Roya C. Kambin
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December 28, 2012

RECEIVED
By Alameda County Environmental Health at 1:48 pm, Jan 03, 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. 351640 (Former Unocal Service Station No. 5781)**
3535 Pierson Street, Oakland, California
ACEH Fuel Leak Case No. RO0000235
RWQCB Case No. 01-1592
GeoTracker Global ID T0600101467

I have reviewed the attached report dated December 28, 2012.

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: *Fourth Quarter 2012 Quarterly Groundwater Monitoring Report* by AECOM Environment, Inc.

AECOM Environment
10461 Old Placerville Road, Suite 170
Sacramento, CA 95827
tel (916) 361-6400
fax (916) 361-6401

December 28, 2012

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

Subject: Fourth Quarter 2012 Groundwater Monitoring Report
Chevron Facility No. 351640 (Former Unocal Service Station No. 5781)
3535 Pierson Street, Oakland, California
Fuel Leak Case RO0000253

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "CEMC"), AECOM Environment, Inc. (AECOM) has been authorized by CEMC to prepare the fourth quarter 2012 groundwater monitoring report for the site located at 3535 Pierson Street in Oakland, California (Site) (**Figure 1**). The locations of former and current site features are illustrated on **Figure 2**. Quarterly groundwater monitoring is intended to evaluate the distribution of petroleum hydrocarbon constituents in groundwater beneath the site. Groundwater sampling was performed by TRC Solutions (TRC) of Irvine, California. This report summarizes sample results collected from the Site during the fourth quarter of 2012.

Site Background and History

The Site is an active service station located on the northwest corner of Pierson Street and MacArthur Boulevard in Oakland, California. The current Site configuration includes two 12,000-gallon gasoline underground storage tanks (USTs), and two dispenser islands.

Historical records indicate that the Site has been a service station since 1947. Renovation of the Site first occurred in 1967, when the footprint of the Site expanded to its current configuration. In 1989, two 10,000-gallon gasoline USTs, one 280-gallon waste oil UST and product piping were removed from the Site. The gasoline UST had no ruptures when removed; however, the waste oil UST had one hole approximately 1.25 square inches in size.

Seven confirmation soil samples were collected from the gasoline UST excavation and product piping and analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPHg), benzene, and TPH as motor oil and grease (TPHmo). TPHg was reported on the sidewall samples from the UST pit at a depth of 10.5 feet below ground surface (bgs) at 15 milligrams per kilogram (mg/kg) and 46 mg/kg. TPHg was also reported from the base of the excavation (12.5 feet bgs) at 3.5 mg/kg and 5.8 mg/kg. Benzene was reported in one of the two sidewall samples at 0.65 mg/kg and in one of the three excavation base samples at 0.10 mg/kg. TPHg and benzene were below the laboratory reporting limits in the two soil samples from beneath the product piping. A grab groundwater sample was collected from the gasoline UST excavation after recharge and contained TPHg at 7,900 micrograms per liter (µg/L) and benzene at 850 µg/L.

The soil sample from beneath the waste oil tank contained concentrations of 8,300 mg/kg for TPH as diesel (TPHd), 48,000 mg/kg for TPHmo, 670 mg/kg for TPHg, and 5.4 mg/kg for benzene. The sample additionally contained concentrations of chromium at 8.3 mg/kg, lead at 340 mg/kg, and zinc at 70 mg/kg.

In February 1990 the waste oil UST pit was over-excavated to 16 feet bgs and 35 feet to the east, 10 feet to the west, 15 feet to the south, and 2 feet to the north. Soil samples were collected from the base of the deepened excavation (W01-16) along with four sidewall samples (SWA through SWD). TPHmo was reported in samples SWA (adjacent to the building) at 17,000 mg/kg, sample SWB at 4,100 mg/kg, and in sample SWD at 6,400 mg/kg. TPHmo was detected in sample WO-16 at 910 mg/kg. The highest concentrations of TPHd, TPHg, and benzene were reported in sample SWA at 1,400 mg/kg, 220 mg/kg, and 2.3 mg/kg, respectively. Further excavation was terminated due to the presence of underground sewer and gas lines to the south and west and Site building to the north side.

Three soil borings in April 1990 were drilled to collect soil samples. Boring MW-1 was located adjacent to the former waste oil UST. Borings MW-2 and MW-3 were located adjacent to the gasoline USTs in the eastern portion of the site. Borings MW-1, MW-2, and MW-3 were drilled to depths of 50 feet, 39.5 feet, and 40 feet bgs, respectively. Borings were intended to be converted into monitoring wells; however groundwater was not encountered and the boreholes were grouted. Soil samples were collected and the results for TPHg, TPHd, TPHmo, benzene, toluene, ethylbenzene, and total xylenes (BTEX) were all below the laboratory reporting limits.

In July 1990, two boring (EB-1 and EB-2) were advanced near the location of the former waste oil UST excavation. Borings were drilled to depths of 34.5 feet and 38 feet bgs, respectively. Groundwater was encountered at 33.5 and 36.7 feet bgs, respectively. Water samples were collected from each boring. TPHg and TPHmo were below the laboratory reporting limits in all samples collected. TPHg and benzene were reported in only one sample at concentrations of 1.2 mg/kg and 0.0009 mg/kg, respectively. The EB1 groundwater sample contained 6.7 µg/L of TPHd. TPHg and TPHd were below the laboratory reporting limits in the sample from EB2. The sample from EB2 contained a benzene concentration of 0.61 µg/L. TPHmo was below the laboratory reporting limits in both samples.

In December 1990, a 2-inch monitoring well (MW-A) was installed approximately 15 feet south of the former waste oil UST to a depth of 45 feet bgs. Groundwater was encountered at three feet bgs during the well installation. A groundwater sample was collected on December 18, 1990 with a concentration of 73 µg/L of TPHd. TPHg, TPHmo, and BTEX were below the laboratory reporting limits.

In October 2003, TRC, Inc. (TRC) preformed a baseline site assessment, advancing five soil borings (SB-1 through SB-5) around the dispenser islands and USTs, and one near the former waste oil tank. Soil samples collected from boring SB-3 at 45 feet bgs indicated concentrations of TPHg up to 1,100 mg/kg. Groundwater was encountered at depths ranging from 19.5 feet to 39 feet bgs. Groundwater was not observed in two borings to a total depth of 54 feet bgs.

In April 2008, Delta Environmental, Inc. (Delta) removed the second generation waste oil tank and collected four soil samples from the excavation and one composite soil sample from the excavation stockpile. Samples were collected from three sidewalls and the bottom of the excavation; however, a sample from the side wall adjacent to the building could not be collected. No petroleum hydrocarbons, fuel oxygenates, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), or polychlorinated biphenyls (PCBs) were detected in any of the four excavation soil samples or the composite stockpile soil sample. Stockpile soil samples contained arsenic ranging from 3.2 mg/kg to 6.2 mg/kg (above Regional Water Quality Control Board Environmental Screening Limit [RWQCB ESL] of 1.5 mg/kg for arsenic). All other California Administrative Manual (CAM) 17 metals detections were below the commercial RWQCB ESLs. No over excavation was conducted and the waste oil UST was not replaced. The stockpiled soil was backfilled into the tank cavity following receipt of the laboratory results.

In March 2010, Delta advanced four soil borings (SWC-2, SWD-2, SB-6 and SB-7) to carry out recommendations made in the 2008 Site Conceptual Model. Three borings were located near the west corner of the station building and one soil boring (SB-6) was located to the east of the Site's current fuel USTs. TPHmo was present in soil samples collected at 10 feet bgs from borings SWC-2 and SWD-2 near

the former waste oil USTs at concentrations of 7,700 µg/L and 870 µg/L, respectively. Sample concentrations collected at 15 feet bgs from these borings were at or below laboratory reporting limits.

Groundwater samples collected from borings SB-7 and SWC-2 reported TPHmo concentrations below the laboratory reporting limit. TPHd was reported in groundwater samples collected from borings SWC-2 and SB-7 at 200 µg/L and 65 µg/L, respectively. A grab groundwater sample collected from boring SB-6 had a concentration of TPHg at 2,500 µg/L. Delta concluded that petroleum hydrocarbons are not migrating vertically in soil or laterally in groundwater and no additional assessment is needed in the vicinity of the former waste oil USTs.

In March 2010, an Unauthorized Release Report was submitted by Conoco Phillips to the Alameda County Department of Environmental Health (ACEH) for concerns from hydrocarbon odors emanating from a storm drain manhole (MH-2) southwest of the fuel USTs in the sidewalk and along Pierson Street. Highest reported Photoionization Detector (PID) readings from the manhole were recorded at 495 parts per million (ppm) on February 7, 2010.

In April 2010, a portion of the sidewall of MH-2, located south of MW-4. was observed to be leaking liquid into the manhole. Innovative Construction Solutions (ICS) placed a permanent patch on the portion of the storm drain that had been identified to be leaking water into the storm drain. Follow-up inspections of the manhole repair indicated the repair was intact and no further water was leaking into the storm drain manhole.

In May 2010, boring SB-8 and monitoring wells MW-4 and MW-5 were installed southwest of the UST pit. The addition of the wells was to evaluate subsurface geology and the lateral extent of petroleum hydrocarbon concentrations in the soil and groundwater to the east/southeast of the existing UST pit. Soil boring SB-8 was advanced to a depth of 20 feet bgs and one grab groundwater sample was collected. The soil sample collected at MW-5 had concentrations of TPHg at 99 mg/kg and benzene at 53 mg/kg at 24 feet bgs. Soil boring SB-8 had concentrations of TPHg at 2.1 mg/kg and 2.4 mg/kg at 6 and 15 feet bgs, respectively.

Groundwater Monitoring Field Data

Depth to groundwater was measured in seven monitoring wells, MW-A and MW-4 through MW-9 on October 10, 2012 and converted to groundwater elevation (**Table 1**). Copies of the groundwater gauging logs are included in **Attachment A**. Groundwater elevation data from well MW-A was not used in contouring because it is screened in the deeper aquifer. The groundwater flow direction was calculated to flow to the northwest with an average hydraulic gradient of approximately 0.05 feet per foot (**Figure 2)**. The depth to groundwater ranged from 13.43 to 17.52 feet below the top of well casings (137.27 to 140.05 feet above mean sea level). A summary of historical groundwater elevation through March 2011 is presented in **Attachment B**.

Light non-aqueous phase liquid (LNAPL) was observed in monitoring well MW-5 on October 4, 2012. Free product in MW-5 was 0.39 feet thick. This is the first appearance of free product at the Site. Groundwater samples were not collected for laboratory analysis from MW-5 because of the presence of free product.

Groundwater Sampling and Analytical Results

Groundwater samples were collected from monitoring wells MW-A and MW-4 through MW-9 (with the exception of MW-5) on October 4, 2012, after purging a minimum of three well volumes. Temperature, pH, and electrical conductivity readings were recorded during purging, and copies of those purge logs are presented in Attachment A. Laboratory analyses were performed by BC Laboratories, Inc. (BC Labs) of Bakersfield, California. The BC Labs analytical report dated October 18, 2012 is included as **Attachment C**. Samples were analyzed for the following based on historic trends in each monitoring well:

- TPH-d by United States Environmental Protection Agency (USEPA) Method 8015B;
- BTEX by USEPA method 8260B;
- TPH-g by USEPA method 8015B;
- volatile organic compounds (VOCs) by USEPA method 8260B; and
- Fuel oxygenates including MTBE, tertiary-amyl methyl ether (TAME), TBA, di-isopropyl ether (DIPE), and ethyl tertiary-butyl ether (ETBE), ethanol, ethylene dibromide (EDB), and 1,2-Dichloroethane (1,2-DCA or ethylene dichloride [EDC]) by USEPA method 8260B.

Analytical results for this quarterly groundwater monitoring event are consistent with previous reporting periods (**Table 1**). MW-5 was not sampled due to the presence of free product, therefore analytical results from MW-5 are not discussed below. The following presents a brief summary of the analytical sample results:

- TPHg, TPHd, BTEX, TBA, ETBE, DIPE, TAME, EDB, 1,2-DCA, and ethanol were not detected in any of the samples analyzed.
- MTBE is the only fuel oxygenate identified in laboratory analysis and ranges from non-detect to 1.3 µg/L.
- Total Xylenes were reported in monitoring well MW-8 at a concentration of 2.4 µg/L.

A summary of historical groundwater analytical data through March 2011 is presented in **Attachment B.**

Approximately 40 gallons of purge water were generated. This was transported by TRC to their Concord, California facility as non-hazardous waste for future disposal.

Free Product Monitoring

The free product observed in MW-5 during the October 4, 2012 groundwater monitoring was gauged on November 15, November 29, and December 12, 2012. The timing suggests that the appearance of free product was due to the low groundwater elevation observed in October and November. Product monitoring results are as follows:

- November 15, 2012: Heavy product sheen less than 0.01 feet thick observed, depth to water was 13.88 feet.
- November 29, 2012: No product sheen observed, depth to water was 12.19 feet.
- December 12, 2012: No product sheen observed, depth to water was 12. 23 feet.

Conclusions and Recommendations

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

- Free product was observed for the first time in monitoring well MW-5. Monitoring well MW-5 previously had a history of elevated concentrations of fuel constituents.
- In general, MTBE concentration in the samples collected for the fourth quarter have all decreased from the third quarter, except for MW-6 which was higher (the concentrations are still within historic ranges)
- Monitoring well MW-7 remains non-detect.

AECOM recommends continuation of quarterly groundwater monitoring at the site.

Future Activities

Groundwater Monitoring

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

Additional Activity

AECOM will prepare a conceptual site model (CSM) that will evaluate potential data gaps that exist at the Site. The CSM will be submitted by the end of the first quarter 2013.

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

Brett Lehman, P.G.
Project Geologist

cc: Roya Kambin, CEMC (electronic)
DeLong Liu, United Brothers Enterprise, Inc., Property Owner

Tables

Figures

Attachments

TABLES

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
Chevron #351640/ Former Unocal #5781
3535 PIERSON ST.
OAKLAND, CALIFORNIA

							HYDROCARBONS		PRIMARY VOCS													GAS	GENERAL CHEMISTRY		
Location	Date	TOC	DTW	Depth to Product	Product Thickness	GWE	TPH - Diesel	TPH - Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE by SW8260	TBA	ETBE	DIPE	TAME	EDB	1,2-DCA	Ethanol	Methanol	Methane	Ferrous iron	Nitrate (as N)	Sulfate
		ft-amsl	ft-btoc	ft-btoc	ft	ft-amsl	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	mg/L
MW-A	06/07/2011	154.79	13.92	-	-	140.87	<40	<50	<0.50	<0.50	<0.50	<1.0	0.57	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	-	-	-	-
	08/18/2011	154.79	18.83	-	-	135.96	<40	<50	<0.50	<0.50	<0.50	<1.0	0.61	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	140	11	69
	10/04/2011	154.79	14.67	-	-	140.12	<40	<50	<0.50	<0.50	<0.50	<1.0	0.72	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	<100	13	69
	01/24/2012	154.79	16.75	-	-	138.04	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	04/06/2012	154.79	17.14	-	-	137.65	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	07/02/2012	154.79	14.79	-	-	140.00	<40	<50	<0.50	<0.50	<0.50	<1.0	0.56	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	10/04/2012	**154.79**	**17.52**	-	-	**137.27**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.50**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<250**	**-**	**-**	**-**	**-**	**-**
MW-4	06/07/2011	153.48	10.94	-	-	142.54	<40	<50	<0.50	<0.50	<0.50	<1.0	1.6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	-	-	-	-
	08/18/2011	153.48	12.07	-	-	141.41	<40	<50	<0.50	<0.50	<0.50	<1.0	4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	0.04	<100	4.6	52
	10/04/2011	153.48	12.70	-	-	140.78	<40	<50	<0.50	<0.50	<0.50	<1.0	3.8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	0.03	100	4.3	50
	01/24/2012	153.48	12.40	-	-	141.08	<40	<50	<0.50	<0.50	<0.50	<1.0	1.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	04/06/2012	153.48	11.10	-	-	142.38	<40	390	<0.50	3.8	11	150	2.2	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	07/02/2012	153.48	12.14	-	-	141.34	<40	<50	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	10/04/2012	**153.48**	**13.43**	-	-	**140.05**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.3**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<250**	**-**	**-**	**-**	**-**	**-**
MW-5	06/07/2011	153.66	11.45	-	-	142.21	3,700	40,000	32	2,300	1,500	16,000	24	150	<0.50	<0.50	<0.50	<0.50	<0.50	330	<100	-	-	-	-
	08/18/2011	153.66	12.30	-	-	141.36	5,400	30,000	29	1,000	980	7,200	56	44	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	9.7	15,000	<0.44	<1.0
	10/04/2011	153.66	13.72	-	-	139.94	20,000	42,000	21	2,400	2,400	20,000	42	<250	<12	<12	<12	<12	<12	<6,200	<100	1.9	17,000	<0.44	1.3
	01/24/2012	153.66	12.20	-	-	141.46	46,000	71,000	<25	1,100	1,400	10,000	<25	<500	<25	<25	<25	<25	<25	<12,000	-	-	-	-	-
	04/06/2012	153.66	11.88	-	-	141.78	21,000	58,000	9.9	880	660	9,800	12	<120	<6.2	<6.2	<6.2	<6.2	<6.2	<3,100	-	-	-	-	-
	07/02/2012	153.66	12.75	-	-	140.91	30,000	53,000	89	590	1,000	12,000	26	<500	<25	<25	<25	<25	<25	<12,000	-	-	-	-	-
	10/04/2012	**153.66**	**16.03**	**15.64**	**0.39**	**137.63**	**No Sample Collected - Free Product in Well**																		-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
Chevron #351640/ Former Unocal #5781
3535 PIERSON ST.
OAKLAND, CALIFORNIA

							HYDROCARBONS		PRIMARY VOCS														GAS	GENERAL CHEMISTRY		
Location	Date	TOC	DTW	Depth to Product	Product Thickness	GWE	TPH - Diesel	TPH - Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE by SW8260	TBA	ETBE	DIPE	TAME	EDB	1,2-DCA	Ethanol	Methanol	Methane	Ferrous iron	Nitrate (as N)	Sulfate
		ft-amsl	ft-btoc	ft-btoc	ft	ft-amsl	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	mg/L
MW-6	06/07/2011	154.62	11.33	-	-	143.29	<40	<50	<0.50	<0.50	<0.50	<1.0	4.3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	-	-	-	-
	08/18/2011	154.62	13.00	-	-	141.62	<40	<50	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	0.0027	<200	18	66
	10/04/2011	154.62	14.02	-	-	140.60	<40	<50	<0.50	<0.50	<0.50	<1.0	3.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	100	24	78
	01/24/2012	154.62	11.94	-	-	142.68	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	04/06/2012	154.62	11.39	-	-	143.23	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	07/02/2012	154.62	11.49	-	-	143.13	<40	<50	<0.50	<0.50	<0.50	<1.0	0.56	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	10/04/2012	**154.62**	**16.09**	-	-	**138.53**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.75**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<250**	**-**	**-**	**-**	**-**	**-**
MW-7	06/07/2011	155.38	12.59	-	-	142.79	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	-	-	-	-
	08/18/2011	155.38	14.37	-	-	141.01	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	0.0012	<500	3.8	100
	10/04/2011	155.38	15.22	-	-	140.16	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	<500	4.2	100
	01/24/2012	155.38	15.32	-	-	140.06	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	04/06/2012	155.38	13.09	-	-	142.29	<49	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	07/02/2012	155.38	14.42	-	-	140.96	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	10/04/2012	**155.38**	**16.20**	-	-	**139.18**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<250**	**-**	**-**	**-**	**-**	**-**
MW-8	06/07/2011	153.71	11.54	-	-	142.17	71	<50	<0.50	<0.50	<0.50	<1.0	3.6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	-	-	-	-
	08/18/2011	153.71	12.47	-	-	141.24	<40	<50	<0.50	<0.50	<0.50	<1.0	2.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	140	1.5	65
	10/04/2011	153.71	12.90	-	-	140.81	<40	<50	<0.50	<0.50	<0.50	<1.0	1.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	190	2.8	67
	01/24/2012	153.71	12.52	-	-	141.19	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	04/06/2012	153.71	11.35	-	-	142.36	160	270	<0.50	3.7	7.8	91	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	07/02/2012	153.71	12.50	-	-	141.21	<40	<50	<0.50	<0.50	<0.50	<1.0	1.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	10/04/2012	**153.71**	**13.89**	-	-	**139.82**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**2.4**	**0.69**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<250**	**-**	**-**	**-**	**-**	**-**

TABLE 1

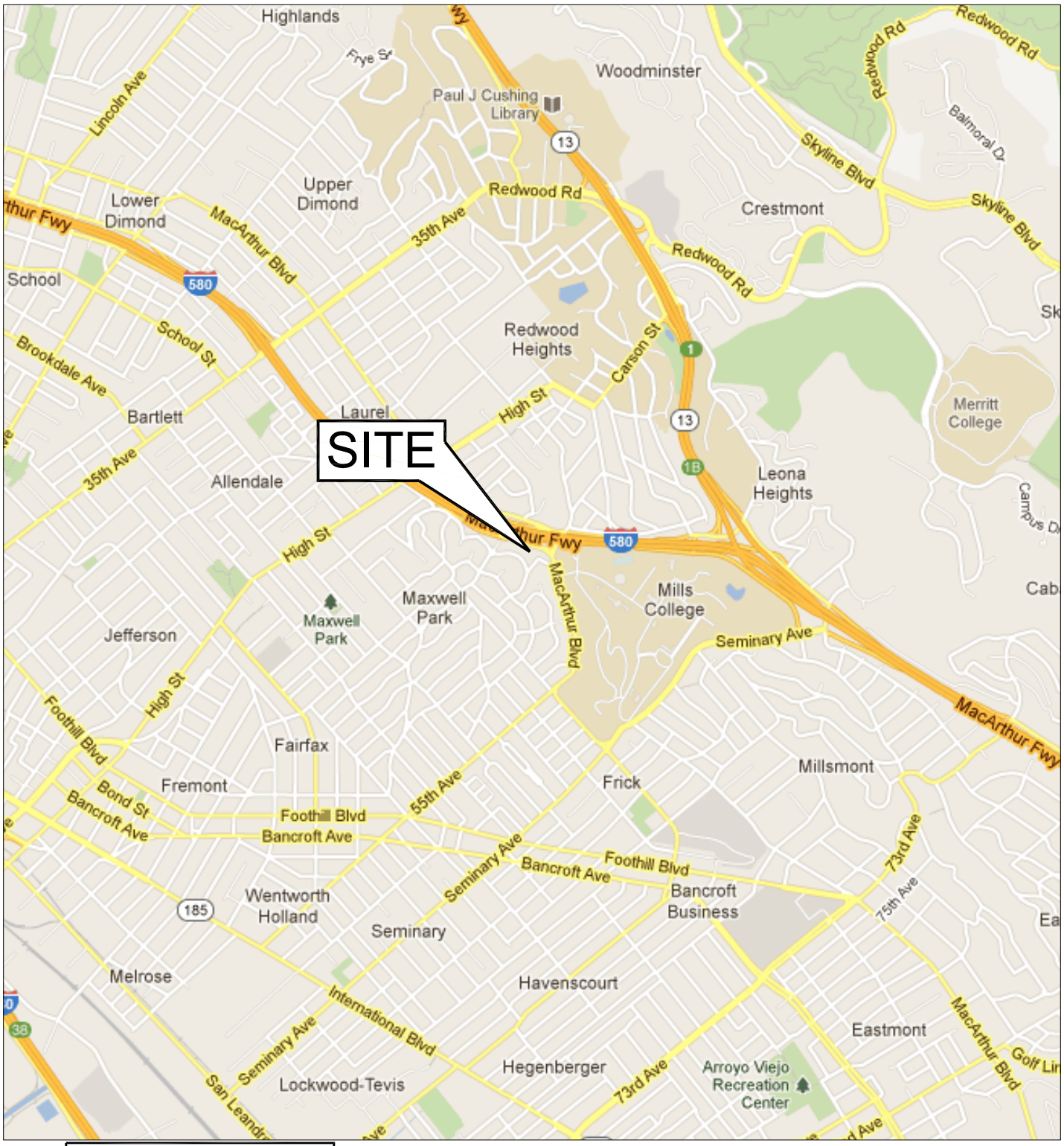
GROUNDWATER MONITORING AND SAMPLING DATA
Chevron #351640/ Former Unocal #5781
3535 PIERSON ST.
OAKLAND, CALIFORNIA

							HYDROCARBONS		PRIMARY VOCS													GAS	GENERAL CHEMISTRY		
Location	Date	TOC	DTW	Depth to Product	Product Thickness	GWE	TPH - Diesel	TPH - Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE by SW8260	TBA	ETBE	DIPE	TAME	EDB	1,2-DCA	Ethanol	Methanol	Methane	Ferrous iron	Nitrate (as N)	Sulfate
		ft-amsl	ft-btoc	ft-btoc	ft	ft-amsl	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	mg/L
MW-9	06/07/2011	153.37	11.36	-	-	142.01	<40	<50	<0.50	<0.50	<0.50	<1.0	1.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	-	-	-	-
	08/18/2011	153.37	12.52	-	-	140.85	<40	<50	<0.50	<0.50	<0.50	<1.0	2.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	0.001	<500	2.7	47
	10/04/2011	153.37	13.32	-	-	140.05	<40	<50	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	<100	<0.0010	<200	3.2	47
	01/24/2012	153.37	11.23	-	-	142.14	<40	<50	<0.50	<0.50	<0.50	<1.0	1.3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	04/06/2012	153.37	10.98	-	-	142.39	<40	340	<0.50	4.4	9	120	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	07/02/2012	153.37	12.58	-	-	140.79	<40	<50	<0.50	<0.50	<0.50	<1.0	2.0	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	-	-	-	-	-
	10/04/2012	**153.37**	**14.31**	-	-	**139.06**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.3**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<250**	**-**	**-**	**-**	**-**	**-**

Abbreviations and Notes:

TOC = Top of Casing
DTW = Depth to Water
GWE = Groundwater elevation
ft-amsl = Feet above mean sea level
ft-btoc= Feet below top of casing
µg/L = Micrograms per Liter
TPH - Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
MTBE = Methyl tert butyl ether
TBA = Tert-Butyl alcohol
DIPE = Diisopropyl ether
ETBE = Tert-Butyl ethyl ether
TAME = Tert-Amyl methyl ether
EDB = 1,2-Dibromoethane (Ethylene dibromide)
1,2-DCA = 1,2-Dichloroethane (EDC)
- = Not available / not applicable
<x = Not detected above laboratory method detection limit

FIGURES



North

0 1100 2200 FT

SCALE

FIGURE 1

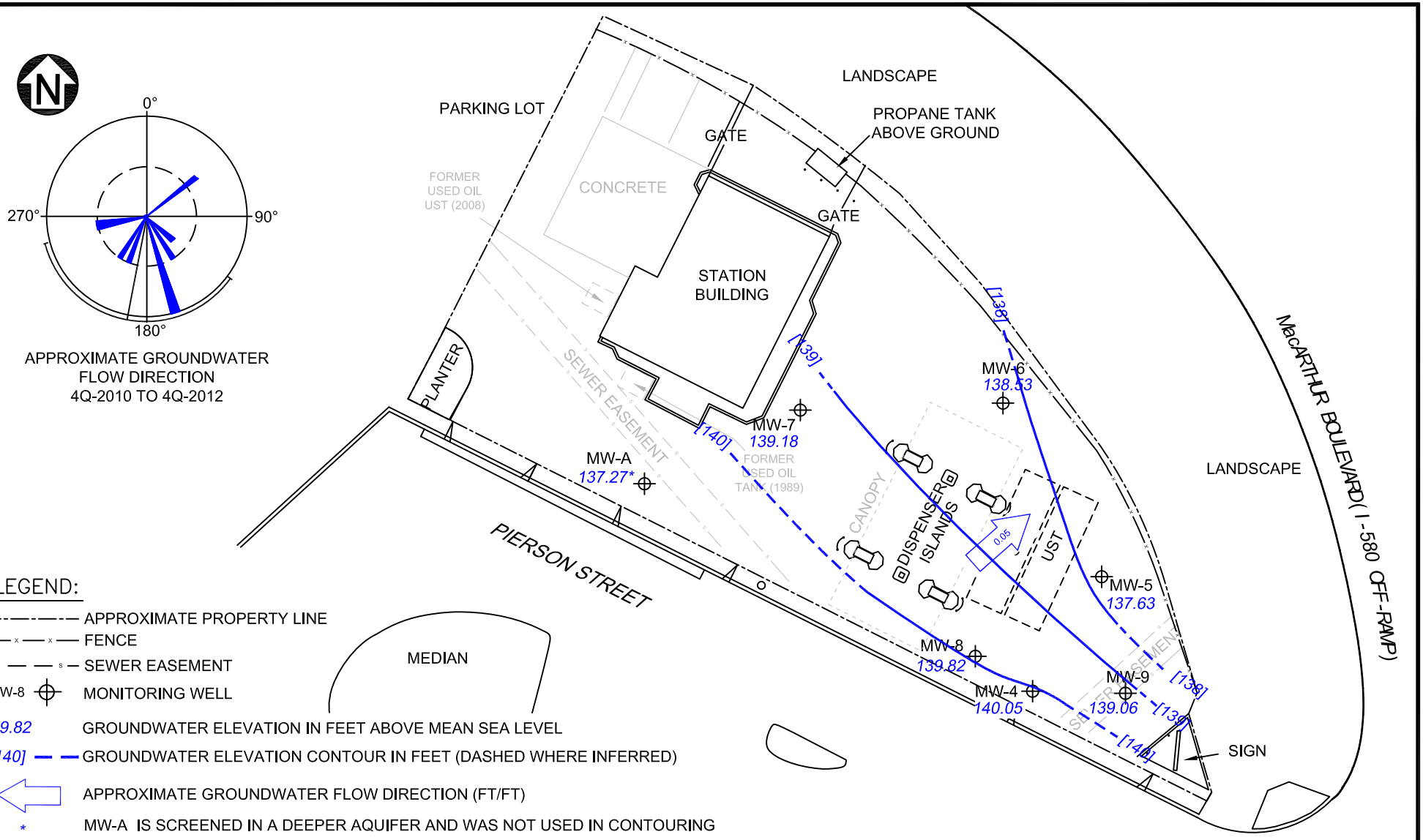
SITE LOCATION MAP

CHEVRON #351640
76 SERVICE STATION NO. 5781
3535 PIERSON STREET
OAKLAND, CALIFORNIA

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

AECOM

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



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

Base map created by Delta Consultants, Inc.

J:\351640\FIG2_SITE_MAP.DWG

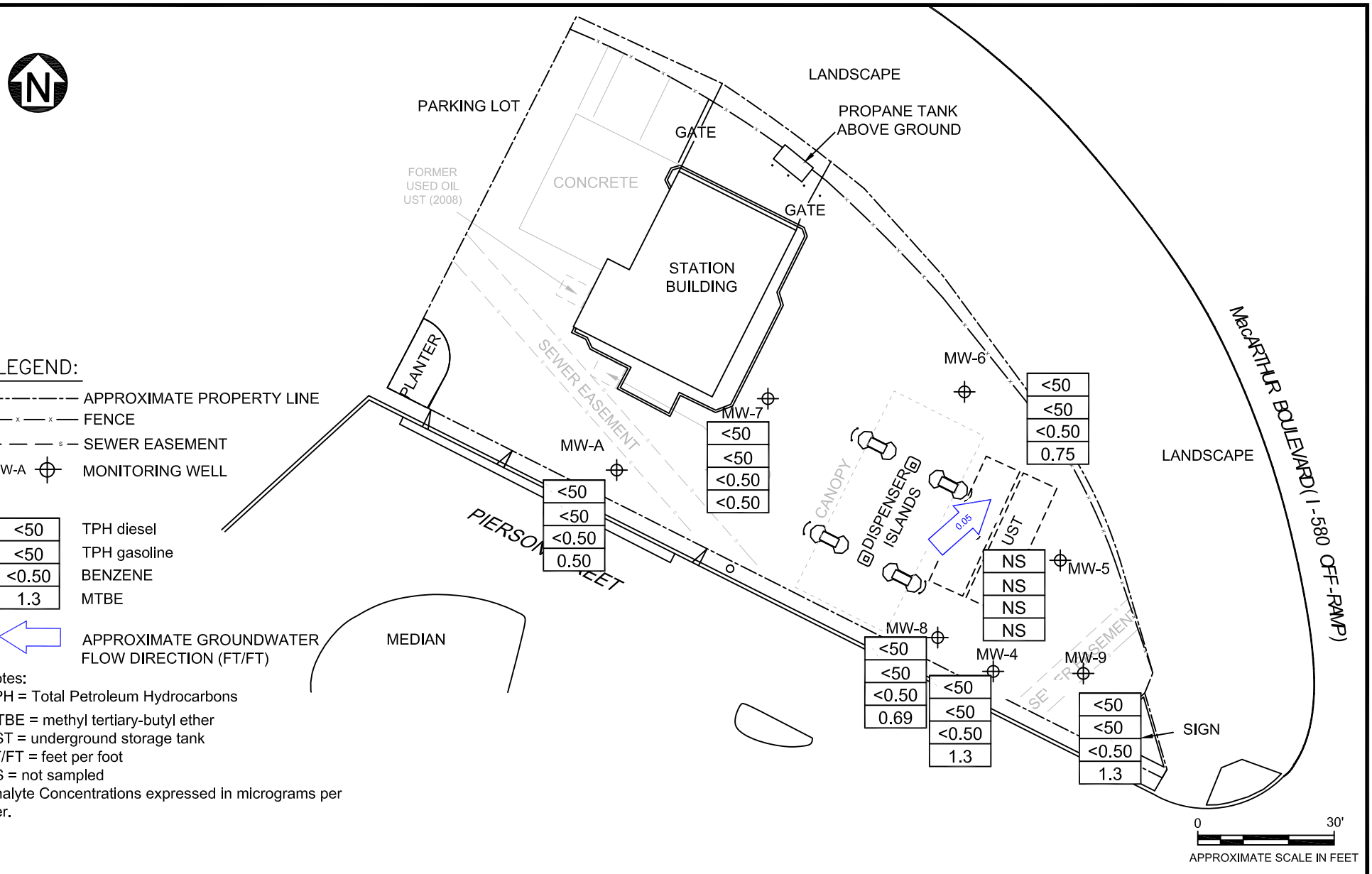
GROUNDWATER CONTOUR MAP

Chevron Site #351640 Former Unocal #5781
3535 Pierson Street, Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	12/27/2012	60267017

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

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



LEGEND:

- APPROXIMATE PROPERTY LINE
- FENCE
- SEWER EASEMENT
- MW-A — MONITORING WELL

<50	TPH diesel
<50	TPH gasoline
<0.50	BENZENE
1.3	MTBE

APPROXIMATE GROUNDWATER FLOW DIRECTION (FT/FT)

Notes:
TPH = Total Petroleum Hydrocarbons
MTBE = methyl tertiary-butyl ether
UST = underground storage tank
FT/FT = feet per foot
NS = not sampled
Analyte Concentrations expressed in micrograms per liter.

Base map created by Delta Consultants, Inc.

GROUNDWATER CONCENTRATION MAP

Chevron Site #351640 Former Unocal #5781
3535 Pierson Street, Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	12/27/2012	60267017

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

DESIGNED BY:	
DRAWN BY:	JH
CHECKED BY:	BL
APPROVED BY:	JH

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

FIGURE NUMBER: 3

P:\01231-CHEVRON76PRODUCTS_TRANSFER_SITES\351640_5781_OAKLAND\7.0 DELIVERABLES\7.2 CADD\4Q12\FIG2_SITE_MAP.DWG

ATTACHMENT A

October 4, 2012 GROUNDWATER DATA FIELD SHEETS

123 Technology Drive West
Irvine, CA 92618

949.727.9336 PHONE
949.727.7399 FAX

www.TRCsolutions.com

DATE: October 10, 2012

TO: Jim Harms, AECOM

SITE: Unocal Site 5781
Facility 351640
3535 Pierson Street, Oakland, CA

RE: Transmittal of Groundwater Monitoring Data

Dear Mr. Harms,

Please find attached the field data sheets, chain of custody (COC) forms, and technical services request (TSR) form for the monitoring event that was completed on October 4, 2012. Field measurements and collection of samples submitted to the laboratory were completed in general accordance with our usual groundwater monitoring protocol which is also attached for your reference.

Please call me at 949-727-7345 if you have questions.

Sincerely,

TRC

Christina Carrillo
Groundwater Program Coordinator

GENERAL FIELD PROCEDURES

Groundwater Gauging and Sampling Assignments

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater gauging and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

Fluid Level Measurements (Gauging)

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Unless otherwise instructed, a well that is found to contain a measureable amount of LPH (0.01 foot) is not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed.

Purging and Groundwater Parameter Measurement

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps. The pump intake is initially set at about 5 feet below the level of water in the casing, and is lowered as needed to compensate for falling water level. Pump depths are recorded in Field Notes.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurements are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously, using a flow cell, until they become stable in general accordance with EPA guidelines.

Groundwater Sample Collection

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

GENERAL FIELD PROCEDURES

Samples are collected by lowering a new, disposable polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

Sample containers are labeled with project number (or site number), well designation, sample date, sample time, and the sampler's initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

Sequence of Gauging, Purging and Sampling

The sequence in which monitoring activities are conducted is specified on the TSR. In general, wells are gauged beginning with the least affected well and ending with the well that has the highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected to the most-affected well. If wells must be gauged or sampled out of order, alternate interface probes and/or pumps are utilized and are noted in field documentation.

Decontamination

In order to reduce the possibility of cross contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging, and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liquinox and water and rinsing twice. The final rinse is in deionized water.

Purge Water Disposal

Purge water is generally collected in labeled drums for disposal as non-hazardous waste. Drums may be left on site for disposal by others, or transported to a collection location at a TRC field office, in either Fullerton, California or Concord, California, for eventual transfer to a licensed treatment or recycling facility. Alternatively, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.

Exceptions

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, are documented in field notes on the following pages.

FIELD MONITORING DATA SHEET

Technician: A. Vickers Job #/Task #: 189791.0035.1640 Date: 10/04/12

Site # 5781 Project Manager AF Page 1 of 1

Well #	TOC	Time Gauged	Total Depth	Depth to Water	Depth to Product	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-7	✓	0617	19.66	16.20	—	—	0951	2"
MW-A	✓	0623	44.84	17.52	—	—	1021	2"
MW-6	✓	0629	19.93	16.09	—	—	1006	2"
MW-8	✓	0633	19.87	13.89	—	—	1044	2"
MW-9	✓	0637	19.63	14.31	—	—	1057	2"
MW-4	✓	0641	24.72	13.43	—	—	1115	4"
MW-5	✓	0654	19.89	16.03	15.64	0.39	N/S	4"

FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS

MANIFEST DRUM INVENTORY TRAFFIC CONTROL

TRC

GROUNDWATER SAMPLING FIELD NOTES

Technician: A. Vickers

Site: 5781 Project No.: 189791.0035.1640 Date: 10/04/12

Well No. MW-9 Purge Method: HB

Depth to Water (feet): 14.31 Depth to Product (feet): —

Total Depth (feet) 19.63 LPH & Water Recovered (gallons): —

Water Column (feet): 5.32 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 15.37 1 Well Volume (gallons): 1

Time Start	Time Stop	Pump Depth (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F , C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0853			1	730.2	20.5	6.32			
	0857		2	749.1	20.5	6.34			
			3						

Static at Time Sampled	Total Gallons Purged	Sample Time
16.22	2	1057

Comments: pre-purge sample time: 0851. Dry at 2 gal/s. Did not recover in 2 hours.

Well No. MW-4 Purge Method: Sub

Depth to Water (feet): 13.43 Depth to Product (feet): —

Total Depth (feet) 24.72 LPH & Water Recovered (gallons): —

Water Column (feet): 11.29 Casing Diameter (Inches): 4

80% Recharge Depth(feet): 15.69 1 Well Volume (gallons): 8

Time Start	Time Stop	Pump Depth (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F , C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0906	0912	24.5	8	692.8	20.3	6.62			
			16						
			24						

Static at Time Sampled	Total Gallons Purged	Sample Time
20.98	14	1115

Comments: pre-purge sample time: 0902. Dry at 14 gal/s. Did not recover in 2 hours.

TRC

GROUNDWATER SAMPLING FIELD NOTES

Technician: A. Vidmars

Site: 5781 Project No.: 18979.0035.1640 Date: 10/04/12

Well No. MW-6 Purge Method: HB

Depth to Water (feet): 16.09 Depth to Product (feet): —

Total Depth (feet) 19.93 LPH & Water Recovered (gallons): —

Water Column (feet): 3.84 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 16.86 1 Well Volume (gallons): 1

Time Start	Time Stop	Pump Depth (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F , C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0748	0751		1	521.9	19.6	6.45			
			2						
			3						

Static at Time Sampled	Total Gallons Purged	Sample Time
18.31	1.5	1006

Comments: pre-purge sample time: 0745. Dry at 1.5 gals. Did not recover in 2 hours. Went dry while sampling, unable to collect second 32oz amber (spare for breakage) for TPH-D analysis.

Well No. MW-8 Purge Method: HB

Depth to Water (feet): 13.89 Depth to Product (feet): —

Total Depth (feet) 19.87 LPH & Water Recovered (gallons): —

Water Column (feet): 5.98 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 15.09 1 Well Volume (gallons): 1

Time Start	Time Stop	Pump Depth (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F , C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0839			1	728.5	20.2	6.35			
			2	769.9	20.1	6.35			
	0844		3	774.2	20.1	6.36			

Static at Time Sampled	Total Gallons Purged	Sample Time
14.53	3	1044

Comments: pre-purge sample time: 0838

TRC

GROUNDWATER SAMPLING FIELD NOTES

Technician: A. Walters

Site: 5781 Project No.: 189791.0035.1640 Date: 10/04/12

Well No. MW-7 Purge Method: HB

Depth to Water (feet): 16.20 Depth to Product (feet): —

Total Depth (feet) 19.66 LPH & Water Recovered (gallons): —

Water Column (feet): 3.46 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 16.89 1 Well Volume (gallons): 1

Time Start	Time Stop	Pump Depth (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F , C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0736	0740		1	1031	20.7	6.37			
			2						
			3						

Static at Time Sampled	Total Gallons Purged	Sample Time
17.80	1.5	0951

Comments: Pre-purge sample time: 0734. Dry at 1.5 gals. Did not recover in 2 hours.

Well No. MW-A Purge Method: Sub

Depth to Water (feet): 17.52 Depth to Product (feet): —

Total Depth (feet) 44.84 LPH & Water Recovered (gallons): —

Water Column (feet): 27.32 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 22.98 1 Well Volume (gallons): 5

Time Start	Time Stop	Pump Depth (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F , C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0802		27	5	1407	19.8	6.62			
		32	10	1499	20.2	6.62			
	0814	37	15	1441	20.3	6.65			

Static at Time Sampled	Total Gallons Purged	Sample Time
27.79	15	1021

Comments: Did not recover in 2 hours.

TRC

MANUAL PUMP/BAIL OUT SHEET

Site # : 5781 **Project #:** 10979.0035.1640 **Date:** 10/04/12

Technician: A. Vickers **Page #:** 1 **of** 1

Monitoring Data Before Pump/Bail Out		Monitoring Data Before Pump/Bail Out	
Well Number	MW-5	Well Number	
Depth to Product	15.64	Depth to Product	
Depth to Water	16.03	Depth to Water	
Total Depth of Well	19.89	Total Depth of Well	
Feet of Total Fluid in Well	4.25	Feet of Total Fluid in Well	
Thickness of Product (ft.)	0.39	Thickness of Product (ft.)	
Well Diameter (in.)	4	Well Diameter (in.)	
One Well Volume (gal.)	3	One Well Volume (gal.)	
Pump/Bail One Well Volume		**Pump/Bail One Well Volume**	
Water Recovered (gal.)	2.74	Water Recovered (gal.)	
Product Recovered (gal.)	0.26	Product Recovered (gal.)	
THICKNESS OF PRODUCT x (0.67 FOR 4" CASING) OR (0.17 FOR 2" CASING) OR (1.5 FOR 6" CASING)		THICKNESS OF PRODUCT x (0.67 FOR 4" CASING) OR (0.17 FOR 2" CASING) OR (1.5 FOR 6" CASING)	
Time Required for Purge	7 minutes.	Time Required for Purge	
Comments:	color = dark brown	Comments:	

Monitoring Data Before Pump/Bail Out		Monitoring Data Before Pump/Bail Out	
Well Number		Well Number	
Depth to Product		Depth to Product	
Depth to Water		Depth to Water	
Total Depth of Well		Total Depth of Well	
Feet of Total Fluid in Well		Feet of Total Fluid in Well	
Thickness of Product (ft.)		Thickness of Product (ft.)	
Well Diameter (in.)		Well Diameter (in.)	
One Well Volume (gal.)		One Well Volume (gal.)	
Pump/Bail One Well Volume		**Pump/Bail One Well Volume**	
Water Recovered (gal.)		Water Recovered (gal.)	
Product Recovered (gal.)		Product Recovered (gal.)	
THICKNESS OF PRODUCT x (0.67 FOR 4" CASING) OR (0.17 FOR 2" CASING) OR (1.5 FOR 6" CASING)		THICKNESS OF PRODUCT x (0.67 FOR 4" CASING) OR (0.17 FOR 2" CASING) OR (1.5 FOR 6" CASING)	
Time Required for Purge		Time Required for Purge	
Comments:		Comments:	

Fluids from all of todays Manual Pump/Bail Outs were pumped into:

1) Vac Truck ☐ 2) Properly Labeled Drums ☒ 3) Other ☐ _____

TRC

STATEMENT OF NON-COMPLETION OF JOB

DATE OF EVENT: 10/04/12 SITE ID: 5781

TECH: A. Vickers CALLED SUPERVISOR: (YES) / NO

CALLED PM: (YES) / NO NAME OF PM: T. Johnson

WELL ID: MW-5

No sample. LPH in well. Purged/Bailed 1 well volume per Tim Johnson.

WELL ID: MW-6

Well went dry while sampling. Unable to collect 2nd 32 oz. amber (spare for breakage) for TPH-D analysis

WELL ID:

TRC

WELL BOX CONDITION REPORT

SITE NO. 5781

ADDRESS 3535 Pierson St. Oakland, CA

DATE 10/04/12

PERFOMED BY: A. Vidaurs

PAGE 1 OF 1

Well Name	Current Well Box Size	# of Ears	# of Stripped Ears	# of Broken Ears	# of Broken Bolts	# of Missing Bolts	Seal Damaged	Missing Lid	Broken Lid	Well Box Is Exposed	Well Box is Below Grade	Unable to Access	Unable to Locate	Foundation Damaged	Paved Over	Street Well	Saw Cut Needed	System Well	USA Marked Well	Comments
MW-7	12"	2																		ok
MW-A	8"	2																		Ok
MW-6	12"	2								X				X						
MW-8	12"	2																		Ok
MW-9	12"	2												X						
MW-4	12"	2																		Ok
MW-5	12"	2																		Ok

TRC

CHAIN OF CUSTODY FORM

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

COC _____ of _____

Union Oil Site ID: 5761	Union Oil Consultant: AECOM
Site Global ID: T0600101467	Consultant Contact: Tel 301 642
Site Address: 5535 Hansen St. Oakland, CA	Consultant Phone No.: Jim Harms
Union Oil PM: Erin Kantner	Sampling Company: TRC
Union Oil PM Phone No.: 925 791 2270	Sampled By (PRINT): Andrew Nielsen
Charge Code: NWRTB- 0 351 2490 -0- LAB	Sampler Signature:
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**BC Laboratories, Inc.** **Project Manager: Molly Meyers** 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

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

Special Instructions

SAMPLE ID						ANALYSES REQUIRED											
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015 w/ silica gel cleanup	TPH - G by GC/MS	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B, EDB/EDC by 8260B	EPA 8260B Full List with OXYS							Notes / Comments
MW-7	W-S-A		121004	0951	6	X	X	X	X								
MW-8	W-S-A			1021	6												
MW-6	W-S-A			1010	7												
MW-5	W-S-A			1044	6												
MW-9	W-S-A			1057	6												
MW-4	W-S-A		↓	1115	6	↓	↓	↓	↓								
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

Relinquished By	Company	Date / Time:
	TRC	12/10/12 1115
Received By	**Company**	**Date / Time:**
Meghan Bell	BC Labs	12-10-12 1430

Relinquished By	Company	Date / Time :
Received By	**Company**	**Date / Time :**

Relinquished By	Company	Date / Time:
Received By	**Company**	**Date / Time:**

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

17-Sep-12

Site ID:	5781	**Project No.:**	189791.0035.1640 / 00TA01
Address	3535 Pierson Street	**Client:**	Roya Kambin
City:	Oakland	**Contact #:**	925-790-6270
Cross Street:	Redding St.	**PM:**	Jim Harms AECOM
		PM Contact #:	916-361-6412

Total number of wells:	7	**Min. Well Diameter (in.):**	2	**# of Techs, # of Hrs:**	1, 7
Depth to Water (ft.):	14	**Max. Well Diameter (in.):**	2	**Travel Time (hrs):**	
		Max. Well Depth (ft):	45	**Hotel PO#:**	

ACTIVITIES:		Frequency	Notes
Gauging:	☑	Quarterly	
Purge/Sampling:	☑	Quarterly	
No Purge/Sample	☐		

RELATED ACTIVITIES		Note
Drums:	☑	
Other Activities:	☐	
Traffic Control:	☐	

PERMIT INFORMATION:

NOTIFICATIONS:

76 Station: 510-437-9837

SITE INFORMATION:

MW-4, MW-5, MW-6, MW-7 & MW-9 recover slow. Take pre-purge samples and then follow standard TRC purge and sample procedures. Submit pre-purge samples if monitoirng doesn't recover with enought water to collect the required bottles after two hours.

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

17-Sep-12

Site ID:	5781	**Project No.:**	189791.0035.1640 / 00TA01
Address	3535 Pierson Street	**Client:**	Roya Kambin
City:	Oakland	**Contact #:**	925-790-6270
Cross Street:	Redding St.	**PM:**	Jim Harms AECOM
		PM Contact #:	916-361-6412

LAB INFORMATION:

Global ID: T0600101467

Lab WO: 351640

Lab Used: BC Labs

Lab Notes: Lab Analyses:
TPH-D by 8015M w/silica gel clean-up [Containers: two 1L ambers unpreserved]
TPH-G by 8015 [Containers: 3 voas w/HCl]
BTEX/MTBE/OXYS by 8260B, EDB/EDC by 8260B, Ethanol by 8260B [Containers: 3 voas w/HCl]

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

17-Sep-12

Site ID.: 5781
Address 3535 Pierson Street
City: Oakland
Cross Street Redding St.

			Gauging				Sampling				Field Measurements			
Well IDs	Benz.	MTBE	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Pre-Purge	Post-Purge	Type	Comments
MW-7	0	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		2" casing
MW-A	0	0.56	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		2" casing
MW-6	0	0.56	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		2" casing
MW-8	0	1.5	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		2" casing
MW-9	0	2	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		2" casing
MW-4	0	2.4	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		4" casing
MW-5	89	26	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		4" casing

ATTACHMENT B

HISTORIC GROUNDWATER DATA

Attachment B - Table A
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

March 10, 2011

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-D (µg/l)	TPH-G 8015 (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-4														
6/16/2010	153.48	11.13	0	142.35	--	ND<50	58	ND<0.50	9.7	1.3	16	--	5.4	
9/29/2010	153.48	12.62	0	140.86	-1.49	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	7.3	
12/21/2010	153.48	11.17	0	142.31	1.45	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/10/2011	153.48	10.57	0	142.91	0.60	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.2	
MW-5														
6/16/2010	153.66	11.95	0	141.71	--	3000	29000	580	6800	850	7200	--	ND<50	
9/29/2010	153.66	13.67	0	139.99	-1.72	64000	29000	220	4100	2500	23000	--	52	
12/21/2010	153.66	11.17	0	142.49	2.50	11000	50000	81	4800	2200	22000	--	ND<50	
3/10/2011	153.66	11.35	0	142.31	-0.18	4900	48000	69	3600	1700	20000	--	ND<50	
MW-6														
12/21/2010	154.62	12.10	0	142.52	--	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	32	
3/10/2011	154.62	11.36	0	143.26	0.74	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.6	
MW-7														
12/21/2010	155.38	13.46	0	141.92	--	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/10/2011	155.38	12.07	0	143.31	1.39	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
MW-8														
12/21/2010	153.71	11.63	0	142.08	--	81	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.9	
3/10/2011	153.71	11.38	0	142.33	0.25	61	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.3	
MW-9														
12/21/2010	153.37	10.53	0	142.84	--	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.2	
3/10/2011	153.37	10.86	0	142.51	-0.33	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.90	
MW-A														
12/18/1990	--	--	--	--	--	73	ND	ND	ND	ND	ND	--		
5/3/1991	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
8/7/1991	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
11/8/1991	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
2/6/1992	151.80	19.88	0	131.92	--	ND	ND	ND	ND	ND	ND	--		
8/4/1992	151.80	18.95	0	132.85	0.93	ND	ND	ND	ND	ND	0.51	--		
2/10/1993	151.80	17.71	0	134.09	1.24	ND	ND	ND	ND	ND	ND	--		
2/10/1994	151.80	15.25	0	136.55	2.46	ND	ND	ND	0.52	ND	0.92	--		
2/9/1995	151.80	15.68	0	136.12	-0.43	ND	ND	ND	ND	ND	ND	--		
2/6/1996	151.80	12.52	0	139.28	3.16	120	ND	ND	ND	ND	2.1	--		
2/5/1997	151.80	13.01	0	138.79	-0.49	61	ND	ND	ND	ND	ND	--	ND	
2/2/1998	151.80	11.91	0	139.89	1.10	ND	ND	ND	ND	ND	ND	--	ND	
2/22/1999	151.80	11.24	0	140.56	0.67	ND	ND	ND	ND	ND	ND	--	ND	
2/26/2000	151.80	12.16	0	139.64	-0.92	ND	ND	ND	1.01	ND	ND	--	ND	

Attachment B - Table A
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

March 10, 2011

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-D (µg/l)	TPH-G 8015 (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
3/7/2001	151.80	11.91	0	139.89	0.25	131	ND	ND	ND	ND	ND	ND	ND	
2/22/2002	151.80	14.08	0	137.72	-2.17	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	
2/22/2003	151.80	14.41	0	137.39	-0.33	93	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<2.0	
2/3/2004	151.80	14.32	0	137.48	0.09	60	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<2.0	
2/18/2005	151.80	14.21	0	137.59	0.11	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	
3/29/2006	151.80	12.72	0	139.08	1.49	ND<200	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	0.54	
3/28/2007	151.80	13.98	0	137.82	-1.26	92	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/22/2008	151.80	12.68	0	139.12	1.30	ND<50	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/27/2009	151.80	14.35	0	137.45	-1.67	53	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/23/2010	151.80	19.55	0	132.25	-5.20	ND<58	--	--	--	--	--	--		
6/16/2010	154.79	17.85	0	136.94	4.69	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/29/2010	154.79	15.50	0	139.29	2.35	ND<1200	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.63	
12/21/2010	154.79	14.43	0	140.36	1.07	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.65	
3/10/2011	154.79	17.70	0	137.09	-3.27	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.56	

Attachment B - Table B
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 5781

Date Sampled	TPH-G (GC/MS) ()	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)	Methanol (µg/l)	Total Oil and Grease (mg/l)	TRPH (mg/l)	Bromo-dichloro-methane (µg/l)	Comments
MW-4													
6/16/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
9/29/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
12/21/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
3/10/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
MW-5													
6/16/2010	--	ND<1000	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	ND<100	--	--	--	
9/29/2010	--	ND<1000	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	ND<1000	--	--	--	
12/21/2010	--	ND<1000	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	ND<100	--	--	--	
3/10/2011	--	ND<1000	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	ND<100	--	--	--	
MW-6													
12/21/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
3/10/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
MW-7													
12/21/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
3/10/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
MW-8													
12/21/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
3/10/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
MW-9													
12/21/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
3/10/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
MW-A													
2/6/1996	--	--	--	--	--	--	--	--	--	--	--	--	
2/5/1997	--	--	--	--	--	--	--	--	--	--	--	--	
3/7/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	
2/22/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	
2/3/2004	--	ND<100	ND<500	ND<2.0	ND<0.50	ND<2.0	ND<2.0	ND<2.0	--	--	ND<1.0	ND<0.50	
2/18/2005	--	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<2.0	--	ND<0.50	
3/29/2006	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	ND<0.50	
3/28/2007	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	--	ND<0.50	
3/22/2008	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	--	ND<0.50	
3/27/2009	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	--	ND<0.50	
6/16/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
9/29/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
12/21/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	
3/10/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	--	--	--	

Attachment B - Table C
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 5781

Date Sampled	Bromo-form (µg/l)	Bromo-methane (µg/l)	Carbon Tetra-chloride (µg/l)	Chloro-benzene (µg/l)	Chloro-ethane (µg/l)	2-Chloroethyl vinyl ether (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)	Comments
MW-4													
6/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	
9/29/2010	--	--	--	--	--	--	--	--	--	--	--	--	
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-5													
6/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	
9/29/2010	--	--	--	--	--	--	--	--	--	--	--	--	
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-A													
2/6/1996	--	--	--	--	--	--	--	--	--	--	--	--	
2/5/1997	--	--	--	--	--	--	--	--	--	--	--	--	
3/7/2001	--	--	--	--	--	--	--	--	--	--	--	--	
2/22/2003	--	--	--	--	--	--	--	--	--	--	--	--	
2/3/2004	ND<2.0	ND<1.0	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
2/18/2005	ND<2.0	ND<1.0	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/29/2006	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/28/2007	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/22/2008	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/27/2009	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
6/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	
9/29/2010	--	--	--	--	--	--	--	--	--	--	--	--	
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	

Attachment B -Table D
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 5781

Date Sampled	Dichloro-difluoro-methane (µg/l)	1,1-DCA (µg/l)	1,1-DCE (µg/l)	cis-1,2-DCE (µg/l)	trans-1,2-DCE (µg/l)	1,2-Dichloro-propane (µg/l)	cis-1,3-Dichloro-propene (µg/l)	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)	Comments
MW-4													
6/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	
9/29/2010	--	--	--	--	--	--	--	--	--	--	--	--	
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-5													
6/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	
9/29/2010	--	--	--	--	--	--	--	--	--	--	--	--	
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9													
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	
MW-A													
2/6/1996	--	--	--	--	--	--	--	--	--	--	--	--	
2/5/1997	--	--	--	--	--	--	--	--	--	--	--	--	
3/7/2001	--	--	--	--	--	--	--	--	--	--	--	--	
2/22/2003	--	--	--	--	--	--	--	--	--	--	--	--	
2/3/2004	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	
2/18/2005	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	
3/29/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	
3/28/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	
3/22/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	
3/27/2009	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	
6/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	
9/29/2010	--	--	--	--	--	--	--	--	--	--	--	--	
12/21/2010	--	--	--	--	--	--	--	--	--	--	--	--	
3/10/2011	--	--	--	--	--	--	--	--	--	--	--	--	

Attachment B - Table E
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 5781

Date Sampled	1,1,1-Trichloro-ethane (µg/l)	1,1,2-Trichloro-ethane (µg/l)	Trichloro-ethene (TCE) (µg/l)	Trichloro-fluoro-methane (µg/l)	Vinyl chloride (µg/l)	Comments
MW-4						
6/16/2010	--	--	--	--	--	
9/29/2010	--	--	--	--	--	
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	
MW-5						
6/16/2010	--	--	--	--	--	
9/29/2010	--	--	--	--	--	
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	
MW-6						
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	
MW-7						
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	
MW-8						
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	
MW-9						
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	
MW-A						
2/6/1996	--	--	--	--	--	
2/5/1997	--	--	--	--	--	
3/7/2001	--	--	--	--	--	
2/22/2003	--	--	--	--	--	
2/3/2004	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	
2/18/2005	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	
3/29/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/28/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/22/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/27/2009	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
6/16/2010	--	--	--	--	--	
9/29/2010	--	--	--	--	--	
12/21/2010	--	--	--	--	--	
3/10/2011	--	--	--	--	--	

ATTACHMENT C

BC LABORATORIES ANALYTICAL REPORT #1219185

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 10/18/2012

Jim Harms

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

Project:	5781
BC Work Order:	1219185
Invoice ID:	B132213

Enclosed are the results of analyses for samples received by the laboratory on 10/4/2012. 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

12-19185

CHAIN OF CUSTODY FORM

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

COC 1 of 1

Union Oil Site ID: 5781	Union Oil Consultant: AECOM
Site Global ID: T0600101467	Consultant Contact: 916 361 6412
Site Address: 3535 Pierson St. Oakland, CA	Consultant Phone No.: Jim Harms
	Sampling Company: TRC
Union Oil PM: Reyq Kamlin	Sampled By (PRINT): Andrew Hitchens
Union Oil PM Phone No.: 925 790 6270	Sampler Signature:
Charge Code: NWRTB- 0 351640 -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

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

Special Instructions

SAMPLE ID						ANALYSES REQUIRED										
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015 w/ silica gel cleanup	TPH - G by 8015	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B, EDB/EDC by 8260B	EPA 8260B Full List with OXYS						Notes / Comments
MW-7 ,1	W-S-A		121004	0951	9	X	X	X	X							
MW-A ,2	W-S-A			1021	8											
MW-6 ,3	W-S-A			1006	7											
MW-8 ,4	W-S-A			1044	8											
MW-9 ,5	W-S-A			1057	9											
MW-4 ,6	W-S-A			1115	9											
	W-S-A															
	W-S-A															
	W-S-A															
	W-S-A															
	W-S-A															
	W-S-A															

CHK BY KR

DISTRIBUTION SW Basis SUB-OUT ☐

Relinquished By	Company	Date / Time:
	TRC	10/04/12 1430
Received By	Company	Date / Time:
Hary Bogan	BCLAB	10-4-12 1430
Relinquished By	Company	Date / Time:
Hary Bogan	BcLab	10-4-12 1830
Received By	Company	Date / Time:
[illegible]	BCLAB	10-4-12 18:30
Relinquished By	Company	Date / Time:
[illegible]	BCLAB	10-4-12 22:40
Received By	Company	Date / Time:
[illegible]	BCL	10-4-12 2240

Chain of Custody and Cooler Receipt Form for 1219185 Page 2 of 2

Rev. No. 13 08/17/12 Page 1 Of 1

Submission #: 12-19185

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

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

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

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

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

COC Received ☒ YES ☐ NO

Emissivity: 0.95 Container: Q+A Thermometer ID: 207

Temperature: (A) 2.3 °C / (C) 23 °C

Date/Time 10-4-12

Analyst Init JNW 2300

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										
40ml VOA VIAL	A,6	A,6	A 6	A,6	A 6	A,6				
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER	B,C	B,C	6	B,C	B,C	B,C				
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										

Comments:

Sample Numbering Completed By: JNW Date/Time: 10/5/12 1040

A = Actual / C = Corrected

I:\MyDOCS\WordPerfect\LAB_DOCS\FORMS\SAMRECR13I

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1219185-01	**COC Number:**	---	**Receive Date:**	10/04/2012 22:40
	Project Number:	5781	**Sampling Date:**	10/04/2012 09:51
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-7-W-121004	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-7			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1219185-02	**COC Number:**	---	**Receive Date:**	10/04/2012 22:40
	Project Number:	5781	**Sampling Date:**	10/04/2012 10:21
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-A-W-121004	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-A			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1219185-03	**COC Number:**	---	**Receive Date:**	10/04/2012 22:40
	Project Number:	5781	**Sampling Date:**	10/04/2012 10:06
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-6-W-121004	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-6			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1219185-04	**COC Number:**	---	**Receive Date:**	10/04/2012 22:40
	Project Number:	5781	**Sampling Date:**	10/04/2012 10:44
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-8-W-121004	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-8			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1219185-05	**COC Number:**	---	**Receive Date:**	10/04/2012 22:40
	Project Number:	5781	**Sampling Date:**	10/04/2012 10:57
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-9-W-121004	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-9			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1219185-06	**COC Number:**	---	**Receive Date:**	10/04/2012 22:40
	Project Number:	5781	**Sampling Date:**	10/04/2012 11:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-W-121004	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600101467			
	Location ID (FieldPoint): MW-4			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1219185-01 | **Client Sample Name:** 5781, MW-7-W-121004, 10/4/2012 9:51:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.8	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	93.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	107	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/08/12	10/08/12 15:23	JMC	MS-V12	1	BVJ0691

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1219185-01 | **Client Sample Name:** 5781, MW-7-W-121004, 10/4/2012 9:51:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	93.1	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	10/17/12	10/17/12 16:07	jjh	GC-V4	1	BVJ1401

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1219185-01 | **Client Sample Name:** 5781, MW-7-W-121004, 10/4/2012 9:51:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	97.1	%	28 - 139 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)		%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	10/09/12	10/17/12 23:01	ZZZ	GC-5	1	BVJ1448

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1219185-02 | **Client Sample Name:** 5781, MW-A-W-121004, 10/4/2012 10:21:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**0.50**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.8	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	94.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/08/12	10/08/12 15:05	JMC	MS-V12	1	BVJ0690

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1219185-02 | **Client Sample Name:** 5781, MW-A-W-121004, 10/4/2012 10:21:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	93.9	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	10/17/12	10/17/12 16:29	jjh	GC-V4	1	BVJ1401

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1219185-02 | **Client Sample Name:** 5781, MW-A-W-121004, 10/4/2012 10:21:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	66.2	%	28 - 139 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)		%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	10/09/12	10/17/12 23:15	ZZZ	GC-5	1	BVJ1448

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

Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1219185-03 | **Client Sample Name:** 5781, MW-6-W-121004, 10/4/2012 10:06:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**0.75**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.3	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	92.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/08/12	10/08/12 14:48	JMC	MS-V12	1	BVJ0690

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Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1219185-03 | **Client Sample Name:** 5781, MW-6-W-121004, 10/4/2012 10:06:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	98.7	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	10/17/12	10/17/12 16:51	jjh	GC-V4	1	BVJ1401

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

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1219185-03 | **Client Sample Name:** 5781, MW-6-W-121004, 10/4/2012 10:06:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	101	%	28 - 139 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)		%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	10/09/12	10/17/12 23:29	ZZZ	GC-5	1	BVJ1448

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

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1219185-04 | **Client Sample Name:** 5781, MW-8-W-121004, 10/4/2012 10:44:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**0.69**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	**2.4**	**ug/L**	**1.0**	**EPA-8260B**	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.9	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	94.1	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/08/12	10/08/12 14:30	JMC	MS-V12	1	BVJ0690

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Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1219185-04 | **Client Sample Name:** 5781, MW-8-W-121004, 10/4/2012 10:44:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	92.4	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	10/16/12	10/17/12 17:13	jjh	GC-V4	1	BVJ1318

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

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1219185-04 | **Client Sample Name:** 5781, MW-8-W-121004, 10/4/2012 10:44:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	102	%	28 - 139 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)		%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	10/09/12	10/17/12 23:43	ZZZ	GC-5	1	BVJ1448

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

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1219185-05 | **Client Sample Name:** 5781, MW-9-W-121004, 10/4/2012 10:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**1.3**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.1	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	95.5	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/08/12	10/08/12 14:12	JMC	MS-V12	1	BVJ0690

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Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1219185-05 | **Client Sample Name:** 5781, MW-9-W-121004, 10/4/2012 10:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	91.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	10/16/12	10/17/12 17:36	jjh	GC-V4	1	BVJ1318

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Project: 5781
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Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1219185-05 | **Client Sample Name:** 5781, MW-9-W-121004, 10/4/2012 10:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	79.8	%	28 - 139 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)		%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	10/09/12	10/17/12 23:56	ZZZ	GC-5	1	BVJ1448

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Reported: 10/18/2012 13:16
Project: 5781
Project Number: 351640
Project Manager: Jim Harms

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1219185-06 | **Client Sample Name:** 5781, MW-4-W-121004, 10/4/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**1.3**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.5	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	94.5	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/08/12	10/08/12 13:55	JMC	MS-V12	1	BVJ0690

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Reported: 10/18/2012 13:16
Project: 5781
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Project Manager: Jim Harms

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1219185-06 | **Client Sample Name:** 5781, MW-4-W-121004, 10/4/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	94.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	10/16/12	10/17/12 17:58	jjh	GC-V4	1	BVJ1318

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Project Manager: Jim Harms

Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1219185-06 | **Client Sample Name:** 5781, MW-4-W-121004, 10/4/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Diesel Range Organics (C12 - C24)	ND	ug/L	50	Luft/TPHd	ND		1
Tetracosane (Surrogate)	75.4	%	28 - 139 (LCL - UCL)	Luft/TPHd			1
Capric acid (Reverse Surrogate)		%	0 - 2 (LCL - UCL)	Luft/TPHd			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	Luft/TPHd	10/09/12	10/18/12 00:10	ZZZ	GC-5	1	BVJ1448

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

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVJ0690						
Benzene	BVJ0690-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BVJ0690-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BVJ0690-BLK1	ND	ug/L	0.50		
Ethylbenzene	BVJ0690-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BVJ0690-BLK1	ND	ug/L	0.50		
Toluene	BVJ0690-BLK1	ND	ug/L	0.50		
Total Xylenes	BVJ0690-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BVJ0690-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BVJ0690-BLK1	ND	ug/L	10		
Diisopropyl ether	BVJ0690-BLK1	ND	ug/L	0.50		
Ethanol	BVJ0690-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BVJ0690-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	BVJ0690-BLK1	91.5	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVJ0690-BLK1	95.4	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVJ0690-BLK1	103	%	80 - 120 (LCL - UCL)		
QC Batch ID: BVJ0691						
Benzene	BVJ0691-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BVJ0691-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BVJ0691-BLK1	ND	ug/L	0.50		
Ethylbenzene	BVJ0691-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BVJ0691-BLK1	ND	ug/L	0.50		
Toluene	BVJ0691-BLK1	ND	ug/L	0.50		
Total Xylenes	BVJ0691-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BVJ0691-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BVJ0691-BLK1	ND	ug/L	10		
Diisopropyl ether	BVJ0691-BLK1	ND	ug/L	0.50		
Ethanol	BVJ0691-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BVJ0691-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	BVJ0691-BLK1	91.1	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVJ0691-BLK1	97.9	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVJ0691-BLK1	103	%	80 - 120 (LCL - UCL)		

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

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVJ0690										
Benzene	BVJ0690-BS1	LCS	30.210	25.000	ug/L	121		70 - 130		
Toluene	BVJ0690-BS1	LCS	24.590	25.000	ug/L	98.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVJ0690-BS1	LCS	8.6200	10.000	ug/L	86.2		75 - 125		
Toluene-d8 (Surrogate)	BVJ0690-BS1	LCS	9.6300	10.000	ug/L	96.3		80 - 120		
4-Bromofluorobenzene (Surrogate)	BVJ0690-BS1	LCS	10.450	10.000	ug/L	104		80 - 120		
QC Batch ID: BVJ0691										
Benzene	BVJ0691-BS1	LCS	29.700	25.000	ug/L	119		70 - 130		
Toluene	BVJ0691-BS1	LCS	24.870	25.000	ug/L	99.5		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVJ0691-BS1	LCS	8.8600	10.000	ug/L	88.6		75 - 125		
Toluene-d8 (Surrogate)	BVJ0691-BS1	LCS	9.7700	10.000	ug/L	97.7		80 - 120		
4-Bromofluorobenzene (Surrogate)	BVJ0691-BS1	LCS	10.630	10.000	ug/L	106		80 - 120		

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Project Number: 351640
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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: BVJ0690	Used client sample: Y - Description: MW-6-W-121004, 10/04/2012 10:06										
Benzene	MS	1219185-03	ND	30.240	25.000	ug/L		121		70 - 130	
	MSD	1219185-03	ND	31.240	25.000	ug/L	3.3	125	20	70 - 130	
Toluene	MS	1219185-03	ND	24.160	25.000	ug/L		96.6		70 - 130	
	MSD	1219185-03	ND	24.760	25.000	ug/L	2.5	99.0	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1219185-03	ND	8.7700	10.000	ug/L		87.7		75 - 125	
	MSD	1219185-03	ND	8.6900	10.000	ug/L	0.9	86.9		75 - 125	
Toluene-d8 (Surrogate)	MS	1219185-03	ND	9.5400	10.000	ug/L		95.4		80 - 120	
	MSD	1219185-03	ND	9.3600	10.000	ug/L	1.9	93.6		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1219185-03	ND	10.300	10.000	ug/L		103		80 - 120	
	MSD	1219185-03	ND	10.580	10.000	ug/L	2.7	106		80 - 120	
QC Batch ID: BVJ0691	Used client sample: Y - Description: MW-7-W-121004, 10/04/2012 09:51										
Benzene	MS	1219185-01	ND	31.350	25.000	ug/L		125		70 - 130	
	MSD	1219185-01	ND	30.200	25.000	ug/L	3.7	121	20	70 - 130	
Toluene	MS	1219185-01	ND	24.840	25.000	ug/L		99.4		70 - 130	
	MSD	1219185-01	ND	24.840	25.000	ug/L	0	99.4	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1219185-01	ND	8.9500	10.000	ug/L		89.5		75 - 125	
	MSD	1219185-01	ND	8.5500	10.000	ug/L	4.6	85.5		75 - 125	
Toluene-d8 (Surrogate)	MS	1219185-01	ND	9.4100	10.000	ug/L		94.1		80 - 120	
	MSD	1219185-01	ND	9.5700	10.000	ug/L	1.7	95.7		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1219185-01	ND	10.680	10.000	ug/L		107		80 - 120	
	MSD	1219185-01	ND	10.710	10.000	ug/L	0.3	107		80 - 120	

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVJ1318						
Gasoline Range Organics (C4 - C12)	BVJ1318-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BVJ1318-BLK1	100	%	70 - 130 (LCL - UCL)		
QC Batch ID: BVJ1401						
Gasoline Range Organics (C4 - C12)	BVJ1401-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BVJ1401-BLK1	94.0	%	70 - 130 (LCL - UCL)		

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Project: 5781
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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: BVJ1318										
Gasoline Range Organics (C4 - C12)	BVJ1318-BS1	LCS	1084.7	1000.0	ug/L	108		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BVJ1318-BS1	LCS	39.689	40.000	ug/L	99.2		70 - 130		
QC Batch ID: BVJ1401										
Gasoline Range Organics (C4 - C12)	BVJ1401-BS1	LCS	988.56	1000.0	ug/L	98.9		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BVJ1401-BS1	LCS	38.354	40.000	ug/L	95.9		70 - 130		

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

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVJ1318	Used client sample: N										
Gasoline Range Organics (C4 - C12)	MS	1219349-02	ND	1103.7	1000.0	ug/L		110		70 - 130	
	MSD	1219349-02	ND	974.04	1000.0	ug/L	12.5	97.4	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1219349-02	ND	38.310	40.000	ug/L		95.8		70 - 130	
	MSD	1219349-02	ND	40.097	40.000	ug/L	4.6	100		70 - 130	
QC Batch ID: BVJ1401	Used client sample: N										
Gasoline Range Organics (C4 - C12)	MS	1219349-03	ND	1021.6	1000.0	ug/L		102		70 - 130	
	MSD	1219349-03	ND	1022.8	1000.0	ug/L	0.1	102	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1219349-03	ND	37.242	40.000	ug/L		93.1		70 - 130	
	MSD	1219349-03	ND	37.144	40.000	ug/L	0.3	92.9		70 - 130	

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Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVJ1448						
Diesel Range Organics (C12 - C24)	BVJ1448-BLK1	ND	ug/L	50		
Tetracosane (Surrogate)	BVJ1448-BLK1	89.2	%	28 - 139 (LCL - UCL)		
Capric acid (Reverse Surrogate)	BVJ1448-BLK1		%	0 - 2 (LCL - UCL)		

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Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVJ1448										
Diesel Range Organics (C12 - C24)	BVJ1448-BS1	LCS	393.14	500.00	ug/L	78.6		48 - 125		
Tetracosane (Surrogate)	BVJ1448-BS1	LCS	18.707	20.000	ug/L	93.5		28 - 139		
Capric acid (Reverse Surrogate)	BVJ1448-BS1	LCS	ND		ug/L			0 - 2		

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Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVJ1448	Used client sample: N										
Diesel Range Organics (C12 - C24)	MS	1213312-32	ND	353.87	500.00	ug/L		70.8		36 - 130	
	MSD	1213312-32	ND	313.64	500.00	ug/L	12.1	62.7	30	36 - 130	
Tetracosane (Surrogate)	MS	1213312-32	ND	17.894	20.000	ug/L		89.5		28 - 139	
	MSD	1213312-32	ND	14.369	20.000	ug/L	21.9	71.8		28 - 139	
Capric acid (Reverse Surrogate)	MS	1213312-32	ND	ND		ug/L				0 - 2	
	MSD	1213312-32	ND	ND		ug/L				0 - 2	

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Notes And Definitions

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

ATTACHMENT D

PRODUCT MONITORING FIELD SHEETS

AECOM

REPORT OF FIELD OBSERVATIONS

Job No: 60238860	Date: 11/15/12	M	T	W	R	F X	S	S
Client: CHEVRON EMC	Project: 351640							
Location: OAKLAND, CA	Weather: CLOUDY COOL							
Observer: C. DRABANDT	Subcontractor onsite: NA							

Description:

11:00 - ARRIVED ONSITE. CONDUCTED H+S MEETING. MW-5 HAD HEADSPACE AIR OF 362 ppm VOCs + 11.4% O_2. HYDROCARBON ODOR. WATER LEVEL IN WELL @ 13.88' BTOC. SMELLS LIKE FRESH GAS. VERY STRONG. NO FREE PRODUCT OBSERVED BUT HEAVY SHEEN + SMALL GAS BLEBS OBSERVED IN BAILER. 4" WELL. SHEEN OBSERVED DOWN WELL.
11:30 - CLEANED, SECURED, + VACATED.

Mileage: miles

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AECOM

REPORT OF FIELD OBSERVATIONS

Job No: 60267015	Date: 11/28	M	T	W	R	F	S	S
					X			
Client: CEMC	Project: 351640							
Location: OAKLAND, CA	Weather:							
Observer: C DRABANDT	Subcontractor onsite: N/A							

Description: PRODUCT CHECK

1150 - ARRIVED ON SITE. CONDUCTED TAILGATE H+S MEETING. WL @ 12.19' BTOC. NO PRODUCT. PID @ WELL HEAD WAS MAX @ 467PPM. PETROL ODOR BUT NOT FRESH.

Mileage: miles

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AECOM

REPORT OF FIELD OBSERVATIONS

Job No: 60267015	Date: 12/12/12	M	T	(W)	T	F	S	S
Client: CEMC	Project: ~~351~~ 1640							
Location: Oakland	Weather: 50° Clear							
Observer: J. Harms	Observation Period:							

Description:

1215 Arrive at site H & S tailgate
1230 put out cones
1240 DTW 12.23', no sheen or product
1245 talk to station owner, he said no notification required.
1310 off site

Mileage: miles

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