

# **Xtra** OIL COMPANY

2307 PACIFIC AVENUE  
ALAMEDA, CA 94501  
(510) 865-9503 FAX (510) 865-1889

November 13, 2014

**RECEIVED**

*By Alameda County Environmental Health at 10:04 am, Feb 05, 2015*

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

**SUBJECT: POST-SPARGING PILOT TEST REBOUND EVALUATION 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:

- Post- Sparging Pilot Test Rebound Evaluation Report dated November 13, 2014 (document 0058.R27).

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.L57

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

**55 Santa Clara Avenue, Suite 240**

**Oakland, CA 94610**

**(510) 658-6916**

November 13, 2014

Report 0058.R27

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

**SUBJECT: POST-OZONE SPARGING PILOT TEST REBOUND EVALUATION REPORT**  
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 monitoring and sampling of one well designated as MW-2 at the subject site on November 3, 2014. This work was performed in accordance with recommendations set forth in P&D's Ozone Sparging Pilot Test Report dated October 13, 2014 (document 0058.R26). The ozone sparging pilot test occurred from August 27, 2014 to September 26, 2014 with the initial post-ozone sparging groundwater sampling event occurring on October 2 and 3, 2014.

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 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 are 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). In a letter from the ACDEH dated August 6, 2014 it was requested that the pilot test be performed for 30 days and that hexavalent chromium groundwater analysis be performed.

The semi-annual monitoring and sampling of the four historical groundwater monitoring wells (MW-1 through MW-4) and the four wells installed in 2011 for proposed site remediation (EW-2, EW-4, EW-5, and OW-2) was performed on June 19, 20, and 23 2014 for the reporting period of January through June 2014. At the time of the semi-annual monitoring event, the wells were also sampled for baseline water quality analysis in preparation for site remediation in accordance with P&D's In Situ Chemical Oxidation Feasibility Test Work Plan dated February 7, 2014 (document 0058.W6). Five air sparge points (ASP-2 through ASP-6) that had historically been installed for site remediation were also sampled during the June 2014 sampling event for baseline water quality determination in preparation for site remediation. In accordance with a letter from the ACDEH dated August 6, 2014 additional monitoring and sampling of all of the wells was performed on August 20 and 21, 2014 for hexavalent chromium analysis in preparation for site remediation. Documentation of the sampling and sampling results 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.

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).

## FIELD ACTIVITIES

### Groundwater Monitoring and Sampling

On November 3, 2014 P&D personnel purged and sampled groundwater well MW-2 at the subject site. The water level was not measured in the well because of the modifications to the well PVC cap for ozone sparging. Well MW-2 was purged in accordance with low flow purge procedures in accordance with U.S. EPA 1996 guidelines using a peristaltic pump with new

silicone tubing in the pump rollers and new polyethylene tubing for a minimum of fifteen minutes. The bottom of the tubing was set at a depth of approximately three to five feet above the bottom of the well. Purging was performed at a flow rate of approximately 225 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), and turbidity were monitored and recorded on a groundwater monitoring/well purging data sheet. During purging and sampling of well MW-2, a slight to moderate unidentifiable organic odor, but no sheen was detected on the purge water. A copy of the groundwater monitoring/well purging data sheet is attached with this report as Appendix A.

Once well MW-2 had been purged for a minimum of fifteen minutes and the field parameters were observed to have stabilized, a water sample was collected directly from the discharge tubing of the pump into the sample containers. During the November 3, 2014 sample collection event the sample was collected into 40-milliliter glass Volatile Organic Analysis (VOA) vials and 125-milliliter polyethylene bottles which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to ensure that no air bubbles were present. Following collection of the sample in the VOA vials, water from the discharge tubing was filtered using a new, unused in-line 0.45 micron cellulose acetate filter and collected into the 125-milliliter polyethylene bottles that were preserved with a borate hydroxide buffer that was provided by the laboratory. Following sample collection, all sample containers were transferred to a cooler with ice, pending transportation 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 A, and are also summarized in Table 1 with historical water quality field parameter data for well MW-2.

## LABORATORY RESULTS

The groundwater sample collected from well MW-2 at the subject site was analyzed at McCampbell 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; Volatile Organic Compounds (VOCs) including benzene, toluene, ethylbenzene, total xylenes (BTEX), fuel oxygenates and lead scavengers by EPA Method 5030B in conjunction with EPA Method 8260B; and for dissolved hexavalent chromium using EPA Method 218.6.

The groundwater sample laboratory analytical results are summarized in Tables 2. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report as Appendix B.

## DISCUSSION AND RECOMMENDATIONS

Ozone sparging occurred from August 27, 2014 to September 26, 2014. A post-sparging confirmation groundwater sample was collected on October 3, 2014, with a subsequent rebound evaluation sample collected on November 3, 2014. Comparison of pre-sparging and post-sparging field parameter water quality data for well MW-2 in Table 1 shows that the ORP value

became more negative and that the DO value decreased, indicating that groundwater quality at well MW-2 is returning to pre-sparging conditions.

Comparison of pre-sparging and post-sparging water quality data for well MW-2 in Table 2 shows that TPH-G, BTEX, and TBA concentrations remained substantially reduced, and that the dissolved hexavalent chromium concentration has returned to the pre-sparging condition of not detected. In addition, the TPH-D groundwater concentration has rebounded to the pre-sparging concentration. TPH-D groundwater concentrations have historically been the highest at the site at well MW-2. Based on the rebound of TPH-D concentrations at well MW-2, additional site remediation is required.

Based on the absence of detectable concentrations of dissolved hexavalent chromium in groundwater in well MW-2 in the November 2014 rebound evaluation sample, the detected presence of dissolved hexavalent chromium during ozone sparging is only a temporary site condition associated with the remedial solution. Following cessation of ozone sparging, the groundwater conditions return to their non-oxidized state with respect to dissolved hexavalent chromium. This observation is consistent with experience of the ozone equipment supplier at other locations.

P&D recommends the following:

- Install one additional 2-inch diameter groundwater well to a depth of 25 feet adjacent to ASP-4 (see Figure 2),
- Resume ozone sparging at wells MW-2, EW-2 and the proposed new well located next to ASP-4.

The proposed well located adjacent to ASP-4 will be installed using methods identified in P&D's April 15, 2011 Work Plan (document 0058.W4). Ozone sparging performance monitoring will be performed in accordance with P&D's February 7, 2014 In Situ Chemical Oxidation (ISCO) Feasibility Test Work Plan (document 0058.W6) and P&D's June 9, 2014 ISCO Feasibility Test Work Plan Addendum (document 0058.W6A).

## 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.

November 13, 2014  
Report 0058.R27

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 12/31/15

Attachments:

Table 1 - Summary of Water Quality Field Parameters

Table 2 - Summary of Well MW-2 Groundwater Sample Laboratory Analytical Results

Figure 1 - Site Location Map

Figure 2 - Site Plan Showing Groundwater Well and Air Sparging Point Locations

Appendix A - Groundwater Monitoring/Well Purging Data Sheets

Appendix B - Laboratory Analytical Reports and Chain of Custody Documentation

PHK/sjc  
0058.R27

# **TABLES**



Table 2  
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	VOCs by EPA Method 8260	Dissolved Hexavalent Chromium
MW-2	11/3/2014	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,	ND<0.20
	10/3/2014	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	58
	6/19/2014	4,700	2,700, b,c	350, b,c	NA	210	13	18	12	ND, except MTBE = 24	NA	ND<0.20
	11/19/2013	6,600	3,000, b,c	ND<250	ND<17	160	9.6	36	10	ND	NA	NA
	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	NA	NA
	12/11/2012	3,900	2,700, c,d	590	110	290	15	27	16	ND, except TBA = 190, MTBE = 99	NA	NA
	6/21/2012	4,900	1,600, b,c	ND<250	180	560	14	36	12	ND, except TBA = 340, MTBE = 160	NA	NA
	11/28/2011	4,900	2,900, c,d	420, c,d	ND<50	400	11	39	7.7	ND, except TBA = 72, MTBE = 79	NA	NA
	5/26/2011	6,600	1,900, b,c	ND<250	ND<350	1,000	39	36	97	ND, except TBA = 480, MTBE = 210	NA	NA
	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	NA	NA
	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	NA	NA
	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	NA	NA
	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	NA	NA
	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	NA	NA
	8/27/2008	13,000, a	9,200, a,c,d	2,200	ND<200	990	14	93	19	NA	NA	NA
	5/28/2008	12,000, a	25,000, a,c,d	7,200	ND<210	2,000	77	77	90	NA	NA	NA
	2/27/2008	11,000, a	21,000, a,c,d	6,800	ND<150	940	36	ND<10	22	NA	NA	NA
	11/29/2007	11,000, a	32,000, a,c,d	11,000	ND<50	1,000	28	120	51	NA	NA	NA
	8/29/2007	8,600, a	6,300, a, b, c	2,600	ND<100	1,300	36	48	48	NA	NA	NA
	5/30/2007	14,000, a	22,000, a,c,d	5,800	ND<210	2,200	51	100	99	NA	NA	NA
	3/12/2007	8,500, a	74,000, a, c,d	21,000	ND< 80	1,200	34	140	69	NA	NA	NA
	11/6/2006	14,000,a	45,000, a,e	11,000	ND<120	1,400	27	200	37	NA	NA	NA
<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												
MEK = Methyl Ethyl Ketone.												
MIBK = Methyl Iso-butyl Ketone (4-Methyl-2-pentanone).												
MBK = Methyl Butyl Ketone (2-hexanone).												
ND = Not Detected.												
NA = 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 as part of fuel oxygenate analysis. All other results for MTBE and all results for BTEX are by EPA 8021B.												
f = Laboratory Note: aged diesel is significant												
g = Laboratory Note: one to a few isolated non-target peaks present in the TPH-G chromatogram.												
h = Laboratory Note: diesel range compounds are significant; no recognizable pattern; and/or kerosene/kerosene range/jet fuel range.												
i = Laboratory Note: kerosene/kerosene range/jet fuel range.												
Results are in micrograms per liter (µg/L), unless otherwise noted.												

# **FIGURES**

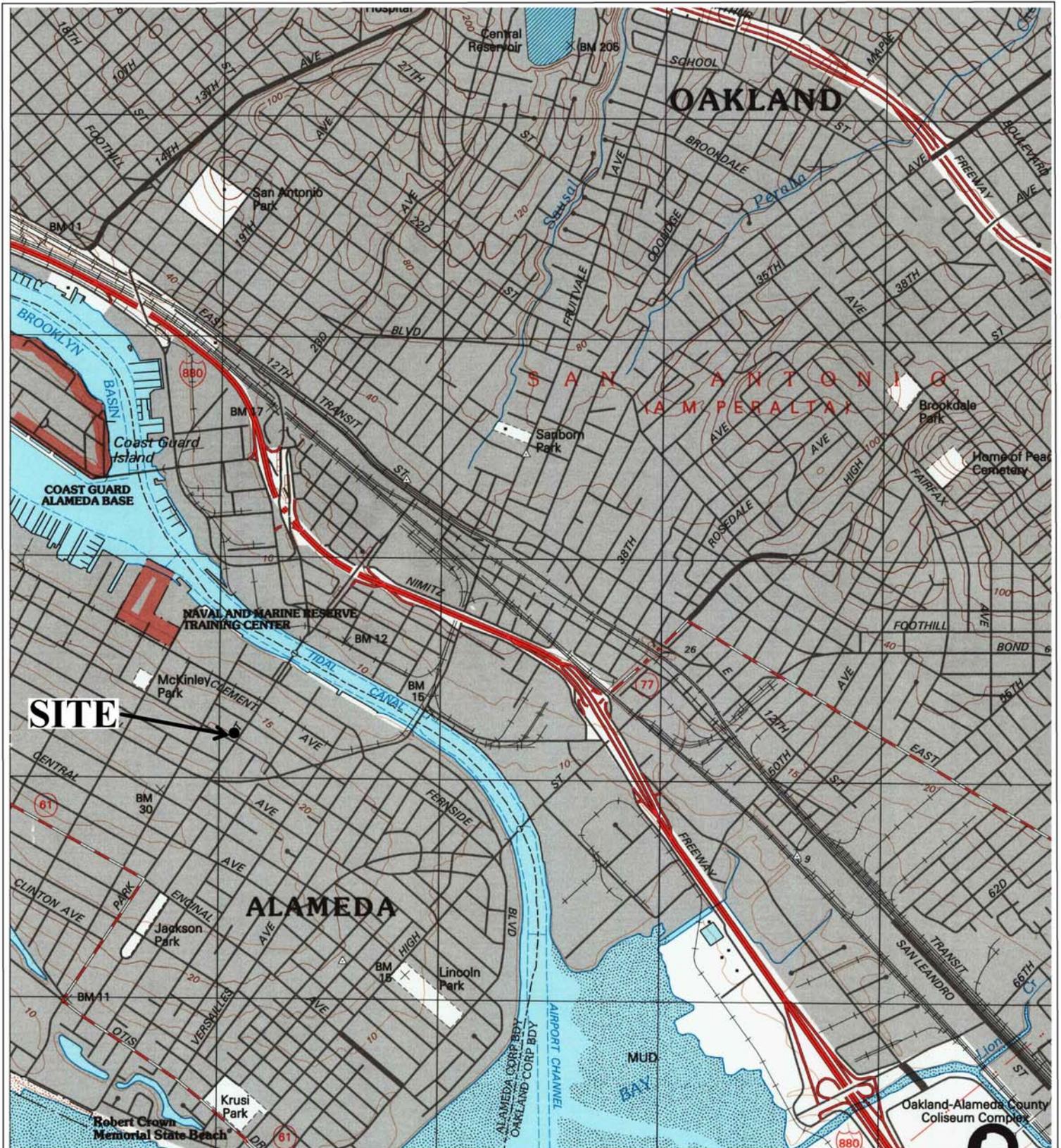


Figure 1  
 Site Location Map  
 Xtra Oil Company  
 1701 Park Street  
 Alameda, California

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



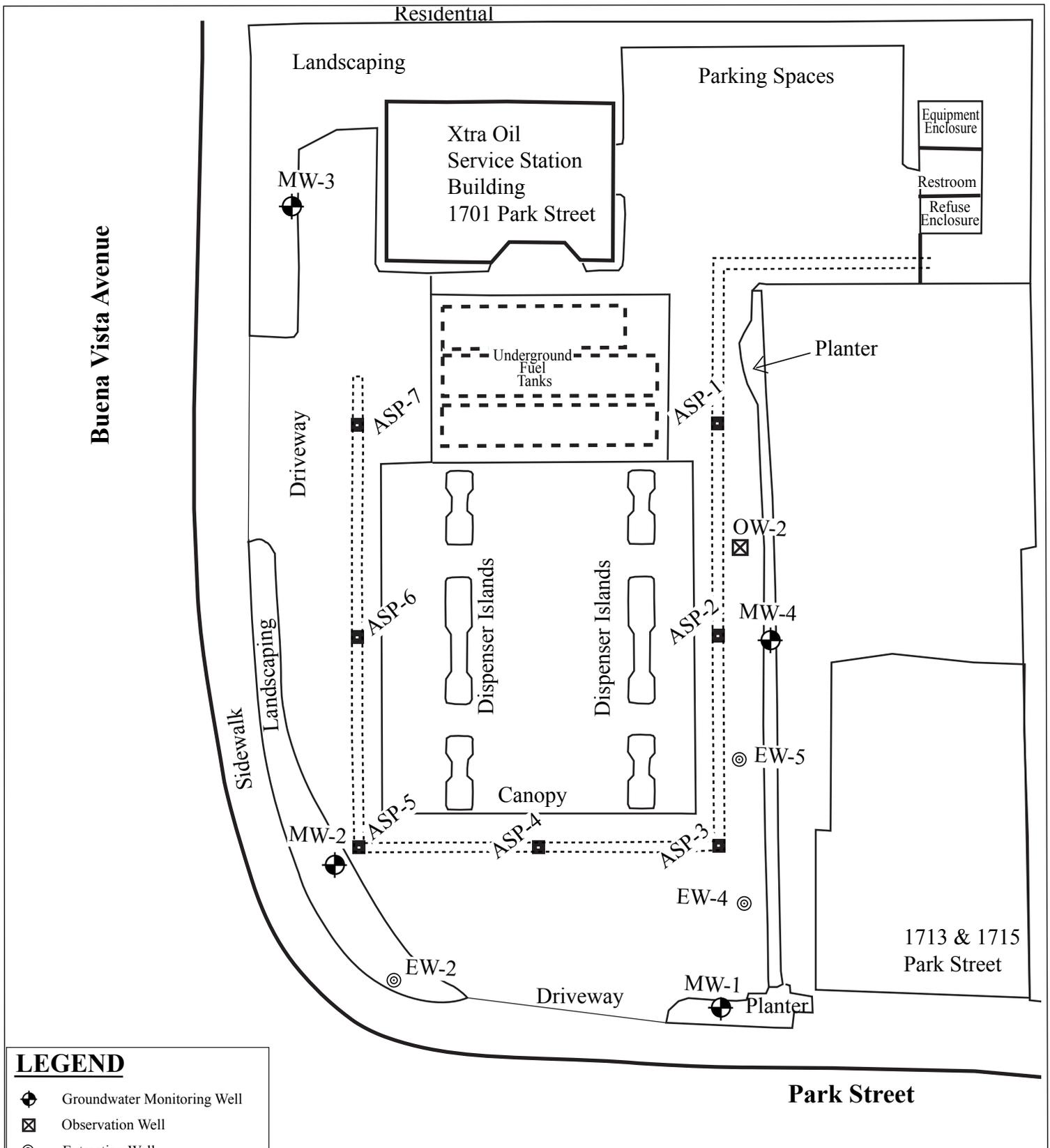


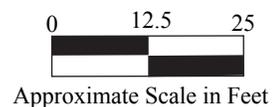
Figure 2  
 Site Plan Showing Groundwater Well and Air Sparging Point Locations  
 Xtra Oil Company  
 1701 Park Street  
 Alameda, California

**LEGEND**

- ◆ Groundwater Monitoring Well
- ⊠ Observation Well
- ⊙ Extraction Well
- Air Sparging Point
- Horizontal Vapor Extraction Trenching
- - - - - Groundwater Surface Contour

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**

## **Groundwater Monitoring/Well Purging Data Sheets**



## **APPENDIX B**

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



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1411124

**Report Created for:** P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610

**Project Contact:** Steve Carmack  
**Project P.O.:**  
**Project Name:** #0058; Xtra Oil Co.

**Project Received:** 11/04/2014

Analytical Report reviewed & approved for release on 11/12/2014 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

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 Co.  
**WorkOrder:** 1411124

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
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
TEQ	Toxicity Equivalence

### Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d1	weakly modified or unmodified gasoline is significant
e3	aged diesel is significant
e4	gasoline range compounds are significant.
e8	kerosene/kerosene range/jet fuel range



# Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1411124

**Project:** #0058; Xtra Oil Co.

**Extraction Method:** E218.6

**Date Received:** 11/4/14 18:45

**Analytical Method:** E218.6

**Date Prepared:** 11/5/14

**Unit:** µg/L

## Hexachrome by IC

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-2	1411124-001C	Water	11/03/2014 15:15	IC2	97381

Analytes	Result	RL	DF	Date Analyzed
Hexachrome	ND	0.20	1	11/05/2014 16:13

Analyst(s): AE



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0058; Xtra Oil Co.  
**Date Received:** 11/4/14 18:45  
**Date Prepared:** 11/11/14

**WorkOrder:** 1411124  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-2	1411124-001B	Water	11/03/2014 15:15	GC10	97649

Analytes	Result	RL	DF	Date Analyzed
Acetone	190	10	1	11/11/2014 13:50
tert-Amyl methyl ether (TAME)	ND	0.50	1	11/11/2014 13:50
Benzene	1.0	0.50	1	11/11/2014 13:50
Bromobenzene	ND	0.50	1	11/11/2014 13:50
Bromochloromethane	ND	0.50	1	11/11/2014 13:50
Bromodichloromethane	ND	0.50	1	11/11/2014 13:50
Bromoform	ND	0.50	1	11/11/2014 13:50
Bromomethane	ND	0.50	1	11/11/2014 13:50
2-Butanone (MEK)	56	2.0	1	11/11/2014 13:50
t-Butyl alcohol (TBA)	28	2.0	1	11/11/2014 13:50
n-Butyl benzene	3.1	0.50	1	11/11/2014 13:50
sec-Butyl benzene	1.2	0.50	1	11/11/2014 13:50
tert-Butyl benzene	ND	0.50	1	11/11/2014 13:50
Carbon Disulfide	ND	0.50	1	11/11/2014 13:50
Carbon Tetrachloride	ND	0.50	1	11/11/2014 13:50
Chlorobenzene	ND	0.50	1	11/11/2014 13:50
Chloroethane	ND	0.50	1	11/11/2014 13:50
Chloroform	0.96	0.50	1	11/11/2014 13:50
Chloromethane	ND	0.50	1	11/11/2014 13:50
2-Chlorotoluene	ND	0.50	1	11/11/2014 13:50
4-Chlorotoluene	ND	0.50	1	11/11/2014 13:50
Dibromochloromethane	ND	0.50	1	11/11/2014 13:50
1,2-Dibromo-3-chloropropane	ND	0.20	1	11/11/2014 13:50
1,2-Dibromoethane (EDB)	ND	0.50	1	11/11/2014 13:50
Dibromomethane	ND	0.50	1	11/11/2014 13:50
1,2-Dichlorobenzene	ND	0.50	1	11/11/2014 13:50
1,3-Dichlorobenzene	ND	0.50	1	11/11/2014 13:50
1,4-Dichlorobenzene	ND	0.50	1	11/11/2014 13:50
Dichlorodifluoromethane	ND	0.50	1	11/11/2014 13:50
1,1-Dichloroethane	ND	0.50	1	11/11/2014 13:50
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	11/11/2014 13:50
1,1-Dichloroethene	ND	0.50	1	11/11/2014 13:50
cis-1,2-Dichloroethene	ND	0.50	1	11/11/2014 13:50
trans-1,2-Dichloroethene	ND	0.50	1	11/11/2014 13:50
1,2-Dichloropropane	ND	0.50	1	11/11/2014 13:50
1,3-Dichloropropane	ND	0.50	1	11/11/2014 13:50
2,2-Dichloropropane	ND	0.50	1	11/11/2014 13:50
1,1-Dichloropropene	ND	0.50	1	11/11/2014 13:50

(Cont.)



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0058; Xtra Oil Co.  
**Date Received:** 11/4/14 18:45  
**Date Prepared:** 11/11/14

**WorkOrder:** 1411124  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-2	1411124-001B	Water	11/03/2014 15:15	GC10	97649
<b>Analytes</b>	<b>Result</b>	<b>RL</b>	<b>DF</b>	<b>Date Analyzed</b>	
cis-1,3-Dichloropropene	ND	0.50	1	11/11/2014 13:50	
trans-1,3-Dichloropropene	ND	0.50	1	11/11/2014 13:50	
Diisopropyl ether (DIPE)	ND	0.50	1	11/11/2014 13:50	
Ethylbenzene	<b>1.4</b>	0.50	1	11/11/2014 13:50	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	11/11/2014 13:50	
Freon 113	ND	0.50	1	11/11/2014 13:50	
Hexachlorobutadiene	ND	0.50	1	11/11/2014 13:50	
Hexachloroethane	ND	0.50	1	11/11/2014 13:50	
2-Hexanone	<b>12</b>	0.50	1	11/11/2014 13:50	
Isopropylbenzene	<b>4.0</b>	0.50	1	11/11/2014 13:50	
4-Isopropyl toluene	ND	0.50	1	11/11/2014 13:50	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	11/11/2014 13:50	
Methylene chloride	ND	0.50	1	11/11/2014 13:50	
4-Methyl-2-pentanone (MIBK)	<b>8.8</b>	0.50	1	11/11/2014 13:50	
Naphthalene	ND	0.50	1	11/11/2014 13:50	
n-Propyl benzene	<b>10</b>	0.50	1	11/11/2014 13:50	
Styrene	ND	0.50	1	11/11/2014 13:50	
1,1,1,2-Tetrachloroethane	ND	0.50	1	11/11/2014 13:50	
1,1,2,2-Tetrachloroethane	ND	0.50	1	11/11/2014 13:50	
Tetrachloroethene	ND	0.50	1	11/11/2014 13:50	
Toluene	ND	0.50	1	11/11/2014 13:50	
1,2,3-Trichlorobenzene	ND	0.50	1	11/11/2014 13:50	
1,2,4-Trichlorobenzene	ND	0.50	1	11/11/2014 13:50	
1,1,1-Trichloroethane	ND	0.50	1	11/11/2014 13:50	
1,1,2-Trichloroethane	ND	0.50	1	11/11/2014 13:50	
Trichloroethene	ND	0.50	1	11/11/2014 13:50	
Trichlorofluoromethane	ND	0.50	1	11/11/2014 13:50	
1,2,3-Trichloropropane	ND	0.50	1	11/11/2014 13:50	
1,2,4-Trimethylbenzene	ND	0.50	1	11/11/2014 13:50	
1,3,5-Trimethylbenzene	ND	0.50	1	11/11/2014 13:50	
Vinyl Chloride	ND	0.50	1	11/11/2014 13:50	
Xylenes, Total	<b>0.96</b>	0.50	1	11/11/2014 13:50	

(Cont.)



# Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1411124

**Project:** #0058; Xtra Oil Co.

**Extraction Method:** SW5030B

**Date Received:** 11/4/14 18:45

**Analytical Method:** SW8260B

**Date Prepared:** 11/11/14

**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-2	1411124-001B	Water	11/03/2014 15:15	GC10	97649

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	97	73-131		11/11/2014 13:50
Toluene-d8	94	72-117		11/11/2014 13:50
4-BFB	104	74-116		11/11/2014 13:50

**Analyst(s):** KF



## Analytical Report

**Client:** P & D Environmental  
**Project:** #0058; Xtra Oil Co.  
**Date Received:** 11/4/14 18:45  
**Date Prepared:** 11/11/14

**WorkOrder:** 1411124  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-2	1411124-001A	Water	11/03/2014 15:15	GC19	97622

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	<b>480</b>	50	1	11/11/2014 17:34
MTBE	---	5.0	1	11/11/2014 17:34
Benzene	---	0.50	1	11/11/2014 17:34
Toluene	---	0.50	1	11/11/2014 17:34
Ethylbenzene	---	0.50	1	11/11/2014 17:34
Xylenes	---	0.50	1	11/11/2014 17:34

Surrogates	REC (%)	Qualifiers	Limits	Analytical Comments: d1,c4
aaa-TFT_2	142	S	70-130	11/11/2014 17:34

**Analyst(s):** IA



# Analytical Report

**Client:** P & D Environmental

**WorkOrder:** 1411124

**Project:** #0058; Xtra Oil Co.

**Extraction Method:** SW3510C

**Date Received:** 11/4/14 18:45

**Analytical Method:** SW8015B

**Date Prepared:** 11/5/14

**Unit:** µg/L

## Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-2	1411124-001A	Water	11/03/2014 15:15	GC6A	97373

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2500	50	1	11/05/2014 18:48
TPH-Motor Oil (C18-C36)	1300	250	1	11/05/2014 18:48

Surrogates	REC (%)	Limits	Analytical Comments: e4,e8,e3
C9	99	70-130	11/05/2014 18:48

**Analyst(s):** TK



## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/5/14  
**Date Analyzed:** 11/5/14  
**Instrument:** IC2  
**Matrix:** Water  
**Project:** #0058; Xtra Oil Co.

**WorkOrder:** 1411124  
**BatchID:** 97381  
**Extraction Method:** E218.6  
**Analytical Method:** E218.6  
**Unit:** µg/L  
**Sample ID:** MB/LCS-97381  
 1411124-001CMS/MSD

### QC Summary Report for E218.6

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Hexachrome	ND	24.1	0.20	25	-	96	90-110

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Hexachrome	23.8	23.7	25	ND	95	95	90-110	0	10



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/11/14  
**Date Analyzed:** 11/11/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0058; Xtra Oil Co.

**WorkOrder:** 1411124  
**BatchID:** 97649  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-97649

## 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	8.41	0.50	10	-	84	54-140
Benzene	ND	9.44	0.50	10	-	94	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	31.2	2.0	40	-	78	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	8.59	0.50	10	-	86	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	8.73	0.50	10	-	87	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	8.10	0.50	10	-	81	66-125
1,1-Dichloroethene	ND	9.22	0.50	10	-	92	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	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/11/14  
**Date Analyzed:** 11/11/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #0058; Xtra Oil Co.

**WorkOrder:** 1411124  
**BatchID:** 97649  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-97649

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	8.82	0.50	10	-	88	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	8.44	0.50	10	-	84	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	8.18	0.50	10	-	82	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	8.36	0.50	10	-	84	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	8.53	0.50	10	-	85	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	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	26.8	26.7		25	107	107	65-135
Toluene-d8	25.2	25.3		25	101	101	64-127
4-BFB	2.53	2.75		2.5	101	110	59-139



# Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/10/14  
**Date Analyzed:** 11/10/14  
**Instrument:** GC3  
**Matrix:** Water  
**Project:** #0058; Xtra Oil Co.

**WorkOrder:** 1411124  
**BatchID:** 97622  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-97622  
 1411109-005AMS/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	62.8	40	60	-	105	70-130
MTBE	ND	10.2	5.0	10	-	102	70-130
Benzene	ND	9.97	0.50	10	-	100	70-130
Toluene	ND	10.1	0.50	10	-	101	70-130
Ethylbenzene	ND	9.99	0.50	10	-	100	70-130
Xylenes	ND	30.3	0.50	30	-	100	70-130

**Surrogate Recovery**

aaa-TFT_2	10.7	9.67		10	107	97	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	61.0	60.6	60	ND	102	101	70-130	0.543	20
MTBE	15.8	16.4	10	5.907	99	105	70-130	3.85	20
Benzene	11.2	11.3	10	ND	112	113	70-130	1.16	20
Toluene	11.4	11.5	10	ND	114	115	70-130	0.998	20
Ethylbenzene	11.4	11.5	10	ND	114	115	70-130	1.07	20
Xylenes	34.4	34.9	30	ND	115	116	70-130	1.26	20

**Surrogate Recovery**

aaa-TFT_2	10.3	9.99	10		103	100	70-130	2.84	20
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## Quality Control Report

**Client:** P & D Environmental  
**Date Prepared:** 11/5/14  
**Date Analyzed:** 11/5/14  
**Instrument:** GC6A  
**Matrix:** Water  
**Project:** #0058; Xtra Oil Co.

**WorkOrder:** 1411124  
**BatchID:** 97373  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-97373

### QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1110	50	1000	-	111	61-157
<b>Surrogate Recovery</b>							
C9	612	615		625	98	98	70-134

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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1411124

ClientCode: PDEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

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

Email: lab@pdenviro.com  
cc/3rd Party:  
PO:  
ProjectNo: #0058; Xtra Oil Co.

**Bill to:**

Accounts Payable  
Xtra Oil Company  
2307 Pacific Avenue  
Alameda, CA 94507  
xtraoil@sbcglobal.net

**Requested TAT:**

**5 days**

**Date Received: 11/04/2014**

**Date Printed: 11/06/2014**

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	
1411124-001	MW-2	Water	11/3/2014 15:15	<input type="checkbox"/>	C	B	A										

**Test Legend:**

1	218_6_W	2	8260B_W	3	TPH(DMO)_W	4		5	
6		7		8		9		10	
11		12							

The following SampID: 001A contains testgroup.

**Prepared by: Maria Venegas**

**Comments:**

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:** 1411124

**Project:** #0058; Xtra Oil Co.

**Client Contact:** Steve Carmack

**Date Received:** 11/4/2014

**Comments:**

**Contact's Email:** lab@pdenviro.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1411124-001A	MW-2	Water	Multi-Range TPH(g,d,mo)	6	VOA w/ HCl + 3-aVOA	<input type="checkbox"/>	11/3/2014 15:15	5 days	Trace	<input type="checkbox"/>	
1411124-001B	MW-2	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	11/3/2014 15:15	5 days	Trace	<input type="checkbox"/>	
1411124-001C	MW-2	Water	E218.6 (Hexachrome)	1	125mL HDPE w/ NaB4 / Na2CO3 / KHCO3	<input type="checkbox"/>	11/3/2014 15:15	5 days	Trace	<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

125mL HDPE w/ NaB4 / Na2CO3 / KHCO3 = 125mL HDPE Bottle w/ Borate-Hydroxide Buffer

VOA w/ HCl = 43mL VOA w/ HCl

VOA w/ HCl + 3-aVOA =

1411124

# CHAIN OF CUSTODY RECORD

## P&D ENVIRONMENTAL, INC.

55 Santa Clara Ave., Suite 240  
Oakland, CA 94610  
(510) 658-6916

PROJECT NUMBER:

0058

PROJECT NAME:

~~Xtra Oil Park~~  
Xtra Oil Co.  
1701 Park St., Alameda

SAMPLED BY: (PRINTED & SIGNATURE)

Steve Carmack *[Signature]*

NUMBER OF CONTAINERS

ANALYSIS(ES):

TPH-Multirange (G.P.M.D)  
8860 w/ Fuel Oxy's & Pb Scavenger's  
Dissolved Hexavalent Chromium

PRESERVATIVE

REMARKS

SAMPLE NUMBER

DATE

TIME

TYPE

SAMPLE LOCATION

9

X X X

ICE

Normal Turnaround Time

(+)

MW-7

11/3/14

1515

H2O

119  
ICE: \_\_\_\_\_  
GOOD CONDITION \_\_\_\_\_  
HEAD SPACE ABSENT \_\_\_\_\_  
DECHLORINATED IN LAB \_\_\_\_\_  
PRESERVATION VOAS O&G

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

Total No. of Samples (This Shipment)

1

LABORATORY:

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

LABORATORY CONTACT:

LABORATORY PHONE NUMBER:

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)

SAMPLE ANALYSIS REQUEST SHEET

ATTACHED: ( ) YES (X) NO

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

REMARKS:

3 - Non Preserved Amber Vials 1 - 250mL Poly s/c  
5 - Clear Vials w/ ACL w/ A&B9 Borate Hydroxide Buffer



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **11/4/2014 6:45:00 PM**  
 Project Name: **#0058; Xtra Oil Co.** LogIn Reviewed by: **Maria Venegas**  
 WorkOrder No: **1411124** Matrix: Water Carrier: Daniel (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: 1.9°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: pH<2; 522: pH<4)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

**UCMR3 Samples:**

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

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

-----  
 Comments: