Timothy L. Bishop
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6463
TimBishop@chevron.com

July 30, 2013

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
ACEH Fuel Leak Case No. RO0000205
RWQCB Case No. 01-1592
GeoTracker Global ID T0600101467

I have reviewed the attached report dated July 29, 2013.

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: Second Quarter 2013 Groundwater Monitoring Report by AECOM

AECOM
10461 Old Placerville Road
Suite 170
Sacramento, CA 95827
www.aecom.com

916 361 6400 tel
916 361 6401 fax

July 30, 2013

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

Subject: Second Quarter 2013 Groundwater Monitoring Report
Unocal No. 5781 (351640)
3535 Pierson Street, Oakland, California
Fuel Leak Case RO0000253

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), AECOM is pleased to present the second quarter 2013 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 second quarter of 2013.

Groundwater Monitoring Field Data

The depth to groundwater was measured in seven monitoring wells (MW-A and MW-4 through MW-9) at the site on April 22, 2013, and these depths were converted to groundwater elevations (**Table 1**). Copies of the groundwater gauging logs are included in **Attachment A**. 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 was calculated to flow to the south-southwest with an average hydraulic gradient of approximately 0.05 feet per foot (**Figure 2)**. The depth to groundwater at the site ranged from 11.43 to 15.60 feet below the top of well casings (139.19 to 143.19 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 April 22, 2013, after purging a minimum of three well volumes at each well. Due to slow recharge in one well (MW-5), pre-purge samples from this well were submitted for analysis. The site wells historically have poor recharge so pre-purge samples are collected, and if the wells do not recharge in two hours, the pre-purge samples are submitted for analyses. 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 May 7, 2013, is included as **Attachment B**. Groundwater samples were analyzed for the following based on historical trends at each monitoring well:

- Total petroleum hydrocarbons (TPH) as diesel (TPH-d) by method Luft/TPHd, silica gel treated (TPH-d is noted as Diesel Range Organics by the laboratory);
- TPH as gasoline (TPH-g) by Environmental Protection Agency (EPA) Method 8015B (TPH-g is noted as Gasoline Range Organics by the laboratory);

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B;
- 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 for this quarterly groundwater monitoring event are consistent with previous reporting periods (**Table 1, Table 2, and Figure 3**). 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 samples analyzed.
- TPH-d was detected in the groundwater sample from MW-5 at 7,600 micrograms per liter (µg/L) which was a decrease from the first quarter of 2013 result, however, the laboratory report notes that the chromatogram was not typical of diesel.
- TPH-g was detected in the groundwater sample from MW-5 at 39,000 µg/L which was the lowest concentration for MW-5 since October 2011.
- MTBE was the only fuel oxygenate detected, and was detected at 0.59 µg/L for MW-A, 2.5 µg/L for MW-4, 2.9 µg/L for MW-5, 0.53 µg/L for MW-6, 0.88 µg/L for MW-8, and 0.83 µg/L for MW-9.
- Elevated concentrations of toluene (65 µg/L), ethylbenzene (330 µg/L), and total xylenes (4,500 µg/L) were reported for monitoring well MW-5; these concentrations have decreased since the first quarter of 2013.

A summary of historical groundwater analytical data through April 2013 is presented in **Tables 3, 4, and 5.**

Approximately 57.5 gallons of purge water was generated during the groundwater monitoring event. The purge water and decontamination water generated during sampling activities was transported by Clean Harbors Environmental Services to Evergreen Oil located in Newark, California.

Conclusions and Recommendations

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

- LNAPL (light non-aqueous phase liquid) was previously observed in monitoring well MW-5 during the fourth quarter of 2012. The concentrations detected in the samples collected from MW-5 during the second quarter of 2013 remain elevated; however, the concentrations are still within the historical range. No measurable LNAPL has been observed in monitoring well MW-5 since the fourth quarter of 2012.
- In general, the MTBE concentration results for the second quarter of 2013 show a slight increase from the first quarter of 2013, with the exception of the MTBE results for MW-5 and MW-8, which decreased. However, the concentrations are still within the historical range.
- Monitoring well MW-7 remains nondetect for all constituents analyzed.

AECOM recommends the continuation of quarterly groundwater monitoring at the site.

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 prepare a conceptual site model (CSM) that will evaluate potential data gaps that exist at the site.

Remarks/Signatures

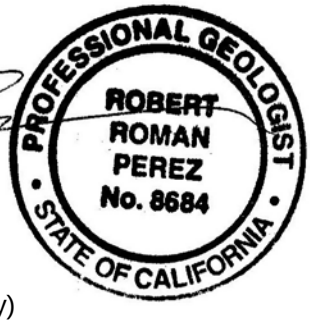
The interpretations in this report represent AECOM's professional opinions and are based, in part, on the information supplied by the groundwater monitoring contractor and analytical laboratory. These opinions are based on currently available information and are arrived at in accordance with currently 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 either of the undersigned at (916) 361-6400.

Sincerely,

James Harms
Project Manager

Robert Perez, PG #8684
Project Geologist



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

Enclosures:

Tables

Table 1	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 - Second Quarter 2013
Figure 3	Groundwater Concentration Map - Second Quarter 2013

Attachments

Attachment A	April 22, 2013 Groundwater Data Field Sheets
Attachment B	BC Laboratories Analytical Report #1308318

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-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-A	154.79	4/22/2013	15.60	139.19	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-4	153.48	4/22/2013	12.22	141.26	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-5	153.66	4/22/2013	12.37	141.29	0	7600 [1]	39,000	0.70	65	330	4,500	
MW-6	154.62	4/22/2013	11.43	143.19	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-7	155.38	4/22/2013	14.30	141.08	0	<50	52	<0.50	<0.50	<0.50	<1.0	
MW-8	153.71	4/22/2013	12.82	140.89	0	<50	<50	<0.50	<0.50	<0.50	<1.0	
MW-9	153.37	4/22/2013	12.22	141.15	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-d analyzed by LUFT/TPHd method with silica gel treatment

TPH-g analyzed by Environmental Protection Agency Method 8015B

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

TPH-d = Total Petroleum Hydrocarbons as Diesel/Diesel Range Organics

TPH-g = Total Petroleum Hydrocarbons as Gasoline/Gasoline Range Organics

[1] = A52, Chromatogram not typical of Diesel

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	4/22/2013	0.59	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-4	4/22/2013	2.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-5	4/22/2013	2.9	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-6	4/22/2013	0.53	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-7	4/22/2013	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-8	4/22/2013	0.88	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-9	4/22/2013	0.83	<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 quantitative 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	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (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	

Table 3
Historical 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-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
MW-A cont.	154.79	07/02/2012	14.79	140.00	0	<40	<50	<0.50	<0.50	<0.50	<1.0	
	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**	
MW-4	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**	
MW-5	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	
	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**	**7600** [1]	**39,000**	**0.70**	**65**	**330**	**4,500**	

Table 3
Historical 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-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
MW-6	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**	
MW-7	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**	
MW-8	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	

Table 3
Historical 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-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
MW-8 cont.	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**	
MW-9	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**	

NOTES:
* TOC and GWE are in feet above mean sea level.
BTEX compounds analyzed by Environmental Protection Agency Method 8260B
TPH-d analyzed by LUFT/TPHd method with silica gel treatment
TPH-g analyzed by Environmental Protection Agency Method 8015B

ID = Identification
TOC = Top of casing
ft = Feet
DTW = Depth to water
GWE = Groundwater elevation
-- = Not available/Not analyzed
µg/L = Micrograms per liter
LNAPL = Light Non-Aqueous Phase Liquid

B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
X = Total Xylenes
TPH-d = Total Petroleum Hydrocarbons as Diesel/Diesel Range Organics
TPH-g = Total Petroleum Hydrocarbons as Gasoline/Gasoline Range Organics
<# = Analyte not detected at or above indicated laboratory practical quantitative limit
ND = Not detected

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**	**--**	**--**	**--**	**--**	**--**
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
	10/04/2011	3.8	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.03	100	4.3	50

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-4 cont.	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**	**--**	**--**	**--**	**--**	**--**
MW-5	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**	**--**	**--**	**--**	**--**	**--**
MW-6	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**	**--**	**--**	**--**	**--**	**--**
MW-7	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
	10/04/2011	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	<500	4.2	100
	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	<0.50	<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	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	4/22/2013	**<0.50**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**--**	**--**	**--**	**--**	**--**

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-8	12/21/2010	3.9	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/10/2011	2.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	06/07/2011	3.6	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	2.1	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	140	1.5	65
	10/04/2011	1.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	190	2.8	67
	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	1.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	10/4/2012	0.69	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	1/23/2013	1.0	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	4/22/2013	**0.88**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**--**	**--**	**--**	**--**	**--**
MW-9	12/21/2010	1.2	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	3/10/2011	0.90	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	06/07/2011	1.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	--	--	--	--
	08/18/2011	2.1	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	0.001	<500	2.7	47
	10/04/2011	2.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<100	<0.0010	<200	3.2	47
	01/24/2012	1.3	<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	2.0	<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	**0.83**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**--**	**--**	**--**	**--**	**--**

NOTES:

Oxygenate compounds analyzed by Environmental Protection Agency Method 8260B
ND = Not detected
<# = Analyte not detected at or above indicated laboratory practical quantitative limit
-- = Not available/Not analyzed
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 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 quantitative limit

Oxygenate compounds analyzed by Environmental Protection Agency Method 8260B

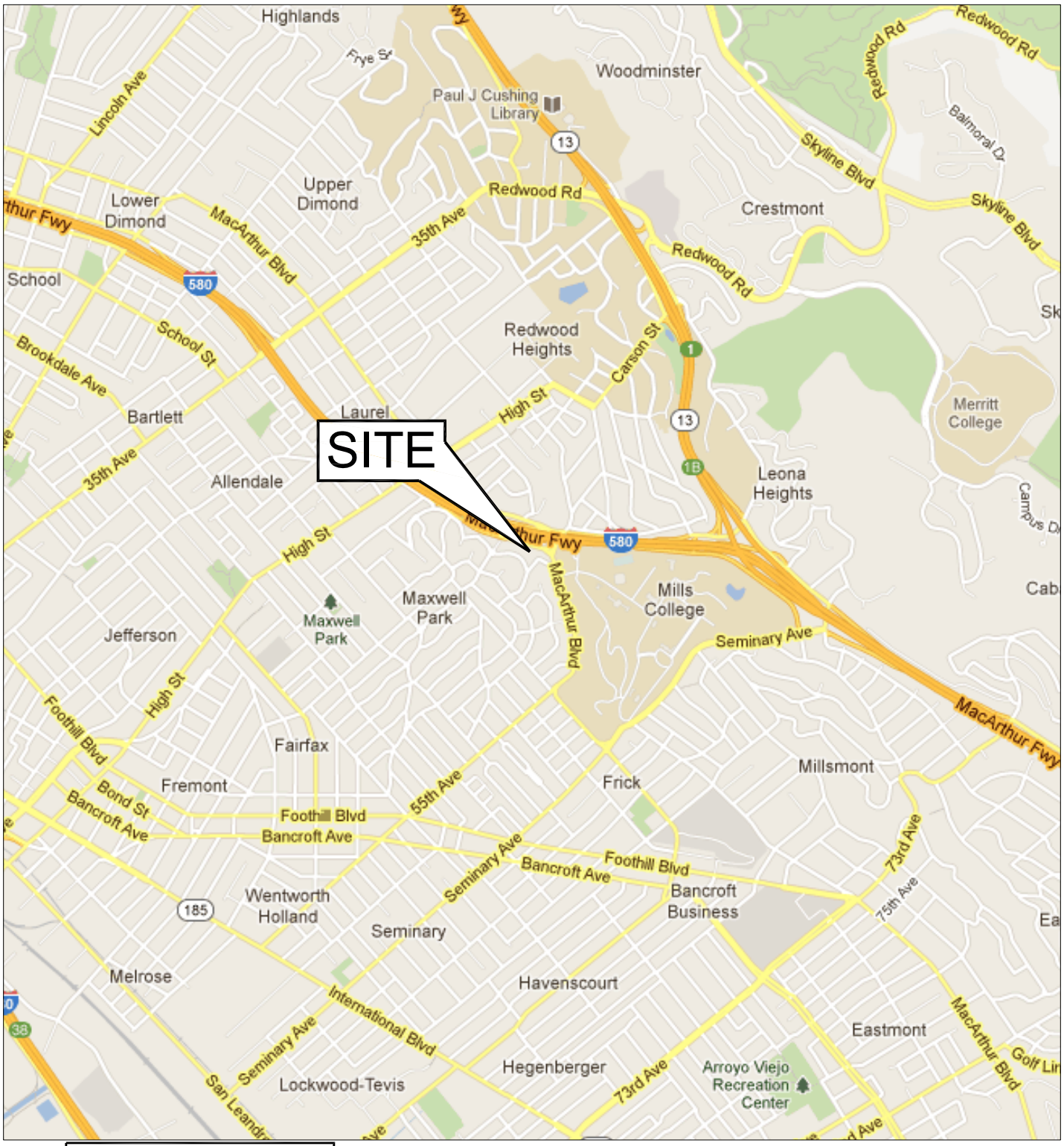
ID = Identification

µg/L = Micrograms per liter

DCA = Dichloroethane

DCE = Dichloroethene

FIGURES



SOURCE: Google Maps (R) dated July 24, 2012

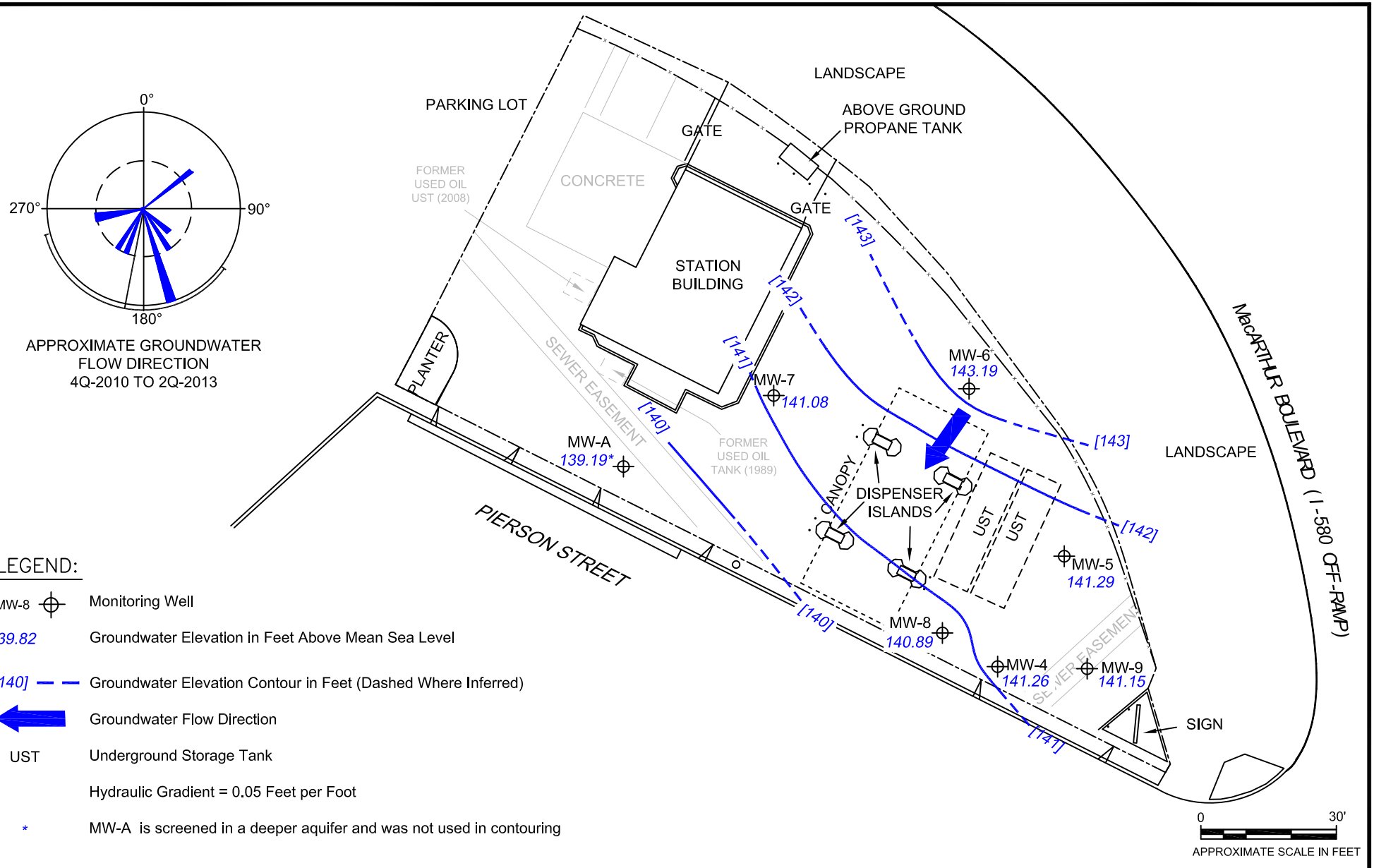
FIGURE 1

SITE LOCATION MAP

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

PROJECT NO. 60267017	DRAWN BY CD 07/24/2012
FILE NO. 351640	PREPARED BY CD
REVISION NO.	REVIEWED BY JH

AECOM



Base map created by Delta Consultants, Inc.

GROUNDWATER ELEVATION CONTOUR MAP - SECOND QUARTER 2013

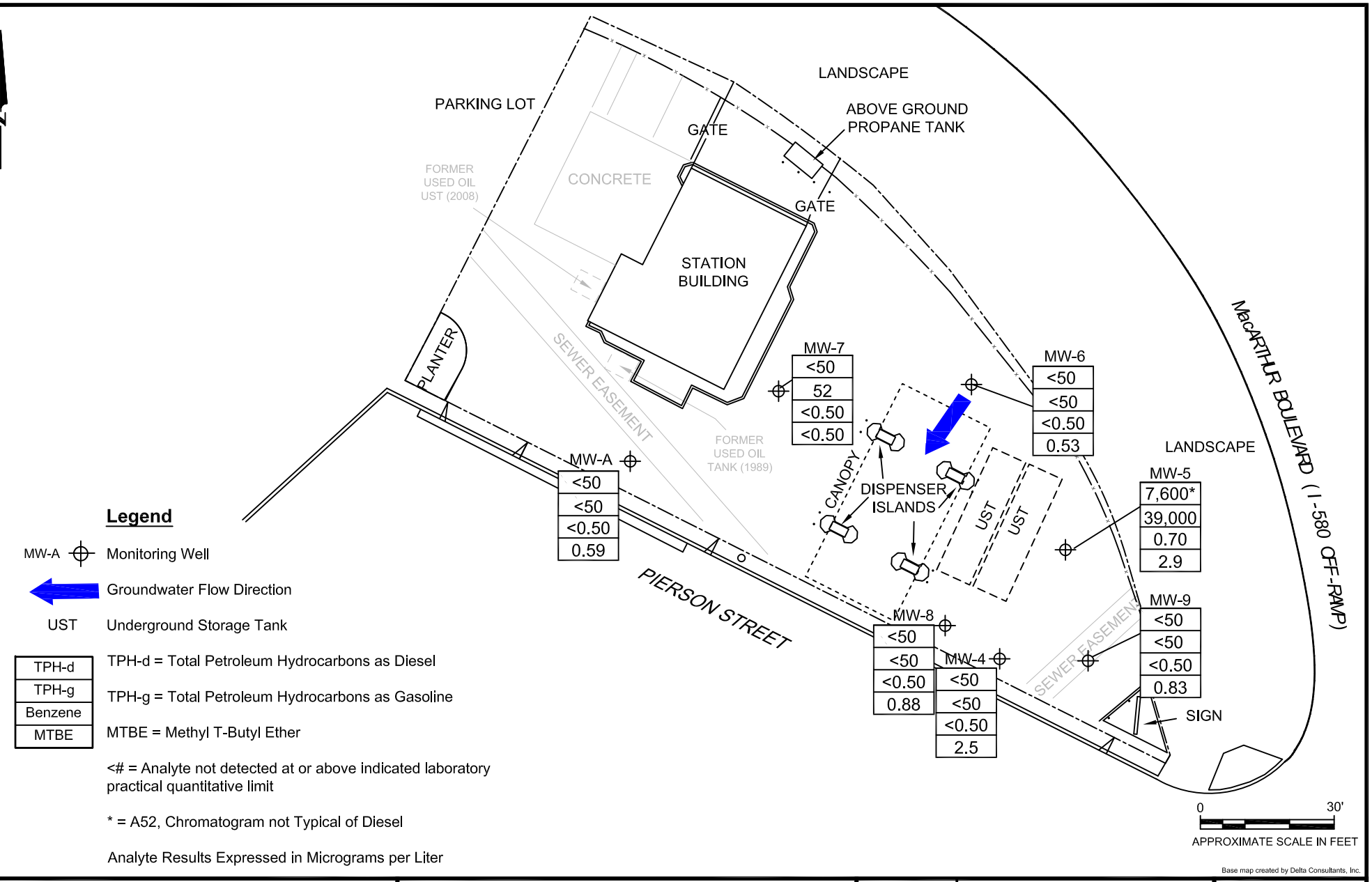
Unocal No. 5781 (351640)
3535 Pierson Street, Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	07/25/2013	60284061

AECOM
10461 OLD PLACERVILLE ROAD SUITE 170
SACRAMENTO, CALIFORNIA 95827
PHONE: (916) 361-6400
FAX: (916) 361-6401
WEB: HTTP://WWW.AECOM.COM

DESIGNED BY:	REVISIONS				FIGURE NUMBER:
	NO.:	DESCRIPTION:	DATE:	BY:	2
DRAWN BY: JMB					
CHECKED BY: JH					
APPROVED BY: JH					

C:\USERS\HARMSJ\DESKTOP\TAKE HOME\351640Q13\FIGURE 2_GWE_351640.DWG



Legend

MW-A ⊕ Monitoring Well

Groundwater Flow Direction

UST Underground Storage Tank

TPH-d
TPH-g
Benzene
MTBE

TPH-d = Total Petroleum Hydrocarbons as Diesel

TPH-g = Total Petroleum Hydrocarbons as Gasoline

MTBE = Methyl T-Butyl Ether

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

* = A52, Chromatogram not Typical of Diesel

Analyte Results Expressed in Micrograms per Liter

Base map created by Delta Consultants, Inc.

GROUNDWATER CONCENTRATION MAP - SECOND QUARTER 2013

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

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	07/24/2013	60284061

AECOM
10461 OLD PLACERVILLE ROAD SUITE 170
SACRAMENTO, CALIFORNIA 95827
PHONE: (916) 361-6400
FAX: (916) 361-6401
WEB: HTTP://WWW.AECOM.COM

DESIGNED BY:	REVISIONS				FIGURE NUMBER:
	NO.:	DESCRIPTION:	DATE:	BY:	3
DRAWN BY: JMB					
CHECKED BY: JH					
APPROVED BY: JH					

C:\USERS\HARMSJ\DESKTOP\TAKE HOME\351640\2Q13\FIGURE 3 CONC 2Q13_351640.DWG

ATTACHMENT A

APRIL 22, 2013 GROUNDWATER DATA FIELD SHEETS

GETTLER-RYAN INC.

TRANSMITTAL

April 26, 2013
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.
6747 Sierra Court, Suite J
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 **Second Quarter Event of April 22, 2013**

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: 4/22/13

Sampler: JOE L.

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

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 Evergreen Oil located in Newark, California.

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/Facility#: Chevron #351640 / 5781 Job Number: 385641
Site Address: 3535 Pierson Street Event Date: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW-A Date Monitored: 4/22/13
Well Diameter (2)/4 in.
Total Depth 44.71 ft.
Depth to Water 15.60 ft.

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

☐ Check if water column is less then 0.50 ft.

29.11 xVF 0.17 = 4.94 x3 case volume = Estimated Purge Volume: 14.84 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 21.42

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): 0800 Weather Conditions: Clear
Sample Time/Date: 1130 / 4/22/13 Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: 2 gpm. Sediment Description: None
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 21.28

Time (2400 hr.)	Volume (gal.)	pH	Conductivity MS ~~(umhos/cm pS)~~	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0803	5	7.09	1.26	20.7		
0806	10	7.03	1.34	20.6		
0808	15	6.99	1.30	20.6		

LABORATORY INFORMATION

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

COMMENTS: 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: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW- 4 Date Monitored: 4/22/13
Well Diameter 2 (4) in.
Total Depth 24.49 ft.
Depth to Water 12.22 ft. ☐ Check if water column is less then 0.50 ft.

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

12.27 xVF 0.66 = 8.09 x3 case volume = Estimated Purge Volume: 24.29 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.67

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): 0922 Weather Conditions: Clear
Sample Time/Date: 1209 / 4/22/13 Water Color: gray Odor: Y / (N)
Approx. Flow Rate: 3 gpm. Sediment Description: Light
Did well de-water? Yes If yes, Time: 0930 Volume: 18 gal. DTW @ Sampling: 20.09

Time (2400 hr.)	Volume (gal.)	pH	Conductivity MS ~~(µmhos/cm µS)~~	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0925	8	6.86	0.63	20.2		
0928	16	6.84	0.68	20.4		

LABORATORY INFORMATION

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

COMMENTS: Pre-Purge Samples Taken at 0915, Slow recovery
Did Not use Pre-purge Sample

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: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW-5 Date Monitored: 4/22/13
Well Diameter 2 (4) in.
Total Depth 19.95 ft.
Depth to Water 12.37 ft.

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

☐ Check if water column is less then 0.50 ft.

7.58 xVF 0.66 = 5.00 x3 case volume = Estimated Purge Volume: 15.00 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.83

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): 1003 Weather Conditions: Clear
Sample Time/Date: 1250 / 4/22/13 Water Color: Clear Odor: (Y) / N Mild
Approx. Flow Rate: 2 gpm. Sediment Description: None
Did well de-water? yes If yes, Time: 1019 Volume: 11 gal. DTW @ Sampling: 12.26

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1016	5	6.60	0.32	20.2		
1019	10	6.54	0.36	19.6		

LABORATORY INFORMATION

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

COMMENTS: pre-Purge samples taken at 1008, 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: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW-6
Well Diameter (2)/ 4 in.
Total Depth 19.95 ft.
Depth to Water 11.43 ft.
Date Monitored: 4/22/13

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

☐ Check if water column is less then 0.50 ft.

8.52 xVF 0.17 = 1.44 x3 case volume = Estimated Purge Volume: 4.34 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.13

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): 1042 Weather Conditions: Clear
Sample Time/Date: 1306 / 4/22/13 Water Color: gray Odor: Y / (N)
Approx. Flow Rate: gpm. Sediment Description: Light
Did well de-water? yes If yes, Time: 1350 Volume: 3.5 gal. DTW @ Sampling: 16.98

Time (2400 hr.)	Volume (gal.)	pH	Conductivity MS ~~(µmhos/cm µS)~~	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1044	1	6.33	0.31	22.5		
1049	2	6.30	0.34	21.4		

LABORATORY INFORMATION

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

COMMENTS: Pre-purge sample taken at 1035, Did not use pre-purge sample

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: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW-7 Date Monitored: 4/22/13
Well Diameter (2)/4 in.
Total Depth 19.67 ft.
Depth to Water 14.30 ft. ☐ Check if water column is less then 0.50 ft.

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

5.37 xVF 0.17 = 0.91 x3 case volume = Estimated Purge Volume: 2.73 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.37

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): 0821 Weather Conditions: Clear
Sample Time/Date: 1148 / 4/22/13 Water Color: gray Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: Light
Did well de-water? yes If yes, Time: 0825 Volume: 2 gal. DTW @ Sampling: 15.97

Time (2400 hr.)	Volume (gal.)	pH	Conductivity MS ~~(µmhos/cm µS)~~	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0822	1	6.32	0.64	21.4		
0825	2	6.29	0.63	20.9		

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: Slow recovery, Pre-Purge Sample Taken at 0813, Did not use pre-purge Sample

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: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW-8
Well Diameter (2) 4 in.
Total Depth 19.93 ft.
Depth to Water 12.82 ft.
Date Monitored: 4/22/13

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

☐ Check if water column is less then 0.50 ft.

7.11 xVF 0.17 = 1.20 x3 case volume = Estimated Purge Volume: 3.62 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.24

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): 0940 Weather Conditions: Clear
Sample Time/Date: 1224 / 4/22/13 Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: Light
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 12.98

Time (2400 hr.)	Volume (gal.)	pH	Conductivity MS ~~(umhos/cm µS)~~	Temperature (C) / F	D.O. (mg/L)	ORP (mV)
0941	1	6.65	0.70	19.9		
0942	2	6.40	0.68	20.3		
0947	4	6.44	0.71	20.1		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 8	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)
	2 x 1 liter ambers	YES	NP	BC LABS	TPH-DRO w/sgc (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 Job Number: 385641
Site Address: 3535 Pierson Street Event Date: 4/22/13 (inclusive)
City: Oakland, CA Sampler: JOE

Well ID MW-9 Date Monitored: 4/22/13
Well Diameter (2)/4 in.
Total Depth 19.70 ft.
Depth to Water 12.22 ft.

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

☐ Check if water column is less then 0.50 ft.

7.48 xVF 0.17 = 1.27 x3 case volume = Estimated Purge Volume: 3.81 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.71

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): 0844 Weather Conditions: Clear
Sample Time/Date: 1109 / 4/22/13 Water Color: gray Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: Light
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 14.75

Time (2400 hr.)	Volume (gal.)	pH	~~Conductivity~~ MS ~~(µmhos/cm - µS)~~	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
0845	1	6.47	0.60	19.9		
0849	3	6.50	0.65	19.6		
0851	4	6.52	0.59	19.5		

LABORATORY INFORMATION

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

COMMENTS: Pre-purge sample taken at 0839, Slow recovery, Did not use pre-purge sample

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

CHAIN OF CUSTODY FORM

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

COC 1 of 1

Union Oil Site ID: 5781
Site Global ID: T0600101467
Site Address: 3535 Pierson Street, Oakland, CA
Union Oil PM: Roya Rambim
Union Oil PM Phone No.: 925-790-6270
Charge Code: NWRTB- 0 351640 -0- LAB

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

Union Oil Consultant: AECOM
Consultant Contact: Jim Harms
Consultant Phone No.: 916-361-6412
Sampling Company: Gettler-Ryan
Sampled By (PRINT): JOE D. LEWIS
Sampler Signature: Joe D. Lewis

BC Laboratories, Inc.
Project Manager: Molly Meyers
4100 Atlas Court, Bakersfield, CA 93308
Phone No. 661-327-4911

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

Special Instructions

SAMPLE ID						ANALYSES REQUIRED												
Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015 W/SGC	TPH - G by GCMS 8015	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	8 OXYS by 8260B							Notes / Comments
MW-A	W-S-A		13/4/22	1130	8	X	X	X			X							
MW-4	W-S-A			1209														
MW-5	W-S-A			JL ~~1234~~ 1250														
MW-6	W-S-A			1306														
MW-7	W-S-A			1148														
MW-8	W-S-A			1224														
MW-9	W-S-A			1108														
QA	W-S-A		~~AA~~ 13/4/22	NA	2													
	W-S-A																	
	W-S-A																	
	W-S-A																	
	W-S-A																	

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
Joe D. Lewis		1500 4/22/13		GRM	04-23-13 1411			
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
GETTLER-RYAN FRIDGE		04-23-13 1540	Jenny Bogan	BC LAB	4-23-13 1440			

ATTACHMENT B

BC LABORATORIES ANALYTICAL REPORT #1308318

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 05/07/2013

Jim Harms

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

Project:	5781
BC Work Order:	1308318
Invoice ID:	B145423

Enclosed are the results of analyses for samples received by the laboratory on 4/23/2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

Table of Contents

13·08318-

CHAIN OF CUSTODY FORM

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

COC 1 of 1

Union Oil Site ID: 5781
Site Global ID: T0600101467
Site Address: 3535 Pierson Street Oakland, CA
Union Oil PM: Roya Kambim
Union Oil PM Phone No.: 925-790-6270
Charge Code: NWRTB-0 351640 -0- LAB

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

Union Oil Consultant: AECOM
Consultant Contact: Jim Harms
Consultant Phone No.: 916-361-6412
Sampling Company: Gettler-Ryan
Sampled By (PRINT): Joe D. Lewis
Sampler Signature: Joe D. Lewis

BC Laboratories, Inc.
Project Manager: Molly Meyers
4100 Atlas Court, Bakersfield, CA 93308
Phone No. 661-327-4911

ANALYSES REQUIRED

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

Special Instructions

Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015 w/SGC	TPH - G by [redacted] 8015	BTEX/MTBE/[redacted] by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	8 OXYS by 8260B
-1 MW-A	W-S-A		13/4/22	1130	8	X	X	X			X
-2 MW-4	W-S-A		↓	1209	↓	↓	↓	↓			↓
-3 MW-5	W-S-A		↓	JL ~~1234~~ 1250	↓	↓	↓	↓			↓
-4 MW-6	W-S-A		↓	1306	↓	↓	↓	↓			↓
-5 MW-7	W-S-A		↓	1143	↓	↓	↓	↓			↓
-6 MW-8	W-S-A		↓	1224	↓	↓	↓	↓			↓
-7 MW-9	W-S-A		↓	1108	↓	↓	↓	↓			↓
-8 QA	W-S-A		~~NA~~ 13/4/22	NA	2		↓	↓			
	W-S-A										
	W-S-A										
	W-S-A										
	W-S-A										

CHK BY [initials] DISTRIBUTION [initials] Notes / Comments SUB-OUT ☐

Relinquished By	Company	Date / Time	Relinquished By	Company	Date / Time	Relinquished By	Company	Date / Time
Joe D. Lewis		4/22/13 1500	[signature]	GR Inc	04-23-13 1430	Gary Bogan	BC Lab	4-23-13 1830
Received By	**Company**	**Date / Time**	**Received By**	**Company**	**Date / Time**	**Received By**	**Company**	**Date / Time**
Gettler-Ryan Fridge		04-22-13 1500	Gary Bogan	BC Lab	4-23-13 1440	[signature]	BCLAB	4-23-13 18:30

REL. [signature] 4-23-13 21:30 REC-[signature] 4-23-13 2130

Chain of Custody and Cooler Receipt Form for 1308318 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 13 08/17/12 Page 2 of 2

Submission #: 13.08318

SHIPPING INFORMATION
Federal Express ☐ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____

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

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

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

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

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: Voa Thermometer ID: 207
Temperature: (A) 2.0 °C / (C) 1.9 °C

Date/Time 4/23/13
Analyst Init SAS 2130

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
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	BC	BC			BC		BC			
1 OZ. JAR										
2 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TERRACORE®										
[illegible]										
[illegible]										

Rml 042413 @ 745

Chain of Custody and Cooler Receipt Form for 1308318 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 13 08/17/12 Page 2 Of 2

Submission #: 13-08318

SHIPPING INFORMATION	SHIPPING CONTAINER
Federal Express ☐ UPS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐
BC Lab Field Service ☑ Other ☐ (Specify)______	Box ☐ Other ☐ (Specify)______

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

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

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

COC Received	Emissivity: 0.97 Container: Qt Amber Thermometer ID: 207	Date/Time 4/23/13
☑ YES ☐ NO	Temperature: (A) 0.4 °C / (C) 0.3 °C	Analyst Init SAS 2130

SAMPLE CONTAINERS	1 (3)	2 (4)	3 (6)	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
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, 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	BC	BG	bV							
OZ. JAR										
2 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
[illegible]										
[illegible]										

[illegible] fml [illegible] 042413 @ 945

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1308318-01	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 11:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-A-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-A			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1308318-02	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 12:09
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-4			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1308318-03	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 12:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-5-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-5			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1308318-04	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 13:06
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-6-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600101467	
			Location ID (FieldPoint): MW-6	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1308318-05	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 11:48
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-7-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600101467	
			Location ID (FieldPoint): MW-7	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1308318-06	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 12:24
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-8-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600101467	
			Location ID (FieldPoint): MW-8	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1308318-07	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 11:08
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-9-W-130422	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-9			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1308318-08	**COC Number:**	---	**Receive Date:**	04/23/2013 21:30
	Project Number:	5781	**Sampling Date:**	04/22/2013 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-130423	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Trip Blank
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): QA			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-01 | **Client Sample Name:** 5781, MW-A-W-130422, 4/22/2013 11:30:00AM

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	**0.59**	**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)	101	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/25/13	04/25/13 12:03	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-01 | **Client Sample Name:** 5781, MW-A-W-130422, 4/22/2013 11:30:00AM

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)	89.7	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/27/13 06:24	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-01 | **Client Sample Name:** 5781, MW-A-W-130422, 4/22/2013 11:30:00AM

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)	40.7	%	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	04/26/13	05/04/13 00:29	JAR	GC-5	1	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-02 | **Client Sample Name:** 5781, MW-4-W-130422, 4/22/2013 12:09:00PM

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	**2.5**	**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)	102	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/25/13	04/25/13 12:20	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-02 | **Client Sample Name:** 5781, MW-4-W-130422, 4/22/2013 12:09:00PM

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)	90.7	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/27/13 06:45	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-02 | **Client Sample Name:** 5781, MW-4-W-130422, 4/22/2013 12:09:00PM

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)	73.9	%	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	04/26/13	05/04/13 00:43	JAR	GC-5	1	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-03 | **Client Sample Name:** 5781, MW-5-W-130422, 4/22/2013 12:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	**0.70**	**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	**330**	**ug/L**	**12**	**EPA-8260B**	ND	**A01**	2
Methyl t-butyl ether	**2.9**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	**65**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Total Xylenes	**4500**	**ug/L**	**25**	**EPA-8260B**	ND	**A01**	2
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)	106	%	75 - 125 (LCL - UCL)	EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)	EPA-8260B			2
Toluene-d8 (Surrogate)	111	%	80 - 120 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)	EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	169	%	80 - 120 (LCL - UCL)	EPA-8260B		S09	1
4-Bromofluorobenzene (Surrogate)	108	%	80 - 120 (LCL - UCL)	EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/25/13	04/25/13 12:38	EAR	MS-V12	1	BWD2069
2	EPA-8260B	04/25/13	04/25/13 17:39	EAR	MS-V12	25	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-03 | **Client Sample Name:** 5781, MW-5-W-130422, 4/22/2013 12:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	**39000**	**ug/L**	**2500**	**EPA-8015B**	ND	**A01**	1
a,a,a-Trifluorotoluene (FID Surrogate)	93.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/29/13 18:33	jjh	GC-V9	50	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-03 | **Client Sample Name:** 5781, MW-5-W-130422, 4/22/2013 12:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	**7600**	**ug/L**	**500**	**Luft/TPHd**	ND	**A52**	1
Tetracosane (Surrogate)	56.3	%	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	04/26/13	05/06/13 17:57	JAR	GC-5	10	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-04 | **Client Sample Name:** 5781, MW-6-W-130422, 4/22/2013 1:06:00PM

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	**0.53**	**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)	105	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.8	%	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	04/25/13	04/29/13 15:16	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-04 | **Client Sample Name:** 5781, MW-6-W-130422, 4/22/2013 1:06:00PM

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)	99.2	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/29/13 17:31	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-04 | **Client Sample Name:** 5781, MW-6-W-130422, 4/22/2013 1:06:00PM

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)	83.9	%	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	04/26/13	05/04/13 01:10	JAR	GC-5	1	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-05 | **Client Sample Name:** 5781, MW-7-W-130422, 4/22/2013 11:48:00AM

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)	105	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/25/13	04/29/13 15:34	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-05 | **Client Sample Name:** 5781, MW-7-W-130422, 4/22/2013 11:48:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	**52**	**ug/L**	**50**	**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	88.1	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/27/13 07:47	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-05 | **Client Sample Name:** 5781, MW-7-W-130422, 4/22/2013 11:48:00AM

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)	76.2	%	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	04/26/13	05/04/13 01:24	JAR	GC-5	1	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-06 | **Client Sample Name:** 5781, MW-8-W-130422, 4/22/2013 12:24:00PM

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	**0.88**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.0	%	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	04/25/13	04/25/13 13:30	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-06 | **Client Sample Name:** 5781, MW-8-W-130422, 4/22/2013 12:24:00PM

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)	90.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/27/13 08:08	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-06 | **Client Sample Name:** 5781, MW-8-W-130422, 4/22/2013 12:24:00PM

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)	64.1	%	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	04/26/13	05/04/13 01:38	JAR	GC-5	1	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-07 | **Client Sample Name:** 5781, MW-9-W-130422, 4/22/2013 11:08:00AM

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	**0.83**	**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)	107	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	93.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/25/13	04/25/13 13:48	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-07 | **Client Sample Name:** 5781, MW-9-W-130422, 4/22/2013 11:08:00AM

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)	92.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/27/13 08:29	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1308318-07 | **Client Sample Name:** 5781, MW-9-W-130422, 4/22/2013 11:08:00AM

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)	37.5	%	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	04/26/13	05/04/13 02:20	JAR	GC-5	1	BWE0378

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1308318-08 | **Client Sample Name:** 5781, QA-W-130423, 4/22/2013 12:00:00AM

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)	119	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.5	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/25/13	04/25/13 11:08	EAR	MS-V12	1	BWD2069

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1308318-08 | **Client Sample Name:** 5781, QA-W-130423, 4/22/2013 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)	93.2	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	04/26/13	04/27/13 05:43	jjh	GC-V9	1	BWD2137

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWD2069						
Benzene	BWD2069-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BWD2069-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BWD2069-BLK1	ND	ug/L	0.50		
Ethylbenzene	BWD2069-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BWD2069-BLK1	ND	ug/L	0.50		
Toluene	BWD2069-BLK1	ND	ug/L	0.50		
Total Xylenes	BWD2069-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BWD2069-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BWD2069-BLK1	ND	ug/L	10		
Diisopropyl ether	BWD2069-BLK1	ND	ug/L	0.50		
Ethanol	BWD2069-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BWD2069-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	BWD2069-BLK1	105	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWD2069-BLK1	101	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWD2069-BLK1	97.8	%	80 - 120 (LCL - UCL)		

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWD2069										
Benzene	BWD2069-BS1	LCS	24.490	25.000	ug/L	98.0		70 - 130		
Toluene	BWD2069-BS1	LCS	25.250	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWD2069-BS1	LCS	9.8300	10.000	ug/L	98.3		75 - 125		
Toluene-d8 (Surrogate)	BWD2069-BS1	LCS	9.9600	10.000	ug/L	99.6		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWD2069-BS1	LCS	10.140	10.000	ug/L	101		80 - 120		

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWD2069	Used client sample: N										
Benzene	MS	1308130-07	ND	24.520	25.000	ug/L		98.1		70 - 130	
	MSD	1308130-07	ND	24.800	25.000	ug/L	1.1	99.2	20	70 - 130	
Toluene	MS	1308130-07	ND	25.310	25.000	ug/L		101		70 - 130	
	MSD	1308130-07	ND	25.140	25.000	ug/L	0.7	101	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1308130-07	ND	10.410	10.000	ug/L		104		75 - 125	
	MSD	1308130-07	ND	9.9900	10.000	ug/L	4.1	99.9		75 - 125	
Toluene-d8 (Surrogate)	MS	1308130-07	ND	10.130	10.000	ug/L		101		80 - 120	
	MSD	1308130-07	ND	10.010	10.000	ug/L	1.2	100		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1308130-07	ND	10.160	10.000	ug/L		102		80 - 120	
	MSD	1308130-07	ND	10.240	10.000	ug/L	0.8	102		80 - 120	

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWD2137						
Gasoline Range Organics (C4 - C12)	BWD2137-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BWD2137-BLK1	97.9	%	70 - 130 (LCL - UCL)		

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWD2137										
Gasoline Range Organics (C4 - C12)	BWD2137-BS1	LCS	1021.2	1000.0	ug/L	102		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWD2137-BS1	LCS	39.373	40.000	ug/L	98.4		70 - 130		

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWD2137	Used client sample: N										
Gasoline Range Organics (C4 - C12)	MS	1305402-98	ND	948.54	1000.0	ug/L		94.9		70 - 130	
	MSD	1305402-98	ND	1023.6	1000.0	ug/L	7.6	102	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1305402-98	ND	38.135	40.000	ug/L		95.3		70 - 130	
	MSD	1305402-98	ND	38.746	40.000	ug/L	1.6	96.9		70 - 130	

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWE0378						
Diesel Range Organics (C12 - C24)	BWE0378-BLK1	ND	ug/L	50		
Tetracosane (Surrogate)	BWE0378-BLK1	45.3	%	20 - 120 (LCL - UCL)		
Capric acid (Reverse Surrogate)	BWE0378-BLK1		%	0 - 2 (LCL - UCL)		

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWE0378										
Diesel Range Organics (C12 - C24)	BWE0378-BS1	LCS	246.85	500.00	ug/L	49.4		20 - 110		
Tetracosane (Surrogate)	BWE0378-BS1	LCS	12.935	20.000	ug/L	64.7		20 - 120		
Capric acid (Reverse Surrogate)	BWE0378-BS1	LCS	ND	100.00	ug/L			0 - 2		

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWE0378	Used client sample: N										
Diesel Range Organics (C12 - C24)	MS	1225032-89	ND	176.14	500.00	ug/L		35.2		20 - 110	
	MSD	1225032-89	ND	255.48	500.00	ug/L	36.8	51.1	30	20 - 110	Q03
Tetracosane (Surrogate)	MS	1225032-89	ND	13.071	20.000	ug/L		65.4		20 - 120	
	MSD	1225032-89	ND	12.916	20.000	ug/L	1.2	64.6		20 - 120	
Capric acid (Reverse Surrogate)	MS	1225032-89	ND	ND	100.00	ug/L				0 - 2	
	MSD	1225032-89	ND	ND	100.00	ug/L				0 - 2	

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

Reported: 05/07/2013 8:39
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

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.
A52	Chromatogram not typical of diesel.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.