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

October 14, 2016

RECEIVED
By Alameda County Environmental Health 9:06 am, Mar 15, 2017

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

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

I have reviewed the attached report dated October 14, 2016.

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

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

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

Sincerely,

James P. Kiernan, P.E.
Project Manager

Attachment: Quarterly Status Report-Third Quarter 2016 by Arcadis

ARCADIS Design & Consultancy for natural and built assets

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, Third Quarter 2016

Date:
October 14, 2016

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, Third 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.

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

Tamera Rogers
Project Manager

Katherine Brandt, P.G.
Senior Geologist

Copies:
Geotracker Database
Mr. James Kiernan, CEMC (electronic)
Mr. 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
Third Quarter 2016
October 14, 2016

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 Fancisco Bay RWQCB (Region 2) – Case # 01-1592

WORK CONDUCTED THIS QUARTER [Third Quarter 2016]

1. Conducted quarterly groundwater monitoring activities on August 25, 2016.
2. Prepared the *Quarterly Status Report, Third Quarter 2016*.

WORK PROPOSED NEXT QUARTER [Fourth Quarter 2016]:

1. Conduct quarterly groundwater monitoring activities.
2. Prepare the *Quarterly Status Report, Fourth Quarter 2016*.
3. Submit *Upgradient Well Installation Work Plan.*

Current Phase of Project:	Monitoring/assessment	
Frequency of Monitoring / Sampling:	Quarterly	
Are Phase Separate Hydrocarbons (PSH) Present On-site:	No	
Cumulative PSH Recovered to Date:	None	(gallons)
Approximate Depth to Groundwater:	13.08 to 17.30	(feet below top of casing)
Approximate Groundwater Elevation:	137.49 to 140.64	(feet above mean sea level)
Groundwater Flow Direction	Southwest	
Groundwater Gradient	0.02	(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 August 25, 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 and layout are presented on Figures 1 and 2, respectively; the groundwater elevation contours for the site on August 25, 2016 are presented on Figure 3. Isoconcentration contours for total petroleum hydrocarbons as gasoline (TPH-g), benzene, methyl tertiary butyl ether (MTBE) and tertiary butyl alcohol (TBA) are presented on Figures 4 through 7, respectively. Groundwater flow direction rose diagrams are presented in Figures 8 (Stantec 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. The TPHg plume is localized to on-site monitoring well MW-5, consisting of total petroleum hydrocarbons as diesel (TPH-d) (880 micrograms per liter [µg/L]), TPH-g (2,600 µg/L), toluene (0.66 µg/L), ethylbenzene (6.6 µg/L), total xylenes (14 µg/L), MTBE (4.4 µg/L) and TBA (180 µg/L) . The concentrations of TPHd, TPHg, toluene, total xylenes, MTBE, and TBA all increased since the second quarter 2016 sampling event. No other constituents of concern (COCs) were detected above laboratory reporting limits in any of the wells during this sampling event. Residual dissolved impacts are limited to one well (MW-5) and overall are declining. Arcadis recommends continued quarterly monitoring activities to further evaluate groundwater quality and concentration trends. The previously discussed additional delineation to the east of the site is also being evaluated.

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.

Prepared By: _____ Date: October 14, 2016

Tamera Rogers
Project Manager

Reviewed By: _____ Date: October 14, 2016

Katherine Brandt, P.G.
Senior Geologist

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, August 25, 2016
Figure 4	TPHg Isoconcentration Map, August 25, 2016
Figure 5	Benzene Isoconcentration Map, August 25, 2016
Figure 6	MTBE Isoconcentration Map, August 25, 2016
Figure 7	TBA Isoconcentration Map, August 25, 2016
Figure 8	Historical Groundwater Flow Direction Rose Diagram (Stantec 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

TABLES

Table 1. Current Groundwater Gauging and Analytical Results
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)	PSH recovered (gal)	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	8/25/2016	154.79	17.30	0.00	0.00	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	
MW-4	8/25/2016	153.48	13.08	0.00	0.00	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	
MW-5	8/25/2016	153.66	15.18	0.00	0.00	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	
MW-6	8/25/2016	154.62	13.98	0.00	0.00	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	
MW-7	8/25/2016	155.38	15.67	0.00	0.00	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	
MW-8	8/25/2016	153.71	13.57	0.00	0.00	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	
MW-9	8/25/2016	153.37	13.75	0.00	0.00	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	
QA	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	

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
gal = Gallons
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 detection limit
DRY = Dry well
-- = Not sampled

TPHd = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8015M with Silica Gel Cleanup (S
TPHg = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8260B
Analytes according to Environmental Protection Agency (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
J = Estimated value (between laboratory reporting limit and method detection limit)
* = Insufficient water to sample

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)	PSH recovered (gal)	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	0	131.92	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	8/4/1992	151.80	18.95	0	0	132.85	ND	ND	ND	ND	ND	0.51	--	--	--	--	--	--	--	--	
	2/10/1993	151.80	17.71	0	0	134.09	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/10/1994	151.80	15.25	0	0	136.55	ND	ND	ND	0.52	ND	0.92	--	--	--	--	--	--	--	--	
	2/9/1995	151.80	15.68	0	0	136.12	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/6/1996	151.80	12.52	0	0	139.28	120	ND	ND	ND	ND	2.1	--	--	--	--	--	--	--	--	
	2/5/1997	151.80	13.01	0	0	138.79	61	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	2/2/1998	151.80	11.91	0	0	139.89	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	2/22/1999	151.80	11.24	0	0	140.56	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	2/26/2000	151.80	12.16	0	0	139.64	ND	ND	ND	1.01	ND	ND	ND	--	--	--	--	--	--	--	
	3/7/2001	151.80	11.91	0	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	0	137.72	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	
	2/22/2003	151.80	14.41	0	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	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	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	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	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	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	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	0	132.25	<58	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/16/2010	154.79	17.85	0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	
	12/22/2015	154.79	18.50	0	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	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	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	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	

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)	PSH recovered (gal)	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-4	6/16/2010	153.48	11.13	0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	
MW-5	6/16/2010	153.66	11.95	0	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	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	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	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	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	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	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	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	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	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	0	137.34	No Sample Collected - Free Product in Well														
	1/23/2013	153.66	12.02	0	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	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	
	7/31/2013	153.66	15.62	0	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	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	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	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	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	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	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	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	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	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	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	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	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	

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)	PSH recovered (gal)	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-6	12/21/2010	154.62	12.10	0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	
MW-7	12/21/2010	155.38	13.46	0	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	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	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	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	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	
	01/24/2012	155.38	15.32	0	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	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	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	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	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	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	0	139.08			Insufficient Water to Sample												
	10/17/2013	155.38	16.77	0	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	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	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	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	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	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	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	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	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	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	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	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	

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

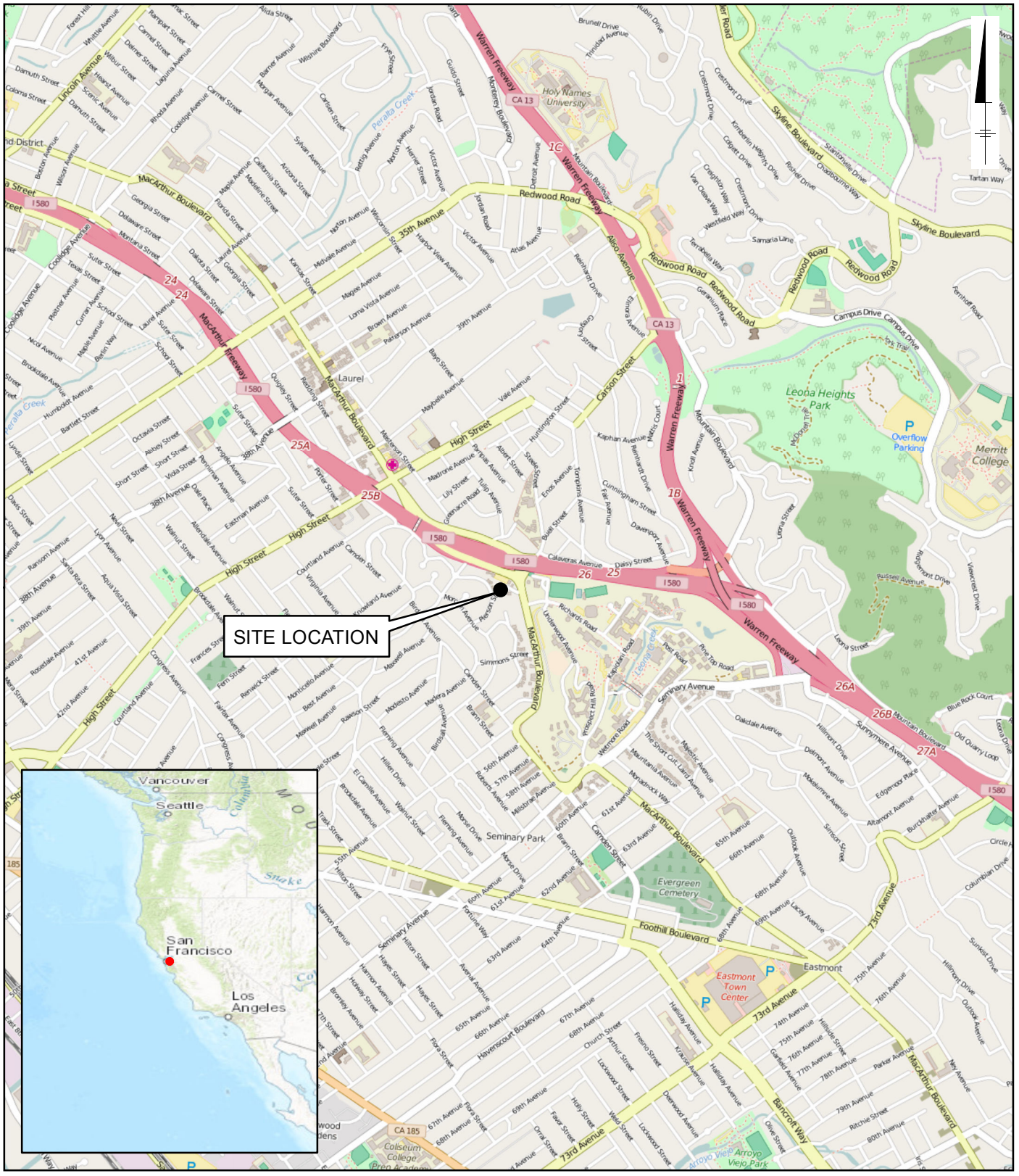
Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	PSH thickness (ft)	PSH recovered (gal)	GW Elev (ft amsl)	TPHd (µg/L)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-8	12/21/2010	153.71	11.63	0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	
	6/22/2016	153.71	12.32	0	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	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	
MW-9	12/21/2010	153.37	10.53	0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	

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)	PSH recovered (gal)	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
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	

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
gal = Gallons
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 limit
-- = Not sampled
NM = Not measured
DRY = Dry well
TPHd = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8015M with SGC
TPHg = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8015
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
J = Estimated value (between laboratory reporting limit and method detection limit)
* = Well paved over

FIGURES



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

SITE LOCATION MAP

0 2,000 4,000 Feet

GRAPHIC SCALE

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

City:Syr Div/Group:IMDV Created By:A.Schilling Last Saved By: aschilling
Project Unocal
G:\ENVCAD\SYRACUSE\ACTIVE\003513\16402\QTRR\DWG\Fig 1 - Site Location.mxd 7/14/2016 2:53:08 PM

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACT\B0035135\1640\2QTRR\DWG\Fig 2 - Site Plan.dwg LAYOUT: 2 SAVED: 7/14/2016 3:03 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: C-LA-NY4P34 XEROX 7300N 2 PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/14/2016 4:17 PM BY: SCHILLING, ADAM
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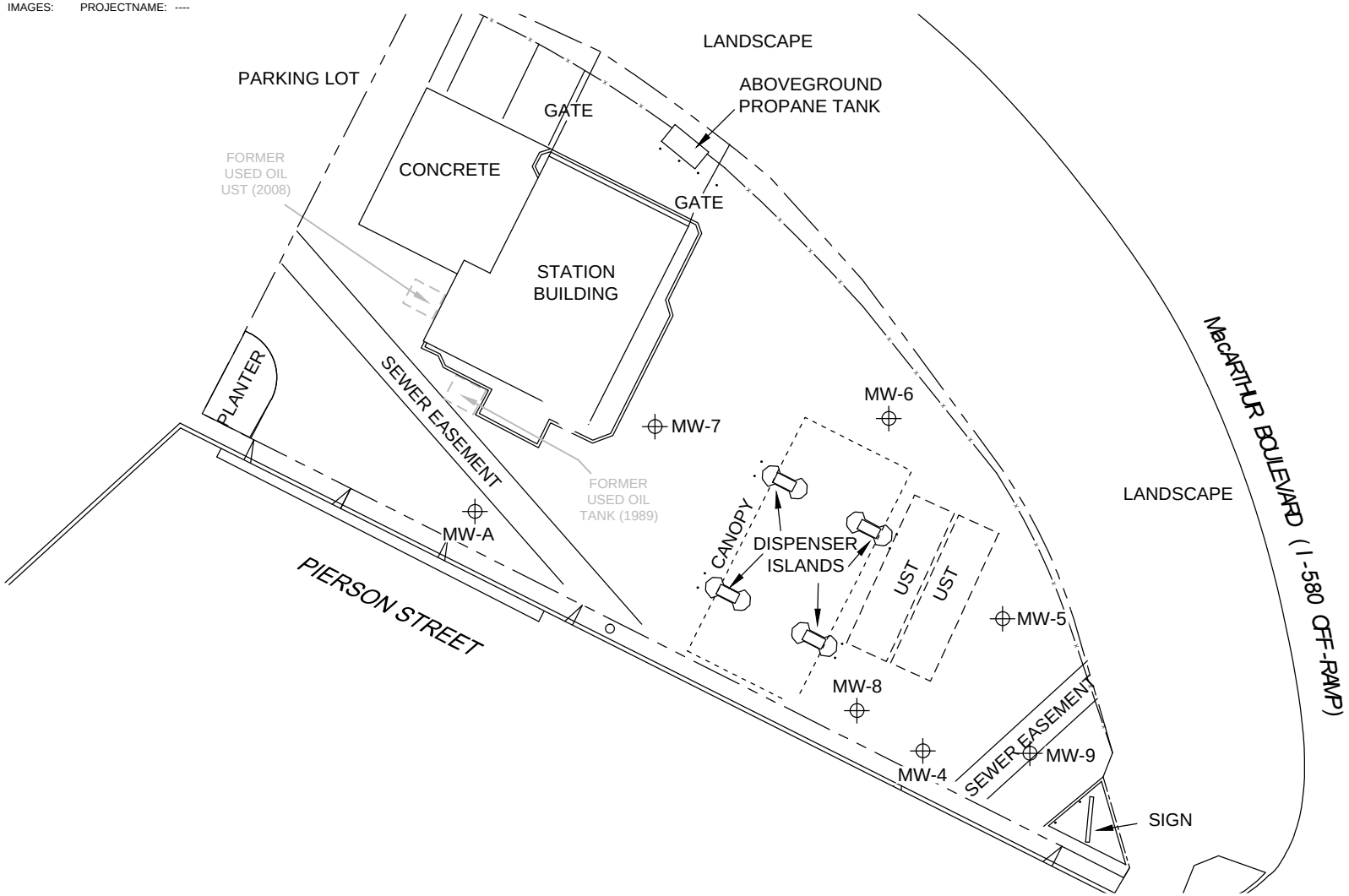


LEGEND

- Subject Property Boundary
- Monitoring Well
- UST Underground Storage Tank

0 30' 60'

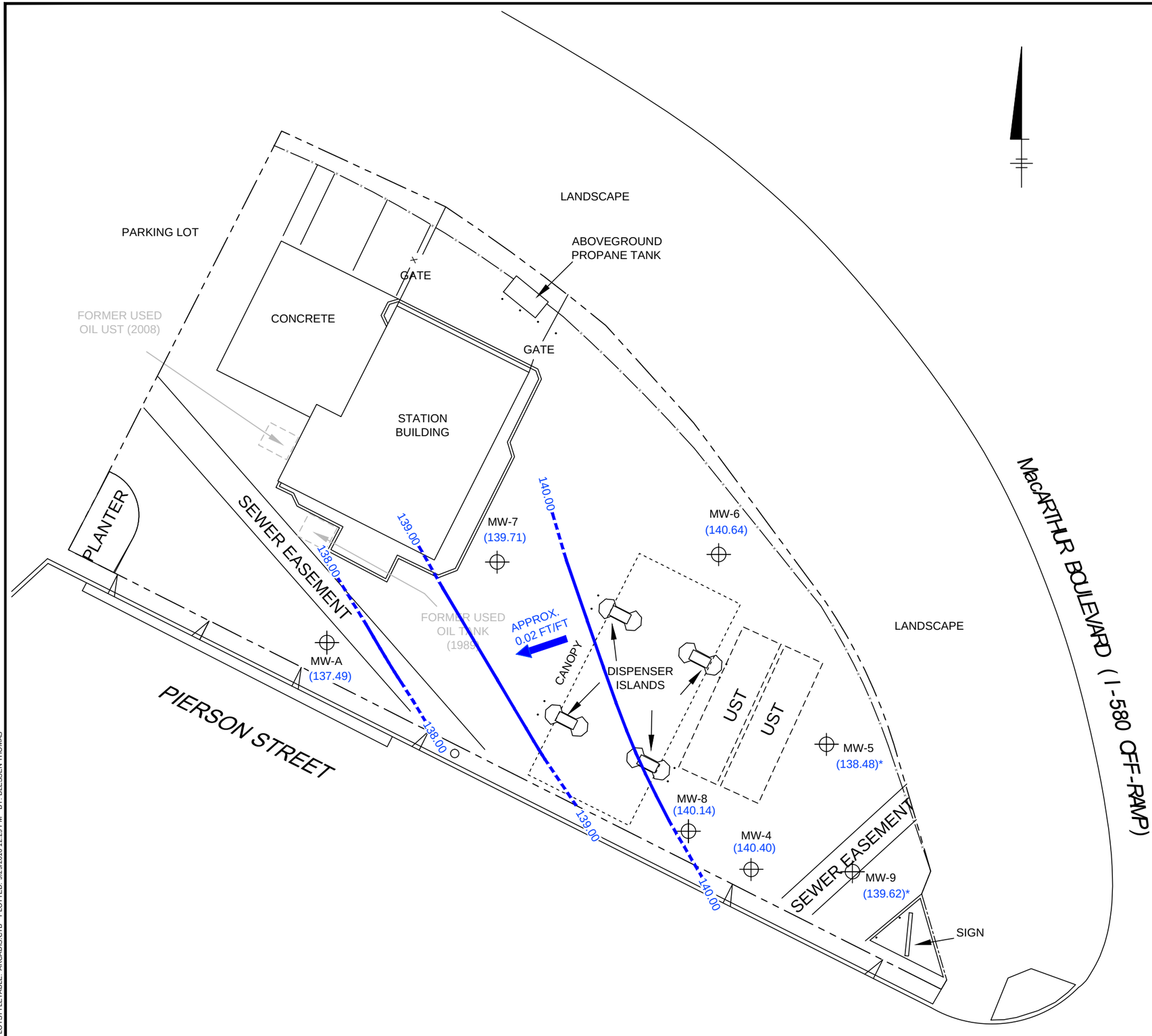
GRAPHIC SCALE

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

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2



LEGEND

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- (140.64) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 140.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL(DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT IN FEET PER FOOT (FT/FT)
- UST UNDERGROUND STORAGE TANK
- * DATA NOT USED IN CONTOURING

0 30' 60'

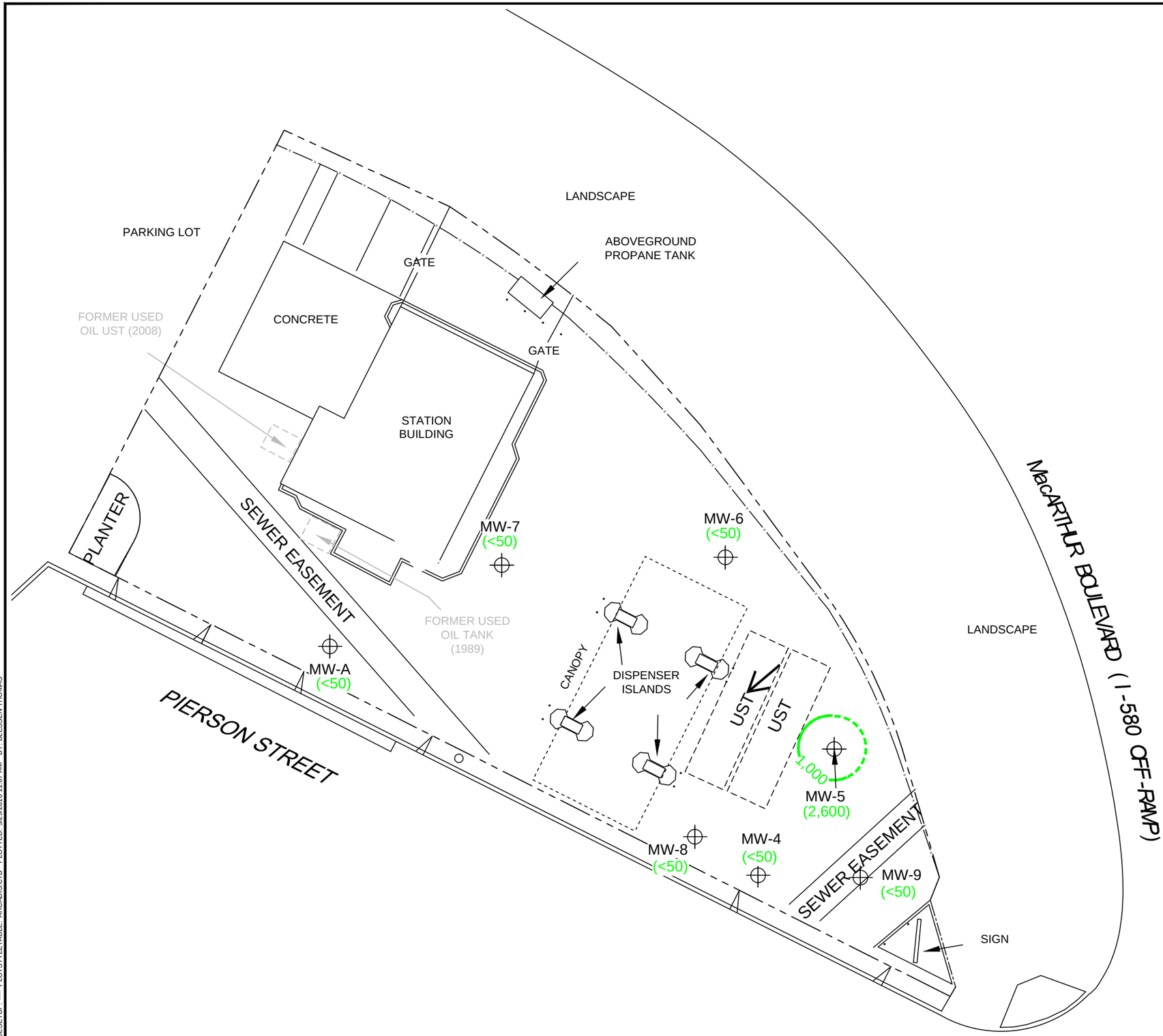
GRAPHIC SCALE

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

GROUNDWATER ELEVATION CONTOUR MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- 1,000 — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPH-g) CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- (2,600) — TPH-g CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- UST — UNDERGROUND STORAGE TANK
- (<50) — NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMIT

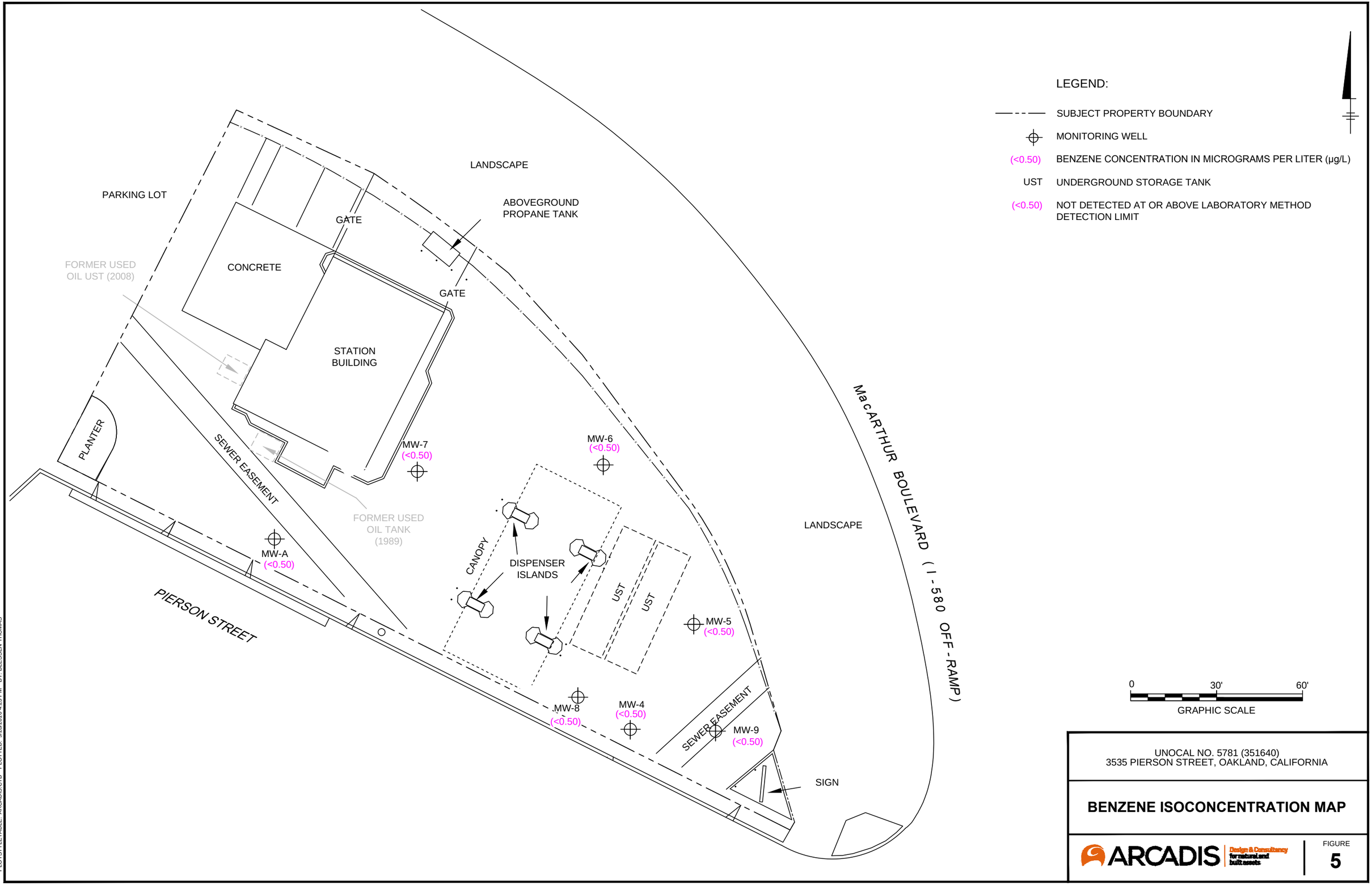
0 30' 60'
GRAPHIC SCALE

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

TPHg ISOCONCENTRATION MAP

ARCADIS

FIGURE
4



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- (<0.50) BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- UST UNDERGROUND STORAGE TANK
- (<0.50) NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMIT

0 30' 60'

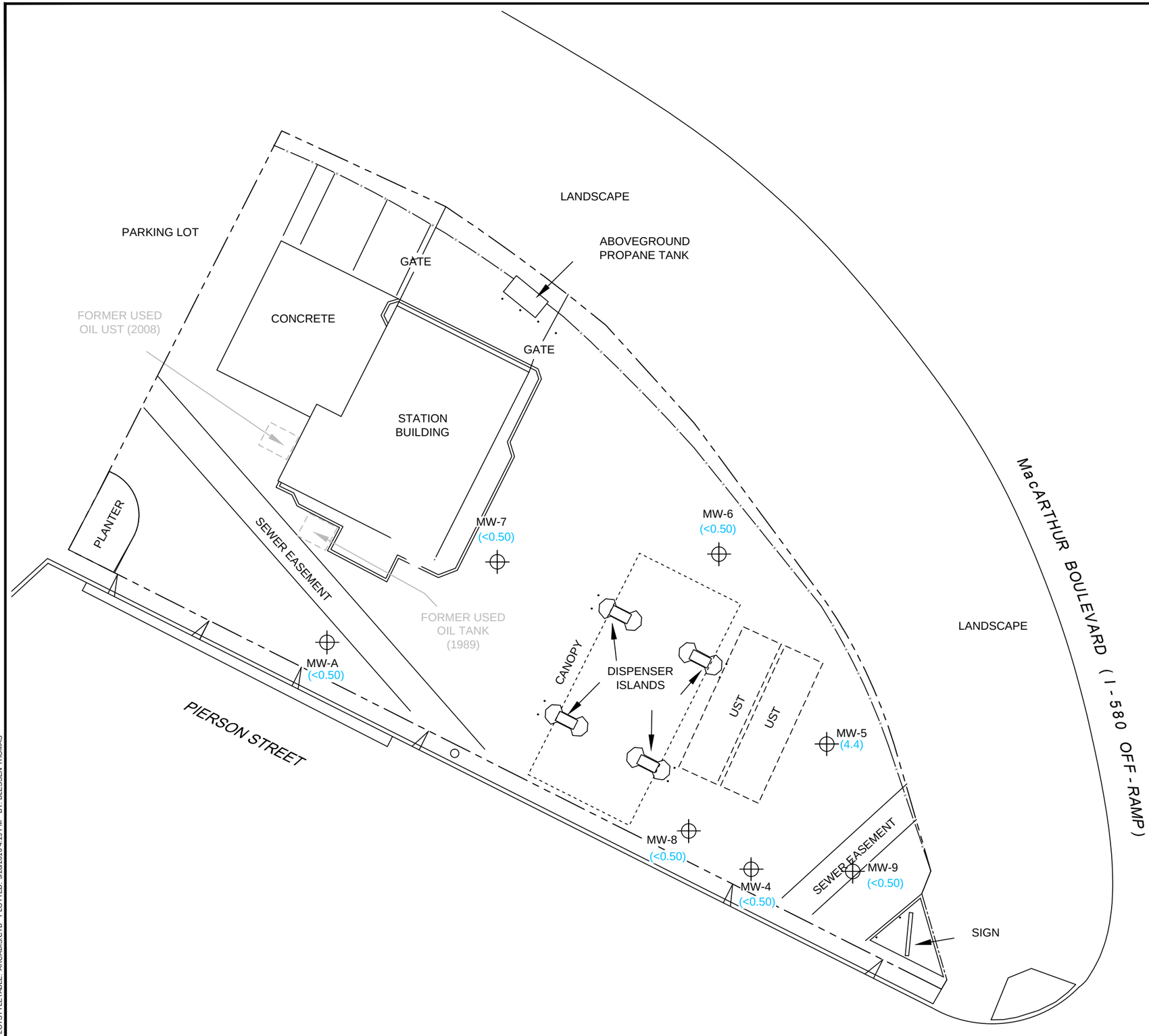
GRAPHIC SCALE

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

BENZENE ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5



LEGEND:

—— - - ——	SUBJECT PROPERTY BOUNDARY
⊕	MONITORING WELL
(4.4)	METHYL T-BUTYL ETHER (MTBE) CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
UST	UNDERGROUND STORAGE TANK
(<0.50)	NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMIT

0 30' 60'

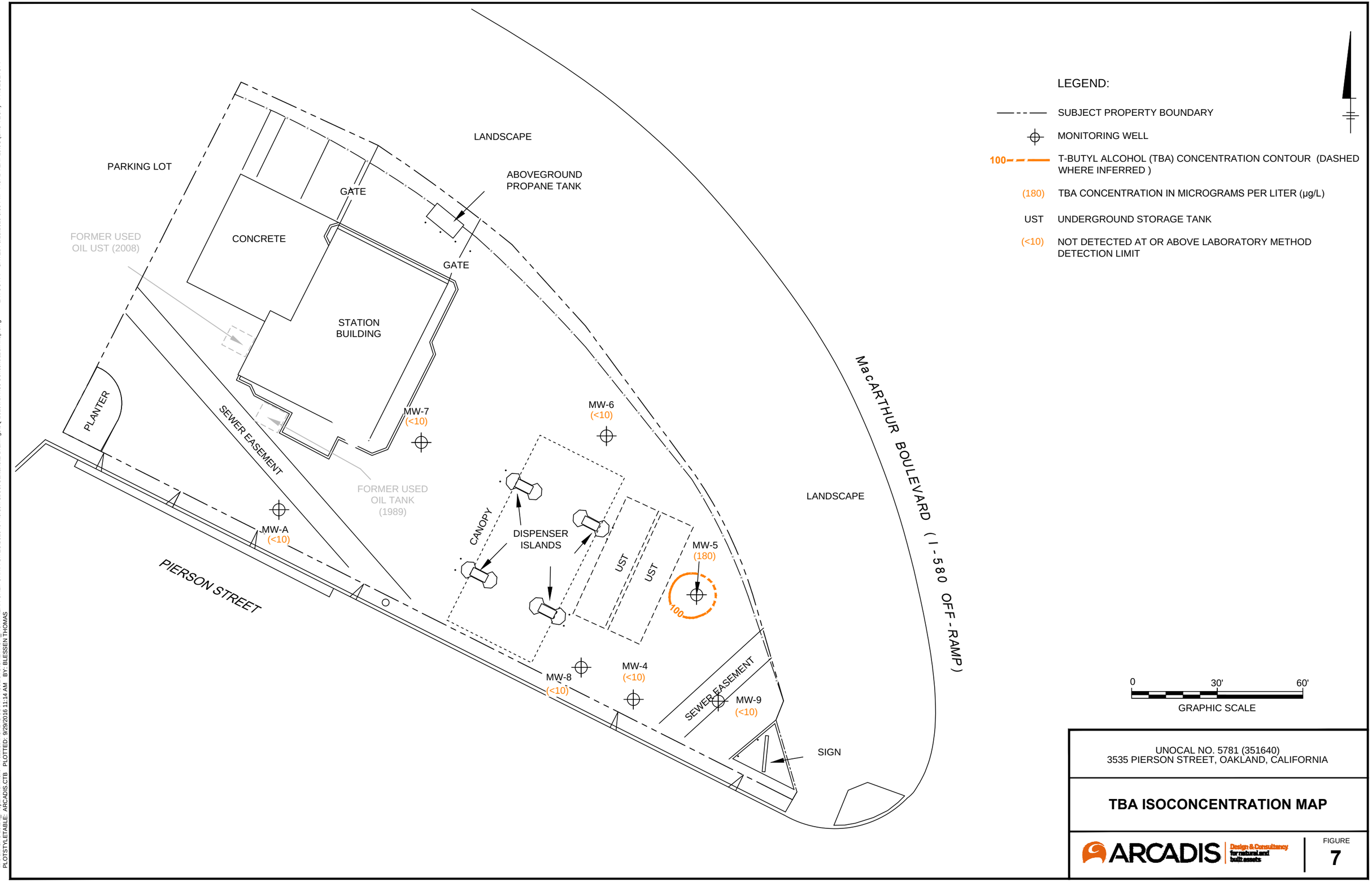
GRAPHIC SCALE

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

MTBE ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- 100 — T-BUTYL ALCOHOL (TBA) CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- (180) TBA CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- UST UNDERGROUND STORAGE TANK
- (<10) NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMIT

0 30' 60'

GRAPHIC SCALE

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

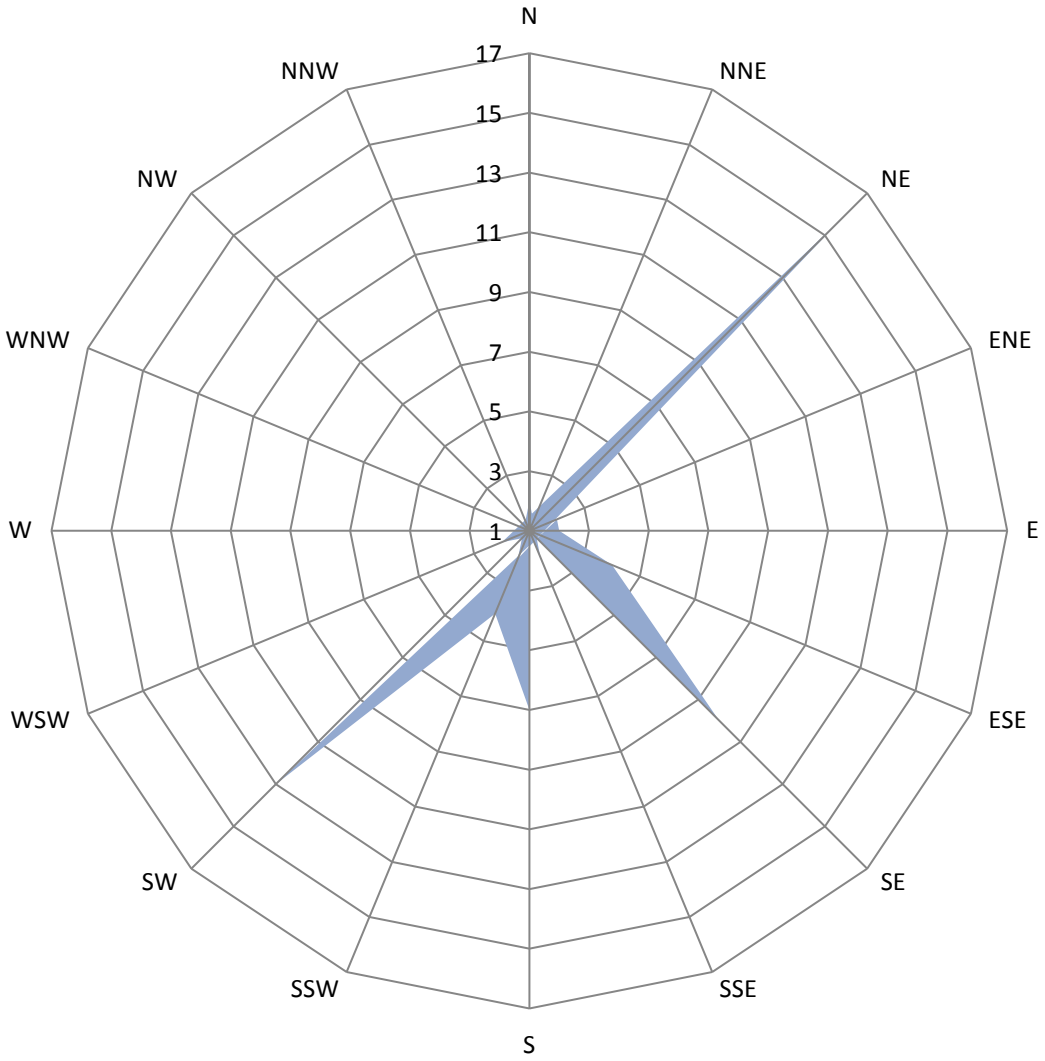
TBA ISOCONCENTRATION MAP

ARCADIS Design & Consultancy for natural and built assets

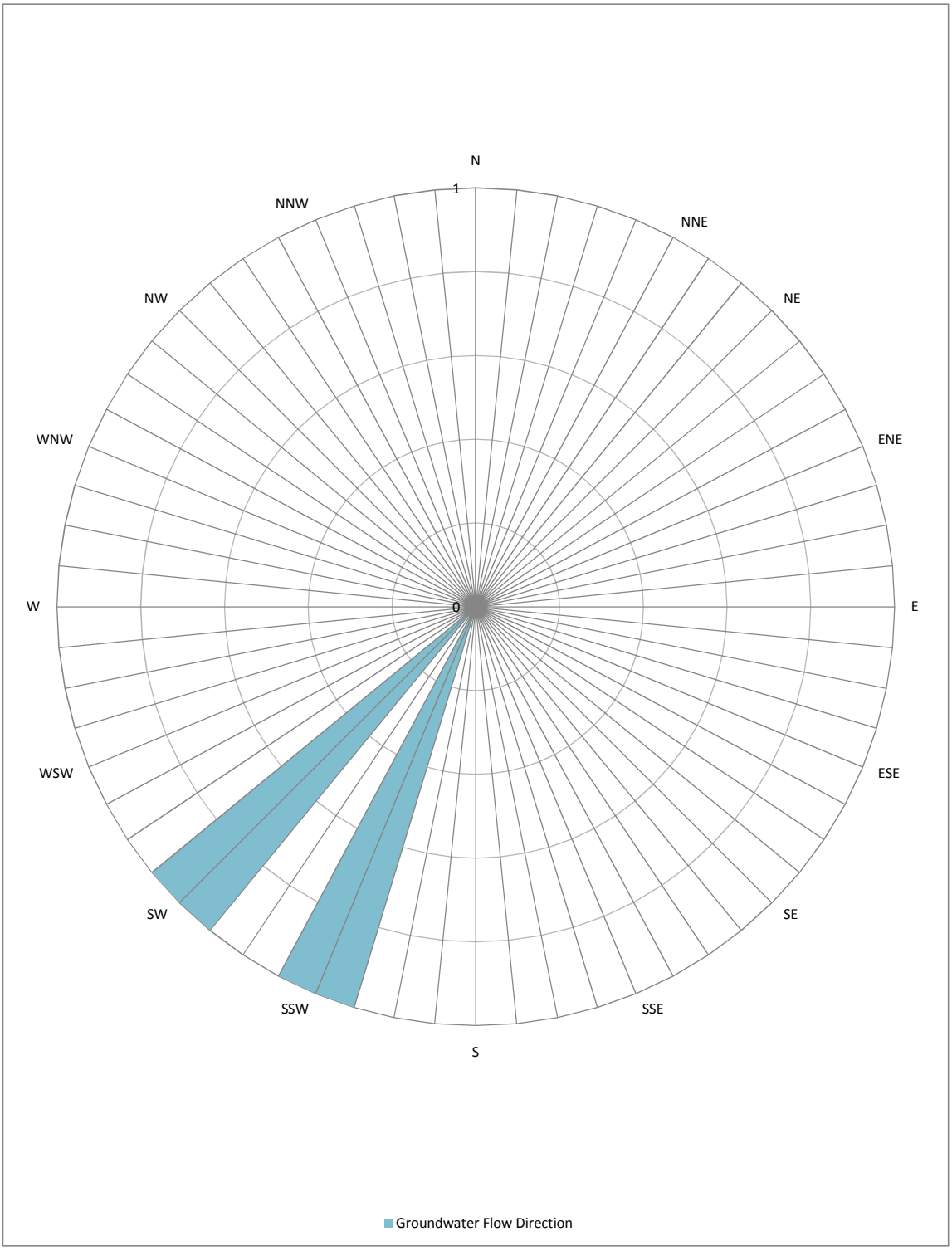
FIGURE 7

CITY:BANGALORE, INDIA DIV/GROUP: ENVCAD DB: R.SUCHITH LD: E. MURESAN PIC: M. FLEISCHNER PM: Z. MASON TM: Z. MASON ES: E. NICOLAI
\\hc-ukr-bl-fs-10\BL_Proj\Environment - Arcadis\ARCADIS USA_PROJECTS\CHEVRON_NORTHERN CALIFORNIA SITES\351640-Pierson Street Oakland\E-Drawings\3Q 2016\TBA Iso Concentration Map.dwg LAYOUT: 7 SAVED: 9/28/2016 3:55 PM ACADVER: 19.0S (LMS TECH) PAGESETUP: ---
PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 9/29/2016 11:14 AM BY: BLESSEN THOMAS

Unocal No. 5781 (351640) Historical Rose Diagram



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



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 2
=

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

September 2, 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 **Third Quarter Event of August 25, 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: 8.25.16

Sampler: FT

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=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	→	→			Emco/8"/2	
MW-4	OK	→					→			Emco/12"/2	
MW-5	OK	→	→	1 Broken Bolt 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.

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: 8-25-16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-A Date Monitored: 8-25-16
Well Diameter (2)/ 4 in.
Total Depth 45.01 ft.
Depth to Water 17.30 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

27.71 xVF .17 = 4.71 x3 case volume = Estimated Purge Volume: 14.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 22.84

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

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

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

Start Time (purge): 1100 Weather Conditions: FOG
Sample Time/Date: 1118 / 8.25.16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ≈2.5 gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 22.56

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1102	4.5	6.56	351	20.7		
1104	9.0	6.60	359	20.4		
1106	14.0	6.63	367	20.1		

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)
	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: TIME:

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: 8.25.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-4 Date Monitored: 8.25.16
Well Diameter 2 (4) in.
Total Depth 24.74 ft.
Depth to Water 13.08 ft.

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

☐ Check if water column is less then 0.50 ft.

11.66 xVF .66 = 7.69 x3 case volume = Estimated Purge Volume: 23.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.41

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

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

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

Start Time (purge): 1155 Weather Conditions: Foggy / Sunny
Sample Time/Date: 1155 / 8.25.16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ≈ 2.0 gpm. Sediment Description: NONE
Did well de-water? Yes If yes, Time: 1202 Volume: 10.0 gal. DTW @ Sampling: 13.08

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1200	8.0	6.60	387	20.6		

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)
	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: 1752 TIME: 1415

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: 8.25.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-5 Date Monitored: 8-25-16
Well Diameter 2 (4) in.
Total Depth 19.90 ft.
Depth to Water 15.18 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.

4.72 xVF .66 = 3.11 x3 case volume = Estimated Purge Volume: 9.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 16.12

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

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

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

Start Time (purge): 1345 Weather Conditions: SUNNY
Sample Time/Date: 1340 / 8.25.16 Water Color: CLEAR Odor: (Y) / N STRONG
Approx. Flow Rate: 1.5 gpm. Sediment Description: NONE
Did well de-water? YES If yes, Time: 1348 Volume: 4.0 gal. DTW @ Sampling: 15.18

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C) / F)	D.O. (mg/L)	ORP (mV)
1347	3.0	6.43	287	21.1		

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: 17.92 TIME: 1425

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: 8.25.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-6 Date Monitored: 8.25.16
Well Diameter (2)/ 4 in.
Total Depth 19.95 ft.
Depth to Water 13.98 ft.

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

☐ Check if water column is less then 0.50 ft.

5.97 xVF .17 = 1.01 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.17

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

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

Start Time (purge): 1245 Weather Conditions: SUNNY
Sample Time/Date: 1295 /8.25.16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ✓ gpm. Sediment Description: NONE
Did well de-water? yes If yes, Time: 1251 Volume: 2.0 gal. DTW @ Sampling: 13.98

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS/ mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1248	1.0	6.37	246	20.9		
1251	2.0	6.40	251	20.6		

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: 17.91 TIME: 1420

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: 8.25.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-7 Date Monitored: 8.25.16
Well Diameter (2) 4 in.
Total Depth 19.70 ft.
Depth to Water 15.67 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.

4.03 xVF .17 = .68 x3 case volume = Estimated Purge Volume: 2.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 16.47

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

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

Start Time (purge): 1133 Weather Conditions: FOG
Sample Time/Date: 1133 / 8.25.16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ✓ gpm. Sediment Description: NONE
Did well de-water? yes If yes, Time: 1137 Volume: 1.0 gal. DTW @ Sampling: 15.67

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1137	1.5	6.30	383	21.1		
					✓	✓

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	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: 17.45 TIME: 1410

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: 8.25.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-8 Date Monitored: 8.25.16
Well Diameter (2)/ 4 in.
Total Depth 19.93 ft.
Depth to Water 13.57 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.

6.36 xVF .17 = 1.08 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.84

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

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

Start Time (purge): 1305 Weather Conditions: SUNNY
Sample Time/Date: 1330 / 8.25.16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ✓ gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 14.79

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C) / F)	D.O. (mg/L)	ORP (mV)
1308	1.0	6.45	384	21.0		
1311	2.0	6.48	389	20.9	✓	
1314	3.0	6.50	394	20.6		✓

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-8	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: TIME:

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: 8.25.16 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-9 Date Monitored: 8.25.16
Well Diameter ②/4 in.
Total Depth 19.66 ft.
Depth to Water 13.75 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.

5.91 xVF .17 = 1.00 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.93

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

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

Start Time (purge): 1217 Weather Conditions: FOG | SUNNY
Sample Time/Date: 1405 / 8.25.16 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: / gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 14.85

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1220	1.0	6.28	379	21.3		
1223	2.0	6.31	385	21.1		
1227	3.0	6.33	390	20.9		

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: SLOW RECOVERY

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

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: T0600101467	Consultant Contact: THAMINA ROBERTS
Site Address: 3535 PIERSON ST. OAKLAND, CA	Consultant Phone No.: (408) 797-2013
Union Oil PM: NICOLE M. HALCENEAUX	Sampling Company: GETTLER-RYAN
Union Oil PM Phone No.: (925) 790-6912 (510) 363-7354	Sampled By (PRINT): FRANK TENNINONI
Charge Code: NWRTB- 0 _____ -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 M W SGC	TPH - G by [redacted] (8015)	BTEX/MTBE/[redacted] EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] with OXYS (8)							Notes / Comments
QA	W-S-A		16.08.25		2		X	X									
MW-A	W-S-A			1118	8	X	X	X		X							
MW-4	W-S-A			1155													
MW-5	W-S-A			[redacted]1340													
MW-6	W-S-A			1245													
MW-7	W-S-A			1133													
MW-8	W-S-A			1330													
MW-9	W-S-A			1405													
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

Relinquished By: [signature] Company: G-RINC Date / Time: (1700) 16.08.25	Relinquished By: [signature] Company: GRIN Date / Time: 08-25-16 1700	Relinquished By: Company: Date / Time:
Received By: GETTLER-RYAN FRIDGE Company: 08-25-16 Date / Time: 17:00	Received By: Mary Bryan BCLAB Company: 8-26-16 Date / Time: 1230	Received By: Company: Date / Time:

ATTACHMENT B

[Historical Groundwater Analytical Data]

Table 3 - Additional Historical Groundwater Results 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: 09/02/2016

Tamera Rogers

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

Client Project:	351640
BCL Project:	5781
BCL Work Order:	1623845
Invoice ID:	B245181

Enclosed are the results of analyses for samples received by the laboratory on 8/26/2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

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16-23845

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 ST. OAKLAND, CA	Consultant Phone No. (408) 797-2013
	Sampling Company: GETTLER-RYAN
Union Oil PM: NKOLE M. ARCENEAUX	Sampled By (PRINT): FRANK TERMINONI
Union Oil PM Phone No. (925) 790-6912 / (510) 363-7354	Sampler Signature: [signature]
Charge Code: NWRTB- 0 __ __ __ __ __ __ -0- LAB	BC Laboratories, Inc. **Project Manager: Molly Meyers** 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.

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

Special Instructions

ANALYSES REQUIRED

	Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015M w/SGC	TPH - G by [redacted] (8015)	BTEX/MTBE [redacted] EPA 8260B	Ethanol by EPA 8260B	EPA 8260B [redacted] OXYS (8)							Notes / Comments
1	QA	W-S-A		16.08.25		2		X	X									
2	MW-A	W-S-A		↓	1118	8	X	X	X		X							
3	MW-4	W-S-A		↓	1155	↓	↓	↓	↓		↓							
4	MW-5	W-S-A		↓	[redacted] 1340	↓	↓	↓	↓		↓							
5	MW-6	W-S-A		↓	1245	↓	↓	↓	↓		↓							
6	MW-7	W-S-A		↓	1133	↓	↓	↓	↓		↓							
7	MW-8	W-S-A		↓	1330	↓	↓	↓	↓		↓							
8	MW-9	W-S-A		↓	1405	↓	↓	↓	↓		↓							
		W-S-A																
		W-S-A																
		W-S-A																
		W-S-A																

CHK BY [initials] DISTRIBUTION [initials] SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time:
[signature]	G-R INC	16.08.25 (1700)	[signature]	GRINC	08-26-16 1230	Gary Bogan	BC Lab	8-26-16
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FRIDGE		08-25-16 1700	Gary Bogan	BC Lab	8-26-16 1230	[signature]	BC	8/26/16 1655

RoC [signature] 8/26/16 2035 REC'D Adan R Fay 8-26-16 @ 2035

Chain of Custody and Cooler Receipt Form for 1623845 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 16-23845

SHIPPING INFORMATION: Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)

SHIPPING CONTAINER: Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)

FREE LIQUID: YES ☐ NO ☐ (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: 0.97 Container: Amber Thermometer ID: 208 Date/Time 8.26 2045

Temperature: (A) 0.0 °C / (C) 0.1 °C Analyst Init ARL

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										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK 094	AB							AB		
40ml VOA VIAL 094	A→F	A→F	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	pH<2 8274									
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER	6,H	6,H	6	6	6,H	6,H	6,H		6,H	
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: MW-5 & MW-6 Ambers broken In Lab.

Sample Numbering Completed By: JDL Date/Time: 8.29.16

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

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

Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1623845-01	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-160825	**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:			
1623845-02	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 11:18
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-A-W-160825	**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:			
1623845-03	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 11:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-W-160825	**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: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1623845-04	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 13:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-5-W-160825	**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:			
1623845-05	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 12:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-6-W-160825	**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:			
1623845-06	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 11:33
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-7-W-160825	**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: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1623845-07	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 13:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-8-W-160825	**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:	
1623845-08	**COC Number:**	---	**Receive Date:**	08/26/2016 20:35
	Project Number:	5781	**Sampling Date:**	08/25/2016 14:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-9-W-160825	**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: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-01 | **Client Sample Name:** 5781, QA-W-160825, 8/25/2016 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)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	93.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/30/16	08/30/16 20:07	IO1	MS-V12	1	BZH2659

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

Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-01 | **Client Sample Name:** 5781, QA-W-160825, 8/25/2016 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)	106	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/29/16	08/29/16 14:55	AKM	GC-V9	1	BZH2915

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

Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-02 | **Client Sample Name:** 5781, MW-A-W-160825, 8/25/2016 11:18:00AM

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)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	92.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/30/16	08/30/16 20:25	IO1	MS-V12	1	BZH2659

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-02 | **Client Sample Name:** 5781, MW-A-W-160825, 8/25/2016 11:18:00AM

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)	97.5	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/29/16	08/29/16 15:15	AKM	GC-V9	1	BZH2915

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-02 | **Client Sample Name:** 5781, MW-A-W-160825, 8/25/2016 11:18:00AM

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)	49.4	%	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	08/31/16	09/01/16 12:12	RSM	GC-5	1	BZI0138

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-03 | **Client Sample Name:** 5781, MW-4-W-160825, 8/25/2016 11:55:00AM

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)	111	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/30/16	08/30/16 20:43	IO1	MS-V12	1	BZH2659

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-03 | **Client Sample Name:** 5781, MW-4-W-160825, 8/25/2016 11:55:00AM

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)	99.7	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/29/16	08/29/16 15:36	AKM	GC-V9	1	BZH2915

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-03 | **Client Sample Name:** 5781, MW-4-W-160825, 8/25/2016 11:55:00AM

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)	64.8	%	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	08/31/16	09/01/16 12:26	RSM	GC-5	1	BZI0138

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-04 | **Client Sample Name:** 5781, MW-5-W-160825, 8/25/2016 1:40:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	**6.6**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Methyl t-butyl ether	**4.4**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Toluene	**0.66**	**ug/L**	**0.50**		**EPA-8260B**	ND		1
Total Xylenes	**14**	**ug/L**	**1.0**		**EPA-8260B**	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260B	ND		1
t-Butyl alcohol	**180**	**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)	99.6	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	95.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/30/16	08/31/16 02:34	IO1	MS-V12	1	BZH2659

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-04 | **Client Sample Name:** 5781, MW-5-W-160825, 8/25/2016 1:40:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	**2600**	**ug/L**	**500**		**EPA-8015B**	ND	**A01**	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	08/29/16	08/29/16 19:42	AKM	GC-V9	10	BZH2915

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-04 | **Client Sample Name:** 5781, MW-5-W-160825, 8/25/2016 1:40:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	**880**	**ug/L**	**50**		**Luft/TPHd**	ND	**A52**	1
Tetracosane (Surrogate)	49.7	%	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	08/31/16	09/01/16 12:40	RSM	GC-5	1	BZI0138

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-05 | **Client Sample Name:** 5781, MW-6-W-160825, 8/25/2016 12:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	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)	97.9	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	93.5	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/30/16	08/30/16 21:00	IO1	MS-V12	1	BZH2659

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-05 | **Client Sample Name:** 5781, MW-6-W-160825, 8/25/2016 12:45:00PM

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)	105	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/30/16	08/30/16 09:30	AKM	GC-V9	1	BZH2915

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-05 | **Client Sample Name:** 5781, MW-6-W-160825, 8/25/2016 12:45:00PM

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)	53.2	%	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	08/31/16	09/01/16 12:54	RSM	GC-5	1	BZI0138

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-06 | **Client Sample Name:** 5781, MW-7-W-160825, 8/25/2016 11:33:00AM

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)	99.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/29/16	08/30/16 21:18	IO1	MS-V12	1	BZH2942

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-06 | **Client Sample Name:** 5781, MW-7-W-160825, 8/25/2016 11:33:00AM

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	08/29/16	08/29/16 19:01	AKM	GC-V9	1	BZH2915

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-06 | **Client Sample Name:** 5781, MW-7-W-160825, 8/25/2016 11:33:00AM

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)	57.4	%	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	08/31/16	09/01/16 13:08	RSM	GC-5	1	BZI0138

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-07 | **Client Sample Name:** 5781, MW-8-W-160825, 8/25/2016 1:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	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)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	92.9	%	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	08/29/16	08/30/16 21:36	IO1	MS-V12	1	BZH2942

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-07 | **Client Sample Name:** 5781, MW-8-W-160825, 8/25/2016 1:30:00PM

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)	105	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/30/16	08/30/16 09:50	AKM	GC-V9	1	BZH2915

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-07 | **Client Sample Name:** 5781, MW-8-W-160825, 8/25/2016 1:30:00PM

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)	55.9	%	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	08/31/16	09/01/16 13:23	RSM	GC-5	1	BZI0138

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Reported: 09/02/2016 14:01
Project: 5781
Project Number: 351640
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1623845-08 | **Client Sample Name:** 5781, MW-9-W-160825, 8/25/2016 2:05:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50		EPA-8260B	ND		1
Methyl t-butyl ether	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)	96.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	106	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/29/16	08/30/16 21:53	IO1	MS-V12	1	BZH2942

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Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1623845-08 | **Client Sample Name:** 5781, MW-9-W-160825, 8/25/2016 2:05:00PM

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)	87.3	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/29/16	08/29/16 19:22	AKM	GC-V9	1	BZH2915

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Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1623845-08 | **Client Sample Name:** 5781, MW-9-W-160825, 8/25/2016 2:05:00PM

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)	68.9	%	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	08/31/16	09/01/16 10:34	RSM	GC-5	1	BZI0138

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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: BZH2659						
Benzene	BZH2659-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BZH2659-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BZH2659-BLK1	ND	ug/L	0.50		
Ethylbenzene	BZH2659-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BZH2659-BLK1	ND	ug/L	0.50		
Toluene	BZH2659-BLK1	ND	ug/L	0.50		
Total Xylenes	BZH2659-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BZH2659-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BZH2659-BLK1	ND	ug/L	10		
Diisopropyl ether	BZH2659-BLK1	ND	ug/L	0.50		
Ethanol	BZH2659-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BZH2659-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BZH2659-BLK1**	**104**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BZH2659-BLK1**	**97.2**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BZH2659-BLK1**	**103**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: BZH2942						
Benzene	BZH2942-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BZH2942-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BZH2942-BLK1	ND	ug/L	0.50		
Ethylbenzene	BZH2942-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BZH2942-BLK1	ND	ug/L	0.50		
Toluene	BZH2942-BLK1	ND	ug/L	0.50		
Total Xylenes	BZH2942-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BZH2942-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BZH2942-BLK1	ND	ug/L	10		
Diisopropyl ether	BZH2942-BLK1	ND	ug/L	0.50		
Ethanol	BZH2942-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BZH2942-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BZH2942-BLK1**	**95.4**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BZH2942-BLK1**	**108**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BZH2942-BLK1**	**102**	%	**80 - 120 (LCL - UCL)**		

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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: BZH2659										
Benzene	BZH2659-BS1	LCS	21.630	25.000	ug/L	86.5		70 - 130		
Toluene	BZH2659-BS1	LCS	23.020	25.000	ug/L	92.1		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BZH2659-BS1	LCS	11.500	10.000	ug/L	115		75 - 125		
Toluene-d8 (Surrogate)	BZH2659-BS1	LCS	9.9000	10.000	ug/L	99.0		80 - 120		
4-Bromofluorobenzene (Surrogate)	BZH2659-BS1	LCS	9.8900	10.000	ug/L	98.9		80 - 120		
QC Batch ID: BZH2942										
Benzene	BZH2942-BS1	LCS	28.680	25.000	ug/L	115		70 - 130		
Toluene	BZH2942-BS1	LCS	31.480	25.000	ug/L	126		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BZH2942-BS1	LCS	11.550	10.000	ug/L	116		75 - 125		
Toluene-d8 (Surrogate)	BZH2942-BS1	LCS	10.340	10.000	ug/L	103		80 - 120		
4-Bromofluorobenzene (Surrogate)	BZH2942-BS1	LCS	10.040	10.000	ug/L	100		80 - 120		

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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZH2659	Used client sample: N										
Benzene	MS	1621392-79	ND	19.880	25.000	ug/L		79.5		70 - 130	
	MSD	1621392-79	ND	20.120	25.000	ug/L	1.2	80.5	20	70 - 130	
Toluene	MS	1621392-79	ND	22.870	25.000	ug/L		91.5		70 - 130	
	MSD	1621392-79	ND	22.500	25.000	ug/L	1.6	90.0	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1621392-79	ND	11.220	10.000	ug/L		112		75 - 125	
	MSD	1621392-79	ND	10.580	10.000	ug/L	5.9	106		75 - 125	
Toluene-d8 (Surrogate)	MS	1621392-79	ND	10.140	10.000	ug/L		101		80 - 120	
	MSD	1621392-79	ND	9.7600	10.000	ug/L	3.8	97.6		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1621392-79	ND	9.9200	10.000	ug/L		99.2		80 - 120	
	MSD	1621392-79	ND	9.9400	10.000	ug/L	0.2	99.4		80 - 120	
QC Batch ID: BZH2942	Used client sample: N										
Benzene	MS	1621392-82	ND	25.970	25.000	ug/L		104		70 - 130	
	MSD	1621392-82	ND	28.210	25.000	ug/L	8.3	113	20	70 - 130	
Toluene	MS	1621392-82	ND	24.950	25.000	ug/L		99.8		70 - 130	
	MSD	1621392-82	ND	24.920	25.000	ug/L	0.1	99.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1621392-82	ND	10.940	10.000	ug/L		109		75 - 125	
	MSD	1621392-82	ND	11.410	10.000	ug/L	4.2	114		75 - 125	
Toluene-d8 (Surrogate)	MS	1621392-82	ND	9.4400	10.000	ug/L		94.4		80 - 120	
	MSD	1621392-82	ND	9.5100	10.000	ug/L	0.7	95.1		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1621392-82	ND	9.9400	10.000	ug/L		99.4		80 - 120	
	MSD	1621392-82	ND	10.830	10.000	ug/L	8.6	108		80 - 120	

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZH2915						
Gasoline Range Organics (C4 - C12)	BZH2915-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	**BZH2915-BLK1**	**91.7**	%	**70 - 130 (LCL - UCL)**		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BZH2915										
Gasoline Range Organics (C4 - C12)	BZH2915-BS1	LCS	858.24	1000.0	ug/L	85.8		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BZH2915-BS1	LCS	38.307	40.000	ug/L	95.8		70 - 130		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZH2915	Used client sample: N										
Gasoline Range Organics (C4 - C12)	MS	1621392-54	ND	888.22	1000.0	ug/L		88.8		70 - 130	
	MSD	1621392-54	ND	929.10	1000.0	ug/L	4.5	92.9	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1621392-54	ND	36.092	40.000	ug/L		90.2		70 - 130	
	MSD	1621392-54	ND	36.649	40.000	ug/L	1.5	91.6		70 - 130	

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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: BZI0138						
Diesel Range Organics (C12 - C24)	BZI0138-BLK1	ND	ug/L	50		
Tetracosane (Surrogate)	**BZI0138-BLK1**	**54.9**	%	**40 - 140 (LCL - UCL)**		
Capric acid (Reverse Surrogate)	BZI0138-BLK1	0	%	0 - 1 (LCL - UCL)		

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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: BZI0138										
Diesel Range Organics (C12 - C24)	BZI0138-BS1	LCS	293.83	500.00	ug/L	58.8		20 - 110		
Tetracosane (Surrogate)	BZI0138-BS1	LCS	13.005	20.000	ug/L	65.0		40 - 140		
Capric acid (Reverse Surrogate)	BZI0138-BS1	LCS	ND	100.00	ug/L	0		0 - 1		

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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: BZI0138	Used client sample: N										
Diesel Range Organics (C12 - C24)	MS	1621392-83	ND	213.24	500.00	ug/L		42.6		20 - 110	
	MSD	1621392-83	ND	243.02	500.00	ug/L	13.1	48.6	30	20 - 110	
Tetracosane (Surrogate)	MS	1621392-83	ND	10.787	20.000	ug/L		53.9		40 - 140	
	MSD	1621392-83	ND	11.934	20.000	ug/L	10.1	59.7		40 - 140	
Capric acid (Reverse Surrogate)	MS	1621392-83	ND	ND	100.00	ug/L		0		0 - 1	
	MSD	1621392-83	ND	ND	100.00	ug/L		0		0 - 1	

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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.
A52	Chromatogram not typical of diesel.