	0.50000	mg/L	102		90 - 110		

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Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYL1542	Used client sample: Y - Description: MW-1-W-151215, 12/15/2015 10:10										
Non-Volatile Organic Carbon	DUP	1532187-01	1.0290	1.0450		mg/L	1.5		10		
	MS	1532187-01	1.0290	6.3910	5.0251	mg/L		107		80 - 120	
	MSD	1532187-01	1.0290	6.3769	5.0251	mg/L	0.2	106	10	80 - 120	
QC Batch ID: BYL1549	Used client sample: Y - Description: MW-1-W-151215, 12/15/2015 10:10										
Nitrate as NO3	DUP	1532187-01	34.321	34.511		mg/L	0.6		10		
	MS	1532187-01	34.321	57.258	22.358	mg/L		103		80 - 120	
	MSD	1532187-01	34.321	57.486	22.358	mg/L	0.4	104	10	80 - 120	
Sulfate	DUP	1532187-01	25.557	25.419		mg/L	0.5		10		
	MS	1532187-01	25.557	133.29	101.01	mg/L		107		80 - 120	
	MSD	1532187-01	25.557	133.57	101.01	mg/L	0.2	107	10	80 - 120	
QC Batch ID: BYL1585	Used client sample: Y - Description: MW-4-W-151215, 12/15/2015 11:35										
Nitrite as NO2	DUP	1532187-04	ND	ND		mg/L			10		
	MS	1532187-04	ND	1.8038	1.7289	mg/L		104		90 - 110	
	MSD	1532187-04	ND	1.7794	1.7289	mg/L	1.4	103	10	90 - 110	
QC Batch ID: BYL1993	Used client sample: Y - Description: MW-1-W-151215, 12/15/2015 10:10										
Iron (II) Species	DUP	1532187-01	ND	ND		ug/L			10		
QC Batch ID: BYL2052	Used client sample: Y - Description: MW-1-W-151215, 12/15/2015 10:10										
Total Alkalinity as CaCO3	DUP	1532187-01	171.91	166.43		mg/L	3.2		10		
QC Batch ID: BYL2093	Used client sample: Y - Description: MW-1-W-151215, 12/15/2015 10:10										
Total Sulfide	DUP	1532187-01	ND	ND		mg/L			10		
	MS	1532187-01	ND	0.42073	0.50000	mg/L		84.1		80 - 120	
	MSD	1532187-01	ND	0.41887	0.50000	mg/L	0.4	83.8	10	80 - 120	

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Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYL1939						
Total Manganese	BYL1939-BLK1	ND	ug/L	10		
QC Batch ID: BYL2035						
Dissolved Iron	BYL2035-BLK2	ND	ug/L	50		

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Metals Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYL1939										
Total Manganese	BYL1939-BS1	LCS	473.20	500.00	ug/L	94.6		85 - 115		
QC Batch ID: BYL2035										
Dissolved Iron	BYL2035-BS2	LCS	924.91	1000.0	ug/L	92.5		85 - 115		

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Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYL1939	Used client sample: N										
Total Manganese	DUP	1532452-01	73.846	76.264		ug/L	3.2		20		
	MS	1532452-01	73.846	535.76	500.00	ug/L		92.4		75 - 125	
	MSD	1532452-01	73.846	537.43	500.00	ug/L	0.3	92.7	20	75 - 125	
QC Batch ID: BYL2035	Used client sample: N										
Dissolved Iron	DUP	1532165-03	ND	ND		ug/L			20		
	MS	1532165-03	ND	899.93	1020.4	ug/L		88.2		75 - 125	
	MSD	1532165-03	ND	891.77	1020.4	ug/L	0.9	87.4	20	75 - 125	

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Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A07	Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
S09	The surrogate recovery on the sample for this compound was not within the control limits.