James P. Kiernan, P.E.
Project Manager

Chevron Environmental Management Company
6001 Bollinger Canyon Road
Room C2102
San Ramon, CA 94583
Tel (925) 842-3220
jkiernan@chevron.com

January 11, 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 9:43 am, Feb 15, 2017

Re: Unocal No. 5781 (351640)
Quarterly Status Report-Fourth Quarter 2016
3535 Pierson Street, Oakland, California
Fuel Leak Case No.: RO0000253
GeoTracker Global ID #T0600101467

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: Quarterly Status Report-Fourth Quarter 2016 by Arcadis

Arcadis U.S., Inc.
2999 Oak Road
Suite 300
Walnut Creek
CA 94597
Tel 408-797-2013
Fax 925-274-1103
www.arcadis-us.com

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:
Quarterly Status Report, Fourth Quarter 2016

Date:
January 15, 2017

Contact:
Tamera Rogers

Phone:
408.797.2013

Email:
Tamera.Rogers@arcadis.com

Our ref:
B0035135.1640

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 *Quarterly Status Report, Fourth Quarter 2016* for the following facility:

76 Station No.	**Case No.**	**Location**
Unocal #5781	RO0000253	3535 Pierson Street Oakland, CA

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

Sincerely,

Arcadis U.S., Inc.

Tamera Rogers
Project Manager

Katherine Brandt, P.G.
Senior Geologist

Copies:
Geotracker Database
Mr. James Kiernan, CEMC (electronic)
Dr. Delong Liu, United Brothers Enterprise Inc. (2501 North Main Street, Walnut Creek, CA 94597)
Mr. Ed Ralston, Phillips 66 (electronic)

ARCADIS Design & Consultancy for natural and built assets

QUARTERLY STATUS REPORT
Fourth Quarter 2016
Janaury 15, 2017

Facility No:	Unocal #5781	Address:	3535 Pierson Street, Oakland, CA

Arcadis Contact Person / Phone No.:	Tamera Rogers / (408) 797-2013
Arcadis Project No.:	B0035135.1640
Primary Agency/Regulatory ID No.:	Alameda County LOP Case # RO0000253: Keith Nowell / San Francisco Bay RWQCB (Region 2) – Case # 01-1592

WORK CONDUCTED THIS QUARTER [Fourth Quarter 2016]:

1. Conducted quarterly groundwater monitoring activities on November 23, 2016.
2. Prepared the *Quarterly Status Report, Fourth Quarter 2016*.

WORK PROPOSED NEXT HALF [First Quarter/Half 2017]:

1. Conduct semi-annual groundwater monitoring activities.
2. Prepare the *Semi-Annual Status Report, First Half 2017*.
3. Submit an *Offsite Investigation Work Plan*.

Current Phase of Project:	Monitoring/assessment	
Frequency of Monitoring / Sampling:	Semi-Annual	
Are Phase Separate Hydrocarbons (PSH) Present On-site:	No	
Cumulative PSH Recovered to Date:	None	(gallons)
Approximate Depth to Groundwater:	11.46 to 18.09	(feet below top of casing)
Approximate Groundwater Elevation:	136.70 to 143.16	(feet above mean sea level)
Groundwater Flow Direction	Southwest	
Groundwater Gradient	0.12	(foot per foot)

Current Remediation Techniques:	None
Permits for Discharge:	N/A
Summary of Unusual Activity:	N/A
Agency Directive Requirements:	None

DISCUSSION

Gettler-Ryan, Inc. (G-R) conducted quarterly groundwater monitoring activities on November 23, 2016. Field data sheets and general procedures are included as Attachment A. Seven (7) monitoring wells (MW-A and MW-4 through MW-9) 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 and Table 3 (Attachment B). The site location map and site plan are presented as Figures 1 and 2, respectively; the groundwater elevation contour map for the site on November 23, 2016 is presented as Figure 3. Isoconcentration contours for total petroleum hydrocarbons as gasoline (TPH-g), benzene, methyl tertiary butyl ether and tertiary butyl alcohol (TBA) are presented on Figures 4 through 7, respectively. Groundwater flow direction rose diagrams are presented on Figures 8 (AECOM events) and 9 (Arcadis events). A copy of the laboratory analytical report and chain-of-custody documentation are included as Attachment C.

The direction of groundwater flow, calculated gradient, and analytical results were generally consistent with previous monitoring events. Residual dissolved petroleum hydrocarbons are primarily limited to on-site monitoring well MW-5, and overall are declining. Analytical results indicated that total petroleum hydrocarbons as diesel (TPH-d) (4,300 micrograms per liter [µg/L]), TPH-g (10,000 µg/L), toluene (0.99 µg/L), ethylbenzene (89 µg/L), and total xylenes (260 µg/L) were detected in the groundwater sample collected from MW-5. The detected concentrations were within the historical ranges. A low concentration of TBA (47 µg/L) was detected in the groundwater sample collected from MW-A. TBA has not historically been detected in the site wells with the exception of the June 2011, August 2011, April 2014, and August 2016 sampling events when TBA was detected at concentrations of 150 µg/L, 44 µg/L, 310 µg/L, and 180 µg/L in MW-5, respectively. No other constituents of concern (COCs) were detected above laboratory reporting limits in any of the wells during this sampling event.

Arcadis recommends continued groundwater monitoring to further evaluate groundwater quality and concentration trends. However, Arcadis recommends reducing the sampling frequency from quarterly to semi-annual in accordance with the July 24, 2009 Alameda County Environmental Health directive (Attachment D) . If approved, future monitoring events would be conducted during the first and third quarters. Unless directed otherwise, this updated frequency will be implemented during the next event. Arcadis also plans to submit an offsite investigation work plan to further delineate groundwater east of the site.

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: January 15, 2017

Katherine Brandt, P.G.
Senior Geologist

Date: January 15, 2017

Tamera Rogers
Project Manager

ATTACHMENTS:

Table 1	Current Groundwater Gauging and Analytical Results
Table 2	Historical Groundwater Gauging and Analytical Results, Fourth Quarter 1990 to Current
Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Contour Map
Figure 4	TPH-g Isoconcentration Map
Figure 5	Benzene Isoconcentration Map
Figure 6	MTBE Isoconcentration Map
Figure 7	TBA Isoconcentration Map
Figure 8	Historical Groundwater Flow Direction Rose Diagram (AECOM Events)
Figure 9	Groundwater Flow Direction Rose Diagram (Arcadis Events)
Attachment A	Field Data Sheets and General Procedures
Attachment B	Historical Groundwater Analytical Data
Attachment C	Laboratory Report and Chain-of-Custody Documentation
Attachment D	ACEH Correspondence

TABLES

Table 1. Current Groundwater Gauging and Analytical Results
Union Oil Company of California
Unocal No. 5781 (351640)
3535 Pierson Street, Oakland, California

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-d (µg/L)	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-A	11/23/2016	154.79	18.09	136.70	< 50	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	**47**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
MW-4	11/23/2016	153.48	12.43	141.05	< 50	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
MW-5	11/23/2016	153.66	12.31	141.35	**4,300**	**10,000**	< 0.50	**0.99**	**89**	**260**	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
MW-6	11/23/2016	154.62	11.46	143.16	< 50	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
MW-7	11/23/2016	155.38	14.87	140.51	< 50	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
MW-8	11/23/2016	153.71	13.46	140.25	< 50	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
MW-9	11/23/2016	153.37	11.62	141.75	< 50	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 250	
QA	11/23/2016	--	--	--	--	< 50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	< 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
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
Bold = Value exceeds laboratory reporting limits
<0.50 = Not detected at or above the stated laboratory pratical quantitation limit
-- = Not sampled/not measured
Ethanol

TPH-d = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to EPA Method 8015M with Silica Gel Cleanup
TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8015
The following are 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
Data QA/QC by: TAH 12/19/2016

Table 2. Historical Groundwater Gauging and Analytical Results
Fourth Quarter 1990 to Current
Union Oil of California
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	PSH thickness (ft)	GW Elev (ft amsl)	TPHd (µg/L)	TPHg (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-A	12/18/1990	--	--	--	--	73	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	5/3/1991	--	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	8/7/1991	--	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	11/8/1991	--	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/6/1992	151.80	19.88	0	131.92	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	8/4/1992	151.80	18.95	0	132.85	ND	ND	ND	ND	ND	0.51	--	--	--	--	--	--	--	--	
	2/10/1993	151.80	17.71	0	134.09	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/10/1994	151.80	15.25	0	136.55	ND	ND	ND	0.52	ND	0.92	--	--	--	--	--	--	--	--	
	2/9/1995	151.80	15.68	0	136.12	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/6/1996	151.80	12.52	0	139.28	120	ND	ND	ND	ND	2.1	--	--	--	--	--	--	--	--	
	2/5/1997	151.80	13.01	0	138.79	61	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	2/2/1998	151.80	11.91	0	139.89	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	2/22/1999	151.80	11.24	0	140.56	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	2/26/2000	151.80	12.16	0	139.64	ND	ND	ND	1.01	ND	ND	ND	--	--	--	--	--	--	--	
	3/7/2001	151.80	11.91	0	139.89	131	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	2/22/2002	151.80	14.08	0	137.72	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	
	2/22/2003	151.80	14.41	0	137.39	93	<50	<0.50	<0.50	<0.50	<0.50	<2.0	<100	<2.0	<0.50	<2.0	<2.0	<2.0	<500	
	2/3/2004	151.80	14.32	0	137.48	60	<50	<0.50	<0.50	<0.50	<0.50	<2.0	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
	2/18/2005	151.80	14.21	0	137.59	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/29/2006	151.80	12.72	0	139.08	<200	<50	<0.30	<0.30	<0.30	<0.60	0.54	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/28/2007	151.80	13.98	0	137.82	92	<50	<0.30	<0.30	<0.30	<0.60	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/22/2008	151.80	12.68	0	139.12	<50	<50	<0.30	<0.30	<0.30	<0.60	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/27/2009	151.80	14.35	0	137.45	53	<50	<0.30	<0.30	<0.30	<0.60	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/23/2010	151.80	19.55	0	132.25	<58	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/16/2010	154.79	17.85	0	136.94	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/29/2010	154.79	15.50	0	139.29	<1200	<50	<0.50	<0.50	<0.50	<1.0	0.63	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/21/2010	154.79	14.43	0	140.36	<50	<50	<0.50	<0.50	<0.50	<1.0	0.65	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/10/2011	154.79	17.70	0	137.09	<50	<50	<0.50	<0.50	<0.50	<1.0	0.56	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	06/07/2011	154.79	13.92	0	140.87	<40	<50	<0.50	<0.50	<0.50	<1.0	0.57	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/18/2011	154.79	18.83	0	135.96	<40	<50	<0.50	<0.50	<0.50	<1.0	0.61	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	154.79	14.67	0	140.12	<40	<50	<0.50	<0.50	<0.50	<1.0	0.72	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	01/24/2012	154.79	16.75	0	138.04	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	04/06/2012	154.79	17.14	0	137.65	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	07/02/2012	154.79	14.79	0	140.00	<40	<50	<0.50	<0.50	<0.50	<1.0	0.56	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/4/2012	154.79	17.52	0	137.27	<50	<50	<0.50	<0.50	<0.50	<1.0	0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/23/2013	154.79	15.08	0	139.71	<50	<50	<0.50	<0.50	<0.50	<1.0	0.55	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	154.79	15.60	0	139.19	<50	<50	<0.50	<0.50	<0.50	<1.0	0.59	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	154.79	16.42	0	138.37	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	154.79	16.57	0	138.22	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	154.79	17.33	0	137.46	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	154.79	16.65	0	138.14	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	154.79	18.02	0	136.77	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	154.79	18.41	0	136.38	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	154.79	17.95	0	136.84	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	154.79	--	--	--	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	154.79	18.70	0	136.09	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	154.79	18.18	0	136.61	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Table 2. Historical Groundwater Gauging and Analytical Results
Fourth Quarter 1990 to Current
Union Oil of California
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

	Sample	TOC	DTW	PSH thickness	GW Elev	TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	EDB	EDC	DIPE	ETBE	TAME	Ethanol	Comments
	12/22/2015	154.79	18.50	0	136.29	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	154.79	18.27	0	136.52	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	154.79	15.48	0	139.31	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	154.79	17.30	0	137.49	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	154.79	18.09	0	136.70	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	**47**	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-4	6/16/2010	153.48	11.13	0	142.35	<50	58	<0.50	9.7	1.3	16	5.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/29/2010	153.48	12.62	0	140.86	<50	<50	<0.50	<0.50	<0.50	<1.0	7.3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/21/2010	153.48	11.17	0	142.31	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/10/2011	153.48	10.57	0	142.91	<50	<50	<0.50	<0.50	<0.50	<1.0	2.2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	06/07/2011	153.48	10.94	0	142.54	<40	<50	<0.50	<0.50	<0.50	<1.0	1.6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/18/2011	153.48	12.07	0	141.41	<40	<50	<0.50	<0.50	<0.50	<1.0	4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	153.48	12.70	0	140.78	<40	<50	<0.50	<0.50	<0.50	<1.0	3.8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	01/24/2012	153.48	12.40	0	141.08	<40	<50	<0.50	<0.50	<0.50	<1.0	1.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	04/06/2012	153.48	11.10	0	142.38	<40	390	<0.50	3.8	11	150	2.2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	07/02/2012	153.48	12.14	0	141.34	<40	<50	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/4/2012	153.48	13.43	0	140.05	<50	<50	<0.50	<0.50	<0.50	<1.0	1.3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/23/2013	153.48	11.64	0	141.84	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	153.48	12.22	0	141.26	<50	<50	<0.50	<0.50	<0.50	<1.0	2.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	153.48	13.24	0	140.24	<50	<50	<0.50	<0.50	<0.50	<1.0	0.95	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	153.48	13.85	0	139.63	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	153.48	13.06	0	140.42	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	153.48	11.96	0	141.52	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	153.48	12.90	0	140.58	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	153.48	13.68	0	139.80	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	153.48	11.98	0	141.50	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	153.48	--	--	--	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	153.48	12.42	0	141.06	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	153.48	13.18	0	140.30	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/22/2015	153.48	12.38	0	141.10	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	153.48	10.71	0	142.77	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	153.48	12.05	0	141.43	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	153.48	13.08	0	140.40	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	153.48	12.43	0	141.05	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-5	6/16/2010	153.66	11.95	0	141.71	3,000	29,000	580	6,800	850	7,200	<50	<1000	<50	<50	<50	<50	<50	<25000	
	9/29/2010	153.66	13.67	0	139.99	64,000	29,000	220	4,100	2,500	23,000	52	<1000	<50	<50	<50	<50	<50	<25000	
	12/21/2010	153.66	11.17	0	142.49	11,000	50,000	81	4,800	2,200	22,000	<50	<1000	<50	<50	<50	<50	<50	<25000	
	3/10/2011	153.66	11.35	0	142.31	4,900	48,000	69	3,600	1,700	20,000	<50	<1000	<50	<50	<50	<50	<50	<25000	
	06/07/2011	153.66	11.45	0	142.21	3,700	40,000	32	2,300	1,500	16,000	24	150	<0.50	<0.50	<0.50	<0.50	<0.50	330	
	08/18/2011	153.66	12.30	0	141.36	5,400	30,000	29	1,000	980	7,200	56	44	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	153.66	13.72	0	139.94	20,000	42,000	21	2,400	2,400	20,000	42	<250	<12	<12	<12	<12	<12	<6,200	
	01/24/2012	153.66	12.20	0	141.46	46,000	71,000	<25	1,100	1,400	10,000	<25	<500	<25	<25	<25	<25	<25	<12,000	
	04/06/2012	153.66	11.88	0	141.78	21,000	58,000	9.9	880	660	9,800	12	<120	<6.2	<6.2	<6.2	<6.2	<6.2	<3,100	
	07/02/2012	153.66	12.75	0	140.91	30,000	53,000	89	590	1,000	12,000	26	<500	<25	<25	<25	<25	<25	<12,000	
	10/4/2012	153.66	16.03	0.39	137.34	No Sample Collected - Free Product in Well														
	1/23/2013	153.66	12.02	0	141.64	22,000	54,000	<25	160	1,100	13,000	<25	<500	<25	<25	<25	<25	<25	<12,000	
	4/22/2013	153.66	12.37	0	141.29	7,600	39,000	0.7	65	330	4,500	2.9	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Table 2. Historical Groundwater Gauging and Analytical Results
Fourth Quarter 1990 to Current
Union Oil of California
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

	Sample	TOC	DTW	PSH thickness	GW Elev	TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	EDB	EDC	DIPE	ETBE	TAME	Ethanol	Comments
	7/31/2013	153.66	15.62	0	138.04	11,000	35,000	1	59	470	3,500	9.8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	153.66	16.41	0	137.25	<50	86,000	<10	66	770	9,300	<10	<200	<10	<10	<10	<10	<10	<5,000	
	2/24/2014	153.66	15.27	0	138.39	1,700	3,900	<0.50	4.5	240	1,800	1.7	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	153.66	12.02	0	141.64	960	27,000	<0.50	2.5	160	1,100	1.4	310	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	153.66	15.28	0	138.38	2,100	6,600	<0.50	0.97	84	330	3.6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	153.66	17.03	0	136.63	3,000	27,000	<0.50	40	370	2,900	7.7	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	153.66	12.24	0	141.42	880	9,100	<0.50	0.65	85	400	2.2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	153.66	--	--	--	1,800	10,000	<0.50	0.54	85	370	2.0	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	153.66	14.70	0	138.96	760	5,100	<0.50	<0.50	39	120	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	153.66	16.63	0	137.03	3,800	4,100	<5.0	<5.0	130	540	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<2,500	
	12/22/2015	153.66	11.82	0	141.84	1,700	5,600	16	63	53	320	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<2,500	
	3/15/2016	153.66	11.54	0	142.12	1,300	2,200	2.8	1	13	9.4	0.7	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	153.66	12.35	0	141.31	750	1,600	0.55	<0.50	8.6	2.3	3.3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	153.66	15.18	0	138.48	880	2,600	<0.50	0.66	6.6	14	4.4	180	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	153.66	12.31	0	141.35	**4,300**	**10,000**	<0.50	**0.99**	**89**	**260**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-6	12/21/2010	154.62	12.10	0	142.52	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/10/2011	154.62	11.36	0	143.26	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	06/07/2011	154.62	11.33	0	143.29	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/18/2011	154.62	13.00	0	141.62	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	154.62	14.02	0	140.60	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	01/24/2012	154.62	11.94	0	142.68	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	04/06/2012	154.62	11.39	0	143.23	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	07/02/2012	154.62	11.49	0	143.13	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/4/2012	154.62	16.09	0	138.53	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/23/2013	154.62	11.41	0	143.21	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	154.62	11.43	0	143.19	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	154.62	15.71	0	138.91	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	154.62	16.83	0	137.79	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	154.62	15.22	0	139.40	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	154.62	11.43	0	143.19	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	154.62	14.96	0	139.66	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	154.62	16.70	0	137.92	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	154.62	11.61	0	143.01	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	154.62	--	--	--	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	154.62	11.76	0	142.86	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	154.62	16.08	0	138.54	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/22/2015	154.62	15.55	0	139.07	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	154.62	11.33	0	143.29	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	154.62	11.50	0	143.12	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	154.62	13.98	0	140.64	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	154.62	11.46	0	143.16	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-7	12/21/2010	155.38	13.46	0	141.92	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/10/2011	155.38	12.07	0	143.31	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	06/07/2011	155.38	12.59	0	142.79	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/18/2011	155.38	14.37	0	141.01	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	155.38	15.22	0	140.16	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Table 2. Historical Groundwater Gauging and Analytical Results
Fourth Quarter 1990 to Current
Union Oil of California
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

	Sample	TOC	DTW	PSH thickness	GW Elev	TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	EDB	EDC	DIPE	ETBE	TAME	Ethanol	Comments
	01/24/2012	155.38	15.32	0	140.06	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	04/06/2012	155.38	13.09	0	142.29	<49	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	07/02/2012	155.38	14.42	0	140.96	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/4/2012	155.38	16.20	0	139.18	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/23/2013	155.38	13.27	0	142.11	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	155.38	14.30	0	141.08	<50	**52**	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	155.38	16.30	0	139.08			Insufficient Water to Sample												
	10/17/2013	155.38	16.77	0	138.61	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	155.38	15.33	0	140.05	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	155.38	13.82	0	141.56	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	155.38	15.70	0	139.68	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	155.38	16.67	0	138.71	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	155.38	14.13	0	141.25	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	155.38	--	--	--	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	155.38	15.13	0	140.25	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	155.38	16.17	0	139.21	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/22/2015	155.38	15.58	0	139.80	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	155.38	12.83	0	142.55	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	155.38	14.20	0	141.18	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	155.38	15.67	0	139.71	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	155.38	14.87	0	140.51	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-8	12/21/2010	153.71	11.63	0	142.08	81	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/10/2011	153.71	11.38	0	142.33	61	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	06/07/2011	153.71	11.54	0	142.17	71	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/18/2011	153.71	12.47	0	141.24	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	153.71	12.90	0	140.81	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	01/24/2012	153.71	12.52	0	141.19	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	04/06/2012	153.71	11.35	0	142.36	160	270	<0.50	3.7	7.8	91	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	07/02/2012	153.71	12.50	0	141.21	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/4/2012	153.71	13.89	0	139.82	<50	<50	<0.50	<0.50	<0.50	2.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/23/2013	153.71	13.06	0	140.65	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	153.71	12.82	0	140.89	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	153.71	13.63	0	140.08	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	153.71	14.48	0	139.23	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	153.71	13.56	0	140.15	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	153.71	11.90	0	141.81	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	153.71	13.78	0	139.93	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	153.71	14.38	0	139.33	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	153.71	13.28	0	140.43	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	153.71	--	--	--	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	153.71	12.88	0	140.83	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	153.71	14.19	0	139.52	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/22/2015	153.71	12.90	0	140.81	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	153.71	13.14	0	140.57	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Table 2. Historical Groundwater Gauging and Analytical Results
Fourth Quarter 1990 to Current
Union Oil of California
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

	Sample	TOC	DTW	PSH thickness	GW Elev	TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	EDB	EDC	DIPE	ETBE	TAME	Ethanol	Comments
	6/22/2016	153.71	12.32	0	141.39	<50	<50	<0.50	<0.50	<0.50	<1.0	0.97	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	153.71	13.57	0	140.14	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	153.71	13.46	0	140.25	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-9	12/21/2010	153.37	10.53	0	142.84	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/10/2011	153.37	10.86	0	142.51	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	06/07/2011	153.37	11.36	0	142.01	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/18/2011	153.37	12.52	0	140.85	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/04/2011	153.37	13.32	0	140.05	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	01/24/2012	153.37	11.23	0	142.14	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	04/06/2012	153.37	10.98	0	142.39	<40	340	<0.50	4.4	9	120	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	07/02/2012	153.37	12.58	0	140.79	<40	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/4/2012	153.37	14.31	0	139.06	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/23/2013	153.37	11.11	0	142.26	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	153.37	12.22	0	141.15	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	153.37	14.10	0	139.27	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	153.37	14.56	0	138.81	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	153.37	12.85	0	140.52	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	153.37	11.73	0	141.64	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	153.37	13.69	0	139.68	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	153.37	14.32	0	139.05	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	1/20/2015	153.37	11.80	0	141.57	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	pre-purge
	1/20/2015	153.37	--	--	--	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	post-purge
	6/3/2015	153.37	13.30	0	140.07	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	153.37	14.05	0	139.32	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/22/2015	153.37	10.50	0	142.87	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	153.37	10.26	0	143.11	<50	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	153.37	11.92	0	141.45	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	153.37	13.75	0	139.62	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	153.37	11.62	0	141.75	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
QA	1/23/2013	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/22/2013	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/31/2013	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/17/2013	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	2/24/2014	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	4/17/2014	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	7/18/2014	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	10/21/2014	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	9/7/2015	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	12/22/2015	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	3/15/2016	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	6/22/2016	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	8/25/2016	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/23/2016	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Table 2. Historical Groundwater Gauging and Analytical Results
Fourth Quarter 1990 to Current
Union Oil of California
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

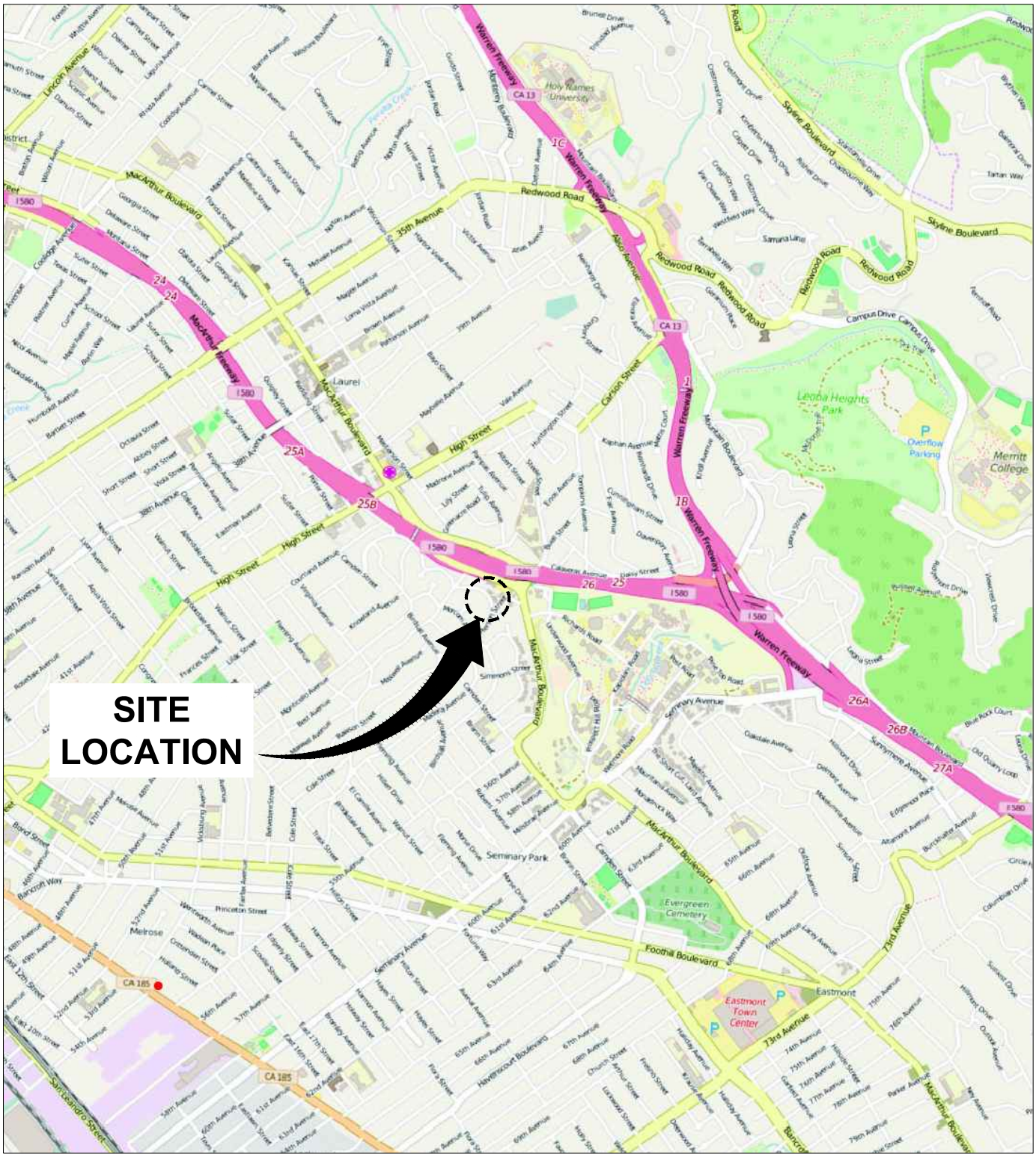
		TAME	Ethanol	Comments

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
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
Bold = Value exceeds laboratory reporting limits; PSH thickness is greater than 0.00 ft
<0.50 = Not detected at or above the stated laboratory pratical quantitation limit
-- = Not sampled

TPH-d = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to EPA Method 8015M with Silica Gel Cleanup
TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8015M
The following are 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: TAH 12/19/2016

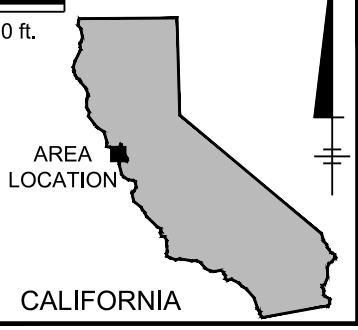
FIGURES



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

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA
Quarterly Status Report,
Fourth Quarter 2016

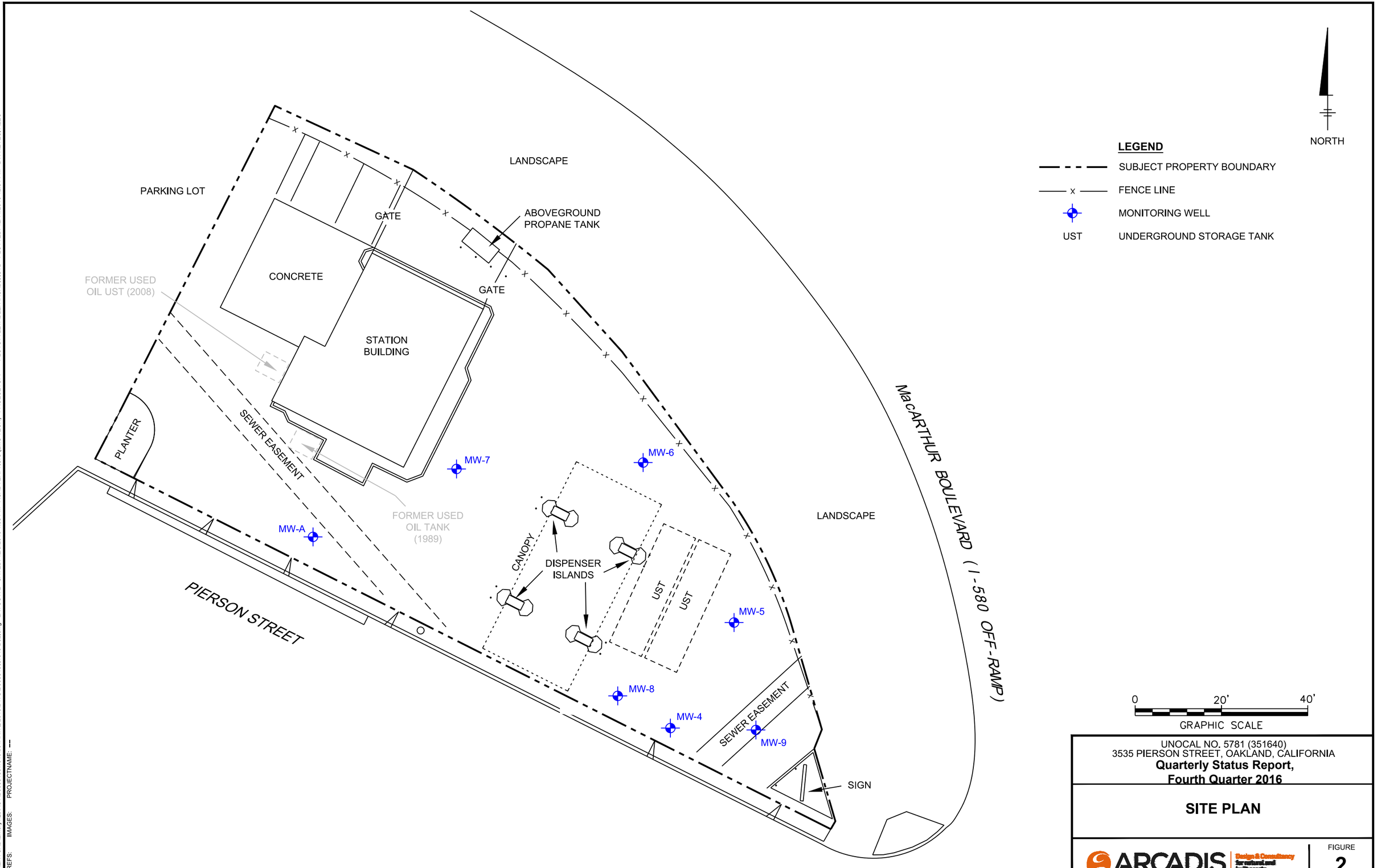
SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:EMERYVILLE, CA DIV/GROUP:ENVCAD DB:A.REYES
G:\ENVCAD\Emeryville\ACT\B0035135\1640\001\AR\4Q 2016\DWG\B0035135.1640 N01.dwg LAYOUT: 1 SAVED: 12/9/2016 1:03 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 12/23/2016 12:44 PM BY: REYES, ALEC

XREFS:
IMAGES: PROJECTNAME:
X-B0035135.1640 LocMap.jpg



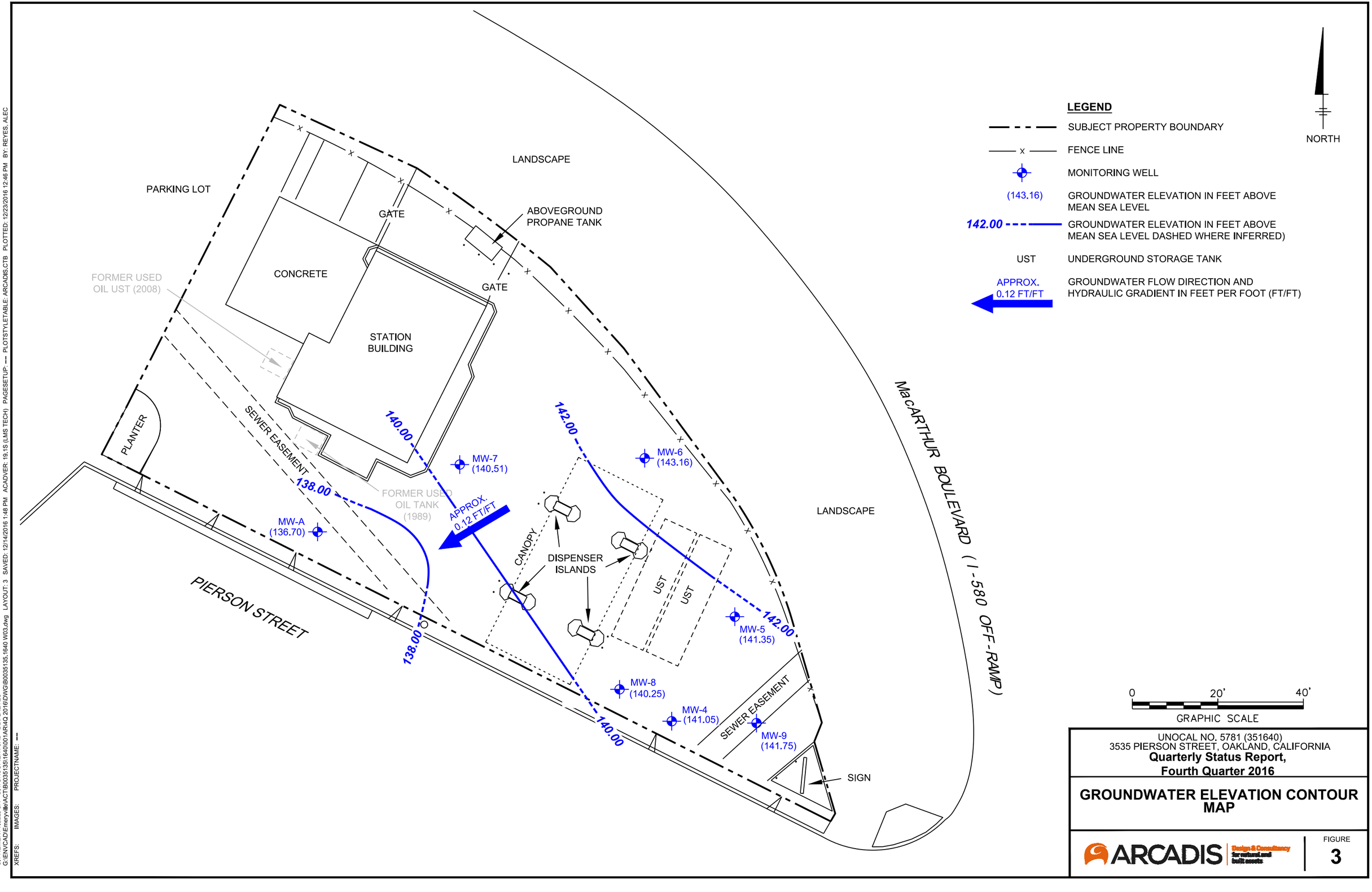
UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA

Quarterly Status Report,
Fourth Quarter 2016

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2



UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA
Quarterly Status Report,
Fourth Quarter 2016

GROUNDWATER ELEVATION CONTOUR MAP

ARCADIS Design & Consultancy for natural and built assets

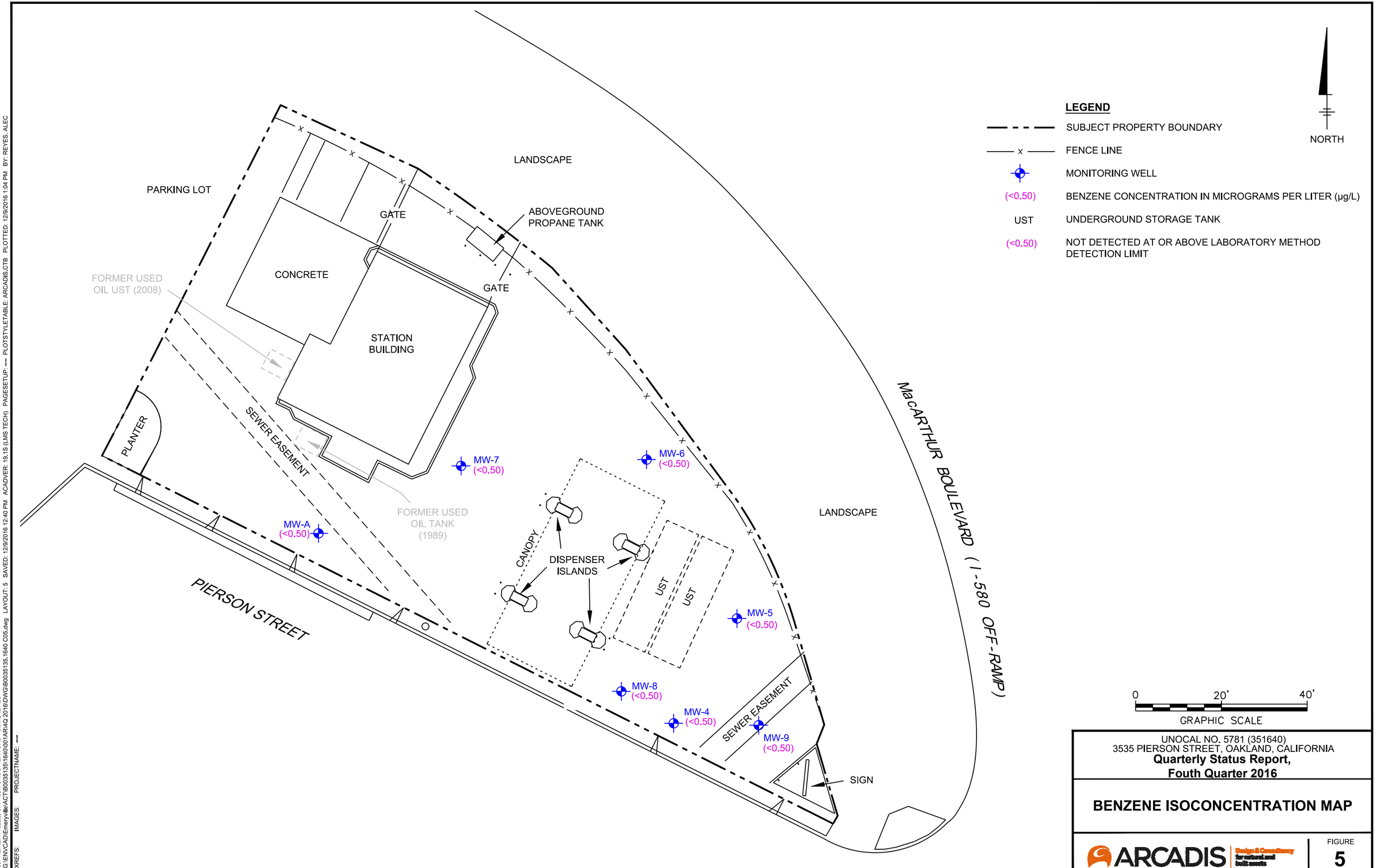
FIGURE
3

UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA
Quarterly Status Report,
Fourth Quarter 2016

TPH-g ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
4

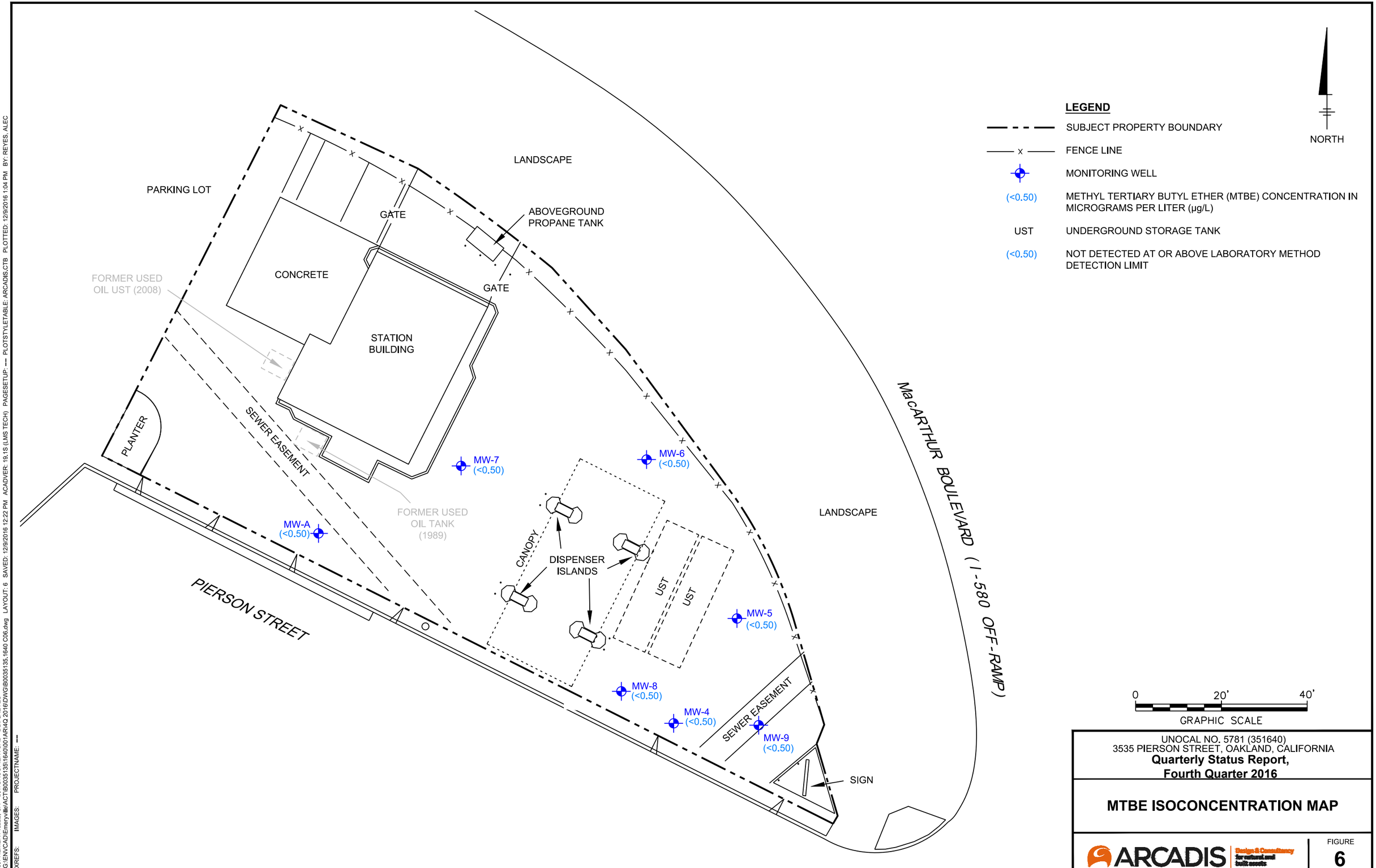


UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA
Quarterly Status Report,
Fouth Quarter 2016

BENZENE ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5



UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA
Quarterly Status Report,
Fourth Quarter 2016

MTBE ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

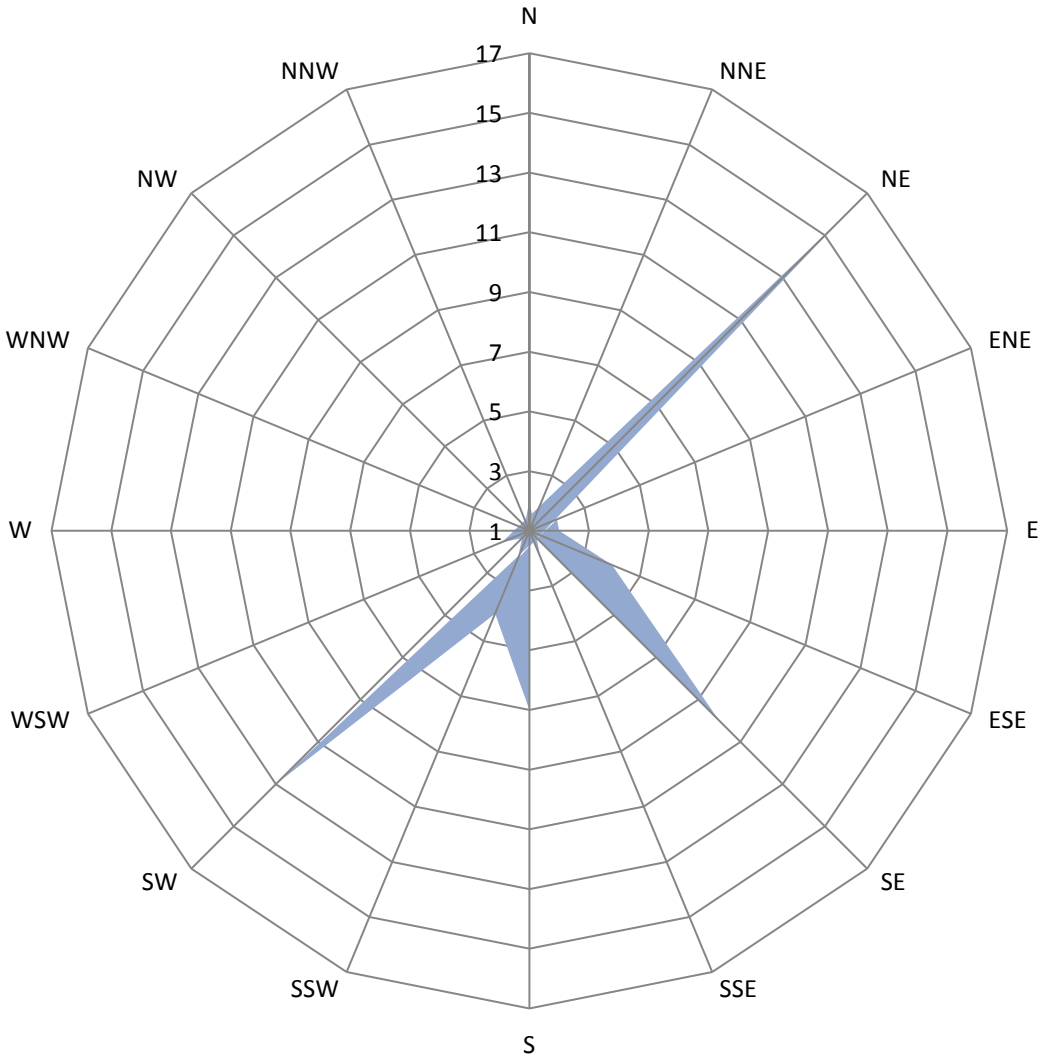
FIGURE
6

UNOCAL NO. 5781 (351640)
3535 PIERSON STREET, OAKLAND, CALIFORNIA
Quarterly Status Report
Fouth Quarter 2016

TBA ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7



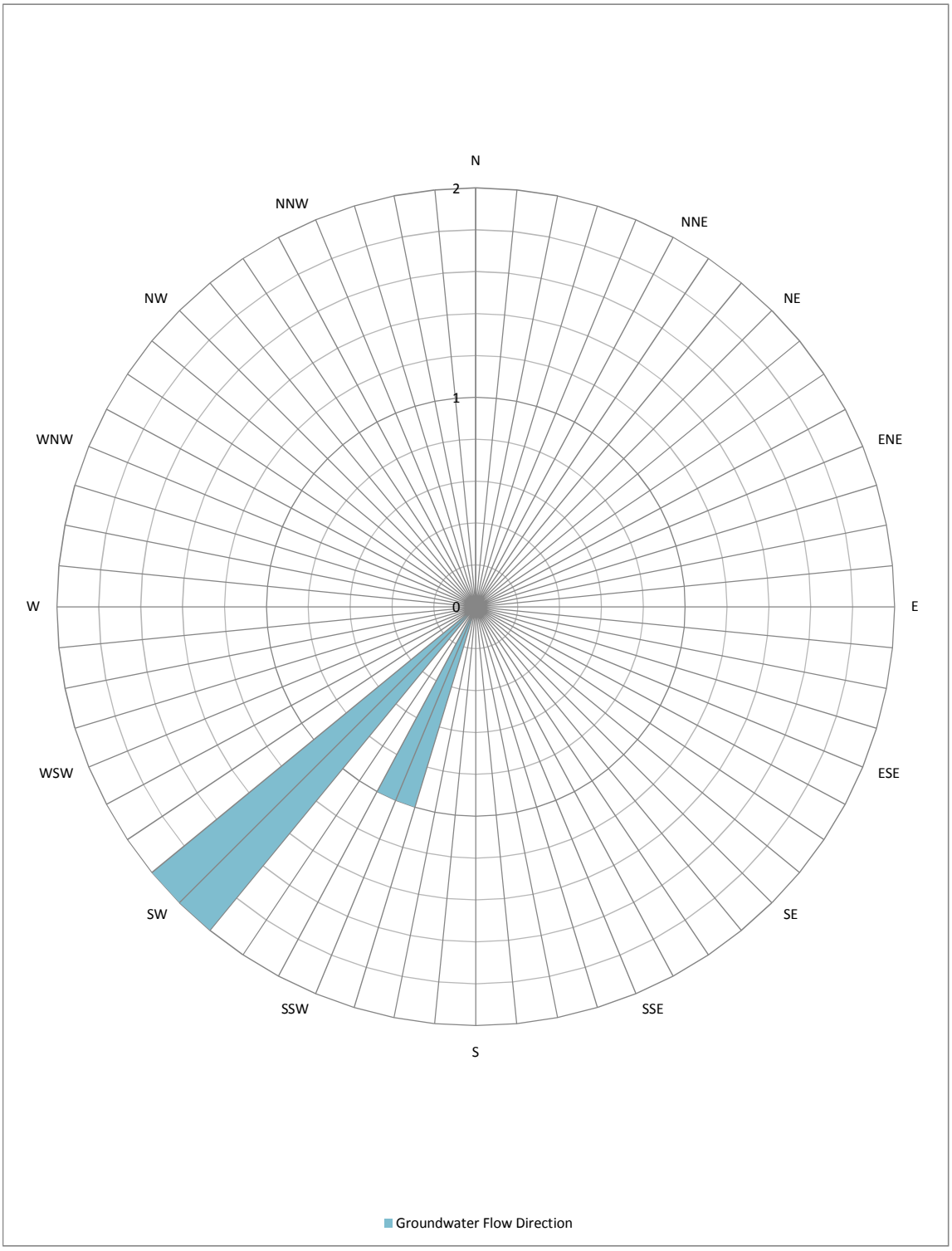
Note:
Concentric circles represent the frequency of groundwater flow direction conducted from second quarter 2010 through first quarter 2016.

UNOCAL NO. 5781 (351640)
3535 PIERSON STREET
OAKLAND, CALIFORNIA

HISTORICAL GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8



Legend

N=North
NNE= North Northeast
NE= Northeast
ENE= East Northeast
E= East
ESE= East Southeast
SE=Southeast
SSE= South Southeast
S= South
SW= Southwest
SSW= South Southwest
WSW= West South West
W= West
WNW= West Northwest
NW=Northwest
NNW= North Northwest

Note

Rose diagram based on gradient direction calculations from groundwater monitoring events conducted by Arcadis.

Number of Events Observed 3
=

UNOCAL NO. 5781 (351640)
3535 PIERSON STREET
OAKLAND, CALIFORNIA

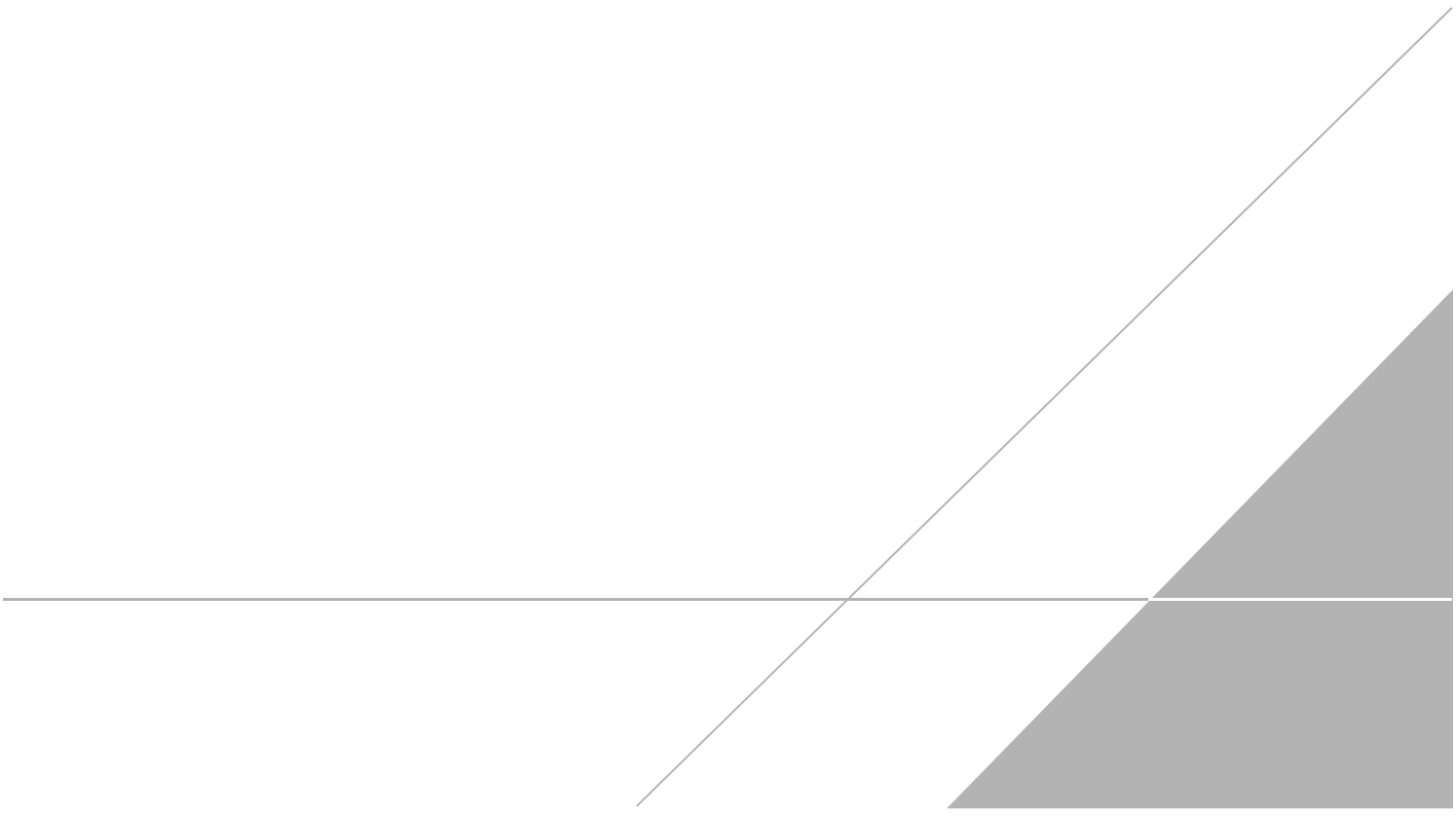
GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

ARCADIS Design & Consultancy for natural and built assets

FIGURE 9

ATTACHMENT A

Field Data Sheets and General Procedures



GETTLER-RYAN INC.

TRANSMITTAL

November 30, 2016
G-R #385641

TO: Ms. Tamera Rogers
Arcadis
6296 San Ignacio Ave., Suite C & D
San Jose, California 95119

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

RE: Chevron Facility
#351640/5781
3535 Pierson Street
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **Fourth Quarter Event of November 23, 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/351640 5781

WELL CONDITION STATUS SHEET

Client/
Facility #: **Chevron #351640 / 5781**

Site Address: **3535 Pierson Street**

City: **Oakland, CA**

Job #: **385641**

Event Date: 11/23/16

Sampler: GM

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=Retaped	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-A	ok			S(1)	ok			NO	NO	EMCO / 8 / 2	
MW-4	ok									12	
MW-5	ok			1 BOLT BROKE IN FLANGE	ok						
MW-6	ok										
MW-7	ok			S(1)	ok						
MW-8	ok										
MW-9	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 #351640 / 5781 | Job Number: 385641
Site Address: 3535 Pierson Street | Event Date: 11/23/16 (inclusive)
City: Oakland, CA | Sampler: GM

Well ID: MW- A | Date Monitored: 11/23/16
Well Diameter: 2/4 in.
Total Depth: 45.01 ft.
Depth to Water: 18.09 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.

26.92 x VF 0.17 = 4.57 x3 case volume = Estimated Purge Volume: 14 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 23.47

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	x
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: Ø 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): 0450 | Weather Conditions: RAIN
Sample Time/Date: 0525/11/29/16 | Water Color: CLEAR | Odor: Y / (N)
Approx. Flow Rate: 1 gpm. | Sediment Description: SILT
Did well de-water? NO | If yes, Time: — | Volume: — gal. | DTW @ Sampling: 20.69

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0455	5	7.49	1269	21.1		
0500	10	7.45	1262	21.1		
0504	14	7.43	1258	21.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- A	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS: _____

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y / (N) DTW READING: 18.09 TIME: 0447

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 Job Number: 385641
Site Address: 3535 Pierson Street Event Date: 11/23/16 (inclusive)
City: Oakland, CA Sampler: GM

Well ID MW-4 Date Monitored: 11/23/16
Well Diameter 2 (4) in.
Total Depth 24.74 ft.
Depth to Water 12.43 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

12.31 xVF 0.66 = 8.12 x3 case volume = Estimated Purge Volume: 25 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.89

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	X
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: X 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): 0330 Weather Conditions: RAIN
Sample Time/Date: 0720 / 11/23/16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: 1 gpm. Sediment Description: NONE
Did well de-water? YES If yes, Time: 0346 Volume: 11 gal. DTW @ Sampling: 14.84

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C F)	D.O. (mg/L)	ORP (mV)
0339	8	7.25	650	21.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	(6) x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS:

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y / (N) DTW READING: 12.43 TIME: 0328

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 Job Number: 385641
Site Address: 3535 Pierson Street Event Date: 11/23/16 (inclusive)
City: Oakland, CA Sampler: GM

Well ID MW-5 Date Monitored: 11/23/16
Well Diameter 2 (4) in.
Total Depth 19.90 ft.
Depth to Water 12.31 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.

7.59 xVF 0.66 = 5.00 x3 case volume = Estimated Purge Volume: 15 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.82

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	X
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): 0638 Weather Conditions: RAIN
Sample Time/Date: 0810 / 11/23/16 Water Color: CLOUDY Odor: Y / N MODERATE
Approx. Flow Rate: 1 gpm. Sediment Description: SILT
Did well de-water? YES If yes, Time: 0654 Volume: 7 gal. DTW @ Sampling: 13.77

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0645	5	7.25	336	21.6		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2 x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS:

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y / (N) DTW READING: 12.31 TIME: 0634

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 Job Number: 385641
Site Address: 3535 Pierson Street Event Date: 11/23/16 (inclusive)
City: Oakland, CA Sampler: GM

Well ID MW-6 Date Monitored: 11/23/16
Well Diameter (2) 4 in.
Total Depth 19.95 ft.
Depth to Water 11.46 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.

8.49 xVF 0.17 = 1.44 x3 case volume = Estimated Purge Volume: 4.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.15

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
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: Ø 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): 0608 Weather Conditions: RAIN
Sample Time/Date: 0750 / 11/23/16 Water Color: CLOUDY Odor: (Y) / N SLIGHT
Approx. Flow Rate: - gpm. Sediment Description: SILT
Did well de-water? YES If yes, Time: 0620 Volume: 3 gal. DTW @ Sampling: 12.66

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
0612	1.5	7.41	359	20.8		
0620	3	7.39	356	20.9		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2 x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS:

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y (N) DTW READING: 11.46 TIME: 0608

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 | Job Number: 385641
Site Address: 3535 Pierson Street | Event Date: 11/23/16 (inclusive)
City: Oakland, CA | Sampler: GM

Well ID: MW-7 | Date Monitored: 11/23/16
Well Diameter: 3/4 in.
Total Depth: 19.70 ft.
Depth to Water: 14.87 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.

4.83 xVF 0.17 = 0.82 x3 case volume = Estimated Purge Volume: 2.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.83

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

Sampling Equipment:
Disposable Bailer: C
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: Ø 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): 0538 | Weather Conditions: RAIN
Sample Time/Date: 0730 / 11/23/16 | Water Color: CLOUDY | Odor: Y / (N)
Approx. Flow Rate: — gpm. | Sediment Description: SILT
Did well de-water? YES | If yes, Time: 0548 | Volume: 1 gal. | DTW @ Sampling: 15.79

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0548	1	7.32	625	21.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	6x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS:

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y / (N) DTW READING: 14.87 TIME: 0535

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 Job Number: 385641
Site Address: 3535 Pierson Street Event Date: 11/23/16 (inclusive)
City: Oakland, CA Sampler: GM

Well ID MW-8 Date Monitored: 11/23/16
Well Diameter (2) 4 in.
Total Depth 19.93 ft.
Depth to Water 13.46 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.

6.47 xVF 0.17 = 1.09 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.75

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
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: Ø 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): 0400 Weather Conditions: RAIN
Sample Time/Date: 0435 / 11/23/16 Water Color: CLOUDY Odor (Y) N SLIGHT
Approx. Flow Rate: — gpm. Sediment Description: SILT
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling:

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (uS mS µmhos/cm)	Temperature (C F)	D.O. (mg/L)	ORP (mV)
0403	1.25	7.39	620	21.0		
0407	2.5	7.34	614	21.0		
0411	3.5	7.30	611	20.9		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-8	6x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS:

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y / (N) DTW READING: 13.46 TIME: 0357

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 | Job Number: 385641
Site Address: 3535 Pierson Street | Event Date: 11/23/16 (inclusive)
City: Oakland, CA | Sampler: GM

Well ID: MW-9 | Date Monitored: 11/23/16
Well Diameter: (2) 4 in.
Total Depth: 19.66 ft.
Depth to Water: 11.62 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.

8.04 xVF 0.17 = 1.36 x3 case volume = Estimated Purge Volume: 4.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.22

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	X
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: Ø 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): 0240 | Weather Conditions: RAIN
Sample Time/Date: 0315 / 11/23/16 | Water Color: CLOUDY Odor: (Y) N SLIGHT
Approx. Flow Rate: — gpm. | Sediment Description: SILT
Did well de-water? No | If yes, Time: — Volume: — gal. DTW @ Sampling: 13.01

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C F)	D.O. (mg/L)	ORP (mV)
0243	1.5	7.30	549	21.9		
0247	3	7.26	544	21.6		
0251	4.5	7.22	541	21.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-9	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2 x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc(8015M)

COMMENTS: _____

WERE PRE PURGE SAMPLES SUBMITTED TO THE LAB? Y / (N) DTW READING: 11.62 TIME: 0237

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: 5781	Union Oil Consultant: ARCADIS
Site Global ID: T0600701467	Consultant Contact: TAMERA ROGERS
Site Address: 3535 PIERSON STREET OAKLAND, CA	Consultant Phone No.: (408) 797-2013
	Sampling Company: GETTLER-RYAN INC
Union Oil PM: JAMES P. KIERNAN	Sampled By (PRINT): GILBERT MEDINA
Union Oil PM Phone No.: (925) 842-3220	Sampler Signature:
Charge Code: NWRTB-0 351640 -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

ANALYSES REQUIRED

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

Special Instructions

SAMPLE ID						TPH - Diesel by EPA 8015	TPH - G by GC/MS (8015)	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	TPH - DRO w/SGC (8015M)	3 OXYS (8260B)					Notes / Comments
Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers												
QA	W-S-A		161123	—	2		X	X									
MW-A	W-S-A			0525	8						X	X					
MW-4	W-S-A			0720													
MW-5	W-S-A			0810													
MW-6	W-S-A			0750													
MW-7	W-S-A			0730													
MW-8	W-S-A			0435													
MW-9	W-S-A			0315													
	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:
	GRINC	11/23/16 1200		GRINC	11-23-16 1145			
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN INC		11-23-16 1145	Tony Bogan	BCLab	11-23-16 1145			

ATTACHMENT B

Historical Groundwater Analytical Data

Table 3 - Historical Groundwater Analytical Data
February 2004 - March 2009
Unocal No. 5781 (351640)
3535 Pierson Street
Oakland, California

WELL ID	DATE	DICHLORO-dIFLUORO-METHANE (µg/L)	1,1-DCA (µg/L)	1,1-DCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	1,2-DICHLORO-PROPANE (µg/L)	cis-1,3-DICHLORO-PROPANE (µg/L)	1,1,2,2-TETRACHLORO-ETHANE (µg/L)	TETRACHLORO-ETHENE (µg/L)	TRICHLORO-TRIFLUORO-ETHANE (µg/L)	1,1,1-TRICHLORO-ETHANE (µg/L)	1,1,2-TRICHLORO-ETHANE (µg/L)	TRICHLORO-ETHENE (µg/L)	TRICHLORO-FLUORO-METHANE (µg/L)	VINYL CHLORIDE (µg/L)
MW-A	2/3/2004	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50
	2/18/2005	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50
	3/29/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	3/28/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	3/22/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	3/27/2009	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

NOTES:

µg/L = Micrograms per liter

ID = Identification

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

ATTACHMENT C

Laboratory Report and Chain-of-Custody Documentation

Date of Report: 12/05/2016

Tamera Rogers

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Client Project:	351640
BCL Project:	5781
BCL Work Order:	1633014
Invoice ID:	B253521

Enclosed are the results of analyses for samples received by the laboratory on 11/28/2016. 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

Sample Information

Chain of Custody and Cooler Receipt form 3
Laboratory / Client Sample Cross Reference 6

Sample Results

1633014-01 - QA-W-161123

Volatile Organic Analysis (EPA Method 8260B) 9
Purgeable Aromatics and Total Petroleum Hydrocarbons 10

1633014-02 - MW-A-W-161123

Volatile Organic Analysis (EPA Method 8260B) 11
Purgeable Aromatics and Total Petroleum Hydrocarbons 12
Total Petroleum Hydrocarbons (Silica Gel Treated) 13

1633014-03 - MW-4-W-161123

Volatile Organic Analysis (EPA Method 8260B) 14
Purgeable Aromatics and Total Petroleum Hydrocarbons 15
Total Petroleum Hydrocarbons (Silica Gel Treated) 16

1633014-04 - MW-5-W-161123

Volatile Organic Analysis (EPA Method 8260B) 17
Purgeable Aromatics and Total Petroleum Hydrocarbons 18
Total Petroleum Hydrocarbons (Silica Gel Treated) 19

1633014-05 - MW-6-W-161123

Volatile Organic Analysis (EPA Method 8260B) 20
Purgeable Aromatics and Total Petroleum Hydrocarbons 21
Total Petroleum Hydrocarbons (Silica Gel Treated) 22

1633014-06 - MW-7-W-161123

Volatile Organic Analysis (EPA Method 8260B) 23
Purgeable Aromatics and Total Petroleum Hydrocarbons 24
Total Petroleum Hydrocarbons (Silica Gel Treated) 25

1633014-07 - MW-8-W-161123

Volatile Organic Analysis (EPA Method 8260B) 26
Purgeable Aromatics and Total Petroleum Hydrocarbons 27
Total Petroleum Hydrocarbons (Silica Gel Treated) 28

1633014-08 - MW-9-W-161123

Volatile Organic Analysis (EPA Method 8260B) 29
Purgeable Aromatics and Total Petroleum Hydrocarbons 30
Total Petroleum Hydrocarbons (Silica Gel Treated) 31

Quality Control Reports

Volatile Organic Analysis (EPA Method 8260B)

Method Blank Analysis 32
Laboratory Control Sample 33
Precision and Accuracy 34

Purgeable Aromatics and Total Petroleum Hydrocarbons

Method Blank Analysis 35
Laboratory Control Sample 36
Precision and Accuracy 37

Total Petroleum Hydrocarbons (Silica Gel Treated)

Method Blank Analysis 38
Laboratory Control Sample 39
Precision and Accuracy 40

Notes

Notes and Definitions 41

16-33014

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: 5781	Union Oil Consultant: ARCADIS
Site Global ID: T0600101467	Consultant Contact: TAMERA ROGERS
Site Address: 3535 PIERSON STREET OAKLAND, CA	Consultant Phone No.: (408) 797-2013
Union Oil PM: JAMES P. KIERNAN	Sampling Company: GETTLER-RYAN INC
Union Oil PM Phone No.: (925) 842-3220	Sampled By (PRINT): GILBERT MEDINA
Charge Code: NWRTB-0351640-0-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 [redacted] (8015)	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	TPH-DRO w/SGC (8015M)	8 OXYS (8260B)				Notes / Comments
QA	W-S-A	1	161123	—	2		X	X								
MW-A	W-S-A	2		0525	8						X	X				
MW-4	W-S-A	3		0720												
MW-5	W-S-A	4		0810												
MW-6	W-S-A	5		0750												
MW-7	W-S-A	6		0730												
MW-8	W-S-A	7		0435												
MW-9	W-S-A	8		0315												
	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:
	GRNC	11/23/16 1200		GRNC	11-23-16 1140	Mary Bogan	BCLab	11-28-16 1830
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FRIDGE		11-23-16 1100	Mary Bogan	BCLab	11-23-16 1145		BCLAB	11/28/16 18:30

REL. 11/28/16 2145 11/28 2145

Chain of Custody and Cooler Receipt Form for 1633014 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 16-33014

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 Date/Time 11/28 21:45

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

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 094	AB									
40ml VOA VIAL 096		A→F	A→F	A→F	A→F	A→F	A→F	A→F		
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
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										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: VM Date/Time: 11-29-11 0903 Rev 21 05/23/2016

Chain of Custody and Cooler Receipt Form for 1633014 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 2

Submission #: 16-33014

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 Date/Time 11/28 21:45

Temperature: (A) 0.5 °C / (C) 0.6 °C Analyst Init GSP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	12	13	14	15	16	17	18	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										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
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	G,H	G,H	G,H	G,H	G,H	G,H	G,H			
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: ODL Date/Time: 11-29-16 0903 Rev 21 05/23/2016

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1633014-01	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Trip Blank
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): QA			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1633014-02	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 05:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-A-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-A			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1633014-03	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 07:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-4			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1633014-04	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 08:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-5-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-5			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1633014-05	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 07:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-6-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-6			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1633014-06	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 07:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-7-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-7			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1633014-07	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 04:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-8-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-8			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1633014-08	**COC Number:**	---	**Receive Date:**	11/28/2016 21:45
	Project Number:	5781	**Sampling Date:**	11/23/2016 03:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-9-W-161123	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-9			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-01 | **Client Sample Name:** 5781, QA-W-161123, 11/23/2016 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
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.6	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.9	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/30/16	11/30/16 16:11	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-01 | **Client Sample Name:** 5781, QA-W-161123, 11/23/2016 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	118	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/29/16	11/29/16 12:33	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-02 | **Client Sample Name:** 5781, MW-A-W-161123, 11/23/2016 5:25:00AM

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	**47**	**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)	98.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 16:28	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-02 | **Client Sample Name:** 5781, MW-A-W-161123, 11/23/2016 5:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	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	11/30/16	11/30/16 09:43	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-02 | **Client Sample Name:** 5781, MW-A-W-161123, 11/23/2016 5:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50		Luft/TPHd	ND		1
Tetracosane (Surrogate)	51.9	%	40 - 140 (LCL - UCL)		Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 12:42	RSM	GC-5	1	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-03 | **Client Sample Name:** 5781, MW-4-W-161123, 11/23/2016 7:20:00AM

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	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)	96.0	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 16:46	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-03 | **Client Sample Name:** 5781, MW-4-W-161123, 11/23/2016 7:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	98.4	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/30/16	11/30/16 10:03	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-03 | **Client Sample Name:** 5781, MW-4-W-161123, 11/23/2016 7:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50		Luft/TPHd	ND		1
Tetracosane (Surrogate)	48.0	%	40 - 140 (LCL - UCL)		Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 12:56	RSM	GC-5	1	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-04 | **Client Sample Name:** 5781, MW-5-W-161123, 11/23/2016 8:10:00AM

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	**89**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
Toluene	**0.99**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Total Xylenes	**260**	**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)	104	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.6	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	90.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 17:03	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-04 | **Client Sample Name:** 5781, MW-5-W-161123, 11/23/2016 8:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	**10000**	**ug/L**	**500**		**EPA-8015B**	ND	**A01**	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	11/30/16	11/30/16 11:44	AKM	GC-V9	10	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-04 | **Client Sample Name:** 5781, MW-5-W-161123, 11/23/2016 8:10:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	**4300**	**ug/L**	**500**		**Luft/TPHd**	ND	**A01,A52**	1
Tetracosane (Surrogate)	0	%	40 - 140 (LCL - UCL)		Luft/TPHd		A17	1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 17:34	RSM	GC-5	10	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-05 | **Client Sample Name:** 5781, MW-6-W-161123, 11/23/2016 7:50:00AM

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)	97.1	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	96.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 17:20	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-05 | **Client Sample Name:** 5781, MW-6-W-161123, 11/23/2016 7:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	108	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/30/16	11/30/16 10:23	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-05 | **Client Sample Name:** 5781, MW-6-W-161123, 11/23/2016 7:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50		Luft/TPHd	ND		1
Tetracosane (Surrogate)	54.7	%	40 - 140 (LCL - UCL)		Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 13:23	RSM	GC-5	1	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-06 | **Client Sample Name:** 5781, MW-7-W-161123, 11/23/2016 7:30:00AM

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)	104	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	97.6	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 17:41	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-06 | **Client Sample Name:** 5781, MW-7-W-161123, 11/23/2016 7:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	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	11/30/16	11/30/16 10:44	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-06 | **Client Sample Name:** 5781, MW-7-W-161123, 11/23/2016 7:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50		Luft/TPHd	ND		1
Tetracosane (Surrogate)	45.6	%	40 - 140 (LCL - UCL)		Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 13:37	RSM	GC-5	1	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-07 | **Client Sample Name:** 5781, MW-8-W-161123, 11/23/2016 4:35:00AM

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	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)	96.4	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 17:59	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-07 | **Client Sample Name:** 5781, MW-8-W-161123, 11/23/2016 4:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	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	11/30/16	11/30/16 11:04	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-07 | **Client Sample Name:** 5781, MW-8-W-161123, 11/23/2016 4:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50		Luft/TPHd	ND		1
Tetracosane (Surrogate)	43.6	%	40 - 140 (LCL - UCL)		Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 13:51	RSM	GC-5	1	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1633014-08 | **Client Sample Name:** 5781, MW-9-W-161123, 11/23/2016 3:15:00AM

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)	100	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	90.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/29/16	11/29/16 18:16	IO1	MS-V12	1	BZK2366

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1633014-08 | **Client Sample Name:** 5781, MW-9-W-161123, 11/23/2016 3:15:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	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	11/30/16	11/30/16 11:24	AKM	GC-V9	1	BZK2260

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1633014-08 | **Client Sample Name:** 5781, MW-9-W-161123, 11/23/2016 3:15:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50		Luft/TPHd	ND		1
Tetracosane (Surrogate)	49.1	%	40 - 140 (LCL - UCL)		Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 1 (LCL - UCL)		Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	11/29/16	12/02/16 14:33	RSM	GC-5	1	BZL0203

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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: BZK2366						
Benzene	BZK2366-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BZK2366-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BZK2366-BLK1	ND	ug/L	0.50		
Ethylbenzene	BZK2366-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BZK2366-BLK1	ND	ug/L	0.50		
Toluene	BZK2366-BLK1	ND	ug/L	0.50		
Total Xylenes	BZK2366-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BZK2366-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BZK2366-BLK1	ND	ug/L	10		
Diisopropyl ether	BZK2366-BLK1	ND	ug/L	0.50		
Ethanol	BZK2366-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BZK2366-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BZK2366-BLK1**	**102**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BZK2366-BLK1**	**95.7**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BZK2366-BLK1**	**96.8**	%	**80 - 120 (LCL - UCL)**		

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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: BZK2366										
Benzene	BZK2366-BS1	LCS	23.370	25.000	ug/L	93.5		70 - 130		
Toluene	BZK2366-BS1	LCS	30.760	25.000	ug/L	123		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BZK2366-BS1	LCS	9.4500	10.000	ug/L	94.5		75 - 125		
Toluene-d8 (Surrogate)	BZK2366-BS1	LCS	10.190	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BZK2366-BS1	LCS	9.9400	10.000	ug/L	99.4		80 - 120		

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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: BZK2366	Used client sample: N										
Benzene	MS	1632299-19	ND	23.830	25.000	ug/L		95.3		70 - 130	
	MSD	1632299-19	ND	24.330	25.000	ug/L	2.1	97.3	20	70 - 130	
Toluene	MS	1632299-19	ND	31.500	25.000	ug/L		126		70 - 130	
	MSD	1632299-19	ND	30.470	25.000	ug/L	3.3	122	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1632299-19	ND	10.070	10.000	ug/L		101		75 - 125	
	MSD	1632299-19	ND	9.7700	10.000	ug/L	3.0	97.7		75 - 125	
Toluene-d8 (Surrogate)	MS	1632299-19	ND	10.380	10.000	ug/L		104		80 - 120	
	MSD	1632299-19	ND	9.8900	10.000	ug/L	4.8	98.9		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1632299-19	ND	10.110	10.000	ug/L		101		80 - 120	
	MSD	1632299-19	ND	9.6400	10.000	ug/L	4.8	96.4		80 - 120	

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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: BZK2260						
Gasoline Range Organics (C4 - C12)	BZK2260-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	**BZK2260-BLK1**	**98.2**	%	**70 - 130 (LCL - UCL)**		

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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: BZK2260										
Gasoline Range Organics (C4 - C12)	BZK2260-BS1	LCS	1112.1	1000.0	ug/L	111		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BZK2260-BS1	LCS	35.162	40.000	ug/L	87.9		70 - 130		

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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: BZK2260	Used client sample: N										
Gasoline Range Organics (C4 - C12)	MS	1632299-02	ND	1086.5	1000.0	ug/L		109		70 - 130	
	MSD	1632299-02	ND	1016.3	1000.0	ug/L	6.7	102	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1632299-02	ND	40.011	40.000	ug/L		100		70 - 130	
	MSD	1632299-02	ND	37.322	40.000	ug/L	7.0	93.3		70 - 130	

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZL0203						
Diesel Range Organics (C12 - C24)	BZL0203-BLK1	ND	ug/L	50		
Tetracosane (Surrogate)	**BZL0203-BLK1**	**45.7**	%	**40 - 140 (LCL - UCL)**		
Capric acid (Reverse Surrogate)	BZL0203-BLK1	0	%	0 - 1 (LCL - UCL)		

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

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: BZL0203										
Diesel Range Organics (C12 - C24)	BZL0203-BS1	LCS	236.67	500.00	ug/L	47.3		20 - 110		
Tetracosane (Surrogate)	BZL0203-BS1	LCS	9.9930	20.000	ug/L	50.0		40 - 140		
Capric acid (Reverse Surrogate)	BZL0203-BS1	LCS	ND	100.00	ug/L	0		0 - 1		

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

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: BZL0203	Used client sample: N										
Diesel Range Organics (C12 - C24)	MS	1625251-53	ND	231.31	500.00	ug/L		46.3		20 - 110	
	MSD	1625251-53	ND	236.06	500.00	ug/L	2.0	47.2	30	20 - 110	
Tetracosane (Surrogate)	MS	1625251-53	ND	11.465	20.000	ug/L		57.3		40 - 140	
	MSD	1625251-53	ND	9.9800	20.000	ug/L	13.8	49.9		40 - 140	
Capric acid (Reverse Surrogate)	MS	1625251-53	ND	ND	100.00	ug/L		0		0 - 1	
	MSD	1625251-53	ND	ND	100.00	ug/L		0		0 - 1	

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 12/05/2016 14:53
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

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.
A17	Surrogate not reportable due to sample dilution.
A52	Chromatogram not typical of diesel.

ATTACHMENT D

ACEH Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

July 24, 2009

TERRY GRAYSON
CONOCOPHILLIPS
76 BROADWAY STREET
SACRAMENTO CA 95818

UNITED BROTHERS ENTERPRISE INC
3535 PIERSON ST
OAKLAND CA 946193427

SCARTEEN CORP.
PO BOX 7600
LOS ANGELES CA 90051

Subject: Fuel Leak Case No. RO0000253 and Geotracker Global ID T0600101467, SITE UNOCAL #5781, 3535 PIERSON ST, Oakland CA 94619– Groundwater Monitoring Requirements

Dear Resposible Parties:

The purpose of this correspondence is to inform you of changes to groundwater monitoring requirements for all fuel leak cases in California. The California State Water Resources Control Board (State Water Board) has approved Resolution No. 2009-0042 (*Actions to Improve Administration of the UST Cleanup Fund and UST Cleanup Program*). Resolution No. 2009-0042 states that, "*Regional Water Board and LOP agencies shall reduce quarterly groundwater monitoring requirements to semiannual or less frequent monitoring at all sites unless site-specific needs warrant otherwise and shall notify all responsible parties of the new requirements no later than August 1, 2009. If more than semiannual monitoring is required for a case, the responsible party and State Water board shall be notified of the rationale and the notice shall be posted on Geotracker.*"

In accordance with Resolution No. 2009-0042, groundwater monitoring for your site is to be reduced to semiannual monitoring unless site-specific needs warrant otherwise. A semiannual groundwater monitoring should be used only for wells that have been sampled over a minimum of one hydrologic cycle (four consecutive quarters). New monitoring wells should be sampled quarterly for one year before a semiannual monitoring schedule is implemented for new wells.

Any groundwater monitoring wells that are currently sampled on a less frequent schedule than semiannual (annual or longer) may continue to be sampled on the less frequent schedule. Please present results from the semiannual groundwater monitoring in groundwater monitoring reports no later than 60 days following the groundwater sampling event.

If you have any questions, please call me at (510) 639-1279 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara J. Jakub, P.G.
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032
(*Sent via E-mail to:* lgriffin@oaklandnet.com)
Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Barbara Jakub, ACEH (*Sent via E-mail to: barbara.jakub@acgov.org*)
Geotracker, File

RESPONSIBLE PARTY OF RECORD AS OF 07/22/2009

RO0000253, UNOCAL #5781, 3535 PIERSON ST , Oakland, CA, 94619

Alameda County Environmental Health (ACEH) has the following information on record regarding the Responsible Party(ies) for the above referenced site. Please update the following information for our records. Should you have contact information regarding additional Responsible Parties, please correct the information accordingly. Also, please check the "e-mail preferred" box to receive all future correspondences and notifications by e-mail.

☐ E-mail Preferred ☐ Hardcopy Preferred

ACEH is requesting your e-mail address so that we can correspond with you quickly and efficiently regarding your case. Please note that ACEH respects your privacy. Your e-mail address will remain confidential and will not be provided to any third party.

Current Information	Corrections or Additions
TERRY GRAYSON CONOCOPHILLIPS 76 BROADWAY STREET SACRAMENTO CA 95818 Terry.L.Grayson@contractor.conocophillips.com 9165587666	Name: _____ Company: _____ Address: _____ City: _____ State: _____ Zip: _____ E-mail: _____ Home Phone: (____) _____ Office Phone: (____) _____ Cell Phone: (____) _____
FIRST2250 LAST2250 UNITED BROTHERS ENTERPRISE INC 3535 PIERSON ST OAKLAND CA 946193427	Name: _____ Company: _____ Address: _____ City: _____ State: _____ Zip: _____ E-mail: _____ Home Phone: (____) _____ Office Phone: (____) _____ Cell Phone: (____) _____
FIRST0662 LAST0662 SCARTEEN CORP. PO BOX 7600 LOS ANGELES CA 90051	Name: _____ Company: _____ Address: _____ City: _____ State: _____ Zip: _____ E-mail: _____ Home Phone: (____) _____ Office Phone: (____) _____ Cell Phone: (____) _____