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By Alameda County Environmental Health at 2:31 pm, May 07, 2014

**Timothy L. Bishop**  
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April 30, 2014

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)  
3535 Pierson Street, Oakland, California  
Fuel Leak Case No. RO0000251  
GeoTracker Global ID #T0600101472**

I have reviewed the attached report dated April 30, 2014.

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

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

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

Sincerely,

Tim Bishop  
Project Manager

Attachment: First Quarter 2014 Groundwater Monitoring Report by AECOM

April 30, 2014

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: First Quarter 2014 Groundwater Monitoring Report  
Unocal No. 5781 (351640)  
3535 Pierson Street, Oakland, California  
Fuel Leak Case No. RO0000253**

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (EMC's) affiliate Union Oil Company of California ("Union Oil"), AECOM is pleased to present the first quarter 2014 groundwater monitoring report for the site located at 3535 Pierson Street in Oakland, California (site) (**Figure 1**). The locations of the former and current site features are illustrated on **Figure 2**. Quarterly groundwater monitoring is conducted to evaluate the distribution of petroleum hydrocarbon constituents in groundwater beneath the site. Groundwater sampling was performed by Gettler-Ryan Inc. (Gettler-Ryan) of Dublin, California. This report summarizes sample results collected from wells associated with the site during the first quarter of 2014.

### **Groundwater Monitoring Field Data**

The depth to groundwater was measured for seven monitoring wells (MW-A and MW-4 through MW-9) at the site on February 24, 2014, and these depths were converted to groundwater elevations (**Table 1**). Copies of the groundwater gauging logs are included in **Attachment A**. Groundwater elevation data were used to construct a groundwater elevation contour map (**Figure 2**). The groundwater elevation data collected from well MW-A were not used in contouring because the well is screened in the deeper aquifer. The groundwater flow direction is to the northeast with a calculated average hydraulic gradient of approximately 0.04 feet per foot (**Figure 2**). The depth to groundwater at the site ranged from 12.85 to 17.33 feet below the top of well casings with calculated elevations ranging from 137.46 to 140.52 feet above mean sea level.

### **Groundwater Sampling and Analytical Results**

Groundwater samples were collected from monitoring wells MW-A, and MW-4 through MW-9 on February 24, 2014. The site wells historically have poor recharge so pre-purge samples are collected, and if the wells do not recharge in 2 hours, the pre-purge samples are submitted for analysis. After purging a minimum of three well volumes, only MW-A and MW-8 recharged within the 2-hour period and post-purge samples were submitted for analysis. Temperature, pH, and electrical conductivity readings were recorded during purging, and copies of those purge logs are presented in **Attachment A**. Laboratory analyses of the groundwater samples were performed by BC Laboratories, Inc. (BC Labs) of Bakersfield, California. The BC Labs analytical report dated March 12, 2014, is included as **Attachment B**. Groundwater samples were analyzed for the following based on historical trends at each monitoring well:

- Total petroleum hydrocarbons as diesel range organics (TPH-DRO) by method Luft/TPHd with silica gel cleanup;
- Total petroleum hydrocarbons as gasoline range organics (TPH-GRO) by Environmental Protection Agency (EPA) Method 8015B;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B; and

- Fuel oxygenates, including methyl t-butyl ether (MTBE), t-amyl methyl ether (TAME), t-butyl alcohol (TBA), diisopropyl ether (DIPE), and ethyl t-butyl ether (ETBE), ethanol, 1,2-dibromomethane (EDB), and 1,2-dichloroethane (EDC) by EPA Method 8260B.

Analytical results are presented in **Table 1**, **Table 2**, and **Figure 3** for this quarterly groundwater monitoring event, the following presents a brief summary of the analytical sample results:

- TBA, ETBE, DIPE, TAME, EDB, EDC, and ethanol were not detected in any of the groundwater samples analyzed.
- TPH-DRO was detected for MW-5 at 1,700 micrograms per liter ( $\mu\text{g/L}$ ).
- TPH-GRO was detected for MW-5 at 3,900  $\mu\text{g/L}$ .
- MTBE was detected in the groundwater samples collected from MW-5, MW-6, and MW-8 at 1.7  $\mu\text{g/L}$ , 47  $\mu\text{g/L}$  and 1.1  $\mu\text{g/L}$ , respectively.
- Toluene, ethylbenzene, and total xylenes were detected in the groundwater sample collected from MW-5 at 4.5  $\mu\text{g/L}$ , 240  $\mu\text{g/L}$ , and 1,800  $\mu\text{g/L}$ , respectively. Historical concentrations of toluene, ethylbenzene, and total xylenes detected for MW-5 have shown an overall decreasing trend.

A summary of historical groundwater analytical data through February 2014 is presented in **Tables 3 through 5**.

Approximately 42 gallons of purge water was generated during the groundwater monitoring event. The purge water generated during sampling activities was transported by Clean Harbors Environmental Services to Evergreen Oil located in Newark, California.

During the fourth quarter of 2012, 0.39 feet of free product/light non-aqueous phase liquid (LNAPL) was observed in well MW-5. Free product/LNAPL has not been observed in MW-5 since that time.

## Conclusions and Recommendations

The sample results from the groundwater monitoring activities at the site indicate the following.

- Petroleum hydrocarbons were not detected in the groundwater samples collected from MW-A, MW-4, MW-7, and MW-9.
- MW-5 continues to show elevated petroleum hydrocarbon concentrations; however, the concentrations for the first quarter of 2014 were generally the lowest observed to date.
- MTBE was detected in the groundwater samples collected from MW-5, MW-6 and MW-8 at 1.7  $\mu\text{g/L}$ , 47  $\mu\text{g/L}$  and 1.1  $\mu\text{g/L}$ , respectively.

## Future Activities

### Groundwater Monitoring

AECOM will coordinate monitoring and sampling activities as per the established schedule. AECOM will submit quarterly groundwater monitoring and sampling reports.

### Additional Activity

AECOM will submit a conceptual site model (CSM) and Data Gap Work Plan for the site.

## Remarks/Signatures


The interpretations in this report represent AECOM's professional opinions and are based, in part, on the information supplied by Gettler-Ryan and BC Labs. These opinions are based on currently available

information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended. If you have any questions regarding this project, please contact James Harms at (916) 414-5800.

Sincerely,



James Harms  
Project Manager



Robert Perez, PG #8684  
Project Geologist



cc: Mr. Tim Bishop, EMC (via electronic copy)  
DeLong Liu, United Brothers Enterprise, Inc., property owner (via paper copy)

4/30/14

Enclosures:

**Tables**

Table 1	Current Groundwater Monitoring Data and Analytical Results
Table 2	Current Groundwater Analytical Results - Oxygenate Compounds
Table 3	Historical Groundwater Monitoring Data and Analytical Results
Table 4	Historical Groundwater Analytical Results - Oxygenate Compounds
Table 5	Additional Historical Analytical Results

**Figures**

- |          |  |
|----------|--|
| Figure 1 | Site Location Map                                      |
| Figure 2 | Groundwater Elevation Contour Map – First Quarter 2014 |
| Figure 3 | Groundwater Concentration Map – First Quarter 2014     |

**Attachments**

- |              |  |
|--------------|--|
| Attachment A | February 24, 2014, Groundwater Data Field Sheets |
| Attachment B | BC Laboratories, Inc. Analytical Report #1404250 |

## Tables

**Table 1**  
**Current Groundwater Monitoring Data and Analytical Results**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-DRO (µg/L)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-A	154.79	2/24/2014	17.33	137.46	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-4	153.48	2/24/2014	13.06	140.42	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-5	153.66	2/24/2014	15.27	138.39	0	1,700	3,900	<0.50	4.5	240	1,800	
MW-6	154.62	2/24/2014	15.22	139.40	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-7	155.38	2/24/2014	15.33	140.05	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-8	153.71	2/24/2014	13.56	140.15	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-9	153.37	2/24/2014	12.85	140.52	0	<50	<50	<0.50	<0.50	<0.50	<1.0	

**NOTES:**

\* TOC and GWE are in feet above mean sea level.

BTEX compounds analyzed by Environmental Protection Agency Method 8260B

TPH-DRO analyzed by Luft/TPHd method with silica gel cleanup

TPH-GRO analyzed by Environmental Protection Agency Method 8015B

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

ID = Identification

TOC = Top of casing

ft = Feet

DTW = Depth to water

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total Xylenes

**Table 2**  
**Current Groundwater Analytical Results - Oxygenate Compounds**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-A	2/24/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-4	2/24/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-5	2/24/2014	1.7	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-6	2/24/2014	47	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-7	2/24/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-8	2/24/2014	1.1	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-9	2/24/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

**NOTES:**

Oxygenate compounds analyzed by Environmental Protection Agency Method 8260B

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

ID = Identification

µg/L = Micrograms per liter

MTBE = Methyl t-butyl ether

TBA = t-butyl alcohol

DIPE = Diisopropyl ether

ETBE = Ethyl t-butyl ether

TAME = t-amyl methyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane



**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID (SI)	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-DRO (µg/L)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (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	
	151.80	2/6/1992	19.88	131.92	0	ND	ND	ND	ND	ND	ND	
	151.80	8/4/1992	18.95	132.85	0	ND	ND	ND	ND	ND	0.51	
	151.80	2/10/1993	17.71	134.09	0	ND	ND	ND	ND	ND	ND	
	151.80	2/10/1994	15.25	136.55	0	ND	ND	ND	0.52	ND	0.92	
	151.80	2/9/1995	15.68	136.12	0	ND	ND	ND	ND	ND	ND	
	151.80	2/6/1996	12.52	139.28	0	120	ND	ND	ND	ND	2.1	
	151.80	2/5/1997	13.01	138.79	0	61	ND	ND	ND	ND	ND	
	151.80	2/2/1998	11.91	139.89	0	ND	ND	ND	ND	ND	ND	
	151.80	2/22/1999	11.24	140.56	0	ND	ND	ND	ND	ND	ND	
	151.80	2/26/2000	12.16	139.64	0	ND	ND	ND	1.01	ND	ND	
	151.80	3/7/2001	11.91	139.89	0	131	ND	ND	ND	ND	ND	
	151.80	2/22/2002	14.08	137.72	0	<50	<50	<0.50	<0.50	<0.50	<0.50	
	151.80	2/22/2003	14.41	137.39	0	93	<50	<0.50	<0.50	<0.50	<0.50	
	151.80	2/3/2004	14.32	137.48	0	60	<50	<0.50	<0.50	<0.50	<0.50	
	151.80	2/18/2005	14.21	137.59	0	<50	<50	<0.50	<0.50	<0.50	<0.50	
	151.80	3/29/2006	12.72	139.08	0	<200	<50	<0.30	<0.30	<0.30	<0.60	
	151.80	3/28/2007	13.98	137.82	0	92	<50	<0.30	<0.30	<0.30	<0.60	
	151.80	3/22/2008	12.68	139.12	0	<50	<50	<0.30	<0.30	<0.30	<0.60	
	151.80	3/27/2009	14.35	137.45	0	53	<50	<0.30	<0.30	<0.30	<0.60	
	151.80	3/23/2010	19.55	132.25	0	<58	--	--	--	--	--	
	154.79	6/16/2010	17.85	136.93999	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	9/29/2010	15.50	139.28999	0	<1200	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	12/21/2010	14.43	140.35999	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	3/10/2011	17.70	137.08999	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	06/07/2011	13.92	140.87	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	08/18/2011	18.83	135.96	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	10/04/2011	14.67	140.12	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	01/24/2012	16.75	138.04	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	04/06/2012	17.14	137.65	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	07/02/2012	14.79	140.00	0	<40	<50	<0.50	<0.50	<0.50	<1.0	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID (SI)	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-DRO (µg/L)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
	154.79	10/4/2012	17.52	137.27	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	1/23/2013	15.08	139.71	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	4/22/2013	15.60	139.19	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	7/31/2013	16.42	138.37	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.79	10/17/2013	16.57	138.22	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	<b>154.79</b>	<b>2/24/2014</b>	<b>17.33</b>	<b>137.46</b>	<b>0</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	
<b>MW-4</b>	153.48	6/16/2010	11.13	142.35	0	<50	58	<0.50	9.7	1.3	16	
	153.48	9/29/2010	12.62	140.86	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	12/21/2010	11.17	142.31	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	3/10/2011	10.57	142.91	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	06/07/2011	10.94	142.54	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	08/18/2011	12.07	141.41	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	10/04/2011	12.70	140.78	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	01/24/2012	12.40	141.08	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	04/06/2012	11.10	142.38	0	<40	390	<0.50	3.8	11	150	
	153.48	07/02/2012	12.14	141.34	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	10/4/2012	13.43	140.05	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	1/23/2013	11.64	141.84	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	4/22/2013	12.22	141.26	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	7/31/2013	13.24	140.24	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.48	10/17/2013	13.85	139.63	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	<b>153.48</b>	<b>2/24/2014</b>	<b>13.06</b>	<b>140.42</b>	<b>0</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	
<b>MW-5</b>	153.66	6/16/2010	11.95	141.71	0	3,000	29,000	580	6,800	850	7,200	
	153.66	9/29/2010	13.67	139.99	0	64,000	29,000	220	4,100	2,500	23,000	
	153.66	12/21/2010	11.17	142.49	0	11,000	50,000	81	4,800	2,200	22,000	
	153.66	3/10/2011	11.35	142.31	0	4,900	48,000	69	3,600	1,700	20,000	
	153.66	06/07/2011	11.45	142.21	0	3,700	40,000	32	2,300	1,500	16,000	
	153.66	08/18/2011	12.30	141.36	0	5,400	30,000	29	1,000	980	7,200	
	153.66	10/04/2011	13.72	139.94	0	20,000	42,000	21	2,400	2,400	20,000	
	153.66	01/24/2012	12.20	141.46	0	46,000	71,000	<25	1,100	1,400	10,000	
	153.66	04/06/2012	11.88	141.78	0	21,000	58,000	9.9	880	660	9,800	
	153.66	07/02/2012	12.75	140.91	0	30,000	53,000	89	590	1,000	12,000	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID (SI)	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-DRO (µg/L)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
	153.66	10/4/2012	16.03	137.94	0.39	No Sample Collected - Free Product in Well						
	153.66	1/23/2013	12.02	141.64	0	22,000	54,000	<25	160	1,100	13,000	
	153.66	4/22/2013	12.37	141.29	0	7,600	39,000	0.70	65	330	4,500	
	153.66	7/31/2013	15.62	138.04	0	11,000	35,000	1.0	59	470	3,500	
	153.659999	10/17/2013	16.41	137.25	0	<50	86,000	<10	66	770	9,300	
	<b>153.66</b>	<b>2/24/2014</b>	<b>15.27</b>	<b>138.39</b>	<b>0</b>	<b>1,700</b>	<b>3,900</b>	<b>&lt;0.50</b>	<b>4.5</b>	<b>240</b>	<b>1,800</b>	
<b>MW-6</b>	154.62	12/21/2010	12.10	142.51999	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	3/10/2011	11.36	143.26	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	06/07/2011	11.33	143.29	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	08/18/2011	13.00	141.62	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	10/04/2011	14.02	140.60	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	01/24/2012	11.94	142.68	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	04/06/2012	11.39	143.23	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	07/02/2012	11.49	143.13	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	10/4/2012	16.09	138.53	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	1/23/2013	11.41	143.21	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	4/22/2013	11.43	143.19	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	7/31/2013	15.71	138.91	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	154.62	10/17/2013	16.83	137.79	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	<b>154.62</b>	<b>2/24/2014</b>	<b>15.22</b>	<b>139.40</b>	<b>0</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	
<b>MW-7</b>	155.38	12/21/2010	13.46	141.92	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	3/10/2011	12.07	143.31001	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	06/07/2011	12.59	142.79	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	08/18/2011	14.37	141.01	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	10/04/2011	15.22	140.16	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	01/24/2012	15.32	140.06	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	04/06/2012	13.09	142.29	0	<49	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	07/02/2012	14.42	140.96	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	10/4/2012	16.20	139.18	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	1/23/2013	13.27	142.11	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	155.38	4/22/2013	14.30	141.08	0	<50	52	<0.50	<0.50	<0.50	<1.0	
	155.38	7/31/2013	16.30	139.08	0	Insufficient Water to Sample						

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID (SI)	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-DRO (µg/L)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
	155.38	10/17/2013	16.77	138.61	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	<b>155.38</b>	<b>2/24/2014</b>	<b>15.33</b>	<b>140.05</b>	<b>0</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	
<b>MW-8</b>	153.71	12/21/2010	11.63	142.08001	0	81	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	3/10/2011	11.38	142.33001	0	61	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	06/07/2011	11.54	142.17	0	71	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	08/18/2011	12.47	141.24	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	10/04/2011	12.90	140.81	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	01/24/2012	12.52	141.19	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	04/06/2012	11.35	142.36	0	160	270	<0.50	3.7	7.8	91	
	153.71	07/02/2012	12.50	141.21	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	10/4/2012	13.89	139.82	0	<50	<50	<0.50	<0.50	<0.50	2.4	
	153.71	1/23/2013	13.06	140.65	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	4/22/2013	12.82	140.89	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	7/31/2013	13.63	140.08	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.71	10/17/2013	14.48	139.23	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	<b>153.71</b>	<b>2/24/2014</b>	<b>13.56</b>	<b>140.15</b>	<b>0</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	
<b>MW-9</b>	153.37	12/21/2010	10.53	142.84	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	3/10/2011	10.86	142.51	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	06/07/2011	11.36	142.01	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	08/18/2011	12.52	140.85	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	10/04/2011	13.32	140.05	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	01/24/2012	11.23	142.14	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	04/06/2012	10.98	142.39	0	<40	340	<0.50	4.4	9	120	
	153.37	07/02/2012	12.58	140.79	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	10/4/2012	14.31	139.06	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	1/23/2013	11.11	142.26	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	4/22/2013	12.22	141.15	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	7/31/2013	14.10	139.27	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	153.37	10/17/2013	14.56	138.81	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
	<b>153.37</b>	<b>2/24/2014</b>	<b>12.85</b>	<b>140.52</b>	<b>0</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	

**NOTES:**

\* TOC and GWE are in feet above mean sea level.

BTEX compounds analyzed by Environmental Protection Agency Method 8260B

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

<b>WELL ID</b> <b>(SI)</b>	<b>TOC*</b> <b>(ft)</b>	<b>DATE</b>	<b>DTW</b> <b>(ft)</b>	<b>GWE*</b> <b>(ft)</b>	<b>LNAPL</b> <b>(ft)</b>	<b>TPH-DRO</b> <b>(µg/L)</b>	<b>TPH-GRO</b> <b>(µg/L)</b>	<b>B</b> <b>(µg/L)</b>	<b>T</b> <b>(µg/L)</b>	<b>E</b> <b>(µg/L)</b>	<b>X</b> <b>(µg/L)</b>	<b>Comments</b>
TPH-DRO analyzed by method Luft/TPHd with silica gel cleanup TPH-GRO analyzed by Environmental Protection Agency Method 8015B Free product correlates to light non-aqueous phase liquid <# = Analyte not detected at or above indicated laboratory practical quantitation limit ID = Identification TOC = Top of casing ft = Feet DTW = Depth to water GWE = Groundwater elevation µg/L = Micrograms per liter LNAPL = Light Non-Aqueous Phase Liquid												
								B = Benzene T = Toluene E = Ethylbenzene X = Total Xylenes		-- = Not analyzed/applicable		
						TPH-DRO = Total Petroleum Hydrocarbons as Diesel/Diesel Range Organics TPH-GRO = Total Petroleum Hydrocarbons as Gasoline/Gasoline Range Organics ND = Non-detect						

Table 4  
 Historical Groundwater Analytical Results - Oxygenate Compounds  
 Unocal No. 5781 (351640)  
 3535 Pierson Street  
 Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)	METHANOL (µg/L)	METHANE (mg/L)	FERROUS IRON (mg/L)	NITRATE (AS N) (mg/L)	SULFATE (mg/L)
MW-A	12/18/1990	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/3/1991	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/7/1991	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/8/1991	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/6/1992	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/4/1992	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/1993	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/1994	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/9/1995	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/6/1996	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/1997	ND	--	--	--	--	--	--	--	--	--	--	--	--
	2/2/1998	ND	--	--	--	--	--	--	--	--	--	--	--	--
	2/22/1999	ND	--	--	--	--	--	--	--	--	--	--	--	--
	2/26/2000	ND	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/2001	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--
	2/22/2002	<0.50	--	--	--	--	--	--	--	--	--	--	--	--
	2/22/2003	<2.0	<100	<500	<2.0	<2.0	<2.0	<2.0	<0.50	--	--	--	--	--
	2/3/2004	<2.0	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	2/18/2005	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	3/29/2006	0.54	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	3/28/2007	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	3/22/2008	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	3/27/2009	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/23/2010	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/16/2010	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	9/29/2010	0.63	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	12/21/2010	0.65	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/10/2011	0.56	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	06/07/2011	0.57	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	0.61	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	140	11	69
	10/04/2011	0.72	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	<100	13	69
	01/24/2012	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	04/06/2012	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	07/02/2012	0.56	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/4/2012	0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	1/23/2013	0.55	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	4/22/2013	0.59	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	7/31/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/17/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	2/24/2014	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
MW-4	6/16/2010	5.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	9/29/2010	7.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	12/21/2010	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/10/2011	2.2	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	06/07/2011	1.6	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.04	<100	4.6	52

**Table 4**  
**Historical Groundwater Analytical Results - Oxygenate Compounds**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)	METHANOL (µg/L)	METHANE (mg/L)	FERROUS IRON (mg/L)	NITRATE (AS N) (mg/L)	SULFATE (mg/L)
	10/04/2011	3.8	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.03	100	4.3	50
	01/24/2012	1.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	04/06/2012	2.2	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	07/02/2012	2.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/4/2012	1.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	1/23/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	4/22/2013	2.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	7/31/2013	0.95	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/17/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	<b>2/24/2014</b>	<b>&lt;0.50</b>	<b>&lt;10</b>	<b>&lt;250</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	--	--	--	--	--
<b>MW-5</b>	6/16/2010	<50	<1000	<25000	<50	<50	<50	<50	<50	<100	--	--	--	--
	9/29/2010	52	<1000	<25000	<50	<50	<50	<50	<50	<1000	--	--	--	--
	12/21/2010	<50	<1000	<25000	<50	<50	<50	<50	<50	<100	--	--	--	--
	3/10/2011	<50	<1000	<25000	<50	<50	<50	<50	<50	<100	--	--	--	--
	06/07/2011	24	150	330	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	56	44	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	9.7	15,000	<0.44	<1.0
	10/04/2011	42	<250	<6,200	<12	<12	<12	<12	<12	<100	1.9	17,000	<0.44	1.3
	01/24/2012	<25	<500	<12,000	<25	<25	<25	<25	<25	--	--	--	--	--
	04/06/2012	12	<120	<3,100	<6.2	<6.2	<6.2	<6.2	<6.2	--	--	--	--	--
	07/02/2012	26	<500	<12,000	<25	<25	<25	<25	<25	--	--	--	--	--
	10/4/2012				No Sample Collected - Free Product in Well									
	1/23/2013	<25	<500	<12,000	<25	<25	<25	<25	<25	--	--	--	--	--
	4/22/2013	2.9	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	7/31/2013	9.8	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/17/2013	<10	<200	<5,000	<10	<10	<10	<10	<10	--	--	--	--	--
	<b>2/24/2014</b>	<b>1.7</b>	<b>&lt;10</b>	<b>&lt;250</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	--	--	--	--	--
<b>MW-6</b>	12/21/2010	32	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/10/2011	4.6	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	06/07/2011	4.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	2.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.0027	<200	18	66
	10/04/2011	3.1	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	100	24	78
	01/24/2012	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	04/06/2012	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	07/02/2012	0.56	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/4/2012	0.75	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	1/23/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	4/22/2013	0.53	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	7/31/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/17/2013	16	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	<b>2/24/2014</b>	<b>47</b>	<b>&lt;10</b>	<b>&lt;250</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	--	--	--	--	--
<b>MW-7</b>	12/21/2010	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/10/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	06/07/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.0012	<500	3.8	100





**Table 4**  
**Historical Groundwater Analytical Results - Oxygenate Compounds**  
**Unocal No. 5781 (351640)**  
**3535 Pierson Street**  
**Oakland, California**

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)	METHANOL (µg/L)	METHANE (mg/L)	FERROUS IRON (mg/L)	NITRATE (AS N) (mg/L)	SULFATE (mg/L)
---------	------	----------------	---------------	-------------------	----------------	----------------	----------------	---------------	---------------	--------------------	-------------------	---------------------------	-----------------------------	-------------------

MTBE = Methyl t-butyl ether  
 TBA = t-butyl alcohol  
 DIPE = Diisopropyl ether  
 ETBE = Ethyl t-butyl ether  
 TAME = t-amyl methyl ether  
 EDB = 1,2-Dibromoethane  
 EDC = 1,2-Dichloroethane

**Table 5**  
**Additional Historical Analytical Results**  
**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- propene (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
	2/18/2005	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	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
	3/28/2007	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
	3/27/2009	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

WELL ID	DATE	1,1,2,2- Tetrachloro- ethane (µg/l)	Tetrachloro- ethene (PCE) (µg/l)	Trichloro- trifluoro- ethane (µg/l)	1,1,1- Trichloro- ethane (µg/l)	1,1,2- Trichloro- ethane (µg/l)	Trichloro- ethene (TCE) (µg/l)	Trichloro- fluoro- methane (µg/l)	Vinyl chloride (µg/l)
MW-A	2/3/2004	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<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
	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
	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
	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

**NOTES:**

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

ID = Identification

## Figures

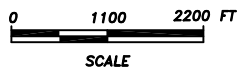
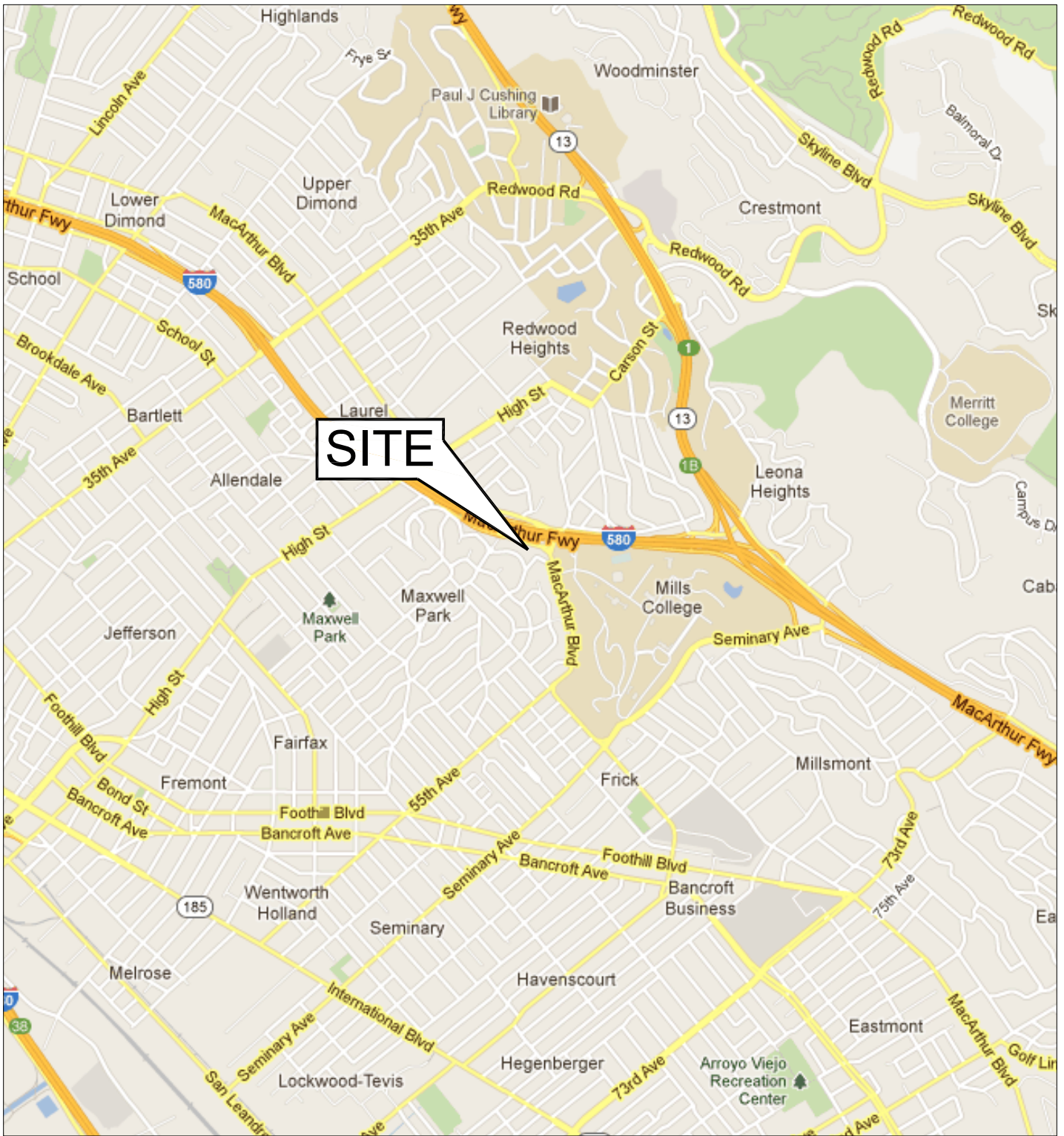


FIGURE 1

SITE LOCATION MAP

UNOCAL NO. 5781

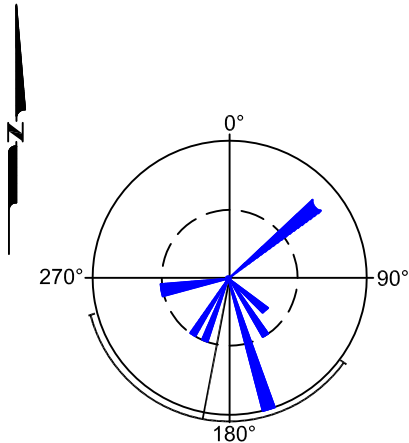
(351640)

3535 PIERSON STREET  
OAKLAND, CALIFORNIA

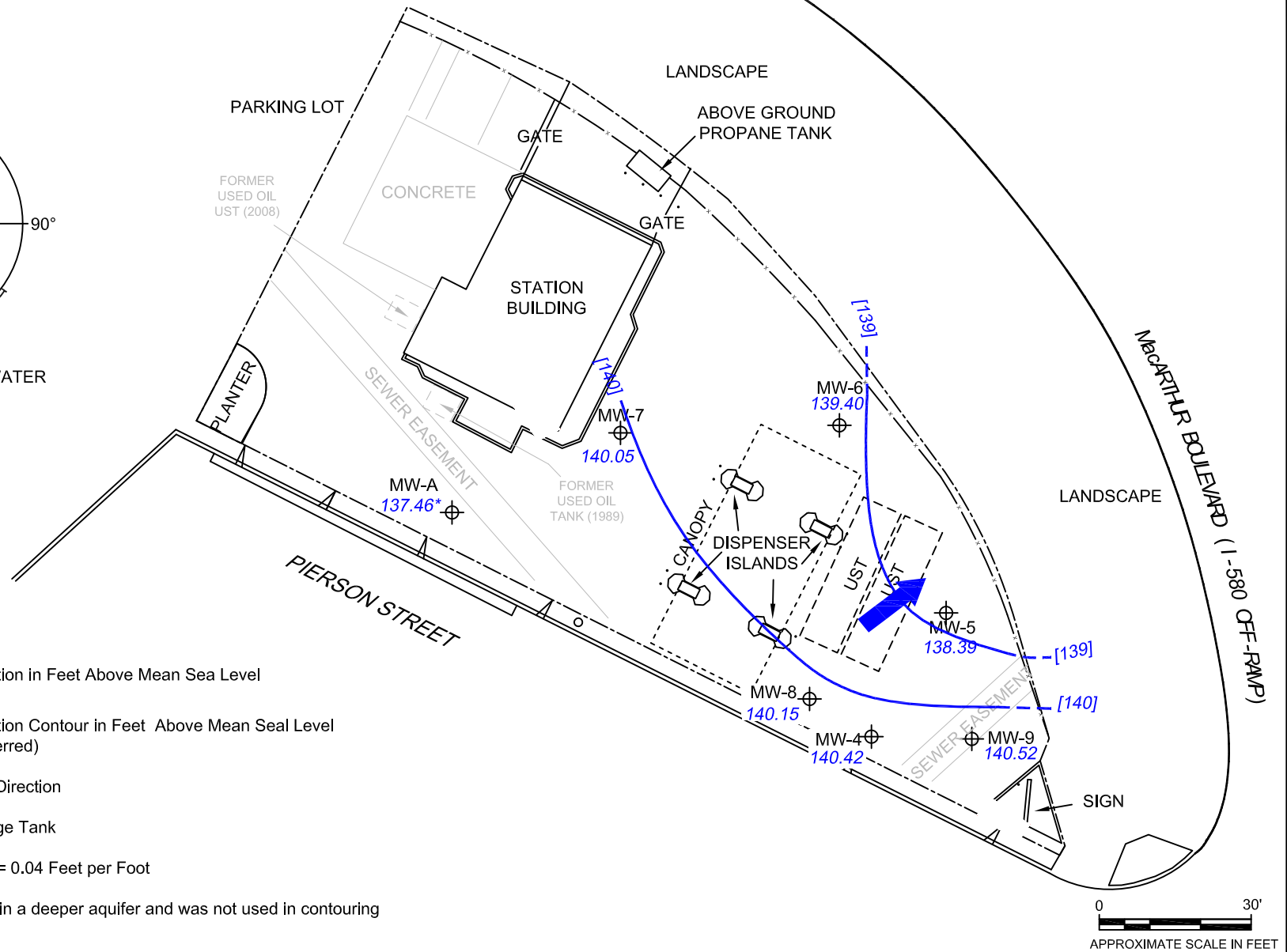
PROJECT NO.	DRAWN BY 04/15/2014
FILE NO. 351640	PREPARED BY CD
REVISION NO.	REVIEWED BY JH



P:\ENV01231-CHEVRO76PRODUCTS\_TRANSFER\_SITES\351640\_5781\_OAKLAND\7.0 DELIVERABLES\7.2 CADD\1Q14\FIGURE 2\_GWE\_351640\_1Q14.DWG



APPROXIMATE GROUNDWATER FLOW DIRECTION  
4Q-2010 TO 1Q-2014



**LEGEND:**

- MW-8 Monitoring Well
- 140.15 Groundwater Elevation in Feet Above Mean Sea Level
- [139] Groundwater Elevation Contour in Feet Above Mean Seal Level (Dashed Where Inferred)
- Groundwater Flow Direction
- UST Underground Storage Tank
- Hydraulic Gradient = 0.04 Feet per Foot
- \* MW-A is screened in a deeper aquifer and was not used in contouring



Base map created by Delta Consultants, Inc.

**GROUNDWATER ELEVATION  
CONTOUR MAP - FIRST QUARTER 2014**

Unocal No. 5781 (351640)  
3535 Pierson Street, Oakland, California

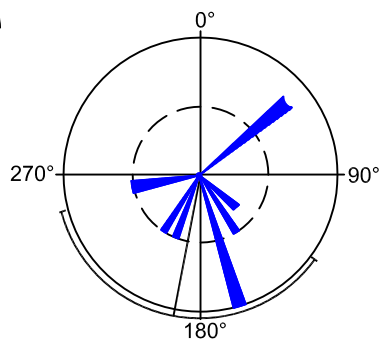
**AECOM**  
2020 L STREET SUITE 400  
SACRAMENTO, CALIFORNIA 95811  
PHONE: (916) 414-5800  
FAX: (916) 414-5850  
WEB: HTTP://WWW.AECOM.COM

SCALE: 1" = 30'	DATE: 04/15/2014	PROJECT NUMBER: 60314299
--------------------	---------------------	-----------------------------

DESIGNED BY:	REVISIONS			
	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY: JH				
CHECKED BY: DF				
APPROVED BY: JH				

FIGURE NUMBER:  <b>2</b>
--------------------------------

P:\ENV01231-CHEVRON76PRODUCTS\_TRANSFER\_SITES\351640\_5781\_OAKLAND\7.0 DELIVERABLES\7.2 CADD\1Q14\FIGURE 3 CONC 1Q14\_351640.DWG



APPROXIMATE GROUNDWATER FLOW DIRECTION  
4Q-2010 TO 1Q-2014

**Legend**

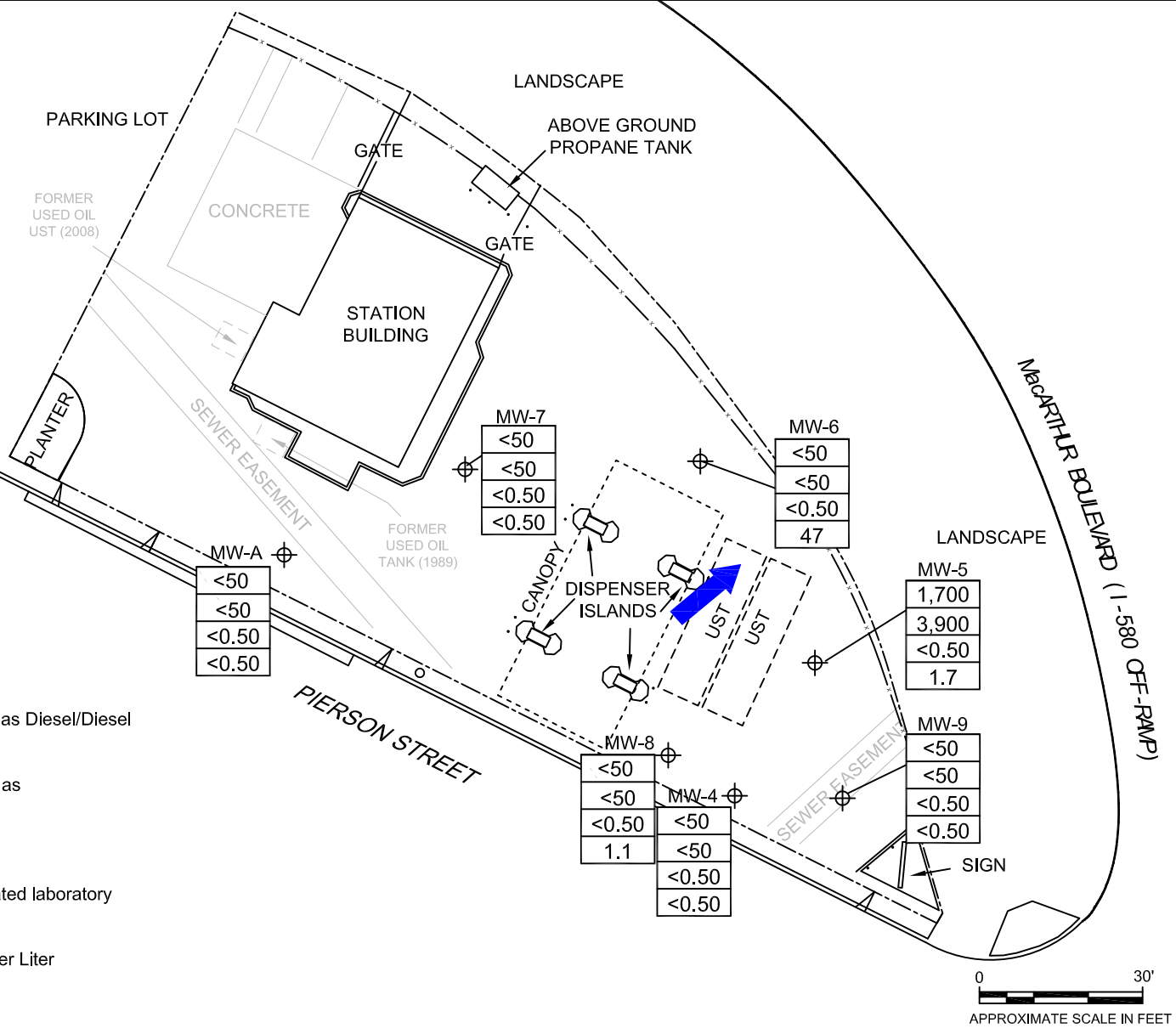
- MW-A Monitoring Well
- Groundwater Flow Direction
- UST Underground Storage Tank

TPH-DRO	TPH-DRO = Total Petroleum Hydrocarbons as Diesel/Diesel Range Organics
TPH-GRO	TPH-GRO = Total Petroleum Hydrocarbons as Gasoline/Gasoline Range Organics
Benzene	
MTBE	

MTBE = Methyl T-Butyl Ether

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

Analyte Results Expressed in Micrograms per Liter



Base map created by Delta Consultants, Inc.

**GROUNDWATER CONCENTRATION MAP - FIRST QUARTER 2014**

Unocal No. 5781 (351640)  
3535 Pierson Street, Oakland, California

**AECOM**  
2020 L STREET SUITE 400  
SACRAMENTO, CALIFORNIA 95811  
PHONE: (916) 414-5800  
FAX: (916) 414-5850  
WEB: HTTP://WWW.AECOM.COM

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	4/15/2014	60314299

DESIGNED BY:	REVISIONS			
	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
JH				
CHECKED BY:				
DF				
APPROVED BY:				
JH				

FIGURE NUMBER:  
**3**

**Attachment A**

**February 24, 2014, Groundwater  
Data Field Sheets**



# GETTLER-RYAN INC.



## TRANSMITTAL

March 10, 2014  
G-R #385641

TO: Mr. Jim Harms  
AECOM  
10461 Old Placerville Road #170  
Sacramento, California 95827

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 <b>First Quarter Event of February 24, 2014</b>

### 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: **2.24.14**  
 Sampler: **FT**

WELL ID	Vault Frame Condition	Gasket/O-Ring <small>(M) Missing (R) Replaced</small>	Bolts <small>(M) Missing (R) Replaced</small>	Bolt Flanges <small>B=Broken S=Stripped R=Retap</small>	Apron Condition <small>C=Cracked B=Broken G=Gone</small>	Grout Seal <small>(Deficient) Inches from TOC</small>	Casing <small>(Condition prevents tight cap seal)</small>	REPLACE LOCK Y/N	REPLACE CAP Y/N	WELL VAULT <small>Manufacture/Size/ # of Bolts</small>	Pictures Taken Y/N
MW-A	OK							Y	Y	Emco   8"   2	
MW-4	OK							N	N	Emco   12"   2	
MW-5	OK							Y	Y		
MW-6	OK				C	OK	OK	N	N		
MW-7	OK										
MW-8	OK										
MW-9	OK				C	OK	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  
 Site Address: 3535 Pierson Street  
 City: Oakland, CA

Job Number: 385641  
 Event Date: 2.24.14 (inclusive)  
 Sampler: FT

Well ID: MW-4  
 Well Diameter: 21 in.  
 Total Depth: 24.75 ft.  
 Depth to Water: 13.06 ft.

Date Monitored: 2.24.14

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

Check if water column is less than 0.50 ft.

Depth to Water: 11.69 xVF .66 = 7.71 x3 case volume = Estimated Purge Volume: 23.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.39

### Purge Equipment:

Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump /  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_

Start Time (purge): 1120 Weather Conditions: Sunny  
 Sample Time/Date: 1115 / 2.24.14 Water Color: CLEAN Odor: Y / N  
 Approx. Flow Rate: 2.0 gpm. Sediment Description: NONE  
 Did well de-water? Yes If yes, Time: 1128 Volume: 15.0 gal. DTW @ Sampling: 13.06

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - <u>US</u> )	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1124</u>	<u>7.5</u>	<u>7.52</u>	<u>682</u>	<u>19.10</u>		
<u>1128</u>	<u>15.0</u>	<u>7.48</u>	<u>679</u>	<u>20.1</u>		

### LABORATORY INFORMATION

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

COMMENTS: PREPURGE SAMPLE SUBMITTED WELL DID NOT RECOVER 80% AFTER 2 HOURS. SLOW RECOVERY

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: 2-24-14 (inclusive)  
 City: Oakland, CA Sampler: Fr

Well ID: MW- A Date Monitored: 2-24-14  
 Well Diameter: 2 1/4 in.  
 Total Depth: 45.06 ft.  
 Depth to Water: 17.33 ft.  Check if water column is less than 0.50 ft.  
27.73 xVF .17 = 4.74 x3 case volume = Estimated Purge Volume: 14.0 gal.  
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 22.87

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

**Purge Equipment:**  
 Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump /  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_

Start Time (purge): 1000 Weather Conditions: Sunny  
 Sample Time/Date: 1205 / 2-24-14 Water Color: CLEAN Odor: Y / (N)  
 Approx. Flow Rate: 1.5 gpm. Sediment Description: NONE  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 21.26

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm) <u>(US)</u>	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1003</u>	<u>4.5</u>	<u>7.63</u>	<u>656</u>	<u>19.6</u>	<u>/</u>	<u>/</u>
<u>1006</u>	<u>9.0</u>	<u>7.60</u>	<u>651</u>	<u>20.1</u>	<u>/</u>	<u>/</u>
<u>1009</u>	<u>14.0</u>	<u>7.57</u>	<u>646</u>	<u>20.6</u>	<u>/</u>	<u>/</u>

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Gasket: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_ Add/Replaced Lock: / Add/Replaced Plug: / (2")



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781  
 Site Address: 3535 Pierson Street  
 City: Oakland, CA

Job Number: 385641  
 Event Date: 2-24-14 (inclusive)  
 Sampler: FT

Well ID: MW-5  
 Well Diameter: 21 in.  
 Total Depth: 19.93 ft.  
 Depth to Water: 15.27 ft.  
4.66 xVF = 3.07 x3 case volume = Estimated Purge Volume: 9.0 gal.

Date Monitored: 2-24-14

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 than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 16.20

### Purge Equipment:

Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_

Start Time (purge): 1245 Weather Conditions: SUNNY  
 Sample Time/Date: 1240 / 2-24-14 Water Color: CLEAR Odor: D/N STUNK  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: NONE  
 Did well de-water? yes If yes, Time: 1252 Volume: 3.0 gal. DTW @ Sampling: 15.27

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - <u>DS</u> )	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1252</u>	<u>3.0</u>	<u>7.18</u>	<u>982</u>	<u>19.8</u>	<u>/</u>	<u>/</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

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

COMMENTS: PRE-PURGE SAMPLE SUBMITTED WELL DID NOT RECOVER 80% AFTER 2 HOURS. SLOW RECOVERY

Add/Replaced Gasket: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_ Add/Replaced Lock:  Add/Replaced Plug:  (4")



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781  
 Site Address: 3535 Pierson Street  
 City: Oakland, CA

Job Number: 385641  
 Event Date: 2-24-14 (inclusive)  
 Sampler: FR

Well ID: MW-6  
 Well Diameter: 3/4 in.  
 Total Depth: 19.97 ft.  
 Depth to Water: 15.22 ft.

Date Monitored: 2-24-14

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

Check if water column is less than 0.50 ft.

4.75 xVF .17 = .80 x3 case volume = Estimated Purge Volume: 2.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 16.17

### Purge Equipment:

Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_

Start Time (purge): 1215  
 Sample Time/Date: 1210 / 2-24-14  
 Approx. Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Weather Conditions: SUNNY  
 Water Color: CLEAN Odor: Y / N  
 Sediment Description: NONE  
 DTW @ Sampling: 15.22

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm) <u>US</u>	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1218</u>	<u>.75</u>	<u>7.61</u>	<u>639</u>	<u>19.4</u>	/	/
<u>1221</u>	<u>1.5</u>	<u>7.59</u>	<u>632</u>	<u>19.7</u>	/	/
<u>1224</u>	<u>2.0</u>	<u>7.58</u>	<u>629</u>	<u>20.0</u>	/	/

### LABORATORY INFORMATION

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

COMMENTS: PRE-PURGE SAMPLE SUBMITTED WELL DID NOT RECOVER 80% AFTER 2 HOURS. SLOW RECOVERY

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  
 Site Address: 3535 Pierson Street  
 City: Oakland, CA

Job Number: 385641  
 Event Date: 2.24.14 (inclusive)  
 Sampler: FR

Well ID: MW-7  
 Well Diameter: 2 1/4 in.  
 Total Depth: 19.70 ft.  
 Depth to Water: 15.33 ft.  
4.37 xVF .17 = .74

Date Monitored: 2.24.14

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

Check if water column is less than 0.50 ft.

x3 case volume = Estimated Purge Volume: 2.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 16.20

### Purge Equipment:

Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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 / Absorbent Sock (circle one)	_____
Amt Removed from Skimmer:	_____ gal
Amt Removed from Well:	_____ gal
Water Removed:	_____ gal

Start Time (purge): 1025  
 Sample Time/Date: 1020 / 2.24.14  
 Approx. Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Weather Conditions: Sunny  
 Water Color: CLEAR Odor: Y / 0  
 Sediment Description: NONE  
 DTW @ Sampling: 15.33

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - <u>DS</u> )	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1028</u>	<u>.75</u>	<u>7.56</u>	<u>692</u>	<u>19.1</u>	_____	_____
<u>1031</u>	<u>1.5</u>	<u>7.54</u>	<u>689</u>	<u>19.3</u>	_____	_____
<u>1035</u>	<u>2.0</u>	<u>7.53</u>	<u>687</u>	<u>19.4</u>	_____	_____

### 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 (8015)

COMMENTS: PRE-PURGE SAMPLE SUBMITTED WELL DID NOT RECOVER 80% AFTER 2 HOURS / SLOW RECOVERY

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  
 Site Address: 3535 Pierson Street  
 City: Oakland, CA

Job Number: 385641  
 Event Date: 2-24-14 (inclusive)  
 Sampler: FT

Well ID: MW-8  
 Well Diameter: 2 1/4 in.  
 Total Depth: 19.94 ft.  
 Depth to Water: 13.56 ft.  
6.38 xVF .17 = 1.08

Date Monitored: 2-24-14

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

Check if water column is less than 0.50 ft.

x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.83

### Purge Equipment:

Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_

Start Time (purge): 1050  
 Sample Time/Date: 1300 12-24-14  
 Approx. Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Weather Conditions: SUNNY  
 Water Color: CLEAR Odor: Y / 0  
 Sediment Description: NONE  
 DTW @ Sampling: 14.75

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - <u>DS</u> )	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1053</u>	<u>1.0</u>	<u>7.67</u>	<u>648</u>	<u>19.3</u>	_____	_____
<u>1056</u>	<u>2.0</u>	<u>7.65</u>	<u>651</u>	<u>19.6</u>	_____	_____
<u>1059</u>	<u>3.0</u>	<u>7.63</u>	<u>655</u>	<u>19.9</u>	_____	_____

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

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





# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781  
 Site Address: 3535 Pierson Street  
 City: Oakland, CA

Job Number: 385641  
 Event Date: 2.24.14 (inclusive)  
 Sampler: FT

Well ID: MW-9  
 Well Diameter: 2 1/4 in.  
 Total Depth: 19.68 ft.  
 Depth to Water: 12.85 ft.  
6.83 xVF .17 = 1.16

Date Monitored: 2.24.14

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 than 0.50 ft.

x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.21

### Purge Equipment:

Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 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: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_

Start Time (purge): 1145  
 Sample Time/Date: 1140 2.24.14  
 Approx. Flow Rate:        gpm.  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Weather Conditions: SLUNNY  
 Water Color: CLEAN Odor: Y / 0  
 Sediment Description: NONE  
 DTW @ Sampling: 12.85

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - US)	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1148</u>	<u>1.0</u>	<u>7.34</u>	<u>715</u>	<u>19.6</u>	_____	_____
<u>1151</u>	<u>2.0</u>	<u>7.31</u>	<u>710</u>	<u>19.9</u>	_____	_____
<u>1154</u>	<u>3.0</u>	<u>7.29</u>	<u>706</u>	<u>20.1</u>	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-9	6 x vov 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 (8015)


COMMENTS: PRE-PURGE SAMPLES SUBMITTED WELL DID NOT RECOVER 80% AFTER 2 HOURS. SLOW RECOVERY

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: <u>5751</u>				Union Oil Consultant: <u>AECOM</u>			<b>ANALYSES REQUIRED</b>															
Site Global ID: <u>T06001014L7</u>				Consultant Contact: <u>JAMES HALLMS</u>			TPH - Diesel by EPA 8015 M)	TPH - G by EPA 8015)	BTEX/MTBE/PAHs by EPA 8260B)	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	8 DAYS (8260B)	Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/>							Special Instructions		
Site Address: <u>3535 PIENSON ST OAKLAND, CA</u>				Consultant Phone No.: <u>(916) 361-6412</u>																		
Union Oil PM: <u>TIM L. BISHOP</u>				Sampled By (PRINT): <u>FRANK TERLINONI</u>									Notes / Comments									
Union Oil PM Phone No.: <u>(925) 740-6463 / (925) 535-4662</u>				Sampler Signature: 																		
Charge Code: <u>NWRTB-0 351 640 -0-LAB</u>				BC Laboratories, Inc. Project Manager: <u>Molly Meyers</u> 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.																						
SAMPLE ID																						
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers																	
<u>QA</u>	<u>W-S-A</u>		<u>140224</u>		<u>2</u>																	
<u>MW-A</u>	<u>W-S-A</u>			<u>1205</u>	<u>8</u>	X	X	X				X										
<u>MW-4</u>	<u>W-S-A</u>			<u>1115</u>	<u>8</u>	X	X	X				X										
<u>MW-5</u>	<u>W-S-A</u>			<u>1240</u>	<u>8</u>	X	X	X				X										
<u>MW-6</u>	<u>W-S-A</u>			<u>1210</u>	<u>8</u>	X	X	X				X										
<u>MW-7</u>	<u>W-S-A</u>			<u>1020</u>	<u>8</u>	X	X	X				X										
<u>MW-8</u>	<u>W-S-A</u>			<u>1300</u>	<u>8</u>	X	X	X				X										
<u>MW-9</u>	<u>W-S-A</u>			<u>1140</u>	<u>8</u>	X	X	X				X										
	<u>W-S-A</u>																					
	<u>W-S-A</u>																					
	<u>W-S-A</u>																					
	<u>W-S-A</u>																					
Relinquished By: <u>[Signature]</u>	Company: <u>GUC</u>	Date / Time: <u>2-25-14 09:00</u>	Relinquished By: <u>[Signature]</u>			Company: <u>BC Lab</u>	Date / Time: <u>02-25-14 1:30p</u>	Relinquished By: _____			Company: _____	Date / Time: _____										
Received By: <u>GETTLER-RYAN FRIDSE</u>	Company: <u>DRUSE</u>	Date / Time: <u>02-25-14 0815</u>	Received By: <u>Henry Boyan</u>			Company: <u>BC Lab</u>	Date / Time: <u>2-25-14 1:330</u>	Received By: _____			Company: _____	Date / Time: _____										

**Attachment B**

**BC Laboratories, Inc. Analytical  
Report #1404250**



Date of Report: 03/12/2014

Jim Harms

AECOM

10461 Old Placerville Rd, Suite 170  
Sacramento, CA 95827

Client Project: 351640  
BCL Project: 5781  
BCL Work Order: 1404250  
Invoice ID: B168188

Enclosed are the results of analyses for samples received by the laboratory on 2/25/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers  
Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014; AK UST101



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

Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
TPH - Diesel by EPA (8015) TPH - G by (8015) BTEX/MTBE/ EPA 8260 Ethanol by EPA 8260B EPA 8260B Full List with OXYS (8075 (8260B))		TPH - Diesel by EPA (8015) TPH - G by (8015) BTEX/MTBE/ EPA 8260 Ethanol by EPA 8260B EPA 8260B Full List with OXYS (8075 (8260B))		Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
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Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	
Union Oil Site ID: <b>5781</b> Site Global ID: <b>T0600101467</b> Site Address: <b>3535 PIENSON ST. OAKLAND, CA</b> Union Oil PM: <b>TIM L. BISHOP</b> Union Oil PM Phone No.: <b>(925) 740-6463 (925) 588-4412</b> Charge Code: <b>NWRTB-0 351.640-0-LAB</b>		Union Oil Consultant: <b>AECOM</b> Consultant Contact: <b>JAMES HAWKS</b> Consultant Phone No.: <b>(916) 361-6412</b> Sampling Company: <b>GETTLER-RYAN</b> Sampled By (PRINT): <b>FRANK TERNINO</b> Sampler Signature: <i>[Signature]</i> BC Laboratories, Inc. Project Manager: <b>Molly Meyers</b> 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911		ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions	

COG 1 of 1

Relinquished By: *[Signature]* Date / Time: **2-25-14 13:30** Company: **BC LAB**

Received By: *[Signature]* Date / Time: **2-25-14 18:15** Company: **BC LAB**

Relinquished By: *[Signature]* Date / Time: **2-25-14 13:30** Company: **BC LAB**

Received By: *[Signature]* Date / Time: **2-25-14 18:15** Company: **BC LAB**

REL *[Signature]* 2-25-14 2:55 (18:15) 2:55 14 18:15



BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 1404250

**SHIPPING INFORMATION**  
 Federal Express  UPS  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

**SHIPPING CONTAINER**  
 Ice Chest  None  Box   
 Other  (Specify) \_\_\_\_\_

**FREE LIQUID**  
 YES  NO

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

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: VOA Thermometer ID: 207 Date/Time 2-25-14  
 Temperature: (A) 1.4 °C / (C) 1.2 °C Analyst Init KIO 2155

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A 2									
40ml VOA VIAL	( )	A (6)	A (6)	A (6)	A (6)	A (6)	A (6)	A (6)	( )	( )
QT EPA 413.1, 413.2, 418.1										
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										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER						B.C	B.C			
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: \_\_\_\_\_



BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 of 2

Submission #: 1404250

<b>SHIPPING INFORMATION</b> Federal Express <input type="checkbox"/> UPS <input type="checkbox"/> Hand Delivery <input type="checkbox"/> BC Lab Field Service <input checked="" type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		<b>SHIPPING CONTAINER</b> Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____	<b>FREE LIQUID</b> YES <input type="checkbox"/> NO <input type="checkbox"/>
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Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

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: 207 Date/Time: 2-25-14  
 Temperature: (A) 2.2 °C / (C) 2.3 °C Analyst Init: KIO 2155

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE /NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 413.1										
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										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER		B,C	B,C	B,C			B,C	B,C		
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: AA - 1/25





AECOM  
10461 Old Placerville Rd, Suite 170  
Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1404250-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> QA-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 00:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): QA Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1404250-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-A-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 12:05 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-A Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1404250-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-4-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 11:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1404250-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-5-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 12:40 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1404250-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-6-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 12:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-6 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1404250-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-7-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 10:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-7 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1404250-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-8-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 13:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-8 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1404250-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> 5781 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-9-W-140224 <b>Sampled By:</b> GRD	<b>Receive Date:</b> 02/25/2014 21:55 <b>Sampling Date:</b> 02/24/2014 11:40 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101467 Location ID (FieldPoint): MW-9 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-01	<b>Client Sample Name:</b> 5781, QA-W-140224, 2/24/2014 12:00:00AM
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Constituent	Result	Units	PQL	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)	98.7	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	97.0	%	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	03/04/14	03/04/14 11:29	JMS	MS-V10	1	BXC0101



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Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-01	<b>Client Sample Name:</b> 5781, QA-W-140224, 2/24/2014 12:00:00AM
----------------------------------	--

Constituent	Result	Units	PQL	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)	82.2	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/05/14 21:41	jjh	GC-V9	1	BXC0268

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Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
Project: 5781  
Project Number: 351640  
Project Manager: Jim Harms

### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-02	<b>Client Sample Name:</b> 5781, MW-A-W-140224, 2/24/2014 12:05:00PM
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Constituent	Result	Units	PQL	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)	95.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.0	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	03/04/14	03/04/14 11:48	JMS	MS-V10	1	BXC0101



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**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-02	<b>Client Sample Name:</b> 5781, MW-A-W-140224, 2/24/2014 12:05:00PM
----------------------------------	--

Constituent	Result	Units	PQL	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)	80.9	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/05/14 22:01	jjh	GC-V9	1	BXC0268

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Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-02	<b>Client Sample Name:</b> 5781, MW-A-W-140224, 2/24/2014 12:05:00PM
----------------------------------	--

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	42.8	%	20 - 120 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 07:24	MWB	GC-13	1	BXC0876





AECOM  
10461 Old Placerville Rd, Suite 170  
Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
Project: 5781  
Project Number: 351640  
Project Manager: Jim Harms

### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-03	<b>Client Sample Name:</b> 5781, MW-4-W-140224, 2/24/2014 11:15:00AM
----------------------------------	--

Constituent	Result	Units	PQL	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)	99.5	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	96.0	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.4	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	03/04/14	03/04/14 12:06	JMS	MS-V10	1	BXC0101



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**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-03	<b>Client Sample Name:</b> 5781, MW-4-W-140224, 2/24/2014 11:15:00AM
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Constituent	Result	Units	PQL	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)	77.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/05/14 22:22	jjh	GC-V9	1	BXC0268

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**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-03	<b>Client Sample Name:</b> 5781, MW-4-W-140224, 2/24/2014 11:15:00AM
----------------------------------	--

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	54.8	%	20 - 120 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 07:47	MWB	GC-13	1	BXC0876



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### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-04	<b>Client Sample Name:</b> 5781, MW-5-W-140224, 2/24/2014 12:40:00PM
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Constituent	Result	Units	PQL	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
<b>Ethylbenzene</b>	<b>240</b>	<b>ug/L</b>	<b>5.0</b>	<b>EPA-8260B</b>	ND	<b>A01</b>	<b>2</b>
<b>Methyl t-butyl ether</b>	<b>1.7</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260B</b>	ND		<b>1</b>
<b>Toluene</b>	<b>4.5</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260B</b>	ND		<b>1</b>
<b>Total Xylenes</b>	<b>1800</b>	<b>ug/L</b>	<b>10</b>	<b>EPA-8260B</b>	ND	<b>A01</b>	<b>2</b>
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)	107	%	75 - 125 (LCL - UCL)	EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)	EPA-8260B			2
Toluene-d8 (Surrogate)	96.6	%	80 - 120 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.8	%	80 - 120 (LCL - UCL)	EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)	EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	03/04/14	03/04/14 15:05	JMS	MS-V10	1	BXC0101
2	EPA-8260B	03/04/14	03/05/14 22:03	JMS	MS-V10	10	BXC0101



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-04	<b>Client Sample Name:</b> 5781, MW-5-W-140224, 2/24/2014 12:40:00PM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	3900	ug/L	1000	EPA-8015B	ND	A01	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	03/05/14	03/06/14 14:17	jjh	GC-V9	20	BXC0268

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### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-04	<b>Client Sample Name:</b> 5781, MW-5-W-140224, 2/24/2014 12:40:00PM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	1700	ug/L	250	Luft/TPHd	ND	A01	1
Tetracosane (Surrogate)	34.4	%	20 - 120 (LCL - UCL)	Luft/TPHd		A01	1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd		A01	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 13:30	MWB	GC-13	5	BXC0876



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### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-05	<b>Client Sample Name:</b> 5781, MW-6-W-140224, 2/24/2014 12:10:00PM
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Constituent	Result	Units	PQL	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
<b>Methyl t-butyl ether</b>	<b>47</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260B</b>	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)	98.2	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	95.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	03/04/14	03/04/14 15:42	JMS	MS-V10	1	BXC0101



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**Reported:** 03/12/2014 11:22  
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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-05	<b>Client Sample Name:</b> 5781, MW-6-W-140224, 2/24/2014 12:10:00PM
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Constituent	Result	Units	PQL	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)	86.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/06/14 12:36	jjh	GC-V9	1	BXC0268

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**Reported:** 03/12/2014 11:22  
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### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-05	<b>Client Sample Name:</b> 5781, MW-6-W-140224, 2/24/2014 12:10:00PM
----------------------------------	--

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	43.1	%	20 - 120 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 08:33	MWB	GC-13	1	BXC0876



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### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-06	<b>Client Sample Name:</b> 5781, MW-7-W-140224, 2/24/2014 10:20:00AM
----------------------------------	--

Constituent	Result	Units	PQL	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)	97.6	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	97.5	%	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	03/04/14	03/04/14 16:04	JMS	MS-V10	1	BXC0263

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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-06	<b>Client Sample Name:</b> 5781, MW-7-W-140224, 2/24/2014 10:20:00AM
----------------------------------	--

Constituent	Result	Units	PQL	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)	80.1	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/05/14 23:23	jjh	GC-V9	1	BXC0268



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### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-06	<b>Client Sample Name:</b> 5781, MW-7-W-140224, 2/24/2014 10:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	27.6	%	20 - 120 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 08:56	MWB	GC-13	1	BXC0876



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### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-07	<b>Client Sample Name:</b> 5781, MW-8-W-140224, 2/24/2014 1:00:00PM
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Constituent	Result	Units	PQL	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
<b>Methyl t-butyl ether</b>	<b>1.1</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260B</b>	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	100	%	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	03/04/14	03/04/14 16:22	JMS	MS-V10	1	BXC0263



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-07	<b>Client Sample Name:</b> 5781, MW-8-W-140224, 2/24/2014 1:00:00PM
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Constituent	Result	Units	PQL	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)	79.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/05/14 23:43	jjh	GC-V9	1	BXC0268

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### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-07	<b>Client Sample Name:</b> 5781, MW-8-W-140224, 2/24/2014 1:00:00PM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	32.8	%	20 - 120 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 09:18	MWB	GC-13	1	BXC0876



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### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1404250-08	<b>Client Sample Name:</b> 5781, MW-9-W-140224, 2/24/2014 11:40:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.4	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.6	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	03/04/14	03/05/14 19:16	JMS	MS-V10	1	BXC0263

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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1404250-08	<b>Client Sample Name:</b> 5781, MW-9-W-140224, 2/24/2014 11:40:00AM
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Constituent	Result	Units	PQL	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)	75.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	03/05/14	03/06/14 00:03	jjh	GC-V9	1	BXC0268

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10461 Old Placerville Rd, Suite 170  
Sacramento, CA 95827

**Reported:** 03/12/2014 11:22  
**Project:** 5781  
**Project Number:** 351640  
**Project Manager:** Jim Harms

### Total Petroleum Hydrocarbons (Silica Gel Treated)

<b>BCL Sample ID:</b> 1404250-08	<b>Client Sample Name:</b> 5781, MW-9-W-140224, 2/24/2014 11:40:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	23.7	%	20 - 120 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)	0	%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	03/04/14	03/11/14 11:36	MWB	GC-13	1	BXC0876



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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
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**QC Batch ID: BXC0101**

Benzene	BXC0101-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BXC0101-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BXC0101-BLK1	ND	ug/L	0.50		
Ethylbenzene	BXC0101-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BXC0101-BLK1	ND	ug/L	0.50		
Toluene	BXC0101-BLK1	ND	ug/L	0.50		
Total Xylenes	BXC0101-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BXC0101-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BXC0101-BLK1	ND	ug/L	10		
Diisopropyl ether	BXC0101-BLK1	ND	ug/L	0.50		
Ethanol	BXC0101-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BXC0101-BLK1	ND	ug/L	0.50		
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>BXC0101-BLK1</b>	<b>101</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>BXC0101-BLK1</b>	<b>98.4</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>BXC0101-BLK1</b>	<b>94.7</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

**QC Batch ID: BXC0263**

Benzene	BXC0263-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BXC0263-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BXC0263-BLK1	ND	ug/L	0.50		
Ethylbenzene	BXC0263-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BXC0263-BLK1	ND	ug/L	0.50		
Toluene	BXC0263-BLK1	ND	ug/L	0.50		
Total Xylenes	BXC0263-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BXC0263-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BXC0263-BLK1	ND	ug/L	10		
Diisopropyl ether	BXC0263-BLK1	ND	ug/L	0.50		
Ethanol	BXC0263-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BXC0263-BLK1	ND	ug/L	0.50		
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>BXC0263-BLK1</b>	<b>105</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>BXC0263-BLK1</b>	<b>98.7</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>BXC0263-BLK1</b>	<b>97.1</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		



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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		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: BXC0101</b>										
Benzene	BXC0101-BS1	LCS	28.390	25.000	ug/L	114		70 - 130		
Toluene	BXC0101-BS1	LCS	27.200	25.000	ug/L	109		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXC0101-BS1	LCS	10.300	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	BXC0101-BS1	LCS	9.6800	10.000	ug/L	96.8		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXC0101-BS1	LCS	10.090	10.000	ug/L	101		80 - 120		
<b>QC Batch ID: BXC0263</b>										
Benzene	BXC0263-BS1	LCS	25.770	25.000	ug/L	103		70 - 130		
Toluene	BXC0263-BS1	LCS	26.040	25.000	ug/L	104		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXC0263-BS1	LCS	10.030	10.000	ug/L	100		75 - 125		
Toluene-d8 (Surrogate)	BXC0263-BS1	LCS	9.7900	10.000	ug/L	97.9		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXC0263-BS1	LCS	10.490	10.000	ug/L	105		80 - 120		



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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Quals. Includes two QC batches: BXC0101 and BXC0263.



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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
<b>QC Batch ID: BXC0268</b>						
Gasoline Range Organics (C4 - C12)	BXC0268-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BXC0268-BLK1	72.2	%		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		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: BXC0268</b>										
Gasoline Range Organics (C4 - C12)	BXC0268-BS1	LCS	888.70	1000.0	ug/L	88.9		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BXC0268-BS1	LCS	34.075	40.000	ug/L	85.2		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	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: BXC0268</b>		Used client sample: N								
Gasoline Range Organics (C4 - C12)	MS	1404104-18	ND	856.69	1000.0	ug/L		85.7		70 - 130
	MSD	1404104-18	ND	900.59	1000.0	ug/L	5.0	90.1	20	70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1404104-18	ND	34.329	40.000	ug/L		85.8		70 - 130
	MSD	1404104-18	ND	34.022	40.000	ug/L	0.9	85.1		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
<b>QC Batch ID: BXC0876</b>						
Diesel Range Organics (C12 - C24)	BXC0876-BLK1	ND	ug/L	50		
<b>Tetracosane (Surrogate)</b>	<b>BXC0876-BLK1</b>	<b>35.6</b>	<b>%</b>	<b>20 - 120 (LCL - UCL)</b>		
Capric acid (Reverse Surrogate)	BXC0876-BLK1	0	%	0 - 2 (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		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: BXC0876</b>										
Diesel Range Organics (C12 - C24)	BXC0876-BS1	LCS	209.27	500.00	ug/L	41.9		20 - 110		Q03
Tetracosane (Surrogate)	BXC0876-BS1	LCS	9.0490	20.000	ug/L	45.2		20 - 120		
Capric acid (Reverse Surrogate)	BXC0876-BS1	LCS	ND	100.00	ug/L	0		0 - 2		



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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	Control Limits		Lab Quals	
								Percent Recovery	RPD		Percent Recovery
<b>QC Batch ID: BXC0876</b>		Used client sample: N									
Diesel Range Organics (C12 - C24)	MS	1404104-32	ND	222.08	500.00	ug/L		44.4		20 - 110	Q03
	MSD	1404104-32	ND	163.60	500.00	ug/L	30.3	32.7	30	20 - 110	Q03
Tetracosane (Surrogate)	MS	1404104-32	ND	11.034	20.000	ug/L		55.2		20 - 120	
	MSD	1404104-32	ND	8.1310	20.000	ug/L	30.3	40.7		20 - 120	
Capric acid (Reverse Surrogate)	MS	1404104-32	ND	ND	100.00	ug/L		0		0 - 2	
	MSD	1404104-32	ND	ND	100.00	ug/L		0		0 - 2	



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**Notes And Definitions**

- MDL Method Detection Limit
- ND Analyte Not Detected at or above the reporting limit
- PQL Practical Quantitation Limit
- RPD Relative Percent Difference
- A01 PQL's and MDL's are raised due to sample dilution.
- Q03 Matrix spike recovery(s) is(are) not within the control limits.