James P. Kiernan, P.E.
Project Manager

Chevron Environmental Management Company
6001 Bollinger Canyon Road
Room C2102
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jkiernan@chevron.com

January 13, 2017

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

RECEIVED
By Alameda County Environmental Health 11:02 am, Feb 08, 2017

Re: Unocal No. 6129 (351639)
Semi-Annual Status Report – Fourth Quarter 2016
3420 35th Avenue, Oakland, California
Fuel Leak Case No.: RO0000058
GeoTracker Global ID #T0600101465

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

The information in this report is accurate to the best of my knowledge. This report was prepared by Arcadis, upon whose assistance and advice I have relied.

Sincerely,

James P. Kiernan, P.E.
Project Manager

Attachment: Semi-Annual Status Report – Fourth Quarter 2016 by Arcadis

ARCADIS Design & Consultancy for natural and built assets

Arcadis U.S., Inc.
1100 Olive Way
Suite 800
Seattle
WA 98101
Tel 206-726-4720
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ENVIRONMENT

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

Subject:
Semi-Annual Status Report, Fourth Quarter 2016

Date:
January 15, 2017

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (CEMC's) affiliate, Union Oil Company of California (Union Oil), Arcadis has prepared the attached *Semi-Annual Status Report, Fourth Quarter 2016* for the following facility:

Unocal Station No.	**Case No.**	**Location**
6129	RO0000058	3420 35th Avenue Oakland, CA

If you have any questions, please do not hesitate to contact me.

Sincerely,

Arcadis U.S., Inc.

Contact:
Samuel Miles

Phone:
206.726.4720

Email:
Samuel.Miles@arcadis.com

Our ref:
B0035135.1639

Katherine Brandt

PROFESSIONAL GEOLOGIST
KATHERINE BRANDT
No 9132
Expires 3/31/2018
STATE OF CALIFORNIA

Samuel Miles
Project Manager

Katherine Brandt, P.G.
Senior Geologist

Copies:
Geotracker Database
Mr. James Kiernan, CEMC (electronic)
Mr. Ed Ralston, Phillips 66 (electronic)
Son Nguyen & Le Pham, Nguyen/Pham Family Trust, property owner (paper copy)

ARCADIS Design & Consultancy for natural and built assets

SEMI-ANNUAL STATUS REPORT
Fourth Quarter 2016
January 15, 2017

Facility No: Unocal Station No. 6129 Address: 3420 35th Avenue, Oakland, CA

Arcadis Contact Person / Phone No.:	Samuel Miles / (206) 726-4720
Arcadis Project No.:	B0035135.1639
Primary Agency/Regulatory ID No.:	Alameda County Environmental Health (ACEH) / Keith Nowell / Case No. RO0000058

WORK CONDUCTED THIS PERIOD [Fourth Quarter 2016]:

1. Conducted semi-annual groundwater monitoring activities on November 21, 2016.
2. Prepared the *Semi-Annual Status Report, Fourth Quarter 2016*.

WORK PROPOSED NEXT PERIOD [Second Quarter 2017]:

1. If required, conduct semi-annual groundwater monitoring activities in the second quarter 2017.
2. Prepare the *Semi-Annual Status Report, Second Quarter 2017*.

Current Phase of Project:	Monitoring	
Frequency of Monitoring / Sampling:	Semi-Annually	
Are Phase Separate Hydrocarbons (PSH) Present On-site:	No	
Cumulative PSH Recovered to Date:	None	(gallons)
Approximate Depth to Groundwater:	29.58 to 30.81	(feet below top of casing)
Approximate Groundwater Elevation:	159.00 to 160.22	(feet above mean sea
Groundwater Flow Direction	Southwest	
Groundwater Gradient	0.01	(foot per foot)
Current Remediation Techniques:	None	

Permits for Discharge:	None
Summary of Unusual Activity:	None
Agency Directive Requirements:	None

DISCUSSION

Gettler-Ryan Inc. (G-R) conducted semiannual groundwater monitoring activities on November 21, 2016. Field data sheets and general procedures are included as Attachment A. Three (3) monitoring wells (MW-1, MW-2, and MW-3) were gauged, purged and sampled by G-R representatives.

Groundwater samples were submitted to BC Laboratories, Inc. of Bakersfield, California under standard chain-of-custody protocols. Gauging and analytical data obtained by G-R for this event are summarized in Table 1. Historical gauging and analytical data for the site are summarized in Table 2. The site location and layout are presented on Figures 1 and 2, respectively; the groundwater elevation contours for the site on November 21, 2016 are presented on Figure 3. Analytical results are presented on Figure 4. A copy of the laboratory analytical report and chain-of-custody documentation are included as Attachment B.

The direction of groundwater flow, calculated gradient, and analytical results were generally consistent with previous monitoring events. Total petroleum hydrocarbons as gasoline (TPH-g) was detected in MW-2 (140 micrograms per liter [µg/L]) and MW-3 (130 µg/L). No TPH-g was detected in MW-1 for the first time since 2010. No benzene was detected in the wells and with the exception of one event has not been detected at the site. Methyl tertiary butyl ether (MTBE) was detected in wells MW-1, MW-2, and MW-3 at concentrations of 73 µg/L, 270 µg/L, and 430 µg/L, respectively. No other constituents of concern (COCs) were detected in the wells with the exception of a low concentration of di-isopropyl ether (DIPE) in MW-2 (17 µg/L).

The detected concentrations were within the historical ranges and overall are stable to declining. Arcadis recommends continued groundwater monitoring further evaluate groundwater quality and concentration trends. However, the sampling frequency should be reduced to annual.

LIMITATIONS

This report was prepared in accordance with the scope of work outlined in Arcadis' contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of Chevron Environmental Management Company's affiliate, Union Oil Company of California ("Union Oil"), for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Arcadis. To the extent that this report is based on information provided to Arcadis by third parties, Arcadis may have made efforts to verify this third party information, but Arcadis cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied are made by Arcadis.

Date: Janaury 15, 2017

Katherine Brandt, P.G.
Senior Geologist

Date: Janaury 15, 2017

Samuel Miles
Project Manager

TABLES:

FIGURES:

ATTACHMENTS:

TABLES

Table 1. Current Groundwater Gauging and Analytical Results
Union Oil Company of California
Unocal No. 6129 (351639)
3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-1	11/21/2016	24-44	190.79	30.81	159.98	<50	<0.50	<0.50	<0.50	<1.0	**73**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/21/2016	24-44	190.80	30.58	160.22	**140**	<0.50	<0.50	<0.50	<1.0	**270**	<10	<0.50	<0.50	**17**	<0.50	<0.50	<250	
MW-3	11/21/2016	23-43	188.58	29.58	159.00	**130**	<0.50	<0.50	<0.50	<1.0	**430**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Notes:

MW = Groundwater monitoring well
TOC = Top of casing
ft amsl = Feet above mean sea level
DTW = Depth to groundwater
ft bTOC = Feet below top of casing
-- = Not sampled/not measured
ft = Feet
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
Bold = Value exceeds laboratory reporting limits
<0.50 = Not detected at or above the stated limit

TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8260B
Samples analyzed by EPA Method 8260B:
Benzene, toluene, ethylbenzene and total xylenes (collectively BTEX)
MTBE = Methyl tert-butyl ether
TBA = Tert-butanol or tertiary butyl alcohol
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = Tert-amyl methyl ether
Ethanol
Data QA/QC by: EK 12/15/2016

Table 2. Historical Groundwater Gauging and Analytical Results
First Quarter 1990 to Current
Union Oil Company of California
Unocal No. 6129 (351639)
3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-1	1/5/1990	24 - 44	190.79	32.80	157.99	<30	<0.30	<0.30	<0.30	<0.30	**--**	--	--	--	--	--	--	--	
MW-1	5/11/1990	24 - 44	190.79	31.80	158.99	<30	<0.30	**7.1**	<0.30	<0.30	**--**	--	--	--	--	--	--	--	
MW-1	8/9/1990	24 - 44	190.79	32.37	158.42	<30	<0.30	<0.30	<0.30	<0.30	**--**	--	--	--	--	--	--	--	
MW-1	11/14/1990	24 - 44	190.79	33.32	157.47	<30	<0.30	<0.30	<0.30	<0.30	**--**	--	--	--	--	--	--	--	
MW-1	2/12/1991	24 - 44	190.79	33.02	157.77	<30	**0.32**	<0.30	<0.30	<0.30	**--**	--	--	--	--	--	--	--	
MW-1	5/9/1991	24 - 44	190.79	30.95	159.84	<30	<0.30	<0.30	<0.30	<0.30	**--**	--	--	--	--	--	--	--	
MW-1	11/13/2003	24 - 44	190.79	--	--	**180**	<1.0	<1.0	<1.0	<2.0	**240**	<200	<4.0	<4.0	<4.0	<4.0	<4.0	<1,000	
MW-1	8/27/2004	24 - 44	190.79	30.65	160.14	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<1.0	<0.50	<50	
MW-1	11/23/2004	24 - 44	190.79	29.35	161.44	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<1.0	<0.50	<50	
MW-1	2/9/2005	24 - 44	190.79	26.89	163.90	<50	<0.50	<0.50	<0.50	<1.0	**9.3**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
MW-1	5/17/2005	24 - 44	190.79	26.56	164.23	<50	<0.50	<0.50	<0.50	<1.0	**1.9**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
MW-1	7/27/2005	24 - 44	190.79	27.33	163.46	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
MW-1	12/6/2005	24 - 44	190.79	29.59	161.20	<50	<0.50	**0.93**	<0.50	**1.80**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	2/21/2006	24 - 44	190.79	28.27	162.52	<50	<0.50	<0.50	<0.50	<1.0	**2.6**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	6/8/2006	24 - 44	190.79	26.07	164.72	<50	<0.50	<0.50	<0.50	<1.0	**11**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	9/15/2006	24 - 44	190.79	28.86	161.93	<50	<0.50	<0.50	<0.50	<0.50	**1.4**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	12/14/2006	24 - 44	190.79	29.49	161.30	<50	<0.50	<0.50	<0.50	<0.50	**3.5**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	3/28/2007	24 - 44	190.79	27.24	163.55	<50	<0.50	<0.50	<0.50	<0.50	**0.64**	**<10**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	6/25/2007	24 - 44	190.79	28.30	162.49	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	9/22/2007	24 - 44	190.79	30.61	160.18	<50	<0.50	<0.50	<0.50	<0.50	**4.1**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	12/14/2007	24 - 44	190.79	30.30	160.49	<50	<0.50	<0.50	<0.50	<1.0	**0.65**	**<10**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	3/17/2008	24 - 44	190.79	27.22	163.57	<50	<0.50	<0.50	<0.50	<1.0	**14**	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-1	6/20/2008	24 - 44	190.79	30.10	160.69	<50	<0.50	<0.50	<0.50	<1.0	**11**	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-1	9/11/2008	24 - 44	190.79	31.04	159.75	<51	<0.50	<0.50	<0.50	<1.0	**1.3**	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-1	11/25/2008	24 - 44	190.79	30.88	159.91	<50	<0.50	<0.50	<0.50	<1.0	**5.8**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	3/9/2009	24 - 44	190.79	27.50	163.29	<50	<0.50	<0.50	<0.50	<1.0	**25**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	5/28/2009	24 - 44	190.79	28.25	162.54	<50	<0.50	<0.50	<0.50	<1.0	**17**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	12/11/2009	24 - 44	190.79	30.60	160.19	<50	<0.50	<0.50	<0.50	<1.0	**18**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	5/7/2010	24 - 44	190.79	26.06	164.73	**67**	<0.50	<0.50	<0.50	<1.0	**64**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	11/1/2010	24 - 44	190.79	30.18	160.61	<50	<0.50	<0.50	<0.50	<1.0	**92**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	5/27/2011	24 - 44	190.79	26.87	163.92	**110**	<0.50	<0.50	<0.50	<1.0	**220**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	11/23/2011	24 - 44	190.79	29.14	161.65	**1,101**	<0.50	<0.50	<0.50	<1.0	**150**	**41**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	5/24/2012	24 - 44	190.79	26.58	164.21	**140**	<0.50	<0.50	<0.50	<1.0	**190**	**66**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	10/23/2012	24 - 44	190.79	30.51	160.28	**130**	<0.50	<0.50	<0.50	<1.0	**140**	**47**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	5/2/2013	24 - 44	190.79	28.30	162.49	**150**	<0.50	<0.50	<0.50	<1.0	**270**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	11/13/2013	24 - 44	190.79	31.65	159.14	**240**	<0.50	<0.50	<0.50	<1.0	**270**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	5/12/2014	24 - 44	190.79	28.95	161.84	**98**	<0.50	<0.50	<0.50	<1.0	**170**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	11/19/2014	24 - 44	190.79	31.50	159.29	**130**	<0.50	<0.50	<0.50	<1.0	**180**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	6/17/2015	24 - 44	190.79	29.27	161.52	**52**	<0.50	<0.50	<0.50	<1.0	**100**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	12/15/2015	24 - 44	190.79	31.76	159.03	**60**	<0.50	<0.50	<0.50	<1.0	**48**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	6/15/2016	24 - 44	190.79	29.64	161.15	**89**	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-1	11/21/2016	24 - 44	190.79	30.81	159.98	<50	<0.50	<0.50	<0.50	<1.0	**73**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	1/5/1990	24 - 44	190.80	33.02	157.78	<30	<0.30	<0.30	<0.30	<0.30	**--**	**--**	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging and Analytical Results
First Quarter 1990 to Current
Union Oil Company of California
Unocal No. 6129 (351639)
3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-2	5/11/1990	24 - 44	190.80	31.98	158.82	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	8/9/1990	24 - 44	190.80	32.45	158.35	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	11/14/1990	24 - 44	190.80	33.47	157.33	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	2/12/1991	24 - 44	190.80	33.15	157.65	<30	<0.30	**0.42**	<0.30	**0.51**	--	--	--	--	--	--	--	--	
MW-2	5/9/1991	24 - 44	190.80	30.88	159.92	<30	<0.30	<>0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	11/13/2003	24 - 44	190.80	--	--	<2,000	<20	<20	<20	<40	**2,100**	<4,000	<80	<80	<80	<80	<80	<20,000	
MW-2	8/27/2004	24 - 44	190.80	30.28	160.52	**950**	<5.0	<5.0	<5.0	<10	**1,400**	<5.0	<5.0	<5.0	<5.0	**24**	<5.0	<500	
MW-2	11/23/2004	24 - 44	190.80	28.75	162.05	**53**	<0.50	<0.50	<0.50	<1.0	**4**	<5.0	<0.50	<0.50	<0.50	**18**	<0.50	<50	
MW-2	2/9/2005	24 - 44	190.80	26.08	164.72	<500	<0.50	<0.50	<0.50	<1.0	**400**	<5.0	<5.0	<5.0	<5.0	**19**	<5.0	<500	
MW-2	5/17/2005	24 - 44	190.80	24.53	166.27	<50	<0.50	<0.50	<0.50	<1.0	**330**	<5.0	<0.50	<0.50	<0.50	**12**	<0.50	<50	
MW-2	7/27/2005	24 - 44	190.80	27.51	163.29	<500	<5.0	<5.0	<5.0	<10	**580**	**140**	<5.0	<5.0	<5.0	**16**	<5.0	<500	
MW-2	12/6/2005	24 - 44	190.80	29.13	161.67	**340**	<0.50	<0.50	<0.50	<1.0	**780**	**61**	<0.50	<0.50	<0.50	**15**	<0.50	<250	
MW-2	2/21/2006	24 - 44	190.80	29.23	161.57	**190**	<0.50	<0.50	<0.50	<1.0	**340**	<10	<0.50	<0.50	<0.50	**18**	<0.50	<250	
MW-2	6/8/2006	24 - 44	190.80	25.76	165.04	<500	<5.0	<5.0	<5.0	<10	**440**	<100	<5.0	<5.0	<5.0	**14**	<5.0	<2,500	
MW-2	9/15/2006	24 - 44	190.80	29.17	161.63	<500	<5.0	<5.0	<5.0	<5.0	**570**	<100	<5.0	<5.0	<5.0	**17**	<5.0	<2,500	
MW-2	12/14/2006	24 - 44	190.80	29.11	161.69	**520**	<0.50	<0.50	<0.50	<0.50	**770**	**27**	<0.50	<0.50	<0.50	**20**	<0.50	<250	
MW-2	3/28/2007	24 - 44	190.80	26.68	164.12	**290**	<0.50	<0.50	<0.50	<0.50	**460**	**260**	<0.50	<0.50	<0.50	**23**	<0.50	<250	
MW-2	6/25/2007	24 - 44	190.80	25.91	164.89	<50	<0.50	<0.50	<0.50	<0.50	**1.2**	<10	<0.50	<0.50	<0.50	**23**	<0.50	<250	
MW-2	9/22/2007	24 - 44	190.80	30.18	160.62	**400**	<0.50	<0.50	<0.50	<0.50	**530**	<10	<0.50	<0.50	<0.50	**35**	<0.50	<250	
MW-2	12/14/2007	24 - 44	190.80	29.96	160.84	**400**	<0.50	<0.50	<0.50	<1.0	**930**	**48**	<0.50	<0.50	<0.50	**24**	<0.50	<250	
MW-2	3/17/2008	24 - 44	190.80	26.74	164.06	**570**	<5.0	<5.0	<5.0	<10	**630**	<100	<5.0	<5.0	<5.0	**18**	<5.0	<2,500	
MW-2	6/20/2008	24 - 44	190.80	29.78	161.02	**580**	<0.50	<0.50	<0.50	<1.0	**1,200**	<10	<0.50	<0.50	<0.50	**16**	<0.50	<250	
MW-2	9/11/2008	24 - 44	190.80	30.62	160.18	**220**	<0.50	<0.50	<0.50	<1.0	**29**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/25/2008	24 - 44	190.80	30.48	160.32	**500**	<0.50	<0.50	<0.50	<1.0	**1,500**	<10	<0.50	<0.50	<0.50	**19**	<0.50	<250	
MW-2	3/9/2009	24 - 44	190.80	25.75	165.05	**910**	<5.0	<5.0	<5.0	<10	**1,400**	<100	<5.0	<5.0	<5.0	**15**	<5.0	<2,500	
MW-2	5/28/2009	24 - 44	190.80	27.71	163.09	**460**	<0.50	<0.50	<0.50	<1.0	**740**	<10	<0.50	<0.50	<0.50	**20**	<0.50	<250	
MW-2	12/11/2009	24 - 44	190.80	29.80	161.00	**640**	<5.0	<5.0	<5.0	<10	**1,300**	<100	<5.0	<5.0	<5.0	**19**	<5.0	<2,500	
MW-2	5/7/2010	24 - 44	190.80	25.11	165.69	**600**	<1.0	<1.0	<1.0	<2.0	**940**	<20	<1.0	<1.0	<1.0	**14**	<1.0	<500	
MW-2	11/1/2010	24 - 44	190.80	29.90	160.90	**140**	<0.50	<0.50	<0.50	<1.0	**730**	<10	<0.50	<0.50	<0.50	**28**	<0.50	<250	
MW-2	5/27/2011	24 - 44	190.80	26.44	164.36	**560**	<0.50	<0.50	<0.50	<1.0	**1,100**	**210**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/23/2011	24 - 44	190.80	28.53	162.27	**830**	<0.50	<0.50	<0.50	<1.0	**1,500**	**400**	<0.50	<0.50	<0.50	**9**	<0.50	<250	
MW-2	5/24/2012	24 - 44	190.80	25.97	164.83	**1,000**	<0.50	<0.50	<0.50	<1.0	**1,200**	**430**	<0.50	<0.50	<0.50	**8.8**	<0.50	<250	
MW-2	10/23/2012	24 - 44	190.80	30.14	160.66	**750**	<0.50	<0.50	<0.50	<1.0	**1,300**	**420**	<0.50	<0.50	<0.50	**14**	<0.50	<250	
MW-2	5/2/2013	24 - 44	190.80	27.14	163.66	**290**	<0.50	<0.50	<0.50	<1.0	**460**	<10	<0.50	<0.50	**6.2**	<0.50	<0.50	<250	
MW-2	11/13/2013	24 - 44	190.80	31.37	159.43	**1,200**	<0.50	<0.50	<0.50	<1.0	**1,300**	<10	<0.50	<0.50	**17**	<0.50	<0.50	<250	
MW-2	5/12/2014	24 - 44	190.80	28.49	162.31	**260**	<0.50	<0.50	<0.50	<1.0	**510**	**44**	<0.50	<0.50	**12**	<0.50	<0.50	<250	
MW-2	11/19/2014	24 - 44	190.80	31.46	159.34	**430**	<0.50	<0.50	<0.50	<1.0	**980**	<10	<0.50	<0.50	**31**	<0.50	<0.50	<250	
MW-2	6/17/2015	24 - 44	190.80	29.70	161.10	<50	<0.50	<0.50	<0.50	<1.0	**25**	<10	<0.50	<0.50	**3.1**	<0.50	<0.50	<250	
MW-2	12/15/2015	24 - 44	190.80	31.71	159.09	**680**	<0.50	<0.50	<0.50	<1.0	**1,300**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	6/15/2016	24 - 44	190.80	29.35	161.45	<50	<0.50	<0.50	<0.50	<1.0	**<0.50**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/21/2016	24 - 44	190.80	30.58	160.22	**140**	<0.50	<0.50	<0.50	<1.0	**270**	<10	<0.50	<0.50	**17**	<0.50	<0.50	<250	
MW-3	1/5/1990	23-43	188.58	31.88	156.70	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	5/11/1990	23-43	188.58	31.25	157.33	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	8/9/1990	23-43	188.58	31.53	157.05	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging and Analytical Results
First Quarter 1990 to Current
Union Oil Company of California
Unocal No. 6129 (351639)
3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-3	5/9/1991	23-43	188.58	30.37	158.21	<30	<0.30	<0.30	<0.30	<0.30	**--**	--	--	**--**	--	--	--	--	
MW-3	11/13/2003	23-43	188.58	--	--	**2,600**	<20	<20	<20	<40	**3,700**	<4,000	<80	<80	<80	<80	<80	<20,000	
MW-3	8/27/2004	23-43	188.58	29.61	158.97	**1,700**	<10	<10	<10	<20	**2,600**	<100	<10	<10	<10	<20	<10	<1,000	
MW-3	11/23/2004	23-43	188.58	28.48	160.10	**1,500**	<10	<10	<10	<20	**1,800**	<100	<10	<10	<10	<20	<10	<1,000	
MW-3	2/9/2005	23-43	188.58	26.45	162.13	<1,000	<0.50	<0.50	<0.50	<1.0	**2,100**	**130**	<10	<10	<10	<10	<10	<1,000	
MW-3	5/17/2005	23-43	188.58	25.61	162.97	<1,000	<0.50	<0.50	<0.50	<1.0	**1,200**	<100	<10	<10	<10	<10	<10	<1,000	
MW-3	7/27/2005	23-43	188.58	27.35	161.23	<1,000	<10	<10	<10	<20	**1,400**	**360**	<10	<10	<10	<10	<10	<1,000	
MW-3	12/6/2005	23-43	188.58	28.78	159.80	**430**	<0.50	1.6	<0.50	3.6	**1,800**	**160**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	2/21/2006	23-43	188.58	28.91	159.67	**420**	<0.50	<0.50	<0.50	<1.0	**1,100**	**88**	<0.50	<0.50	<0.50	<0.50	0.58	<250	
MW-3	6/8/2006	23-43	188.58	25.97	162.61	<1,200	<12	<12	<12	<25	**1,000**	<250	<12	<12	<12	<12	<12	<6,200	
MW-3	9/15/2006	23-43	188.58	28.73	159.85	<1,200	<12	<12	<12	<12	**1,200**	<250	<12	<12	<12	<12	<12	<6,200	
MW-3	12/14/2006	23-43	188.58	28.62	159.96	<1,000	<10	<10	<10	<10	**1,300**	<200	<10	<10	<10	<10	<10	<5,000	
MW-3	3/28/2007	23-43	188.58	26.69	161.89	**500**	<1.0	<1.0	<1.0	<1.0	**860**	**500**	<1.0	<1.0	<1.0	<1.0	<1.0	<500	
MW-3	6/25/2007	23-43	188.58	26.74	161.84	**270**	<0.50	<0.50	<0.50	<0.50	**570**	**11**	<0.50	0.65	<0.50	<0.50	<0.50	<250	
MW-3	9/22/2007	23-43	188.58	29.57	159.01	**500**	<0.50	<0.50	<0.50	<0.50	**980**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	12/14/2007	23-43	188.58	29.30	159.28	**270**	<0.50	<0.50	<0.50	<1.0	**570**	**26**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	3/17/2008	23-43	188.58	26.82	161.76	**220**	<0.50	<0.50	<0.50	<1.0	**520**	<10	<0.50	0.65	<0.50	<0.50	<0.50	<250	
MW-3	6/20/2008	23-43	188.58	29.10	159.48	**490**	<0.50	<0.50	<0.50	<1.0	**1,300**	**49**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	9/11/2008	23-43	188.58	29.89	158.69	**630**	<5.0	<5.0	<5.0	<10	**1,200**	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<2,500	
MW-3	11/25/2008	23-43	188.58	29.74	158.84	**380**	<0.50	<0.50	<0.50	<1.0	**870**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	3/9/2009	23-43	188.58	25.56	163.02	**310**	<0.50	<0.50	<0.50	<1.0	**720**	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/28/2009	23-43	188.58	27.55	161.03	**410**	<0.50	<0.50	<0.50	<1.0	**750**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	12/11/2009	23-43	188.58	29.10	159.48	**220**	<0.50	<0.50	<0.50	<1.0	**620**	**63**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/7/2010	23-43	188.58	25.72	162.86	**360**	<0.50	<0.50	<0.50	<1.0	**660**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/1/2010	23-43	188.58	29.29	159.29	**120**	<0.50	<0.50	<0.50	<1.0	**490**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/27/2011	23-43	188.58	26.53	162.05	**340**	<0.50	<0.50	<0.50	<1.0	**890**	**73**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/24/2012	23-43	188.58	25.95	162.63	**660**	<0.50	<0.50	<0.50	<1.0	**1,100**	**300**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	10/23/2012	23-43	188.58	29.39	159.19	**480**	<0.50	<0.50	<0.50	<1.0	**500**	**160**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/2/2013	23-43	188.58	26.98	161.60	**130**	<0.50	<0.50	<0.50	<1.0	**220**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/13/2013	23-43	188.58	30.28	158.30	**110**	<0.50	<0.50	<0.50	<1.0	**100**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/12/2014	23-43	188.58	27.93	160.65	**98**	<0.50	<0.50	<0.50	<1.0	**160**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/19/2014	23-43	188.58	30.22	158.36	**180**	<0.50	<0.50	<0.50	<1.0	**250**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	6/17/2015	23-43	188.58	28.75	159.83	**220**	<0.50	<0.50	<0.50	<1.0	**570**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	12/15/2015	23-43	188.58	30.45	158.13	**220**	<0.50	<0.50	<0.50	<1.0	**240**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	6/15/2016	23-43	188.58	28.64	159.94	**550**	<0.50	<0.50	<0.50	<1.0	**680**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/21/2016	23-43	188.58	29.58	159.00	**130**	<0.50	<0.50	<0.50	<1.0	**430**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Notes:
MW = Groundwater monitoring well
TOC = Top of casing
ft amsl = Feet above mean sea level
DTW = Depth to groundwater
ft bTOC = Feet below top of casing
PSH = Phase separate hydrocarbons
ft = Feet
-- = Not sampled/not measured
GW Elev = Groundwater elevation

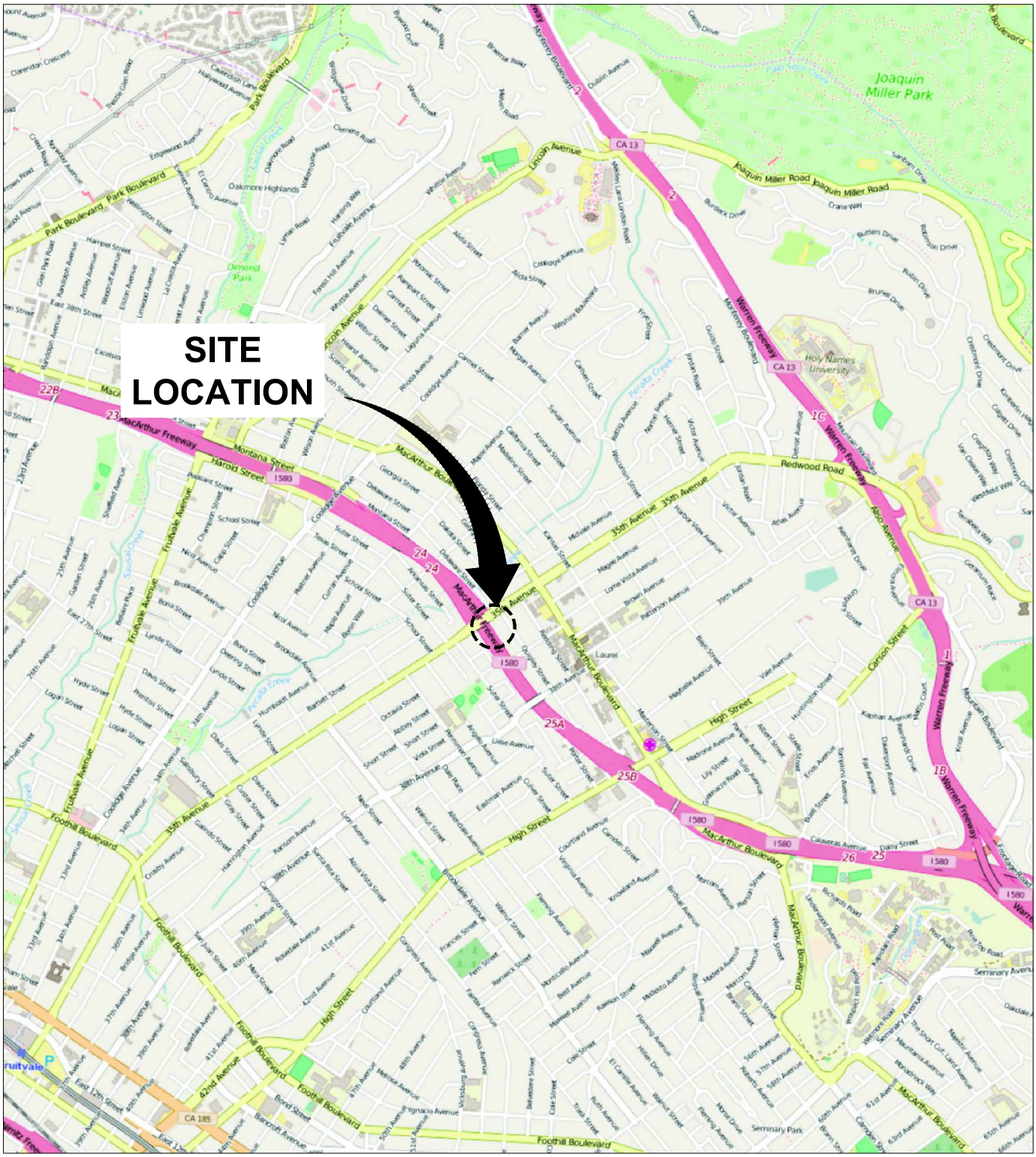
TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8260B
Samples analyzed by EPA Method 8260B:
Benzene, toluene, ethylbenzene, and total xylenes (collectively BTEX)
MTBE = Methyl tert-butyl ether
TBA = Tert-butanol or tertiary butyl alcohol
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether

Table 2. Historical Groundwater Gauging and Analytical Results
First Quarter 1990 to Current
Union Oil Company of California
Unocal No. 6129 (351639)
3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments

ft = Feet
-- = Not sampled/not measured
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
Bold = Value exceeds laboratory reporting limits
<0.50 = Not detected at or above the stated limit
EDC = 1,2-Dichloroethane
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = Tert-amyl methyl ether
Ethanol
J = Estimated value (between laboratory reporting limit and method detection li Data QA/QC by: EK 12/22/16

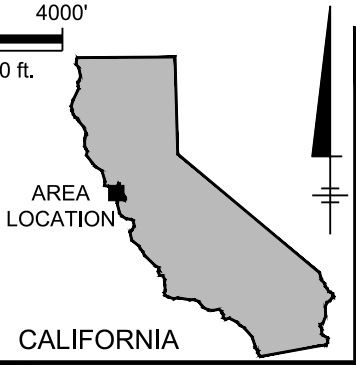
FIGURES



SOURCE: OpenStreetMap (and) contributors, CC-BY-SA

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

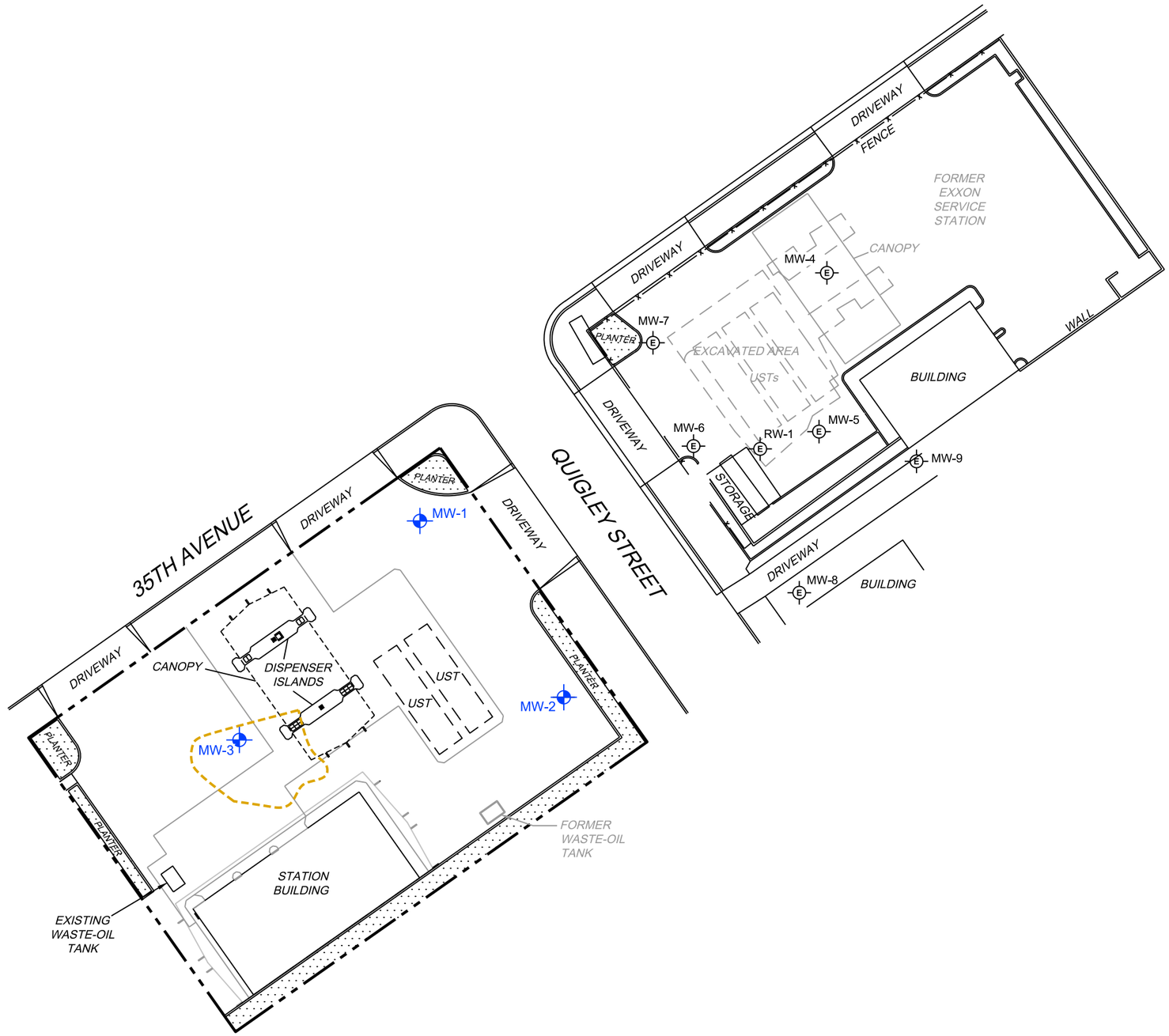


UNOCAL No. 6129 (351639)
3420 35TH AVENUE
OAKLAND, CALIFORNIA

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1



NORTH

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- MW-1 GROUNDWATER MONITORING WELL
- MW-4 (E) FORMER EXXON SERVICE STATION MONITORING WELL
- 1991 EXCAVATION BOUNDARY
- UST UNDERGROUND STORAGE TANK

0 40' 80'

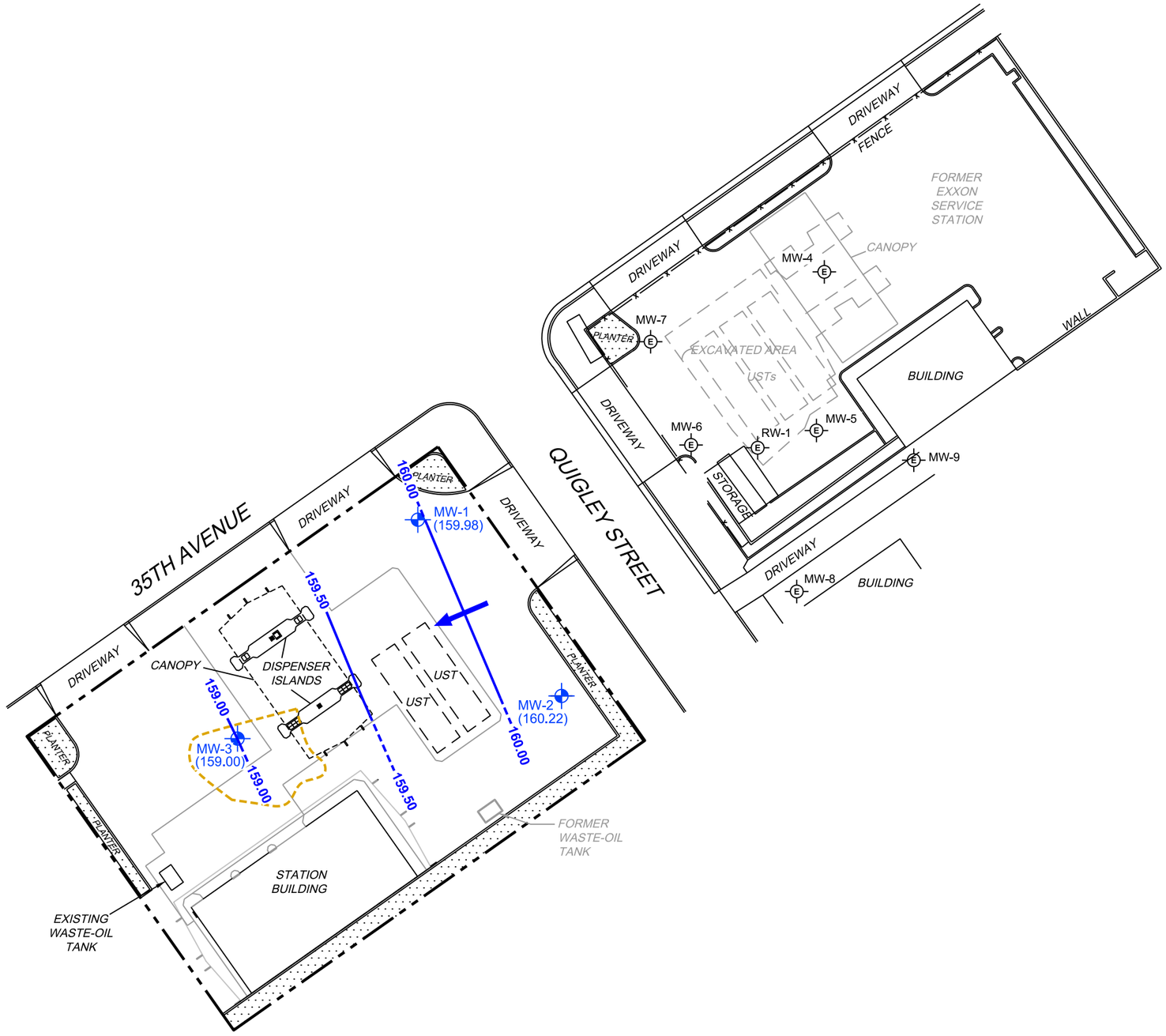
Approximate Scale: 1 in. = 40 ft.

UNOCAL No. 6129 (351639)
3420 35TH AVENUE
OAKLAND, CALIFORNIA

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2



NORTH

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- MW-1 — GROUNDWATER MONITORING WELL
- MW-4 (E) — FORMER EXXON SERVICE STATION MONITORING WELL
- 1991 EXCAVATION BOUNDARY
- UST — UNDERGROUND STORAGE TANK
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW (APPROXIMATE GRADIENT = 0.01 FOOT/FOOT)
- 159.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (159.98) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

0 40' 80'

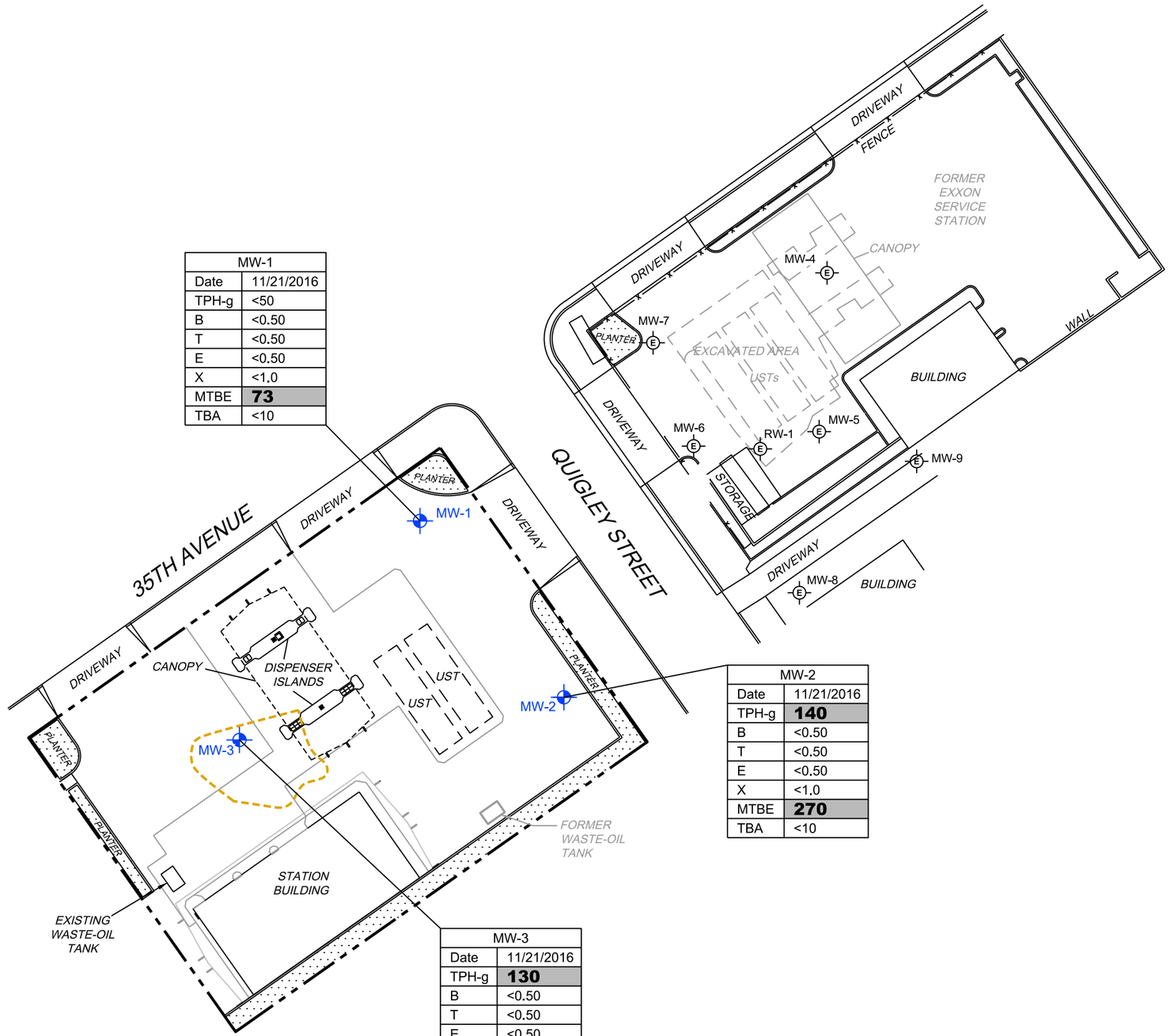
Approximate Scale: 1 in. = 40 ft.

UNOCAL No. 6129 (351639)
3420 35TH AVENUE
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP NOVEMBER 21, 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3



MW-1	
Date	11/21/2016
TPH-g	<50
B	<0.50
T	<0.50
E	<0.50
X	<1.0
MTBE	**73**
TBA	<10

MW-2	
Date	11/21/2016
TPH-g	**140**
B	<0.50
T	<0.50
E	<0.50
X	<1.0
MTBE	**270**
TBA	<10

MW-3	
Date	11/21/2016
TPH-g	**130**
B	<0.50
T	<0.50
E	<0.50
X	<1.0
MTBE	**430**
TBA	<10

NORTH

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- MW-1 — GROUNDWATER MONITORING WELL
- MW-4 (E) — FORMER EXXON SERVICE STATION MONITORING WELL
- 1991 EXCAVATION BOUNDARY
- UST — UNDERGROUND STORAGE TANK
- (<0.50) — NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMIT
- (µg/L) — MICROGRAMS PER LITER
- **BOLD** — VALUE EXCEEDS LABORATORY REPORTING LIMITS

SAMPLE ID	
Date	SAMPLE COLLECTION DATE
TPH-g	TOTAL PETROLEUM HYDROCARBONS, GASOLINE RANGE (µg/L)
B	BENZENE (µg/L)
T	TOLUENE (µg/L)
E	ETHYLBENZENE (µg/L)
X	TOTAL XYLENES (µg/L)
MTBE	METHYL TERT-BUTYL ETHER (µg/L)
TBA	TERTIARY BUTYL ALCOHOL (µg/L)

0 40' 80'

Approximate Scale: 1 in. = 40 ft.

UNOCAL No. 6129 (351639)
3420 35TH AVENUE
OAKLAND, CALIFORNIA

SECOND SEMI-ANNUAL GROUNDWATER ANALYTICAL MAP 2016

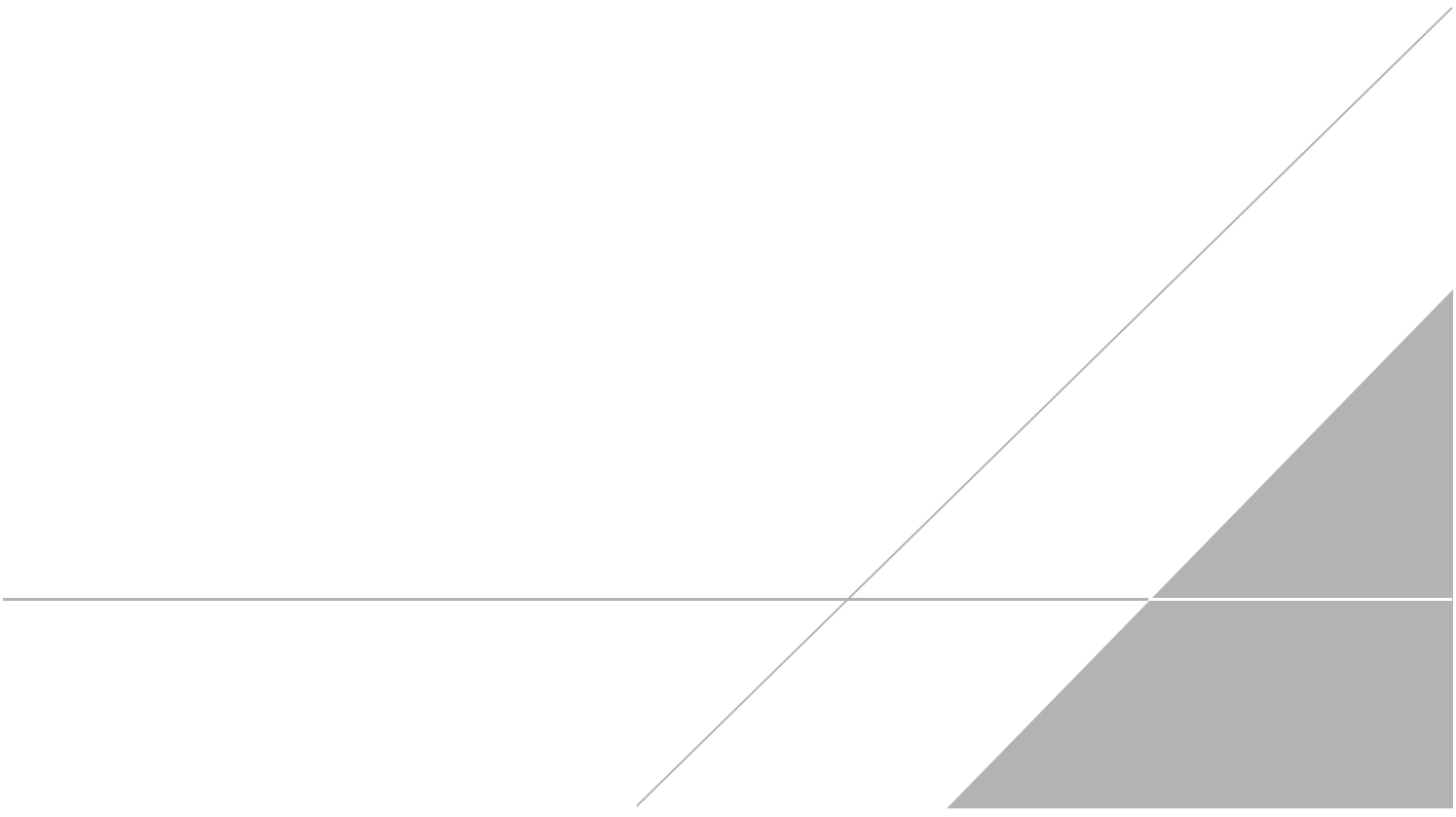
ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

CITY:EMERYVILLE, CA DIV/GROUP:ENV/CAD DB:A.REYES
G:\ENV\CAD\Emeryville\ACTIB\0035135\1639\001AR\1stSemiAnn2016\DWG\B0035135-1639 W04.dwg LAYOUT: 4 SAVED: 12/15/2016 3:20 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 12/15/2016 3:27 PM BY: REYES, ALEC
XREFS: IMAGES: PROJECTNAME: ---
X-351639-Sitebase

ATTACHMENT A

Field Data Sheets and General Procedures



GETTLER-RYAN INC.

TRANSMITTAL

November 28, 2016
G-R #385640

TO: Mr. Samuel Miles
Arcadis
1100 Olive Way, Suite 800
Seattle, Washington 98101

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

RE: Chevron Facility
#351639/6129
3420 35th Avenue
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **Second Semi-Annual Event of November 21, 2016**

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/351639 6129

WELL CONDITION STATUS SHEET

Client/
Facility #: **Chevron #351639 / 6129**

Site Address: **3420 35Th Avenue**

City: **Oakland, CA**

Job #: **385640**

Event Date: 11.21.16

Sampler: FT

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			1 Broken Bolt in Flange	OK						
MW-3	OK			S=2	OK						

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. Total well depths are measured annually.

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 #351639 / 6129 Job Number: 385640
Site Address: 3420 35Th Avenue Event Date: 11.21.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-1 Date Monitored: 11.21.16
Well Diameter 2 in.
Total Depth 43.27 ft.
Depth to Water 30.81 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.

12.46 xVF .17 = 2.11 x3 case volume = Estimated Purge Volume: 6.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 33.30

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): 1100 Weather Conditions: SUNNY / CLOUDY
Sample Time/Date: 1120 / 11.21.16 Water Color: BRN. Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 30.85

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS/ mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1104	2.0	7.41	694	18.8	PRE: 2.1	PRE: 116
1108	4.0	7.43	699	19.0	2.0	120
1112	6.0	7.45	705	19.3	2.0	123
					1.9	128

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	3 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)

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 #351639 / 6129 Job Number: 385640
Site Address: 3420 35Th Avenue Event Date: 11.21.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-2 Date Monitored: 11.21.16
Well Diameter 2 in.
Total Depth 43.56 ft.
Depth to Water 30.58 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

12.98 xVF .17 = 2.20 x3 case volume = Estimated Purge Volume: 7.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 33.17

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): 1135 Weather Conditions: SUNNY | CLOUDY
Sample Time/Date: 1200 / 11.21.16 Water Color: BRN. Odor: Y / (N)
Approx. Flow Rate: / gpm. Sediment Description: SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 30.62

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1140	2.5	7.27	751	19.3	PRE: 1.8	PRE: 121
1145	5.0	7.30	758	19.5	1.8	125
1149	7.0	7.32	764	19.8	1.7	129
					1.6	132

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	3 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)

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 #351639 / 6129 Job Number: 385640
Site Address: 3420 35Th Avenue Event Date: 11.21.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-3 Date Monitored: 11.21.16
Well Diameter 2 in.
Total Depth 39.44 ft.
Depth to Water 29.58 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

9.86 xVF .17 = 1.67 x3 case volume = Estimated Purge Volume: 5.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 31.55

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): 1215 Weather Conditions: SUNNY | CLOUDY
Sample Time/Date: 1235 / 11.21.16 Water Color: LT. BRN. Odor: Y / (N)
Approx. Flow Rate: ✓ gpm. Sediment Description: S. SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 29.62

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1218	1.5	7.50	487	19.4	PRE: 1.9	PRE: 110
1221	3.0	7.52	491	19.6	1.9	114
1225	5.0	7.54	496	19.9	1.8	118
					1.8	122

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	3 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)

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: 6129	Union Oil Consultant: ARCADIS
Site Global ID: T0600101465	Consultant Contact: SAMUEL MILES
Site Address: 3420 35th AVE OAKLAND, CA	Consultant Phone No.: (206) 726-4720
	Sampling Company: GETTLER-RYAN
Union Oil PM: JAMES P. KIERNAN	Sampled By (PRINT): FRANK TERRANOVA
Union Oil PM Phone No.: (925) 842-3220	Sampler Signature:
Charge Code: NWRTB-0 351639 -0- LAB	BC Laboratories, Inc.
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**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/MS	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] with OXYS (5)							Notes / Comments
QA	W-S-A		16·11·21		2		X	X									
MW-1	W-S-A			1120	3		X	X		X							
MW-2	W-S-A			1200	3		X	X		X							
MW-3	W-S-A			1233	3		X	X		X							
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
	6-12 Inc	16·11·21 (1415)		GTEL	11-21-16 1415			
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FEDEX		11-21-16 1415		BC Lab	11-21-16 1445			

ATTACHMENT B

Laboratory Report and Chain-of-Custody Documentation

Date of Report: 11/29/2016

Samuel Miles

Arcadis
1100 Olive Way, Suite 800
Seattle, WA 98102

Client Project:	351639
BCL Project:	6129
BCL Work Order:	1632640
Invoice ID:	B252962

Enclosed are the results of analyses for samples received by the laboratory on 11/21/2016. 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

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

Union Oil Site ID: 6129	Union Oil Consultant: ARCADIS
Site Global ID: T0600101465	Consultant Contact: SAMUEL MILES
Site Address: 3420 35th AVE, OAKLAND, CA	Consultant Phone No.: (206) 726-4720
	Sampling Company: GETTLER-RYAN
Union Oil PM: JAMES P. KIERNAN	Sampled By (PRINT): FRANK TERMINONI
Union Oil PM Phone No.: (925) 842-3220	Sampler Signature:
Charge Code: NWRTB-0 351639 -0- LAB 16-32640	BC Laboratories, Inc.
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**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/MS	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] with OXYS (18)							Notes / Comments
-1 QA	W-S-A		16.11.21		2		X	X									
-2 MW-1	W-S-A			1120	3		X	X		X							
-3 MW-2	W-S-A			1200	3		X	X		X							
-4 MW-3	W-S-A			1233	3		X	X		X							
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

CHK BY DISTRIBUTION SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
	G-R INC.	16.11.21 (1415)		GRINC	11-21-16 1445	Gary Bogan	BCLab	11-21-16 1830
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FRIDGE		11-21-16 1415	Gary Bogan	BCLab	11-21-16 1445		BCLAB	11/21/16 18:30

REL. 11/21/16 2000 BCLAB 11/21 2000

Chain of Custody and Cooler Receipt Form for 1632640 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page ___ Of ___

Submission #: 16-32640

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)___	(W) / S

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: 0.98 Container: PE Thermometer ID: 207

Temperature: (A) 1.2 °C / (C) 1.3 °C

Date/Time 11/21/16 1340

Analyst Init GBD

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	AB									
40ml VOA VIAL		ABC	ABC	ABC						
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
0 ml VOA VIAL- 504										
PT EPA 508/608/8080										
PT EPA 515.1/8150										
T EPA 525										
T EPA 525 TRAVEL BLANK										
ml EPA 547										
ml EPA 531.1										
z EPA 548										
T EPA 549										
T EPA 8015M										
T EPA 8270										
z / 16oz / 32oz AMBER										
z / 16oz / 32oz JAR										
IL SLEEVE										
B VIAL										
ASTIC BAG										
DLAR BAG										
RROUS IRON										
CORE										
ART KIT										
MA CANISTER										

ments:___

ple Numbering Completed By: M Date/Time: 11-21-16 2345 Rev 21 05/23/2016

Date of Report: 11/29/2016

Samuel Miles

Arcadis
1100 Olive Way, Suite 800
Seattle, WA 98102

Client Project:	351639
BCL Project:	6129
BCL Work Order:	1632640
Invoice ID:	B252962

Enclosed are the results of analyses for samples received by the laboratory on 11/21/2016. 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

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Union Oil PM Phone No.: (925) 842-3220	Sampler Signature:
Charge Code: NWRTB-0 351639 -0- LAB 16-32640	BC Laboratories, Inc.
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**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/MS	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] with OXYS (18)							Notes / Comments
-1 QA	W-S-A		16.11.21		2		X	X									
-2 MW-1	W-S-A			1120	3		X	X		X							
-3 MW-2	W-S-A			1200	3		X	X		X							
-4 MW-3	W-S-A			1233	3		X	X		X							
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

CHK BY DISTRIBUTION SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
	G-R INC.	16.11.21 (1415)		GRINC	11-21-16 1445	Gary Bogan	BCLab	11-21-16 1830
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FRIDGE		11-21-16 1415	Gary Bogan	BCLab	11-21-16 1445		BCLAB	11/21/16 18:30

REL. 11/21/16 2000 BCLAB 11/21 2000

Chain of Custody and Cooler Receipt Form for 1632640 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page ___ Of ___

Submission #: 16-32640

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)___	(W) / S

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: 0.98 Container: PE Thermometer ID: 207

Temperature: (A) 1.2 °C / (C) 1.3 °C

Date/Time 11/21/16 1340

Analyst Init GBD

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
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4oz / 8oz / 16oz PE UNPRES										
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PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	AB									
40ml VOA VIAL		ABC	ABC	ABC						
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
0 ml VOA VIAL- 504										
PT EPA 508/608/8080										
PT EPA 515.1/8150										
T EPA 525										
T EPA 525 TRAVEL BLANK										
ml EPA 547										
ml EPA 531.1										
z EPA 548										
T EPA 549										
T EPA 8015M										
T EPA 8270										
z / 16oz / 32oz AMBER										
z / 16oz / 32oz JAR										
IL SLEEVE										
B VIAL										
ASTIC BAG										
DLAR BAG										
RROUS IRON										
CORE										
ART KIT										
MA CANISTER										

ments:___

ple Numbering Completed By: M Date/Time: 11-21-16 2345 Rev 21 05/23/2016

Arcadis
1100 Olive Way, Suite 800
Seattle, WA 98102

Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1632640-01	**COC Number:**	---	**Receive Date:**	11/21/2016 22:00
	Project Number:	6129	**Sampling Date:**	11/21/2016 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-161121	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Blank Water
	Delivery Work Order:			
	Global ID: T0600101465			
	Location ID (FieldPoint): QA			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1632640-02	**COC Number:**	---	**Receive Date:**	11/21/2016 22:00
	Project Number:	6129	**Sampling Date:**	11/21/2016 11:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-1-W-161121	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101465			
	Location ID (FieldPoint): MW-1			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1632640-03	**COC Number:**	---	**Receive Date:**	11/21/2016 22:00
	Project Number:	6129	**Sampling Date:**	11/21/2016 12:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-2-W-161121	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101465			
	Location ID (FieldPoint): MW-2			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information

1632640-04

COC Number: ---
Project Number: 6129
Sampling Location: ---
Sampling Point: MW-3-W-161121
Sampled By: GRD

Receive Date: 11/21/2016 22:00
Sampling Date: 11/21/2016 12:33
Sample Depth: ---
Lab Matrix: Water
Sample Type: Water
Delivery Work Order:
Global ID: T0600101465
Location ID (FieldPoint): MW-3
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

Date of Report: 11/29/2016

Samuel Miles

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1100 Olive Way, Suite 800
Seattle, WA 98102

Client Project:	351639
BCL Project:	6129
BCL Work Order:	1632640
Invoice ID:	B252962

Enclosed are the results of analyses for samples received by the laboratory on 11/21/2016. 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: 6129	Union Oil Consultant: ARCADIS
Site Global ID: T0600101465	Consultant Contact: SAMUEL MILES
Site Address: 3420 35th AVE, OAKLAND, CA	Consultant Phone No.: (206) 726-4720
	Sampling Company: GETTLER-RYAN
Union Oil PM: JAMES P. KIERNAN	Sampled By (PRINT): FRANK TERMINONI
Union Oil PM Phone No.: (925) 842-3220	Sampler Signature:
Charge Code: NWRTB-0 351639 -0- LAB 16-32640	BC Laboratories, Inc.
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**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/MS	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] with OXYS (18)							Notes / Comments
-1 QA	W-S-A		16.11.21		2		X	X									
-2 MW-1	W-S-A			1120	3		X	X		X							
-3 MW-2	W-S-A			1200	3		X	X		X							
-4 MW-3	W-S-A			1233	3		X	X		X							
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

CHK BY DISTRIBUTION SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
	G-R INC.	16.11.21 (1415)		GRINC	11-21-16 1445	Gary Bogan	BCLab	11-21-16 1830
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FRIDGE		11-21-16 1415	Gary Bogan	BCLab	11-21-16 1445		BCLAB	11/21/16 18:30

REL. 11/21/16 2000 BCLAB 11/21 2000

Chain of Custody and Cooler Receipt Form for 1632640 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page ___ Of ___

Submission #: 16-32640

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)___	(W) / S

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: 0.98 Container: PE Thermometer ID: 207

Temperature: (A) 1.2 °C / (C) 1.3 °C

Date/Time 11/21/16 1340

Analyst Init GBD

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	AB									
40ml VOA VIAL		ABC	ABC	ABC						
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
0 ml VOA VIAL- 504										
PT EPA 508/608/8080										
PT EPA 515.1/8150										
T EPA 525										
T EPA 525 TRAVEL BLANK										
ml EPA 547										
ml EPA 531.1										
z EPA 548										
T EPA 549										
T EPA 8015M										
T EPA 8270										
z / 16oz / 32oz AMBER										
z / 16oz / 32oz JAR										
IL SLEEVE										
B VIAL										
ASTIC BAG										
DLAR BAG										
RROUS IRON										
CORE										
ART KIT										
MA CANISTER										

ments:___

ple Numbering Completed By: M Date/Time: 11-21-16 2345 Rev 21 05/23/2016

Arcadis
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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1632640-01	**COC Number:**	---	**Receive Date:**	11/21/2016 22:00
	Project Number:	6129	**Sampling Date:**	11/21/2016 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-161121	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Blank Water
	Delivery Work Order:			
	Global ID: T0600101465			
	Location ID (FieldPoint): QA			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1632640-02	**COC Number:**	---	**Receive Date:**	11/21/2016 22:00
	Project Number:	6129	**Sampling Date:**	11/21/2016 11:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-1-W-161121	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101465			
	Location ID (FieldPoint): MW-1			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1632640-03	**COC Number:**	---	**Receive Date:**	11/21/2016 22:00
	Project Number:	6129	**Sampling Date:**	11/21/2016 12:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-2-W-161121	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101465			
	Location ID (FieldPoint): MW-2			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information

1632640-04

COC Number: ---
Project Number: 6129
Sampling Location: ---
Sampling Point: MW-3-W-161121
Sampled By: GRD

Receive Date: 11/21/2016 22:00
Sampling Date: 11/21/2016 12:33
Sample Depth: ---
Lab Matrix: Water
Sample Type: Water
Delivery Work Order:
Global ID: T0600101465
Location ID (FieldPoint): MW-3
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1632640-01 | **Client Sample Name:** 6129, QA-W-161121, 11/21/2016 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
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/23/16	11/23/16 12:58	IO1	MS-V12	1	BZK1895

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1632640-02 | **Client Sample Name:** 6129, MW-1-W-161121, 11/21/2016 11:20:00AM

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	**73**	**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
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/23/16	11/23/16 13:52	IO1	MS-V12	1	BZK1895

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1632640-03 | **Client Sample Name:** 6129, MW-2-W-161121, 11/21/2016 12:00:00PM

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	**270**	**ug/L**	**12**		**EPA-8260B**	ND	**A01**	2
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	**17**	**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
Total Purgeable Petroleum Hydrocarbons	**140**	**ug/L**	**50**		**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	99.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/23/16	11/23/16 14:10	IO1	MS-V12	1	BZK1895
2	EPA-8260B	11/23/16	11/23/16 21:19	IO1	MS-V10	25	BZK2210

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1632640-04 | **Client Sample Name:** 6129, MW-3-W-161121, 11/21/2016 12:33:00PM

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	**430**	**ug/L**	**12**		**EPA-8260B**	ND	**A01**	2
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
Total Purgeable Petroleum Hydrocarbons	**130**	**ug/L**	**50**		**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	98.5	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	99.7	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	96.5	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/23/16	11/23/16 14:28	IO1	MS-V12	1	BZK1895
2	EPA-8260B	11/23/16	11/23/16 21:38	IO1	MS-V10	25	BZK2210

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Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

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: BZK1895						
Benzene	BZK1895-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BZK1895-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BZK1895-BLK1	ND	ug/L	0.50		
Ethylbenzene	BZK1895-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BZK1895-BLK1	ND	ug/L	0.50		
Toluene	BZK1895-BLK1	ND	ug/L	0.50		
Total Xylenes	BZK1895-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BZK1895-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BZK1895-BLK1	ND	ug/L	10		
Diisopropyl ether	BZK1895-BLK1	ND	ug/L	0.50		
Ethanol	BZK1895-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BZK1895-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BZK1895-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	**BZK1895-BLK1**	**104**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BZK1895-BLK1**	**99.4**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BZK1895-BLK1**	**103**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: BZK2210						
Methyl t-butyl ether	BZK2210-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BZK2210-BLK1**	**103**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BZK2210-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BZK2210-BLK1**	**107**	%	**80 - 120 (LCL - UCL)**		

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Seattle, WA 98102

Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

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: BZK1895										
Benzene	BZK1895-BS1	LCS	23.530	25.000	ug/L	94.1		70 - 130		
Toluene	BZK1895-BS1	LCS	24.330	25.000	ug/L	97.3		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BZK1895-BS1	LCS	10.250	10.000	ug/L	102		75 - 125		
Toluene-d8 (Surrogate)	BZK1895-BS1	LCS	10.270	10.000	ug/L	103		80 - 120		
4-Bromofluorobenzene (Surrogate)	BZK1895-BS1	LCS	10.080	10.000	ug/L	101		80 - 120		
QC Batch ID: BZK2210										
1,2-Dichloroethane-d4 (Surrogate)	BZK2210-BS1	LCS	10.400	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	BZK2210-BS1	LCS	9.4600	10.000	ug/L	94.6		80 - 120		
4-Bromofluorobenzene (Surrogate)	BZK2210-BS1	LCS	10.840	10.000	ug/L	108		80 - 120		

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Seattle, WA 98102

Reported: 11/29/2016 15:58
Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

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: BZK1895	Used client sample: N										
Benzene	MS	1632299-09	ND	25.290	25.000	ug/L		101		70 - 130	
	MSD	1632299-09	ND	26.650	25.000	ug/L	5.2	107	20	70 - 130	
Toluene	MS	1632299-09	ND	26.240	25.000	ug/L		105		70 - 130	
	MSD	1632299-09	ND	28.170	25.000	ug/L	7.1	113	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1632299-09	ND	9.8800	10.000	ug/L		98.8		75 - 125	
	MSD	1632299-09	ND	9.7900	10.000	ug/L	0.9	97.9		75 - 125	
Toluene-d8 (Surrogate)	MS	1632299-09	ND	10.220	10.000	ug/L		102		80 - 120	
	MSD	1632299-09	ND	10.190	10.000	ug/L	0.3	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1632299-09	ND	10.590	10.000	ug/L		106		80 - 120	
	MSD	1632299-09	ND	10.260	10.000	ug/L	3.2	103		80 - 120	
QC Batch ID: BZK2210	Used client sample: N										
1,2-Dichloroethane-d4 (Surrogate)	MS	1632299-20	ND	9.9000	10.000	ug/L		99.0		75 - 125	
	MSD	1632299-20	ND	9.9600	10.000	ug/L	0.6	99.6		75 - 125	
Toluene-d8 (Surrogate)	MS	1632299-20	ND	9.7000	10.000	ug/L		97.0		80 - 120	
	MSD	1632299-20	ND	9.9300	10.000	ug/L	2.3	99.3		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1632299-20	ND	10.910	10.000	ug/L		109		80 - 120	
	MSD	1632299-20	ND	9.6000	10.000	ug/L	12.8	96.0		80 - 120	

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Project: 6129
Project Number: 351639
Project Manager: Samuel Miles

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A01	Detection and quantitation limits are raised due to sample dilution.