

# **Xtra** OIL COMPANY

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July 20, 2016

**RECEIVED**

By Alameda County Environmental Health 1:35 pm, Jul 22, 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 (January through June 2016) dated July 20, 2016 (document 0058.R31).

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.L64

# **P&D ENVIRONMENTAL, INC.**

**55 Santa Clara Avenue, Suite 240**

**Oakland, CA 94610**

**(510) 658-6916**

July 20, 2016  
Report 0058.R31

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

**SUBJECT: SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT  
(JANUARY THROUGH JUNE 2016)**  
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 June 27, 2016 for the reporting period of January through June 2016.

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 June 27, 2016 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 or sampled on June 27, 2016.

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 June 27, 2016 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, and EW-5. No petroleum hydrocarbon odors were detected on the purge water from wells MW-3, EW-2, 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 June 27, 2016 for groundwater monitoring wells MW-1, MW-3, and MW-4 ranged from 7.09 to 7.32 feet, and the measured depth to groundwater in wells MW-2, EW-2, EW-4, EW-5, OW-2, and IW-1 was 8.21, 6.93, 5.83, 5.91, 6.04, and 6.91 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 June 27, 2016 groundwater surface elevations. Based on the groundwater surface contours, the groundwater flow direction on June 27, 2016 was southeasterly, consistent with historical calculated groundwater flow directions at the site.

The calculated groundwater flow direction on June 27, 2016 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 June 27, 2016 well water levels with available December 10, 2015 well water levels shows that the water levels were higher on June 27, 2016 in all of the wells by amounts ranging from 1.02 to 1.38 feet, with the exception of well MW-2, where the water level was 2.03 feet higher than in December 2015. 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), using EPA Method 5030B in conjunction with modified EPA Method 8015B and EPA Method 8021B; and for Volatile Organic Compounds (VOCs) including Methyl tertiary-Butyl Ether (MTBE), and benzene, toluene, ethylbenzene, total xylenes (BTEX), and fuel oxygenates 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 June 27, 2016. Air sparge points ASP-2 through ASP-6 were not monitored and sampled on June 27, 2016. 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 June 27, 2016 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-5, and IW-1 at concentrations of 1,400, 3,400, 1,100, 87, 200, and 81 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 8,900, 5,300, 4,400, 760, 67, 940, 59, and 160 ug/L, respectively;
- Benzene was detected in wells MW-1, MW-2, MW-4, EW-2, and EW-5 at concentrations of 1,900, 210, 300, 170, and 140 ug/L, respectively.
- The remaining BTEX compounds were detected at concentrations ranging from 1.3 to 210 ug/L.
- MTBE 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 260, 25, 35, 59, 0.64, and 2.3 ug/L, respectively.
- Tert-Butyl Alcohol (TBA) was detected in the groundwater samples collected from wells MW-1, MW-2, MW-4, EW-5, and IW-1 at concentrations of 650, 140, 70, 420, and 10 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, and EW-2 as consisting of gasoline-range compounds, the sample from well MW-2 as consisting of gasoline-range compounds and aged diesel and/or diesel-range compounds, and the samples collected from wells EW-5 and IW-1 as consisting of gasoline-range and/or Stoddard solvent/mineral spirit-range compounds and also kerosene-range or jet-fuel range compounds.

Comparison of the June 2016 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, EW-2, EW-4, EW-5, OW-2, and IW-1 remained not detected or decreased. In wells MW-2 and MW-4 all of the analyte concentrations have increased with the exception of TPH-MO in well MW-2 and TPH-D, benzene, and TBA in well MW-4, which all decreased.

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.

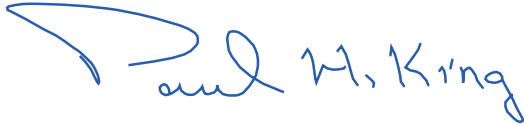
This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals 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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0058.R31



# **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	6/27/2016	22.36*	7.20	15.16
	12/10/2015		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
<b>Abbreviations and Notes:</b>				
* = Surveyed by Kier & Wright on June 9, 2011.				
** = Surveyed by Andreas Deak in April 1997.				
*** = Prior to well development.				
# = 2.4 feet of PVC casing added to top of well MW-2 for ozone injection.				
ft-MSL = feet above mean sea level				
ft = feet				

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-2	6/27/2016	Unknown	8.21	Unknown
	12/10/2015		9.23	Unknown
	6/18/2015		8.60	Unknown
	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
<b>Abbreviations and Notes:</b>				
* = 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 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-3	6/27/2016	23.35*	7.32	16.03
	12/10/2015		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
<b>Abbreviations and Notes:</b>				
* = Surveyed by Kier & Wright on June 9, 2011.				
** = Surveyed by Andreas Deak in April 1997.				
*** = Prior to well development.				
# = 2.4 feet of PVC casing added to top of well MW-2 for ozone injection.				
ft-MSL = feet above mean sea level				
ft = feet				

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	6/27/2016	22.48*	7.09	15.39
	12/10/2015		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
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ft-MSL = feet above mean sea level				
ft = feet				

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.)
EW-2	6/27/2016	22.13*	6.93	15.20
	12/10/2015		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	6/27/2016	20.95*	5.83	15.12
	12/10/2015		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	6/27/2016	21.20*	5.91	15.29
	12/10/2015		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	
<b>Abbreviations and Notes:</b>				
* = Surveyed by Kier & Wright on June 9, 2011.				
** = Surveyed by Andreas Deak in April 1997.				
*** = Prior to well development.				
# = 2.4 feet of PVC casing added to top of well MW-2 for ozone injection.				
ft-MSL = feet above mean sea level				
ft = feet				

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	6/27/2016	21.55*	6.04	15.51
	12/10/2015		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	6/27/2016	Unknown	6.04	Unknown
	12/10/2015	Unknown	8.07	Unknown
	10/23/2015***	Unknown	7.76	Unknown
<b>Abbreviations and Notes:</b>				
* = Surveyed by Kier & Wright on June 9, 2011.				
** = Surveyed by Andreas Deak in April 1997.				
*** = Prior to well development.				
# = 2.4 feet of PVC casing added to top of well MW-2 for ozone injection.				
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 ( $\mu$ S/cm)	Temperature (C°)	Turbidity (NTU)
MW-1	6/27/2016	0.86	-163.2	6.74	1,047	22.2	0.00
	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	6/27/2016	0.90	-208.5	6.74	984	22.7	0.00
	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	--	



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-3	6/27/2016	1.33	-58.0	6.35	380.2	20.4	0.00
	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	--
MW-4	6/27/2016	0.52	-157.4	6.82	740	20.8	0.00
	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	--

Table 2  
Summary of Well Water Quality Field Parameters

Sample ID	Sample Date	D.O. (mg/L)	O.R.P. (mV)	pH	Electrical Conductivity ( $\mu$ S/cm)	Temperature (C°)	Turbidity (NTU)	
EW-2	6/27/2016	0.69	-194.3	7.12	906	21.8	0.00	
	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	
EW-4	6/27/2016	0.53	-178.5	7.02	646	22.2	0.00	
	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	
EW-5	6/27/2016	0.66	-198.4	6.77	784	20.2	0.00	
	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	
OW-2	6/27/2016	0.58	-142.6	6.31	596	19.5	0.00	
	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	
IW1	6/27/2016	0.40	-191.7	7.64	565.0	22.8	0.94	
	12/10/2015	1.76	-78.4	9.01	478.4	22.5	14.01	
<b>NOTES</b>								
D.O. = Dissolved Oxygen.								
O.R.P = Oxidation-Reduction Potential.								
mg/L = milligrams per Liter.								
mV = millivolts.								
$\mu$ S/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	6/27/2016	8,900	1,400, c	ND<250	260	1,900	ND<50	120	210	ND, except TBA = 650	ND, except n-Propyl benzene = 60	
	12/10/2015	18,000	2,400, c	ND<250	ND<1,000	5,600	110	400	630	ND, except TBA=2,100, MTBE = 580	All ND	
	6/18/2015, e	19,000	2,000, c	ND<250	430	4,100	ND<100	280	570	ND, except TBA = 1,100	ND, except Isopropylbenzene = 110, n-Propyl benzene = 130, 1,2,4-Trimethylbenzene = 100	
	11/3/2014						Not Sampled.					
	10/3/2014, e	22,000	2,600, c	ND<250	600	4,500	150	620	1,200	ND, except TBA = 880	ND, except Naphthalene = 150, n-Propyl benzene = 160, 1,2,4-Trimethylbenzene = 210	
	8/21/2014						Samples only analyzed for Dissolved Hexavalent Chromium.					
	6/19/2014	15,000	4,200, b,c	ND<250	--	3,100	230	500	1,300	ND, except MTBE = 350	--	
	11/19/2013	25,000	3,300, b,c	ND<250	ND<1,500	5,800	210	630	1,400	ND, except TBA = 1,600 MTBE = 1,000	--	
	5/16/2013	18,000	1,800, c	ND<250	ND<800	4,400	320	510	1,100	ND, except TBA = 180 MTBE = 240	--	
	12/11/2012	15,000	2,400, c	ND<250	ND<600	3,300	330	410	1,100	ND, except TBA = 190 MTBE = 100	--	
6/21/2012	17,000	2,100, c	ND<250	ND<500	1,800	420	500	1,500	ND, except TBA = 110 MTBE = 49	--		
11/29/2011	18,000	2,600, c	ND<250	ND<600	2,600	410	410	1,200	ND, except TBA = 460, MTBE = 210	--		
5/26/2011	15,000	2,400, b,c	ND<250	ND<500	2,000	430	400	1,300	ND, except TBA = 570, MTBE = 120	--		
11/18/2010	21,000	1,900, b,c	ND<250	1,700	6,300	340	340	860	ND, except TBA = 3,300, MTBE = 1,500	--		
4/28/2010	19,000	2,800, b,c	260, b,c	840	3,400	680	500	1,600	ND, except TBA = 3,200, MTBE = 750	--		
12/3/2009	19,000	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	21,000	2,200, b,c	ND<250	ND<2,500	4,300	750	580	1,700	ND, except TBA = 17,000, MTBE = 1,400	--		
11/25/2008	20,000	2,400, c	ND<250	1,900	5,500	490	530	1,300	ND, except TBA = 16,000, MTBE = 1,600	--		
8/27/2008	46,000	5,200, e	ND<250	1,300	4,600	1,800	2,000	5,200	--	--		
5/28/2008	40,000	6,100, e	290	1,600	4,200	2,600	1,700	5,900	--	--		
2/27/2008	45,000	4,900, e	310	2,600	6,200	3,100	1,300	5,100	--	--		
11/29/2007	27,000	3,100, b,c	ND<250	2,600	4,700	930	770	2,600	--	--		
8/29/2007	26,000	3,900, b,c	470	3,200	5,400	1,400	810	3,000	--	--		
5/30/2007	22,000	3300, c	ND<250	ND<750	400	380	1,100	3,600	--	--		
3/12/2007	38,000	3,500, b,c	300	3,500	5,400	2,900	1,300	5,100	--	--		
11/6/2006	44,000,a	3,400, a,c	360	3,900	5,600	2,300	920	3,000	--	--		
MW-2	6/27/2016	5,300	3,400, c,n	1,700, c,n	25	210	9.6	12	15	ND, except TBA = 140	ND, except Naphthalene = 53, n-butyl benzene = 17, sec-butyl benzene = 7.2, Isopropylbenzene = 35, n-Propyl benzene = 100, 1,3,5-Trimethylbenzene = 6.6	
	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, b,c,j	1,600, b,c,j	27	140	ND<5.0	8.6	19	ND, except TBA = 180	ND, except Naphthalene = 13, n-butyl benzene = 6.5, Isopropylbenzene = 12, n-Propyl benzene = 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-butyl benzene = 3.1, sec-Butyl benzene = 1.2, Isopropylbenzene = 4.0, n-Propyl benzene = 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 Bromomethane = 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, b,c	350, b,c	--	210	13	18	12	ND, except MTBE = 24	--	
	11/19/2013	6,600	3,000, b,c	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, c,d	590	110	290	15	27	16	ND, except TBA = 190, MTBE = 99	--	
6/21/2012	4,900	1,600, b,c	ND<250	180	560	14	36	12	ND, except TBA = 340, MTBE = 160	--		
11/29/2011	4,900	2,900, c,d	420, c,d	ND<50	400	11	39	7.7	ND, except TBA = 72, MTBE = 29	--		
MW-2 (Continued)	5/26/2011	6,600	1,900, b,c	ND<250	ND<350	1,000	39	36	97	ND, except TBA = 480, 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	--	

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
	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, b, c	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 = 38, MTBE = 31, 1,2-DCA = 2.7	--
	11/25/2008	8,700, a	23,000, a,c,d	6,400	14,e	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	7,200	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, a,c	11,000	ND<120	1,400	27	200	37	--	--
MW-3	6/27/2016	ND<50	ND<50	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND	All ND
	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									Not Sampled.	
	10/3/2014									Not Sampled.	
	8/20/2014									Not Sampled.	
	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	6/27/2016	4,400	1,100, c	ND<250	35	300	23	83	210	ND, except TBA = 70	ND, except Naphthalene = 44, n-butyl benzene = 11, sec-butyl benzene = 5.8, Isopropylbenzene = 38, n-Propyl benzene = 95, 1,2,4-Trimethylbenzene = 54, 1,3,5-Trimethylbenzene = 21
	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, n-Propyl benzene = 88, 1,2,4-Trimethylbenzene = 41, 1,3,5-Trimethylbenzene = 14
	11/3/2014									Not Sampled.	
	10/3/2014									Not Sampled.	
	8/20/2014									Not Sampled.	
	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	2,200, c	ND<250	ND<50	86	63	350	1,200	ND, except TBA = 11, MTBE = 12	--
	5/26/2011	7,300	2,400, b,c	ND<250	ND<210	230	64	450	1,100	ND, except TBA = 74, MTBE = 80	--
	11/18/2010	5,900	1,100, b,c	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	2,200, 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	--
MW-4 (Continued)	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	43,000	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	23,000	4,300, c	850	ND<900	680	250	930	3,100	--	--

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-2	6/27/2016	760	87, c	ND<250	ND<10	170	ND<10	ND<10	ND<10	ND	ND, except PCE = 670, TCE = 340, cis-1,2-DCE = 41, trans-1,2-DCE = 15
	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	Not Sampled.									
	10/3/2014	3,500	540, c	ND<250	31	670	ND<17	21	ND<17	ND	ND, except PCE = 350, TCE = 570, cis-1,2-DCE = 52, Isopropylbenzene = 19, n-Propyl benzene = 60
	8/21/2014	Samples only analyzed for Dissolved Hexavalent Chromium.									
	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, b,c	ND< 250	ND<150	580	7.9	10	80	ND, except TBA = 290, MTBE = 97	--
EW-4	6/27/2016	67	ND<50	ND<250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND	ND, except PCE = 120, TCE = 19
	12/10/2015	15,000	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	ND	ND, except PCE = 86, TCE = 11
	11/3/2014	Not Sampled.									
	10/3/2014	15,000	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.									
	6/19/2014	4,800	940, c	ND<250	--	1,200	12	110	21	ND, except TBA = 290, MTBE = 190	--
	11/19/2013	18,000	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, b,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, b,c	ND< 250	ND<150	99	9.9	20	300	ND, except TBA = 110, MTBE = 83	--
EW-5	6/27/2016	940	200, k,o	ND<250	59	140	ND<2.5	19	3.3	ND, except TBA = 420	ND, except Naphthalene = 4.1, trans-1,3-Dichloropropene = 3.4, Hexachloroethane = 13, Isopropylbenzene = 9.1, n-Propyl benzene = 22
	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, Isopropylbenzene = 12, n-Propyl benzene = 25
	11/3/2014	Not Sampled.									
EW-5 (Continued)	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.									
	6/19/2014	16,000	2,200, c	ND< 250	--	1,200	140	950	1,100	ND, except TBA = 310, MTBE = 230	--
	11/19/2013	17,000	2,600, c	ND< 250	ND<800	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	--

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
	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, b,c	ND< 250	ND<400	930	3,400	2,400	9,000	ND, except TBA = 110, MTBE = 48	--
	5/26/2011	35,000	3,600, b,c	ND< 250	ND<450	1,000	2,700	850	11,000	ND, except TBA = 250, MTBE = 86	--
OW-2	6/27/2016	59, i	ND<50	ND<250	0.64	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND	ND, except Naphthalene = 1.0, Carbon Disulfide = 0.65, tert-Butyl benzene = 0.64, n-Propyl benzene = 0.69
	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, i	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.									
	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	590	ND, except TBA = 60, MTBE = 5.4	--
	11/28/2011	5,300	1,100, b,c	ND< 250	ND<130	350	170	24	790	ND, except TBA = 210, MTBE = 50	--
	5/26/2011	450	430, b,c	ND< 250	ND<5.0	0.87	0.71	ND<0.5	7.7	ND, except TBA = 350, MTBE = 3.6	--
IW1	6/27/2016	160, i, m	81, k,o	ND<250	2.3	ND<0.5	ND<0.5	1.3	1.5	ND, except TBA = 10	ND, except Naphthalene = 0.76, MEK = 21, n-butyl benzene = 1.4, sec-butyl benzene = 0.51, Isopropylbenzene = 0.52, n-Propyl benzene = 1.7, 1,2,4-Trimethylbenzene = 2.7, 1,3,5-Trimethylbenzene = 1.2
	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
<b>Abbreviations and Notes:</b>											
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).											
MEK = Methyl Ethyl Ketone (2-butanone).											
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; 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: Stoddard solvent/mineral spirit (?)											
m = Laboratory Note: No recognizable pattern.											
n = Laboratory Note: aged diesel is significant; and/or diesel-range compounds are significant; no recognizable pattern.											
o = Laboratory Note: Gasoline range compounds are significant; and/or Stoddard solvent/mineral spirit (?)											
Results are in micrograms per liter (µg/L), unless otherwise noted.											

# **FIGURES**

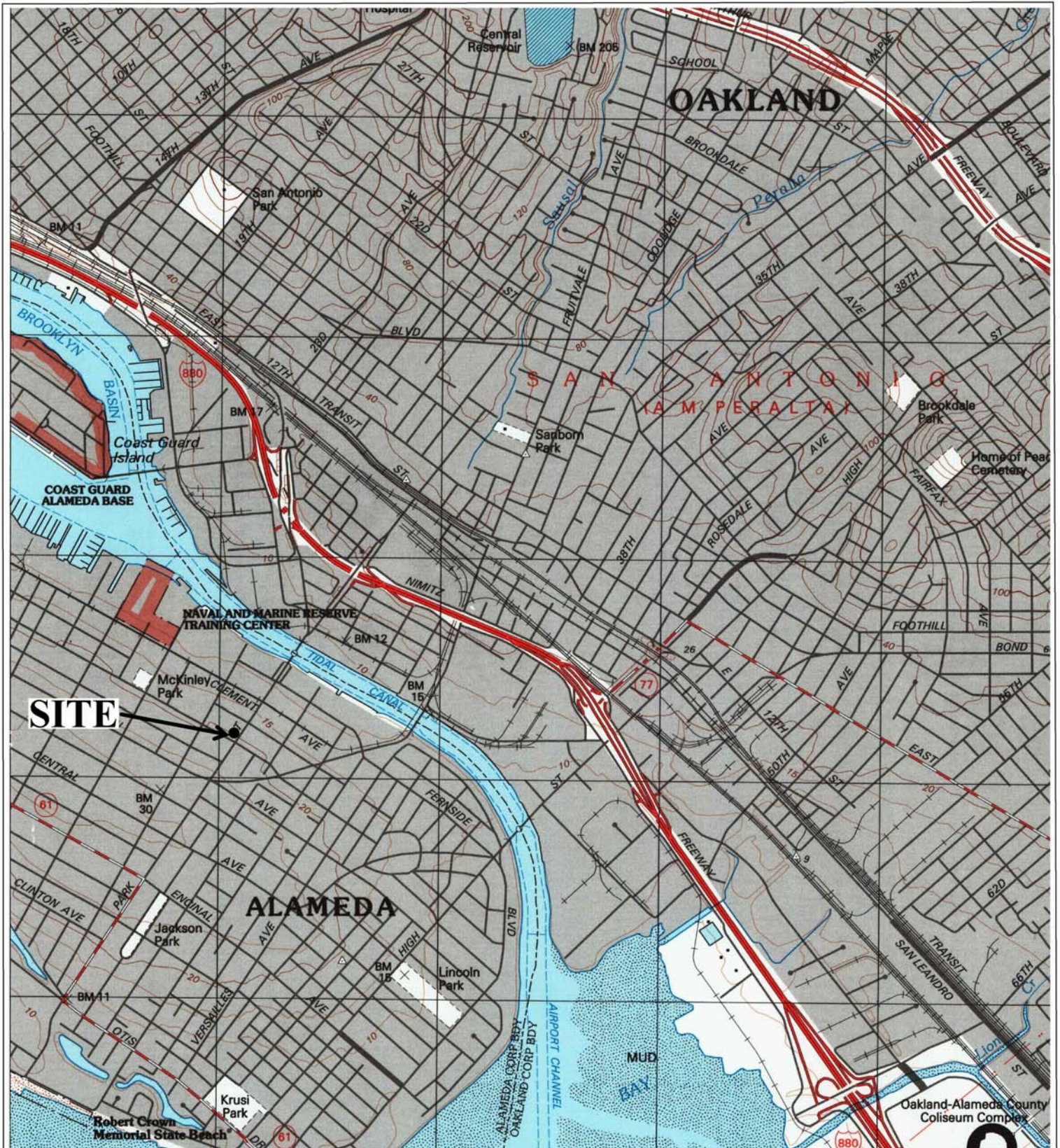


Figure 1  
 Site Location Map  
 Xtra Oil Company  
 1701 Park Street  
 Alameda, California

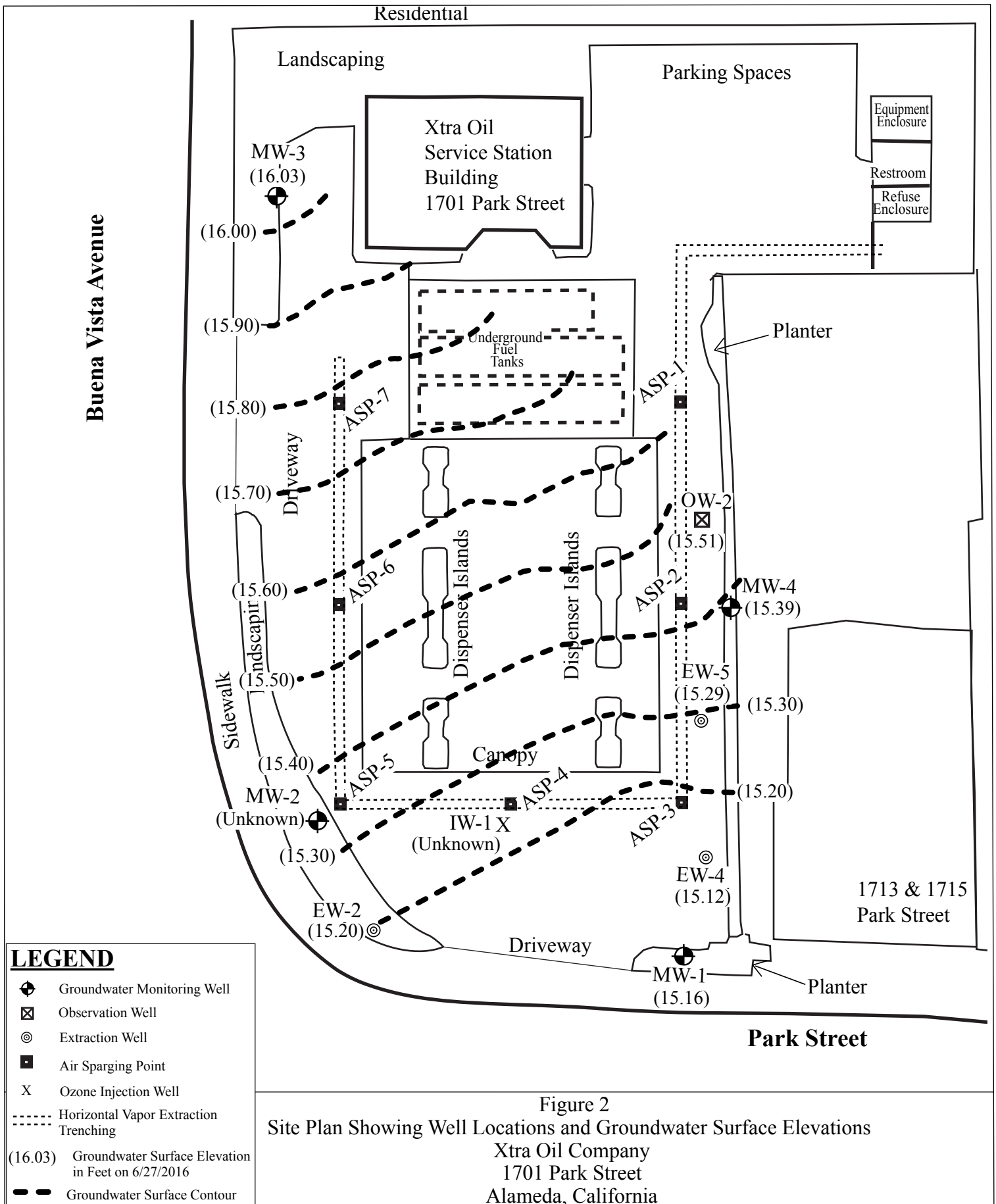
Basemap from:  
 U.S. Geological Survey  
 Oakland East, California  
 7.5-Minute Quadrangle, Map edited 1996

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

0 1,000 2,000  
 Approximate Scale in Feet

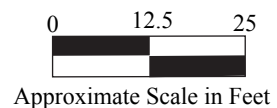


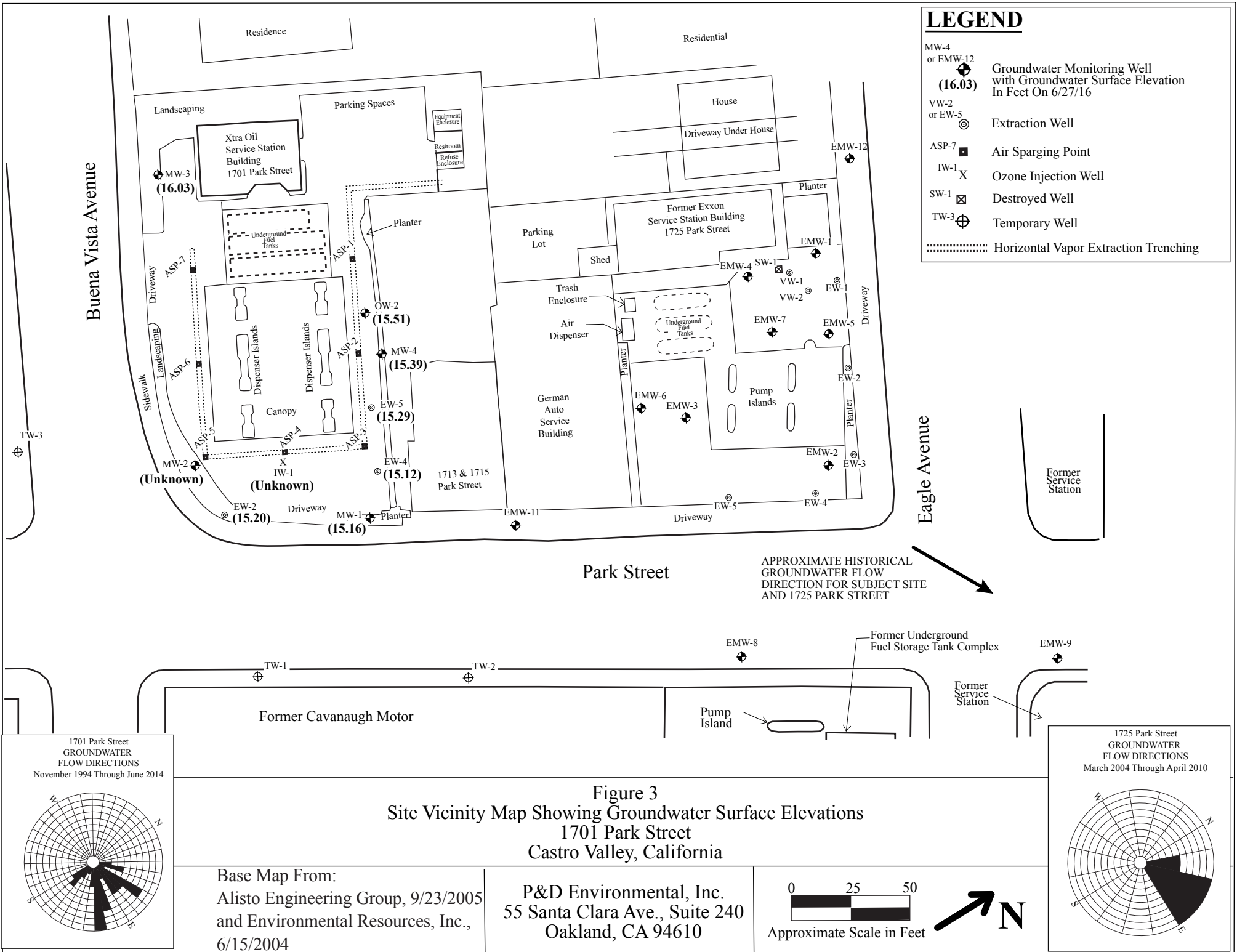




Basemap from: Alisto Engineering Group September 2005, and Google Earth October 2009

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.) 7.20  
 Well Depth (ft.) 19.2  
 Well Diameter 2"  
 Flow Rate (mL/minute) 200  
 Start Purge Time 1234

Well No. MW1  
 Date 6/27/16  
 Sheen YES  
 Free Product Thickness 0  
 Sample Collection Method PERISTALTIC PUMP +  
 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)
1235	200	7.35	6.83	1060	22.3	3.17	-156.8	5.11
1238	800	7.51	6.76	1063	22.0	1.97	-175.1	0.00
1241	1,400	7.55	6.74	1062	22.0	1.51	-170.4	0.00
1244	2,000	7.57	6.75	1049	22.2	1.07	-167.7	0.00
1247	2,600	7.58	6.76	1048	22.2	0.96	-164.9	0.00
1250	3,200	7.60	6.74	1047	22.2	0.86	-163.2	0.00

**NOTES**

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

MW1 COLLECTED AT 1255  
STRONG ODDOR AND SHEEN



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.) 8.21  
Well Depth (ft.) 15.8 (with added coupling)  
Well Diameter 2"  
Flow Rate (mL/minute) 200  
Start Purge Time 1019

Well No. MW2  
Date 6/27/16  
Sheen NONE  
Free Product Thickness 0  
Sample Collection Method PERISTALTIC PUMP AND  
NEW UNUSED PE TUBING

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>Depth to Water (ft.)</u>	<u>pH</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Temperature (C°)</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Oxidation/Reduction Potential (mV)</u>	<u>Turbidity (NTU)</u>
1020	200	8.25	6.62	999	22.4	4.38	-172.7	0.00
1023	800	8.42	6.68	1001	22.5	2.60	-192.5	0.00
1026	1,400	8.51	6.71	1001	22.6	1.70	-201.7	0.00
1029	2,000	8.53	6.69	998	22.7	1.32	-205.9	0.00
1032	2,600	8.56	6.73	990	22.7	1.03	-208.7	0.00
1035	3,200	8.58	6.74	984	22.7	0.90	-208.5	0.00

NOTES

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

MW2 COLLECTED AT 1040  
SLIGHT ODR, NO SHEEN.

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 6/27/16

TOC to Water (ft.) 7.32

Sheen NONE

Well Depth (ft.) 19.1

Free Product Thickness Ø

Well Diameter 2"

Sample Collection Method PERISTALTIC PUMP AND

Flow Rate (mL/minute) 200

DEDICATED PE TUBING

Start Purge Time 0924

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)
0925	200	7.43	6.29	389.7	20.5	2.65	-36.0	5.72
0928	800	7.58	6.37	382.0	20.3	2.11	-43.3	0.36
0931	1,400	7.73	6.37	380.8	20.4	1.69	-50.5	0.00
0934	2,000	7.86	6.37	380.9	20.4	1.59	-52.4	0.00
0937	2,600	7.93	6.37	380.5	20.4	1.43	-56.1	0.00
0940	3,200	7.97	6.35	380.2	20.4	1.33	-58.0	0.00

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

*MW3 collected at 0945  
no odor or sheen on sample.*

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

Site Name STRAOIL/1701 PARK ST., ALAMEDA

Well No. MW 4

Job Number 0058

Date 6/27/16

TOC to Water (ft) 7.09

Sheen NONE

Well Depth (ft.) 10.8

Free Product Thickness ∅

Well Diameter 2"

Sample Collection Method PERISTALTIC PUMP

Flow Rate (mL/minute) 200

AND DEDICATED PE TUBING

Start Purge Time 1536

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)
1537	200	7.54	6.80	750	20.9	2.47	-124.7	0.00
1540	800	8.56	6.78	749	21.0	1.29	-148.8	0.00
1543	1,400	9.12	6.80	745	21.0	0.99	-151.1	0.00
1546	2000	9.68	6.81	740	21.0	0.78	-152.7	0.00
1549	2,600	10.22	6.82	740	20.8	0.63	-156.6	0.00
1552	3,200	10.53	6.82	740	20.8	0.52	-157.4	0.00
1553	<u>WELL DEWATERED.</u>							

NOTES

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

MW 4 COLLECTED AT 1555  
SLIGHT ODOR, NO SHEEN

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

Site Name XTRA OIL/1701 PARK ST, ALABAMA  
Job Number 0058  
TOC to Water (ft.) 6.93  
Well Depth (ft.) 23.5  
Well Diameter 4"  
Flow Rate (mL/minute) 200  
Start Purge Time 1103

Well No. EW2  
Date 6/27/16  
Sheen NONE  
Free Product Thickness 0  
Sample Collection Method PERISTALTIC PUMPS  
NEW UNUSED PE TUBING

Time	Vol Purged (mL)	Depth to Water (ft.)	pH	Electrical Conductivity ( $\mu\text{S/cm}$ )	Temperature ( $^{\circ}\text{C}$ )	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1104	200	7.02	7.15	910	21.9	3.56	-122.8	0.00
1107	800	7.09	7.13	909	21.8	1.73	-162.0	0.00
1110	1,400	7.16	7.11	908	21.8	1.33	-173.1	0.00
1113	2,000	7.19	7.01	907	21.7	1.08	-181.2	0.00
1116	2,600	7.21	7.03	906	21.7	0.91	-185.4	0.00
1119	3,200	7.23	7.11	905	21.7	0.75	-191.3	0.00
1122	3,800	7.26	7.12	906	21.8	0.69	-194.3	0.00

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

EW2 COLLECTED AT 1125  
no odor or sheen.

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

Site Name XTRACIL / 0058 1701 PARK ST., ALAMEDA  
 Job Number 0058  
 TOC to Water (ft.) 5.83  
 Well Depth (ft.) 21.8  
 Well Diameter 4"  
 Flow Rate (mL/minute) 200  
 Start Purge Time 1409

Well No. EW4  
 Date 6/27/16  
 Sheen NONE  
 Free Product Thickness Ø  
 Sample Collection Method PERISTALTIC PUMP & NEW UNUSED 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)
1410	200	5.91	7.43	655	22.3	2.38	-152.7	0.00
1413	800	5.97	7.28	651	22.2	1.11	-171.3	0.00
1416	1,400	6.07	7.13	650	22.3	0.83	-174.5	0.00
1419	2,000	6.09	7.04	649	22.2	0.70	-176.7	0.00
1422	2,600	6.12	7.03	648	22.2	0.59	-179.5	0.00
1425	3,200	6.15	7.02	646	22.2	0.53	-178.5	0.00

**NOTES**

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

EW4 COLLECTED AT 1430  
SLIGHT ODR, NO SHEEN

**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.) 5.91  
 Well Depth (ft.) 23.7  
 Well Diameter 4"  
 Flow Rate (mL/minute) 200  
 Start Purge Time 1457

Well No. EWS  
 Date 6/27/16  
 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)
1458	200	5.97	6.85	785	20.4	2.47	-158.5	0.00
1501	800	6.03	6.67	783	20.3	1.45	-179.2	0.00
1504	1,400	6.10	6.73	783	20.3	1.06	-189.2	0.00
1507	2,000	6.14	6.74	782	20.2	0.86	-194.5	0.00
1510	2,600	6.17	6.75	783	20.2	0.75	-197.6	0.00
1513	3,200	6.19	6.77	784	20.2	0.66	-198.4	0.00

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

EWS COLLECTED AT 1515  
SLIGHT ODOR, NO SHEEN

**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.) 6.04  
 Well Depth (ft.) 18.5  
 Well Diameter 4"  
 Flow Rate (mL/minute) 200  
 Start Purge Time 1630

Well No. OW2  
 Date 6/27/16  
 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 (µS/cm)	Temperature (C°)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	Turbidity (NTU)
1631	200	6.10	6.94	600	19.9	3.12	-101.1	0.00
1634	800	6.17	6.78	597	19.6	1.62	-126.2	0.00
1637	1,400	6.23	6.84	595	19.6	1.15	-132.9	0.00
1640	2,000	6.27	6.73	597	19.6	0.80	-139.0	0.00
1643	2,600	6.29	6.83	597	19.5	0.68	-140.8	0.00
1646	3,200	6.31	6.83	596	19.5	0.58	-142.6	0.00

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

OW2 collected at 1655  
NO OIL OR SHEEN.

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

Site Name Extra oil / 1701 Burkst., Alameda  
Job Number 0058  
TOC to Water (ft.) 6.91  
Well Depth (ft.) 23.1  
Well Diameter 2"  
Flow Rate (mL/minute) 200  
Start Purge Time 1152

Well No. IWI  
Date 6/27/16  
Sheen NONE  
Free Product Thickness Ø  
Sample Collection Method Peristaltic Pump & 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	7.57	7.83	218.6	23.4	1.83	-137.5	5.25
1156	800	8.21	8.05	204.4	23.1	0.96	-239.3	3.97
1159	1,400	8.69	7.98	449.2	23.0	0.58	-237.6	15.42
1202	2,000	9.09	7.69	483.7	22.9	0.51	-194.1	28.43
1205	2,600	9.23	7.57	513.0	22.9	0.50	-184.2	0.79
1208	3,200	9.35	7.61	560.0	22.9	0.44	-193.4	1.21
1211	3,800	9.37	7.64	565.0	22.8	0.40	-191.7	0.94

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

IWI collected at 1215  
no odor or sheen on sample



## **APPENDIX C**

# **LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY DOCUMENTATION**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1606D44

**Report Created for:** P & D Environmental

55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Michael Deschenes

**Project P.O.:**

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

**Project Received:** 06/28/2016

Analytical Report reviewed & approved for release on 07/06/2016 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:** 1606D44

### Glossary Abbreviation

%D	Serial Dilution Percent Difference
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 (Serial Dilution)
DUP	Duplicate
e	spike reference value above calibration level
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
ST	Sorbent Tube
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:** 1606D44

### Analytical Qualifiers

S	Surrogate 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
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9	no recognizable pattern
d17	Reporting limit for MTBE raised due to co-elution with non-target peaks.
e3/e2	aged diesel is significant; and/or diesel range compounds are significant; no recognizable pattern
e4/e11	gasoline range compounds are significant.; and/or stoddard solvent/mineral spirit (?)
e4	gasoline range compounds are significant.
e8	kerosene/kerosene range/jet fuel range

### Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD is out of acceptance criteria.
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## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1606D44-001B	Water	06/27/2016 12:55	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		1000	100	07/07/2016 13:44
tert-Amyl methyl ether (TAME)	ND		50	100	07/07/2016 13:44
Benzene	<b>1900</b>		50	100	07/07/2016 13:44
Bromobenzene	ND		50	100	07/07/2016 13:44
Bromochloromethane	ND		50	100	07/07/2016 13:44
Bromodichloromethane	ND		50	100	07/07/2016 13:44
Bromoform	ND		50	100	07/07/2016 13:44
Bromomethane	ND		50	100	07/07/2016 13:44
2-Butanone (MEK)	ND		200	100	07/07/2016 13:44
t-Butyl alcohol (TBA)	<b>650</b>		200	100	07/07/2016 13:44
n-Butyl benzene	ND		50	100	07/07/2016 13:44
sec-Butyl benzene	ND		50	100	07/07/2016 13:44
tert-Butyl benzene	ND		50	100	07/07/2016 13:44
Carbon Disulfide	ND		50	100	07/07/2016 13:44
Carbon Tetrachloride	ND		50	100	07/07/2016 13:44
Chlorobenzene	ND		50	100	07/07/2016 13:44
Chloroethane	ND		50	100	07/07/2016 13:44
Chloroform	ND		50	100	07/07/2016 13:44
Chloromethane	ND		50	100	07/07/2016 13:44
2-Chlorotoluene	ND		50	100	07/07/2016 13:44
4-Chlorotoluene	ND		50	100	07/07/2016 13:44
Dibromochloromethane	ND		50	100	07/07/2016 13:44
1,2-Dibromo-3-chloropropane	ND		20	100	07/07/2016 13:44
1,2-Dibromoethane (EDB)	ND		50	100	07/07/2016 13:44
Dibromomethane	ND		50	100	07/07/2016 13:44
1,2-Dichlorobenzene	ND		50	100	07/07/2016 13:44
1,3-Dichlorobenzene	ND		50	100	07/07/2016 13:44
1,4-Dichlorobenzene	ND		50	100	07/07/2016 13:44
Dichlorodifluoromethane	ND		50	100	07/07/2016 13:44
1,1-Dichloroethane	ND		50	100	07/07/2016 13:44
1,2-Dichloroethane (1,2-DCA)	ND		50	100	07/07/2016 13:44
1,1-Dichloroethene	ND		50	100	07/07/2016 13:44
cis-1,2-Dichloroethene	ND		50	100	07/07/2016 13:44
trans-1,2-Dichloroethene	ND		50	100	07/07/2016 13:44
1,2-Dichloropropane	ND		50	100	07/07/2016 13:44
1,3-Dichloropropane	ND		50	100	07/07/2016 13:44
2,2-Dichloropropane	ND		50	100	07/07/2016 13:44

(Cont.)



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1606D44-001B	Water	06/27/2016 12:55	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		50	100	07/07/2016 13:44
cis-1,3-Dichloropropene	ND		50	100	07/07/2016 13:44
trans-1,3-Dichloropropene	ND		50	100	07/07/2016 13:44
Diisopropyl ether (DIPE)	ND		50	100	07/07/2016 13:44
Ethylbenzene	<b>120</b>		50	100	07/07/2016 13:44
Ethyl tert-butyl ether (ETBE)	ND		50	100	07/07/2016 13:44
Freon 113	ND		50	100	07/07/2016 13:44
Hexachlorobutadiene	ND		50	100	07/07/2016 13:44
Hexachloroethane	ND		50	100	07/07/2016 13:44
2-Hexanone	ND		50	100	07/07/2016 13:44
Isopropylbenzene	ND		50	100	07/07/2016 13:44
4-Isopropyl toluene	ND		50	100	07/07/2016 13:44
Methyl-t-butyl ether (MTBE)	<b>260</b>		50	100	07/07/2016 13:44
Methylene chloride	ND		50	100	07/07/2016 13:44
4-Methyl-2-pentanone (MIBK)	ND		50	100	07/07/2016 13:44
Naphthalene	ND		50	100	07/07/2016 13:44
n-Propyl benzene	<b>60</b>		50	100	07/07/2016 13:44
Styrene	ND		50	100	07/07/2016 13:44
1,1,1,2-Tetrachloroethane	ND		50	100	07/07/2016 13:44
1,1,2,2-Tetrachloroethane	ND		50	100	07/07/2016 13:44
Tetrachloroethene	ND		50	100	07/07/2016 13:44
Toluene	ND		50	100	07/07/2016 13:44
1,2,3-Trichlorobenzene	ND		50	100	07/07/2016 13:44
1,2,4-Trichlorobenzene	ND		50	100	07/07/2016 13:44
1,1,1-Trichloroethane	ND		50	100	07/07/2016 13:44
1,1,2-Trichloroethane	ND		50	100	07/07/2016 13:44
Trichloroethene	ND		50	100	07/07/2016 13:44
Trichlorofluoromethane	ND		50	100	07/07/2016 13:44
1,2,3-Trichloropropane	ND		50	100	07/07/2016 13:44
1,2,4-Trimethylbenzene	ND		50	100	07/07/2016 13:44
1,3,5-Trimethylbenzene	ND		50	100	07/07/2016 13:44
Vinyl Chloride	ND		50	100	07/07/2016 13:44
Xylenes, Total	<b>210</b>		50	100	07/07/2016 13:44

(Cont.)

NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1606D44-001B	Water	06/27/2016 12:55	GC18	123130

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	125	70-130		07/07/2016 13:44
Toluene-d8	108	70-130		07/07/2016 13:44
4-BFB	106	70-130		07/07/2016 13:44

**Analyst(s):** KF



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1606D44-002B	Water	06/27/2016 10:40	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	07/01/2016 04:36
tert-Amyl methyl ether (TAME)	ND		5.0	10	07/01/2016 04:36
Benzene	<b>210</b>		5.0	10	07/01/2016 04:36
Bromobenzene	ND		5.0	10	07/01/2016 04:36
Bromochloromethane	ND		5.0	10	07/01/2016 04:36
Bromodichloromethane	ND		5.0	10	07/01/2016 04:36
Bromoform	ND		5.0	10	07/01/2016 04:36
Bromomethane	ND		5.0	10	07/01/2016 04:36
2-Butanone (MEK)	ND		20	10	07/01/2016 04:36
t-Butyl alcohol (TBA)	<b>140</b>		20	10	07/01/2016 04:36
n-Butyl benzene	<b>17</b>		5.0	10	07/01/2016 04:36
sec-Butyl benzene	<b>7.2</b>		5.0	10	07/01/2016 04:36
tert-Butyl benzene	ND		5.0	10	07/01/2016 04:36
Carbon Disulfide	ND		5.0	10	07/01/2016 04:36
Carbon Tetrachloride	ND		5.0	10	07/01/2016 04:36
Chlorobenzene	ND		5.0	10	07/01/2016 04:36
Chloroethane	ND		5.0	10	07/01/2016 04:36
Chloroform	ND		5.0	10	07/01/2016 04:36
Chloromethane	ND		5.0	10	07/01/2016 04:36
2-Chlorotoluene	ND		5.0	10	07/01/2016 04:36
4-Chlorotoluene	ND		5.0	10	07/01/2016 04:36
Dibromochloromethane	ND		5.0	10	07/01/2016 04:36
1,2-Dibromo-3-chloropropane	ND		2.0	10	07/01/2016 04:36
1,2-Dibromoethane (EDB)	ND		5.0	10	07/01/2016 04:36
Dibromomethane	ND		5.0	10	07/01/2016 04:36
1,2-Dichlorobenzene	ND		5.0	10	07/01/2016 04:36
1,3-Dichlorobenzene	ND		5.0	10	07/01/2016 04:36
1,4-Dichlorobenzene	ND		5.0	10	07/01/2016 04:36
Dichlorodifluoromethane	ND		5.0	10	07/01/2016 04:36
1,1-Dichloroethane	ND		5.0	10	07/01/2016 04:36
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	07/01/2016 04:36
1,1-Dichloroethene	ND		5.0	10	07/01/2016 04:36
cis-1,2-Dichloroethene	ND		5.0	10	07/01/2016 04:36
trans-1,2-Dichloroethene	ND		5.0	10	07/01/2016 04:36
1,2-Dichloropropane	ND		5.0	10	07/01/2016 04:36
1,3-Dichloropropane	ND		5.0	10	07/01/2016 04:36
2,2-Dichloropropane	ND		5.0	10	07/01/2016 04:36

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## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1606D44-002B	Water	06/27/2016 10:40	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		5.0	10	07/01/2016 04:36
cis-1,3-Dichloropropene	ND		5.0	10	07/01/2016 04:36
trans-1,3-Dichloropropene	ND		5.0	10	07/01/2016 04:36
Diisopropyl ether (DIPE)	ND		5.0	10	07/01/2016 04:36
Ethylbenzene	12		5.0	10	07/01/2016 04:36
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	07/01/2016 04:36
Freon 113	ND		5.0	10	07/01/2016 04:36
Hexachlorobutadiene	ND		5.0	10	07/01/2016 04:36
Hexachloroethane	ND		5.0	10	07/01/2016 04:36
2-Hexanone	ND		5.0	10	07/01/2016 04:36
Isopropylbenzene	35		5.0	10	07/01/2016 04:36
4-Isopropyl toluene	ND		5.0	10	07/01/2016 04:36
Methyl-t-butyl ether (MTBE)	25		5.0	10	07/01/2016 04:36
Methylene chloride	ND		5.0	10	07/01/2016 04:36
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	07/01/2016 04:36
Naphthalene	53		5.0	10	07/01/2016 04:36
n-Propyl benzene	100		5.0	10	07/01/2016 04:36
Styrene	ND		5.0	10	07/01/2016 04:36
1,1,1,2-Tetrachloroethane	ND		5.0	10	07/01/2016 04:36
1,1,2,2-Tetrachloroethane	ND		5.0	10	07/01/2016 04:36
Tetrachloroethene	ND		5.0	10	07/01/2016 04:36
Toluene	9.6		5.0	10	07/01/2016 04:36
1,2,3-Trichlorobenzene	ND		5.0	10	07/01/2016 04:36
1,2,4-Trichlorobenzene	ND		5.0	10	07/01/2016 04:36
1,1,1-Trichloroethane	ND		5.0	10	07/01/2016 04:36
1,1,2-Trichloroethane	ND		5.0	10	07/01/2016 04:36
Trichloroethene	ND		5.0	10	07/01/2016 04:36
Trichlorofluoromethane	ND		5.0	10	07/01/2016 04:36
1,2,3-Trichloropropane	ND		5.0	10	07/01/2016 04:36
1,2,4-Trimethylbenzene	ND		5.0	10	07/01/2016 04:36
1,3,5-Trimethylbenzene	6.6		5.0	10	07/01/2016 04:36
Vinyl Chloride	ND		5.0	10	07/01/2016 04:36
Xylenes, Total	15		5.0	10	07/01/2016 04:36

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental **WorkOrder:** 1606D44  
**Date Received:** 6/28/16 17:00 **Extraction Method:** SW5030B  
**Date Prepared:** 7/1/16-7/7/16 **Analytical Method:** SW8260B  
**Project:** 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1606D44-002B	Water	06/27/2016 10:40	GC18	123130

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	116	70-130		07/01/2016 04:36
Toluene-d8	107	70-130		07/01/2016 04:36
4-BFB	101	70-130		07/01/2016 04:36

Analyst(s): MW



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1606D44-003B	Water	06/27/2016 09:45	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/01/2016 05:15
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/01/2016 05:15
Benzene	ND		0.50	1	07/01/2016 05:15
Bromobenzene	ND		0.50	1	07/01/2016 05:15
Bromochloromethane	ND		0.50	1	07/01/2016 05:15
Bromodichloromethane	ND		0.50	1	07/01/2016 05:15
Bromoform	ND		0.50	1	07/01/2016 05:15
Bromomethane	ND		0.50	1	07/01/2016 05:15
2-Butanone (MEK)	ND		2.0	1	07/01/2016 05:15
t-Butyl alcohol (TBA)	ND		2.0	1	07/01/2016 05:15
n-Butyl benzene	ND		0.50	1	07/01/2016 05:15
sec-Butyl benzene	ND		0.50	1	07/01/2016 05:15
tert-Butyl benzene	ND		0.50	1	07/01/2016 05:15
Carbon Disulfide	ND		0.50	1	07/01/2016 05:15
Carbon Tetrachloride	ND		0.50	1	07/01/2016 05:15
Chlorobenzene	ND		0.50	1	07/01/2016 05:15
Chloroethane	ND		0.50	1	07/01/2016 05:15
Chloroform	ND		0.50	1	07/01/2016 05:15
Chloromethane	ND		0.50	1	07/01/2016 05:15
2-Chlorotoluene	ND		0.50	1	07/01/2016 05:15
4-Chlorotoluene	ND		0.50	1	07/01/2016 05:15
Dibromochloromethane	ND		0.50	1	07/01/2016 05:15
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/01/2016 05:15
1,2-Dibromoethane (EDB)	ND		0.50	1	07/01/2016 05:15
Dibromomethane	ND		0.50	1	07/01/2016 05:15
1,2-Dichlorobenzene	ND		0.50	1	07/01/2016 05:15
1,3-Dichlorobenzene	ND		0.50	1	07/01/2016 05:15
1,4-Dichlorobenzene	ND		0.50	1	07/01/2016 05:15
Dichlorodifluoromethane	ND		0.50	1	07/01/2016 05:15
1,1-Dichloroethane	ND		0.50	1	07/01/2016 05:15
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/01/2016 05:15
1,1-Dichloroethene	ND		0.50	1	07/01/2016 05:15
cis-1,2-Dichloroethene	ND		0.50	1	07/01/2016 05:15
trans-1,2-Dichloroethene	ND		0.50	1	07/01/2016 05:15
1,2-Dichloropropane	ND		0.50	1	07/01/2016 05:15
1,3-Dichloropropane	ND		0.50	1	07/01/2016 05:15
2,2-Dichloropropane	ND		0.50	1	07/01/2016 05:15

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## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1606D44-003B	Water	06/27/2016 09:45	GC18	123130

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	07/01/2016 05:15
cis-1,3-Dichloropropene	ND	0.50	1	07/01/2016 05:15
trans-1,3-Dichloropropene	ND	0.50	1	07/01/2016 05:15
Diisopropyl ether (DIPE)	ND	0.50	1	07/01/2016 05:15
Ethylbenzene	ND	0.50	1	07/01/2016 05:15
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/01/2016 05:15
Freon 113	ND	0.50	1	07/01/2016 05:15
Hexachlorobutadiene	ND	0.50	1	07/01/2016 05:15
Hexachloroethane	ND	0.50	1	07/01/2016 05:15
2-Hexanone	ND	0.50	1	07/01/2016 05:15
Isopropylbenzene	ND	0.50	1	07/01/2016 05:15
4-Isopropyl toluene	ND	0.50	1	07/01/2016 05:15
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/01/2016 05:15
Methylene chloride	ND	0.50	1	07/01/2016 05:15
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	07/01/2016 05:15
Naphthalene	ND	0.50	1	07/01/2016 05:15
n-Propyl benzene	ND	0.50	1	07/01/2016 05:15
Styrene	ND	0.50	1	07/01/2016 05:15
1,1,1,2-Tetrachloroethane	ND	0.50	1	07/01/2016 05:15
1,1,2,2-Tetrachloroethane	ND	0.50	1	07/01/2016 05:15
Tetrachloroethene	ND	0.50	1	07/01/2016 05:15
Toluene	ND	0.50	1	07/01/2016 05:15
1,2,3-Trichlorobenzene	ND	0.50	1	07/01/2016 05:15
1,2,4-Trichlorobenzene	ND	0.50	1	07/01/2016 05:15
1,1,1-Trichloroethane	ND	0.50	1	07/01/2016 05:15
1,1,2-Trichloroethane	ND	0.50	1	07/01/2016 05:15
Trichloroethene	ND	0.50	1	07/01/2016 05:15
Trichlorofluoromethane	ND	0.50	1	07/01/2016 05:15
1,2,3-Trichloropropane	ND	0.50	1	07/01/2016 05:15
1,2,4-Trimethylbenzene	ND	0.50	1	07/01/2016 05:15
1,3,5-Trimethylbenzene	ND	0.50	1	07/01/2016 05:15
Vinyl Chloride	ND	0.50	1	07/01/2016 05:15
Xylenes, Total	ND	0.50	1	07/01/2016 05:15

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1606D44-003B	Water	06/27/2016 09:45	GC18	123130

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	117	70-130		07/01/2016 05:15
Toluene-d8	107	70-130		07/01/2016 05:15
4-BFB	102	70-130		07/01/2016 05:15

Analyst(s): MW



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1606D44-004B	Water	06/27/2016 15:55	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	07/01/2016 05:54
tert-Amyl methyl ether (TAME)	ND		5.0	10	07/01/2016 05:54
Benzene	<b>300</b>		5.0	10	07/01/2016 05:54
Bromobenzene	ND		5.0	10	07/01/2016 05:54
Bromochloromethane	ND		5.0	10	07/01/2016 05:54
Bromodichloromethane	ND		5.0	10	07/01/2016 05:54
Bromoform	ND		5.0	10	07/01/2016 05:54
Bromomethane	ND		5.0	10	07/01/2016 05:54
2-Butanone (MEK)	ND		20	10	07/01/2016 05:54
t-Butyl alcohol (TBA)	<b>70</b>		20	10	07/01/2016 05:54
n-Butyl benzene	<b>11</b>		5.0	10	07/01/2016 05:54
sec-Butyl benzene	<b>5.8</b>		5.0	10	07/01/2016 05:54
tert-Butyl benzene	ND		5.0	10	07/01/2016 05:54
Carbon Disulfide	ND		5.0	10	07/01/2016 05:54
Carbon Tetrachloride	ND		5.0	10	07/01/2016 05:54
Chlorobenzene	ND		5.0	10	07/01/2016 05:54
Chloroethane	ND		5.0	10	07/01/2016 05:54
Chloroform	ND		5.0	10	07/01/2016 05:54
Chloromethane	ND		5.0	10	07/01/2016 05:54
2-Chlorotoluene	ND		5.0	10	07/01/2016 05:54
4-Chlorotoluene	ND		5.0	10	07/01/2016 05:54
Dibromochloromethane	ND		5.0	10	07/01/2016 05:54
1,2-Dibromo-3-chloropropane	ND		2.0	10	07/01/2016 05:54
1,2-Dibromoethane (EDB)	ND		5.0	10	07/01/2016 05:54
Dibromomethane	ND		5.0	10	07/01/2016 05:54
1,2-Dichlorobenzene	ND		5.0	10	07/01/2016 05:54
1,3-Dichlorobenzene	ND		5.0	10	07/01/2016 05:54
1,4-Dichlorobenzene	ND		5.0	10	07/01/2016 05:54
Dichlorodifluoromethane	ND		5.0	10	07/01/2016 05:54
1,1-Dichloroethane	ND		5.0	10	07/01/2016 05:54
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	07/01/2016 05:54
1,1-Dichloroethene	ND		5.0	10	07/01/2016 05:54
cis-1,2-Dichloroethene	ND		5.0	10	07/01/2016 05:54
trans-1,2-Dichloroethene	ND		5.0	10	07/01/2016 05:54
1,2-Dichloropropane	ND		5.0	10	07/01/2016 05:54
1,3-Dichloropropane	ND		5.0	10	07/01/2016 05:54
2,2-Dichloropropane	ND		5.0	10	07/01/2016 05:54

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1606D44-004B	Water	06/27/2016 15:55	GC18	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		5.0	10	07/01/2016 05:54
cis-1,3-Dichloropropene	ND		5.0	10	07/01/2016 05:54
trans-1,3-Dichloropropene	ND		5.0	10	07/01/2016 05:54
Diisopropyl ether (DIPE)	ND		5.0	10	07/01/2016 05:54
Ethylbenzene	83		5.0	10	07/01/2016 05:54
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	07/01/2016 05:54
Freon 113	ND		5.0	10	07/01/2016 05:54
Hexachlorobutadiene	ND		5.0	10	07/01/2016 05:54
Hexachloroethane	ND		5.0	10	07/01/2016 05:54
2-Hexanone	ND		5.0	10	07/01/2016 05:54
Isopropylbenzene	38		5.0	10	07/01/2016 05:54
4-Isopropyl toluene	ND		5.0	10	07/01/2016 05:54
Methyl-t-butyl ether (MTBE)	35		5.0	10	07/01/2016 05:54
Methylene chloride	ND		5.0	10	07/01/2016 05:54
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	07/01/2016 05:54
Naphthalene	44		5.0	10	07/01/2016 05:54
n-Propyl benzene	95		5.0	10	07/01/2016 05:54
Styrene	ND		5.0	10	07/01/2016 05:54
1,1,1,2-Tetrachloroethane	ND		5.0	10	07/01/2016 05:54
1,1,2,2-Tetrachloroethane	ND		5.0	10	07/01/2016 05:54
Tetrachloroethene	ND		5.0	10	07/01/2016 05:54
Toluene	23		5.0	10	07/01/2016 05:54
1,2,3-Trichlorobenzene	ND		5.0	10	07/01/2016 05:54
1,2,4-Trichlorobenzene	ND		5.0	10	07/01/2016 05:54
1,1,1-Trichloroethane	ND		5.0	10	07/01/2016 05:54
1,1,2-Trichloroethane	ND		5.0	10	07/01/2016 05:54
Trichloroethene	ND		5.0	10	07/01/2016 05:54
Trichlorofluoromethane	ND		5.0	10	07/01/2016 05:54
1,2,3-Trichloropropane	ND		5.0	10	07/01/2016 05:54
1,2,4-Trimethylbenzene	54		5.0	10	07/01/2016 05:54
1,3,5-Trimethylbenzene	21		5.0	10	07/01/2016 05:54
Vinyl Chloride	ND		5.0	10	07/01/2016 05:54
Xylenes, Total	210		5.0	10	07/01/2016 05:54

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Received:</b> 6/28/16 17:00	<b>Extraction Method:</b> SW5030B
<b>Date Prepared:</b> 7/1/16-7/7/16	<b>Analytical Method:</b> SW8260B
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Unit:</b> µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1606D44-004B	Water	06/27/2016 15:55	GC18	123130

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	115	70-130		07/01/2016 05:54
Toluene-d8	107	70-130		07/01/2016 05:54
4-BFB	103	70-130		07/01/2016 05:54

Analyst(s): MW





## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-2	1606D44-005B	Water	06/27/2016 11:25	GC28	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		200	20	07/07/2016 13:29
tert-Amyl methyl ether (TAME)	ND		10	20	07/07/2016 13:29
Benzene	<b>170</b>		10	20	07/07/2016 13:29
Bromobenzene	ND		10	20	07/07/2016 13:29
Bromochloromethane	ND		10	20	07/07/2016 13:29
Bromodichloromethane	ND		10	20	07/07/2016 13:29
Bromoform	ND		10	20	07/07/2016 13:29
Bromomethane	ND		10	20	07/07/2016 13:29
2-Butanone (MEK)	ND		40	20	07/07/2016 13:29
t-Butyl alcohol (TBA)	ND		40	20	07/07/2016 13:29
n-Butyl benzene	ND		10	20	07/07/2016 13:29
sec-Butyl benzene	ND		10	20	07/07/2016 13:29
tert-Butyl benzene	ND		10	20	07/07/2016 13:29
Carbon Disulfide	ND		10	20	07/07/2016 13:29
Carbon Tetrachloride	ND		10	20	07/07/2016 13:29
Chlorobenzene	ND		10	20	07/07/2016 13:29
Chloroethane	ND		10	20	07/07/2016 13:29
Chloroform	ND		10	20	07/07/2016 13:29
Chloromethane	ND		10	20	07/07/2016 13:29
2-Chlorotoluene	ND		10	20	07/07/2016 13:29
4-Chlorotoluene	ND		10	20	07/07/2016 13:29
Dibromochloromethane	ND		10	20	07/07/2016 13:29
1,2-Dibromo-3-chloropropane	ND		4.0	20	07/07/2016 13:29
1,2-Dibromoethane (EDB)	ND		10	20	07/07/2016 13:29
Dibromomethane	ND		10	20	07/07/2016 13:29
1,2-Dichlorobenzene	ND		10	20	07/07/2016 13:29
1,3-Dichlorobenzene	ND		10	20	07/07/2016 13:29
1,4-Dichlorobenzene	ND		10	20	07/07/2016 13:29
Dichlorodifluoromethane	ND		10	20	07/07/2016 13:29
1,1-Dichloroethane	ND		10	20	07/07/2016 13:29
1,2-Dichloroethane (1,2-DCA)	ND		10	20	07/07/2016 13:29
1,1-Dichloroethene	ND		10	20	07/07/2016 13:29
cis-1,2-Dichloroethene	<b>41</b>		10	20	07/07/2016 13:29
trans-1,2-Dichloroethene	<b>15</b>		10	20	07/07/2016 13:29
1,2-Dichloropropane	ND		10	20	07/07/2016 13:29
1,3-Dichloropropane	ND		10	20	07/07/2016 13:29
2,2-Dichloropropane	ND		10	20	07/07/2016 13:29

(Cont.)



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-2	1606D44-005B	Water	06/27/2016 11:25	GC28	123130
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		10	20	07/07/2016 13:29
cis-1,3-Dichloropropene	ND		10	20	07/07/2016 13:29
trans-1,3-Dichloropropene	ND		10	20	07/07/2016 13:29
Diisopropyl ether (DIPE)	ND		10	20	07/07/2016 13:29
Ethylbenzene	ND		10	20	07/07/2016 13:29
Ethyl tert-butyl ether (ETBE)	ND		10	20	07/07/2016 13:29
Freon 113	ND		10	20	07/07/2016 13:29
Hexachlorobutadiene	ND		10	20	07/07/2016 13:29
Hexachloroethane	ND		10	20	07/07/2016 13:29
2-Hexanone	ND		10	20	07/07/2016 13:29
Isopropylbenzene	ND		10	20	07/07/2016 13:29
4-Isopropyl toluene	ND		10	20	07/07/2016 13:29
Methyl-t-butyl ether (MTBE)	ND		10	20	07/07/2016 13:29
Methylene chloride	ND		10	20	07/07/2016 13:29
4-Methyl-2-pentanone (MIBK)	ND		10	20	07/07/2016 13:29
Naphthalene	ND		10	20	07/07/2016 13:29
n-Propyl benzene	ND		10	20	07/07/2016 13:29
Styrene	ND		10	20	07/07/2016 13:29
1,1,1,2-Tetrachloroethane	ND		10	20	07/07/2016 13:29
1,1,2,2-Tetrachloroethane	ND		10	20	07/07/2016 13:29
Tetrachloroethene	<b>670</b>		10	20	07/07/2016 13:29
Toluene	ND		10	20	07/07/2016 13:29
1,2,3-Trichlorobenzene	ND		10	20	07/07/2016 13:29
1,2,4-Trichlorobenzene	ND		10	20	07/07/2016 13:29
1,1,1-Trichloroethane	ND		10	20	07/07/2016 13:29
1,1,2-Trichloroethane	ND		10	20	07/07/2016 13:29
Trichloroethene	<b>340</b>		10	20	07/07/2016 13:29
Trichlorofluoromethane	ND		10	20	07/07/2016 13:29
1,2,3-Trichloropropane	ND		10	20	07/07/2016 13:29
1,2,4-Trimethylbenzene	ND		10	20	07/07/2016 13:29
1,3,5-Trimethylbenzene	ND		10	20	07/07/2016 13:29
Vinyl Chloride	ND		10	20	07/07/2016 13:29
Xylenes, Total	ND		10	20	07/07/2016 13:29

(Cont.)

NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

Client: P & D Environmental

WorkOrder: 1606D44

Date Received: 6/28/16 17:00

Extraction Method: SW5030B

Date Prepared: 7/1/16-7/7/16

Analytical Method: SW8260B

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

Unit: µg/L

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-2	1606D44-005B	Water	06/27/2016 11:25	GC28	123130

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	94	70-130		07/07/2016 13:29
Toluene-d8	94	70-130		07/07/2016 13:29
4-BFB	77	70-130		07/07/2016 13:29

Analyst(s): KF



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-4	1606D44-006B	Water	06/27/2016 14:30	GC28	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	07/07/2016 14:08
tert-Amyl methyl ether (TAME)	ND		5.0	10	07/07/2016 14:08
Benzene	ND		5.0	10	07/07/2016 14:08
Bromobenzene	ND		5.0	10	07/07/2016 14:08
Bromochloromethane	ND		5.0	10	07/07/2016 14:08
Bromodichloromethane	ND		5.0	10	07/07/2016 14:08
Bromoform	ND		5.0	10	07/07/2016 14:08
Bromomethane	ND		5.0	10	07/07/2016 14:08
2-Butanone (MEK)	ND		20	10	07/07/2016 14:08
t-Butyl alcohol (TBA)	ND		20	10	07/07/2016 14:08
n-Butyl benzene	ND		5.0	10	07/07/2016 14:08
sec-Butyl benzene	ND		5.0	10	07/07/2016 14:08
tert-Butyl benzene	ND		5.0	10	07/07/2016 14:08
Carbon Disulfide	ND		5.0	10	07/07/2016 14:08
Carbon Tetrachloride	ND		5.0	10	07/07/2016 14:08
Chlorobenzene	ND		5.0	10	07/07/2016 14:08
Chloroethane	ND		5.0	10	07/07/2016 14:08
Chloroform	ND		5.0	10	07/07/2016 14:08
Chloromethane	ND		5.0	10	07/07/2016 14:08
2-Chlorotoluene	ND		5.0	10	07/07/2016 14:08
4-Chlorotoluene	ND		5.0	10	07/07/2016 14:08
Dibromochloromethane	ND		5.0	10	07/07/2016 14:08
1,2-Dibromo-3-chloropropane	ND		2.0	10	07/07/2016 14:08
1,2-Dibromoethane (EDB)	ND		5.0	10	07/07/2016 14:08
Dibromomethane	ND		5.0	10	07/07/2016 14:08
1,2-Dichlorobenzene	ND		5.0	10	07/07/2016 14:08
1,3-Dichlorobenzene	ND		5.0	10	07/07/2016 14:08
1,4-Dichlorobenzene	ND		5.0	10	07/07/2016 14:08
Dichlorodifluoromethane	ND		5.0	10	07/07/2016 14:08
1,1-Dichloroethane	ND		5.0	10	07/07/2016 14:08
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	07/07/2016 14:08
1,1-Dichloroethene	ND		5.0	10	07/07/2016 14:08
cis-1,2-Dichloroethene	ND		5.0	10	07/07/2016 14:08
trans-1,2-Dichloroethene	ND		5.0	10	07/07/2016 14:08
1,2-Dichloropropane	ND		5.0	10	07/07/2016 14:08
1,3-Dichloropropane	ND		5.0	10	07/07/2016 14:08
2,2-Dichloropropane	ND		5.0	10	07/07/2016 14:08

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

Client: P & D Environmental

WorkOrder: 1606D44

Date Received: 6/28/16 17:00

Extraction Method: SW5030B

Date Prepared: 7/1/16-7/7/16

Analytical Method: SW8260B

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

Unit: µg/L

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-4	1606D44-006B	Water	06/27/2016 14:30	GC28	123090

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	5.0	10	07/07/2016 14:08
cis-1,3-Dichloropropene	ND	5.0	10	07/07/2016 14:08
trans-1,3-Dichloropropene	ND	5.0	10	07/07/2016 14:08
Diisopropyl ether (DIPE)	ND	5.0	10	07/07/2016 14:08
Ethylbenzene	ND	5.0	10	07/07/2016 14:08
Ethyl tert-butyl ether (ETBE)	ND	5.0	10	07/07/2016 14:08
Freon 113	ND	5.0	10	07/07/2016 14:08
Hexachlorobutadiene	ND	5.0	10	07/07/2016 14:08
Hexachloroethane	ND	5.0	10	07/07/2016 14:08
2-Hexanone	ND	5.0	10	07/07/2016 14:08
Isopropylbenzene	ND	5.0	10	07/07/2016 14:08
4-Isopropyl toluene	ND	5.0	10	07/07/2016 14:08
Methyl-t-butyl ether (MTBE)	ND	5.0	10	07/07/2016 14:08
Methylene chloride	ND	5.0	10	07/07/2016 14:08
4-Methyl-2-pentanone (MIBK)	ND	5.0	10	07/07/2016 14:08
Naphthalene	ND	5.0	10	07/07/2016 14:08
n-Propyl benzene	ND	5.0	10	07/07/2016 14:08
Styrene	ND	5.0	10	07/07/2016 14:08
1,1,1,2-Tetrachloroethane	ND	5.0	10	07/07/2016 14:08
1,1,2,2-Tetrachloroethane	ND	5.0	10	07/07/2016 14:08
Tetrachloroethene	120	5.0	10	07/07/2016 14:08
Toluene	ND	5.0	10	07/07/2016 14:08
1,2,3-Trichlorobenzene	ND	5.0	10	07/07/2016 14:08
1,2,4-Trichlorobenzene	ND	5.0	10	07/07/2016 14:08
1,1,1-Trichloroethane	ND	5.0	10	07/07/2016 14:08
1,1,2-Trichloroethane	ND	5.0	10	07/07/2016 14:08
Trichloroethene	19	5.0	10	07/07/2016 14:08
Trichlorofluoromethane	ND	5.0	10	07/07/2016 14:08
1,2,3-Trichloropropane	ND	5.0	10	07/07/2016 14:08
1,2,4-Trimethylbenzene	ND	5.0	10	07/07/2016 14:08
1,3,5-Trimethylbenzene	ND	5.0	10	07/07/2016 14:08
Vinyl Chloride	ND	5.0	10	07/07/2016 14:08
Xylenes, Total	ND	5.0	10	07/07/2016 14:08

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-4	1606D44-006B	Water	06/27/2016 14:30	GC28	123090

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	95	70-130		07/07/2016 14:08
Toluene-d8	94	70-130		07/07/2016 14:08
4-BFB	73	70-130		07/07/2016 14:08

Analyst(s): MW



## Analytical Report

**Client:** P & D Environmental **WorkOrder:** 1606D44  
**Date Received:** 6/28/16 17:00 **Extraction Method:** SW5030B  
**Date Prepared:** 7/1/16-7/7/16 **Analytical Method:** SW8260B  
**Project:** 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-5	1606D44-007B	Water	06/27/2016 15:15	GC28	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		50	5	07/02/2016 04:37
tert-Amyl methyl ether (TAME)	ND		2.5	5	07/02/2016 04:37
Benzene	<b>140</b>		2.5	5	07/02/2016 04:37
Bromobenzene	ND		2.5	5	07/02/2016 04:37
Bromochloromethane	ND		2.5	5	07/02/2016 04:37
Bromodichloromethane	ND		2.5	5	07/02/2016 04:37
Bromoform	ND		2.5	5	07/02/2016 04:37
Bromomethane	ND		2.5	5	07/02/2016 04:37
2-Butanone (MEK)	ND		10	5	07/02/2016 04:37
t-Butyl alcohol (TBA)	<b>420</b>		10	5	07/02/2016 04:37
n-Butyl benzene	ND		2.5	5	07/02/2016 04:37
sec-Butyl benzene	ND		2.5	5	07/02/2016 04:37
tert-Butyl benzene	ND		2.5	5	07/02/2016 04:37
Carbon Disulfide	ND		2.5	5	07/02/2016 04:37
Carbon Tetrachloride	ND		2.5	5	07/02/2016 04:37
Chlorobenzene	ND		2.5	5	07/02/2016 04:37
Chloroethane	ND		2.5	5	07/02/2016 04:37
Chloroform	ND		2.5	5	07/02/2016 04:37
Chloromethane	ND		2.5	5	07/02/2016 04:37
2-Chlorotoluene	ND		2.5	5	07/02/2016 04:37
4-Chlorotoluene	ND		2.5	5	07/02/2016 04:37
Dibromochloromethane	ND		2.5	5	07/02/2016 04:37
1,2-Dibromo-3-chloropropane	ND		1.0	5	07/02/2016 04:37
1,2-Dibromoethane (EDB)	ND		2.5	5	07/02/2016 04:37
Dibromomethane	ND		2.5	5	07/02/2016 04:37
1,2-Dichlorobenzene	ND		2.5	5	07/02/2016 04:37
1,3-Dichlorobenzene	ND		2.5	5	07/02/2016 04:37
1,4-Dichlorobenzene	ND		2.5	5	07/02/2016 04:37
Dichlorodifluoromethane	ND		2.5	5	07/02/2016 04:37
1,1-Dichloroethane	ND		2.5	5	07/02/2016 04:37
1,2-Dichloroethane (1,2-DCA)	ND		2.5	5	07/02/2016 04:37
1,1-Dichloroethene	ND		2.5	5	07/02/2016 04:37
cis-1,2-Dichloroethene	ND		2.5	5	07/02/2016 04:37
trans-1,2-Dichloroethene	ND		2.5	5	07/02/2016 04:37
1,2-Dichloropropane	ND		2.5	5	07/02/2016 04:37
1,3-Dichloropropane	ND		2.5	5	07/02/2016 04:37
2,2-Dichloropropane	ND		2.5	5	07/02/2016 04:37

(Cont.)



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-5	1606D44-007B	Water	06/27/2016 15:15	GC28	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		2.5	5	07/02/2016 04:37
cis-1,3-Dichloropropene	ND		2.5	5	07/02/2016 04:37
trans-1,3-Dichloropropene	3.4		2.5	5	07/02/2016 04:37
Diisopropyl ether (DIPE)	ND		2.5	5	07/02/2016 04:37
Ethylbenzene	19		2.5	5	07/02/2016 04:37
Ethyl tert-butyl ether (ETBE)	ND		2.5	5	07/02/2016 04:37
Freon 113	ND		2.5	5	07/02/2016 04:37
Hexachlorobutadiene	ND		2.5	5	07/02/2016 04:37
Hexachloroethane	13		2.5	5	07/02/2016 04:37
2-Hexanone	ND		2.5	5	07/02/2016 04:37
Isopropylbenzene	9.1		2.5	5	07/02/2016 04:37
4-Isopropyl toluene	ND		2.5	5	07/02/2016 04:37
Methyl-t-butyl ether (MTBE)	59		2.5	5	07/02/2016 04:37
Methylene chloride	ND		2.5	5	07/02/2016 04:37
4-Methyl-2-pentanone (MIBK)	ND		2.5	5	07/02/2016 04:37
Naphthalene	4.1		2.5	5	07/02/2016 04:37
n-Propyl benzene	22		2.5	5	07/02/2016 04:37
Styrene	ND		2.5	5	07/02/2016 04:37
1,1,1,2-Tetrachloroethane	ND		2.5	5	07/02/2016 04:37
1,1,2,2-Tetrachloroethane	ND		2.5	5	07/02/2016 04:37
Tetrachloroethene	ND		2.5	5	07/02/2016 04:37
Toluene	ND		2.5	5	07/02/2016 04:37
1,2,3-Trichlorobenzene	ND		2.5	5	07/02/2016 04:37
1,2,4-Trichlorobenzene	ND		2.5	5	07/02/2016 04:37
1,1,1-Trichloroethane	ND		2.5	5	07/02/2016 04:37
1,1,2-Trichloroethane	ND		2.5	5	07/02/2016 04:37
Trichloroethene	ND		2.5	5	07/02/2016 04:37
Trichlorofluoromethane	ND		2.5	5	07/02/2016 04:37
1,2,3-Trichloropropane	ND		2.5	5	07/02/2016 04:37
1,2,4-Trimethylbenzene	ND		2.5	5	07/02/2016 04:37
1,3,5-Trimethylbenzene	ND		2.5	5	07/02/2016 04:37
Vinyl Chloride	ND		2.5	5	07/02/2016 04:37
Xylenes, Total	3.3		2.5	5	07/02/2016 04:37

(Cont.)

NELAP 4033ORELAP

 Angela Rydelius, Lab Manager





# Analytical Report

Client: P & D Environmental

WorkOrder: 1606D44

Date Received: 6/28/16 17:00

Extraction Method: SW5030B

Date Prepared: 7/1/16-7/7/16

Analytical Method: SW8260B

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

Unit: µg/L

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-5	1606D44-007B	Water	06/27/2016 15:15	GC28	123090

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	98	70-130		07/02/2016 04:37
Toluene-d8	93	70-130		07/02/2016 04:37
4-BFB	88	70-130		07/02/2016 04:37

Analyst(s): MW



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1606D44-008B	Water	06/27/2016 16:55	GC16	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/01/2016 06:11
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/01/2016 06:11
Benzene	ND		0.50	1	07/01/2016 06:11
Bromobenzene	ND		0.50	1	07/01/2016 06:11
Bromochloromethane	ND		0.50	1	07/01/2016 06:11
Bromodichloromethane	ND		0.50	1	07/01/2016 06:11
Bromoform	ND		0.50	1	07/01/2016 06:11
Bromomethane	ND		0.50	1	07/01/2016 06:11
2-Butanone (MEK)	ND		2.0	1	07/01/2016 06:11
t-Butyl alcohol (TBA)	ND		2.0	1	07/01/2016 06:11
n-Butyl benzene	ND		0.50	1	07/01/2016 06:11
sec-Butyl benzene	ND		0.50	1	07/01/2016 06:11
tert-Butyl benzene	<b>0.64</b>		0.50	1	07/01/2016 06:11
Carbon Disulfide	<b>0.65</b>		0.50	1	07/01/2016 06:11
Carbon Tetrachloride	ND		0.50	1	07/01/2016 06:11
Chlorobenzene	ND		0.50	1	07/01/2016 06:11
Chloroethane	ND		0.50	1	07/01/2016 06:11
Chloroform	ND		0.50	1	07/01/2016 06:11
Chloromethane	ND		0.50	1	07/01/2016 06:11
2-Chlorotoluene	ND		0.50	1	07/01/2016 06:11
4-Chlorotoluene	ND		0.50	1	07/01/2016 06:11
Dibromochloromethane	ND		0.50	1	07/01/2016 06:11
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/01/2016 06:11
1,2-Dibromoethane (EDB)	ND		0.50	1	07/01/2016 06:11
Dibromomethane	ND		0.50	1	07/01/2016 06:11
1,2-Dichlorobenzene	ND		0.50	1	07/01/2016 06:11
1,3-Dichlorobenzene	ND		0.50	1	07/01/2016 06:11
1,4-Dichlorobenzene	ND		0.50	1	07/01/2016 06:11
Dichlorodifluoromethane	ND		0.50	1	07/01/2016 06:11
1,1-Dichloroethane	ND		0.50	1	07/01/2016 06:11
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/01/2016 06:11
1,1-Dichloroethene	ND		0.50	1	07/01/2016 06:11
cis-1,2-Dichloroethene	ND		0.50	1	07/01/2016 06:11
trans-1,2-Dichloroethene	ND		0.50	1	07/01/2016 06:11
1,2-Dichloropropane	ND		0.50	1	07/01/2016 06:11
1,3-Dichloropropane	ND		0.50	1	07/01/2016 06:11
2,2-Dichloropropane	ND		0.50	1	07/01/2016 06:11

(Cont.)

NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1606D44-008B	Water	06/27/2016 16:55	GC16	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.50	1	07/01/2016 06:11
cis-1,3-Dichloropropene	ND		0.50	1	07/01/2016 06:11
trans-1,3-Dichloropropene	ND		0.50	1	07/01/2016 06:11
Diisopropyl ether (DIPE)	ND		0.50	1	07/01/2016 06:11
Ethylbenzene	ND		0.50	1	07/01/2016 06:11
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/01/2016 06:11
Freon 113	ND		0.50	1	07/01/2016 06:11
Hexachlorobutadiene	ND		0.50	1	07/01/2016 06:11
Hexachloroethane	ND		0.50	1	07/01/2016 06:11
2-Hexanone	ND		0.50	1	07/01/2016 06:11
Isopropylbenzene	ND		0.50	1	07/01/2016 06:11
4-Isopropyl toluene	ND		0.50	1	07/01/2016 06:11
Methyl-t-butyl ether (MTBE)	<b>0.64</b>		0.50	1	07/01/2016 06:11
Methylene chloride	ND		0.50	1	07/01/2016 06:11
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/01/2016 06:11
Naphthalene	<b>1.0</b>		0.50	1	07/01/2016 06:11
n-Propyl benzene	<b>0.69</b>		0.50	1	07/01/2016 06:11
Styrene	ND		0.50	1	07/01/2016 06:11
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/01/2016 06:11
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/01/2016 06:11
Tetrachloroethene	ND		0.50	1	07/01/2016 06:11
Toluene	ND		0.50	1	07/01/2016 06:11
1,2,3-Trichlorobenzene	ND		0.50	1	07/01/2016 06:11
1,2,4-Trichlorobenzene	ND		0.50	1	07/01/2016 06:11
1,1,1-Trichloroethane	ND		0.50	1	07/01/2016 06:11
1,1,2-Trichloroethane	ND		0.50	1	07/01/2016 06:11
Trichloroethene	ND		0.50	1	07/01/2016 06:11
Trichlorofluoromethane	ND		0.50	1	07/01/2016 06:11
1,2,3-Trichloropropane	ND		0.50	1	07/01/2016 06:11
1,2,4-Trimethylbenzene	ND		0.50	1	07/01/2016 06:11
1,3,5-Trimethylbenzene	ND		0.50	1	07/01/2016 06:11
Vinyl Chloride	ND		0.50	1	07/01/2016 06:11
Xylenes, Total	ND		0.50	1	07/01/2016 06:11

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Received:</b> 6/28/16 17:00	<b>Extraction Method:</b> SW5030B
<b>Date Prepared:</b> 7/1/16-7/7/16	<b>Analytical Method:</b> SW8260B
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Unit:</b> µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1606D44-008B	Water	06/27/2016 16:55	GC16	123090
<hr/>					
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
<hr/>					
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	108		70-130		07/01/2016 06:11
Toluene-d8	101		70-130		07/01/2016 06:11
4-BFB	95		70-130		07/01/2016 06:11
<hr/>					
<u>Analyst(s):</u> MW					



## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1606D44-009B	Water	06/27/2016 12:15	GC16	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/01/2016 06:51
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/01/2016 06:51
Benzene	ND		0.50	1	07/01/2016 06:51
Bromobenzene	ND		0.50	1	07/01/2016 06:51
Bromochloromethane	ND		0.50	1	07/01/2016 06:51
Bromodichloromethane	ND		0.50	1	07/01/2016 06:51
Bromoform	ND		0.50	1	07/01/2016 06:51
Bromomethane	ND		0.50	1	07/01/2016 06:51
2-Butanone (MEK)	21		2.0	1	07/01/2016 06:51
t-Butyl alcohol (TBA)	10		2.0	1	07/01/2016 06:51
n-Butyl benzene	1.4		0.50	1	07/01/2016 06:51
sec-Butyl benzene	0.51		0.50	1	07/01/2016 06:51
tert-Butyl benzene	ND		0.50	1	07/01/2016 06:51
Carbon Disulfide	ND		0.50	1	07/01/2016 06:51
Carbon Tetrachloride	ND		0.50	1	07/01/2016 06:51
Chlorobenzene	ND		0.50	1	07/01/2016 06:51
Chloroethane	ND		0.50	1	07/01/2016 06:51
Chloroform	ND		0.50	1	07/01/2016 06:51
Chloromethane	ND		0.50	1	07/01/2016 06:51
2-Chlorotoluene	ND		0.50	1	07/01/2016 06:51
4-Chlorotoluene	ND		0.50	1	07/01/2016 06:51
Dibromochloromethane	ND		0.50	1	07/01/2016 06:51
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/01/2016 06:51
1,2-Dibromoethane (EDB)	ND		0.50	1	07/01/2016 06:51
Dibromomethane	ND		0.50	1	07/01/2016 06:51
1,2-Dichlorobenzene	ND		0.50	1	07/01/2016 06:51
1,3-Dichlorobenzene	ND		0.50	1	07/01/2016 06:51
1,4-Dichlorobenzene	ND		0.50	1	07/01/2016 06:51
Dichlorodifluoromethane	ND		0.50	1	07/01/2016 06:51
1,1-Dichloroethane	ND		0.50	1	07/01/2016 06:51
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/01/2016 06:51
1,1-Dichloroethene	ND		0.50	1	07/01/2016 06:51
cis-1,2-Dichloroethene	ND		0.50	1	07/01/2016 06:51
trans-1,2-Dichloroethene	ND		0.50	1	07/01/2016 06:51
1,2-Dichloropropane	ND		0.50	1	07/01/2016 06:51
1,3-Dichloropropane	ND		0.50	1	07/01/2016 06:51
2,2-Dichloropropane	ND		0.50	1	07/01/2016 06:51

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## Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1606D44

**Date Received:** 6/28/16 17:00

**Extraction Method:** SW5030B

**Date Prepared:** 7/1/16-7/7/16

**Analytical Method:** SW8260B

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

**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1606D44-009B	Water	06/27/2016 12:15	GC16	123090
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.50	1	07/01/2016 06:51
cis-1,3-Dichloropropene	ND		0.50	1	07/01/2016 06:51
trans-1,3-Dichloropropene	ND		0.50	1	07/01/2016 06:51
Diisopropyl ether (DIPE)	ND		0.50	1	07/01/2016 06:51
Ethylbenzene	1.3		0.50	1	07/01/2016 06:51
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/01/2016 06:51
Freon 113	ND		0.50	1	07/01/2016 06:51
Hexachlorobutadiene	ND		0.50	1	07/01/2016 06:51
Hexachloroethane	ND		0.50	1	07/01/2016 06:51
2-Hexanone	ND		0.50	1	07/01/2016 06:51
Isopropylbenzene	0.52		0.50	1	07/01/2016 06:51
4-Isopropyl toluene	ND		0.50	1	07/01/2016 06:51
Methyl-t-butyl ether (MTBE)	2.3		0.50	1	07/01/2016 06:51
Methylene chloride	ND		0.50	1	07/01/2016 06:51
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/01/2016 06:51
Naphthalene	0.76		0.50	1	07/01/2016 06:51
n-Propyl benzene	1.7		0.50	1	07/01/2016 06:51
Styrene	ND		0.50	1	07/01/2016 06:51
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/01/2016 06:51
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/01/2016 06:51
Tetrachloroethene	ND		0.50	1	07/01/2016 06:51
Toluene	ND		0.50	1	07/01/2016 06:51
1,2,3-Trichlorobenzene	ND		0.50	1	07/01/2016 06:51
1,2,4-Trichlorobenzene	ND		0.50	1	07/01/2016 06:51
1,1,1-Trichloroethane	ND		0.50	1	07/01/2016 06:51
1,1,2-Trichloroethane	ND		0.50	1	07/01/2016 06:51
Trichloroethene	ND		0.50	1	07/01/2016 06:51
Trichlorofluoromethane	ND		0.50	1	07/01/2016 06:51
1,2,3-Trichloropropane	ND		0.50	1	07/01/2016 06:51
1,2,4-Trimethylbenzene	2.7		0.50	1	07/01/2016 06:51
1,3,5-Trimethylbenzene	1.2		0.50	1	07/01/2016 06:51
Vinyl Chloride	ND		0.50	1	07/01/2016 06:51
Xylenes, Total	1.5		0.50	1	07/01/2016 06:51

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental **WorkOrder:** 1606D44  
**Date Received:** 6/28/16 17:00 **Extraction Method:** SW5030B  
**Date Prepared:** 7/1/16-7/7/16 **Analytical Method:** SW8260B  
**Project:** 0058; Xtra Oil Company 1701 Park St. Alameda, CA **Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1606D44-009B	Water	06/27/2016 12:15	GC16	123090

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	109	70-130		07/01/2016 06:51
Toluene-d8	98	70-130		07/01/2016 06:51
4-BFB	92	70-130		07/01/2016 06:51

Analyst(s): MW



## Analytical Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Received:</b> 6/28/16 17:00	<b>Extraction Method:</b> SW5030B
<b>Date Prepared:</b> 7/1/16-7/3/16	<b>Analytical Method:</b> SW8021B/8015Bm
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Unit:</b> µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1606D44-001A	Water	06/27/2016 12:55	GC3	123131
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	8900		170	3.3	07/01/2016 03:19
MTBE	---		600	3.3	07/01/2016 03:19
Benzene	---		50	100	07/02/2016 08:24
Toluene	---		1.7	3.3	07/01/2016 03:19
Ethylbenzene	---		1.7	3.3	07/01/2016 03:19
Xylenes	---		5.0	3.3	07/01/2016 03:19
<u>Surrogates</u>					
	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
aaa-TFT	137	S	70-130		07/01/2016 03:19
<u>Analyst(s):</u> IA, LT			<u>Analytical Comments:</u> d1,d1,d17,c4		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1606D44-002A	Water	06/27/2016 10:40	GC3	123131
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	5300		250	5	07/01/2016 03:49
MTBE	---		100	5	07/01/2016 03:49
Benzene	---		2.5	5	07/01/2016 03:49
Toluene	---		2.5	5	07/01/2016 03:49
Ethylbenzene	---		2.5	5	07/01/2016 03:49
Xylenes	---		7.5	5	07/01/2016 03:49
<u>Surrogates</u>					
	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
aaa-TFT	159	S	70-130		07/01/2016 03:49
<u>Analyst(s):</u> IA			<u>Analytical Comments:</u> d1,d17,c4		





## Analytical Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Received:</b> 6/28/16 17:00	<b>Extraction Method:</b> SW5030B
<b>Date Prepared:</b> 7/1/16-7/3/16	<b>Analytical Method:</b> SW8021B/8015Bm
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Unit:</b> µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1606D44-003A	Water	06/27/2016 09:45	GC3	123131
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	07/01/2016 04:51
MTBE	---		5.0	1	07/01/2016 04:51
Benzene	---		0.50	1	07/01/2016 04:51
Toluene	---		0.50	1	07/01/2016 04:51
Ethylbenzene	---		0.50	1	07/01/2016 04:51
Xylenes	---		1.5	1	07/01/2016 04:51
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	122		70-130		07/01/2016 04:51

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1606D44-004A	Water	06/27/2016 15:55	GC3	123131
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>4400</b>		250	5	07/01/2016 06:22
MTBE	---		150	5	07/01/2016 06:22
Benzene	---		2.5	5	07/01/2016 06:22
Toluene	---		2.5	5	07/01/2016 06:22
Ethylbenzene	---		2.5	5	07/01/2016 06:22
Xylenes	---		7.5	5	07/01/2016 06:22
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
aaa-TFT	133	S	70-130		07/01/2016 06:22

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



## Analytical Report

**Client:** P & D Environmental **WorkOrder:** 1606D44  
**Date Received:** 6/28/16 17:00 **Extraction Method:** SW5030B  
**Date Prepared:** 7/1/16-7/3/16 **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
EW-2	1606D44-005A	Water	06/27/2016 11:25	GC3	123131
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	760		50	1	07/01/2016 06:53
MTBE	---		60	1	07/01/2016 06:53
Benzene	---		0.50	1	07/01/2016 06:53
Toluene	---		0.50	1	07/01/2016 06:53
Ethylbenzene	---		0.50	1	07/01/2016 06:53
Xylenes	---		1.5	1	07/01/2016 06:53
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
aaa-TFT	2275	S	70-130		07/01/2016 06:53
<u>Analyst(s):</u> IA		<u>Analytical Comments:</u> d1,d17,c4			

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-4	1606D44-006A	Water	06/27/2016 14:30	GC3	123131
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	67		50	1	07/01/2016 07:23
MTBE	---		5.0	1	07/01/2016 07:23
Benzene	---		0.50	1	07/01/2016 07:23
Toluene	---		0.50	1	07/01/2016 07:23
Ethylbenzene	---		0.50	1	07/01/2016 07:23
Xylenes	---		1.5	1	07/01/2016 07:23
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
aaa-TFT	258	S	70-130		07/01/2016 07:23
<u>Analyst(s):</u> IA		<u>Analytical Comments:</u> d1,c4			

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental **WorkOrder:** 1606D44  
**Date Received:** 6/28/16 17:00 **Extraction Method:** SW5030B  
**Date Prepared:** 7/1/16-7/3/16 **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
EW-5	1606D44-007A	Water	06/27/2016 15:15	GC3	123131
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	940		50	1	07/01/2016 07:54
MTBE	---		100	1	07/01/2016 07:54
Benzene	---		0.50	1	07/01/2016 07:54
Toluene	---		0.50	1	07/01/2016 07:54
Ethylbenzene	---		0.50	1	07/01/2016 07:54
Xylenes	---		1.5	1	07/01/2016 07:54
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
aaa-TFT	139	S	70-130		07/01/2016 07:54
<u>Analyst(s):</u> IA			<u>Analytical Comments:</u> d1,d17,c4		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1606D44-008A	Water	06/27/2016 16:55	GC7	123184
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	59		50	1	07/03/2016 14:51
MTBE	---		5.0	1	07/03/2016 14:51
Benzene	---		0.50	1	07/03/2016 14:51
Toluene	---		0.50	1	07/03/2016 14:51
Ethylbenzene	---		0.50	1	07/03/2016 14:51
Xylenes	---		1.5	1	07/03/2016 14:51
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	105		70-130		07/03/2016 14:51
<u>Analyst(s):</u> IA			<u>Analytical Comments:</u> d7		

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** P & D Environmental **WorkOrder:** 1606D44  
**Date Received:** 6/28/16 17:00 **Extraction Method:** SW5030B  
**Date Prepared:** 7/1/16-7/3/16 **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	1606D44-009A	Water	06/27/2016 12:15	GC7	123184

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	160	50	1	07/03/2016 15:21
MTBE	---	5.0	1	07/03/2016 15:21
Benzene	---	0.50	1	07/03/2016 15:21
Toluene	---	0.50	1	07/03/2016 15:21
Ethylbenzene	---	0.50	1	07/03/2016 15:21
Xylenes	---	1.5	1	07/03/2016 15:21

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	111	70-130	07/03/2016 15:21

Analyst(s): IA

Analytical Comments: d7,d9



# Analytical Report

Client: P & D Environmental

WorkOrder: 1606D44

Date Received: 6/28/16 17:00

Extraction Method: SW3510C

Date Prepared: 6/28/16

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
MW-1	1606D44-001A	Water	06/27/2016 12:55	GC39B	122992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1400	50	1	06/29/2016 17:13
TPH-Motor Oil (C18-C36)	ND	250	1	06/29/2016 17:13

Surrogates	REC (%)	Limits	Date Analyzed
C9	94	70-130	06/29/2016 17:13

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1606D44-002A	Water	06/27/2016 10:40	GC39A	122992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	3400	50	1	06/29/2016 17:13
TPH-Motor Oil (C18-C36)	1700	250	1	06/29/2016 17:13

Surrogates	REC (%)	Limits	Date Analyzed
C9	108	70-130	06/29/2016 17:13

Analyst(s): TK Analytical Comments: e3/e2,e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1606D44-003A	Water	06/27/2016 09:45	GC39B	122992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	06/29/2016 18:32
TPH-Motor Oil (C18-C36)	ND	250	1	06/29/2016 18:32

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	06/29/2016 18:32

Analyst(s): TK



# Analytical Report

Client: P & D Environmental

WorkOrder: 1606D44

Date Received: 6/28/16 17:00

Extraction Method: SW3510C

Date Prepared: 6/28/16

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
MW-4	1606D44-004A	Water	06/27/2016 15:55	GC39A	122992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1100	50	1	06/29/2016 18:32
TPH-Motor Oil (C18-C36)	ND	250	1	06/29/2016 18:32

Surrogates	REC (%)	Limits	Date Analyzed
C9	120	70-130	06/29/2016 18:32

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-2	1606D44-005A	Water	06/27/2016 11:25	GC39B	122992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	87	50	1	06/29/2016 19:49
TPH-Motor Oil (C18-C36)	ND	250	1	06/29/2016 19:49

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	06/29/2016 19:49

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-4	1606D44-006A	Water	06/27/2016 14:30	GC39A	122992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	06/29/2016 19:49
TPH-Motor Oil (C18-C36)	ND	250	1	06/29/2016 19:49

Surrogates	REC (%)	Limits	Date Analyzed
C9	107	70-130	06/29/2016 19:49

Analyst(s): TK



## Analytical Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Received:</b> 6/28/16 17:00	<b>Extraction Method:</b> SW3510C
<b>Date Prepared:</b> 6/28/16	<b>Analytical Method:</b> SW8015B
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Unit:</b> µg/L

### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EW-5	1606D44-007A	Water	06/27/2016 15:15	GC39B	122992
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	200		50	1	06/29/2016 21:07
TPH-Motor Oil (C18-C36)	ND		250	1	06/29/2016 21:07
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	90		70-130		06/29/2016 21:07
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e4/e11,e8		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OW2	1606D44-008A	Water	06/27/2016 16:55	GC39A	122992
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	06/29/2016 21:07
TPH-Motor Oil (C18-C36)	ND		250	1	06/29/2016 21:07
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	108		70-130		06/29/2016 21:07
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW1	1606D44-009A	Water	06/27/2016 12:15	GC39B	122992
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	81		50	1	06/29/2016 22:25
TPH-Motor Oil (C18-C36)	ND		250	1	06/29/2016 22:25
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	89		70-130		06/29/2016 22:25
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e8,e4/e11		



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123090
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC16	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS-123090 1606E21-003AMS/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	-	113	54-140
Benzene	ND	11.1	0.50	10	-	111	47-158
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	42.9	2.0	40	-	107	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	10.4	0.50	10	-	104	43-157
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	10.9	0.50	10	-	109	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	11.1	0.50	10	-	111	66-125
1,1-Dichloroethene	ND	11.6	0.50	10	-	116	47-149
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	-	-	-	-





## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123090
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC16	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS-123090 1606E21-003AMS/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	11.1	0.50	10	-	111	57-136
Ethanol	ND	-	50	-	-	-	-
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	11.4	0.50	10	-	114	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	11.1	0.50	10	-	111	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	10.3	0.50	10	-	103	52-137
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	11.5	0.50	10	-	115	43-157
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	-	-	-	-



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123090
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC16	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS-123090 1606E21-003AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	27.3	28.1		25	109	112	70-130
Toluene-d8	24.3	24.6		25	97	98	70-130
4-BFB	2.07	2.30		2.5	83	92	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	12.0	11.7	10	ND	120	117	69-139	2.69	20
Benzene	10.8	10.4	10	ND	108	104	69-141	3.70	20
t-Butyl alcohol (TBA)	53.3	52.9	40	ND	133	132	41-152	0.796	20
Chlorobenzene	10.0	9.70	10	ND	100	97	77-120	3.16	20
1,2-Dibromoethane (EDB)	11.1	11.1	10	ND	111	111	76-135	0	20
1,2-Dichloroethane (1,2-DCA)	11.3	11.0	10	ND	113	110	73-139	2.38	20
1,1-Dichloroethene	10.7	10.3	10	ND	107	103	59-140	4.30	20
Diisopropyl ether (DIPE)	11.2	10.8	10	ND	112	107	72-140	3.88	20
Ethyl tert-butyl ether (ETBE)	11.9	11.5	10	ND	119	115	71-140	3.36	20
Methyl-t-butyl ether (MTBE)	12.2	11.8	10	ND	122	118	73-139	2.92	20
Toluene	9.98	9.67	10	ND	99	96	71-128	3.19	20
Trichloroethene	10.9	10.4	10	ND	109	104	64-132	4.30	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	27.8	27.7	25		111	111	73-131	0	20
Toluene-d8	24.4	24.4	25		97	98	72-117	0.291	20
4-BFB	2.25	2.26	2.5		90	90	74-116	0	20



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123130
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS/LCSD-123130

### QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
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	2.0	-	-	-
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	0.50	-	-	-
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	0.50	-	-	-
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	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

(Cont.)

NELAP 4033ORELAP

QA/QC Officer



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123130
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS/LCSD-123130

### QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethanol	ND	50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
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	0.50	-	-	-
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	-	-	-
<b>Surrogate Recovery</b>					
Dibromofluoromethane	31.0		25	124	70-130
Toluene-d8	25.6		25	102	70-130
4-BFB	2.34		2.5	94	70-130



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123130
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS/LCSD-123130

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	10.9	11.7	10	109	117	54-140	6.59	20
Benzene	11.1	9.76	10	111	98	47-158	12.7	20
t-Butyl alcohol (TBA)	39.1	53.9	40	98	135	42-140	31.7,F2	20
Chlorobenzene	11.1	9.41	10	111	94	43-157	16.5	20
1,2-Dibromoethane (EDB)	10.7	10.6	10	107	106	44-155	0.622	20
1,2-Dichloroethane (1,2-DCA)	11.2	11.8	10	113	118	66-125	4.77	20
1,1-Dichloroethene	11.1	9.50	10	111	95	47-149	15.7	20
Diisopropyl ether (DIPE)	10.4	10.1	10	104	101	57-136	3.31	20
Ethyl tert-butyl ether (ETBE)	10.8	11.2	10	108	112	55-137	3.71	20
Methyl-t-butyl ether (MTBE)	10.6	11.8	10	106	118	53-139	10.8	20
Toluene	10.8	8.99	10	108	90	52-137	18.4	20
Trichloroethene	11.8	10.1	10	118	101	43-157	15.2	20
<b>Surrogate Recovery</b>								
Dibromofluoromethane	29.1	31.0	25	116	124	70-130	6.55	20
Toluene-d8	27.3	26.3	25	109	105	70-130	3.71	20
4-BFB	2.55	2.51	2.5	102	101	70-130	1.36	20



## Quality Control Report

<b>Client:</b>	P & D Environmental	<b>WorkOrder:</b>	1606D44
<b>Date Prepared:</b>	6/30/16	<b>BatchID:</b>	123131
<b>Date Analyzed:</b>	6/30/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC3	<b>Analytical Method:</b>	SW8021B/8015Bm
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b>	MB/LCS-123131 1606C85-020AMS/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	50.7	40	60	-	84	70-130
MTBE	ND	12.2	5.0	10	-	122	70-130
Benzene	ND	9.85	0.50	10	-	98	70-130
Toluene	ND	9.93	0.50	10	-	99	70-130
Ethylbenzene	ND	9.76	0.50	10	-	98	70-130
Xylenes	ND	28.9	1.5	30	-	96	70-130
<b>Surrogate Recovery</b>							
aaa-TFT	9.64	9.76		10	96	98	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	59.2	55.9	60	ND	99	93	70-130	5.82	20
MTBE	12.3	10.5	10	ND	123	105	70-130	16.1	20
Benzene	10.7	10.3	10	ND	107	103	70-130	3.19	20
Toluene	10.2	10.4	10	ND	102	104	70-130	2.23	20
Ethylbenzene	10.8	10.2	10	ND	108	103	70-130	5.25	20
Xylenes	32.1	30.6	30	ND	107	102	70-130	4.71	20
<b>Surrogate Recovery</b>									
aaa-TFT	8.50	9.88	10		85	99	70-130	15.0	20



## Quality Control Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Prepared:</b> 7/1/16	<b>BatchID:</b> 123184
<b>Date Analyzed:</b> 7/1/16	<b>Extraction Method:</b> SW5030B
<b>Instrument:</b> GC7	<b>Analytical Method:</b> SW8021B/8015Bm
<b>Matrix:</b> Water	<b>Unit:</b> µg/L
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b> MB/LCS-123184 1606D39-004AMS/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	59.8	40	60	-	100	70-130
MTBE	ND	8.98	5.0	10	-	90	70-130
Benzene	ND	9.24	0.50	10	-	92	70-130
Toluene	ND	8.90	0.50	10	-	89	70-130
Ethylbenzene	ND	9.10	0.50	10	-	91	70-130
Xylenes	ND	28.2	1.5	30	-	94	70-130
<b>Surrogate Recovery</b>							
aaa-TFT	9.58	10.1		10	96	101	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	58.7	58.4	60	ND	98	97	70-130	0.507	20
MTBE	8.90	9.08	10	ND	89	91	70-130	2.07	20
Benzene	9.26	9.52	10	ND	93	95	70-130	2.71	20
Toluene	8.84	9.03	10	ND	88	90	70-130	2.14	20
Ethylbenzene	9.17	9.31	10	ND	92	93	70-130	1.50	20
Xylenes	28.4	29.1	30	ND	94	97	70-130	2.45	20
<b>Surrogate Recovery</b>									
aaa-TFT	10.2	10.3	10		102	103	70-130	0.485	20



## Quality Control Report

<b>Client:</b> P & D Environmental	<b>WorkOrder:</b> 1606D44
<b>Date Prepared:</b> 6/28/16	<b>BatchID:</b> 122992
<b>Date Analyzed:</b> 6/29/16	<b>Extraction Method:</b> SW3510C
<b>Instrument:</b> GC6A	<b>Analytical Method:</b> SW8015B
<b>Matrix:</b> Water	<b>Unit:</b> µg/L
<b>Project:</b> 0058; Xtra Oil Company 1701 Park St. Alameda, CA	<b>Sample ID:</b> MB/LCS/LCSD-122992

### QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
<b>Surrogate Recovery</b>					
C9	552		625	88	65-122

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1190	1160	1000	119	116	61-157	1.95	30
<b>Surrogate Recovery</b>								
C9	569	555	625	91	89	65-122	2.47	30





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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1606D44

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQUIS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Michael Deschenes  
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.c  
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: 06/28/2016**

**Date Logged: 06/28/2016**

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	
1606D44-001	MW-1	Water	6/27/2016 12:55	<input type="checkbox"/>	B	A	A										
1606D44-002	MW-2	Water	6/27/2016 10:40	<input type="checkbox"/>	B	A	A										
1606D44-003	MW-3	Water	6/27/2016 9:45	<input type="checkbox"/>	B	A	A										
1606D44-004	MW-4	Water	6/27/2016 15:55	<input type="checkbox"/>	B	A	A										
1606D44-005	EW-2	Water	6/27/2016 11:25	<input type="checkbox"/>	B	A	A										
1606D44-006	EW-4	Water	6/27/2016 14:30	<input type="checkbox"/>	B	A	A										
1606D44-007	EW-5	Water	6/27/2016 15:15	<input type="checkbox"/>	B	A	A										
1606D44-008	OW2	Water	6/27/2016 16:55	<input type="checkbox"/>	B	A	A										
1606D44-009	IW1	Water	6/27/2016 12:15	<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	

**Prepared by: Briana Cutino**

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

**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:** 1606D44

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

**Client Contact:** Michael Deschenes

**Date Logged:** 6/28/2016

**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
1606D44-001A	MW-1	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 12:55	5 days	Trace	<input type="checkbox"/>	
1606D44-001B	MW-1	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 12:55	5 days	Trace	<input type="checkbox"/>	
1606D44-002A	MW-2	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 10:40	5 days	Trace	<input type="checkbox"/>	
1606D44-002B	MW-2	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 10:40	5 days	Trace	<input type="checkbox"/>	
1606D44-003A	MW-3	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 9:45	5 days	Trace	<input type="checkbox"/>	
1606D44-003B	MW-3	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 9:45	5 days	Trace	<input type="checkbox"/>	
1606D44-004A	MW-4	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 15:55	5 days	Trace	<input type="checkbox"/>	
1606D44-004B	MW-4	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 15:55	5 days	Trace	<input type="checkbox"/>	
1606D44-005A	EW-2	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 11:25	5 days	Trace	<input type="checkbox"/>	
1606D44-005B	EW-2	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 11:25	5 days	Trace	<input type="checkbox"/>	
1606D44-006A	EW-4	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 14:30	5 days	Trace	<input type="checkbox"/>	
1606D44-006B	EW-4	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 14:30	5 days	Trace	<input type="checkbox"/>	
1606D44-007A	EW-5	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 15:15	5 days	Trace	<input type="checkbox"/>	
1606D44-007B	EW-5	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 15:15	5 days	Trace	<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:** 1606D44

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

**Client Contact:** Michael Deschenes

**Date Logged:** 6/28/2016

**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
1606D44-008A	OW2	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 16:55	5 days	Trace	<input type="checkbox"/>	
1606D44-008B	OW2	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 16:55	5 days	Trace	<input type="checkbox"/>	
1606D44-009A	IW1	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	6/27/2016 12:15	5 days	Trace	<input type="checkbox"/>	
1606D44-009B	IW1	Water	SW8260B (5 Oxys+Lead Scav.)	2	VOA w/ HCl	<input type="checkbox"/>	6/27/2016 12:15	5 days	Trace	<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

1406044

PAGE 1 OF 1

P&D ENVIRONMENTAL, INC.  
55 Santa Clara Ave., Suite 240  
Oakland, CA 94610  
(510) 658-6916

PROJECT NUMBER:

0058

PROJECT NAME:

XTRA OIL COMPANY  
1701 PARK ST.  
ALAMEDA, CA

SAMPLED BY: (PRINTED & SIGNATURE)

Michael Bass-Deschenes *Michael Bass-Deschenes*

NUMBER OF CONTAINERS

ANALYSIS(ES):

TPH-MULTIRANGE (G.D. MD)  
BOD WITH FUEL OXYG AND P/S SCANNERS

PRESERVATIVE

REMARKS

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION
MW1	6/27/16	1255	H2O	
MW2		1040		
MW3		0945		
MW4		1555		
EW2		1125		
EW4		1430		
EW5		1515		
OW2		1655		
IW1		1215		

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X

ICE NORMAL TAT  
↓  
↓  
↓

RELINQUISHED BY: (SIGNATURE)

*Michael Bass-Deschenes*

DATE

TIME

6-28-16 1505

RECEIVED BY: (SIGNATURE)

*[Signature]*

Total No. of Samples (This Shipment)

9

LABORATORY:

McCAMPBELL ANALYTICAL INC.

Total No. of Containers (This Shipment)

45

RELINQUISHED BY: (SIGNATURE)

*[Signature]*

DATE

TIME

6-28-16 1700

RECEIVED BY: (SIGNATURE)

*[Signature]*

LABORATORY CONTACT:

ANGELA RYDELIUS

LABORATORY PHONE NUMBER:

(877) 252-9262

RELINQUISHED BY: (SIGNATURE)

*[Signature]*

DATE

TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)

*[Signature]*

SAMPLE ANALYSIS REQUEST SHEET

ATTACHED: ( ) YES (X) NO

Results and billing to:  
P&D Environmental, Inc.  
lab@pdenviro.com

REMARKS:

3 VOCs WITH HCL  
2 AMBER VOCs (UNPRESERVED)



### Sample Receipt Checklist

Client Name:	<b>P &amp; D Environmental</b>	Date and Time Received:	<b>6/28/2016 17:00</b>
Project Name:	<b>0058; Xtra Oil Company 1701 Park St. Alameda, CA</b>	Date Logged:	<b>6/28/2016</b>
WorkOrder №:	<b>1606D44</b> Matrix: <u>Water</u>	Received by:	Jena Alfaro
Carrier:	<u>Bernie Cummins (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 checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input 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"/>

-----  
 Comments: