

Xtra OIL COMPANY

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June 30, 2016

RECEIVED

By Alameda County Environmental Health 9:24 am, Jul 01, 2016

Ms. Karel Detterman
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

**SUBJECT: SEMIANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT
CERTIFICATION**
County Case # RO 191
Xtra Oil Company
1701 Park Street
Alameda, CA

Dear Ms. Detterman:

P&D Environmental, Inc. has prepared the following document for the subject site:

- Semiannual Groundwater Monitoring and Sampling Report (July through December 2015) dated June 30, 2016 (document 0058.R30).

I declare under penalty of perjury that the contents and conclusions in the document are true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to contact me at (510) 865-9506.

Sincerely,
Xtra Oil Company



Keith Simas

0058.L63

P&D ENVIRONMENTAL, INC.

55 Santa Clara Avenue, Suite 240

Oakland, CA 94610

(510) 658-6916

June 30, 2016
Report 0058.R30

Mr. Ted Simas
Mr. Keith Simas
Xtra Oil Company
2307 Pacific Ave.
Alameda, CA 94501

**SUBJECT: SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT
(JULY THROUGH DECEMBER 2015)**
County Case # RO 191
Xtra Oil Company
1701 Park Street
Alameda, CA

Gentlemen:

P&D Environmental, Inc. (P&D) has prepared this report documenting the semi-annual monitoring and sampling of the four historical groundwater monitoring wells (MW-1 through MW-4), the four wells installed in 2011 for proposed site remediation (EW-2, EW-4, EW-5, and OW-2), and the most recently installed ozone sparging well (IW1), which was installed on September 9, 2015. The semi-annual monitoring and sampling was performed on December 10, 2015 for the reporting period of July through December 2015.

A Site Location Map (Figure 1) and Site Plan showing well and monitoring locations at the site (Figure 2) are attached with this report. All work was performed under the direct supervision of a California professional geologist.

BACKGROUND

The site is currently used as a retail gasoline station. In a letter from the Alameda County Department of Environmental Health (ACDEH) dated July 24, 2009 P&D was asked to review historical monitoring and sampling results, determine during which quarters contaminant concentrations were at their highest, and conduct semi-annual monitoring and sampling during those quarters (during either the first and third or the second and fourth quarters). Based on our review, semi-annual monitoring and sampling events were to be scheduled during the second and fourth quarters starting in 2009. Also at the request of the ACDEH analysis of the groundwater samples was performed for fuel oxygenates including TBA and lead scavengers using EPA Method 8260B. In the second half of 2011 the case was assigned to caseworker Ms. Karel Detterman.

A detailed discussion of the site background, historical monitoring and sampling, and historical investigations is provided in P&D's Remedial Action Work Plan (RAWP) dated October 24,

2007 (document 0058.W2), P&D's Corrective Action Plan (CAP) dated October 11, 2010 (document 0058.W3), and P&D's Site Conceptual Model Report dated October 8, 2010 (document 0058.R10). As an interim step for implementation of the CAP, P&D prepared a Groundwater Extraction Feasibility Work Plan dated April 15, 2011 (document 0058.W4) to verify the feasibility of groundwater extraction at the site with a selected number of wells identified in the RAWP. On May 18 and 19, 2011 P&D oversaw the installation of dual phase extraction wells EW-2, EW-4, and EW-5 and observation well OW-2 at the subject site, in accordance with procedures identified in P&D's October 24, 2007 RAWP and P&D's April 15, 2011 Groundwater Extraction Feasibility Work Plan. P&D subsequently submitted a Chemical Oxidation Injection Feasibility Test Work Plan dated December 19, 2011 (document 0058.W5); an In Situ Chemical Oxidation Feasibility Test Work Plan dated February 7, 2014 (document 0058.W6); and a In Situ Chemical Oxidation Feasibility Test Work Plan Addendum dated June 9, 2014 (document 0058.W6A).

Ozone sparging was initiated at well MW-2 beginning August 27, 2014 and operated continuously until mid-day on September 26, 2014. As part of the periodic monitoring that was performed during the pilot test, air samples were collected from the head space of groundwater wells located in the vicinity of well MW-2 on September 5, 2014. Following completion of air sparging on September 26, 2014 post-sparging groundwater monitoring and sample collection was performed on October 2 and 3, 2014. Documentation of the ozone sparging system start up, monitoring, and post-sparging groundwater sampling for a 30 day ozone sparging pilot test is provided in P&D's Ozone Sparging Pilot Test Report dated October 13, 2014 (document 0058.R26).

On November 3, 2014 P&D personnel purged and sampled groundwater well MW-2 at the subject site to evaluate rebound of petroleum hydrocarbon and associated Volatile Organic Compound (VOC) groundwater concentrations and also the presence of dissolved hexavalent chromium in groundwater following completion of the groundwater remediation pilot test. Based on the detected petroleum hydrocarbon concentrations and the absence of dissolved hexavalent chromium, P&D recommended that one additional sparging well be installed at the site next to ASP-4 and that ozone sparging be resumed at wells MW-2, EW-2 and a proposed new well (designated as IW1) located next to ASP-4.

In an e-mail dated June 2, 2015 from the ACDEH an ISCO Feasibility Test Work Plan Addendum was requested. In response to the e-mail P&D provided a Well Installation and Ozone Sparging Work Plan dated July 6, 2015 (document 0058.W7) for installation of one additional sparging well at the site adjacent to ASP-4 and that ozone sparging be resumed at wells MW-2, EW-2 and the proposed new well (IW1) located adjacent to ASP-4. Documentation of the sampling and sample results are provided in P&D's Post-Ozone Sparging Pilot Test Rebound Evaluation Report dated November 13, 2014 (document 0058.R27) and documentation of the installation of ozone sparging well IW1 is provided in P&D's Ozone Injection Well Installation Report dated June 29, 2016 (document 0058.R29).

FIELD ACTIVITIES

Water levels were measured on December 10, 2015 to the nearest 0.01 foot using an electric water level indicator in monitoring wells MW-1 through MW-4, and in wells EW-2, EW-4, EW-5,

OW-2, and IW-1 for the semi-annual well monitoring and sampling event. Air sparge points ASP-2 through ASP-6 were not monitored and sampled on December 10, 2015. The water level monitoring data for the wells and air sparge points are summarized in Table 1. Historical monitoring and sampling data obtained by others for the subject site are attached with this report as Appendix A.

Prior to sampling, wells MW-1 through MW-4, EW-2, EW-4, EW-5, OW-2, and IW-1 were purged using low flow purge procedures in accordance with U.S. EPA 1996 guidelines. Purging was performed with a peristaltic pump and new or dedicated polyethylene tubing for a minimum of fifteen minutes at each sampling location or until dewatered conditions were encountered (well MW-4 dewatered during purging). New silicone tubing was used in the pump rollers at each well. The bottom of the tubing was set at a depth of approximately three to five feet above the bottom of each well, with the exception of MW-4, where it was set near the bottom of the well because the well has historically dewatered during purging.

Purging was performed at a flow rate of approximately 200 milliliters per minute to minimize turbulence and to minimize the likelihood of sediments in the samples. During purging operations, the field parameters of electrical conductivity, temperature, pH, dissolved oxygen (DO), oxidation/reduction potential (ORP), turbidity, and depth to water were monitored and recorded on a groundwater monitoring/well purging data sheet for each well. Field parameters are summarized in Table 2, and copies of the groundwater monitoring/well purging data sheet for each well are attached with this report as Appendix B.

During the December 10, 2015 monitoring and sampling event petroleum hydrocarbon sheen was detected on the purge water from well MW-1. In addition, strong petroleum hydrocarbon odors were detected on the purge water from well MW-1 and slight petroleum hydrocarbon odors were detected on the purge water from wells MW-2, MW-4, EW-4. No petroleum hydrocarbon odors were detected on the purge water from wells MW-3, EW-2, EW-5, OW-2 or IW-1.

Once the wells had been purged for a minimum of fifteen minutes and the field parameters were observed to have stabilized or the well dewatered and adequately recharged for sample collection, water samples were collected directly from the discharge tubing of the pump into 40-milliliter glass Volatile Organic Analysis (VOA) vials which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to ensure that no air bubbles were present. Following sample collection, all sample containers were then labeled and transferred to a cooler with ice, pending transport to the laboratory. Chain of custody documentation accompanied the samples to the laboratory. Records of the field parameters measured during well purging are attached with this report in Appendix B, and also are summarized in Table 2 with historical water quality field parameter data.

HYDROGEOLOGY

The measured depth to water on December 10, 2015 for groundwater monitoring wells MW-1 through MW-4 ranged from 8.36 to 9.23 feet, and the measured depth to groundwater in wells EW-2, EW-4, EW-5, OW-2, and IW-1 was 8.00, 7.00, 7.15, 7.42, and 8.07 feet, respectively. Groundwater level data collected during the monitoring period are presented in Table 1.

Monitoring wells MW-1, MW-2, and MW-3 were installed in 1994, and well MW-4 was installed in 1997. These four wells were surveyed in 1997, however the datum used for the survey is unknown. In June 2011 these four wells were resurveyed relative to the North American Vertical Datum of 1988 (NAVD 88) along with wells EW-2, EW-4, EW-5, and OW-2. All of the calculated groundwater surface elevations in Table 1 beginning in 2011 are relative to the NAVD 88 datum. All of the calculated groundwater surface elevations for wells MW-1 through MW-4 prior to 2011 are relative to the unknown datum, which is presumed to be relative to the North American Geodetic Vertical Datum of 1929 (NGVD 29).

The groundwater flow direction at the site has historically been northeasterly to southeasterly. The historical groundwater surface elevation information for the subject site in conjunction with historical groundwater surface elevation information for the nearby property at 1725 Park Street has historically identified a northeasterly groundwater flow direction at and near the subject site. More detail regarding the site hydrogeology is provided in P&D's Semi-Annual Monitoring and Sampling (January Through June 2014) and Baseline Groundwater Quality Report (document 0058.R25) dated October 1, 2014.

During the groundwater ozone sparging pilot test system installation, approximately 2.4 feet of PVC pipe was added to the top of the well pipe at well MW-2. For this reason the elevation of the top of well MW-2 is not presently known to an accuracy of 0.01 feet, and a groundwater surface elevation is not provided in Table 1 for well MW-2. Additionally, the most recently installed ozone injection well IW-1 has not been surveyed. The groundwater surface elevations for all of the other wells are shown in Figure 2, along with groundwater surface contours that are based on the December 10, 2015 groundwater surface elevations. Based on the groundwater surface contours, the groundwater flow direction on December 10, 2015 was southeasterly, consistent with historical calculated groundwater flow directions at the site.

The calculated groundwater flow direction on December 10, 2015 was consistent with the historical northeasterly to southeasterly groundwater flow direction obtained using the groundwater surface elevation information from the nearby 1725 Park Street Exxon/Valero site in conjunction with groundwater surface elevation data from the subject site. The locations of the subject site and the nearby 1725 Park Street Exxon/Valero site are shown in Figure 3. Historical groundwater flow direction information for both sites is shown in rose diagrams in the figure. In addition, the approximate historical northeasterly groundwater flow direction obtained using the groundwater surface elevation information from the 1725 Park Street Exxon/Valero site in conjunction with groundwater surface elevation data from the subject site is shown in Figure 3.

Comparison of the December 10, 2015 well water levels with available June 17 and 18, 2015 well water levels shows that the water levels were higher on June 17 and 18, 2015 in all of the wells (except MW-2 due to modified top of casing) and IW-1 (installed on September 22, 2015) by amounts ranging from 0.63 to 0.91 feet. Well MW-4 is located in the landscaping on the north-northeast side of the property along the fence line. Historical smaller changes in water level in well MW-4 relative to the other wells may have been the result of landscape irrigation water preferentially draining to groundwater in the immediate vicinity of the well MW-4 location.

LABORATORY RESULTS

The groundwater samples collected from all of the wells at the subject site were analyzed at McCampbell Analytical Inc. of Pittsburg, California. All of the samples were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D) and Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) using EPA Method 3510C in conjunction with EPA Method 8015B; Total Petroleum Hydrocarbons as Gasoline (TPH-G), Methyl tertiary-Butyl Ether (MTBE), and benzene, toluene, ethylbenzene, total xylenes (BTEX) using EPA Method 5030B in conjunction with modified EPA Method 8015B and EPA Method 8021B; and for fuel oxygenates (including MTBE) and lead scavengers by EPA Method 5030B in conjunction with EPA Method 8260B.

The laboratory analytical results are summarized in Table 3, and a copy of the laboratory analytical report and chain of custody documentation are attached with this report as Appendix C.

DISCUSSION AND RECOMMENDATIONS

The four historical groundwater monitoring wells at the subject site (MW-1 through MW-4), the four wells related to historically proposed site remediation (EW-2, EW-4, EW-5, and OW-2), and the most recently installed ozone injection well IW-1 were monitored and sampled on December 10, 2015. Air sparge points ASP-2 through ASP-6 were not monitored and sampled on December 10, 2015. Monitoring and sampling historically was performed at the subject site in conjunction with the monitoring and sampling event performed by ERI for the Exxon/Valero facility located at 1725 Park Street. However the case for the Exxon/Valero facility located at 1725 Park Street was closed October 25, 2012.

Review of Table 3 shows the following site groundwater quality conditions associated with the December 10, 2015 semi-annual well sampling event:

- No analytes were detected in the groundwater sample collected from well MW-3.
- TPH-D was detected in the groundwater samples collected from wells MW-1, MW-2, MW-4, EW-2, EW-4, EW-5, OW-2, and IW-1 at concentrations of 2,400, 3,300, 1,200, 1,100, 1,800, 1,300, 330, and 500 micrograms per liter (ug/L), respectively;
- TPH-G was detected in the groundwater samples collected from wells MW-1, MW-2, MW-4, EW-2, EW-4, EW-5, OW-2, and IW-1 at concentrations of 18,000, 1,400, 4,100, 3,600, 15,000, 11,000, 1,000, and 2,200 ug/L, respectively;
- Benzene was detected in wells MW-1, MW-2, MW-4, EW-2, EW-4, EW-5, OW-2, and IW-1 at concentrations of 5,600, 25, 560, 650, 4,400, 2,000, 2.8, and 57 ug/L, respectively.
- The remaining BTEX compounds were detected at concentrations ranging from 1.6 to 630 ug/L.
- MTBE was detected using EPA Method 8260B in the groundwater samples collected from wells MW-1, MW-2, MW-4, EW-2, EW-4, EW-5, OW-2, and IW-1 at concentrations of 580, 6.1, 36, 30, 480, 340, 5.7, and 5.7 ug/L, respectively.
- Tert-Butyl Alcohol (TBA) was detected in the groundwater samples collected from wells MW-1, MW-2, MW-4, EW-5, OW-2, and IW-1 at concentrations of 2,100, 16, 92, 81, 760, 500, 20, and 53 ug/L, respectively.

Review of the laboratory analytical report shows that the laboratory described the detected TPH-D results for the samples from wells MW-1, MW-4, EW-2, EW-4, EW-5, and OW-2 as consisting of gasoline-range compounds, the sample from well MW-2 as consisting of gasoline-range compounds and aged diesel-range compounds, and the sample from well IW-1 as consisting of gasoline-range and Stoddard solvent/mineral spirit-range compounds.

Comparison of the December 2015 sample results with detected concentrations from the previous sampling event on June 17 and 18, 2015 shows that all analyte concentrations in well MW-3 have remained not detected, and that all analyte concentrations in wells MW-1, MW-4, EW-2, EW-4, EW-5, and OW-2 remained not detected or increased with the following exceptions:

- MW-1: TPH-G and MTBE by EPA Method 8021B decreased,
- MW-4: TPH-G, toluene and total xylenes decreased,
- EW-5: TBA decreased.

In well MW-2 all of the analyte concentrations have decreased with the exception of TPH-D, TPH-MO, and MTBE by EPA Method 8260B which increased.

Based on the sample results, P&D recommends that groundwater remediation be resumed at the site to move the case to closure. P&D also recommends that the semi-annual well sampling be continued.

DISTRIBUTION

A copy of this report will be uploaded to the ACDEH website, in accordance with ACDEH requirements. In addition, a copy of this report will be uploaded to the GeoTracker database.

LIMITATIONS

This report was prepared solely for the use of Xtra Oil Company. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with the site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgment based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

June 30, 2016
Report 0058.R30

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities, which are used in this report.

This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions or comments, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

P&D Environmental, Inc.



Paul H. King
Professional Geologist #5901
Expires 12/31/17

Attachments:

Table 1 - Summary of Well Water Level Monitoring Data

Table 2 - Summary of Well Water Quality Field Parameters

Table 3 - Summary of Well Groundwater Sample Laboratory Analytical Results

Figure 1 - Site Location Map

Figure 2 - Site Plan Showing Well Locations and Groundwater Surface Elevations

Figure 3 - Site Vicinity Map Showing Groundwater Surface Elevations

Appendix A - Historical Water Level and Water Quality Data for the Subject Site

Appendix B - Groundwater Monitoring/Well Purging Data Sheets

Appendix C - Laboratory Analytical Reports and Chain of Custody Documentation

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TABLES

Table 1
Summary of Well Water Level Monitoring Data

Well Number	Date Monitored	Top of Casing Elevation (ft-msl.)	Depth to Water (ft)	Water Table Elevation (ft-MSL.)
MW-1	12/10/2015	22.36*	8.36	14.00
	6/18/2015		7.58	14.78
	11/3/2014		Not monitored	
	10/3/2014		8.14	14.22
	8/21/2014		8.01	14.35
	6/19/2014		7.33	15.03
	11/19/2013		8.06	14.30
	5/16/2013		6.95	15.41
	12/11/2012		6.30	16.06
	6/21/2012		6.66	15.70
	11/28/2011		7.11	15.25
	6/16/2011		6.41	15.95
	5/26/2011		5.86	16.50
	5/24/2011		6.43	15.93
	11/18/2010	19.60**	7.78	11.82
	4/28/2010		6.35	13.25
	12/3/2009		7.84	11.76
	2/25/2009		6.07	13.53
	11/25/2008		7.91	11.69
	8/27/2008		8.03	11.57
5/28/2008		7.28	12.32	
2/27/2008		6.15	13.45	
11/29/2007		7.82	11.78	
8/29/2007		8.29	11.31	
5/30/2007		7.44	12.16	
3/12/2007		6.34	13.26	
11/6/2006		7.99	11.61	
MW-2	12/10/2015	Unknown	9.23	16.27
	6/18/2015	Unknown	8.60	16.90
	11/3/2014		Not monitored	
	10/3/2014		9.04	16.46
	8/21/2014	23.10*	8.51	16.99
	6/19/2014		7.79	15.31
	11/19/2013		8.35	14.75
	5/16/2013		7.42	15.68
	12/11/2012		6.83	16.27
	6/21/2012		7.18	15.92
	11/28/2011		7.61	15.49
	6/16/2011		6.89	16.21
	5/26/2011		6.90	16.20
	5/24/2011		6.90	16.20
	11/18/2010	20.31**	8.17	12.14
	4/28/2010		6.76	13.55
	12/3/2009		8.23	12.08
	2/25/2009		6.37	13.94
	11/25/2008		8.21	12.10
	8/27/2008		8.40	11.91
5/28/2008		7.72	12.59	
2/27/2008		6.49	13.82	
11/29/2007		8.15	12.16	
8/29/2007		8.55	11.76	
5/30/2007		7.79	12.52	
3/12/2007		6.82	13.49	
11/6/2006		8.25	12.06	
MW-3	12/10/2015	23.35*	8.69	14.66
	6/18/2015		7.82	15.53
	11/3/2014		Not monitored	
	10/3/2014		Not monitored	
	8/20/2014		8.39	14.96
	6/19/2014		7.34	16.01
	11/19/2013		8.06	15.29
	5/16/2013		6.72	16.63
	12/11/2012		6.03	17.32
	6/21/2012		6.42	16.93
	11/28/2011		7.19	16.16
	6/16/2011		6.17	17.18
	5/26/2011		6.19	17.16
	5/24/2011		6.16	17.19
	11/18/2010	20.57**	7.93	12.64
	4/28/2010		6.00	14.57
	12/3/2009		7.83	12.74
	2/25/2009		5.42	15.15
	11/25/2008		7.83	12.74
	8/27/2008		8.23	12.34
5/28/2008		7.36	13.21	
2/27/2008		5.75	14.82	
11/29/2007		7.88	12.69	
8/29/2007		8.31	12.26	
5/30/2007		7.26	13.31	
3/12/2007		6.03	14.54	
11/6/2006		8.09	12.48	

Table 1
Summary of Well Water Level Monitoring Data

Well Number	Date Monitored	Top of Casing Elevation (ft-msl.)	Depth to Water (ft)	Water Table Elevation (ft-MSL.)	
MW-4	12/10/2015	22.48*	8.42	14.06	
	6/18/2015		7.53	14.95	
	11/3/2014		Not monitored		
	10/3/2014		Not monitored		
	8/20/2014		8.03	14.45	
	6/19/2014		7.20	15.28	
	11/19/2013		8.03	14.45	
	5/16/2013		6.77	15.71	
	12/11/2012		5.86	16.62	
	6/21/2012		6.00	16.48	
	11/28/2011		6.62	15.86	
	6/16/2011		5.79	16.69	
	5/26/2011		6.41	16.07	
	5/24/2011		5.82	16.66	
	11/18/2010	19.69**	7.69	12.00	
	4/28/2010		5.82	13.87	
	12/3/2009		7.60	12.09	
	2/25/2009		5.32	14.37	
	11/25/2008		7.61	12.08	
	8/27/2008		7.91	11.78	
	5/28/2008		6.97	12.72	
	2/27/2008		5.38	14.31	
	11/29/2007		7.57	12.12	
8/29/2007		8.07	11.62		
5/30/2007		7.38	12.31		
3/12/2007		5.30	14.39		
11/6/2006		7.60	12.09		
EW-2	12/10/2015	22.13*	8.00	14.13	
	6/18/2015		7.35	14.78	
	11/3/2014		Not monitored		
	10/3/2014		7.79	14.34	
	8/21/2014		7.71	14.42	
	6/19/2014		7.09	15.04	
	11/19/2013		7.64	14.49	
	5/16/2013		6.70	15.43	
	12/11/2012		6.07	16.06	
	6/21/2012		6.39	15.74	
	11/28/2011		6.75	15.38	
	6/16/2011		6.09	16.04	
	5/26/2011		6.14	15.99	
	5/24/2011***		6.12	16.01	
	EW-4	12/10/2015	20.95*	7.00	13.95
		6/18/2015		6.24	14.71
		11/3/2014		Not monitored	
10/3/2014			6.79	14.16	
8/21/2014			6.67	14.28	
6/19/2014			5.98	14.97	
11/19/2013			6.71	14.24	
5/16/2013			5.49	15.46	
12/11/2012			4.80	16.15	
6/21/2012			5.10	15.85	
11/28/2011			5.51	15.44	
6/16/2011			4.72	16.23	
5/26/2011			4.77	16.18	
5/24/2011***			4.75	16.20	
EW-5		12/10/2015	21.20*	7.15	14.05
		6/18/2015		6.28	14.92
		11/3/2014		Not monitored	
	10/3/2014		6.94	14.26	
	8/20/2014		6.77	14.43	
	6/19/2014		6.02	15.18	
	11/19/2013		6.82	14.38	
	5/16/2013		5.61	15.59	
	12/11/2012		4.75	16.45	
	6/21/2012		4.91	16.29	
	11/28/2011		5.49	15.71	
	6/16/2011		4.71	16.49	
	5/26/2011		4.88	16.32	
	5/24/2011***		4.74	16.46	

Table 1
Summary of Well Water Level Monitoring Data

Well Number	Date Monitored	Top of Casing Elevation (ft-msl)	Depth to Water (ft)	Water Table Elevation (ft-MSL.)
OW-2	12/10/2015	21.55*	7.42	14.13
	6/18/2015		6.51	15.04
	11/3/2014			Not monitored
	10/3/2014			Not monitored
	8/20/2014		7.08	14.47
	6/19/2014		6.18	15.37
	11/19/2013		7.01	14.54
	5/16/2013		5.69	15.86
	12/11/2012		4.82	16.73
	6/21/2012		5.15	16.40
	11/28/2011		5.80	15.75
	6/16/2011		4.80	16.75
	5/26/2011		4.82	16.73
	5/24/2011***		4.79	16.76
IW1	12/10/2015	Unknown	8.07	Unknown
	10/23/2015***	Unknown	7.76	Unknown
Abbreviations and Notes:				
* = Surveyed by Kier & Wright on June 9, 2011.				
** = Surveyed by Andreas Deak in April 1997.				
*** = Prior to well development.				
ft-MSL = feet above mean sea level				
ft = feet				

Table 2
Summary of Well Water Quality Field Parameters

Sample ID	Sample Date	D.O. (mg/L)	O.R.P. (mV)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Turbidity (NTU)
MW-1	12/10/2015	0.71	-176.3	6.93	1,143	22.3	0.00
	6/18/2015	0.11	-161.2	6.83	1,000	21.7	1.12
	11/3/2014	Not Monitored					
	10/3/2014	0.08	-157.8	6.65	1,003	23.9	0.00
	8/21/2014	0.46	-157.9	6.75	911	23.3	0.00
	6/19/2014	1.80*	-755.2	6.56	789	21.6	0.00
	11/19/2013	0.88	-103.7	6.79	635	21.6	0.00
	5/16/2013	0.18	-103.6	6.67	983	20.2	0.00
	12/11/2012	0.19	-139.3	6.16	777.0	20.6	2.89
	6/21/2012	0.18	-110.6	6.78	664	21.0	0.00
	11/29/2011	--	--	6.51	702	20.2	--
	5/26/2011	--	--	6.82	678	20.5	0.00
	11/18/2010	--	--	6.69	1,206	22.0	--
	4/28/2010	--	--	6.63	998	19.2	--
	12/3/2009	--	--	6.42	953	21.2	--
	2/25/2009	--	--	6.56	997	17.9	--
	11/25/2008	--	--	6.60	1,143	21.9	--
	8/27/2008	--	--	6.57	980	23.6	--
	5/28/2008	--	--	6.84	903	20.6	--
	2/27/2008	--	--	7.02	1,036	17.0	--
	11/29/2007	--	--	5.73	10,350	14.8	--
	8/29/2007	--	--	6.16	17,410	30.7	--
	5/30/2001	--	--	7.12	>20,000	17.3	--
	3/12/2007	--	--	6.79	177	29.2	--
	11/6/2006	--	--	6.69	66.9	27.2	--
MW-2	12/10/2015	0.83	-187.4	6.76	1,040	21.9	0.10
	6/18/2015	0.17	-176.2	6.76	972	22.2	0.00
	11/3/2014	0.24	-46.1	7.53	1,206	24.6	0.00
	10/3/2014	1.03	-8.5	7.53	758	26.0	0.00
	8/21/2014	0.36	-149.5	6.61	853	24.3	0.00
	6/19/2014	2.13*	-160.9	6.46	791	22.3	0.00
	11/19/2013	0.61	-97.7	6.53	427.3	22.0	0.00
	5/16/2013	0.19	-101.3	6.50	813	20.6	0.00
	12/11/2012	0.18	-120.3	5.90	962	21.1	11.61
	6/21/2012	0.23	-89.2	6.58	644	21.3	14.05
	11/29/2011	--	--	6.24	629	20.6	--
	5/26/2011	--	--	6.47	763	20.2	0.00
	11/18/2010	--	--	6.48	815	22.5	--
	4/28/2010	--	--	6.53	823	19.2	--
	12/3/2009	--	--	6.24	739	21.8	--
	2/25/2009	--	--	6.21	832	18.2	--
	11/25/2008	--	--	6.39	740	21.9	--
	8/27/2008	--	--	6.34	840	23.7	--
	5/28/2008	--	--	6.70	880	20.4	--
	2/27/2008	--	--	6.88	821	17.5	--
	11/29/2007	--	--	5.51	>20,000	16.6	--
	8/29/2007	--	--	6.10	2,270	27.6	--
	5/30/2001	--	--	6.50	>20,000	18.2	--
	3/12/2007	--	--	6.57	228	26.8	--
	11/6/2006	--	--	6.44	7.43	25.7	--
MW-3	12/10/2015	1.74	-20.1	6.41	284.4	21.4	9.81
	6/18/2015	0.34	-30.8	6.41	451	19.9	5.60
	11/3/2014	Not Monitored					
	10/3/2014	Not Monitored					
	8/20/2014	0.63	-88.7	6.21	373.8	21.2	0.00
	6/19/2014	2.76*	-23.7	6.10	342.8	20.7	0.00
	11/19/2013	1.09	40.9	6.22	318.3	20.7	0.00
	5/16/2013	1.45	152.8	6.12	792	19.2	0.00
	12/11/2012	1.74	170.4	5.43	753	20.1	0.00
	6/21/2012	2.13	187.1	6.17	187	19.0	0.19
	11/28/2011	--	--	6.61	316	19.5	--
	5/26/2011	--	--	5.30	327	19.2	0.00
	11/18/2010	--	--	5.74	401	21.3	--
	4/28/2010	--	--	6.32	367	18.4	--
	12/3/2009	--	--	5.71	227	20.4	--
	2/25/2009	--	--	5.40	402	17.2	--
	11/25/2008	--	--	5.93	392	20.8	--
	8/27/2008	--	--	5.85	268	21.0	--
	5/28/2008	--	--	6.25	233	18.8	--
	2/27/2008	--	--	6.60	240	16.6	--
	11/29/2007	--	--	5.33	>20,000	21.4	--
	8/29/2007	--	--	5.77	2,210	30.1	--
	5/30/2001	--	--	6.61	>20,000	18.2	--
	3/12/2007	--	--	6.37	209	22.7	--
	11/6/2006	--	--	6.46	5.35	26.3	--

Table 2
Summary of Well Water Quality Field Parameters

Sample ID	Sample Date	D.O. (mg/L)	O.R.P. (mV)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Turbidity (NTU)		
MW-4	12/10/2015	1.48	-89.4	6.81	662	18.7	0.66		
	6/18/2015	0.28	-113.5	6.83	618	19.7	5.64		
	11/3/2014	Not Monitored							
	10/3/2014	Not Monitored							
	8/20/2014	0.56	-125.9	6.67	640	21.5	0.00		
	6/19/2014	1.77*	-103.1	6.56	523	19.8	0.00		
	11/19/2013	1.10	-75.9	6.79	330.7	18.5	0.00		
	5/16/2013	0.50	-68.7	6.93	510.2	17.9	0.00		
	12/11/2012	0.20	-110.8	6.23	302.2	17.4	10.57		
	6/21/2012	0.29	-92.3	6.84	159.5	19.2	0.00		
	11/28/2011	--	--	6.70	232	17.1	--		
	5/26/2011	--	--	7.10	466	20.7	0.00		
	11/18/2010	--	--	6.06	535	18.8	--		
	4/28/2010	--	--	6.65	672	16.6	--		
	12/3/2009	--	--	6.31	478	18.1	--		
	2/25/2009	--	--	6.28	348	15.3	--		
	11/25/2008	--	--	6.25	227	18.4	--		
8/27/2008	--	--	6.42	255	21.4	--			
5/28/2008	--	--	6.73	148	17.9	--			
2/27/2008	--	--	7.11	194	14.4	--			
11/29/2007	--	--	5.57	>20,000	13.4	--			
8/29/2007	--	--	6.24	4,490	26.3	--			
5/30/2001	--	--	6.70	>20,000	17.5	--			
3/12/2007	--	--	6.98	46.2	25.2	--			
11/6/2006	--	--	6.56	42.9	27.9	--			
EW-2	12/10/2015	0.77	-172.3	6.91	902	21.9	0.00		
	6/18/2015	0.17	-133.5	7.28	896	21.3	2.72		
	11/3/2014	Not Monitored							
	10/3/2014	0.14	-154.9	6.75	920	23.4	0.00		
	8/21/2014	0.35	-131.4	7.03	869	23.1	0.00		
	6/19/2014	2.48*	-148.1	7.13	790	21.1	0.00		
	11/19/2013	1.16	-114.6	6.71	567	21.4	0.00		
	5/16/2013	0.15	-118.3	6.94	908	20.0	0.00		
	12/11/2012	0.16	-134.8	6.48	916	20.9	4.76		
	6/21/2012	0.15	-134.8	6.97	829	19.9	0.00		
	11/29/2011	--	--	6.59	733	20.8	--		
	5/26/2011	--	--	6.87	888	19.5	0.00		
	EW-4	12/10/2015	0.74	-175.2	6.87	930	22.0	0.91	
		6/18/2015	0.15	-137.7	7.16	645	21.9	0.91	
		11/3/2014	Not Monitored						
		10/3/2014	0.16	-140.2	6.57	892	22.9	0.00	
		8/21/2014	0.45	-169.4	6.70	873	22.7	0.00	
6/19/2014		1.94*	-122.5	6.66	675	21.5	0.00		
11/19/2013		1.06	-97.1	6.67	490.9	21.3	0.00		
5/16/2013		0.18	-107.4	7.23	642	19.9	0.00		
12/11/2012		0.13	-140.3	6.23	624	20.5	2.16		
6/21/2012		0.17	-111.2	6.82	318.8	20.2	0.00		
11/28/2011		--	--	6.48	420	21.0	--		
5/26/2011		--	--	7.15	585	20.3	2.32		
EW-5		12/10/2015	0.77	-172.1	6.89	804	20.4	1.21	
		6/18/2015	0.16	-153.9	6.80	787	20.0	0.00	
		11/3/2014	Not Monitored						
		10/3/2014	0.17	-152.1	6.66	786	20.6	0.00	
		8/20/2014	0.42	-171.9	6.72	786	21.1	0.00	
	6/19/2014	2.29*	-142.8	6.58	668	19.4	0.00		
	11/19/2013	0.70	-111.6	6.79	442.8	19.7	0.00		
	5/16/2013	0.17	-102.9	6.80	485.3	18.5	0.00		
	12/11/2012	0.22	-133.5	6.22	321.9	19.1	6.43		
	6/21/2012	0.26	-113.0	6.87	236.5	18.4	0.00		
	11/28/2011	--	--	6.55	436	19.0	--		
	5/26/2011	--	--	6.83	589	18.3	1.75		
	OW-2	12/10/2015	0.75	-143.0	6.99	655	19.2	1.55	
		6/18/2015	0.19	-137.0	6.83	661	18.9	6.10	
		11/3/2014	Not Monitored						
		10/3/2014	Not Monitored						
		8/20/2014	0.41	-167.8	6.65	588	21.1	0.00	
6/20/2014		2.52*	31.1	6.32	469	18.9	0.00		
11/19/2013		0.72	-90.1	6.84	376.7	18.7	0.00		
5/16/2013		0.16	94.2	6.68	580.9	17.3	0.00		
12/11/2012		0.33	77.4	5.55	480.1	17.9	0.33		
6/21/2012		0.13	-87.0	6.70	609	17.8	0.00		
11/28/2011		--	--	6.80	478	18.2	--		
5/26/2011		--	--	6.56	652	17.5	1.73		
IW1		12/10/2015	1.76	-78.4	9.01	478.4	22.5	14.01	
NOTES									
D.O. = Dissolved Oxygen.									
O.R.P = Oxidation-Reduction Potential									
mg/L = milligrams per Liter									
mV = millivolts									
µS/cm = microsiemens per centimeter									
C° = degrees celsius.									
NTU = nephelometric turbidity units									
* = Defective Oxygen Sensor									

Table 3
Summary of Well Groundwater Sample Laboratory Analytical Results

Well Number	Sample Date	TPH-G	TPH-D	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Fuel Oxygenates & Lead Scavengers	Other VOCs by EPA Method 8260
MW-1	12/10/2015	18000	2,400, c	ND-250	ND-1000	5,600	110	400	630	ND, except TBA=2100, MTBE = 580	All ND
	6/18/2015, e	19000	2,000, c	ND-250	430	4,100	ND-100	280	570	ND, except TBA = 1,100	ND, except Isopropylbenzene = 110, n-Propylbenzene = 130, 1,2,4-Trimethylbenzene = 100
	11/3/2014	Not Sampled									
	10/3/2014, e	22000	2,600, c	ND-250	600	4,500	150	620	1200	ND, except TBA = 880	ND, except Naphthalene = 150, n-Propylbenzene = 160, 1,2,4-Trimethylbenzene = 210
	8/21/2014	Samples only analyzed for Dissolved Hexavalent Chromium.									
	6/19/2014	15000	4,200, bc	ND-250	--	3,100	230	500	1300	ND, except MTBE = 350	--
	11/19/2013	25000	3,300, bc	ND-250	ND-1,500	5,800	210	630	1,400	ND, except TBA = 1,600, MTBE = 1,000	--
	5/16/2013	18000	1,800, c	ND-250	ND-800	4,400	320	510	1,100	ND, except TBA = 180, MTBE = 240	--
	12/11/2012	15000	2,400, c	ND-250	ND-600	3,300	330	410	1,100	ND, except TBA = 190, MTBE = 100	--
	6/21/2012	17000	2,100, c	ND-250	ND-500	1,800	420	500	1,500	ND, except TBA = 110, MTBE = 49	--
11/29/2011	18000	2,600, c	ND-250	ND-600	2,600	410	410	1,200	ND, except TBA = 660, MTBE = 210	--	
5/26/2011	15000	2,400, bc	ND-250	ND-500	2,000	430	400	1,300	ND, except TBA = 570, MTBE = 120	--	
11/18/2010	21000	1,900, bc	ND-250	1,700	6,300	340	340	860	ND, except TBA = 3,300, MTBE = 1,500	--	
4/28/2010	19000	2,800, bc	260, bc	840	3,400	680	500	1,600	ND, except TBA = 3,200, MTBE = 750	--	
12/3/2009	19000	1,900, b, c	ND-250	1,500	4,500	670	400	1,300	ND, except TBA = 10,000, MTBE = 1,100	--	
2/25/2009	21000	2,300, bc	ND-250	ND-2,500	4,300	750	580	1,700	ND, except TBA = 17,000, MTBE = 1,400	--	
11/25/2008	20000	2,400, c	ND-250	1,900	5,500	490	530	1,300	ND, except TBA = 16,000, MTBE = 1,600	--	
8/27/2008	46000	5,200, c	ND-250	1,300	4,600	1,800	2,000	5,200	--	--	
5/28/2008	40000	6,100, c	290	1,600	4,200	2,600	1,700	5,900	--	--	
2/27/2008	45000	4,900, c	310	2,600	6,200	3,100	1,300	5,100	--	--	
11/29/2007	27000	3,100, bc	ND-250	2,600	4,700	930	770	2,600	--	--	
8/29/2007	26000	3,900, bc	470	3,200	5,400	1,400	810	3,000	--	--	
5/30/2007	22000	3,800, c	ND-250	ND-750	400	380	1,100	3,600	--	--	
3/12/2007	38000	3,500, bc	300	3,500	5,400	2,900	1,300	5,100	--	--	
11/6/2006	44,000, a	3,400, ac	360	3,900	5,600	2,300	920	3,000	--	--	
MW-2	12/10/2015	1,400	3,300, c,f	1,800, c,f	ND-10	25	4.6	5.8	4.2	ND, except TBA = 16, MTBE = 6.1	All ND
	6/18/2015, e	2,700	3,100, bc,j	1,600, bc,j	27	140	ND-50	8.6	19	ND, except TBA = 180	ND, except Naphthalene = 13, n-butylbenzene = 6.5, Isopropylbenzene = 12, n-Propylbenzene = 23
	11/3/2014, e	480	2,500, c,f,i	1,300, c,f,i	ND-0.50	1.0	ND-0.50	1.4	0.96	ND, except TBA = 28	ND, except Acetone = 190, MEK = 56, Chloroform = 0.96, MBK = 12, MIBK = 8.8, n-butylbenzene = 3.1, sec-Butylbenzene = 1.2, Isopropylbenzene = 4.0, n-Propylbenzene = 10
	10/3/2014, e	97, g	370, h	ND-250	ND-0.50	ND-0.50	ND-0.50	ND-0.50	ND-0.50	ND, except TBA = 42	ND, except Bromoethane = 1.2, Chloroform = 3.2, MIBK = 1.2, MBK = 0.87
	8/21/2014	Samples only analyzed for Dissolved Hexavalent Chromium.									
	6/19/2014	4,700	2,700, bc	350, bc	--	210	13	18	12	ND, except MTBE = 24	--
	11/19/2013	6,600	3,000, bc	ND-250	ND-17	160	9.6	36	10	ND	--
	5/16/2013	4,700	2,300, c,e,f	470, c,e,f	ND-180	360	17	31	16	ND, except TBA = 200, MTBE = 62	--
	12/11/2012	3,900	2,700, cd	590	110	290	15	27	16	ND, except TBA = 190, MTBE = 99	--
	6/21/2012	4,900	1,600, bc	ND-250	180	560	14	36	12	ND, except TBA = 340, MTBE = 160	--
	11/29/2011	4,900	2,900, cd	420, cd	ND-50	400	11	39	7.7	ND, except TBA = 72, MTBE = 29	--
	5/26/2011	6,600	1,900, bc	ND-250	ND-350	1,000	39	36	97	ND, except TBA = 680, MTBE = 210	--
	11/18/2010	7,700, a	11,000, a,c,d	3,500, a,c,d	ND-35	640	16	74	14	ND, except TBA = 19, MTBE = 22	--
	4/28/2010	9,400, a	23,000, a,c,d	9,100, a,c,d	ND-250	1,200	35	40	29	ND, except TBA = 300, MTBE = 100	--
	12/3/2009	7,700, a	6,900, a, bc	2,000, a, b, c	ND-250	840	29	34	28	ND, except TBA = 200, MTBE = 61	--
	2/25/2009	7,600, a	21,000, a,c,d	6,200	ND-160	810	18	46	24	ND, except TBA = 58, MTBE = 31, 1,2-DCA = 2.7	--
	11/25/2008	8,700, a	23,000, a,c,d	6,400	14e	740	15	90	27	ND, except TBA = 11, MTBE = 14	--
	8/27/2008	13,000, a	9,200, a,c,d	2,200	ND-200	990	14	93	19	--	--
	5/28/2008	12,000, a	25,000, a,c,d	7,300	ND-210	2,000	77	77	90	--	--
2/27/2008	11,000, a	21,000, a,c,d	6,800	ND-150	940	36	ND-10	22	--	--	
11/29/2007	11,000, a	32,000, a,c,d	11,000	ND-50	1,000	28	120	31	--	--	
8/29/2007	8,600, a	6,300, a, b, c	2,600	ND-100	1,300	36	48	48	--	--	
5/30/2007	14,000, a	22,000, a,c,d	5,800	ND-210	2,200	51	100	99	--	--	
3/12/2007	8,500, a	74,000, a, c,d	21,000	ND-80	1,200	34	140	69	--	--	
11/6/2006	14,000, a	45,000, ac	11,000	ND-120	1,400	27	200	37	--	--	

Table 3
Summary of Well Groundwater Sample Laboratory Analytical Results

Well Number	Sample Date	TPH-G	TPH-D	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Fuel Oxygenates & Lead Scavengers	Other VOCs by EPA Method 8260
MW-3	12/10/2015	ND-50	ND-50	ND-250	ND-5.0	ND-0.50	ND-0.50	ND-0.50	ND-0.50	ND	All ND
	6/18/2015, e	ND-50	ND-50	ND-250	ND-5.0	ND-0.50	ND-0.50	ND-0.50	ND-0.50	ND	All ND
	11/3/2014										
	10/3/2014										
	8/20/2014										
	6/19/2014	ND-50	ND-50	ND-250	ND-5.0	ND-0.50	ND-0.50	ND-0.50	ND-0.50	ND	--
	11/19/2013	ND-50	ND-50	ND-250	ND-5.0	ND-0.50	ND-0.50	ND-0.50	ND-0.50	ND	--
	5/16/2013	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	12/11/2012	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	6/21/2012	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	11/28/2011	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	5/26/2011	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	11/18/2010	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	4/28/2010	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	12/3/2009	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	2/25/2009	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	11/25/2008	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	8/27/2008	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	5/28/2008	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
	2/27/2008	ND-50	ND-50	ND-250	15	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--
11/29/2007	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--	
8/29/2007	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--	
5/30/2007	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--	
3/12/2007	ND< 50	ND< 50	ND< 250	ND< 5.0	ND< 0.5	ND< 0.5	ND< 0.5	ND< 0.5	ND	--	
11/6/2006	ND-50	ND-50	ND-250	ND-5.0	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND	--	
MW-4	12/10/2015	4,100	1,200, c	ND-250	ND-150	560	6	39	87	ND, except TBA = 92, MTBE = 36	All ND
	6/18/2015	5,400	1,000, c	ND-250	32	340	12	34	120	ND, except TBA = 61	ND, except Naphthalene = 33, n-butyl benzene = 12, Isopropylbenzene = 34, p-Propyl benzene = 88, 1,2,4-Trimethylbenzene = 41, 1,3,5-Trimethylbenzene = 14
	11/3/2014										
	10/3/2014										
	8/20/2014										
	6/19/2014	6,000	1,400, c	ND-250	--	940	22	95	200	ND, except MTBE = 70	--
	11/19/2013	9,400	2,100, c	ND-250	ND-150	1,100	24	210	610	ND, except TBA = 82, MTBE = 83	--
	5/16/2013	6,700	1,500, c	ND-250	ND-60	310	42	220	560	ND, except TBA = 43, MTBE = 21	--
	12/11/2012	17,000	2,700, c	ND-250	ND-170	88	120	670	2,100	ND, except TBA = 12	--
	6/21/2012	12,000	2,700, c	ND-250	ND-90	49	83	540	1,700	ND	--
	11/28/2011	6,000	2,300, c	ND-250	ND-50	86	63	350	1,200	ND, except TBA = 11, MTBE = 12	--
	5/26/2011	7,300	2,400, bc	ND-250	ND-210	230	64	450	1,100	ND, except TBA = 74, MTBE = 80	--
	11/18/2010	5,900	1,100, bc	ND-250	470	1,100	28	150	390	ND, except TBA = 690, MTBE = 540	--
	4/28/2010	6,300	1,400, c	ND-250	470	480	74	280	750	ND, except TBA = 350, MTBE = 360	--
	12/3/2009	6,300	1,200, c	ND-250	640	1,100	35	120	390	ND, except TBA = 600, MTBE = 390	--
	2/25/2009	11,000	2,300, c	ND-250	ND-300	350	120	490	1,400	ND, except TBA = 160, MTBE = 130	--
	11/25/2008	10,000	1,900, c	ND-250	270	630	130	390	1,500	ND, except TBA = 190, MTBE = 250	--
	8/27/2008	9,300	830, c	ND-250	ND-250	260	85	370	1,300	--	--
	5/28/2008	2,200	1,400, c	ND-250	ND-30	16	38	100	320	--	--
	2/27/2008	8,000	1,900, c	ND-250	ND-50	47	110	270	1,300	--	--
11/29/2007	12,000	2,800, c	ND-250	ND-180	260	230	580	2,500	--	--	
8/29/2007	12,000, a	560, c	ND-250	660	910	200	750	2,200	--	--	
5/30/2007	45,000	4,500, c	610	3,600	5,800	3,700	1,400	5,400	--	--	
3/12/2007	19,000	3,100, c	ND< 250	370	560	450	1,100	4,400	--	--	
11/6/2006	25,000	4,300, c	850	ND-900	680	250	930	3,100	--	--	
EW-2	12/10/2015	3,600	1,100, c	ND-250	ND-120	650	9.2	47	ND-7.5	ND, except TBA = 81, MTBE = 30	All ND
	6/18/2015	510, g	ND-50	ND-250	ND-25	ND-25	ND-25	ND-25	ND-25	ND-25	ND, except PCE = 1,000, TCE = 150
	11/3/2014										
	10/3/2014	3,500	540, c	ND-250	31	670	ND-c17	21	ND-c17	ND	ND, except PCE = 350, TCE = 570, cis-1,2-DCE = 52, Isopropylbenzene = 19, n-Propyl benzene = 60
	8/21/2014										
	6/19/2014	650, g	ND-50	ND-250	--	47	0.87	1.1	ND-0.50	ND, except TBA = 8.6, MTBE = 6.0	--
	11/19/2013	11,000	1,400, c	ND-250	ND-350	3,300	19	96	76	ND, except TBA = 190, MTBE = 89	--
	5/16/2013	2,000	210, c	ND-250	83	580	4.9	32	7.3	ND, except TBA = 55, MTBE = 63	--
	12/11/2012	2,500	160, c	ND-250	ND-120	470	3.6	31	5.1	ND, except TBA = 74, MTBE = 66	--
	6/21/2012	3,700	280, c	ND< 250	180	960	9.5	20	16	ND, except TBA = 140, MTBE = 120	--
11/29/2011	4,600	960, c	ND< 250	260	1,600	15	62	38	ND, except TBA = 270, MTBE = 270	--	
5/26/2011	2,700	560, bc	ND< 250	ND-150	580	7.9	10	80	ND, except TBA = 290, MTBE = 97	--	

Table 3
Summary of Well Groundwater Sample Laboratory Analytical Results

Well Number	Sample Date	TPH-G	TPH-D	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Fuel Oxygenates & Lead Scavengers	Other VOCs by EPA Method 8260	
EW-4	12/10/2015	15000	1,800, c	ND-250	710	4,400	41	250	ND-75	ND, except TBA = 760, MTBE = 480	All ND	
	6/18/2015	87, g	ND-50	ND-250	7.7	ND-5.0	ND-5.0	ND-5.0	ND-5.0	All ND	ND, except PCE = 86, TCE = 11	
	11/3/2014					Not Sampled						
	10/3/2014	15000	2,300, c	ND-250	360	4,000	ND-100	170	ND-100	ND, except TBA = 450	ND, except Naphthalene = 280, n-Propyl benzene = 200	
8/21/2014 Samples only analyzed for Dissolved Hexavalent Chromium.												
EW-5	6/19/2014	4,800	940, c	ND-250	--	1,200	12	110	21	ND, except TBA = 290, MTBE = 190	--	
	11/19/2013	18000	3,000, c	ND-250	ND-700	4,200	79	480	120	ND, except TBA = 320, MTBE = 270	--	
	5/16/2013	76	ND-50	ND-250	14	4.0	ND-0.5	1.7	ND-0.5	ND, except TBA = 11, MTBE = 13	--	
	12/11/2012	340	150, h,c	ND-250	ND-30	28	1.5	6.9	0.91	ND, except TBA = 26, MTBE = 20	--	
	6/21/2012	9,600	2,200, c	ND-250	ND-75	270	22	340	290	ND, except TBA = 18, MTBE = 6.7	--	
	11/28/2011	8,300	2,000, c	ND-250	ND-150	520	40	510	530	ND, except TBA = 89, MTBE = 16	--	
	5/26/2011	2,800	500, h,c	ND-250	ND-150	99	9.9	20	300	ND, except TBA = 110, MTBE = 83	--	
	12/10/2015	11,000	1,300, c	ND-250	480	2,000	50	430	220	ND, except TBA = 500, MTBE = 340	All ND	
	6/18/2015	940	290, c	ND-250	30	89	ND-5.0	30	ND-5.0	ND, except TBA = 760	ND, except Naphthalene = 5.5, Isopropyl benzene = 12, n-Propyl benzene = 25	
11/3/2014					Not Sampled							
10/3/2014	11,000	1,600, c	ND-250	310	1,800	100	790	700	ND, except TBA = 380	ND, except Naphthalene = 190, n-Propyl benzene = 120, 1,2,4-Trimethylbenzene = 200		
8/20/2014 Samples only analyzed for Dissolved Hexavalent Chromium.												
OW-2	6/19/2014	16,000	2,200, c	ND-250	--	1,200	140	950	1,100	ND, except TBA = 310, MTBE = 220	--	
	11/19/2013	17,000	2,600, c	ND-250	ND-300	2,400	110	1,100	1,700	ND, except TBA = 420, MTBE = 330	--	
	5/16/2013	19,000	2,500, c	ND-250	ND-300	1,500	100	1,700	2,100	ND, except TBA = 180, MTBE = 41	--	
	12/11/2012	40,000	4,700, c	ND-250	ND-250	700	1,300	2,500	5,900	ND, except TBA = 180, MTBE = 8.6	--	
	6/21/2012	44,000	4,900, c	ND-250	ND-1,000	710	2,400	2,300	8,800	ND, except TBA = 57, MTBE = 6.5	--	
	11/28/2011	48,000	3,500, h,c	ND-250	ND-400	930	3,400	2,400	9,000	ND, except TBA = 110, MTBE = 48	--	
	5/26/2011	35,000	3,000, h,c	ND-250	ND-450	1,000	2,700	850	11,000	ND, except TBA = 290, MTBE = 86	--	
	12/10/2015	1,000	330, c	ND-250	ND-10	2.8	1.6	37	58	ND, except TBA = 20, MTBE = 5.7	All ND	
	6/18/2015	260, l	90, k	ND-250	0.76	ND-0.50	ND-0.50	0.70	0.57	ND, except TBA = 2.4	ND, except Carbon Disulfide = 1.2, Isopropyl benzene = 0.77, n-Propyl benzene = 0.76	
11/3/2014					Not Sampled							
10/3/2014					Not Sampled							
8/20/2014 Samples only analyzed for Dissolved Hexavalent Chromium.												
IW1	6/20/2014	200	150, c	ND-250	--	0.62	0.70	6.7	6.8	ND, except TBA = 2.4, MTBE = 1.5	--	
	11/19/2013	610	370, c	ND-250	ND-5.0	2.2	1.5	8.8	14	ND, except TBA = 5.1, MTBE = 2.1	--	
	5/16/2013	85	ND-100	ND-250	ND-5.0	0.57	0.88	ND-0.5	0.54	ND, except TBA = 7.6, MTBE = 0.99	--	
	12/11/2012	61	ND-50	ND-250	ND-5.0	3.2	0.70	0.94	3.5	ND, except TBA = 39, MTBE = 3.1	--	
	6/21/2012	4,600	840, c	ND-250	ND-45	110	46	160	990	ND, except TBA = 60, MTBE = 4.4	--	
	11/28/2011	5,300	1,100, h,c	ND-250	ND-130	350	170	24	790	ND, except TBA = 210, MTBE = 50	--	
	5/26/2011	450	430, h,c	ND-250	ND-5.0	0.87	0.71	ND-0.5	7.7	ND, except TBA = 330, MTBE = 3.6	--	
12/10/2015	2,200	500, c, l	ND-250	ND-15	57	4.3	64	140	ND, except TBA = 53, MTBE = 5.7	All ND		

Abbreviations and Notes:
 TPH-MO = Total Petroleum Hydrocarbons as Motor Oil
 TPH-D = Total Petroleum Hydrocarbons as Diesel
 TPH-G = Total Petroleum Hydrocarbons as Gasoline
 MTBE = Methyl tertiary-butyl ether
 TBA = tert-Butyl alcohol
 1,2-DCA = 1,2-Dichloroethane
 PCE = Tetrachloroethene
 TCE = Trichloroethene
 cis-1,2-DCE = cis-1,2-Dichloroethene
 MIBK = Methyl Iso-butyl Ketone (4-Methyl-2-pentanone)
 MBK = Methyl Butyl Ketone (2-hexanone)
 ND = Not Detected
 -- = Not Analyzed
 a = Laboratory Note: lighter than water immiscible sheen/product is present
 b = Laboratory Note: diesel range compounds are significant; no recognizable pattern
 c = Laboratory Note: gasoline range compounds are significant
 d = Laboratory Note: unmodified or weakly modified diesel range compounds are significant
 e = Analysis by EPA 8260B. All other results for MTBE and all results for BTEX are by EPA 8021B.
 f = Laboratory Note: aged diesel is significant
 g = Laboratory Note: one to a few isolated non-target peaks present in the TPH-G chromatogram
 h = Laboratory Note: diesel range compounds are significant; no recognizable pattern; and/or kerosene/kerosene range jet fuel range.
 i = Laboratory Note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram
 j = Laboratory Note: oil range compounds are significant
 k = Laboratory Note: kerosene/kerosene range jet fuel range
 l = Laboratory Note: Standard solvent/matrix type (C1)
 Results are in micrograms per liter (µg/L), unless otherwise noted.

FIGURES

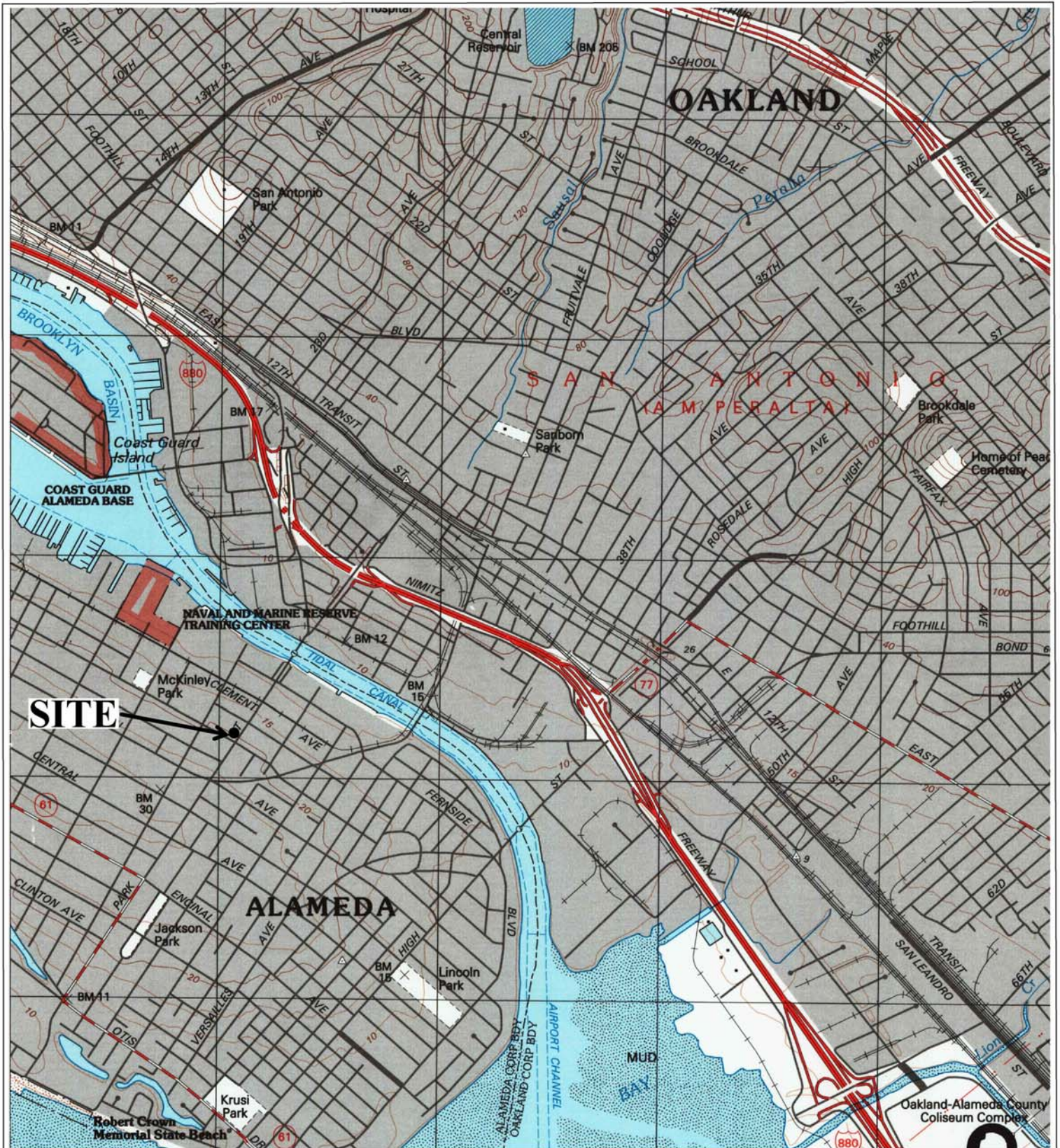


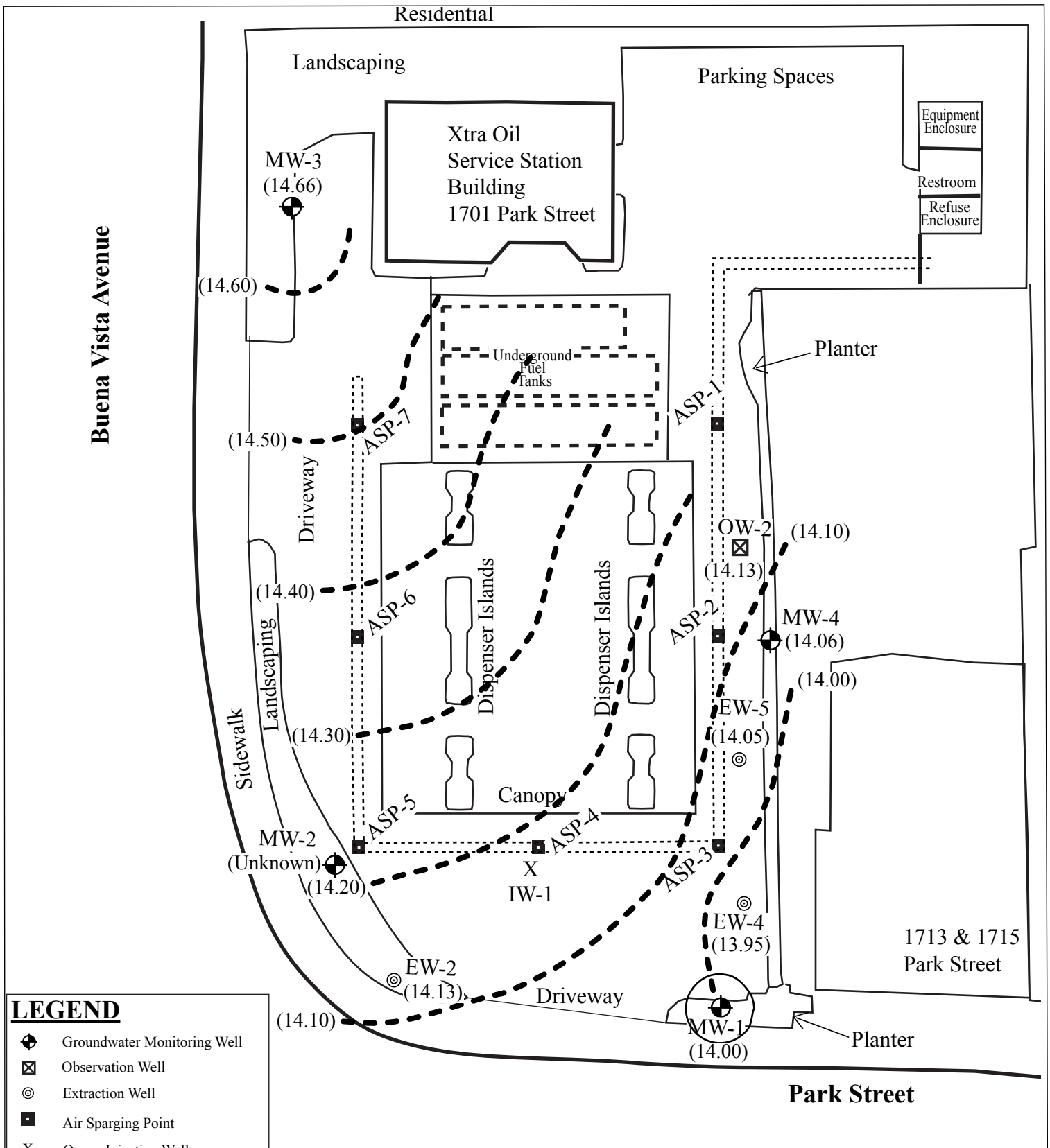
Figure 1
 Site Location Map
 Xtra Oil Company
 1701 Park Street
 Alameda, California

Basemap from:
 U.S. Geological Survey
 Oakland East, California
 7.5-Minute Quadrangle, Map edited 1996

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610

0 1,000 2,000
 Approximate Scale in Feet





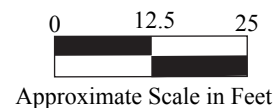
LEGEND

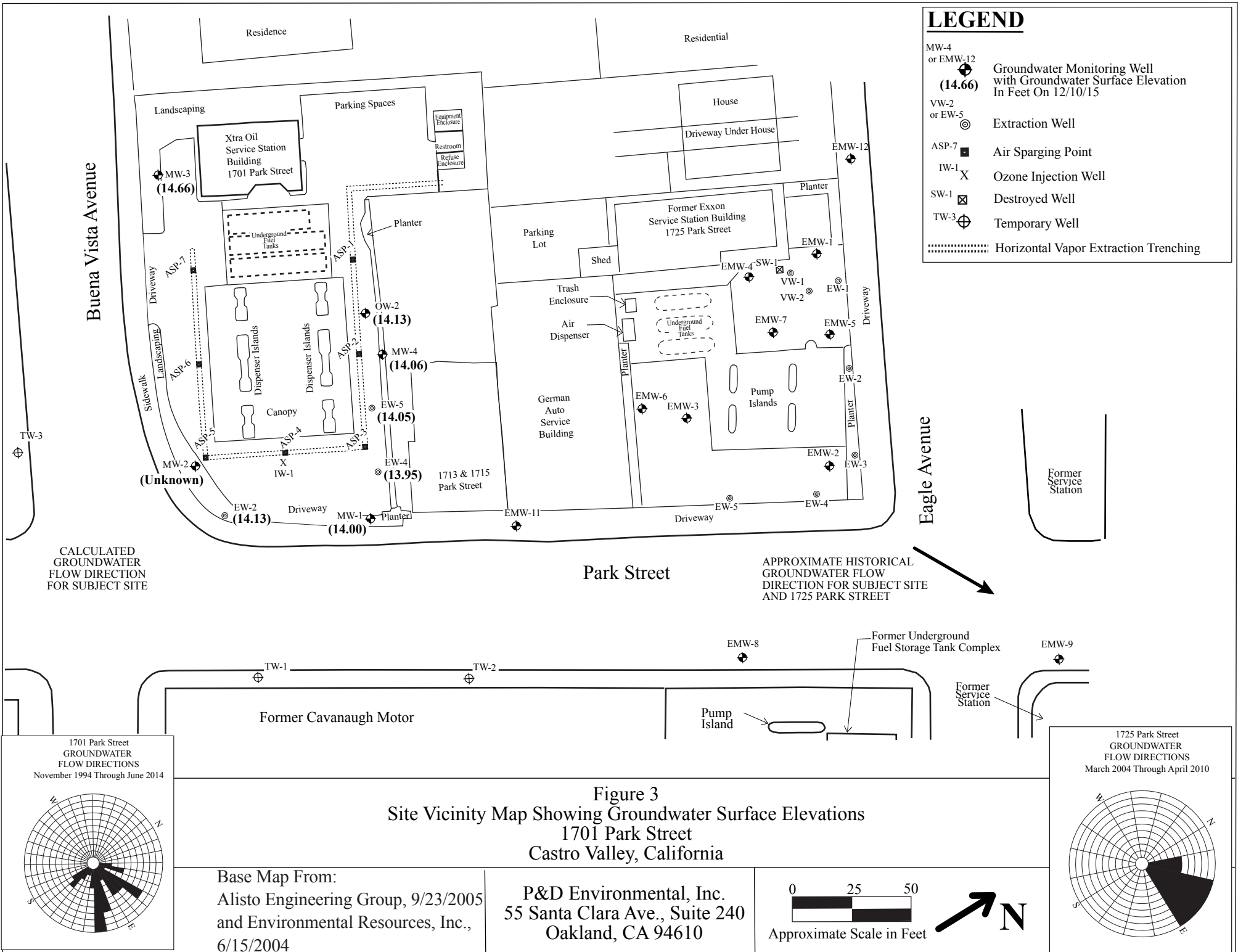
- ◆ Groundwater Monitoring Well
- ⊠ Observation Well
- ⊙ Extraction Well
- Air Sparging Point
- X Ozone Injection Well
- Horizontal Vapor Extraction Trenching
- (14.66) Groundwater Surface Elevation in Feet on 12/10/2015
- - - Groundwater Surface Contour

Figure 2
 Site Plan Showing Well Locations and Groundwater Surface Elevations
 Xtra Oil Company
 1701 Park Street
 Alameda, California

Basemap from: Alisto Engineering Group September 2005, and Google Earth October 2009

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610





APPENDIX A

HISTORICAL WATER LEVEL AND WATER QUALITY DATA FOR THE SUBJECT SITE

APPENDIX B

GROUNDWATER MONITORING/ WELL PURGING DATA SHEETS

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 PARK ST., ALAMEDA
 Job Number 0058
 TOC to Water (ft.) 8.36
 Well Depth (ft.) 19.2
 Well Diameter 2"
 Flow Rate (mL/minute) 200
 Start Purge Time 1152

Well No. MW1
 Date 12/10/15
 Sheen YES
 Free Product Thickness Ø
 Sample Collection Method PERISTALTIC PUMP AND DEDICATED PE TUBING

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1153	200	8.52	7.00	1164	22.1	2.39	-154.8	19.11
1156	800	8.59	6.93	1168	22.3	1.71	-166.6	3.79
1159	1,400	8.65	6.93	1138	22.3	1.04	-170.6	2.01
1202	2,000	8.68	6.94	1134	22.3	0.85	-173.1	0.30
1205	2,600	8.68	6.93	1137	22.3	0.76	-174.8	0.43
1208	3,200	8.69	6.93	1143	22.3	0.71	-176.3	0

NOTES

Stability Parameters
 pH = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

STRONG ODOR AND HIGH ON SAMPLE.
MW1 COLLECTED AT 1210

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 ARK ST., ALAMEDA
 Job Number 0058
 TOC to Water (ft.) 9.23
 Well Depth (ft.) 15.8 (with added coupling)
 Well Diameter 2"
 Flow Rate (mL/minute) 200
 Start Purge Time 0949

Well No. MW2
 Date 12/10/15
 Sheen NONE
 Free Product Thickness Ø
 Sample Collection Method PERISTALTIC PUMP
& NEW/UNUSED PE TUBING

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
0950	200	9.40	6.53	1031	21.9	2.18	-148.4	1.31
0953	800	9.47	6.67	1050	21.9	1.43	-169.8	0.75
0956	1,400	9.50	6.71	1056	21.9	1.14	-178.6	0.62
0959	2,000	9.51	6.75	1054	21.9	0.99	-183.7	0.42
1002	2,600	9.53	6.76	1049	22.0	0.91	-185.5	0.24
1005	3,200	9.55	6.76	1040	21.9	0.83	-187.4	0.10

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

SLIGHT ODOR; NO SHEEN ON SAMPLE.
MW2 COLLECTED AT 1010;

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 PARK ST, ALAMEDA

Well No. MW3

Job Number 0058

Date 12/10/15

TOC to Water (ft.) 8.69

Sheen NONE

Well Depth (ft.) 19.1

Free Product Thickness Ø

Well Diameter 2"

Sample Collection Method PERISTALTIC PUMP

Flow Rate (mL/minute) 200

AND DEDICATED PULPING.

Start Purge Time 0905

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
0906	200	8.83	6.85	458.6	20.6	2.80	-61.7	12.1
0909	200	8.95	6.59	326.4	20.8	2.16	-40.1	10.57
0912	1,400	9.11	6.44	285.0	20.9	1.86	-20.4	17.98
0915	2,000	9.15	6.43	285.1	21.1	1.77	-23.0	48.51
0918	2,600	9.25	6.42	284.5	21.4	1.71	-23.0	10.44
0921	3,200	9.30	6.41	284.4	21.4	1.74	-20.1	9.81

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

NO ODOR OR SHEEN ON SAMPLE 0925
MW3 COLLECTED AT 0925

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 PARK ST, ALAMEDA
 Job Number 0058
 TOC to Water (ft.) 8.42
 Well Depth (ft.) 10.8
 Well Diameter 2"
 Flow Rate (mL/minute) 200
 Start Purge Time 1418

Well No. MW4
 Date 12/10/15
 Sheen NONE
 Free Product Thickness Ø
 Sample Collection Method PERISTALTIC PUMP AND DEDICATED PE TUBING

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1419	200	9.81	6.77	648	18.4	2.36	-98.9	8.54
1422	800	9.48	6.79	649	18.5	1.85	-104.2	2.06
1425	1,400	10.08	6.81	656	18.7	1.47	-91.5	1.12
1428	2,000	10.42	6.81	662	18.7	1.48	-89.4	0.66
1430	2,600	WELL DEWATERED						
1434	3,200							

NOTES

Stability Parameters
 pH = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

SLIGHT ODOR; NO SHEEN ON SAMPLE
MW4 COLLECTED AT 1440

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 PARK ST., ALAMEDA
 Job Number 0058
 TOC to Water (ft.) 8.00
 Well Depth (ft.) 23.5
 Well Diameter 4"
 Flow Rate (mL/minute) 200
 Start Purge Time 1035

Well No. EW2
 Date 12/10/15
 Sheen NONE
 Free Product Thickness 0
 Sample Collection Method PERISTALTIC PUMP AND NEW UNUSED PE TUBING.

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1036	200	8.13	6.89	887	21.5	2.02	-140.5	1.71
1039	800	8.16	6.94	901	21.7	1.40	-156.4	0
1042	1,400	8.18	6.92	902	21.8	0.97	-167.9	0
1045	2,000	8.20	6.91	901	21.8	0.89	-170.9	0
1048	2,600	8.21	6.93	902	21.9	0.79	-175.5	0
1051	3,200	8.22	6.91	902	21.9	0.77	-172.3	0

NOTES

NO ODOR OR SHEEN ON SAMPLE.
EW2 COLLECTED AT 1055 ; NO ODOR OR SHEEN

Stability Parameters
 pH. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 PARK ST., ALAMEDA
Job Number 0058
TOC to Water (ft.) 7.00
Well Depth (ft.) 21.8
Well Diameter 4"
Flow Rate (mL/minute) 200
Start Purge Time 1230

Well No. EW4
Date 12/10/15
Sheen NONE
Free Product Thickness Ø
Sample Collection Method PERISTALTIC
PUMP & NEW UNLINED PETUBING

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1231	200	7.09	6.73	931	22.0	4.56	-136.8	1.35
1234	800	7.15	6.84	930	22.0	1.67	-153.6	0.59
1237	1400	7.20	6.85	930	22.0	1.10	-162.3	0.21
1240	2000	7.25	6.86	930	22.0	0.90	-167.7	0.22
1243	2600	7.28	6.87	930	22.0	0.80	-171.7	0.88
1246	3200	7.30	6.87	930	22.0	0.74	-175.2	0.91

NOTES

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

SLIGHT ODOR NO SHEEN ON SAMPLE
EW4 COLLECTED AT 1250'

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL/1701 PARK ST, ALAMEDA

Well No. EW5

Job Number 0058

Date 12/10/15

TOC to Water (ft.) 7.15

Sheen NONE

Well Depth (ft.) 23.7

Free Product Thickness Ø

Well Diameter 4"

Sample Collection Method PERISTALTIC PUMP

Flow Rate (mL/minute) 200

AND NEW UNUSED PETUBING.

Start Purge Time 1345

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1346	200	7.25	6.87	802	20.4	2.32	-145.6	1.58
1349	800	7.32	6.86	803	20.4	1.49	-155.2	1.38
1352	1,400	7.35	6.86	803	20.4	1.14	-160.5	0.79
1355	2,000	7.38	6.87	803	20.3	0.95	-165.3	2.24
1358	2,600	7.40	6.88	803	20.4	0.80	-170.7	1.48
1401	3,200	7.41	6.89	804	20.4	0.77	-172.1	1.21

NOTES

NO ODOR OR SHEEN ON SAMPLE.
EW5 COLLECTED AT 1405

Stability Parameters
p.H. = +/- 0.1
Sp. Conductivity = +/- 3%
Turbidity = +/- 10%
D.O. = +/- 10%

P&D Environmental, Inc.
 Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL / 1701 PARIC ST, ALAMEDA
 Job Number 0058
 TOC to Water (ft.) 7.42
 Well Depth (ft.) 18.5
 Well Diameter 4"
 Flow Rate (mL/minute) 200
 Start Purge Time 1453

Well No. OW2
 Date 12/10/15
 Sheen NONE
 Free Product Thickness 0
 Sample Collection Method PERISTALTIC PUMP
 AND NEW UNUSED PETUBING

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (uS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/ Reduction Potential (mV)	Turbidity (NTU)
<u>1454</u>	<u>200</u>	<u>7.52</u>	<u>6.91</u>	<u>648</u>	<u>19.1</u>	<u>2.60</u>	<u>-124.4</u>	<u>2.54</u>
<u>1457</u>	<u>800</u>	<u>7.61</u>	<u>6.95</u>	<u>655</u>	<u>19.1</u>	<u>1.41</u>	<u>-126.0</u>	<u>2.28</u>
<u>1500</u>	<u>4400</u>	<u>7.65</u>	<u>6.99</u>	<u>654</u>	<u>19.1</u>	<u>1.04</u>	<u>-133.6</u>	<u>1.23</u>
<u>1503</u>	<u>2,000</u>	<u>7.68</u>	<u>6.99</u>	<u>655</u>	<u>19.1</u>	<u>0.89</u>	<u>-137.9</u>	<u>1.22</u>
<u>1506</u>	<u>2,600</u>	<u>7.69</u>	<u>6.99</u>	<u>655</u>	<u>19.1</u>	<u>0.82</u>	<u>-140.3</u>	<u>1.08</u>
<u>1509</u>	<u>3,200</u>	<u>7.70</u>	<u>6.99</u>	<u>655</u>	<u>19.2</u>	<u>0.75</u>	<u>-143.0</u>	<u>1.55</u>

NOTES
 Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/-3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

NO ODOR OR SHEEN ON SAMPLE.
OW2 COLLECTED AT 1515

P&D Environmental, Inc.
Groundwater Monitoring/Well Purging Data Sheet

Site Name XTRA OIL/1701 PARK ST., ALAMEDA
 Job Number 0058
 TOC to Water (ft.) 8.07
 Well Depth (ft.) 23.1
 Well Diameter 2"
 Flow Rate (mL/minute) 200
 Start Purge Time 1116

Well No. IW1
 Date 12/10/15
 Sheen NONE
 Free Product Thickness Ø
 Sample Collection Method PERISTALTIC PUMP
AND NEW UNUSED PE TUBING.

Time	Vol. Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1117	200	8.61	10.08	389.8	22.4	7.59	-87.6	28.17
1120	200	8.82	10.28	397.8	22.4	7.55	-83.2	26.09
1123	1,400	9.41	10.18	398.3	22.5	6.71	-74.6	26.19
1126	2,000	9.65	9.58	416.5	22.5	4.15	-65.7	24.18
1129	2,600	9.81	9.28	447.2	22.4	2.75	-67.4	20.82
1132	3,200	9.97	9.08	467.2	22.5	1.98	-73.2	16.34
1135	3,800	10.08	9.01	478.4	22.5	1.76	-78.4	14.01

NOTES

Stability Parameters
 p.H. = +/- 0.1
 Sp. Conductivity = +/- 3%
 Turbidity = +/- 10%
 D.O. = +/- 10%

NO ODR OR SHEEN ON SAMPLE.
IW1 COLLECTED AT 1138; ~~PE~~

APPENDIX C

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY DOCUMENTATION



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1512553 **Amended:** 01/08/2016

Report Created for: P & D Environmental

55 Santa Clara, Ste.240
Oakland, CA 94610

Project Contact: Paul King

Project P.O.:

Project Name: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Project Received: 12/11/2015

Analytical Report reviewed & approved for release on 12/21/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: P & D Environmental
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA
WorkOrder: 1512553

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: P & D Environmental
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA
WorkOrder: 1512553

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d1	weakly modified or unmodified gasoline is significant
d17	Reporting limit for MTBE raised due to co-elution with non-target peaks.
e3	aged diesel is significant
e4	gasoline range compounds are significant.
e11	stoddard solvent/mineral spirit (?)



Analytical Report

Client: P & D Environmental

WorkOrder: 1512553

Date Received: 12/11/15 20:46

Extraction Method: SW5030B

Date Prepared: 12/15/15-12/18/15

Analytical Method: SW8260B

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Unit: µg/L

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW1	1512553-001B	Water	12/10/2015 12:10	GC28	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	25	50	12/17/2015 01:53
t-Butyl alcohol (TBA)	2100	100	50	12/17/2015 01:53
1,2-Dibromoethane (EDB)	ND	25	50	12/17/2015 01:53
1,2-Dichloroethane (1,2-DCA)	ND	25	50	12/17/2015 01:53
Diisopropyl ether (DIPE)	ND	25	50	12/17/2015 01:53
Ethyl tert-butyl ether (ETBE)	ND	25	50	12/17/2015 01:53
Methyl-t-butyl ether (MTBE)	580	25	50	12/17/2015 01:53

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	110	70-130	12/17/2015 01:53
Toluene-d8	111	70-130	12/17/2015 01:53

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW2	1512553-002B	Water	12/10/2015 10:10	GC10	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	1.0	2	12/18/2015 12:32
t-Butyl alcohol (TBA)	16	4.0	2	12/18/2015 12:32
1,2-Dibromoethane (EDB)	ND	1.0	2	12/18/2015 12:32
1,2-Dichloroethane (1,2-DCA)	ND	1.0	2	12/18/2015 12:32
Diisopropyl ether (DIPE)	ND	1.0	2	12/18/2015 12:32
Ethyl tert-butyl ether (ETBE)	ND	1.0	2	12/18/2015 12:32
Methyl-t-butyl ether (MTBE)	6.1	1.0	2	12/18/2015 12:32

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	110	70-130	12/18/2015 12:32
Toluene-d8	89	70-130	12/18/2015 12:32

Analyst(s): KF

(Cont.)



Analytical Report

Client: P & D Environmental

WorkOrder: 1512553

Date Received: 12/11/15 20:46

Extraction Method: SW5030B

Date Prepared: 12/15/15-12/18/15

Analytical Method: SW8260B

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Unit: µg/L

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW3	1512553-003B	Water	12/10/2015 09:25	GC10	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/15/2015 14:44
t-Butyl alcohol (TBA)	ND	2.0	1	12/15/2015 14:44
1,2-Dibromoethane (EDB)	ND	0.50	1	12/15/2015 14:44
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/15/2015 14:44
Diisopropyl ether (DIPE)	ND	0.50	1	12/15/2015 14:44
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/15/2015 14:44
Methyl-t-butyl ether (MTBE)	ND	0.50	1	12/15/2015 14:44

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	109	70-130	12/15/2015 14:44
Toluene-d8	98	70-130	12/15/2015 14:44

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW4	1512553-004B	Water	12/10/2015 14:40	GC10	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/15/2015 23:20
t-Butyl alcohol (TBA)	92	2.0	1	12/15/2015 23:20
1,2-Dibromoethane (EDB)	ND	0.50	1	12/15/2015 23:20
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/15/2015 23:20
Diisopropyl ether (DIPE)	ND	0.50	1	12/15/2015 23:20
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/15/2015 23:20
Methyl-t-butyl ether (MTBE)	36	0.50	1	12/15/2015 23:20

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	90	70-130	12/15/2015 23:20
Toluene-d8	97	70-130	12/15/2015 23:20

Analyst(s): KF

(Cont.)



Analytical Report

Client: P & D Environmental

WorkOrder: 1512553

Date Received: 12/11/15 20:46

Extraction Method: SW5030B

Date Prepared: 12/15/15-12/18/15

Analytical Method: SW8260B

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Unit: µg/L

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW2	1512553-005B	Water	12/10/2015 10:55	GC10	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	1.0	2	12/16/2015 00:00
t-Butyl alcohol (TBA)	81	4.0	2	12/16/2015 00:00
1,2-Dibromoethane (EDB)	ND	1.0	2	12/16/2015 00:00
1,2-Dichloroethane (1,2-DCA)	ND	1.0	2	12/16/2015 00:00
Diisopropyl ether (DIPE)	ND	1.0	2	12/16/2015 00:00
Ethyl tert-butyl ether (ETBE)	ND	1.0	2	12/16/2015 00:00
Methyl-t-butyl ether (MTBE)	30	1.0	2	12/16/2015 00:00

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	86	70-130	12/16/2015 00:00
Toluene-d8	96	70-130	12/16/2015 00:00

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW4	1512553-006B	Water	12/10/2015 12:50	GC28	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	10	20	12/17/2015 00:37
t-Butyl alcohol (TBA)	760	40	20	12/17/2015 00:37
1,2-Dibromoethane (EDB)	ND	10	20	12/17/2015 00:37
1,2-Dichloroethane (1,2-DCA)	ND	10	20	12/17/2015 00:37
Diisopropyl ether (DIPE)	ND	10	20	12/17/2015 00:37
Ethyl tert-butyl ether (ETBE)	ND	10	20	12/17/2015 00:37
Methyl-t-butyl ether (MTBE)	480	10	20	12/17/2015 00:37

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	108	70-130	12/17/2015 00:37
Toluene-d8	112	70-130	12/17/2015 00:37

Analyst(s): KF

(Cont.)



Analytical Report

Client: P & D Environmental

WorkOrder: 1512553

Date Received: 12/11/15 20:46

Extraction Method: SW5030B

Date Prepared: 12/15/15-12/18/15

Analytical Method: SW8260B

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Unit: µg/L

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW5	1512553-007B	Water	12/10/2015 14:05	GC28	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	12	25	12/17/2015 01:15
t-Butyl alcohol (TBA)	500	50	25	12/17/2015 01:15
1,2-Dibromoethane (EDB)	ND	12	25	12/17/2015 01:15
1,2-Dichloroethane (1,2-DCA)	ND	12	25	12/17/2015 01:15
Diisopropyl ether (DIPE)	ND	12	25	12/17/2015 01:15
Ethyl tert-butyl ether (ETBE)	ND	12	25	12/17/2015 01:15
Methyl-t-butyl ether (MTBE)	340	12	25	12/17/2015 01:15

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	112	70-130	12/17/2015 01:15
Toluene-d8	111	70-130	12/17/2015 01:15

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1512553-008B	Water	12/10/2015 15:15	GC10	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	1.0	2	12/16/2015 02:01
t-Butyl alcohol (TBA)	20	4.0	2	12/16/2015 02:01
1,2-Dibromoethane (EDB)	ND	1.0	2	12/16/2015 02:01
1,2-Dichloroethane (1,2-DCA)	ND	1.0	2	12/16/2015 02:01
Diisopropyl ether (DIPE)	ND	1.0	2	12/16/2015 02:01
Ethyl tert-butyl ether (ETBE)	ND	1.0	2	12/16/2015 02:01
Methyl-t-butyl ether (MTBE)	5.7	1.0	2	12/16/2015 02:01

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	100	70-130	12/16/2015 02:01
Toluene-d8	97	70-130	12/16/2015 02:01

Analyst(s): KF

(Cont.)



Analytical Report

Client: P & D Environmental

WorkOrder: 1512553

Date Received: 12/11/15 20:46

Extraction Method: SW5030B

Date Prepared: 12/15/15-12/18/15

Analytical Method: SW8260B

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Unit: µg/L

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1512553-009B	Water	12/10/2015 11:38	GC10	114224

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/16/2015 02:41
t-Butyl alcohol (TBA)	53	2.0	1	12/16/2015 02:41
1,2-Dibromoethane (EDB)	ND	0.50	1	12/16/2015 02:41
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/16/2015 02:41
Diisopropyl ether (DIPE)	ND	0.50	1	12/16/2015 02:41
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/16/2015 02:41
Methyl-t-butyl ether (MTBE)	5.7	0.50	1	12/16/2015 02:41

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	93	70-130	12/16/2015 02:41
Toluene-d8	98	70-130	12/16/2015 02:41

Analyst(s): KF



Analytical Report

Client: P & D Environmental **WorkOrder:** 1512553
Date Received: 12/11/15 20:46 **Extraction Method:** SW5030B
Date Prepared: 12/12/15-12/18/15 **Analytical Method:** SW8021B/8015Bm
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW1	1512553-001A	Water	12/10/2015 12:10	GC3	114149

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	18,000	500	10	12/12/2015 23:18
MTBE	ND	1000	10	12/12/2015 23:18
Benzene	5600	50	100	12/15/2015 05:31
Toluene	110	5.0	10	12/12/2015 23:18
Ethylbenzene	400	5.0	10	12/12/2015 23:18
Xylenes	630	15	10	12/12/2015 23:18

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	201	S	70-130	12/12/2015 23:18

Analyst(s): IA **Analytical Comments:** d1,d1,d17,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW2	1512553-002A	Water	12/10/2015 10:10	GC3	114351

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1400	100	2	12/18/2015 20:25
MTBE	ND	10	2	12/18/2015 20:25
Benzene	25	1.0	2	12/18/2015 20:25
Toluene	4.6	1.0	2	12/18/2015 20:25
Ethylbenzene	5.8	1.0	2	12/18/2015 20:25
Xylenes	4.2	3.0	2	12/18/2015 20:25

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	127	70-130	12/18/2015 20:25

Analyst(s): IA **Analytical Comments:** d1

(Cont.)



Analytical Report

Client: P & D Environmental	WorkOrder: 1512553
Date Received: 12/11/15 20:46	Extraction Method: SW5030B
Date Prepared: 12/12/15-12/18/15	Analytical Method: SW8021B/8015Bm
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA	Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW3	1512553-003A	Water	12/10/2015 09:25	GC3	114149

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/13/2015 01:17
MTBE	ND	5.0	1	12/13/2015 01:17
Benzene	ND	0.50	1	12/13/2015 01:17
Toluene	ND	0.50	1	12/13/2015 01:17
Ethylbenzene	ND	0.50	1	12/13/2015 01:17
Xylenes	ND	1.5	1	12/13/2015 01:17
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	85	70-130		12/13/2015 01:17

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW4	1512553-004A	Water	12/10/2015 14:40	GC7	114243

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	4100	500	10	12/15/2015 21:49
MTBE	ND	150	10	12/15/2015 21:49
Benzene	560	5.0	10	12/15/2015 21:49
Toluene	6.1	5.0	10	12/15/2015 21:49
Ethylbenzene	39	5.0	10	12/15/2015 21:49
Xylenes	87	15	10	12/15/2015 21:49
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	111	70-130		12/15/2015 21:49

Analyst(s): IA

Analytical Comments: d1,d17



Analytical Report

Client: P & D Environmental	WorkOrder: 1512553
Date Received: 12/11/15 20:46	Extraction Method: SW5030B
Date Prepared: 12/12/15-12/18/15	Analytical Method: SW8021B/8015Bm
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA	Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW2	1512553-005A	Water	12/10/2015 10:55	GC3	114351

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	3600	250	5	12/18/2015 17:56
MTBE	ND	120	5	12/18/2015 17:56
Benzene	650	2.5	5	12/18/2015 17:56
Toluene	9.2	2.5	5	12/18/2015 17:56
Ethylbenzene	47	2.5	5	12/18/2015 17:56
Xylenes	ND	7.5	5	12/18/2015 17:56

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	217	S	70-130	12/18/2015 17:56

Analyst(s): IA **Analytical Comments:** d1,d17,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW4	1512553-006A	Water	12/10/2015 12:50	GC3	114351

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	15,000	2500	50	12/16/2015 19:52
MTBE	710	250	50	12/16/2015 19:52
Benzene	4400	25	50	12/16/2015 19:52
Toluene	41	25	50	12/16/2015 19:52
Ethylbenzene	250	25	50	12/16/2015 19:52
Xylenes	ND	75	50	12/16/2015 19:52

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	100	70-130	12/16/2015 19:52

Analyst(s): IA **Analytical Comments:** d1

(Cont.)



Analytical Report

Client: P & D Environmental **WorkOrder:** 1512553
Date Received: 12/11/15 20:46 **Extraction Method:** SW5030B
Date Prepared: 12/12/15-12/18/15 **Analytical Method:** SW8021B/8015Bm
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW5	1512553-007A	Water	12/10/2015 14:05	GC7	114243

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	11,000	1000	20	12/16/2015 00:19
MTBE	480	100	20	12/16/2015 00:19
Benzene	2000	10	20	12/16/2015 00:19
Toluene	50	10	20	12/16/2015 00:19
Ethylbenzene	430	10	20	12/16/2015 00:19
Xylenes	220	30	20	12/16/2015 00:19

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	128	70-130	12/16/2015 00:19

Analyst(s): IA

Analytical Comments: d1,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1512553-008A	Water	12/10/2015 15:15	GC3	114351

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1000	100	2	12/18/2015 18:56
MTBE	ND	10	2	12/18/2015 18:56
Benzene	2.8	1.0	2	12/18/2015 18:56
Toluene	1.6	1.0	2	12/18/2015 18:56
Ethylbenzene	37	1.0	2	12/18/2015 18:56
Xylenes	58	3.0	2	12/18/2015 18:56

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	106	70-130	12/18/2015 18:56

Analyst(s): IA

Analytical Comments: d1

(Cont.)



Analytical Report

Client: P & D Environmental **WorkOrder:** 1512553
Date Received: 12/11/15 20:46 **Extraction Method:** SW5030B
Date Prepared: 12/12/15-12/18/15 **Analytical Method:** SW8021B/8015Bm
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1512553-009A	Water	12/10/2015 11:38	GC3	114149

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	2200	50	1	12/13/2015 01:47
MTBE	ND	15	1	12/13/2015 01:47
Benzene	57	0.50	1	12/13/2015 01:47
Toluene	4.3	0.50	1	12/13/2015 01:47
Ethylbenzene	64	0.50	1	12/13/2015 01:47
Xylenes	140	1.5	1	12/13/2015 01:47

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	590	S	70-130	12/13/2015 01:47

Analyst(s): IA

Analytical Comments: d1,d17,c4



Analytical Report

Client: P & D Environmental **WorkOrder:** 1512553
Date Received: 12/11/15 20:46 **Extraction Method:** SW3510C
Date Prepared: 12/11/15 **Analytical Method:** SW8015B
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW1	1512553-001A	Water	12/10/2015 12:10	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2400	50	1	12/14/2015 17:55
TPH-Motor Oil (C18-C36)	ND	250	1	12/14/2015 17:55
Surrogates	REC (%)	Limits		
C9	114	70-130		12/14/2015 17:55
Analyst(s): TK		Analytical Comments: e4		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW2	1512553-002A	Water	12/10/2015 10:10	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	3300	50	1	12/14/2015 19:03
TPH-Motor Oil (C18-C36)	1800	250	1	12/14/2015 19:03
Surrogates	REC (%)	Limits		
C9	116	70-130		12/14/2015 19:03
Analyst(s): TK		Analytical Comments: e3,e4		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW3	1512553-003A	Water	12/10/2015 09:25	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	12/14/2015 23:37
TPH-Motor Oil (C18-C36)	ND	250	1	12/14/2015 23:37
Surrogates	REC (%)	Limits		
C9	114	70-130		12/14/2015 23:37
Analyst(s): TK				

(Cont.)



Analytical Report

Client: P & D Environmental

WorkOrder: 1512553

Date Received: 12/11/15 20:46

Extraction Method: SW3510C

Date Prepared: 12/11/15

Analytical Method: SW8015B

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW4	1512553-004A	Water	12/10/2015 14:40	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1200	50	1	12/15/2015 01:54
TPH-Motor Oil (C18-C36)	ND	250	1	12/15/2015 01:54
Surrogates	REC (%)	Limits		
C9	119	70-130		12/15/2015 01:54

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW2	1512553-005A	Water	12/10/2015 10:55	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1100	50	1	12/15/2015 04:11
TPH-Motor Oil (C18-C36)	ND	250	1	12/15/2015 04:11
Surrogates	REC (%)	Limits		
C9	114	70-130		12/15/2015 04:11

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW4	1512553-006A	Water	12/10/2015 12:50	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1800	50	1	12/15/2015 06:28
TPH-Motor Oil (C18-C36)	ND	250	1	12/15/2015 06:28
Surrogates	REC (%)	Limits		
C9	120	70-130		12/15/2015 06:28

Analyst(s): TK Analytical Comments: e4

(Cont.)



Analytical Report

Client: P & D Environmental **WorkOrder:** 1512553
Date Received: 12/11/15 20:46 **Extraction Method:** SW3510C
Date Prepared: 12/11/15 **Analytical Method:** SW8015B
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW5	1512553-007A	Water	12/10/2015 14:05	GC11A	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1300	50	1	12/15/2015 04:11
TPH-Motor Oil (C18-C36)	ND	250	1	12/15/2015 04:11
Surrogates	REC (%)	Limits		
C9	103	70-130		12/15/2015 04:11
Analyst(s): TK		Analytical Comments: e4		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1512553-008A	Water	12/10/2015 15:15	GC11A	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	330	50	1	12/15/2015 06:28
TPH-Motor Oil (C18-C36)	ND	250	1	12/15/2015 06:28
Surrogates	REC (%)	Limits		
C9	106	70-130		12/15/2015 06:28
Analyst(s): TK		Analytical Comments: e4		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1512553-009A	Water	12/10/2015 11:38	GC11B	114125

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	500	50	1	12/14/2015 20:12
TPH-Motor Oil (C18-C36)	ND	250	1	12/14/2015 20:12
Surrogates	REC (%)	Limits		
C9	116	70-130		12/14/2015 20:12
Analyst(s): TK		Analytical Comments: e11,e4		



Quality Control Report

Client:	P & D Environmental	WorkOrder:	1512553
Date Prepared:	12/15/15	BatchID:	114224
Date Analyzed:	12/15/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID:	MB/LCS-114224 1512553-003BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	11.2	0.50	10	-	112	54-140
Benzene	ND	-	0.50	-	-	-	-
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	40.2	2.0	40	-	101	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	-	0.50	-	-	-	-
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	10.6	0.50	10	-	106	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	10.3	0.50	10	-	103	66-125
1,1-Dichloroethene	ND	-	0.50	-	-	-	-
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client:	P & D Environmental	WorkOrder:	1512553
Date Prepared:	12/15/15	BatchID:	114224
Date Analyzed:	12/15/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID:	MB/LCS-114224 1512553-003BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	11.4	0.50	10	-	114	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	10.7	0.50	10	-	107	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	10.7	0.50	10	-	107	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	-	0.50	-	-	-	-
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	-	0.50	-	-	-	-
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client:	P & D Environmental	WorkOrder:	1512553
Date Prepared:	12/15/15	BatchID:	114224
Date Analyzed:	12/15/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID:	MB/LCS-114224 1512553-003BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	24.8	27.7		25	99	111	70-130
Toluene-d8	25.1	24.7		25	100	99	70-130
4-BFB	2.46	-		2.5	98	-	-

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	12.3	12.3	10	ND	123	123	69-139	0	20
t-Butyl alcohol (TBA)	44.2	48.3	40	ND	110	121	41-152	9.00	20
1,2-Dibromoethane (EDB)	11.9	11.7	10	ND	119	117	76-135	1.55	20
1,2-Dichloroethane (1,2-DCA)	11.3	11.2	10	ND	113	112	73-139	0.705	20
Diisopropyl ether (DIPE)	12.1	12.1	10	ND	121	121	72-140	0	20
Ethyl tert-butyl ether (ETBE)	11.7	11.7	10	ND	117	117	71-140	0	20
Methyl-t-butyl ether (MTBE)	12.0	12.0	10	ND	120	120	73-139	0	20
Surrogate Recovery									
Dibromofluoromethane	27.4	28.0	25		110	112	70-130	1.96	20
Toluene-d8	24.6	24.4	25		98	98	70-130	0	20



Quality Control Report

Client: P & D Environmental	WorkOrder: 1512553
Date Prepared: 12/12/15	BatchID: 114149
Date Analyzed: 12/12/15	Extraction Method: SW5030B
Instrument: GC3	Analytical Method: SW8021B/8015Bm
Matrix: Water	Unit: µg/L
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID: MB/LCS-114149 1512532-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	56.8	40	60	-	95	70-130
MTBE	ND	9.26	5.0	10	-	93	70-130
Benzene	ND	10.4	0.50	10	-	104	70-130
Toluene	ND	10.6	0.50	10	-	106	70-130
Ethylbenzene	ND	10.8	0.50	10	-	108	70-130
Xylenes	ND	32.6	1.5	30	-	109	70-130
Surrogate Recovery							
aaa-TFT	8.92	8.28		10	89	83	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	61.0	58.6	60	ND	102	98	70-130	4.17	20
MTBE	9.14	9.09	10	ND	91	91	70-130	0	20
Benzene	10.6	10.2	10	ND	106	102	70-130	3.70	20
Toluene	10.8	10.4	10	ND	105	101	70-130	3.87	20
Ethylbenzene	10.9	10.2	10	ND	109	102	70-130	7.19	20
Xylenes	33.0	31.7	30	ND	109	105	70-130	4.09	20
Surrogate Recovery									
aaa-TFT	8.86	8.81	10		89	88	70-130	0.499	20



Quality Control Report

Client: P & D Environmental	WorkOrder: 1512553
Date Prepared: 12/14/15	BatchID: 114243
Date Analyzed: 12/14/15	Extraction Method: SW5030B
Instrument: GC7	Analytical Method: SW8021B/8015Bm
Matrix: Water	Unit: µg/L
Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID: MB/LCS-114243 1512313-002AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	50.4	40	60	-	84	70-130
MTBE	ND	11.7	5.0	10	-	117	70-130
Benzene	ND	10.7	0.50	10	-	107	70-130
Toluene	ND	11.2	0.50	10	-	112	70-130
Ethylbenzene	ND	10.6	0.50	10	-	106	70-130
Xylenes	ND	32.8	1.5	30	-	109	70-130
Surrogate Recovery							
aaa-TFT	8.29	8.78		10	83	88	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		75000	NR	NR	-	NR	
MTBE	NR	NR		ND<5000	NR	NR	-	NR	
Benzene	NR	NR		ND<500	NR	NR	-	NR	
Toluene	NR	NR		3500	NR	NR	-	NR	
Ethylbenzene	NR	NR		3600	NR	NR	-	NR	
Xylenes	NR	NR		25000	NR	NR	-	NR	
Surrogate Recovery									
aaa-TFT	NR	NR			NR	NR	-	NR	



Quality Control Report

Client:	P & D Environmental	WorkOrder:	1512553
Date Prepared:	12/16/15	BatchID:	114351
Date Analyzed:	12/16/15	Extraction Method:	SW5030B
Instrument:	GC3	Analytical Method:	SW8021B/8015Bm
Matrix:	Water	Unit:	µg/L
Project:	0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID:	MB/LCS-114351 1512493-002BMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	59.9	40	60	-	100	70-130
MTBE	ND	8.77	5.0	10	-	88	70-130
Benzene	ND	10.3	0.50	10	-	103	70-130
Toluene	ND	10.5	0.50	10	-	105	70-130
Ethylbenzene	ND	10.6	0.50	10	-	106	70-130
Xylenes	ND	32.3	1.5	30	-	108	70-130

Surrogate Recovery

aaa-TFT	8.17	8.95		10	82	89	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		13000	NR	NR	-	NR	
MTBE	NR	NR		2800	NR	NR	-	NR	
Benzene	NR	NR		12000	NR	NR	-	NR	
Toluene	NR	NR		190	NR	NR	-	NR	
Ethylbenzene	NR	NR		1100	NR	NR	-	NR	
Xylenes	NR	NR		200	NR	NR	-	NR	

Surrogate Recovery

aaa-TFT	NR	NR			NR	NR	-	NR	
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Quality Control Report

Client:	P & D Environmental	WorkOrder:	1512553
Date Prepared:	12/11/15	BatchID:	114125
Date Analyzed:	12/12/15 - 12/14/15	Extraction Method:	SW3510C
Instrument:	GC39B, GC9b	Analytical Method:	SW8015B
Matrix:	Water	Unit:	µg/L
Project:	0058; Xtra Oil Company 1701 Park St. Alameda, CA	Sample ID:	MB/LCS-114125

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1120	50	1000	-	112	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	652	667		625	104	107	65-122



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1512553

ClientCode: PDEO

WaterTrax
 WriteOn
 EDF
 Excel
 EQUIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Paul King
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610
(510) 658-6916 FAX: 510-834-0152

Email: lab@pdenviro.com; Paul.King@pdenviro.co
cc/3rd Party:
PO:
ProjectNo: 0058; Xtra Oil Company 1701 Park St.
Alameda, CA

Bill to:

Accounts Payable
Xtra Oil Company
2307 Pacific Avenue
Alameda, CA 94501
xtraoil@sbcglobal.net

Requested TAT: 5 days;

Date Received: 12/11/2015

Date Logged: 12/11/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1512553-001	MW1	Water	12/10/2015 12:10	<input type="checkbox"/>	B	A	A										
1512553-002	MW2	Water	12/10/2015 10:10	<input type="checkbox"/>	B	A	A										
1512553-003	MW3	Water	12/10/2015 9:25	<input type="checkbox"/>	B	A	A										
1512553-004	MW4	Water	12/10/2015 14:40	<input type="checkbox"/>	B	A	A										
1512553-005	EW2	Water	12/10/2015 10:55	<input type="checkbox"/>	B	A	A										
1512553-006	EW4	Water	12/10/2015 12:50	<input type="checkbox"/>	B	A	A										
1512553-007	EW5	Water	12/10/2015 14:05	<input type="checkbox"/>	B	A	A										
1512553-008	OW2	Water	12/10/2015 15:15	<input type="checkbox"/>	B	A	A										
1512553-009	IW1	Water	12/10/2015 11:38	<input type="checkbox"/>	B	A	A										

Test Legend:

1	8260B_50XYPBSCV_W	2	G-MBTEX_W	3	TPH(DMO)_W	4	
5		6		7		8	
9		10		11		12	

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A contain testgroup.

Prepared by: Briana Cutino

Comments: Always send reports to: lab@pdenviro.com; Paul.King@pdenviro.com; pdking0000@aol.com

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: P & D ENVIRONMENTAL

QC Level: LEVEL 2

Work Order: 1512553

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Client Contact: Paul King

Date Logged: 12/11/2015

Comments: Always send reports to: lab@pdenviro.com;
Paul.King@pdenviro.com; pdking0000@aol.com

Contact's Email: lab@pdenviro.com; Paul.King@pdenviro.com;
pdking0000@aol.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1512553-001A	MW1	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 12:10	5 days	Present	<input type="checkbox"/>	
1512553-001B	MW1	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 12:10	5 days	Present	<input type="checkbox"/>	
1512553-002A	MW2	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 10:10	5 days	Present	<input type="checkbox"/>	
1512553-002B	MW2	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 10:10	5 days	Present	<input type="checkbox"/>	
1512553-003A	MW3	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 9:25	5 days	Present	<input type="checkbox"/>	
1512553-003B	MW3	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 9:25	5 days	Present	<input type="checkbox"/>	
1512553-004A	MW4	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 14:40	5 days	Present	<input type="checkbox"/>	
1512553-004B	MW4	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 14:40	5 days	Present	<input type="checkbox"/>	
1512553-005A	EW2	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 10:55	5 days	Present	<input type="checkbox"/>	
1512553-005B	EW2	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 10:55	5 days	Present	<input type="checkbox"/>	
1512553-006A	EW4	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 12:50	5 days	Present	<input type="checkbox"/>	
1512553-006B	EW4	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 12:50	5 days	Present	<input type="checkbox"/>	
1512553-007A	EW5	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 14:05	5 days	Present	<input type="checkbox"/>	
1512553-007B	EW5	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 14:05	5 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: P & D ENVIRONMENTAL

QC Level: LEVEL 2

Work Order: 1512553

Project: 0058; Xtra Oil Company 1701 Park St. Alameda, CA

Client Contact: Paul King

Date Logged: 12/11/2015

Comments: Always send reports to: lab@pdenviro.com;
 Paul.King@pdenviro.com; pdking0000@aol.com

Contact's Email: lab@pdenviro.com; Paul.King@pdenviro.com;
 pdking0000@aol.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1512553-008A	OW2	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 15:15	5 days	Present	<input type="checkbox"/>	
1512553-008B	OW2	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 15:15	5 days	Present	<input type="checkbox"/>	
1512553-009A	IW1	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/10/2015 11:38	5 days	Present	<input type="checkbox"/>	
1512553-009B	IW1	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	12/10/2015 11:38	5 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

CHAIN OF CUSTODY RECORD

1512553

P&D ENVIRONMENTAL, INC. 55 Santa Clara Ave., Suite 240 Oakland, CA 94610 (510) 658-6916					NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-MULTIRANGE (G, D, MO) BALD IN FUEL OXY'S + FB SCAVENGERS										PRESERVATIVE		
PROJECT NUMBER: 0058		PROJECT NAME: XTRA OIL COMPANY 1701 PARK ST. ALAMEDA, CA																
SAMPLED BY: (PRINTED & SIGNATURE) MICHAEL BASS-DESCHENES <i>Michael Bass-Deschenes</i>																		
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION													REMARKS	
MW1	12/10/15	1210	H ₂ O		5	X	X										ICE	NORMAL TAT
MW2		1010			5	X	X											
MW3		0925			5	X	X											
MW4		1440			5	X	X											
EW2		1055			5	X	X											
EW4		1250			5	X	X											
EW5		1405			5	X	X											
OW2		1515			5	X	X											
IW1		1138			5	X	X											
RELINQUISHED BY: (SIGNATURE) <i>Michael Bass-Deschenes</i>					DATE 12/11/15	TIME 1450	RECEIVED BY: (SIGNATURE) <i>RAC</i> 12/11/15 1750					Total No. of Samples (This Shipment) 9	LABORATORY: McCAMPBELL ANALYTICAL, INC					
RELINQUISHED BY: (SIGNATURE) <i>RAC</i>					DATE 12/11/15	TIME 1725	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>					LABORATORY CONTACT: ANGELA BIDELENS		LABORATORY PHONE NUMBER: (877) 252-9262				
RELINQUISHED BY: (SIGNATURE)					DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)					SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO						
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com							REMARKS: 3 VOAs w/ HCL 2 AMBER VOAs UNPRESERVED.											



Sample Receipt Checklist

Client Name:	P & D Environmental	Date and Time Received:	12/11/2015 17:25
Project Name:	0058; Xtra Oil Company 1701 Park St. Alameda, CA	Date Logged:	12/11/2015
WorkOrder No:	1512553 Matrix: <u>Water</u>	Received by:	Briana Cutino
Carrier:	<u>Randy Glen (MAI Courier)</u>	Logged by:	Briana Cutino

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample/Temp Blank temperature		Temp: 2°C	NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

* NOTE: If the "No" box is checked, see comments below.

Comments: