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April 30, 2014

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

**Re: Unocal No. 3538 (351642)
411 West MacArthur Boulevard, Oakland, California
Fuel Leak Case No. RO0000251
GeoTracker Global ID # T0600101472**

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

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

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

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

Sincerely,

Tim Bishop
Project Manager

Attachment: First Semi-Annual 2014 Groundwater Monitoring Report by AECOM



AECOM
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Suite 400
Sacramento, CA 95811
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April 30, 2014

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

**Subject: First Semi-Annual 2014 Groundwater Monitoring Report
Unocal No. 3538 (351642)
411 West MacArthur Boulevard, Oakland, California
Fuel Leak Case No. RO0000251
Geotracker Global ID # T0600101472**

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (EMC's) affiliate Union Oil Company of California ("Union Oil"), AECOM is pleased to present the first semi-annual 2014 groundwater monitoring report for the site located at 411 West MacArthur Boulevard, Oakland, California (site) (**Figure 1**). The locations of former and current site features are illustrated on **Figure 2**. Semi-annual groundwater monitoring is intended to evaluate the distribution of petroleum hydrocarbon constituents in groundwater beneath the site. Groundwater sampling was performed by Gettler-Ryan Inc. of Dublin, California. This report summarizes sample results collected from the site during the first semi-annual 2014 monitoring event.

Groundwater Monitoring Field Data

The depth to groundwater was measured in five monitoring wells, MW-1 through MW-3, MW-5, and MW-6 at the site on February 5, 2014. MW-4 was not able accessible due to a parked car. The resulting measurements were used to calculate groundwater elevations (**Table 1**). Temperature, pH, and electrical conductivity readings were collected during purging. Copies of the groundwater sampling/purge logs are included in **Attachment A**. The groundwater flow direction was calculated to flow to the south/southwest with an average hydraulic gradient of approximately 0.01 feet per foot (**Figure 2**). The depth to groundwater ranged from 15.69 to 18.75 feet below the top of well casings, and groundwater elevation ranged from 53.00 to 55.68 feet above mean sea level.

Groundwater Sampling and Analytical Results

Groundwater samples were collected from monitoring wells MW-2 and MW-3 on February 5, 2014. Laboratory analyses were performed by BC Laboratories, Inc. (BC Labs) of Bakersfield, California. The BC Labs analytical report dated February 19, 2014, is included as **Attachment B**. Samples were analyzed for the following analytes based on historical trends for each monitoring well:

- Benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl t-butyl ether (MTBE) by Environmental Protection Agency (EPA) Method 8021B;
- Total petroleum hydrocarbons-gasoline range organics TPH-GRO by EPA Method 8015B; and

- 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (EDC), and ethanol by EPA Method 8260B

Analytical results are presented in **Tables 1 and 2** for this groundwater monitoring event. A map depicting dissolved concentrations of benzene, TPH-GRO, and MTBE in groundwater samples collected on February 5, 2014, is included as **Figure 3**. The following presents a brief summary of the analytical sample results:

- TPH-GRO was not detected in any samples.
- BTEX constituents were not detected in any samples.
- Ethanol was not detected in any samples.
- EDC and EDB was not detected in any samples.
- MTBE was detected in samples collected from monitoring wells MW-2 and MW-3 at concentrations of 1.7 micrograms per liter ($\mu\text{g/L}$) and 7.2 $\mu\text{g/L}$, respectively. The concentration detected for MW-3 is slightly above the environmental screening level (ESL) of 5.0 $\mu\text{g/L}$.

A summary of historical groundwater analytical data is presented in **Tables 3 and 4**. Approximately 8 gallons of groundwater was generated during purging activities. Purged water was transported by Clean Harbors Environmental Services to Seaport Environmental located in Redwood City, California as non-hazardous waste.

Conclusions and Recommendations

The sample results of the groundwater monitoring activities at the site indicate the following:

- MTBE was detected at a concentration slightly above the ESL of 5.0 $\mu\text{g/L}$ for MW-3.
- Based on analytical results from this and previous sampling events, dissolved-phase hydrocarbons in groundwater are adequately delineated.

Future Activities

AECOM will submit a revised Data Gap Assessment Work Plan by April 27, 2014.

Remarks/Signatures


The interpretations in this report represent AECOM's professional opinions and are based, in part, on the information supplied by Gettler-Ryan Inc and BC Labs. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding this project, please contact James Harms at (916) 414-5800 or James.Harms@aecom.com.

Sincerely,



James Harms
Project Manager



Robert Perez, PG #8684
Project Geologist



cc: Mr. Timothy Bishop, EMC (via electronic copy)
Mr. Kevin Ma and Mr. Arthur Yu, property owner (via paper copy)

4/30/2014

Tables:

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

Figures:

Figure 1	Site Location Map
Figure 2	Groundwater Elevation Contour Map - First Semi-Annual 2014
Figure 3	Groundwater Concentration Map - First Semi-Annual 2014

Attachments:

Attachment A	February 5, 2014, Groundwater Data Field Sheets
Attachment B	BC Labs Analytical Report #1402896

Tables

Table 1
Current Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1	72.12	2/5/2014	18.75	53.37	--	--	--	--	--
MW-2	71.34	2/5/2014	18.34	53.00	<50	<0.30	<0.30	<0.30	<0.60
MW-3	71.40	2/5/2014	18.24	53.16	<50	<0.30	<0.30	<0.30	<0.60
MW-4	71.54	2/5/2014	--	--	--	--	--	--	--
MW-5	71.16	2/5/2014	17.96	53.20	--	--	--	--	--
MW-6	71.37	2/5/2014	15.69	55.68	--	--	--	--	--

NOTES:

* TOC and GWE are in feet above mean sea level

TPH-GRO analyzed by Environmental Protection Agency Method 8015B

BTEX analyzed by Environmental Protection Agency Method 8021B

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

-- = Not Sampled

TOC = Top of casing

ft = Feet

DTW = Depth to water

GWE = Groundwater elevation

µg/L = Micrograms per liter

ID = Identification

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

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

Table 2
Current Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	2/5/2014	--	--	--	--
MW-2	2/5/2014	1.7	<250	<0.50	<0.50
MW-3	2/5/2014	7.2	<250	<0.50	<0.50
MW-4	2/5/2014	--	--	--	--
MW-5	2/5/2014	--	--	--	--
MW-6	2/5/2014	--	--	--	--

NOTES:

MTBE analyzed by Environmental Protection Agency Method 8021B

Ethanol, EDB, and EDC analyzed by Environmental Protection Agency Method 8260B

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

-- = Not sampled

µg/L = Micrograms per liter

MTBE = Methyl t-butyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

ID = Identification

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1	9/15/1989	--	--	--	ND	ND	0.61	ND	ND
	1/23/1990	--	--	--	ND	1.5	2.3	ND	4.3
	4/19/1990	--	--	--	ND	ND	ND	ND	ND
	7/17/1990	--	--	--	ND	ND	ND	ND	ND
	10/16/1990	--	--	--	ND	ND	ND	ND	ND
	1/15/1991	--	--	--	ND	ND	ND	ND	ND
	4/12/1991	--	--	--	ND	ND	ND	ND	ND
	7/15/1991	--	--	--	ND	ND	ND	ND	ND
	7/14/1992	--	--	--	ND	ND	ND	ND	ND
	4/13/1993	72.43	17.70	54.73		Sampled Annually in the Third Quarter			
	7/14/1993	72.43	18.49	53.94	ND	2.2	2.1	1.1	6.2
	10/14/1993	72.10	18.32	53.78		Sampled Annually in the Third Quarter			
	1/12/1994	72.10	18.18	53.92		Sampled Annually in the Third Quarter			
	4/11/1994	72.10	17.80	54.30		Sampled Annually in the Third Quarter			
	7/7/1994	72.10	18.28	53.82	ND	ND	ND	ND	ND
	10/5/1994	72.10	18.55	53.55		Sampled Annually in the Third Quarter			
	1/9/1995	72.10	17.90	54.20		Sampled Annually in the Third Quarter			
	4/17/1995	72.10	17.22	54.88		Sampled Annually in the Third Quarter			
	7/19/1995	72.10	18.03	54.07	ND	ND	ND	ND	ND
	10/26/1995	72.10	18.67	53.43		Sampled Annually in the Third Quarter			
	1/16/1996	72.10	17.20	54.90		Sampled Annually in the Third Quarter			
	4/15/1996	72.10	17.40	54.70		Sampled Annually in the Third Quarter			
	7/11/1996	72.10	18.03	54.07	ND	ND	ND	ND	ND
	1/17/1997	72.10	16.54	55.56		Sampled Annually in the Third Quarter			
	7/21/1997	72.10	18.16	53.94	ND	ND	ND	ND	ND
	1/14/1998	72.10	16.05	56.05		Sampled Annually in the Third Quarter			
	7/6/1998	72.10	16.46	55.64	ND	ND	ND	ND	ND
	1/13/1999	72.10	17.37	54.73		Sampled Annually in the Third Quarter			
	8/31/1999	72.12	17.00	55.12	ND	ND	ND	ND	ND
	1/21/2000	72.12	17.04	55.08		Sampled Annually in the Third Quarter			
7/10/2000	72.12	18.10	54.02	ND	ND	ND	ND	ND	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1 cont.	1/4/2001	72.12	17.95	54.17		Sampled Annually in the Third Quarter			
	7/16/2001	72.12	18.03	54.09	ND	ND	ND	ND	ND
	1/28/2002	72.12	17.31	54.81		Sampled Annually in the Third Quarter			
	7/12/2002	72.12	18.15	53.97	<50	<0.50	<0.50	<0.50	<0.50
	1/14/2003	72.12	17.66	54.46		Sampled Annually in the Third Quarter			
	7/10/2003	72.12	17.86	54.26	<50	<0.50	<0.50	<0.50	<0.50
	2/4/2004	72.12	17.43	54.69		Sampled Annually in the Third Quarter			
	7/29/2004	72.12	18.12	54.00	<50	<0.30	0.38	<0.30	<0.6
	3/2/2005	72.12	16.15	55.97		Sampled Annually in the Third Quarter			
	9/30/2005	72.12	18.04	54.08	<50	<0.30	<0.30	<0.30	<0.6
	3/23/2006	72.12	--	--		Sampled Annually in the Third Quarter			
	9/26/2006	72.12	17.90	54.22	<50	<0.30	<0.30	<0.30	<0.6
	3/15/2007	72.12	17.22	54.90		Sampled Annually in the Third Quarter			
	9/27/2007	72.12	18.49	53.63	<50	<0.30	<0.30	<0.30	<0.6
	3/27/2008	72.12	17.57	54.55		Sampled Annually in the Third Quarter			
	9/17/2008	72.12	18.20	53.92	<50	<0.30	<0.30	<0.30	<0.6
	3/27/2009	72.12	16.75	55.37		Sampled Annually in the Third Quarter			
	9/17/2009	72.12	18.18	53.94	<50	<0.30	<0.30	<0.30	<0.6
	3/23/2010	72.12	17.34	54.78		Sampled Annually in the Third Quarter			
	9/21/2010	72.12	18.74	53.38	<50	<0.30	<0.30	<0.30	<0.6
	3/30/2011	72.12	16.68	55.44		Sampled Annually in the Third Quarter			
	9/6/2011	72.12	18.36	53.76	<50	<0.30	<0.30	<0.30	<0.60
	02/03/2012	72.12	18.02	54.10		Sampled Annually in the Third Quarter			
8/17/2012	72.12	18.50	53.62	<50	<0.30	<0.30	<0.30	<0.60	
2/14/2013	72.12	17.98	54.14		Sampled Annually in the Third Quarter				
8/1/2013	72.12	18.45	53.67	<50	<0.30	<0.30	<0.30	<0.60	
	2/5/2014	72.12	18.75	53.37	Sampled Annually in the Third Quarter				
MW-2	9/15/1989	--	--	--	290	ND	12	ND	ND
	1/23/1990	--	--	--	400	73	36	10	40
MW-2 cont.	4/19/1990	--	--	--	3900	550	5.1	91	390

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WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	7/17/1990	--	--	--	490	76	0.59	11	46
	10/16/1990	--	--	--	1400	430	2.0	48	240
	1/15/1991	--	--	--	680	170	0.7	19	81
	4/12/1991	--	--	--	2200	160	4.3	23	62
	7/15/1991	--	--	--	2200	770	12	72	370
	10/15/1991	--	--	--	140	44	0.56	1.5	12
	1/15/1992	--	--	--	220	37	0.52	1.1	7
	4/14/1992	--	--	--	150	6.2	ND	ND	1.4
	7/14/1992	--	--	--	130	3.7	ND	ND	ND
	10/12/1992	--	--	--	370	3.4	0.56	ND	11
	1/8/1993	--	--	--	510	ND	ND	ND	ND
	4/13/1993	71.63	17.86	53.77	410	42	7.7	6.4	28
	7/14/1993	71.63	18.38	53.25	110	6.5	ND	ND	1.1
	10/14/1993	71.38	18.20	53.18	230	5.3	ND	ND	2.1
	1/12/1994	71.38	18.08	53.30	300	7.8	3.8	1.8	10
	4/9/1994	71.38	17.97	53.41	120	10	0.88	1.1	4.9
	4/11/1994	71.38	17.88	53.50	--	--	--	--	--
	7/7/1994	71.38	17.81	53.57	110	4.4	ND	ND	ND
	10/5/1994	71.38	18.33	53.05	720	20	ND	ND	3.1
	1/9/1995	71.38	17.40	53.98	ND	ND	ND	ND	ND
	4/17/1995	71.38	17.50	53.88	93	5.6	0.62	1.7	5.5
	7/19/1995	71.38	18.01	53.37	77	32	0.58	1.7	4.1
	10/26/1995	71.38	18.21	53.17	54	13	ND	ND	0.72
	1/16/1996	71.38	16.58	54.80	120	23	ND	ND	0.99
	4/15/1996	71.38	17.61	53.77	340	21	ND	2.2	3.7
	7/11/1996	71.38	17.98	53.40	540	34	ND	4.3	12
	1/17/1997	71.38	17.08	54.30	320	63	2.4	9.4	26
	7/21/1997	71.38	18.06	53.32	160	13	ND	1.3	1.6
	1/14/1998	71.38	16.52	54.86	66	6.3	ND	ND	0.98
MW-2 cont.	7/6/1998	71.38	16.87	54.51	ND	2.3	ND	ND	ND
	1/13/1999	71.38	17.88	53.50	53	24	ND	0.52	0.98

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	8/31/1999	71.34	18.45	52.89	86	14	ND	0.63	ND
	1/21/2000	71.34	17.73	53.61	ND	1.94	ND	ND	ND
	7/10/2000	71.34	18.14	53.20	ND	ND	ND	ND	ND
	1/4/2001	71.34	18.02	53.32	ND	0.925	ND	ND	ND
	7/16/2001	71.34	18.02	53.32	ND	ND	ND	ND	ND
	1/28/2002	71.34	17.57	53.77	<50	<0.50	<0.50	<0.50	<0.50
	7/12/2002	71.34	18.05	53.29	<50	<0.50	<0.50	<0.50	<0.50
	1/14/2003	71.34	17.44	53.90	<50	<0.50	<0.50	<0.50	<0.50
	7/10/2003	71.34	--	--	--	--	--	--	--
	2/4/2004	71.34	17.22	54.12	<50	<0.50	<0.50	<0.50	<0.50
	7/29/2004	71.34	--	--	--	--	--	--	--
	3/2/2005	71.34	16.63	54.71	99	26	<0.50	3.5	2.8
	9/30/2005	71.34	17.94	53.40	<50	1.2	<0.30	<0.30	<0.60
	3/23/2006	71.34	16.74	54.60	<50	3.6	<0.30	0.35	<0.60
	9/26/2006	71.34	17.91	53.43	<50	1.2	<0.30	<0.30	<0.60
	3/15/2007	71.34	17.45	53.89	110	6.5	<0.30	0.70	<0.60
	9/27/2007	71.34	18.23	53.11	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.34	17.77	53.57	<50	1.8	<0.30	<0.30	<0.60
	9/17/2008	71.34	18.06	53.28	<50	1.6	<0.30	<0.30	<0.60
	3/27/2009	71.34	17.43	53.91	<50	3.5	<0.30	<0.30	<0.60
	9/17/2009	71.34	18.01	53.33	<50	2.7	<0.30	<0.30	<0.60
	3/23/2010	71.34	17.47	53.87	<50	0.68	<0.30	<0.30	<0.60
	9/21/2010	71.34	18.41	52.93	69	1.6	<0.30	<0.30	<0.60
	3/30/2011	71.34	16.58	54.76	<50	<0.30	<0.30	<0.30	<0.60
	9/6/2011	71.34	18.14	53.20	<50	<0.30	<0.30	<0.30	<0.60
	2/3/2012	71.34	17.97	53.37	<50	<0.30	<0.30	<0.30	<0.60
	8/17/2012	71.34	18.20	53.14	57	1.2	<0.30	<0.30	<0.60
	2/14/2013	71.34	17.88	53.46	<50	<0.30	<0.30	<0.30	<0.60
MW-2 cont.	8/1/2013	71.34	16.30	55.04	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	71.34	18.34	53.00	<50	<0.30	<0.30	<0.30	<0.60

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MW-3	9/15/1989	--	--	--	32	ND	ND	ND	ND
	1/23/1990	--	--	--	450	110	1.2	4.4	11
	4/19/1990	--	--	--	3100	600	27	54	220
	7/17/1990	--	--	--	4000	270	48	130	250
	10/16/1990	--	--	--	740	210	1.4	2.5	82
	1/15/1991	--	--	--	3200	460	1.5	120	270
	4/12/1991	--	--	--	880	170	1.1	34	110
	7/15/1991	--	--	--	9200	1300	230	490	1900
	10/15/1991	--	--	--	3100	390	34	150	390
	1/15/1992	--	--	--	3000	590	14	310	750
	4/14/1992	--	--	--	14000	660	48	560	2000
	7/14/1992	--	--	--	21000	890	200	1200	4300
	10/12/1992	--	--	--	3200	160	10	230	540
	1/8/1993	--	--	--	1100	48	0.99	0.9	93
	4/13/1993	72.06	17.96	54.10	12000	290	38	760	2300
	7/14/1993	72.06	18.54	53.52	6300	190	ND	430	1000
	10/14/1993	71.86	18.45	53.41	2500	52	ND	110	250
	1/12/1994	71.86	18.34	53.52	3800	78	ND	180	390
	4/9/1994	71.86	18.19	53.67	1800	22	ND	140	280
	4/11/1994	71.86	18.12	53.74	--	--	--	--	--
	7/7/1994	71.86	18.21	53.65	110	4.5	ND	ND	ND
	10/5/1994	71.86	18.58	53.28	ND	ND	ND	ND	ND
	1/9/1995	71.86	17.69	54.17	ND	0.68	ND	ND	ND
4/17/1995	71.86	17.68	54.18	3700	80	10	270	510	
7/19/1995	71.86	18.20	53.66	15000	330	27	990	2400	
10/26/1995	71.86	18.32	53.54	14000	420	180	750	1600	
1/16/1996	71.86	17.95	53.91	920	38	ND	30	57	
MW-3 cont.	4/15/1996	71.86	17.78	54.08	9700	240	ND	570	860
	7/11/1996	71.86	18.19	53.67	13000	69	5.5	430	900
	1/17/1997	71.86	17.23	54.63	4400	25	ND	270	580
	7/21/1997	71.86	18.29	53.57	9000	36	ND	450	800

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	1/14/1998	71.86	16.71	55.15	7100	40	ND	380	360
	7/6/1998	71.86	17.03	54.83	6800	39	ND	320	360
	1/13/1999	71.86	18.00	53.86	1800	9.4	ND	58	36
	8/31/1999	71.40	--	--	--	--	--	--	--
	1/21/2000	71.40	17.58	53.82	ND	ND	ND	ND	ND
	7/10/2000	71.40	18.05	53.35	ND	ND	ND	ND	ND
	8/25/2000	71.40	17.82	53.58	--	--	--	--	--
	1/4/2001	71.40	18.16	53.24	ND	ND	ND	ND	ND
	7/16/2001	71.40	17.98	53.42	ND	ND	ND	ND	ND
	1/28/2002	71.40	17.84	53.56	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	7/12/2002	71.40	17.87	53.53	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	1/14/2003	71.40	17.28	54.12	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	7/10/2003	71.40	17.64	53.76	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/4/2004	71.40	17.05	54.35	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	7/29/2004	71.40	17.82	53.58	<50	<0.30	<0.30	<0.30	<0.60
	3/2/2005	71.40	16.47	54.93	93	<0.50	<0.50	<0.50	<0.50
	9/30/2005	71.40	17.79	53.61	65	<0.30	<0.30	<0.30	<0.60
	3/23/2006	71.40	16.61	54.79	54	<0.30	0.41	ND<0.30	0.98
	9/26/2006	71.40	17.77	53.63	51	<0.30	<0.30	<0.30	<0.60
	3/15/2007	71.40	17.27	54.13	140	<0.30	<0.30	<0.30	<0.60
	9/27/2007	71.40	18.48	52.92	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.40	17.67	53.73	<50	<0.30	<0.30	<0.30	<0.60
	9/17/2008	71.40	17.91	53.49	56	<0.30	<0.30	<0.30	<0.60
	3/27/2009	71.40	17.34	54.06	<50	<0.30	<0.30	<0.30	<0.60
	9/17/2009	71.40	17.88	53.52	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.40	17.33	54.07	<50	<0.30	<0.30	<0.30	<0.60
MW-3 cont.	9/21/2010	71.40	18.28	53.12	69	<0.30	<0.30	<0.30	<0.60
	3/30/2011	71.40	16.50	54.90	110	<0.30	<0.30	<0.30	<0.60
	9/6/2011	71.40	18.03	53.37	<50	<0.30	<0.30	<0.30	<0.60
	2/3/2012	71.40	17.83	53.57	<50	<0.30	<0.30	<0.30	<0.60
	8/17/2012	71.40	18.07	53.33	<50	<0.30	<0.30	<0.30	<0.60

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	2/14/2013	71.40	17.72	53.68	<50	<0.30	<0.30	<0.30	<0.60
	8/1/2013	71.40	18.02	53.38	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	71.40	18.24	53.16	<50	<0.30	<0.30	<0.30	<0.60
MW-4	9/15/1989	--	--	--	ND	ND	ND	ND	ND
	1/23/1990	--	--	--	ND	ND	0.4	ND	ND
	4/19/1990	--	--	--	ND	ND	0.48	ND	ND
	7/17/1990	--	--	--	ND	ND	ND	ND	ND
	10/16/1990	--	--	--	ND	ND	ND	ND	ND
	1/15/1991	--	--	--	ND	ND	ND	--	ND
	4/12/1991	--	--	--	ND	ND	ND	ND	ND
	7/15/1991	--	--	--	ND	ND	ND	ND	ND
	7/14/1992	--	--	--	ND	1.3	2.5	ND	1.0
	4/13/1993	71.98	17.67	54.31		Sampled Annually in the Third Quarter			
	7/14/1993	71.98	18.31	53.67	ND	ND	ND	ND	ND
	10/14/1993	71.64	18.08	53.56		Sampled Annually in the Third Quarter			
	1/12/1994	71.64	17.97	53.67		Sampled Annually in the Third Quarter			
	4/11/1994	71.64	17.70	53.94		Sampled Annually in the Third Quarter			
	7/7/1994	71.64	17.80	53.84	ND	ND	ND	ND	ND
	10/5/1994	71.64	18.28	53.36		Sampled Annually in the Third Quarter			
	1/9/1995	71.64	17.38	54.26		Sampled Annually in the Third Quarter			
	4/17/1995	71.64	17.21	54.43		Sampled Annually in the Third Quarter			
	7/19/1995	71.64	17.82	53.82	ND	ND	ND	ND	ND
	10/26/1995	71.64	18.17	53.47		Sampled Annually in the Third Quarter			
	1/16/1996	71.64	16.45	55.19		Sampled Annually in the Third Quarter			
MW-4 cont.	4/15/1996	71.64	17.35	54.29		Sampled Annually in the Third Quarter			
	7/11/1996	71.64	17.81	53.83	ND	ND	ND	ND	ND
	1/17/1997	71.64	16.73	54.91		Sampled Annually in the Third Quarter			
	7/21/1997	71.64	17.91	53.73	ND	ND	ND	ND	ND
	1/14/1998	71.64	16.18	55.46		Sampled Annually in the Third Quarter			
	7/6/1998	71.64	16.49	55.15	ND	ND	ND	ND	ND

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	1/13/1999	71.64	17.29	54.35		Sampled Annually in the Third Quarter			
	8/31/1999	71.54	--	--		Sampled Annually in the Third Quarter			
	1/21/2000	71.54	17.51	54.03		Sampled Annually in the Third Quarter			
	7/10/2000	71.54	17.93	53.61	ND	ND	ND	ND	ND
	1/4/2001	71.54	18.10	53.44		Sampled Annually in the Third Quarter			
	7/16/2001	71.54	17.76	53.78	ND	ND	ND	ND	ND
	1/28/2002	71.54	17.20	54.34		Sampled Annually in the Third Quarter			
	7/12/2002	71.54	17.81	53.73	<50	<0.50	<0.50	<0.50	<0.50
	1/14/2003	71.54	17.30	54.24		Sampled Annually in the Third Quarter			
	7/10/2003	71.54	17.58	53.96	<50	<0.50	<0.50	<0.50	<0.50
	2/4/2004	71.54	17.07	54.47		Sampled Annually in the Third Quarter			
	7/29/2004	71.54	17.81	53.73	<50	<0.30	<0.30	<0.30	<0.60
	3/2/2005	71.54	16.25	55.29		Sampled Annually in the Third Quarter			
	9/30/2005	71.54	17.74	53.80	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2006	71.54	--	--		Sampled Annually in the Third Quarter			
	9/26/2006	71.54	17.71	53.83	<50	<0.30	<0.30	<0.30	<0.60
	3/15/2007	71.54	17.56	53.98		Sampled Annually in the Third Quarter			
	9/27/2007	71.54	18.16	53.38	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.54	17.58	53.96		Sampled Annually in the Third Quarter			
	9/17/2008	71.54	17.87	53.67	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2009	71.54	17.17	54.37		Sampled Annually in the Third Quarter			
	9/17/2009	71.54	17.86	53.68	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.54	17.25	54.29		Sampled Annually in the Third Quarter			
	9/21/2010	71.54	18.31	53.23	<50	<0.30	<0.30	<0.30	<0.60
MW-4 cont.	3/30/2011	71.54	16.35	55.19		Sampled Annually in the Third Quarter			
	09/06/2011	71.54	18.00	53.54	<50	<0.30	<0.30	<0.30	<0.60
	02/03/2012	71.54	17.81	53.73		Sampled Annually in the Third Quarter			
	08/17/2012	71.54	18.09	53.45	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.54	17.68	53.86		Sampled Annually in the Third Quarter			
	8/1/2013	71.54	18.05	53.49	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	--	--	--	Sampled Annually in the Third Quarter				

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411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-5	11/30/1992	--	--	--	ND	ND	ND	ND	ND
	1/8/1993	--	--	--	ND	ND	ND	ND	ND
	4/13/1993	71.51	17.49	54.02	ND	ND	ND	ND	ND
	7/14/1993	71.51	18.02	53.49	ND	ND	0.57	ND	ND
	10/14/1993	71.23	17.82	53.41	ND	ND	ND	ND	ND
	1/12/1994	71.23	17.74	53.49	ND	ND	0.84	ND	1.6
	4/11/1994	71.23	17.56	53.67	Sampled Annually in the Third Quarter				
	7/7/1994	71.23	17.50	53.73	ND	ND	ND	ND	ND
	10/5/1994	71.23	17.98	53.25	Sampled Annually in the Third Quarter				
	1/9/1995	71.23	17.13	53.25	Sampled Annually in the Third Quarter				
	4/17/1995	71.23	17.05	53.25	Sampled Annually in the Third Quarter				
	7/19/1995	71.23	17.59	53.25	ND	ND	ND	ND	ND
	10/26/1995	71.23	18.10	53.25	Sampled Annually in the Third Quarter				
	1/16/1996	71.23	17.11	53.25	Sampled Annually in the Third Quarter				
	4/15/1996	71.23	17.22	53.25	Sampled Annually in the Third Quarter				
	7/11/1996	71.23	17.59	53.25	ND	ND	ND	ND	ND
	1/17/1997	71.23	16.75	53.25	Sampled Annually in the Third Quarter				
	7/21/1997	71.23	17.59	53.25	ND	ND	ND	ND	ND
	1/14/1998	71.23	16.16	53.25	Sampled Annually in the Third Quarter				
	7/6/1998	71.23	16.52	53.25	ND	ND	ND	ND	ND
1/13/1999	71.23	17.62	53.25	Sampled Annually in the Third Quarter					
8/31/1999	71.16	17.76	53.25	ND	ND	ND	ND	ND	
MW-5 cont.	1/21/2000	71.16	16.83	53.25	Sampled Annually in the Third Quarter				
	7/10/2000	71.16	17.46	53.25	ND	ND	ND	ND	ND
	1/4/2001	71.16	17.51	53.25	Sampled Annually in the Third Quarter				
	7/16/2001	71.16	17.32	53.25	ND	ND	ND	ND	ND
	1/28/2002	71.16	17.12	53.25	Sampled Annually in the Third Quarter				
	7/12/2002	71.16	17.12	53.25	<50	<0.50	<0.50	<0.50	<0.50
	1/14/2003	71.16	16.67	53.25	Sampled Annually in the Third Quarter				
	7/10/2003	71.16	17.39	53.25	<50	<0.50	<0.50	<0.50	<0.50

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411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	2/4/2004	71.16	16.23	53.25		Sampled Annually in the Third Quarter			
	7/29/2004	71.16	16.02	53.25	<50	<0.30	0.64	<0.30	0.79
	3/2/2005	71.16	16.43	53.25		Sampled Annually in the Third Quarter			
	9/30/2005	71.16	17.41	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2006	71.16	16.37	53.25		Sampled Annually in the Third Quarter			
	9/26/2006	71.16	15.54	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/15/2007	71.16	17.20	53.25		Sampled Annually in the Third Quarter			
	9/27/2007	71.16	18.01	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.16	17.57	53.25		Sampled Annually in the Third Quarter			
	9/17/2008	71.16	17.68	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2009	71.16	17.14	53.25		Sampled Annually in the Third Quarter			
	9/17/2009	71.16	17.60	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.16	17.84	53.25		Sampled Annually in the Third Quarter			
	9/21/2010	71.16	17.92	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/30/2011	71.16	15.87	53.25		Sampled Annually in the Third Quarter			
	9/6/2011	71.16	17.74	53.25	<50	<0.30	<0.30	<0.30	<0.60
	2/3/2012	71.16	17.69	53.25		Sampled Annually in the Third Quarter			
	8/17/2012	71.16	17.75	53.25	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.16	17.51	53.25		Sampled Annually in the Third Quarter			
	8/1/2013	71.16	17.71	53.25	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	71.16	17.96	53.25	Sampled Annually in the Third Quarter				
MW-6	11/30/1992	--	--	--	ND	ND	ND	ND	ND
	1/8/1993	--	--	--	ND	ND	ND	ND	ND
	4/13/1993	71.79	11.94	59.85	ND	ND	ND	ND	ND
	7/14/1993	71.79	17.20	54.59	ND	0.99	2.4	ND	1.9
	10/14/1993	71.44	17.21	54.23	ND	ND	0.64	ND	ND
	1/12/1994	71.44	17.44	54.00	ND	ND	1.2	ND	2.9
	4/11/1994	71.44	13.66	57.78		Sampled Annually in the Third Quarter			
	7/7/1994	71.44	14.05	57.39	ND	ND	ND	ND	ND
	10/5/1994	71.44	14.16	57.28		Sampled Annually in the Third Quarter			

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411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	1/9/1995	71.44	13.73	57.71		Sampled Annually in the Third Quarter			
	4/17/1995	71.44	11.30	60.14		Sampled Annually in the Third Quarter			
	7/19/1995	71.44	12.32	59.12	ND	ND	ND	ND	ND
	10/26/1995	71.44	17.88	53.56		Sampled Annually in the Third Quarter			
	1/16/1996	71.44	16.38	55.06		Sampled Annually in the Third Quarter			
	4/15/1996	71.44	14.00	57.44		Sampled Annually in the Third Quarter			
	7/11/1996	71.44	13.58	57.86	ND	ND	ND	ND	ND
	1/17/1997	71.44	15.42	56.02		Sampled Annually in the Third Quarter			
	7/21/1997	71.44	13.78	57.66	ND	ND	ND	ND	ND
	1/14/1998	71.44	13.65	57.79		Sampled Annually in the Third Quarter			
	7/6/1998	71.44	13.90	57.54	ND	ND	ND	ND	ND
	1/13/1999	71.44	14.93	56.51		Sampled Annually in the Third Quarter			
	8/31/1999	71.37	15.81	55.56	ND	ND	ND	ND	ND
	1/21/2000	71.37	16.13	55.24		Sampled Annually in the Third Quarter			
	7/10/2000	71.37	16.95	54.42	ND	ND	ND	ND	ND
	1/4/2001	71.37	17.09	54.28		Sampled Annually in the Third Quarter			
	7/16/2001	71.37	16.83	54.54	ND	ND	ND	ND	ND
	1/28/2002	71.37	14.58	56.79		Sampled Annually in the Third Quarter			
	7/12/2002	71.37	16.76	54.61	<50	<0.50	<0.50	<0.50	<0.50
	1/14/2003	71.37	16.25	55.12		Sampled Annually in the Third Quarter			
	7/10/2003	71.37	12.97	58.40	<50	<0.50	<0.50	<0.50	<0.50
MW-6 cont.	2/4/2004	71.37	16.20	55.17		Sampled Annually in the Third Quarter			
	7/29/2004	71.37	14.98	56.39	<50	<0.30	<0.30	<0.30	<0.6
	3/2/2005	71.37	14.51	56.86		Sampled Annually in the Third Quarter			
	9/30/2005	71.37	14.45	56.92	<50	<0.30	<0.30	<0.30	<0.6
	3/23/2006	71.37	16.55	54.82		Sampled Annually in the Third Quarter			
	9/26/2006	71.37	17.58	53.79	<50	<0.30	<0.30	<0.30	<0.60
	3/15/2007	71.37	13.72	57.65		Sampled Annually in the Third Quarter			
	9/27/2007	71.37	14.18	57.19	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.37	14.83	56.54		Sampled Annually in the Third Quarter			
	9/17/2008	71.37	14.70	56.67	<50	<0.30	<0.30	<0.30	<0.6

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Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	3/27/2009	71.37	15.66	55.71		Sampled Annually in the Third Quarter			
	9/17/2009	71.37	15.31	56.06	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.37	15.42	55.95		Sampled Annually in the Third Quarter			
	9/21/2010	71.37	15.62	55.75	<50	<0.30	<0.30	<0.30	<0.60
	3/30/2011	71.37	14.12	57.25		Sampled Annually in the Third Quarter			
	09/06/2011	71.37	15.07	56.30	<50	<0.30	<0.30	<0.30	<0.60
	02/03/2012	71.37	14.88	56.49		Sampled Annually in the Third Quarter			
	08/17/2012	71.37	16.08	55.29	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.37	13.66	57.71		Sampled Annually in the Third Quarter			
	8/1/2013	71.37	13.58	57.79	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.37	15.69	55.68	Sampled Annually in the Third Quarter				

NOTES:

* TOC and GWE are in feet above mean sea level

TPH-GRO analyzed by Environmental Protection Agency Method 8015B

BTEX analyzed by Environmental Protection Agency Method 8021B

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

TOC = Top of casing

ft = Feet

DTW = Depth to water

GWE = Groundwater elevation

µg/L = Micrograms per liter

ID = Identification

-- = Not available/applicable

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

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)	
MW-1	9/15/1989	--	--	--	--	
	1/23/1990	--	--	--	--	
	4/19/1990	--	--	--	--	
	7/17/1990	--	--	--	--	
	10/16/1990	--	--	--	--	
	1/15/1991	--	--	--	--	
	4/12/1991	--	--	--	--	
	7/15/1991	--	--	--	--	
	7/14/1992	--	--	--	--	
	4/13/1993		Sampled Annually in the Third Quarter			
	7/14/1993	--	--	--	--	
	10/14/1993		Sampled Annually in the Third Quarter			
	1/12/1994		Sampled Annually in the Third Quarter			
	4/11/1994		Sampled Annually in the Third Quarter			
	7/7/1994	--	--	--	--	
	10/5/1994		Sampled Annually in the Third Quarter			
	1/9/1995		Sampled Annually in the Third Quarter			
	4/17/1995		Sampled Annually in the Third Quarter			
	7/19/1995	--	--	--	--	
	10/26/1995		Sampled Annually in the Third Quarter			
	1/16/1996		Sampled Annually in the Third Quarter			
	4/15/1996		Sampled Annually in the Third Quarter			
	7/11/1996	ND	--	--	--	
	1/17/1997		Sampled Annually in the Third Quarter			
	7/21/1997	ND	--	--	--	
	1/14/1998		Sampled Annually in the Third Quarter			
	7/6/1998	ND	--	--	--	
	1/13/1999		Sampled Annually in the Third Quarter			
	8/31/1999	ND	--	--	--	
	1/21/2000		Sampled Annually in the Third Quarter			
	7/10/2000	ND	--	--	--	
	1/4/2001		Sampled Annually in the Third Quarter			
	7/16/2001	ND	--	--	--	
	1/28/2002		Sampled Annually in the Third Quarter			
	7/12/2002	<2.5	--	--	--	
	1/14/2003		Sampled Annually in the Third Quarter			
	7/10/2003	<2.0	--	--	--	
	2/4/2004		Sampled Annually in the Third Quarter			
	7/29/2004	<1	--	--	--	
	3/2/2005		Sampled Annually in the Third Quarter			
9/30/2005	<1.0	--	--	--		
3/23/2006		Sampled Annually in the Third Quarter				
9/26/2006	<1.0	--	--	--		
MW-1 cont.	3/15/2007		Sampled Annually in the Third Quarter			
	9/27/2007	<1.0	--	--	--	

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	<1.0	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	9/6/2011	<1.0	--	<0.50	--
	02/03/2012		Sampled Annually in the Third Quarter		
	8/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	Sampled Annually in the Third Quarter			
MW-2	9/15/1989	--	--	--	--
	1/23/1990	--	--	--	--
	4/19/1990	--	--	--	--
	7/17/1990	--	--	--	--
	10/16/1990	--	--	--	--
	1/15/1991	--	--	--	--
	4/12/1991	--	--	--	--
	7/15/1991	--	--	--	--
	10/15/1991	--	--	--	--
	1/15/1992	--	--	--	--
	4/14/1992	--	--	--	--
	7/14/1992	--	--	--	--
	10/12/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	200	--	--	--
	7/14/1993	250	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/9/1994	--	--	--	--
	4/11/1994	--	--	--	--
	7/7/1994	--	--	--	--
	10/5/1994	--	--	--	--
	1/9/1995	--	--	--	--
	4/17/1995	--	--	--	--
	7/19/1995	--	--	--	--
	10/26/1995	220	--	--	--
	1/16/1996	--	--	--	--
MW-2 cont.	4/15/1996	45	--	--	--
	7/11/1996	150	--	--	--
	1/17/1997	260	--	--	--
	7/21/1997	180	--	--	--

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	1/14/1998	100	--	--	--
	7/6/1998	11	--	--	--
	1/13/1999	120	--	--	--
	8/31/1999	21	--	--	--
	1/21/2000	10.1	--	--	--
	7/10/2000	46.6	--	--	--
	1/4/2001	ND	--	--	--
	7/16/2001	ND	--	--	--
	1/28/2002	<2.5	--	--	--
	7/12/2002	<2.5	--	--	--
	1/14/2003	<2.0	--	--	--
	7/10/2003	--	--	--	--
	2/4/2004	<5.0	--	--	--
	7/29/2004	--	--	--	--
	3/2/2005	<5.0	--	--	--
	9/30/2005	1.6	--	--	--
	3/23/2006	2.5	--	--	--
	9/26/2006	<1.0	--	--	--
	3/15/2007	1.7	--	--	--
	9/27/2007	<1.0	--	--	--
	3/27/2008	1.3	--	--	--
	9/17/2008	3.1	--	--	--
	3/27/2009	<1.0	--	--	--
	9/17/2009	1.1	--	--	--
	3/23/2010	<1.0	--	--	--
	9/21/2010	1.6	--	--	--
	3/30/2011	1.6	--	--	--
	9/6/2011	<1.0	--	<0.50	--
	2/3/2012	<1.0	--	<0.50	--
	8/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013	<1.0	<250	<0.50	<0.50
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	1.7	<250	<0.50	<0.50
MW-3	9/15/1989	--	--	--	--
	1/23/1990	--	--	--	--
	4/19/1990	--	--	--	--
	7/17/1990	--	--	--	--
	10/16/1990	--	--	--	--
MW-3 cont.	1/15/1991	--	--	--	--
	4/12/1991	--	--	--	--
	7/15/1991	--	--	--	--
	10/15/1991	--	--	--	--
	1/15/1992	--	--	--	--
	4/14/1992	--	--	--	--

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	7/14/1992	--	--	--	--
	10/12/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	1400	--	--	--
	7/14/1993	860	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/9/1994	--	--	--	--
	4/11/1994	--	--	--	--
	7/7/1994	--	--	--	--
	10/5/1994	--	--	--	--
	1/9/1995	--	--	--	--
	4/17/1995	--	--	--	--
	7/19/1995	--	--	--	--
	10/26/1995	4800	--	--	--
	1/16/1996	--	--	--	--
	4/15/1996	3200	--	--	--
	7/11/1996	740	--	--	--
	1/17/1997	1600	--	--	--
	7/21/1997	950	--	--	--
	1/14/1998	930	--	--	--
	7/6/1998	370	--	--	--
	1/13/1999	180	--	--	--
	8/31/1999	--	--	--	--
	1/21/2000	21.4	--	--	--
	7/10/2000	162	--	--	--
	8/25/2000	180	--	--	--
	1/4/2001	193	--	--	--
	7/16/2001	660	--	--	--
	1/28/2002	34	--	--	--
	7/12/2002	11	--	--	--
	1/14/2003	12	--	--	--
	7/10/2003	23	--	--	--
	2/4/2004	26	--	--	--
	7/29/2004	<1	--	--	--
	3/2/2005	140	--	--	--
	9/30/2005	61	--	--	--
MW-3 cont.	3/23/2006	63	--	--	--
	9/26/2006	41	--	--	--
	3/15/2007	110	--	--	--
	9/27/2007	20	--	--	--
	3/27/2008	19	--	--	--
	9/17/2008	43	--	--	--
	3/27/2009	15	--	--	--
	9/17/2009	30	--	--	--

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	3/23/2010	22	--	--	--
	9/21/2010	48	--	--	--
	3/30/2011	73	--	--	--
	9/6/2011	4.7	--	<0.50	--
	2/3/2012	8.2	--	<0.50	--
	8/17/2012	4.7	<250	<0.50	<0.50
	2/14/2013	5.1	<250	<0.50	<0.50
	8/1/2013	5.5	<250	<0.50	<0.50
	2/5/2014	7.2	<250	<0.50	<0.50
MW-4	9/15/1989	--	--	--	--
	1/23/1990	--	--	--	--
	4/19/1990	--	--	--	--
	7/17/1990	--	--	--	--
	10/16/1990	--	--	--	--
	1/15/1991	--	--	--	--
	4/12/1991	--	--	--	--
	7/15/1991	--	--	--	--
	7/14/1992	--	--	--	--
	4/13/1993		Sampled Annually in the Third Quarter		
	7/14/1993	--	--	--	--
	10/14/1993		Sampled Annually in the Third Quarter		
	1/12/1994		Sampled Annually in the Third Quarter		
	4/11/1994		Sampled Annually in the Third Quarter		
	7/7/1994	--	--	--	--
	10/5/1994		Sampled Annually in the Third Quarter		
	1/9/1995		Sampled Annually in the Third Quarter		
	4/17/1995		Sampled Annually in the Third Quarter		
	7/19/1995	--	--	--	--
	10/26/1995		Sampled Annually in the Third Quarter		
	1/16/1996		Sampled Annually in the Third Quarter		
	4/15/1996		Sampled Annually in the Third Quarter		
	7/11/1996	ND	--	--	--
	1/17/1997		Sampled Annually in the Third Quarter		
	7/21/1997	ND	--	--	--
MW-4 cont.	1/14/1998		Sampled Annually in the Third Quarter		
	7/6/1998	ND	--	--	--
	1/13/1999		Sampled Annually in the Third Quarter		
	8/31/1999		Sampled Annually in the Third Quarter		
	1/21/2000		Sampled Annually in the Third Quarter		
	7/10/2000	ND	--	--	--
	1/4/2001		Sampled Annually in the Third Quarter		
	7/16/2001	ND	--	--	--
	1/28/2002		Sampled Annually in the Third Quarter		
	7/12/2002	<2.5	--	--	--

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	1/14/2003		Sampled Annually in the Third Quarter		
	7/10/2003	<2.0	--	--	--
	2/4/2004		Sampled Annually in the Third Quarter		
	7/29/2004	<1	--	--	--
	3/2/2005		Sampled Annually in the Third Quarter		
	9/30/2005	<1.0	--	--	--
	3/23/2006		Sampled Annually in the Third Quarter		
	9/26/2006	<1.0	--	--	--
	3/15/2007		Sampled Annually in the Third Quarter		
	9/27/2007	<1.0	--	--	--
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	<1.0	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	09/06/2011	<1.0	--	<0.50	--
	02/03/2012		Sampled Annually in the Third Quarter		
	08/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	Sampled Annually in the Third Quarter			
MW-5	11/30/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	--	--	--	--
	7/14/1993	--	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/11/1994		Sampled Annually in the Third Quarter		
	7/7/1994	--	--	--	--
	10/5/1994		Sampled Annually in the Third Quarter		
MW-5 cont.	1/9/1995		Sampled Annually in the Third Quarter		
	4/17/1995		Sampled Annually in the Third Quarter		
	7/19/1995	--	--	--	--
	10/26/1995		Sampled Annually in the Third Quarter		
	1/16/1996		Sampled Annually in the Third Quarter		
	4/15/1996		Sampled Annually in the Third Quarter		
	7/11/1996	ND	--	--	--
	1/17/1997		Sampled Annually in the Third Quarter		
	7/21/1997	ND	--	--	--
	1/14/1998		Sampled Annually in the Third Quarter		
	7/6/1998	ND	--	--	--
	1/13/1999		Sampled Annually in the Third Quarter		

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	8/31/1999	ND	--	--	--
	1/21/2000		Sampled Annually in the Third Quarter		
	7/10/2000	ND	--	--	--
	1/4/2001		Sampled Annually in the Third Quarter		
	7/16/2001	ND	--	--	--
	1/28/2002		Sampled Annually in the Third Quarter		
	7/12/2002	<2.5	--	--	--
	1/14/2003		Sampled Annually in the Third Quarter		
	7/10/2003	<2.0	--	--	--
	2/4/2004		Sampled Annually in the Third Quarter		
	7/29/2004	<1	--	--	--
	3/2/2005		Sampled Annually in the Third Quarter		
	9/30/2005	<1.0	--	--	--
	3/23/2006		Sampled Annually in the Third Quarter		
	9/26/2006	<1.0	--	--	--
	3/15/2007		Sampled Annually in the Third Quarter		
	9/27/2007	<1.0	--	--	--
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	<1.0	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	9/6/2011	<1.0	--	<0.50	--
	2/3/2012		Sampled Annually in the Third Quarter		
	8/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	1.9	<250	<0.50	<0.50
	2/5/2014	Sampled Annually in the Third Quarter			
MW-6	11/30/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	--	--	--	--
	7/14/1993	--	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/11/1994		Sampled Annually in the Third Quarter		
	7/7/1994	--	--	--	--
	10/5/1994		Sampled Annually in the Third Quarter		
	1/9/1995		Sampled Annually in the Third Quarter		
	4/17/1995		Sampled Annually in the Third Quarter		
	7/19/1995	--	--	--	--
	10/26/1995		Sampled Annually in the Third Quarter		
	1/16/1996		Sampled Annually in the Third Quarter		

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	4/15/1996		Sampled Annually in the Third Quarter		
	7/11/1996	ND	--	--	--
	1/17/1997		Sampled Annually in the Third Quarter		
	7/21/1997	ND	--	--	--
	1/14/1998		Sampled Annually in the Third Quarter		
	7/6/1998	ND	--	--	--
	1/13/1999		Sampled Annually in the Third Quarter		
	8/31/1999	ND	--	--	--
	1/21/2000		Sampled Annually in the Third Quarter		
	7/10/2000	ND	--	--	--
	1/4/2001		Sampled Annually in the Third Quarter		
	7/16/2001	ND	--	--	--
	1/28/2002		Sampled Annually in the Third Quarter		
	7/12/2002	<2.5	--	--	--
	1/14/2003		Sampled Annually in the Third Quarter		
	7/10/2003	<2.0	--	--	--
	2/4/2004		Sampled Annually in the Third Quarter		
	7/29/2004	1.3	--	--	--
	3/2/2005		Sampled Annually in the Third Quarter		
	9/30/2005	1.7	--	--	--
	3/23/2006		Sampled Annually in the Third Quarter		
	9/26/2006	<1.0	--	--	--
	3/15/2007		Sampled Annually in the Third Quarter		
	9/27/2007	<1.0	--	--	--
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	2.8	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
MW-6 cont.	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	09/06/2011	<1.0	--	<0.50	--
	02/03/2012		Sampled Annually in the Third Quarter		
	08/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	Sampled Annually in the Third Quarter			

NOTES:

MTBE analyzed by Environmental Protection Agency Method 8021B

Ethanol, EDB, and EDC analyzed by Environmental Protection Agency Method 8260B

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

-- = Not available/applicable

µg/L = Micrograms per liter

MTBE = Methyl t-butyl ether

EDB = 1,2-Dibromoethane

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
---------	------	----------------	-------------------	---------------	---------------

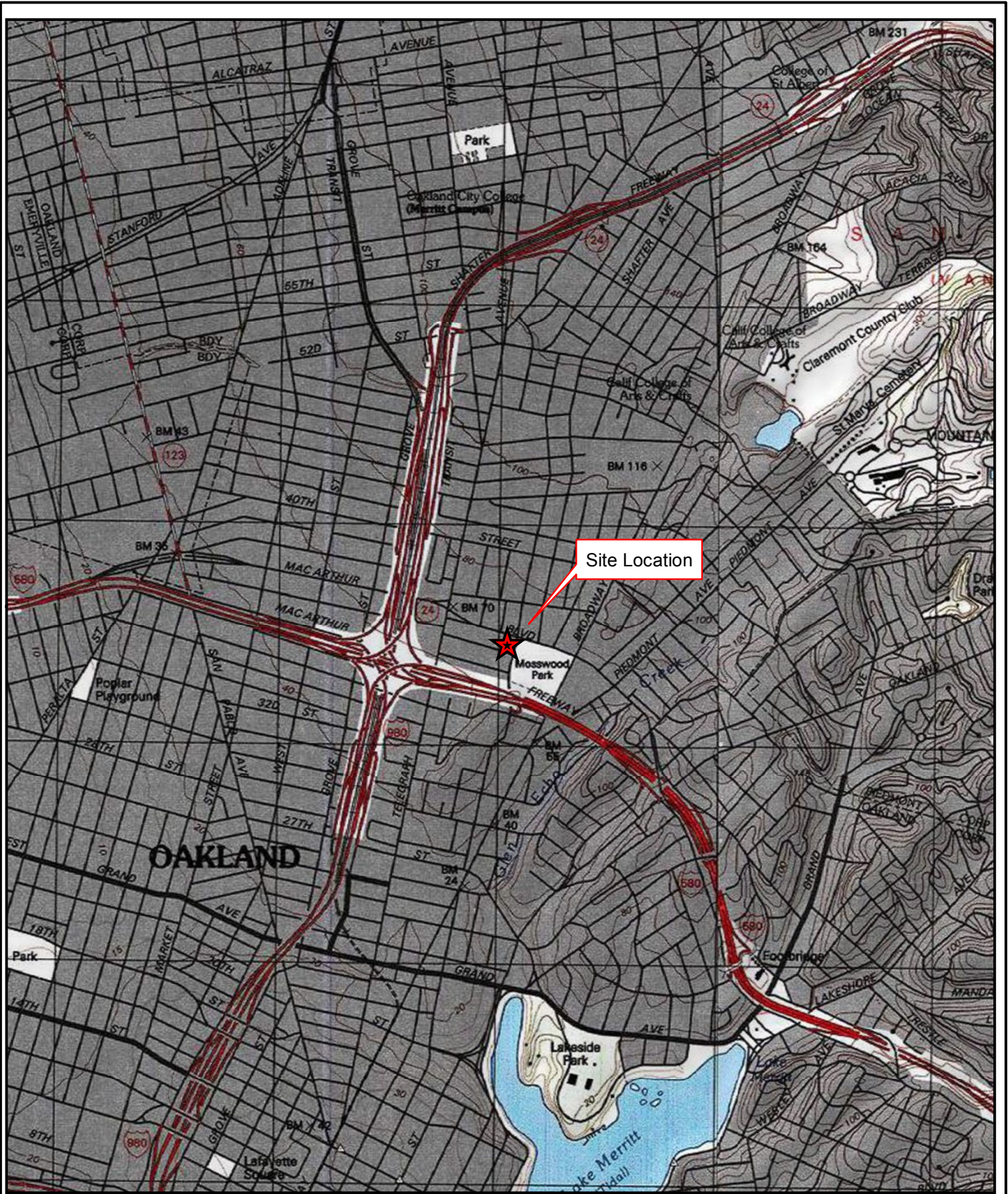
EDC = 1,2-Dichloroethane

ID = Identification

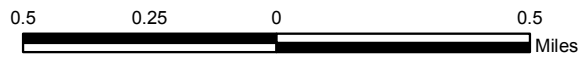
ND = Not detected

Figures

Path: P:\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\GIS\Figure1_site_location_351642.mxd



Map Source: ESRI Data Resource Center 2013.

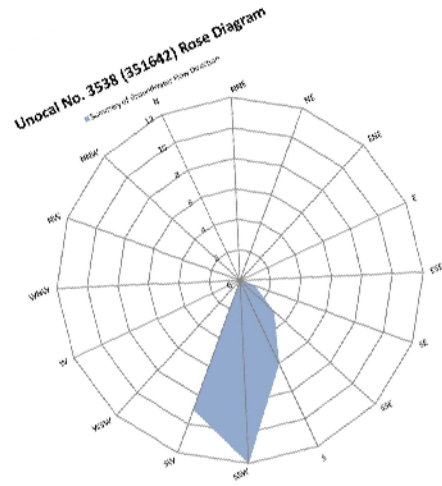


AECOM
 10461 Old Placerville Rd, Suite 170
 Sacramento, CA 95827
 916.361.6400



Unocal No.3538 (351642) 411 West MacArthur Boulevard Oakland, California			Site Location Map
DATE:9/9/13	DRWN: JH	Revision: 0	
			Figure 1

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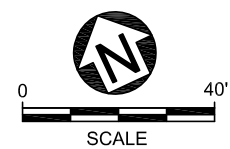
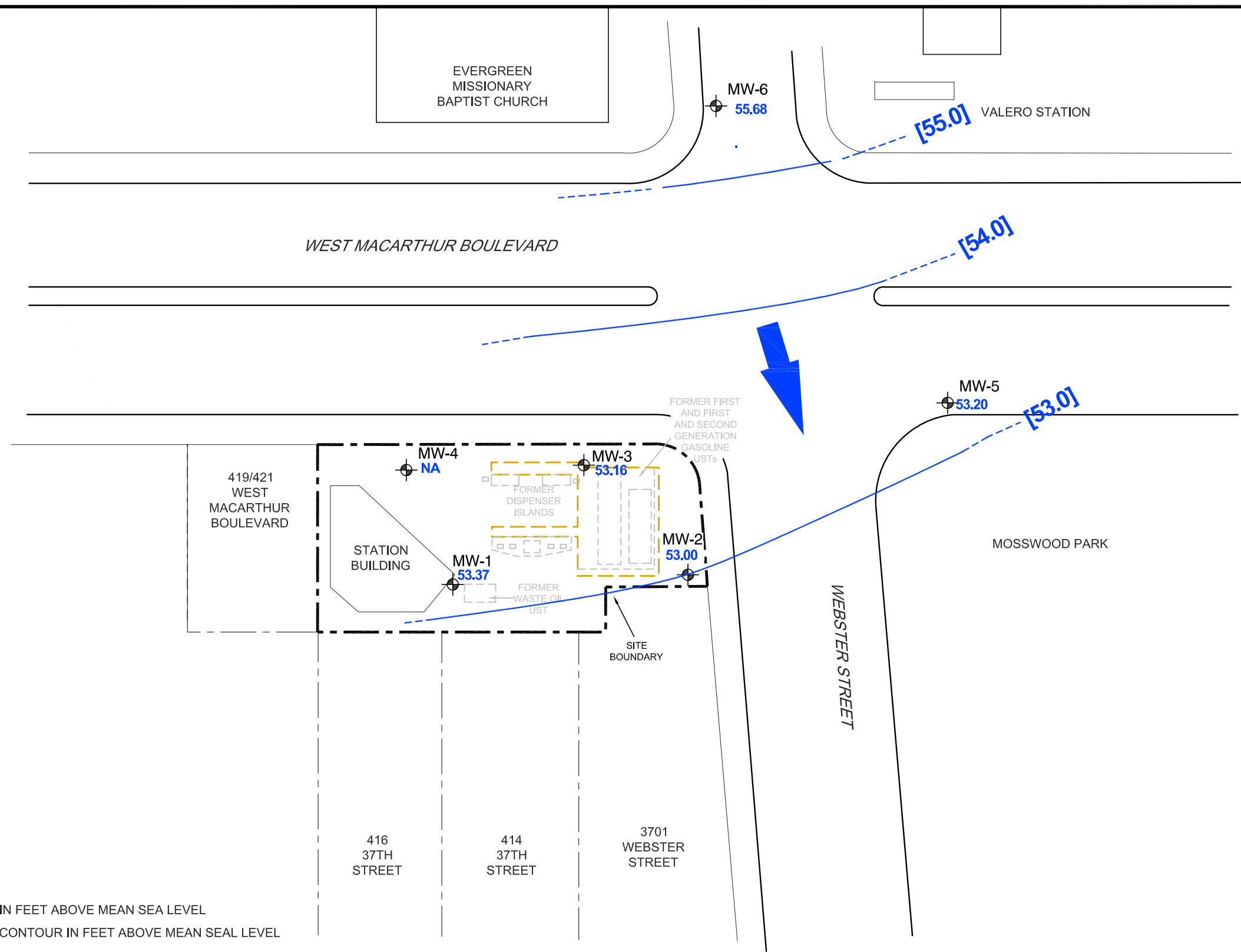


HISTORICAL GROUNDWATER FLOW DIRECTION 1990 TO 1SA14

LEGEND

- MONITORING WELL
- 53.20 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- [54.0] GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEAL LEVEL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- EXTENT OF 1989 EXCAVATION
- HYDRAULIC GRADIENT = 0.01 FT/FT

Notes:
 NA = Not Accessible
 UST = Underground Storage Tank
 FT/FT = feet per foot



DESIGNED BY:		REVISIONS	
DRAWN BY:	JH	NO.:	1
CHECKED BY:	JL	DESCRIPTION:	Internal Tech Review
APPROVED BY:	JH	DATE:	4/16/14
		BY:	JH

AECOM

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

GROUNDWATER ELEVATION CONTOUR MAP

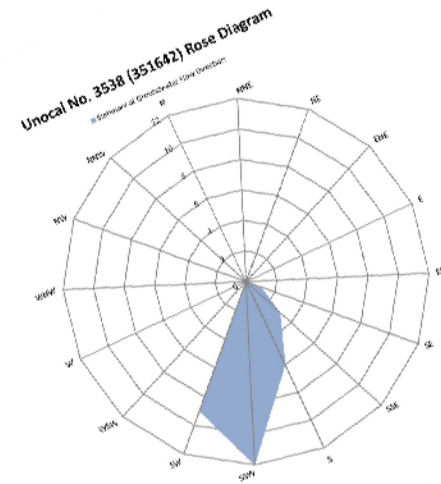
First Semi-Annual 2014
 Groundwater Monitoring Event
 Unocal No. 3538 (351642)
 411 West MacArthur Boulevard, Oakland, California

SCALE: 1" = 40'
 DATE: 04/16/2014
 PROJECT NUMBER: 60314297

FIGURE NUMBER:
2

SHEET NUMBER:
 1 of 1

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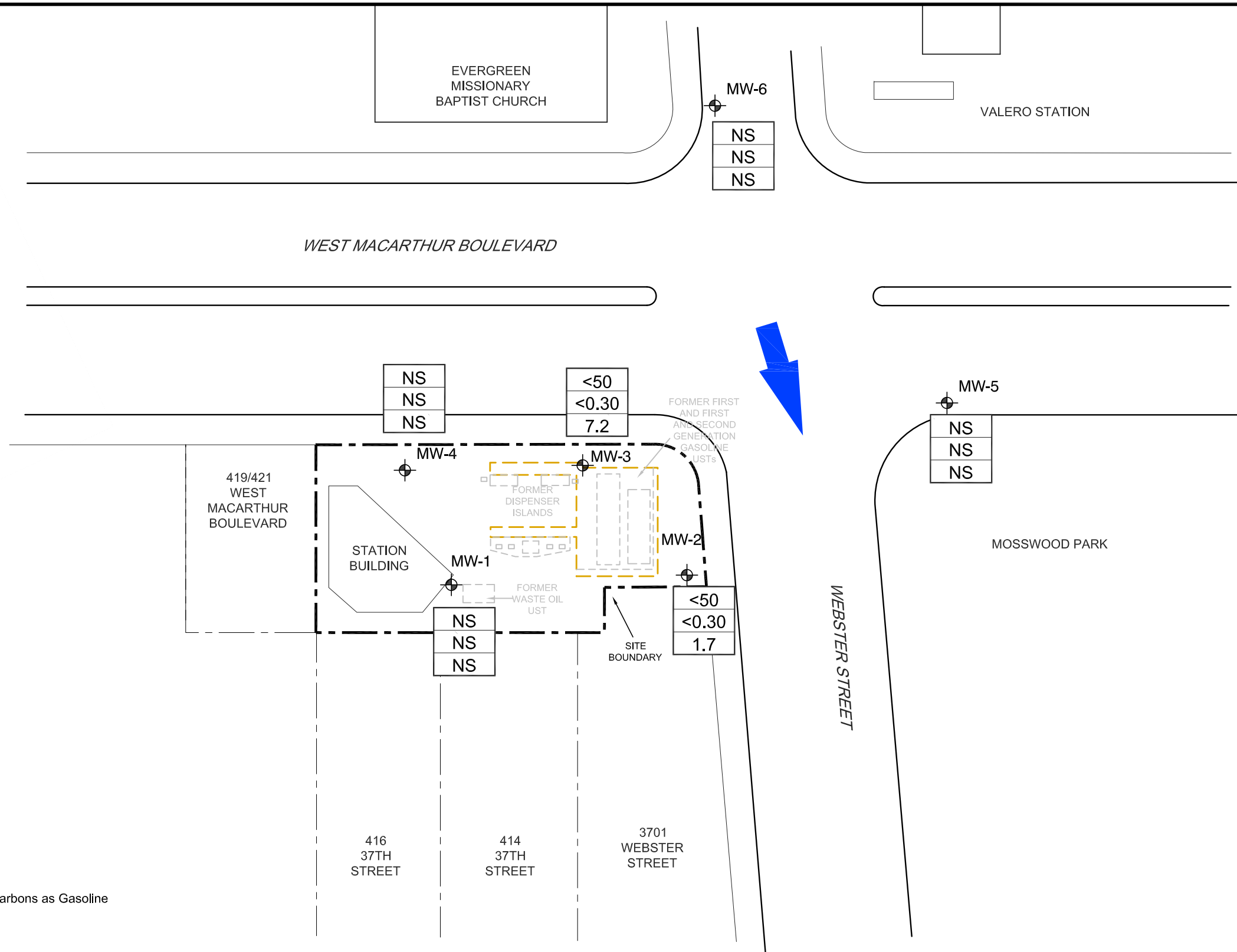


HISTORICAL GROUNDWATER FLOW DIRECTION 1990 TO 1SA14

- Legend**
- Monitoring Well
 - Groundwater Flow Direction
 - UST Underground Storage Tank
 - | |
|---------|
| TPH-GRO |
| Benzene |
| MTBE |

 TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics
 - | |
|------|
| MTBE |
|------|

 MTBE = Methyl T-Butyl Ether
 - Extent of 1989 Excavation
 - <# = Analyte not detected at or above indicated laboratory practical quantitation limit
 - NS = Not Sampled
 - Hydraulic Gradient = 0.01 ft/ft
 - FT/FT = feet per foot
 - Analyte Results Expressed in Micrograms per Liter



DESIGNED BY:		REVISIONS	
NO.:	1	DESCRIPTION:	Internal Tech Review
DATE:	4/16/14	BY:	JH
DRAWN BY:	JH		
CHECKED BY:	JL		
APPROVED BY:	JH		

AECOM

AECOM TECHNICAL SERVICES

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

GROUNDWATER CONCENTRATION MAP

First Semi-Annual 2014
 Groundwater Monitoring Event
 Unocal No. 3538 (351642)
 411 West MacArthur Boulevard, Oakland, California

SCALE: 1" = 40'

DATE: 04/16/2014

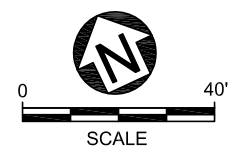
PROJECT NUMBER: 60314297

FIGURE NUMBER:

3

SHEET NUMBER:

1 of 1



Attachment A

**February 5, 2014, Groundwater Data
Field Sheets**



GETTLER-RYAN INC.



TRANSMITTAL

February 18, 2014
G-R #385643

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

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

RE: Chevron Facility
#351642/3538
411 West MacArthur Boulevard
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package First Semi-Annual Event of February 5, 2014

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/351642/3538

WELL CONDITION STATUS SHEET

Client/
Facility #: **Chevron #351642 / 3538**

Site Address: **411 West Macarthur Blvd.**

City: **Oakland, CA**

Job #: **385643**

Event Date: **2/5/14**

Sampler: **GILBERT MEDINA**

WELL ID	Vault Frame Condition	Gasket/O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=Retap	Apron Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) Inches from TOC	Casing (Condition prevents tight cap seal)	REPLACE LOCK Y/N	REPLACE CAP Y/N	WELL VAULT Manufacture/Size/ # of Bolts	Pictures Taken Y/N
MW-1	OK						→	Y	N	EMCO 1/2 1/2	Y
MW-2	OK						→				
MW-3	OK						→				
MW-4	OK						→				
MW-5	OK →		M(1)	B(1)	OK →		→			BRAND KUMAR 3/3	
MW-6	OK →		M(1)	B(1)	OK →		→				

Comments _____

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards, as directed by the scope of work. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron Environmental Management Company, the purge water and decontamination water generated during sampling activities is transported by Clean Harbors Environmental Services to Seaport Environmental located in Redwood City, California.



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351642 / 3538
 Site Address: 411 West Macarthur Blvd.
 City: Oakland, CA

Job Number: 385643
 Event Date: 2/5/14 (inclusive)
 Sampler: GM

Well ID: MW-1
 Well Diameter: 2 in.
 Total Depth: 23.69 ft.
 Depth to Water: 18.75 ft.
4.94 xVF = _____ x3 case volume = Estimated Purge Volume: _____ gal.

Date Monitored: 2/5/14

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

Check if water column is less than 0.50 ft.

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

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: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Water Removed: _____

Start Time (purge): _____ Weather Conditions: _____
 Sample Time/Date: _____ / _____ Water Color: _____ Odor: Y / N
 Approx. Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: _____

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8021)/EDB/EDC(8260)/ETHANOL (8260)

COMMENTS: M/10

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



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351642 / 3538 Job Number: 385643
 Site Address: 411 West Macarthur Blvd. Event Date: 2/5/14 (inclusive)
 City: Oakland, CA Sampler: GM

Well ID: MW-2 Date Monitored: 2/5/14
 Well Diameter: 2 in.
 Total Depth: 24.39 ft.
 Depth to Water: 18.34 ft. Check if water column is less than 0.50 ft.
6.05 xVF 0.17 = 1.02 x3 case volume = Estimated Purge Volume: 3.5 gal.
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.55

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

Purge Equipment:
 Disposable Bailer X
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Peristaltic Pump _____
 QED Bladder Pump _____
 Other: _____

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

Time Started: _____ (2400 hrs)
 Time Completed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Water Removed: _____

Start Time (purge): 0710 Weather Conditions: Cold
 Sample Time/Date: 0735/2/5/14 Water Color: TAN Odor: ODN SUGAR
 Approx. Flow Rate: _____ gpm. Sediment Description: SILT
 Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 19.50

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm = µS)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0712</u>	<u>1.25</u>	<u>7.12</u>	<u>0.82</u>	<u>16.2</u>		
<u>0714</u>	<u>2.5</u>	<u>7.10</u>	<u>0.87</u>	<u>16.3</u>		
<u>0716</u>	<u>3.5</u>	<u>7.09</u>	<u>0.96</u>	<u>16.3</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>(6 x voa vial)</u>	<u>YES</u>	<u>HCL</u>	<u>BC LABS</u>	<u>TPH-GRO(8015)/BTEX+MTBE(8021)/EDB/EDC(8260)/ETHANOL (8260)</u>

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 #351642 / 3538
 Site Address: 411 West Macarthur Blvd.
 City: Oakland, CA

Job Number: 385643
 Event Date: 2/5/14 (inclusive)
 Sampler: Gur

Well ID: MW-3
 Well Diameter: 2 in.
 Total Depth: 27.12 ft.
 Depth to Water: 18.24 ft.

Date Monitored: 2/5/14

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

Check if water column is less than 0.50 ft.

0.33 xVF 2.17 = 1.50 x3 case volume = Estimated Purge Volume: 4.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 20.01

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer X
 Pressure Bailer _____
 Metal Filters _____
 Peristaltic Pump _____
 QED Bladder Pump _____
 Other: _____

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: <u>0</u> ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ gal
Amt Removed from Well: _____ gal
Water Removed: _____

Start Time (purge): 0750
 Sample Time/Date: 0820/2/5/14
 Approx. Flow Rate: _____ gpm.
 Did well de-water? NO If yes, Time: _____

Weather Conditions: Cloudy
 Water Color: BROWN Odor: Y/N
 Sediment Description: SILT
 Volume: _____ gal. DTW @ Sampling: 19.79

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>0752</u>	<u>1.5</u>	<u>6.92</u>	<u>0.38</u>	<u>16.5</u>		
<u>0754</u>	<u>3</u>	<u>6.90</u>	<u>0.33</u>	<u>16.5</u>		
<u>0756</u>	<u>4.5</u>	<u>4.89</u>	<u>0.37</u>	<u>16.5</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>6x voa vial</u>	<u>YES</u>	<u>HCL</u>	<u>BC LABS</u>	<u>TPH-GRO(8015)/BTEX+MTBE(8021)/EDB/EDC(8260)/ETHANOL (8260)</u>

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 #351642 / 3538
 Site Address: 411 West Macarthur Blvd.
 City: Oakland, CA

Job Number: 385643
 Event Date: 2/5/14 (inclusive)
 Sampler: GM

Well ID: MW- 4
 Well Diameter: 2 in.
 Total Depth: UTA ft.
 Depth to Water: UTA ft.

Date Monitored: 2/5/14

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

Check if water column is less than 0.50 ft.

xVF = _____ x3 case volume = Estimated Purge Volume: _____ gal.

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

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): _____
 Sample Time/Date: _____ / _____
 Approx. Flow Rate: _____ gpm.
 Did well de-water? _____ If yes, Time: _____

Weather Conditions: _____
 Water Color: _____ Odor: Y / N
 Sediment Description: _____
 Volume: _____ gal. DTW @ Sampling: _____

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8021)/EDB/EDC(8260)/ETHANOL (8260)

COMMENTS: UTA - UNABLE TO ACCESS CAR PARKED ONSITE OVER NIGHT.

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



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351642 / 3538
 Site Address: 411 West Macarthur Blvd.
 City: Oakland, CA

Job Number: 385643
 Event Date: 2/5/14 (inclusive)
 Sampler: Gur

Well ID: MW- 5
 Well Diameter: 2 in.
 Total Depth: 30.15 ft.
 Depth to Water: 17.96 ft.
12.19 xVF = _____ = _____

Date Monitored: 2/5/14

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

Check if water column is less than 0.50 ft.

x3 case volume = Estimated Purge Volume: gal.

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

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: <u>0</u> ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ gal
Amt Removed from Well: _____ gal
Water Removed: _____

Start Time (purge): _____ Weather Conditions: _____
 Sample Time/Date: / _____ Water Color: _____ Odor: Y / N
 Approx. Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: _____

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8021)/EDB/EDC(8260)/ETHANOL (8260)

COMMENTS: M/D



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Chevron #351642 / 3538**
 Site Address: **411 West Macarthur Blvd.**
 City: **Oakland, CA**

Job Number: **385643**
 Event Date: **2/5/14** (inclusive)
 Sampler: **GM**

Well ID: **MW-6**
 Well Diameter: **2** in.
 Total Depth: **30.10** ft.
 Depth to Water: **15.69** ft.
14.41 xVF

Date Monitored: **2/5/14**

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

Check if water column is less than 0.50 ft.

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

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:	<u>0</u> ft
Visual Confirmation/Description:	_____
Skimmer / Absorbant Sock (circle one)	_____
Amt Removed from Skimmer:	_____ gal
Amt Removed from Well:	_____ gal
Water Removed:	_____ gal

Start Time (purge): _____ Weather Conditions: _____
 Sample Time/Date: _____ / _____ Water Color: _____ Odor: **Y / N**
 Approx. Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: _____

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8021)/EDB/EDC(8260)/ETHANOL (8260)

COMMENTS: M/O

Attachment B

**BC Labs Analytical Report
#1402896**



Date of Report: 02/19/2014

Jim Harms

AECOM

10461 Old Placerville Rd, Suite 170
Sacramento, CA 95827

Client Project: 351642
BCL Project: 3538
BCL Work Order: 1402896
Invoice ID: B166521

Enclosed are the results of analyses for samples received by the laboratory on 2/6/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

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



Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form.....	3
Laboratory / Client Sample Cross Reference.....	5

Sample Results

1402896-01 - QA-W-140205	
Purgeable Aromatics and Total Petroleum Hydrocarbons.....	6
1402896-02 - MW-2-W-140205	
Volatile Organic Analysis (EPA Method 8260B).....	7
Purgeable Aromatics and Total Petroleum Hydrocarbons.....	8
1402896-03 - MW-3-W-140205	
Volatile Organic Analysis (EPA Method 8260B).....	9
Purgeable Aromatics and Total Petroleum Hydrocarbons.....	10

Quality Control Reports

Volatile Organic Analysis (EPA Method 8260B)	
Method Blank Analysis.....	11
Laboratory Control Sample.....	12
Precision and Accuracy.....	13
Purgeable Aromatics and Total Petroleum Hydrocarbons	
Method Blank Analysis.....	14
Laboratory Control Sample.....	15
Precision and Accuracy.....	16

Notes

Notes and Definitions.....	17
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Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

Union Oil Consultant: AECOM ENVIRONMENT

Union Oil Site ID: 3538
Site Global ID: 10600101472
Site Address: 41 WEST MACARTHUR BLVD
OAKLAND, CA
Union Oil PM: TIMOTHY TISHOF
Union Oil PM Phone No.: (925) 390 6463

Consultant Contact: JAMES HARLUS
Consultant Phone No.: (916) 261-6412
Sampling Company: GETTLER RYAN
Sampled By (PRINT): GILBERT MEDINA
Sampler Signature: [Signature]

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

Charge Code: NWRB-0351642-0-LAB
14-02896
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.

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

Union Oil Consultant: AECOM ENVIRONMENT

Turnaround Time (TAT):
Standard 24 Hours
48 Hours 72 Hours
Special Instructions

Field Point Name	Matrix	DTW	Date (yymmdd)	SAMPLE ID		# of Containers	Sample Time	TPH - Diesel by EPA 8015	TPH - G by EPA 8015M	BTEX/MTBE by EPA 8021	Ethanol by EPA 8260B / E78 / ETC (8260)	EPA 8260B Full List with OXYS	ANALYSES REQUIRED	Notes / Comments
				Matrix	Date									
-1 QA	W-S-A		4/20/05			2		X	X	X				
-2 MW-2	W-S-A					6	5340	X	X	X				
-3 MV-3	W-S-A					6	0280	X	X	X				
	W-S-A													
	W-S-A													
	W-S-A													
	W-S-A													
	W-S-A													
	W-S-A													
	W-S-A													
	W-S-A													
	W-S-A													

Relinquished By: [Signature] Company: GETTLER RYAN FRIDGE 2/26/14 1330 Date / Time: 2.6.14 (1330)

Received By: [Signature] Company: GETTLER RYAN FRIDGE 2/26/14 1330 Date / Time: 2.6.14 (1330)

Relinquished By: [Signature] Company: GRINC 2/26/14 1500 Date / Time: 2-6-14 1500

Received By: [Signature] Company: GRINC 2/26/14 1500 Date / Time: 2-6-14 1500

Relinquished By: [Signature] Company: BCLABS 2-6-14 19:30 Date / Time: 2-6-14 19:30

Received By: [Signature] Company: BCLABS 2-6-14 19:30 Date / Time: 2-6-14 19:30

REL- [Signature] 2-6-14 2300
K0-2 2-6-14 2300

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



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

Submission #: 14-02896

SHIPPING INFORMATION: Federal Express, UPS, Hand Delivery, BC Lab Field Service, Other. SHIPPING CONTAINER: Ice Chest, None, Box, Other. FREE LIQUID: YES, NO.

Refrigerant: Ice, Blue Ice, None, Other. Comments:

Custody Seals: Ice Chest, Containers, None. Intact? Yes/No.

All samples received? Yes/No. All samples containers intact? Yes/No. Description(s) match COC? Yes/No.

COC Received: YES/NO. Emissivity: 0.95. Container: Q+PE. Thermometer ID: 207. Date/Time: 2/6/14 2300. Temperature: (A) 1.9 C / (C) 1.9 C. Analyst Init: SAS.

Table with columns for SAMPLE CONTAINERS and SAMPLE NUMBERS (1-10). Rows include various sample types like QT GENERAL MINERAL, PT PE UNPRESERVED, etc.

Comments: Sample Numbering Completed By: [Signature] Date/Time: 2/7/14 0040



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Project Number: 351642
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1402896-01	COC Number: --- Project Number: 3538 Sampling Location: --- Sampling Point: QA-W-140205 Sampled By: GRD	Receive Date: 02/06/2014 23:00 Sampling Date: 02/05/2014 00:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: T0600101472 Location ID (FieldPoint): QA Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1402896-02	COC Number: --- Project Number: 3538 Sampling Location: --- Sampling Point: MW-2-W-140205 Sampled By: GRD	Receive Date: 02/06/2014 23:00 Sampling Date: 02/05/2014 07:35 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: T0600101472 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1402896-03	COC Number: --- Project Number: 3538 Sampling Location: --- Sampling Point: MW-3-W-140205 Sampled By: GRD	Receive Date: 02/06/2014 23:00 Sampling Date: 02/05/2014 08:20 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: T0600101472 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1402896-01	Client Sample Name: 3538, QA-W-140205, 2/5/2014 12:00:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.30	EPA-8021B	ND		1
Toluene	ND	ug/L	0.30	EPA-8021B	ND		1
Ethylbenzene	ND	ug/L	0.30	EPA-8021B	ND		1
Methyl t-butyl ether	ND	ug/L	1.0	EPA-8021B	ND		1
Total Xylenes	ND	ug/L	0.60	EPA-8021B	ND		1
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		2
a,a,a-Trifluorotoluene (PID Surrogate)	90.4	%	70 - 130 (LCL - UCL)	EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	91.4	%	70 - 130 (LCL - UCL)	EPA-8015B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8021B	02/14/14	02/14/14 15:59	jjh	GC-V9	1	BXB1042
2	EPA-8015B	02/14/14	02/14/14 15:59	jjh	GC-V9	1	BXB1042



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Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1402896-02	Client Sample Name: 3538, MW-2-W-140205, 2/5/2014 7:35:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	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)	100	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	02/07/14	02/07/14 16:58	JMS	MS-V12	1	BXB0431



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Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1402896-02	Client Sample Name: 3538, MW-2-W-140205, 2/5/2014 7:35:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.30	EPA-8021B	ND		1
Toluene	ND	ug/L	0.30	EPA-8021B	ND		1
Ethylbenzene	ND	ug/L	0.30	EPA-8021B	ND		1
Methyl t-butyl ether	1.7	ug/L	1.0	EPA-8021B	ND		1
Total Xylenes	ND	ug/L	0.60	EPA-8021B	ND		1
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		2
a,a,a-Trifluorotoluene (PID Surrogate)	90.6	%	70 - 130 (LCL - UCL)	EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	94.1	%	70 - 130 (LCL - UCL)	EPA-8015B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8021B	02/14/14	02/14/14 16:19	jjh	GC-V9	1	BXB1042
2	EPA-8015B	02/14/14	02/14/14 16:19	jjh	GC-V9	1	BXB1042



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Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1402896-03	Client Sample Name: 3538, MW-3-W-140205, 2/5/2014 8:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.2	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	92.2	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	02/07/14	02/07/14 17:15	JMS	MS-V12	1	BXB0431



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Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1402896-03	Client Sample Name: 3538, MW-3-W-140205, 2/5/2014 8:20:00AM
----------------------------------	--

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.30	EPA-8021B	ND		1
Toluene	ND	ug/L	0.30	EPA-8021B	ND		1
Ethylbenzene	ND	ug/L	0.30	EPA-8021B	ND		1
Methyl t-butyl ether	7.2	ug/L	1.0	EPA-8021B	ND		1
Total Xylenes	ND	ug/L	0.60	EPA-8021B	ND		1
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		2
a,a,a-Trifluorotoluene (PID Surrogate)	83.7	%	70 - 130 (LCL - UCL)	EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	98.5	%	70 - 130 (LCL - UCL)	EPA-8015B			2

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-8021B	02/14/14	02/14/14 16:39	jjh	GC-V9	1	BXB1042
2	EPA-8015B	02/14/14	02/14/14 16:39	jjh	GC-V9	1	BXB1042

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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXB0431						
1,2-Dibromoethane	BXB0431-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BXB0431-BLK1	ND	ug/L	0.50		
Ethanol	BXB0431-BLK1	ND	ug/L	250		
1,2-Dichloroethane-d4 (Surrogate)	BXB0431-BLK1	105	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BXB0431-BLK1	104	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BXB0431-BLK1	98.9	%	80 - 120 (LCL - UCL)		



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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: BXB0431										
1,2-Dichloroethane-d4 (Surrogate)	BXB0431-BS1	LCS	10.080	10.000	ug/L	101		75 - 125		
Toluene-d8 (Surrogate)	BXB0431-BS1	LCS	10.150	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXB0431-BS1	LCS	10.090	10.000	ug/L	101		80 - 120		



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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
QC Batch ID: BXB0431		Used client sample: N									
1,2-Dichloroethane-d4 (Surrogate)	MS	1400811-74	ND	9.6600	10.000	ug/L		96.6		75 - 125	
	MSD	1400811-74	ND	9.7800	10.000	ug/L	1.2	97.8		75 - 125	
Toluene-d8 (Surrogate)	MS	1400811-74	ND	9.9100	10.000	ug/L		99.1		80 - 120	
	MSD	1400811-74	ND	10.090	10.000	ug/L	1.8	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1400811-74	ND	10.160	10.000	ug/L		102		80 - 120	
	MSD	1400811-74	ND	10.440	10.000	ug/L	2.7	104		80 - 120	



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Project: 3538
Project Number: 351642
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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXB1042						
Benzene	BXB1042-BLK1	ND	ug/L	0.30		
Toluene	BXB1042-BLK1	ND	ug/L	0.30		
Ethylbenzene	BXB1042-BLK1	ND	ug/L	0.30		
Methyl t-butyl ether	BXB1042-BLK1	ND	ug/L	1.0		
Total Xylenes	BXB1042-BLK1	ND	ug/L	0.60		
Gasoline Range Organics (C4 - C12)	BXB1042-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (PID Surrogate)	BXB1042-BLK1	108	%		70 - 130 (LCL - UCL)	
a,a,a-Trifluorotoluene (FID Surrogate)	BXB1042-BLK1	110	%		70 - 130 (LCL - UCL)	



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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
QC Batch ID: BXB1042											
Benzene	BXB1042-BS1	LCS	45.028	40.000	ug/L	113		85 - 115			
Toluene	BXB1042-BS1	LCS	42.987	40.000	ug/L	107		85 - 115			
Ethylbenzene	BXB1042-BS1	LCS	41.740	40.000	ug/L	104		85 - 115			
Methyl t-butyl ether	BXB1042-BS1	LCS	40.905	40.000	ug/L	102		85 - 115			
Total Xylenes	BXB1042-BS1	LCS	134.43	120.00	ug/L	112		85 - 115			
Gasoline Range Organics (C4 - C12)	BXB1042-BS1	LCS	957.13	1000.0	ug/L	95.7		85 - 115			
a,a,a-Trifluorotoluene (PID Surrogate)	BXB1042-BS1	LCS	44.229	40.000	ug/L	111		70 - 130			
a,a,a-Trifluorotoluene (FID Surrogate)	BXB1042-BS1	LCS	42.424	40.000	ug/L	106		70 - 130			



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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery		Lab
								RPD	Percent Recovery	
QC Batch ID: BXB1042		Used client sample: N								
Benzene	MS	1400811-90	ND	47.763	40.000	ug/L		119		70 - 130
	MSD	1400811-90	ND	46.180	40.000	ug/L	3.4	115	20	70 - 130
Toluene	MS	1400811-90	ND	45.204	40.000	ug/L		113		70 - 130
	MSD	1400811-90	ND	43.934	40.000	ug/L	2.8	110	20	70 - 130
Ethylbenzene	MS	1400811-90	ND	43.043	40.000	ug/L		108		70 - 130
	MSD	1400811-90	ND	42.486	40.000	ug/L	1.3	106	20	70 - 130
Methyl t-butyl ether	MS	1400811-90	ND	41.779	40.000	ug/L		104		70 - 130
	MSD	1400811-90	ND	41.625	40.000	ug/L	0.4	104	20	70 - 130
Total Xylenes	MS	1400811-90	ND	138.54	120.00	ug/L		115		70 - 130
	MSD	1400811-90	ND	136.20	120.00	ug/L	1.7	114	20	70 - 130
Gasoline Range Organics (C4 - C12)	MS	1400811-90	ND	1019.7	1000.0	ug/L		102		70 - 130
	MSD	1400811-90	ND	954.69	1000.0	ug/L	6.6	95.5	20	70 - 130
a,a,a-Trifluorotoluene (PID Surrogate)	MS	1400811-90	ND	43.417	40.000	ug/L		109		70 - 130
	MSD	1400811-90	ND	45.004	40.000	ug/L	3.6	113		70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1400811-90	ND	45.798	40.000	ug/L		114		70 - 130
	MSD	1400811-90	ND	43.212	40.000	ug/L	5.8	108		70 - 130

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Notes And Definitions

- MDL Method Detection Limit
- ND Analyte Not Detected at or above the reporting limit
- PQL Practical Quantitation Limit
- RPD Relative Percent Difference