Roya C. Kambin
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
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March 13, 2013

RECEIVED
By Alameda County Environmental Health at 8:51 am, Mar 14, 2013

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

Re: Chevron Facility No. 351642 (Former Unocal Service Station No. 3538)
411 West MacArthur Boulevard Oakland, California

I have reviewed the attached report dated March 13, 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,

Roya Kambin
Project Manager

Attachment: *First Semi-Annual 2013 Groundwater Monitoring Report* by AECOM Environment, Inc.

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

916 361 6400 tel
916 361 6401 fax

March 13, 2013

Mr. Keith Nowell
Alameda County Environmental Health (ACEH)
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: First Semi-Annual 2013 Groundwater Monitoring Report
Chevron Facility No. 351642 (Former Unocal Service Station No. 3538)
411 West MacArthur Boulevard Oakland, California

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "CEMC"), AECOM Environment, Inc. (AECOM) has been authorized by CEMC to prepare the first semi-annual 2013 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. (GR) of Dublin, California. This report summarizes sample results collected from the Site on February 14, 2013.

Groundwater Monitoring Field Data

Depth to groundwater was measured in six monitoring wells, MW-1 through MW-6 on February 14, 2013 and converted to groundwater elevation (**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 0.04 feet per foot (**Figure 2)**. The depth to groundwater ranged from 13.66 to 17.98 feet below the top of well casings, and groundwater elevation ranged from 53.46 to 57.71 feet above mean sea level. A summary of historical groundwater elevations are presented in **Table 1**.

Groundwater Sampling and Analytical Results

Groundwater samples were collected from monitoring wells MW-2 and MW-3 on February 14, 2013. Laboratory analyses were performed by BC Laboratories, Inc. (BC Labs) of Bakersfield, California. The BC Labs analytical report dated February 25, 2013 is included as **Attachment B**. Samples were analyzed for the following analytes based on historic trends in each monitoring well:

- BTEX and MTBE by USEPA method 8260B;
- TPH-g by USEPA method 8015B; and
- Volatile Organic Compounds (VOCs) by USEPA method 8260B

Analytical results for this groundwater monitoring event are consistent with previous reporting periods (**Table 1**). A map depicting dissolved concentrations of benzene, TPH-g, and MTBE in groundwater on February 14, 2013 is included as **Figure 3**. The following presents a brief summary of the analytical sample results:

- TPHg was not detected in any samples.
- MTBE was detected in one sample at 5.1 µg/L (MW-3). This concentration is slightly above the ESL of 5.0 µg/L.

A summary of historical groundwater analytical data is presented in **Table 1.** Additional historic analytical data is presented in **Attachment C**.

Approximately 8 gallons of groundwater were generated during purging activities. Purged water was transported by Clean Harbors Environmental Services to Evergreen Oil located in Newark, 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 µg/L in MW-3.
- Based on analytical results from this and previous sampling events, dissolved hydrocarbons in groundwater are adequately delineated.

Future Activities

AECOM will provide an update to the conceptual site model (CSM) with a low threat closure request which will assess the site with respect to the 2012 low-threat closure guidance. The closure request will propose cessation of groundwater monitoring during closure evaluation by ACEH.

Remarks/Signatures

The interpretations in this report represent AECOM's professional opinions and are based, in part, on the information supplied by TRC. 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

Tiina Couture, P.E.
Project Engineer

cc: Roya Kambin, CEMC (electronic)
Mr. Kevin Ma & Mr. Arthur Yu, Property Owner

Tables

Table 1	Groundwater Monitoring and Sampling Data

Figures

Figure 1	Site Location Map
Figure 2	Groundwater Elevation Contour Map
Figure 3	Groundwater Concentration Map

Attachments

Attachment A	February 14, 2013 Groundwater Data Field Sheets
Attachment B	BC Laboratories Analytical Report #1303243
Attachment C	Additional Historic Analytical Results

TABLES

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*							
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
	Environmental Screening Level (ESL)[1]				***100***	***1***	***40***	***30***	***20***	***5***	***--***	***--***	***--***
MW-1	**screened from 5 to 29 feet bgs**												
	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	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	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	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	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	ND	--	--	--
	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	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	<2.5	--	--	--
	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	<2.0	--	--	--
	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	<1	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	3/30/2011	72.12	16.68	55.44	Sampled Annually in the Third Quarter								
	09/06/2011	72.12	18.36	53.76	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	72.12	18.02	54.10	Sampled Annually in the Third Quarter								
	08/17/2012	72.12	18.50	53.62	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	72.12	17.98	54.14	Sampled Annually in the Third Quarter								
MW-2	**screened from 3.5 to 28.5 feet bgs**												
	9/15/1989	--	--	--	290	ND	**12**	ND	ND	--	--	--	--
	1/23/1990	--	--	--	400	**73**	**36**	**10**	**40**	--	--	--	--
	4/19/1990	--	--	--	3900	**550**	**5.1**	**91**	**390**	--	--	--	--
	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**	**200**	--	--	--
	7/14/1993	71.63	18.38	53.25	110	**6.5**	ND	ND	**1.1**	**250**	--	--	--

GROUNDWATER MONITORING AND SAMPLING DATA
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*								
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-2	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**	**220**	--	--	--
	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**	**45**	--	--	--
	7/11/1996	71.38	17.98	53.40	540	**34**	ND	**4.3**	**12**	**150**	--	--	--
	1/17/1997	71.38	17.08	54.30	320	**63**	**2.4**	**9.4**	**26**	**260**	--	--	--
	7/21/1997	71.38	18.06	53.32	160	**13**	ND	**1.3**	**1.6**	**180**	--	--	--
	1/14/1998	71.38	16.52	54.86	66	**6.3**	ND	ND	**0.98**	**100**	--	--	--
	7/6/1998	71.38	16.87	54.51	ND	**2.3**	ND	ND	ND	**11**	--	--	--
	1/13/1999	71.38	17.88	53.50	53	**24**	ND	**0.52**	**0.98**	**120**	--	--	--
	8/31/1999	71.34	18.45	52.89	86	**14**	ND	**0.63**	ND	**21**	--	--	--
	1/21/2000	71.34	17.73	53.61	ND	**1.94**	ND	ND	ND	**10.1**	--	--	--
	7/10/2000	71.34	18.14	53.20	ND	ND	ND	ND	ND	**46.6**	--	--	--
	1/4/2001	71.34	18.02	53.32	ND	**0.925**	ND	ND	ND	ND	--	--	--
	7/16/2001	71.34	18.02	53.32	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	71.34	17.57	53.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	7/12/2002	71.34	18.05	53.29	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	71.34	17.44	53.90	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	7/10/2003	71.34	--	--	--	--	--	--	--	--	--	--	--
	2/4/2004	71.34	17.22	54.12	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--
	7/29/2004	71.34	--	--	--	--	--	--	--	--	--	--	--
	3/2/2005	71.34	16.63	54.71	**99**	**26**	<0.50	3.5	2.8	<5.0	--	--	--
	9/30/2005	71.34	17.94	53.40	<50	**1.2**	<0.30	<0.30	<0.60	**1.6**	--	--	--
	3/23/2006	71.34	16.74	54.60	<50	**3.6**	<0.30	0.35	<0.60	**2.5**	--	--	--
	9/26/2006	71.34	17.91	53.43	<50	**1.2**	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/15/2007	71.34	17.45	53.89	**110**	**6.5**	<0.30	**0.70**	<0.60	**1.7**	--	--	--
	9/27/2007	71.34	18.23	53.11	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2008	71.34	17.77	53.57	<50	1.8	<0.30	<0.30	<0.60	**1.3**	--	--	--
	9/17/2008	71.34	18.06	53.28	<50	1.6	<0.30	<0.30	<0.60	**3.1**	--	--	--
	3/27/2009	71.34	17.43	53.91	<50	3.5	<0.30	<0.30	<0.60	<1.0	--	--	--
	9/17/2009	71.34	18.01	53.33	<50	2.7	<0.30	<0.30	<0.60	**1.1**	--	--	--
	3/23/2010	71.34	17.47	53.87	<50	0.68	<0.30	<0.30	<0.60	<1.0	--	--	--
	9/21/2010	71.34	18.41	52.93	**69**	1.6	<0.30	<0.30	<0.60	1.6	--	--	--
	3/30/2011	71.34	16.58	54.76	<50	<0.30	<0.30	<0.30	<0.60	1.6	--	--	--
	09/06/2011	71.34	18.14	53.20	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	71.34	17.97	53.37	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	08/17/2012	71.34	18.20	53.14	**57**	**1.2**	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	71.34	17.88	53.46	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
MW-3	**screened from 5 to 29 feet bgs**												
	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**	**1400**	--	--	--
	7/14/1993	72.06	18.54	53.52	**6300**	**190**	ND	**430**	**1000**	**860**	--	--	--
	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**	**4800**	--	--	--
	1/16/1996	71.86	17.95	53.91	**920**	**38**	ND	**30**	**57**	--	--	--	--
	4/15/1996	71.86	17.78	54.08	**9700**	**240**	ND	**570**	**860**	**3200**	--	--	--

GROUNDWATER MONITORING AND SAMPLING DATA
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*							
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-3	7/11/1996	71.86	18.19	53.67	**13000**	**69**	**5.5**	**430**	**900**	**740**	--	--	--
	1/17/1997	71.86	17.23	54.63	**4400**	**25**	ND	**270**	**580**	**1600**	--	--	--
	7/21/1997	71.86	18.29	53.57	**9000**	**36**	ND	**450**	**800**	**950**	--	--	--
	1/14/1998	71.86	16.71	55.15	**7100**	**40**	ND	**380**	**360**	**930**	--	--	--
	7/6/1998	71.86	17.03	54.83	**6800**	**39**	ND	**320**	**360**	**370**	--	--	--
	1/13/1999	71.86	18.00	53.86	**1800**	**9.4**	ND	**58**	**36**	**180**	--	--	--
	8/31/1999	71.40	--	--	--	--	--	--	--	--	--	--	--
	1/21/2000	71.40	17.58	53.82	ND	ND	ND	ND	ND	**21.4**	--	--	--
	7/10/2000	71.40	18.05	53.35	ND	ND	ND	ND	ND	**162**	--	--	--
	8/25/2000	71.40	17.82	53.58	--	--	--	--	--	**180**	--	--	--
	1/4/2001	71.40	18.16	53.24	ND	ND	ND	ND	ND	**193**	--	--	--
	7/16/2001	71.40	17.98	53.42	ND	ND	ND	ND	ND	**660**	--	--	--
	1/28/2002	71.40	17.84	53.56	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**34**	--	--	--
	7/12/2002	71.40	17.87	53.53	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**11**	--	--	--
	1/14/2003	71.40	17.28	54.12	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**12**	--	--	--
	7/10/2003	71.40	17.64	53.76	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**23**	--	--	--
	2/4/2004	71.40	17.05	54.35	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**26**	--	--	--
	7/29/2004	71.40	17.82	53.58	<50	<0.30	<0.30	<0.30	<0.60	ND<1	--	--	--
	3/2/2005	71.40	16.47	54.93	**93**	<0.50	<0.50	<0.50	<0.50	140	--	--	--
	9/30/2005	71.40	17.79	53.61	**65**	<0.30	<0.30	<0.30	<0.60	61	--	--	--
	3/23/2006	71.40	16.61	54.79	**54**	<0.30	**0.41**	ND<0.30	**0.98**	**63**	--	--	--
	9/26/2006	71.40	17.77	53.63	**51**	<0.30	<0.30	<0.30	<0.60	**41**	--	--	--
	3/15/2007	71.40	17.27	54.13	**140**	<0.30	<0.30	<0.30	<0.60	**110**	--	--	--
	9/27/2007	71.40	18.48	52.92	<50	<0.30	<0.30	<0.30	<0.60	**20**	--	--	--
	3/27/2008	71.40	17.67	53.73	<50	<0.30	<0.30	<0.30	<0.60	**19**	--	--	--
	9/17/2008	71.40	17.91	53.49	**56**	<0.30	<0.30	<0.30	<0.60	**43**	--	--	--
	3/27/2009	71.40	17.34	54.06	<50	<0.30	<0.30	<0.30	<0.60	**15**	--	--	--
	9/17/2009	71.40	17.88	53.52	<50	<0.30	<0.30	<0.30	<0.60	**30**	--	--	--
	3/23/2010	71.40	17.33	54.07	<50	<0.30	<0.30	<0.30	<0.60	**22**	--	--	--
	9/21/2010	71.40	18.28	53.12	**69**	<0.30	<0.30	<0.30	<0.60	**48**	--	--	--
	3/30/2011	71.40	16.50	54.90	**110**	<0.30	<0.30	<0.30	<0.60	**73**	--	--	--
	09/06/2011	71.40	18.03	53.37	<50	<0.30	<0.30	<0.30	<0.60	**4.7**	--	<0.50	--
	02/03/2012	71.40	17.83	53.57	<50	<0.30	<0.30	<0.30	<0.60	**8.2**	--	<0.50	--
	08/17/2012	71.40	18.07	53.33	<50	<0.30	<0.30	<0.30	<0.60	**4.7**	<250	<0.50	<0.50
	2/14/2013	71.40	17.72	53.68	<50	<0.30	<0.30	<0.30	<0.60	**5.1**	<250	<0.50	<0.50
MW-4	**screened from 5 to 29 feet bgs**												
	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								
	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	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	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	ND	--	--	--
	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	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	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	<2.5	--	--	--
	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	<2.0	--	--	--
	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	<1	--	--	--

GROUNDWATER MONITORING AND SAMPLING DATA
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*							
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-4	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	<0.50	--
	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	<1.0	<250	<0.50	<0.50
	2/14/2013	71.54	17.68	53.86				Sampled Annually in the Third Quarter					
MW-5	**screened from 13 to 30 feet bgs**												
	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	54.10				Sampled Annually in the Third Quarter					
	4/17/1995	71.23	17.05	54.18				Sampled Annually in the Third Quarter					
	7/19/1995	71.23	17.59	53.64	ND	ND	ND	ND	ND	--	--	--	--
	10/26/1995	71.23	18.10	53.13				Sampled Annually in the Third Quarter					
	1/16/1996	71.23	17.11	54.12				Sampled Annually in the Third Quarter					
	4/15/1996	71.23	17.22	54.01				Sampled Annually in the Third Quarter					
	7/11/1996	71.23	17.59	53.64	ND	ND	ND	ND	ND	ND	--	--	--
	1/17/1997	71.23	16.75	54.48				Sampled Annually in the Third Quarter					
	7/21/1997	71.23	17.59	53.64	ND	ND	ND	ND	ND	ND	--	--	--
	1/14/1998	71.23	16.16	55.07				Sampled Annually in the Third Quarter					
	7/6/1998	71.23	16.52	54.71	ND	ND	ND	ND	ND	ND	--	--	--
	1/13/1999	71.23	17.62	53.61				Sampled Annually in the Third Quarter					
	8/31/1999	71.16	17.76	53.40	ND	ND	ND	ND	ND	ND	--	--	--
	1/21/2000	71.16	16.83	54.33				Sampled Annually in the Third Quarter					
	7/10/2000	71.16	17.46	53.70	ND	ND	ND	ND	ND	ND	--	--	--
	1/4/2001	71.16	17.51	53.65				Sampled Annually in the Third Quarter					
	7/16/2001	71.16	17.32	53.84	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	71.16	17.12	54.04				Sampled Annually in the Third Quarter					
	7/12/2002	71.16	17.12	54.04	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	71.16	16.67	54.49				Sampled Annually in the Third Quarter					
	7/10/2003	71.16	17.39	53.77	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	2/4/2004	71.16	16.23	54.93				Sampled Annually in the Third Quarter					
	7/29/2004	71.16	16.02	55.14	<50	<0.30	0.64	<0.30	0.79	<1	--	--	--
	3/2/2005	71.16	16.43	54.73				Sampled Annually in the Third Quarter					
	9/30/2005	71.16	17.41	53.75	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2006	71.16	16.37	54.79				Sampled Annually in the Third Quarter					
	9/26/2006	71.16	15.54	55.62	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/15/2007	71.16	17.20	53.96				Sampled Annually in the Third Quarter					
	9/27/2007	71.16	18.01	53.15	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2008	71.16	17.57	53.59				Sampled Annually in the Third Quarter					
	9/17/2008	71.16	17.68	53.48	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2009	71.16	17.14	54.02				Sampled Annually in the Third Quarter					
	9/17/2009	71.16	17.60	53.56	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2010	71.16	17.84	53.32				Sampled Annually in the Third Quarter					
	9/21/2010	71.16	17.92	53.24	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/30/2011	71.16	15.87	55.29				Sampled Annually in the Third Quarter					
	09/06/2011	71.16	17.74	53.42	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	71.16	17.69	53.47				Sampled Annually in the Third Quarter					
	08/17/2012	71.16	17.75	53.41	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	71.16	17.51	53.65				Sampled Annually in the Third Quarter					
MW-6	**screened from 13 to 30 feet bgs**												
	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					

GROUNDWATER MONITORING AND SAMPLING DATA
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538
411 W MACARTHUR BLVD
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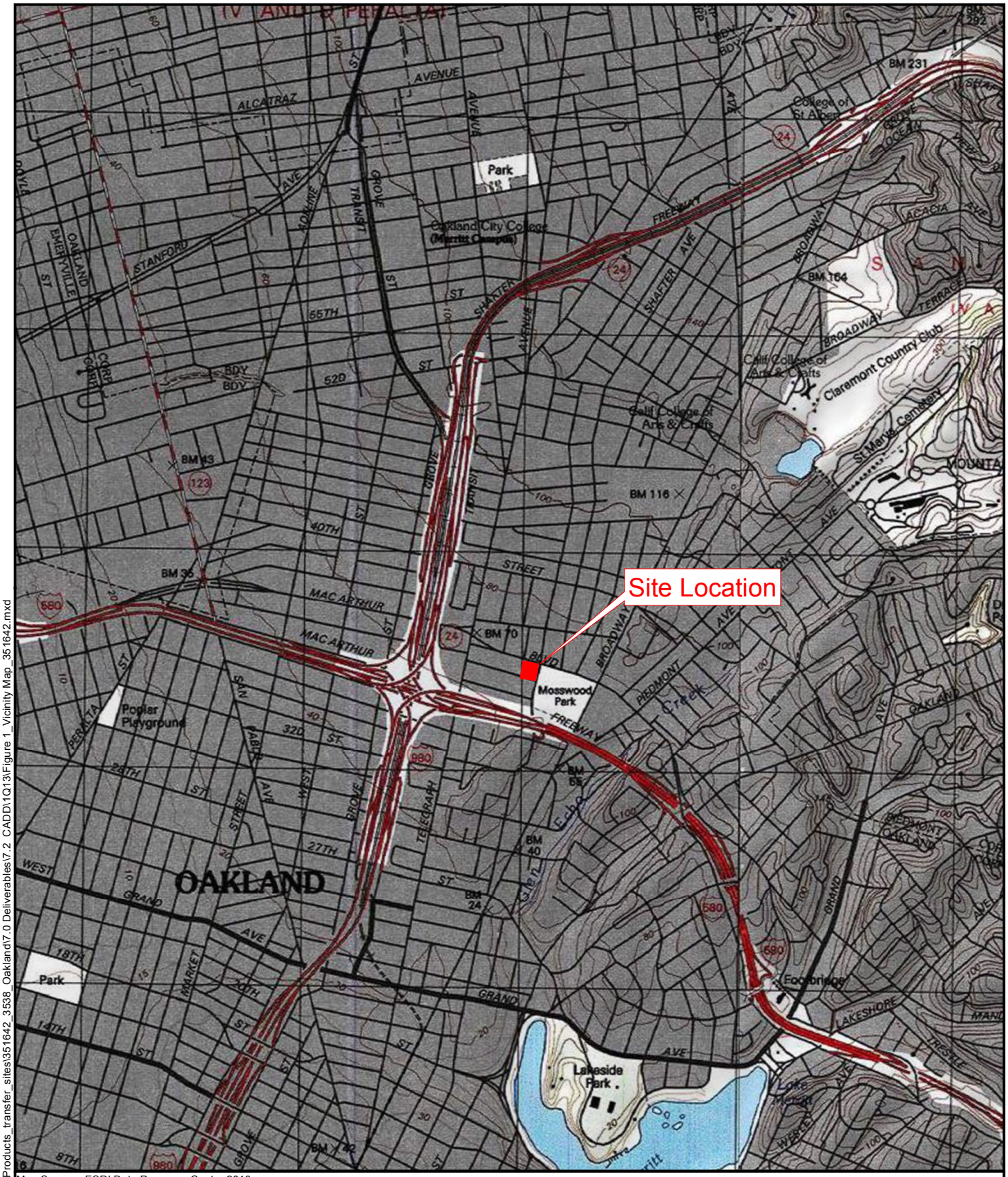
					HYDROCARBONS	*PRIMARY VOCS*								
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-6	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								
	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	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	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	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	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	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	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	<2.5	--	--	--
	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	<2.0	--	--	--
	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	**1.3**	--	--	--
	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	**1.7**	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	**2.8**	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	--	--
	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	<1.0	--	<0.50	--
	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	<1.0	<250	<0.50	<0.50
	2/14/2013	71.37	13.66	57.71	Sampled Annually in the Third Quarter								

Abbreviations and Notes:

TOC = Top of Casing
DTW = Depth to Water
GWE = Groundwater elevation
(ft-amsl) = Feet Above Mean sea level
ft = Feet
µg/L = Micrograms per Liter
TPH - Total Petroleum Hydrocarbons
VOCS = Volatile Organic Compounds
MTBE = Methyl tert butyl ether
EDB = 1,2-Dibromoethane (Ethylene dibromide)
1,2-DCA = 1,2-Dichloroethane

-- = Not available / not applicable
<x = Not detected above laboratory reported practical quantitation level.
shaded = exceeds ESL
bold = detected
[1] = Environmental Screening Level (Table F-1a) for groundwater that is a current or potential drinking water resource; *Screening for Environmental Concerns at site with Contaminated Soil and Groundwate*r; California Regional Water Quality Control Board - San Francisco Bay Region; Interim Final November 2007; revised May 2008.

FIGURES



Map Source: ESRI Data Resource Center 2013.

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

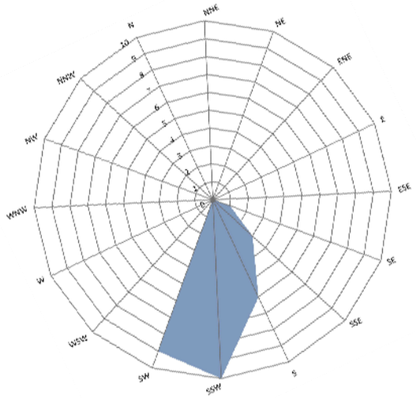
0 0.25 0.5 Miles

N

Figure 1: Site Location Map

Chevron Site #361642
Former Unocal #3538
411 West MacArthur Blvd.,
Oakland, California

Path: P:\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\1Q13\Figure 1_Vicinity Map_351642.mxd



HISTORICAL GROUNDWATER
FLOW DIRECTION
1990 TO 1Q13

EVERGREEN
MISSIONARY
BAPTIST CHURCH

MW-6
57.71

VALERO STATION

[57.50]

WEST MACARTHUR BOULEVARD

[55.50]

0.04 ft/ft

MW-5
53.65

[53.50]

MW-4
53.86

MW-3
53.68

MW-2
53.46

MW-1
54.14

419/421
WEST
MACARTHUR
BOULEVARD

STATION
BUILDING

FORMER
DISPENSER
ISLANDS

FORMER UST

FORMER UST

FORMER
WASTE OIL
UST

MOSSWOOD PARK

WEBSTER STREET

416
37TH
STREET

414
37TH
STREET

3701
WEBSTER
STREET

LEGEND

- APPROXIMATE PROPERTY LINE
- MONITORING WELL
- 53.62 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- [53.50] GROUNDWATER ELEVATION CONTOUR IN FEET (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- EXTENT OF EXCAVATION

Notes:
FT/FT = feet per foot
UST = underground storage tank

0 40'
SCALE

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
	JH	TC	JH

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

GROUNDWATER CONTOUR MAP

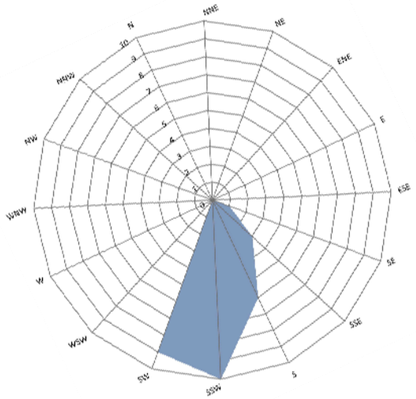
First Semi-Annual 2013
Groundwater Monitoring Event
Chevron Site #351642 Former Unocal #3538
411 West MacArthur Blvd., Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 40'	3/11/2013	60284077

FIGURE NUMBER:
2

SHEET NUMBER:
1 of 1

P:\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\1Q13\Figures 2_3_351642.dwg Mar 13, 2013 - 11:48am HarmsJ



HISTORICAL GROUNDWATER
FLOW DIRECTION
1990 TO 1Q13

EVERGREEN
MISSIONARY
BAPTIST CHURCH

MW-6
NS
NS
NS

VALERO STATION

WEST MACARTHUR BOULEVARD

0.04 ft/ft

NS
NS
NS

<50
<0.30
5.1

MW-4
MW-3

419/421
WEST
MACARTHUR
BOULEVARD

FORMER
DISPENSER
ISLANDS

FORMER UST

FORMER UST

STATION
BUILDING

MW-2

MW-1

FORMER
WASTE OIL
UST

NS
NS
NS

<50
<0.30
<1.0

MW-5
NS
NS
NS

MOSSWOOD PARK

WEBSTER STREET

416
37TH
STREET

414
37TH
STREET

3701
WEBSTER
STREET

LEGEND

- APPROXIMATE PROPERTY LINE
- MONITORING WELL
- <50 TPH gasoline
- <0.30 BENZENE
- 5.1 MTBE
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- EXTENT OF EXCAVATION

Notes:
TPH = Total Petroleum Hydrocarbons
MTBE = methyl tertiary-butyl ether
UST = underground storage tank
FT/FT = feet per foot
Analyte Concentrations expressed in micrograms per liter.

0 40'
SCALE

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:
DRAWN BY: RPR
CHECKED BY: RPR
APPROVED BY: JH

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

GROUNDWATER CONCENTRATION MAP

First Semi-Annual 2013
Groundwater Monitoring Event
Chevron Site #351642 Former Unocal #3538
411 West MacArthur Blvd., Oakland, California

SCALE: 1" = 40'
DATE: 3/11/2013
PROJECT NUMBER: 60284077

FIGURE NUMBER:
3

SHEET NUMBER:
1 of 1

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ATTACHMENT A

February 14, 2013 Groundwater Data Field Sheets

GETTLER-RYAN INC.

TRANSMITTAL

February 27, 2013
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.
6747 Sierra Court, Suite J
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 14, 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/351642/3538

WELL CONDITION STATUS SHEET

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

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

City: **Oakland, CA**

Job #: **385643**

Event Date: 2.14.13

Sampler: FT

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=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									EMCO / 12" / 2	
MW-2	OK						2" CASING INSIDE 4" CASING				
MW-3	OK										
MW-4	OK										
MW-5	OK			B=1 S=5	OK					BRANDAND KILMAN / 8" / 3	
MW-6	OK			S=2 1 BROKEN BOLT IN FLANGE	OK					" " "	

Comments MW-2 HAS A 2" CASING INSIDE A 4" CASING (SEE PHOTO)

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 #351642 / 3538 Job Number: 385643
Site Address: 411 West Macarthur Blvd. Event Date: 2.14.13 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW- 1 Date Monitored: 2.14.13
Well Diameter 2 in.
Total Depth 23.98 ft.
Depth to Water 17.98 ft.

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

☐ Check if water column is less then 0.50 ft.

6.00 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): 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: Emco 12" OK
MLO

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

Well ID MW- 2 Date Monitored: 2.14.13
Well Diameter 2 in.
Total Depth 24.25 ft.
Depth to Water 17.98 ft.

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

☐ Check if water column is less then 0.50 ft.

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

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 21.45

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): 1150 Weather Conditions: SUNNY
Sample Time/Date: 1210 / 2.14.13 Water Color: BRN. Odor: Y / (N)
Approx. Flow Rate: ✓ gpm. Sediment Description: SILTY
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 17.90

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1153	1.0	7.50	736	18.4		
1156	2.0	7.47	732	18.3		
1159	3.0	7.45	729	18.2	✓	✓

LABORATORY INFORMATION

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

COMMENTS: WELL IS A 2" CASING INSIDE A 4" CASING. 2" CASING IS ≈ 1'8" [redacted] DOWN FROM T.O.C. FROM THE EXTERNAL 4" CASING. (SEE PHOTO) EMCO 12" OK

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: 2-14-13 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-3 Date Monitored: 2-14-13
Well Diameter 2 in.
Total Depth 27.11 ft.
Depth to Water 17.72 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.

9.39 xVF .17 = 1.59 x3 case volume = Estimated Purge Volume: 5.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.59

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): 1115 Weather Conditions: SUNNY
Sample Time/Date: 1135 / 2-14-13 Water Color: BRN Odor: Y / (N)
Approx. Flow Rate: / gpm. Sediment Description: SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 17.75

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1118	1.5	7.55	770	18.5		
1121	3.0	7.51	762	18.8		
1125	5.0	7.49	757	19.1		

LABORATORY INFORMATION

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

COMMENTS: EMCO 12" ox

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

Well ID MW- 4 Date Monitored: 2.14.13
Well Diameter 2 in.
Total Depth 24.73 ft.
Depth to Water 17.68 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.

7.05 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): ___ 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
EMCO 12" DIA

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: 2-14-13 (inclusive)

City: **Oakland, CA** Sampler: FT

Well ID MW-5 Date Monitored: 2-14-13

Well Diameter 2 in.

Total Depth 30.16 ft.

Depth to Water 17.51 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.

12.65 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): 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: MID
BRANDAD - KILMAN 8" (1BF) (2SF)

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

Well ID MW- 6 Date Monitored: 2.14.13
Well Diameter 2 in.
Total Depth 30.09 ft.
Depth to Water 13.66 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.

16.43 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): ___ 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
BRAIDED - KLEMAN 8" (25F) (1 BROKEN BOLT IN FLANGE)

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: 3538	Union Oil Consultant: AECOM Tech Co
Site Global ID: T0600101472	Consultant Contact: Jim Hillms
Site Address: 411 W. MacArthur Blvd, Oakland, CA	Consultant Phone No.: (916) 361-6412
	Sampling Company: ~~ERC~~ Gettler-Ryan
~~Union Oil~~ PM: Roya Kamibin	Sampled By (PRINT): Frank Terlinoni
~~Union Oil~~ PM Phone No.: (925) 790-6270	Sampler Signature:
Charge Code: NWRTB-0 351642 -0- LAB	BC Laboratories, Inc.
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**Project Manager: Molly Meyers** 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

ANALYSES REQUIRED

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

Special Instructions

SAMPLE ID						TPH - Diesel by EPA 8015	TPH - G by ~~GCFID~~ (8015M)	BTEX/MTBE/~~OXYS by EPA 8260B~~ (8021)	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	FDB/EDC (8260)						Notes / Comments
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers												
QA	W-S-A		130214		2		X	X									
MW-2	W-S-A			1210	6		X	X	X		X						
MW-3	W-S-A			1135	6		X	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	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
Frank Terlinoni	G-R	2.14.13 1500						
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
Greg Bogan	BC Lab	2.14.13 1545						

ATTACHMENT B

BC Laboratories Analytical Report #1303243

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 02/25/2013

Jim Harms

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

Project:	3538
BC Work Order:	1303243
Invoice ID:	B140545

Enclosed are the results of analyses for samples received by the laboratory on 2/14/2013. 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

CHAIN OF CUSTODY FORM

#1303243

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

COC 1 of 1

Union Oil Site ID: 3538	Union Oil Consultant: AECOM TECH. CO.
Site Global ID: T0600101472	Consultant Contact: JIM HARMS
Site Address: 411 W. MACARTHUR BLVD., OAKLAND, CA	Consultant Phone No.: (916) 361-6412
	Sampling Company: [redacted] GETTLER-RYAN
~~Union Oil~~ CHEVRON PM: ROYA KAMBIN	Sampled By (PRINT): FRANK TERRINONI
~~Union~~ CHEVRON Oil PM Phone No.: (925) 790-6270	
Charge Code: NWRTB- 0 351642 -0- LAB	Sampler Signature: [signature]
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	BC Laboratories, Inc. **Project Manager: Molly Meyers** 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

ANALYSES REQUIRED

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

Special Instructions

SAMPLE ID

Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by [redacted] (8015M)	BTEX/MTBE [redacted] (8021)	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	EDB / EDC (8260)						Notes / Comments
-1 QA	(W)-S-A		13 2 14		2		X	X									
-2 MW-2	W-S-A		↓	1210	6		X	X	X		X						
-3 MW-3	W-S-A		↓	1135	6		X	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																

CHK BY: BJ DISTRIBUTION: JSR SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time:
[signature]	G-R	2.14.13 1500	[signature]	G-R	02-14-13 1545	[signature]	BCLAB	2-14-13 21:45
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time:**
Gary Bogan	BCLAB	2-14-13 1545	Gary Bogan	BCLAB	2-14-13 1845	[signature]	BCL	2-14-13 2145

REC. [signature] BCLAB 2-14-13 18:45

Chain of Custody and Cooler Receipt Form for 1303243 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 13 08/17/12 Page 1 Of 1

Submission #: 1303243

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: 0.98 Container: VOA Thermometer ID: 207 Date/Time 2-14-13

Temperature: (A) 3.1 °C / (C) 3.2 °C Analyst Init JDW 2145

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										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A (2)									
40ml VOA VIAL		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										
8 OZ. JAR										
32 OZ JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										

Comments:

Sample Numbering Completed By: BLT Date/Time: 2/15/13 @ 0800

A = Actual / C = Corrected

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1303243-01	**COC Number:**	---	**Receive Date:**	02/14/2013 21:45
	Project Number:	3538	**Sampling Date:**	02/14/2013 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	QA-W-130214	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Trip Blank
	Delivery Work Order:			
	Global ID: T0600101472			
	Location ID (FieldPoint): QA			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1303243-02	**COC Number:**	---	**Receive Date:**	02/14/2013 21:45
	Project Number:	3538	**Sampling Date:**	02/14/2013 12:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-2-W-130214	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Trip Blank
	Delivery Work Order:			
	Global ID: T0600101472			
	Location ID (FieldPoint): MW-2			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1303243-03	**COC Number:**	---	**Receive Date:**	02/14/2013 21:45
	Project Number:	3538	**Sampling Date:**	02/14/2013 11:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3-W-130214	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Trip Blank
	Delivery Work Order:			
	Global ID: T0600101472			
	Location ID (FieldPoint): MW-3			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1303243-01 | **Client Sample Name:** 3538, QA-W-130214, 2/14/2013 12:00:00AM

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	ND	ug/L	1.0	EPA-8021B	ND	V11	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)	81.0	%	70 - 130 (LCL - UCL)	EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	84.6	%	70 - 130 (LCL - UCL)	EPA-8015B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8021B	02/18/13	02/22/13 17:16	jjh	GC-V9	1	BWB1223
2	EPA-8015B	02/18/13	02/22/13 17:16	jjh	GC-V9	1	BWB1223

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1303243-02 | **Client Sample Name:** 3538, MW-2-W-130214, 2/14/2013 12:10:00PM

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)	105	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	95.5	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.0	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	02/15/13	02/15/13 11:16	EAR	MS-V12	1	BWB0975

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1303243-02 | **Client Sample Name:** 3538, MW-2-W-130214, 2/14/2013 12:10:00PM

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	V11	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)	82.4	%	70 - 130 (LCL - UCL)	EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	87.5	%	70 - 130 (LCL - UCL)	EPA-8015B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8021B	02/18/13	02/22/13 17:36	jjh	GC-V9	1	BWB1223
2	EPA-8015B	02/18/13	02/22/13 17:36	jjh	GC-V9	1	BWB1223

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1303243-03 | **Client Sample Name:** 3538, MW-3-W-130214, 2/14/2013 11:35:00AM

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)	97.5	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	93.3	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	02/15/13	02/15/13 11:34	EAR	MS-V12	1	BWB0975

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1303243-03 | **Client Sample Name:** 3538, MW-3-W-130214, 2/14/2013 11:35:00AM

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	**5.1**	**ug/L**	**1.0**	**EPA-8021B**	ND	**V11**	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)	80.6	%	70 - 130 (LCL - UCL)	EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	95.5	%	70 - 130 (LCL - UCL)	EPA-8015B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8021B	02/18/13	02/22/13 17:57	jjh	GC-V9	1	BWB1223
2	EPA-8015B	02/18/13	02/22/13 17:57	jjh	GC-V9	1	BWB1223

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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: BWB0975						
1,2-Dibromoethane	BWB0975-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BWB0975-BLK1	ND	ug/L	0.50		
Ethanol	BWB0975-BLK1	ND	ug/L	250		
1,2-Dichloroethane-d4 (Surrogate)	BWB0975-BLK1	102	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWB0975-BLK1	99.0	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWB0975-BLK1	96.1	%	80 - 120 (LCL - UCL)		

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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: BWB0975										
1,2-Dichloroethane-d4 (Surrogate)	BWB0975-BS1	LCS	9.6200	10.000	ug/L	96.2		75 - 125		
Toluene-d8 (Surrogate)	BWB0975-BS1	LCS	9.9300	10.000	ug/L	99.3		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWB0975-BS1	LCS	10.070	10.000	ug/L	101		80 - 120		

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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: BWB0975	Used client sample: N										
1,2-Dichloroethane-d4 (Surrogate)	MS	1302378-35	ND	9.5300	10.000	ug/L		95.3		75 - 125	
	MSD	1302378-35	ND	9.6900	10.000	ug/L	1.7	96.9		75 - 125	
Toluene-d8 (Surrogate)	MS	1302378-35	ND	9.7000	10.000	ug/L		97.0		80 - 120	
	MSD	1302378-35	ND	9.9200	10.000	ug/L	2.2	99.2		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1302378-35	ND	9.8000	10.000	ug/L		98.0		80 - 120	
	MSD	1302378-35	ND	10.100	10.000	ug/L	3.0	101		80 - 120	

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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: BWB1223						
Benzene	BWB1223-BLK1	ND	ug/L	0.30		
Toluene	BWB1223-BLK1	ND	ug/L	0.30		
Ethylbenzene	BWB1223-BLK1	ND	ug/L	0.30		
Methyl t-butyl ether	BWB1223-BLK1	ND	ug/L	1.0		
Total Xylenes	BWB1223-BLK1	ND	ug/L	0.60		
Gasoline Range Organics (C4 - C12)	BWB1223-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (PID Surrogate)	BWB1223-BLK1	94.2	%	70 - 130 (LCL - UCL)		
a,a,a-Trifluorotoluene (FID Surrogate)	BWB1223-BLK1	96.4	%	70 - 130 (LCL - UCL)		

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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: BWB1223										
Benzene	BWB1223-BS1	LCS	42.487	40.000	ug/L	106		85 - 115		
Toluene	BWB1223-BS1	LCS	42.978	40.000	ug/L	107		85 - 115		
Ethylbenzene	BWB1223-BS1	LCS	43.838	40.000	ug/L	110		85 - 115		
Methyl t-butyl ether	BWB1223-BS1	LCS	38.703	40.000	ug/L	96.8		85 - 115		
Total Xylenes	BWB1223-BS1	LCS	125.60	120.00	ug/L	105		85 - 115		
Gasoline Range Organics (C4 - C12)	BWB1223-BS1	LCS	895.77	1000.0	ug/L	89.6		85 - 115		
a,a,a-Trifluorotoluene (PID Surrogate)	BWB1223-BS1	LCS	37.626	40.000	ug/L	94.1		70 - 130		
a,a,a-Trifluorotoluene (FID Surrogate)	BWB1223-BS1	LCS	39.501	40.000	ug/L	98.8		70 - 130		

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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: BWB1223	Used client sample: N										
Benzene	MS	1302759-02	ND	41.509	40.000	ug/L		104		70 - 130	
	MSD	1302759-02	ND	41.997	40.000	ug/L	1.2	105	20	70 - 130	
Toluene	MS	1302759-02	ND	42.058	40.000	ug/L		105		70 - 130	
	MSD	1302759-02	ND	42.434	40.000	ug/L	0.9	106	20	70 - 130	
Ethylbenzene	MS	1302759-02	ND	42.977	40.000	ug/L		107		70 - 130	
	MSD	1302759-02	ND	43.095	40.000	ug/L	0.3	108	20	70 - 130	
Methyl t-butyl ether	MS	1302759-02	ND	40.017	40.000	ug/L		100		70 - 130	
	MSD	1302759-02	ND	39.532	40.000	ug/L	1.2	98.8	20	70 - 130	
Total Xylenes	MS	1302759-02	ND	123.78	120.00	ug/L		103		70 - 130	
	MSD	1302759-02	ND	123.62	120.00	ug/L	0.1	103	20	70 - 130	
Gasoline Range Organics (C4 - C12)	MS	1302759-02	ND	1007.1	1000.0	ug/L		101		70 - 130	
	MSD	1302759-02	ND	1035.3	1000.0	ug/L	2.8	104	20	70 - 130	
a,a,a-Trifluorotoluene (PID Surrogate)	MS	1302759-02	ND	37.877	40.000	ug/L		94.7		70 - 130	
	MSD	1302759-02	ND	38.343	40.000	ug/L	1.2	95.9		70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1302759-02	ND	39.713	40.000	ug/L		99.3		70 - 130	
	MSD	1302759-02	ND	38.798	40.000	ug/L	2.3	97.0		70 - 130	

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

Reported: 02/25/2013 10:55
Project: 3538
Project Number: 351642
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
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.

ATTACHMENT C

Additional Historic Analytical Results

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	Total Oil and Grease (mg/l)	Bromo-dichloro-methane (µg/l)	Bromo-form (µg/l)	Bromo-methane (µg/l)	Comments
MW-1													
9/15/1989	ND	--	--	--	--	--	--	--	ND	--	--	--	
1/23/1990	ND	--	--	--	--	--	--	--	1.5	--	--	--	
4/19/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	
7/17/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	
10/16/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	
1/15/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	
4/12/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	
7/15/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	
7/14/1992	--	--	--	--	--	--	--	--	--	--	--	--	
7/14/1993	--	--	--	--	--	--	--	--	--	--	--	--	
7/7/1994	--	--	--	--	--	--	--	--	--	--	--	--	
7/19/1995	--	--	--	--	--	--	--	--	--	--	--	--	
7/11/1996	--	--	--	--	--	--	--	--	--	--	--	--	
7/21/1997	--	--	--	--	--	--	--	--	--	--	--	--	
8/31/1999	--	--	--	--	--	--	--	--	--	--	--	--	
7/16/2001	--	--	--	--	--	--	--	--	--	1.7	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	--	
7/10/2003	--	--	--	--	--	--	--	--	--	--	--	--	
7/29/2004	--	--	--	--	ND<0.5	--	--	--	--	ND<0.5	ND<0.5	ND<1	
9/30/2005	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
9/26/2006	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
9/27/2007	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
9/17/2008	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
MW-3													
8/25/2000	--	ND	--	ND	ND	ND	ND	ND	--	--	--	--	
7/12/2002	--	ND<20	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538

Date Sampled	Carbon Tetra-chloride (µg/l)	Chloro-benzene (µg/l)	Chloro-ethane (µg/l)	Chloroform (µg/l)	Chloro-methane (µg/l)	Dibromo-chloro-methane (µg/l)	1,2-Dichloro-benzene (µg/l)	1,3-Dichloro-benzene (µg/l)	1,4-Dichloro-benzene (µg/l)	Dichloro-difluoro-methane (µg/l)	1,1-DCA (µg/l)	1,1-DCE (µg/l)	Comments
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	--	--	--	--	--	--	--	--	--	--	--	--	
7/14/1993	--	--	--	--	--	--	--	--	--	--	--	--	
7/7/1994	--	--	--	--	--	--	--	--	--	--	--	--	
7/19/1995	--	--	--	--	--	--	--	--	--	--	--	--	
7/11/1996	--	--	--	0.96	--	--	--	--	--	--	--	--	
7/21/1997	--	--	--	1.0	--	--	--	--	--	--	--	--	
8/31/1999	--	--	--	--	--	--	--	--	--	--	--	--	
7/16/2001	--	--	--	45	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	1.8	
7/10/2003	--	--	--	--	--	--	--	--	--	--	--	0.89	
7/29/2004	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.2	
9/30/2005	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.52	
9/26/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.60	
9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/17/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
MW-3													
8/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	--	

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538

Date Sampled	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)	trans-1,3-Dichloro-propene (µg/l)	Methylene chloride (µg/l)	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)	Comments
MW-1													
9/15/1989	--	--	--	--	--	--	--	2.7	--	--	--	--	
1/23/1990	--	--	--	--	--	--	--	2.1	--	--	--	--	
4/19/1990	--	--	--	--	--	--	--	2.2	--	--	--	--	
7/17/1990	--	--	--	--	--	--	--	1.7	--	--	--	--	
10/16/1990	--	--	--	--	--	--	--	2.0	--	--	--	--	
1/15/1991	--	--	--	--	--	--	--	2.1	--	--	--	--	
4/12/1991	--	--	--	--	--	--	--	2.0	--	--	--	--	
7/15/1991	--	--	--	--	--	--	--	1.8	--	--	--	--	
7/14/1992	--	--	--	--	--	--	--	1.4	--	--	--	--	
7/14/1993	--	--	--	--	--	--	--	0.95	--	--	--	--	
7/7/1994	--	--	--	--	--	--	--	0.83	--	--	--	--	
7/19/1995	--	--	--	--	--	--	--	0.52	--	--	--	--	
7/11/1996	--	--	--	--	--	--	--	0.73	--	--	--	--	
7/21/1997	--	--	--	--	--	--	--	0.70	--	--	--	--	
8/31/1999	--	--	--	--	--	--	--	ND	--	--	--	--	
7/16/2001	--	--	--	--	--	--	--	ND	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	ND<0.60	--	--	--	--	
7/10/2003	--	--	--	--	--	--	--	ND<0.50	--	--	--	--	
7/29/2004	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5	13	ND<0.5	ND<0.5	ND<0.5	
9/30/2005	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	9.1	ND<0.50	ND<0.50	ND<0.50	
9/26/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	7.0	ND<0.50	ND<0.50	ND<0.50	
9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	4.3	ND<0.50	ND<0.50	ND<0.50	
9/17/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	5.4	ND<0.50	ND<0.50	ND<0.50	
MW-3													
8/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	--	

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
CHEVRON STATION #351642, FORMER UNOCAL STATION #3538

Date Sampled	Trichloro-fluoro-methane (µg/l)	Vinyl chloride (µg/l)	Comments
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	--	--	
7/14/1993	--	--	
7/7/1994	--	--	
7/19/1995	--	--	
7/11/1996	--	--	
7/21/1997	--	--	
8/31/1999	--	--	
7/16/2001	--	--	
7/12/2002	--	--	
7/10/2003	--	--	
7/29/2004	ND<0.5	ND<0.5	
9/30/2005	ND<0.50	ND<0.50	
9/26/2006	ND<0.50	ND<0.50	
9/27/2007	ND<0.50	ND<0.50	
9/17/2008	ND<0.50	ND<0.50	
MW-3			
8/25/2000	--	--	
7/12/2002	--	--	