

# **Xtra** OIL COMPANY

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*7:59 am, Jun 05, 2012*

Alameda County  
Environmental Health

September 30, 2011

Mr. Paresh Khatri  
Alameda County Environmental Health Department  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

**SUBJECT: SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT  
CERTIFICATION**  
County Case # RO 285  
Xtra Oil Company  
3495 Castro Valley Blvd.  
Castro Valley, CA

Dear Mr. Khatri:

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

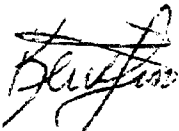
- Semi-Annual Groundwater Monitoring and Sampling Report (March 2011 Through August 2011) dated September 30, 2011 (document 0014.R80).

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

0014.L175

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

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

September 30, 2011  
Report 0014.R80

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

SUBJECT: SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT  
(MARCH THROUGH AUGUST 2011)  
County Case # RO 285  
Xtra Oil Company  
3495 Castro Valley Blvd.  
Castro Valley, California

Gentlemen:

P&D Environmental, Inc. (P&D) has prepared this report documenting the results of the most recent semi-annual monitoring and sampling of both the on- and off-site wells for the subject property. Onsite wells MW1, MW3, MW4, and EW1, offsite monitoring wells MW5 through MW12, and offsite observation wells OW1 and OW2 were monitored on July 19, 2011 and wells MW1, MW3, EW1, and MW5 through MW12 were sampled on July 19 and 20, 2011. U.S. EPA low flow purging methods were used during this sampling event for groundwater sample collection. The reporting period is for March through August 2011.

A Site Location Map (Figure 1), a Site Plan showing onsite well locations (Figure 2), and a Site Vicinity Map showing offsite well locations (Figure 3) are attached with this report. Figure 3 has been updated to show the correct location of OW2. Norbridge School shown on Figure 1 to the south of the subject site has been demolished and replaced with the Castro Valley BART station and associated parking lot.

During a site visit on May 18, 2011 for monthly groundwater treatment system sample collection the pump was determined to not be working. Comparison of the flow totalizer value on May 18, 2011 with the flow totalizer reading from the previous monthly site visit on April 7, 2011 shows that the pump was not operating from at least the time of the April 7, 2011 monthly groundwater treatment system sampling event, and possibly sooner. The pump was replaced on May 31, 2011 and pumping resumed on June 2, 2011.

## **BACKGROUND**

The site is currently used as a gasoline station. Four 12,000 gallon underground fuel storage tanks are present at the site. Three of the tanks contain gasoline and the fourth tank contains diesel fuel. A 550 gallon waste oil tank was removed from the site in November 1988. The fuel tanks were replaced during August 1992.

Three monitoring wells, designated MW1, MW2 and MW3, were installed at the site on February 14 and 15, 1990 by Western Geo-Engineers. The subsurface materials encountered in the boreholes consisted primarily of silt and clay. The locations of the monitoring wells are shown on Figure 2. Soil samples collected during drilling of the boreholes for the monitoring wells revealed the presence of total petroleum hydrocarbons as gasoline (TPH-G) and total petroleum hydrocarbons as diesel (TPH-D).

TPH-G was encountered in borehole MW1 at depths of 5 and 10 feet below grade at concentrations of 40 and 1,400 mg/kg, respectively; in borehole MW2 at depths of 10 and 15 feet below grade at concentrations of 230 and 95 mg/kg, respectively; and in borehole MW3 at depths of 5, 10, and 15 feet at concentrations of 140, 250 and 25 mg/kg, respectively. In addition, 120 mg/kg TPH-D was detected in borehole MW3 at a depth of 5 feet. Soil samples collected at a depth of 20 feet in borehole MW1 and at a depth of 18 feet in boreholes in MW2 and MW3 did not show any detectable concentration of TPH-G or TPH-D. Groundwater was encountered in the boreholes at depths of approximately 15 to 16 feet below grade.

On February 15, 1990 Western Geo-Engineers drilled three exploratory boreholes at the site designated as SB1, SB2 and SB3. The subsurface materials encountered in the boreholes consisted primarily of silt and clay. The approximate locations of the boreholes are shown on Figure 2. It is P&D's understanding that soil samples were collected from the exploratory boreholes at depths of 10 and 12 feet and evaluated in the field using a photoionization detector. In borehole SB1, TPH-G was detected at the depths of 10 and 12 feet at concentrations of 1,700 and 450 mg/kg, respectively. In boreholes SB2 and SB3, TPH-G was detected at the depths of 10 and 12 feet in both boreholes at concentrations of 800 mg/kg and greater than 2,000 mg/kg, respectively. A groundwater monitoring and sampling program was initiated at the site on February 20, 1990.

It is P&D's understanding that during fuel tank replacement activities in August, 1992 soil surrounding the tank pit was removed and disposed of offsite. An extraction well, designated as EW1, was designed and constructed in one corner of the new tank pit by K&B Environmental at the time of installation of the new tanks. The location of EW1 is shown on Figure 2.

On February 7, 1996 well MW2 was destroyed associated with the widening of Redwood Road. The destruction was overseen by ACC Environmental Consultants of Oakland, California.

On August 15, 1997 P&D personnel oversaw the installation of one groundwater monitoring well, designated as MW4, at the subject site. The location of the monitoring well is shown on the attached Site Plan, Figure 2. This work was performed in accordance with P&D's work plan 0014.W4 dated June 27, 1997. The work plan was approved by the Alameda County Department of Environmental Health (ACDEH) in a telephone conversation with Mr. Scott Seery on August 14, 1997. During the conversation, Mr. Seery indicated that he would record his approval of the work plan in the county file for the site. In accordance with an October 25, 2002 letter from Mr. Seery, groundwater samples are to be analyzed for fuel oxygenates methyl tertiary-butyl ether (MTBE), tertiary amyl methyl ether (TAME), ethyl tertiary-butyl ether (ETBE), diisopropyl ether (DIPE), and tertiary-butyl alcohol (TBA), and lead scavengers ethylene dibromide (EDB), 1,2-dichloroethane (1,2-DCA) using EPA Method 8260; and data for observation wells OW1 and OW2, located in Redwood Road, are to

be incorporated into monitoring and sampling reports for the subject site. Documentation of the well installation is provided in P&D's Monitoring Well Installation Report dated September 30, 1997 (document 0014.R25).

On May 31, 2005, P&D submitted an Interim Source Area Remediation Plan (ISARP) to ACDEH proposing free product removal at the site (document 0014.W9). P&D proposed using existing extraction well EW1 in the existing UST pit to dewater the existing pit and the previous UST pit. Monitoring of existing wells MW1, MW3, and MW4 to evaluate the effectiveness of water table drawdown at the site for plume control and associated free product recovery was also proposed.

In January 2007, P&D installed a groundwater extraction system consisting of a pump in well EW1, associated piping for discharge of water from the well, and a carbon filtration system. System operation began in February 2007. Documentation of the system installation and operation is provided in P&D's Interim Source Area Remediation Plan Progress Evaluation Report dated October 25, 2007 (document 0014.R67).

In response to a February 6, 2007 letter request from the ACDEH, P&D submitted a Groundwater Monitoring Well Installation Work Plan (MW5 Through MW13) dated March 5, 2007 (document 0014.W10) to the ACDEH proposing the installation of nine offsite groundwater monitoring wells in the vicinity of the subject site designated as MW5 through MW13. The ACDEH conditionally approved the work plan in an April 4, 2007 letter. P&D subsequently submitted a Groundwater Monitoring Well Installation Work Plan Amendment (MW5 Through MW12) dated May 3, 2007 (document 0014.W10A) to the ACDEH proposing the installation of eight offsite groundwater monitoring wells in the vicinity of the subject site designated as MW5 through MW12. Documentation of the implementation of the work plan and work plan amendment is provided in P&D's Groundwater Monitoring Well Installation Report (MW5 Through MW12) dated January 30, 2008 (document 0014.R68).

The groundwater extraction system that pumped from well EW1 was shut off on April 29, 2009 so that the carbon vessel could be moved to a new location as part of an expansion of the site onto the adjacent parcel located to the west. The system was subsequently sampled on October 26, 2010 in preparation for restarting the system which occurred on November 4, 2010.

The top of well MW1 was partially removed during expansion of the facility in 2009. On April 18, 2011 the elevations for the tops of wells MW1, MW4 and EW1 were resurveyed by a State-licensed surveyor. A copy of the survey report was attached with the semi-annual report for September 2010 through February 2011. The survey data was used in this semi-annual report for determination of groundwater surface elevations and groundwater flow direction determination at the site.

Sampling of groundwater monitoring wells was performed on a quarterly basis through January 2010. Since that time well sampling has been performed on a semi-annual basis.

## FIELD ACTIVITIES

Onsite wells MW1, MW3, MW4, and EW1, offsite monitoring wells MW5 through MW12, and offsite observation wells OW1 and OW2 were monitored on July 19, 2011 and wells MW1, MW3, EW1, and MW5 through MW12 were sampled on July 19 and 20, 2011. The monitoring and sampling was performed in conjunction with monitoring and sampling by SOMA Environmental Engineering, Inc. of Pleasanton, California at the Former BP site at 3519 Castro Valley Boulevard.

On July 19, 2011 the wells at the subject site were monitored for depth to water and the presence of free product or sheen. In well MW4 the depth to water and depth to free product were measured to the nearest 1/32-inch with a steel tape and water-finding and product-finding paste. The passive hydrocarbon collection device in well MW4 was removed by P&D personnel and placed in storage near MW1 during pressure transducer installation in well MW4 on November 2, 2006. In wells OW1, OW2, MW1, MW3, and EW1, the depth to water was measured to the nearest 0.01 foot using an electric water level indicator. The presence of free product and sheen was also evaluated using a transparent bailer in wells MW1, MW3, MW5 through MW12, and EW1. The measured free product thickness in well MW4 was 0.75 feet. No water was encountered in observation wells OW1 and OW2, which are located in Redwood Road. No sample was collected from MW4 due to the presence of free product in the well, and no samples were collected from OW1 or OW2 because of insufficient water for sample collection in the wells (both wells were dry).

Prior to well sampling, onsite wells MW1 and MW3, and offsite wells MW5 through MW12 were purged with a peristaltic pump for a minimum of 15 minutes. Purging was performed using a peristaltic pump and new polyethylene tubing in each well with U.S. EPA low flow purging methods with the exception of well EW1. Flow rates were maintained at approximately 250 milliliters per minute to minimize turbulence and minimize the likelihood of sediments in the samples. During purging operations, the field parameters of electrical conductivity, temperature, pH, and turbidity were monitored and recorded on a groundwater monitoring/well purging data sheet. Because of the continuous operation of the dewatering pump in well EW1 purging was not performed prior to sample collection in this well. A sample was collected from well EW1 using a clean disposable bailer. Petroleum hydrocarbon odors were detected on the purge water from all three of the onsite sampled wells (MW1, MW3 and EW1), and petroleum hydrocarbon sheen was observed on the purge water from wells MW3 and EW1. Petroleum hydrocarbon odors were also detected for the samples collected from offsite wells MW6 and MW8. Records of the field parameters measured during well purging are included with this report.

For all of the wells except EW1, the water samples were transferred directly from the tubing from the peristaltic pump to 40-milliliter glass VOA vials and 1-liter amber glass bottles that were sealed with Teflon-lined screw caps. The water sample from well EW1 was transferred from the bailer to the sample bottles. The VOA vials were overturned and tapped to ensure that no air bubbles were present. The VOA vials and bottles were then transferred to a cooler with ice, until they were transported to McCampbell Analytical, Inc. in Pittsburg, California. McCampbell Analytical, Inc. is

a State-accredited hazardous waste testing laboratory. Chain of custody documentation accompanied the samples to the laboratory.

## HYDROGEOLOGY

On January 7, 2008 Kier & Wright (State-licensed surveyors) surveyed the top of all of the wells, including onsite wells MW1, MW3, MW4 and EW1, and offsite observation wells OW1 and OW2. The new top of well casing elevations for the wells and the associated calculated groundwater surface elevations are shown in Table 1. Comparison of the previous top of well casing elevations for wells MW1, MW3 and MW4 with the January 7, 2008 elevations shows that the January 7, 2008 elevations are 2.85, 3.06, and 2.86 feet higher, respectively, than the previously surveyed elevations.

The top of well MW1 was partially removed during expansion of the facility in 2009. On April 18, 2011 the elevations for the tops of wells MW1, MW4 and EW1 were resurveyed by Kier & Wright.

A copy of the survey report was attached with the semi-annual report for September 2010 through February 2011. The 2011 survey data was used to replace the 2008 survey data for wells MW1, MW4 and EW1 in this semi-annual report for determination of groundwater surface elevations and groundwater flow direction determination at the site.

The groundwater extraction system that pumped from well EW1 was shut off on April 29, 2009 so that the carbon vessel could be moved to a new location as part of an expansion of the site onto the adjacent parcel located to the west. The system was subsequently re-sampled on October 26, 2010 and restarted on November 4, 2010. During a site visit on May 18, 2011 for monthly groundwater treatment system sample collection the pump was determined to not be working. Comparison of the flow totalizer value on May 18, 2011 with the flow totalizer reading from the previous monthly site visit on April 7, 2011 shows that the pump was not operating from at least the time of the April 7, 2011 monthly groundwater treatment system sampling event, and possibly sooner. The pump was replaced on May 31, 2011 and pumping resumed on June 2, 2011.

The groundwater extraction and treatment system was operating during the July 19 and 20, 2011 well monitoring and sampling event. As of August 17, 2011 the total number of gallons pumped by the groundwater treatment system was 1,881,315. The historical volume of water pumped from the extraction well is presented in Table 2.

On July 19, 2011 the measured depth to water in wells MW1, MW3, MW4, and EW1 was 9.24, 9.27, 9.38, and 11.39 feet, respectively. A separate phase hydrocarbon layer measuring approximately 0.75 feet in thickness was measured in well MW4. Using a specific gravity of 0.75, the corrected depth to water in well MW4 is 8.82 feet. Since the previous monitoring event on February 14 and 15, 2011 the groundwater elevations (corrected for the presence of any detected free product) have decreased in onsite wells MW1, MW3, MW4, and EW1 by 1.44, 0.31, 1.04, and 0.01 feet, respectively. Since the previous monitoring and sampling event for the offsite wells on February 14 and 15, 2011 the groundwater elevations have decreased in offsite groundwater monitoring wells MW5, MW6, MW7, MW8, MW9, MW10, MW11, and MW12 by 0.82, 0.71, 0.41, 0.40, 0.73, 0.62, 0.48, and 0.12 feet, respectively.

Although the measured change in the water level in well MW11 has historically been attributed to very slow recovery of the well during previous sampling episodes in 2007, the change in water level since the previous sampling event in well MW11 of 0.48 feet and in nearby well MW7 of 0.41 feet is similar to the water level changes in other offsite wells which ranged from 0.12 to 0.82 feet. Historical differences in water levels observed in well MW11 are attributed to the lithology in the vicinity of Redwood Court. The measured depth to water in the wells and the separate phase layer thickness measured in monitoring well MW4 are summarized in Table 1.

Based on the measured depth to groundwater (corrected for the presence of any detected free product) in the onsite groundwater monitoring wells MW1, MW3 and MW4, the apparent groundwater flow direction at the site on July 19, 2011 was calculated to be to the west-southwest with a gradient of 0.0032. During the previous quarterly monitoring and sampling event on February 14 and 15, 2011 the groundwater flow direction was calculated to be to the south-southwest with a gradient of 0.015. The groundwater flow direction at the site on July 19, 2011 is shown on Figure 2. The groundwater flow direction has shifted to the west and the gradient has decreased since the previous monitoring and sampling event on February 14 and 15, 2011.

The current groundwater flow direction is different from historical groundwater flow directions prior to 2007 (when groundwater was not being pumped from well EW1), and is also different from groundwater flow directions identified during pumping from well EW1. The groundwater flow direction observed for July 19, 2011 is attributed to changes in free product thickness observed in well MW4. Rose diagrams showing historical groundwater flow directions at the site when groundwater was being pumped from well EW1 and when groundwater was not being pumped from well EW1 are shown on Figure 2. Rose diagrams shown on Figure 2 have been amended from previous reports to show historical groundwater flow directions during pumping and non-pumping periods.

Based on review of groundwater surface elevations in offsite groundwater monitoring wells MW5 through MW12, the groundwater flow direction in the vicinity of the site is southerly, ranging from the south-southeast with a gradient of 0.0094 in the vicinity of Redwood Road to the south-southwest with a gradient of 0.0066 in the vicinity of the west end of Redwood Court. These offsite groundwater flow directions and gradients are relatively consistent with groundwater flow directions and gradients observed during the previous monitoring and sampling episode. Groundwater surface elevations and contours and the approximate groundwater flow direction in the vicinity of the site based on July 19, 2011 water level measurements from the offsite wells are shown on Figure 3.

## LABORATORY RESULTS

All of the groundwater samples collected on July 19 and 20, 2011 were analyzed for TPH Multirange (TPH-G, TPH-D, and TPH-MO) using EPA Methods 5030B and 3510C in conjunction with modified EPA Method 8015C; and for benzene, toluene, ethylbenzene, and total xylenes (BTEX), fuel oxygenates (MTBE, TAME, ETBE, TAME, and TBA) and lead scavengers EDB and 1,2-DCA/EDC using EPA Method 5030B in conjunction with EPA Method 8260B.

The laboratory analytical results for the samples collected from onsite wells MW1, MW3, and EW1 show that TPH-D was detected at concentrations of 2,900, 4,000, and 5,600 micrograms per Liter ( $\mu\text{g/L}$ ), respectively; TPH-G was detected at concentrations of 7,600, 30,000, and 9,700  $\mu\text{g/L}$ , respectively; benzene was detected at concentrations of 120, 17,000, and 3,100  $\mu\text{g/L}$ , respectively; and MTBE was detected in both wells MW3 and EW1 at a concentration of 1,400  $\mu\text{g/L}$ . No fuel oxygenates or lead scavengers were detected in the groundwater samples collected from onsite wells MW1, MW3, and EW1, with the exception of MTBE mentioned above and TBA, which was detected in the samples collected from wells MW3 and EW1 at concentrations of 3,200 and 5,900  $\mu\text{g/L}$ , respectively.

The laboratory analytical results for the samples collected from offsite wells MW5 through MW12 shows that no analytes were detected in the samples collected from wells MW9, MW10, and MW11; that only MTBE was detected in the sample collected from well MW12 at a concentration of 4.4  $\mu\text{g/L}$ ; and only TPH-D, MTBE, and TBA were detected in the sample collected from well MW5 at concentrations of 94, 1.9, and 6.3  $\mu\text{g/L}$ , respectively. In the samples collected from the remaining offsite wells (MW6, MW7, and MW8) TPH-D was not detected in the sample collected from well MW7 and was detected in MW6 and MW8 at concentrations of 920 and 620  $\mu\text{g/L}$ , respectively; TPH-G was detected at concentrations of 45,000, 420, and 2,500  $\mu\text{g/L}$ , respectively; benzene was detected at concentrations of 4,600, 130, and 17  $\mu\text{g/L}$ , respectively; and MTBE was only detected in the sample collected from offsite well MW7 at a concentration of 6.7  $\mu\text{g/L}$ , and was not detected in the samples collected from offsite wells MW6 and MW8.

No other fuel oxygenates or lead scavengers were detected in any of the samples collected from any of offsite wells MW5 through MW12, with the exception of TBA in wells MW5 and MW7 at concentrations of 6.3 and 10  $\mu\text{g/L}$ , respectively.

Review of the laboratory analytical reports shows that the TPH-D results for the sample collected from wells MW1, MW3, MW6, MW8, and EW1 are all described as consisting of diesel and gasoline range compounds. Based on communications with the laboratory director regarding the laboratory footnote descriptions for samples MW3, MW6, and MW8, the following information was provided regarding alternate interpretations of the chromatograms for these samples.

- MW3: the diesel results could also be interpreted as aged gasoline.
- MW6: the diesel range compounds with no recognizable pattern could also be interpreted simply as gasoline-range compounds being significant.
- MW8: the diesel range compounds with no recognizable pattern could also be interpreted simply as diesel-range compounds.

The laboratory analytical results for the groundwater samples are summarized in Table 3. Copies of the laboratory analytical reports and chain of custody documentation are included with this report.

#### DISCUSSION AND RECOMMENDATIONS

Onsite wells MW1, MW3, MW4, and EW1, offsite observation wells OW1 and OW2, and offsite monitoring wells MW5 through MW12 were monitored on July 19, 2011 and wells MW1,



MW3, EW1, and MW5 through MW12 were sampled on July 19 and 20, 2011. Separate phase hydrocarbons were measured in well MW4 at a thickness of 0.75 feet (changed from 0.17 on February 14, 2010).

Dewatering of the former UST pit began in February 2007 at extraction well EW1. The groundwater extraction system that pumped from well EW1 was shut off on April 29, 2009 so that the carbon vessel could be moved to a new location as part of an expansion of the site onto the adjacent parcel located to the west. The groundwater extraction system was subsequently restarted on November 4, 2010. During a site visit on May 18, 2011 for monthly groundwater treatment system sample collection the pump was determined to not be working. Comparison of the flow totalizer value on May 18, 2011 with the flow totalizer reading from the previous monthly site visit on April 7, 2011 shows that the pump was not operating from at least the time of the April 7, 2011 monthly groundwater treatment system sampling event, and possibly sooner. The pump was replaced on May 31, 2011 and pumping resumed on June 2, 2011. As of August 17, 2011 the total number of gallons pumped by the groundwater treatment system was 1,881,315.

Based on the measured depth to groundwater (corrected for the presence of any detected free product) in the onsite groundwater monitoring wells MW1, MW3 and MW4, the apparent groundwater flow direction at the site on July 19, 2011 was calculated to be to the west-southwest with a gradient of 0.0032. During the previous quarterly monitoring and sampling event on February 14 and 15, 2011 the groundwater flow direction was calculated to be to the south-southwest with a gradient of 0.015. The change in groundwater flow direction observed for July 19, 2011 is attributed to changes in free product thickness observed in well MW4.

Based on review of groundwater surface elevations in offsite groundwater monitoring wells MW5 through MW12, the groundwater flow direction in the vicinity of the site is southerly, ranging from the south-southeast with a gradient of 0.0094 in the vicinity of Redwood Road to the south-southwest with a gradient of 0.0066 in the vicinity of the west end of Redwood Court. These offsite groundwater flow directions and gradients are relatively consistent with groundwater flow directions and gradients observed during the previous monitoring and sampling episode.

Review of changes in onsite water quality since the previous sampling event on February 14 and 15, 2011 shows that all analyte concentrations have decreased or remained the same in wells MW1, MW3, and EW1 with the exceptions of toluene in well MW1, ethylbenzene in MW3, and TBA in well EW1 which increased.

Review of changes in offsite water quality since the previous sampling event on February 14 and 15, 2011 shows that all analyte concentrations have decreased or remained not detected in wells MW5, MW6, MW8, MW9, MW10, MW11, and MW12 with the exceptions of TPH-D, MTBE, and TBA in well MW5, and MTBE in well MW12, which increased. In well MW7, all analyte concentrations increased or remained not detected.

Based on the laboratory analytical results of the water samples collected from the monitoring wells, P&D recommends that semi-annual groundwater monitoring and sampling be continued. In addition, P&D recommends that future monitoring and sampling efforts continue to be coordinated

with the Former BP site located at 3519 Castro Valley Boulevard. In accordance with communications with ACDEH, although future monitoring and sampling events will be performed in conjunction with the consultant for the Former BP site located at 3519 Castro Valley Boulevard, the results obtained by the other consultant are not included in this current report and will not be included in future P&D reports because the information is readily available via the internet at both the county website and the GeoTracker website.

Based on the decreased benzene concentrations in onsite wells MW1 and MW3 since the re-starting of groundwater pumping at well EW1, P&D recommends that groundwater pumping be continued at well EW1. P&D also recommends that the separate phase petroleum layer be removed from well MW4.

### 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.

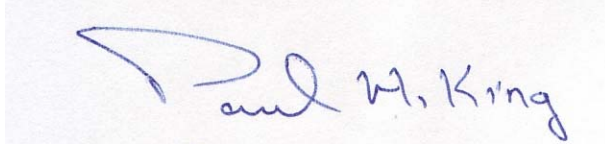
This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals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

September 30, 2011  
Report 0014.R80

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

Sincerely,

P&D Environmental, Inc.



Paul H. King  
Professional Geologist #5901  
Expires: 12/31/11



Attachments:

Table 1 – Historical Water Level Data  
Table 2 – Historical Volume Pumped From Well EW1  
Table 3 – Historical Water Quality Data

Figure 1 – Site Location Map  
Figure 2 – Site Plan Showing July 19, 2011 Water Level Data  
Figure 3 – Site Vicinity Map Showing July 19, 2011 Water Level Data

Well Monitoring and Purge Data Sheets  
Laboratory Analytical Reports and Chain of Custody Documentation

PHK/ sjc  
0014.R80

# **TABLES**

TABLE 1  
HISTORICAL WATER LEVEL DATA

<u>Well Number</u>	<u>Date Monitored</u>	<u>Top of Casing Elevation (Ft)</u>	<u>Depth to Water (Ft)</u>	<u>Water Table Elevation (Ft)</u>
MW1	7/19/2011	179.43+++	9.24	170.19
	2/14/2011	179.43+++	7.80	171.63
	7/26/2010	180.22++	8.10	172.12
	1/27/2010	180.22++	6.41	173.81
	10/15/2009	180.22++	7.22	173.00
	7/7/2009	180.22++	8.44	171.78
	4/6/2009	180.22++	8.35	171.87
	1/6/2009	180.22++	8.42	171.80
	10/22/2008	180.22++	8.80	171.42
	7/16/2008	180.22++	8.40	171.82
	4/15/2008	180.22++	8.41	171.81
	1/17/2008	180.22++	8.01	169.36
	10/16/2007	177.37*	8.65	168.72
	7/25/2007	177.37*	8.49	168.88
	4/17/2007	177.37*	8.30	169.07
	1/18/2007	177.37*	7.85	169.52
	11/14/2006	177.37*	7.38	169.99
	6/29/2006	177.37*	7.80	169.57
	2/3/2006	177.37*	6.65	170.72
	11/18/2005	177.37*	8.17	169.20
	7/28/2005	177.37*	7.98	169.39
	4/13/2005	177.37*	6.90	170.47
	1/31/2005	177.37*	7.20	170.17
	10/15/2004	177.37*	8.52	168.85
	7/13/2004	177.37*	8.33	169.04
	4/6/2004	177.37*	7.93	169.44
	12/18/2003	177.37*	7.65	169.72
	9/18/2003	177.37*	8.15	169.22
	6/19/2003	177.37*	8.13	169.24
	3/18/2003	177.37*	7.77	169.60
	12/21/2002	177.37*	5.74	171.63
	9/10/2002	177.37*	8.28	169.09
	3/30/2002	177.37*	7.43	169.94
	12/21/2001	177.37*	6.92	170.45
	9/23/2001	177.37*	8.53	168.84
	6/22/2001	177.37*	8.30	169.07
	4/22/2001	177.37*	7.77	169.60
	12/14/2000	177.37*	8.49	168.88
	9/18/2000	177.37*	8.56	168.81
	6/8/2000	177.37*	7.97	169.40
	3/9/2000	177.37*	6.68	170.69
	12/9/1999	177.37*	8.15	169.22
	8/31/1999	177.37*	8.36	169.01
	4/29/1999	177.37*	7.68	169.69
	01/29/1999	177.37*	6.99	170.38
	4/26/1998	177.37*	7.5	169.87
	1/24/1998	177.37*	6.61	170.76
	11/6/1997	177.37*	8.79	168.58
	8/26/1997	177.37*	8.51	168.86
	7/24/1997	177.43**	8.71	168.72
	4/25/1997	177.43**	7.98	169.45
	1/20/1997	177.43**	7.12	170.31
	7/26/1996	177.43**	8.39	169.04
	7/9/1996	177.43**	8.16	169.27
	4/23/1996	177.43**	7.47	169.96
	2/7/1996	177.43**	6.09	171.34
	1/29/1996	177.43**	6.17	171.26
	10/26/1995	177.43**	8.45	168.98
	7/28/1995	177.43**	8.27	169.16
	5/2/1995	177.43**	6.96	170.47
	2/23/1995	177.43**	7.72	169.71
	11/18/1994	177.43**	7.14	170.29
	8/22/1994	177.43**	8.67	168.76
	5/19/1994	177.43**	8.05	169.38
	2/28/1994	177.43**	7.44	169.99
	11/24/1993	177.43**	8.74	168.69
	8/30/1993	177.43**	8.78	168.65
	5/18/1993	177.43**	8.12	169.31
	2/23/1993	177.43**	7.34	170.09
	11/13/1992	200.00***	9.13	190.87
	5/29/1992	175.73	8.59	167.14
	1/14/1992	175.73	8.57	167.16
	12/23/1991	175.73	9.65	166.08
	11/25/1991	175.73	9.41	166.32
	10/10/1991	175.73	9.7	166.03
	9/17/1991	175.73	9.5	166.23
	8/19/1991	175.73	9.31	166.42

TABLE 1  
HISTORICAL WATER LEVEL DATA

Well Number	Date Monitored	Top of Casing Elevation (Ft)	Depth to Water (Ft)	Water Table Elevation (Ft)
MW2	NOT MEASURED (DESTROYED ON FEBRUARY 7, 1996)			
	2/7/1996	176.04**	5.70	170.34
	1/29/1996	176.04**	5.16	170.88
	10/26/1995	176.04**	8.21	167.83
	7/28/1995	176.04**	7.99	168.05
	5/2/1995	176.04**	6.79	169.25
	2/23/1995	176.04**	7.51	168.53
	11/18/1994	176.04**	6.92	169.12
	8/22/1994	176.04**	8.59	167.45
	5/19/1994	176.04**	7.70	168.34
	2/28/1994	176.04**	6.99	169.05
	11/24/1993	176.04**	8.47	167.57
	8/30/1993	176.04**	8.64	167.40
	5/18/1993	176.04**	7.73	168.31
	2/23/1993	176.04**	6.39	169.65
	11/13/1992	198.61***	8.70	189.91
	5/29/1992	175.45	9.31	166.14
	1/14/1992	175.45	8.97	166.48
	12/23/1991	175.45	10.39	165.06
	11/25/1991	175.45	9.81	165.64
	10/10/1991	175.45	10.39	165.06
	9/17/1991	175.45	10.23	165.22
	8/19/1991	175.45	9.60	165.85
MW3	7/19/2011	179.46++	9.27	170.19
	2/14/2011	179.46++	8.96	170.50
	7/26/2010	179.46++	8.06	171.40
	1/27/2010	179.46++	5.82	173.64
	10/15/2009	179.46++	7.55	171.91
	7/7/2009	179.46++	8.50	170.96
	4/6/2009	179.46++	8.73	170.73
	1/6/2009	179.46++	8.88	170.58
	10/22/2008	179.46++	9.29	170.17
	7/16/2008	179.46++	9.03	170.43
	4/15/2008	179.46++	9.19	170.27
	1/17/2008	176.40*	8.90	167.50
	11/16/2007	176.40*	9.43	166.97
	7/25/2007	176.40*	9.35	167.05
	4/17/2007	176.40*	8.88	167.52
	1/18/2007	176.40*	7.32	169.08
	11/14/2006	176.40*	7.53	168.87
	6/29/2006	176.40*	7.58	168.82
	2/3/2006	176.40*	6.10	170.30
	11/18/2005	176.40*	7.63	168.77
	7/28/2005	176.40*	7.58	168.82
	4/13/2005	176.40*	6.35	170.05
	1/31/2005	176.40*	6.79	169.61
	10/15/2004	176.40*	8.28	168.12
	7/13/2004	176.40*	8.11	168.29
	4/6/2004	176.40*	7.41	168.99
	12/18/2003	176.40*	6.99	169.41
	9/18/2003	176.40*	7.91	168.49
	6/19/2003	176.40*	7.60	168.80
	3/18/2003	176.40*	7.35	169.05
	12/21/2002	176.40*	5.43	170.97
	09/10/2002	176.40*	7.97	168.43
	03/30/2002	176.40*	6.97	169.43
	12/22/2001	176.40*	6.44	169.96
	09/23/2001	176.40*	8.17	168.23
	06/22/2001	176.40*	8.06	168.34
	04/22/2001	176.40*	7.50	168.90
	12/14/2000	176.40*	8.13	168.27
	9/18/2000	176.40*	7.83	168.57
	09/26/2000	176.40*	7.77	168.63
	6/8/2000	176.40*	7.50	168.90
	03/09/2000	176.40*	6.08	170.32
	12/9/1999	176.40*	7.90	168.50
	8/31/1999	176.40*	7.95	168.45
	4/29/1999	176.40*	7.09	169.31
	1/29/1999	176.40*	6.42	169.98
	04/26/1998	176.40*	6.85	169.55
	01/24/1998	176.40*	5.90	170.50
	11/6/1997	176.40*	7.80	168.80
	8/26/1997	176.40*	7.67	168.73
	7/24/1997	176.41**	7.90	168.51
	4/25/1997	176.41**	7.12	169.29
	01/20/1997	176.41**	6.35	170.06

TABLE 1  
HISTORICAL WATER LEVEL DATA

Well Number	Date Monitored	Top of Casing Elevation (Ft)	Depth to Water (Ft)	Water Table Elevation (Ft)
MW3	7/26/1996	176.41**	7.84	169.57
(Continued)	7/9/1996	176.41**	7.61	168.80
	04/23/1996	176.41**	6.81	169.60
	2/7/1996	176.41**	5.05	170.36
	01/29/1996	176.41**	5.77	170.64
	10/26/1995	176.41**	7.72	168.69
	07/28/1995	176.41**	7.80	168.61
	05/02/1995	176.41**	6.50	169.91
	2/23/1995	176.41**	7.24	169.17
	11/18/1994	176.41**	6.05	170.36
	8/22/1994	176.41**	7.65	168.76
	5/19/1994	176.41**	7.15	169.26
	2/24/1994	176.41**	6.68	169.73
	11/24/1993	176.41**	7.55	168.86
	8/30/1993	176.41**	7.64	168.77
	5/18/1993	176.41**	7.12	169.29
	2/23/1993	176.41**	8.01	168.40
	11/13/1992	190.97***	7.86	191.12
	5/29/1992	175.00	8.45	166.55
	1/14/1992	175.00	8.24	166.55
	12/23/1991	175.00	9.37	165.63
	11/25/1991	175.00	9.19	165.81
	10/10/1991	175.00	9.43	165.57
	09/17/1991	175.00	9.20	165.80
	8/19/1991	175.00	8.95	166.05
MW4	7/19/2011	179.22+++	9.38(0.75)#	170.40
	2/14/2011	179.22+++	7.91(0.17)#	171.44
	7/26/2010	179.21++	8.31(0.76)#	171.47
	1/27/2010	179.21++	6.58(0.83)#	173.25
	10/15/2009	179.21++	7.06(0.46)#	172.50
	7/7/2009	179.21++	8.16(0.22)#	171.22
	4/6/2009	179.21++	7.90(0.16)#	171.43
	1/6/2009	179.21++	8.00(0.19)#	171.35
	10/22/2008	179.21++	8.46(0.08)#	170.81
	7/16/2008	179.21++	8.04(0.21)#	171.33
	4/15/2008	179.21++	8.00(0.25)#	171.40
	1/17/2008	176.35*	7.50(0.17)#	168.98
	10/16/2007	176.35*	8.50(0.25)#	168.04
	7/25/2007	176.35*	8.04(0.17)#	168.44
	4/17/2007	176.35*	7.94(0.19)#	168.55
	1/18/2007	176.35*	7.38(0.21)#	169.13
	11/14/2006	176.35*	7.36(0.25)#	169.18
	6/29/2006	176.35*	Unknown	Unknown
	2/3/2006	176.35*	5.86	170.49
	11/18/2005	176.35*	7.99 (0.51)#	168.36
	7/28/2005	176.35*	7.59	168.76
	4/13/2005	176.35*	6.78 (0.01)#	169.58
	1/31/2005	176.35*	7.34 (0.19)#	169.15
	10/15/2004	176.35*	8.73 (0.15)#	167.73
	7/13/2004	176.35*	8.44 (0.03)#	167.93
	4/6/2004	176.35*	9.58 (2.83)#	168.89
	2/11/2004	176.35*	9.43 (2.70)#	168.95
	12/18/2003	176.35*	9.75 (1.51)#	167.73
	9/18/2003	176.35*	9.13 (1.80)#	168.57
	6/19/2003	176.35*	8.56 (0.31)#	168.02
	3/18/2003	176.35*	7.49 (0.06)#	168.91
	12/21/2002	176.35*	8.58 (4.39)#	171.06
	9/10/2002	176.35*	9.09 (1.60)#	168.46
	03/30/2002	176.35*	9.86 (2.49)#	168.36
	12/22/2001	176.35*	7.79 (1.75)#	169.87
	9/23/2001	176.35*	8.97 (1.17)#	168.26
	06/22/2001	176.35*	7.79	168.56
	4/22/2001	176.35*	9.07 (2.20)#	168.93
	12/14/2000	176.35*	8.87 (0.72)#	168.02
	09/18/2000	176.35*	8.50 (0.45)#	168.19
	6/8/2000	176.35*	7.34	169.01
	3/9/2000	176.35*	6.61 (0.46)#	170.08
	12/9/1999	176.35*	8.80	167.55
	08/31/1999	176.35*	8.28	168.07
	4/29/1999	176.35*	7.14	169.21
	1/29/1999	176.35*	6.68	169.67
	04/26/1998	176.35*	6.87	169.48
	01/24/1998	176.35*	6.61	169.74
	11/6/1997	176.35*	9.16	167.19
	08/26/1997	176.35*	8.92	167.43
	08/20/1997	176.35*	7.66^	

TABLE 1  
HISTORICAL WATER LEVEL DATA

<b>Well Number</b>	<b>Date Monitored</b>	<b>Top of Casing Elevation (Ft)</b>	<b>Depth to Water (Ft)</b>	<b>Water Table Elevation (Ft)</b>
MW5	7/19/2011	176.02++	6.82	169.20
	2/14/2011	176.02++	6.00	170.02
	7/26/2010	176.02++	5.96	170.06
	1/27/2010	176.02++	4.20	171.82
	10/15/2009	176.02++	5.04	170.98
	7/7/2009	176.02++	6.18	169.84
	4/6/2009	176.02++	5.86	170.16
	1/6/2009	176.02++	5.91	170.11
	10/22/2008	176.02++	6.55	169.47
	7/16/2008	176.02++	6.01	170.01
	4/15/2008	176.02++	5.90	170.12
	12/17/2007	176.02++	5.83	170.19
	12/13/2007	176.02++	5.83	170.19
	12/12/2007	176.02++	5.98	170.04
MW6	7/19/2011	175.24++	6.54	168.70
	2/14/2011	175.24++	5.83	169.41
	7/26/2010	175.24++	5.79	169.45
	1/27/2010	175.24++	4.02	171.22
	10/15/2009	175.24++	4.92	170.32
	7/7/09	175.24++	6.00	169.24
	4/6/2009	175.24++	5.66	169.58
	1/6/2009	175.24++	5.72	169.52
	10/22/2008	175.24++	6.36	168.88
	7/16/2008	175.24++	5.88	169.36
	4/15/2008	175.24++	5.00	170.24
	12/17/2007	175.24++	5.69	169.55
	12/13/2007	175.24++	5.63	169.61
	12/11/2007	175.24++	6.17^	169.07
MW7	7/19/2011	170.34++	4.14	166.20
	2/14/2011	170.34++	3.73	166.61
	7/26/2010	170.34++	3.72	166.62
	1/27/2010	170.34++	2.22	168.12
	10/15/2009	170.34++	2.76	167.58
	7/7/2009	170.34++	3.98	166.36
	4/6/2009	170.34++	3.57	166.77
	1/6/2009	170.34++	3.62	166.72
	10/22/2008	170.34++	4.24	166.10
	7/16/2008	170.34++	4.06	166.28
	4/15/2008	170.34++	3.60	166.74
	12/17/2007	170.34++	3.68	166.66
	12/13/2007	170.34++	4.74	165.60
	12/12/2007	170.34++	5.49	164.85
12/11/2007	170.34++	5.98^	164.36	
MW8	7/19/2011	176.00++	7.35	168.65
	2/14/2011	176.00++	6.95	169.05
	7/26/2010	176.00++	6.96	169.04
	1/27/2010	176.00++	5.17	170.83
	10/15/2009	176.00++	6.08	169.92
	7/7/2009	176.00++	7.34	168.66
	4/6/2009	176.00++	6.84	169.16
	1/6/2009	176.00++	6.88	169.12
	10/22/2008	176.00++	7.91	168.09
	7/16/2008	176.00++	7.20	168.80
	4/15/2008	176.00++	6.76	169.24
	12/17/2007	176.00++	6.73	169.27
	12/13/2007	176.00++	6.52	169.48
	12/12/2007	176.00++	6.56^	169.44
MW9	7/19/2011	175.09++	7.14	167.95
	2/14/2011	175.09++	6.41	168.68
	7/26/2010	175.09++	6.41	168.68
	1/27/2010	175.09++	4.61	170.48
	10/15/2009	175.09++	5.57	169.52
	7/7/2009	175.09++	6.69	168.40
	4/6/2009	175.09++	6.27	168.82
	1/6/2009	175.09++	6.32	168.77
	10/22/2008	175.09++	6.96	168.13
	7/16/2008	175.09++	6.57	168.52
	4/15/2008	175.09++	6.44	168.65
	12/17/2007	175.09++	6.35	168.74
	12/13/2007	175.09++	6.31	168.78
	12/11/2007	175.09++	11.21^	163.88
MW10	7/19/2011	176.03++	6.44	169.59
	2/14/2011	176.03++	5.82	170.21
	7/26/2010	176.03++	5.78	170.25
	1/27/2010	176.03++	3.94	172.09
	10/15/2009	176.03++	4.83	171.20
	7/7/2009	176.03++	6.00	170.03
4/6/2009	176.03++	5.63	170.40	
1/6/2009	176.03++	5.71	170.32	



TABLE 1  
HISTORICAL WATER LEVEL DATA

Well Number	Date Monitored	Top of Casing Elevation (Ft)	Depth to Water (Ft)	Water Table Elevation (Ft)
MW10	10/22/2008	176.03++	6.46	169.57
(Continued)	7/16/2008	176.03++	5.83	170.20
	4/15/2008	176.03++	5.64	170.39
	12/17/2007	176.03++	5.77	170.26
	12/13/2007	176.03++	5.55	170.48
	12/12/2007	176.03++	5.70^	170.33
MW11	7/19/2011	171.03++	4.62	166.41
	2/14/2011	171.03++	4.14	166.89
	7/26/2010	171.03++	4.17	166.86
	1/27/2010	171.03++	1.83	169.20
	10/15/2009	171.03++	3.26	167.77
	7/7/2009	171.03++	4.40	166.63
	4/6/2009	171.03++	3.97	167.06
	1/6/2009	171.03++	4.04	166.99
	10/22/2008	171.03++	4.87	166.16
	7/16/2008	171.03++	4.38	166.65
	4/15/2008	171.03++	3.70	167.33
	12/17/2007	171.03++	10.19	160.84
	12/13/2007	171.03++	12.72	158.31
	12/12/2007	171.03++	12.99	158.04
	12/11/2007	171.03++	11.94^	159.09
MW12	7/19/2011	173.98++	7.90	166.08
	2/14/2011	173.98++	7.78	166.20
	7/26/2010	173.98++	7.96	166.02
	1/27/2010	173.98++	5.99	167.99
	10/15/2009	173.98++	7.02	166.96
	7/7/2009	173.98++	8.31	165.67
	4/6/2009	173.98++	7.70	166.28
	1/6/2009	173.98++	7.61	166.37
	10/22/2008	173.98++	9.02	164.96
	7/16/2008	173.98++	8.47	165.51
	4/15/2008	173.98++	7.77	166.21
	12/17/2007	173.98++	7.71	166.27
	12/13/2007	173.98++	7.66	166.32
	12/12/2007	173.98++	7.67^	166.31
EW1	7/19/2011	179.28+++	11.39	167.89
	2/14/2011	179.28+++	11.38	167.90
	7/26/2010	179.27++	7.43	171.84
	1/27/2010	179.27++	4.22	175.05
	10/15/2009	179.27++	5.96	173.31
	7/7/2009	179.27++	8.29	170.98
	4/6/2009	179.27++	11.35	167.92
	1/6/2009	179.27++	11.41	167.86
	10/22/2008	179.27++	11.40	167.87
	7/16/2008	179.27++	11.40	167.87
	4/15/2008	179.27++	11.40	167.87
	1/17/2008	179.27++	11.41	167.86
	11/16/2007	179.27++	11.95	167.32
	7/25/2007	179.27++	11.57	167.70
	4/17/2007	179.27++	11.35	167.92
	1/18/2007	179.27++	6.60	172.67
	11/14/2006	179.27++	6.11	173.16
	6/29/2006	179.27++	6.88	172.39
	2/3/2006	179.27++	5.23	174.04
	11/18/2005	179.27++	6.63	172.64
	7/28/2005	179.27++	6.94	172.33
	4/13/2005	179.27++	5.23	174.04
	1/31/2005	179.27++	6.25	173.02
	10/15/2004	179.27++	7.65	171.62
	7/13/2004	179.27++	7.51	171.76
	4/6/2004	179.27++	6.63	172.64
	12/18/2003	179.27++	6.72	172.55
	9/18/2003	179.27++	7.29	171.98
OW1	7/19/2011	178.93++	No Water or Product	None
	2/14/2011	178.93++	No Water or Product	None
	7/26/2010	178.93++	No Water or Product	None
	1/27/2010	178.93++	6.95	171.98
	10/16/2009	178.93++	No Water or Product	None
	7/7/2009	178.93++	No Water or Product	None
	4/6/2009	178.93++	Not Measured	None
	1/6/2009	178.93++	No Water or Product	None
	10/22/2008	178.93++	No Water; (0.33)	None
	7/16/2008	178.93++	6.95	171.98
	4/15/2008	178.93++	7.11	171.82

TABLE 1  
HISTORICAL WATER LEVEL DATA

Well Number	Date Monitored	Top of Casing Elevation (Ft)	Depth to Water (Ft)	Water Table Elevation (Ft)
OW1	1/17/2008	178.93++	4.00	174.93
(Continued)	11/16/2007	178.93++	No Water or Product	None
	7/25/2007	178.93++	No Water or Product	None
	4/17/2007	178.93++	No Water or Product	None
	1/18/2007	178.93++	No Water or Product	None
	11/14/2006	178.93++	No Water (sheen)	None
	6/29/2006	178.93++	7.13	171.8
	2/3/2006	178.93++	6.97	171.96
	11/18/2005	178.93++	7.43 (0.13)#	171.60
	7/28/2005	178.93++	7.06 (0.01)#	171.88
	4/13/2005	178.93++	6.99	171.94
	1/31/2005	178.93++	7.03	171.90
	10/15/2004	178.93++	7.19 (0.08)#	171.80
	7/14/2004	178.93++	7.02	171.91
	4/6/2004	178.93++	7.01	171.92
	2/11/2004	178.93++	7.01	171.92
	10/6/2003	178.93++	7.07 (0.01)#	171.87
	11/2/2000	178.93++	7.12,##	171.81
	1/29/1999	178.93++	7.12	171.81
	12/9/1999	178.93++	7.27	171.66
OW2	7/19/2011	176.03++	No Water or Product	None
	2/14/2011	176.03++	No Water or Product	None
	7/26/2010	176.03++	No Water or Product	None
	1/27/2010	176.03++	7.03	169.00
	10/16/2009	176.03++	No Water or Product	None
	7/7/2009	176.03++	No Water or Product	None
	4/6/2009	176.03++	Not Measured	None
	1/6/2009	176.03++	No Water or Product	None
	10/22/2008	176.03++	No Water or Product	None
	7/16/2008	176.03++	No Water or Product	None
	4/15/2008	176.03++	No Water or Product	None
	1/17/2008	176.03++	No Water or Product	None
	11/16/2007	176.03++	No Water or Product	None
	7/25/2007	176.03++	No Water or Product	None
	4/17/2007	176.03++	No Water or Product	None
	1/18/2007	176.03++	No Water or Product	None
	11/14/2006	176.03++	7.27	168.76
	6/29/2006	176.03++	7.30	168.73
	2/3/2006	176.03++	7.08	168.95
	11/18/2005	176.03++	7.33	168.70
	7/28/2005	176.03++	7.27	168.76
	4/13/2005	176.03++	7.06	168.97
	1/31/2005	176.03++	7.29	168.74
	10/15/2004	176.03++	No Water or Product	None
	7/14/2004	176.03++	No Water or Product	None
	4/6/2004	176.03++	7.27	168.76
	2/11/2004	176.03++	7.19	168.84
	10/6/2003	176.03++	7.29	168.74
	11/2/2000	176.03++	7.19	168.84
	1/29/1999	176.03++	7.19	168.84
	12/9/1999	176.03++	7.17	168.86
<b>NOTES:</b>				
+++ = Surveyed on April 18, 2011 (MW1, MW4, EW1 only)				
++ = Surveyed on January 7, 2008				
* = Surveyed on August 20, 1997				
** = Surveyed on March 24, 1993				
*** = Surveyed on December 5, 1992				
^ = Prior to well development.				
# = Indicates free product thickness in feet. The water table elevation has been corrected for the presence of free product by assuming a free product specific gravity of 0.75.				
## = Petroleum hydrocarbon odor reported on probe for water level indicator.				
* = Sheen observed either during initial monitoring, purging, and/or sample collection; from 2nd half 2007 to present on				
N/A = Not Applicable				



Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by \$260*
MW1								
7/20/2011	2,900, d	7,600	ND-25	120	52	710	490	ND-25, except TBA ND-100
2/15/2011	17,000, a,d	17,000, a	20	120	48	930	490	ND-12, except TBA ND-50
7/27/2010	4,700, f	20,000	45	330	180	1,500	1,000	ND-25, except TBA ND-100
1/28/2010	4,500, d	18,000	ND-50	200	170	1,200	1,200	ND-50, except TBA ND-200
10/16/2009	5,800, a,d	23,000, a	ND-25	240	170	1,800	2,200	ND-25, except TBA ND-100
7/8/2009	6,800, a,d	16,000, a	ND-17	99	100	880	1,100	ND-17, except TBA ND-67
1/7/2009	5,400, d	15,000	ND-50	140	160	1,100	1,600	ND-50, except TBA ND-200
10/23/2008	3,800, c	18,000	ND-50	180	200	1,400	1,900	ND-50, except TBA ND-200
7/17/2008	4,300, c	16,000	ND-25	210	160	1,000	1,600	ND-25, except TBA ND-100
4/16/2008	3,200, c	13,000	29	150	110	870	1,200	ND-17, except TBA ND-67
1/17/2008	3,800, d	22,000	74	310	220	1,200	1,700	ND-50, except TBA ND-200
10/16/2007	2,500, a, e	23,000, a	130	480	230	1,100	1,700	ND-25, except TBA ND-250
7/25/2007	3,900, d	15,000, b	130	250	23	ND-10	1,500	ND-10, except TBA ND-100
4/17/2007	6,200, d	23,000	260	780	520	1,100	2,000	ND-25, except TBA ND-250
1/18/2007	6,400, d	29,000	ND-1,000	1,800	870	1,600	3,300	ND-50, except TBA ND-500
11/14/2006	7,200, d	30,000	440	2,200	600	1,800	2,900	ND-50, except TBA ND-500, Ethanol ND-5,000, Methanol ND-50,000
6/29/2006	22,000,d	45,000	1,200	3,100	940	2,000	3,900	ND-50, TBA ND-500
2/3/2006	9,700,c	37,000	620	2,200	1,200	2,000	3,500	ND-50, TBA ND-500
11/18/2005	4,300,d	25,000	140	1,600	430	1,800	2,700	ND-50, TBA ND-500
7/28/2005	16,000,a,d	30,000,a	260, +	2,500	760	2,100	4,800	ND-50, TBA ND-500
4/13/2005	9,300,d	30,000	300	1,900	600	1,700	3,000	ND-50, TBA ND-500
1/31/2005	14,000,d	29,000	270	2,200	1,200	1,900	5,000	ND-50, TBA ND-500
10/15/2004	16,000,a,d	36,000,a	ND-50	1,500	1,000	2,100	5,100	ND-50, TBA ND-500
7/13/2004	22,000,d	34,000,a	53	2,100	590	2,100	4,400	ND-50, TBA ND-500
4/6/2004	18,000,a,d	28,000,a	110	2,300	800	990	4,500	ND-100, TBA ND-1,000
12/18/2003	13,000,d	33,000	38	2,100	770	1,800	4,400	ND-5 TBA ND-50
9/18/2003	15,000,a,d	32,000	52	2,200	620	1,800	3,800	ND-17, TBA ND-170
6/26/2003	67,000,a,d	45,000	ND-50	2,100	720	2,300	5,500	ND
3/18/2003	7,300,a,d	33,000	ND-50	2,400	900	1,600	1,000	ND
12/21/2002	11,000,a,d	32,000	ND-100	2,600	980	2,200	5,500	ND
9/10/2002	18,000,c	31,000	ND-250	2,200	650	1,700	4,800	NA
3/30/2002	12,000,a,d	99,000	ND	4,100	1,200	2,500	6,400	NA
12/22/2001	22,000,a,d	60,000	ND	3,200	1,900	2,000	6,200	NA
9/23/2001	16,000,a,c	49,000	ND	4,000	1,400	2,200	6,200	NA
6/22/2001	85,000,a,d	35,000	ND	3,100	750	1,200	4,000	NA
4/22/2001	16,000,a	43,000	ND	3,600	1,200	1,600	5,800	NA
12/14/2000	11,000,a,e	49,000	ND	5,800	1,600	2,000	6,900	NA
9/18/2000	15,000,a,d	86,000	ND	7,200	2,000	3,200	13,000	NA
6/8/2000	6,500,a,e	50,000	ND	5,700	1,500	1,800	7,000	NA
3/9/2000	7,400,a,d	48,000	ND	5,300	3,100	1,600	8,100	NA
12/9/1999	12,000,a,d	65,000	ND	9,300	2,900	2,200	8,800	NA
8/31/1999	22,000,d	66,000	710	8,700	2,700	2,400	10,000	NA
4/29/1999	22,000,d	48,000	ND	8,400	2,800	2,000	8,100	NA
1/29/1999	9,100,d	47,000	ND	9,000	2,900	1,900	8,000	NA
4/26/1998	7,800,c	60,000	ND	9,300	5,700	2,100	9,100	NA
1/24/1998	24,000,d	57,000	ND	6,900	5,500	2,000	8,700	NA
11/6/1997	17,000,c	63,000	ND	7,400	6,700	2,300	9,900	NA
7/27/1997	28,000,c	66,000	1,800	8,600	8,100	2,200	10,000	NA
4/25/1997	170,000,d	77,000	ND	7,400	7,900	2,100	9,800	NA
1/21/1997	57,000,c	80,000	250	7,800	8,300	1,900	8,900	NA
7/26/1996	11,000,c	76,000	ND	11,000	13,000	2,400	10,000	NA
4/23/1996	5,700,c	73,000	ND	8,600	12,000	2,200	9,800	NA
1/29/1996	6,600,c	81,000	250	7,600	13,000	1,900	8,900	NA
10/26/1995	62,000,c	89,000	ND	7,800	12,000	2,400	11,000	NA
7/28/1995	2,000,c	35,000	NA	3,800	8,700	1,100	6,500	NA
5/2/1995	6,500,c	86,000	NA	8,900	14,000	2,300	11,000	NA
2/24/1995	9,100	90,000	NA	7,500	12,000	1,500	11,000	NA
11/18/1994	10,000	96,000	NA	9,300	14,000	2,500	11,000	NA
8/22/1994	8,300	100,000	NA	9,000	11,000	2,100	9,400	NA
5/19/1994	30,000	100,000	NA	12,000	14,000	3,500	17,000	NA
2/28/1994	110,000	90,000	NA	11,000	9,600	2,100	9,900	NA
11/24/1993	8,200	66,000	NA	8,300	8,900	2,000	121,000	NA
8/30/1993	9,400	77,000	NA	6,400	11,000	2,200	12,000	NA
5/18/1993	30,000	92,000	NA	4,000	11,000	2,500	15,000	NA
2/23/1993	14,000	100,000	NA	4,500	11,000	2,100	12,000	NA
11/13/1992	4,400	120,000	NA	5,800	10,000	2,100	13,000	NA
5/27/1992	11,000	120,000	NA	8,800	16,000	2,300	15,000	NA
1/24/1992	19,000	39,000	NA	7,300	8,700	1,300	8,900	NA
12/23/1991	34,000	78,000	NA	9,300	7,300	540	13,000	NA
11/25/1991	36,000	170,000	NA	5,500	5,600	1,600	8,400	NA
10/10/1991	19,000	28,000	NA	4,100	4,700	1,000	4,800	NA





TABLE 1  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by \$260*
<b>MW4 (Cont.)</b>								
4/16/2008								Not Sampled (Free Product Present in Well)
1/17/2008								Not Sampled (Free Product Present in Well)
10/16/2007								Not Sampled (Free Product Present in Well)
7/25/2007								Not Sampled (Free Product Present in Well)
4/17/2007								Not Sampled (Free Product Present in Well)
1/18/2007								Not Sampled (Free Product Present in Well)
11/14/2006								Not Sampled (Free Product Present in Well)
6/29/2006	83,000.a,d	140,000.a	31,000	44,000	13,000	2,600	19,000	ND-1,000, except TBA = ND-10,000
2/3/2006	83,000.a,d	150,000.a	22,000	35,000	12,000	3,200	14,000	ND-500, except TBA = 700
11/18/2005								Not Sampled (Free Product Present in Well)
7/28/2005	94,000.a,d	130,000.a	27,000+	32,000	8,900	2,900	14,000	ND-500, except TBA = 8,400
4/13/2005								Not Sampled (Free Product Present in Well)
1/31/2005								Not Sampled (Free Product Present in Well)
10/15/2004								Not Sampled (Free Product Present in Well)
7/13/2004								Not Sampled (Free Product Present in Well)
2/11/2004								Free Product sampled. Laboratory fuel fingerprint notes a pattern resembling diesel, with a less significant gasoline-range pattern.
12/18/2003								Not Sampled (Free Product Present in Well)
9/18/2003								Not Sampled (Free Product Present in Well)
6/26/2003								Not Sampled (Free Product Present in Well)
3/18/2003								Not Sampled (Free Product Present in Well)
12/21/2002								Not Sampled (Free Product Present in Well)
9/10/2002								Not Sampled (Free Product Present in Well)
3/30/2002								Not Sampled (Free Product Present in Well)
12/22/2001								Not Sampled (Free Product Present in Well)
9/23/2001								Not Sampled (Free Product Present in Well)
6/22/2001	440,000.a,d	140,000	15,000	35,000	19,000	2,000	10,000	NA
4/22/2001								Not Sampled (Free Product Present in Well)
12/14/2000								Not Sampled (Free Product Present in Well)
9/18/2000								Not Sampled (Free Product Present in Well)
6/8/2000								Not Sampled (Free Product Present in Well)
3/9/2000	2,100,000.a,d	130,000	6,900	35,000	13,000	2,100	11,000	NA
12/9/1999	9,000,000.a,d	120,000	8,100	33,000	6,000	2,400	12,000	NA
8/31/1999	9,400.d	190,000	4,400	46,000	30,000	2,800	15,000	NA
4/29/1999	9,400.d	210,000	3,200	42,000	35,000	2,800	15,000	NA
1/29/1999	7,300.d	190,000	2,400	44,000	40,000	3,100	17,000	NA
4/26/1998	13,000.d	190,000	ND	49,000	37,000	3,200	18,000	NA
1/24/1998	20,000.d	200,000	ND	50,000	40,000	3,100	17,000	NA
11/6/1997	110,000.d	160,000	ND	48,000	30,000	2,800	16,000	NA
8/26/1997	5,500.d	210,000	1,700	48,000	42,000	3,400	19,000	NA
8/15/1997								MW4 Installed
<b>MW5</b>								
7/20/2011	94	ND-50	1.9	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA = 6.1
2/15/2011	ND-50	ND-50	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
7/27/2010	ND-50	ND-50	0.51	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
1/28/2010	ND-50	ND-50	0.57	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
10/16/2009	ND-50	ND-50	0.63	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
7/8/2009	ND-50	ND-50	0.72	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
1/7/2009	ND-50	ND-50	0.97	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
10/23/2008	ND-50	ND-50	1.2	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
7/17/2008	ND-50	ND-50	2.2	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
4/16/2008	ND-50	ND-50	3.9	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except TBA ND-2.1
12/13/2007	ND-50	110	4.0	5.3	0.5	ND-0.5	5.1	ND-0.5, except TBA ND-5.1
<b>MW6</b>								
7/19/2011	920. d	45,000	ND-170	4,600	1,500	2,300	9,500	ND-170, except TBA ND-671
2/14/2011	7,900. c	52,000	ND-120	5,100	2,100	2,600	13,000	ND-120, except TBA ND-501
7/26/2010	6,500.c	58,000	ND-170	5,500	2,600	3,300	15,000	ND-170, except TBA ND-671
1/27/2010	7,000. c	57,000	ND-100	4,900	2,400	3,000	15,000	ND-100, except TBA ND-401
10/16/2009	6,100. c	53,000	ND-170	7,400	3,700	3,600	17,000	ND-170, except TBA ND-671
7/7/2009	8,400. c	60,000	ND-170	6,600	3,500	2,800	13,000	ND-170, except TBA ND-671
1/6/2009	6,200. c	51,000	ND-120	6,900	3,400	2,100	13,000	ND-120, except TBA ND-501
10/23/2008	4,100. c	82,000	ND-120	7,800	4,200	3,400	16,000	ND-120, except TBA ND-501
7/17/2008	5,700. c	88,000	ND-250	6,100	3,400	2,500	16,000	ND-250, except TBA ND-1,001
4/16/2008	6,500. c	51,000	ND-170	4,800	3,300	2,400	16,000	ND-170, except TBA ND-671
12/13/2007	6,200. c	66,000	ND-120	7,900	3,600	2,600	16,000	ND-120, except TBA ND-1,201
<b>MW7</b>								
7/19/2011	ND-50	420	6.7	130	ND-2.5	25	ND-2.5	ND-2.5, except TBA = 11
2/14/2011	ND-50	120	5.6	41	ND-1.0	11	ND-1.0	ND-1.0, except TBA ND-3.1
7/26/2010	ND-50	200	7.6	75	ND-1.7	17	ND-1.7	ND-1.7, except TBA ND-6.3
1/27/2010	110. d	150	4.2	48	ND-1.0	9.3	1.4	ND-1.0, except TBA ND-4.1
10/15/2009	60	220	8.7	41	ND-1.0	16	ND-1.0	ND-1.0, except TBA ND-4.1
7/7/2009	62. d	150	4.8	38	ND-0.5	15	ND-0.5	ND-0.5, except TBA = 2.2
1/6/2009	87	52	3.2	18	ND-0.5	4.7	ND-0.5	ND-0.5, except TBA ND-2.1
10/22/2008	66. d	170	8.3	67	ND-1.7	20	ND-1.7	ND-1.7, except TBA ND-6.3





TABLE 1  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by #260*
<b>EW1 (Cont.)</b>								
4/16/2008	7,700, a, c	17,000, a	9,300	4,500	260	650	2,200	ND, except TBA = 15,000
1/17/2008	13,000, d	24,000	16,000	4,600	1,200	520	3,700	ND, except TBA = 19,000
10/16/2007	12,000, a, d	14,000, a	8,300	2,600	310	270	3,000	ND, except TBA = 15,000
7/25/2007	7,700, a, i	11,000, a	14,000	3,200	ND-25	ND-25	2,600	ND, except TBA = 17,000
4/17/2007	5,800, d	21,000	9,600	3,700	1,400	490	1,600	ND-100, except TBA = 18,000
1/18/2007	930, d	930, b	600	3.4	5.0	ND-0.5	41	ND-50, except TBA = 6,800
11/14/2006	1,800, d	870, b	170	ND-25	ND-25	ND-25	ND-25	ND-25, except TBA = 5,900, Ethanol ND-2,500, Methanol ND-25,000
6/29/2006	710, d	290	21	ND-10	ND-10	ND-10	ND-10	ND-10, Except TBA = 2,000
2/3/2006	1,200, d	790	3,100	ND-50	ND-50	ND-050	ND-050	ND-50, Except TBA = 13,000
11/18/2005	1,200, a	900	2,000	ND-50	ND-50	ND-050	ND-050	ND-50, Except TBA = 18,000
7/28/2005	1,800, d	1,200	17,000, +	33	5.1	0.56	5.9	ND-250, except TBA = 22,000
4/13/2005	2,200, d	380	2,700	ND-50	ND-50	ND-50	ND-50	ND-50, except TBA = 1,600
1/31/2005	3,400, d	1,900	38,000	ND-1,000	ND-1,000	ND-1,000	ND-1,000	ND-1,000, except TBA = 32,000
10/15/2004	4,100, a, d	ND-5,000, a, j	96,000	ND-1,700	ND-1,700	ND-1,700	ND-1,700	ND-1,700, except TBA = 97,000
7/13/2004	5,300, a, d	2,600, a	73,000	ND-1,200	ND-1,200	ND-1,200	ND-1,200	ND-1,200, except TBA = 40,000
4/6/2004	3,400, a, d	2,600, a	72,000	ND-1,000	ND-1,000	ND-1,000	ND-1,000	ND-1,000, except TBA = 34,000
12/18/2003	3,000, d	ND-5,000, j	160,000	220	ND-50,000	ND-50,000	73	ND-5,000, except TBA = 64,000
9/18/2003	8,200, a, d	7,500	220,000	330	ND-50	ND-50	ND-50	ND-2,500, except TBA = 51,000
2/23/1993	9,600	66,000	NA	14,000	8,500	1,400	9,800	NA
11/13/1992	13,000	62,000	NA	11,000	9,200	1,100	9,600	NA
8/1/1992								EW1 Installed
<b>OW1</b>								
7/19/2011								No sample recovered
2/14/2011								No sample recovered
7/26/2010								No sample recovered
1/27/2010								No sample recovered
10/16/2009								No sample recovered
7/8/2009								No sample recovered
1/7/2009								No sample recovered
10/22/2008								No sample recovered
7/16/2008								No sample recovered
4/15/2008								No sample recovered
1/17/2008	29,000, a, d	6,900, a, b	8,800	480	ND-10	41	23	ND, except TBA = 97
10/16/2007								No sample recovered
7/25/2007								No sample recovered
4/17/2007								No sample recovered
1/18/2007								No sample recovered
11/14/2006								No sample recovered
6/29/2006	290,000, d	24,000	NA	NA	NA	NA	NA	NA
2/3/2006	710,000, a, j	31,000, a	210,000	NA	NA	NA	NA	NA
11/18/2005	820,000, d	370,000	NA	130	ND-25	400	290	ND-25, except TBA-250
7/28/2005	230,000, a, d	10,000, a	NA	1,300	30	190	72	ND-50, TBA ND-500
4/13/2005	590,000, a, d, e	35,000, a	NA	2,000	ND-50	460	140	ND-50, TBA ND-500
1/31/2005								No sample recovered
10/15/2004								No sample recovered
7/14/2004	240,000, a, d	66,000, a	ND-50	1,800	ND-50	1,800	56	ND-50, TBA ND-500
4/6/2004	74,000, a, c	50,000, a	NA	3,100	ND-100	210	140	ND-100, TBA ND-1,000
2/11/2004	450,000, a, d	15,000, a	130,000	2,200	31	160	54	ND-25, TBA ND-250
11/21/2003	1,900,000, a, d	38,000	570,000	2,000	59	190	95	ND-50, TBA ND-500
6/10/1998								OW1 Installed
<b>OW2</b>								
7/19/2011								No sample recovered
2/14/2011								No sample recovered
7/26/2010								No sample recovered
1/27/2010								No sample recovered
10/16/2009								No sample recovered
7/8/2009								No sample recovered
1/7/2009								No sample recovered
10/22/2008								No sample recovered
7/16/2008								No sample recovered
4/15/2008								No sample recovered
1/17/2008	NA	140	NA	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND, Except MTBE = 2.2, TBA = 11
10/16/2007								No sample recovered
7/25/2007								No sample recovered
4/17/2007								No sample recovered
1/18/2007								No sample recovered
11/14/2006								No sample recovered
6/29/2006								No sample recovered
2/3/2006	370, d	140, i	ND-250	NA	NA	NA	NA	NA
11/18/2005								No sample recovered
7/28/2005								No sample recovered
4/13/2005	220, d	65	NA	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except MTBE = 9.7
1/31/2005								No sample recovered
10/15/2004								No sample recovered

TABLE 3  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260 <sup>a</sup>
<b>OW2 (Cont.)</b>								
7/14/2004								No sample recovered
4/6/2004	NA	69.a	NA	ND-0.62	ND-0.62	ND-0.62	ND-0.62	NA
2/11/2004	NA	210	NA	ND-0.5	ND-0.5	ND-0.5	ND-0.5	ND-0.5, except MTBE = 6.4, TBA = 7.1
11/21/2003								No sample recovered.
6/10/1998								OW2 installed
ESL	100	100	5.0	1.0	40	30	20	MTBE = 5.0 TBA = 12.0
<b>Notes:</b>								
TPH-G = Total Petroleum Hydrocarbons as Gasoline.								
TPH-D = Total Petroleum Hydrocarbons as Diesel.								
MTBE = Methyl-tert-Butyl Ether.								
ND = Not Detected.								
NA = Not analyzed.								
a = Laboratory analytical report note: lighter than water immiscible sheen/ product present on the sample.								
b = Laboratory analytical report note: TPH-G results have no recognizable pattern.								
c = Laboratory analytical report note: TPH-D results consist of gasoline range compounds.								
d = Laboratory analytical report note: TPH-D results consist of both diesel and gasoline range compounds.								
e = Laboratory analytical report note: TPH-D results consist of both oil and gasoline range compounds.								
f = Laboratory analytical report note: Fuel Oil.								
g = Laboratory analytical report note: strongly aged gasoline or diesel range compounds.								
h = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?)								
i = Laboratory analytical report note: reporting limit raised due to high MTBE content.								
k = Laboratory analytical report note: TPH-D results consist of both diesel and oil range compounds.								
m = analyzed by EPA 8260								
n = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, DPE, ETBE, and TBA) or lead scavengers (EDB, 1,2-DCA, EDC).								
ESL = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A - Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water.								
All results in micrograms per Liter (µg/L) unless otherwise noted.								

# **FIGURES**

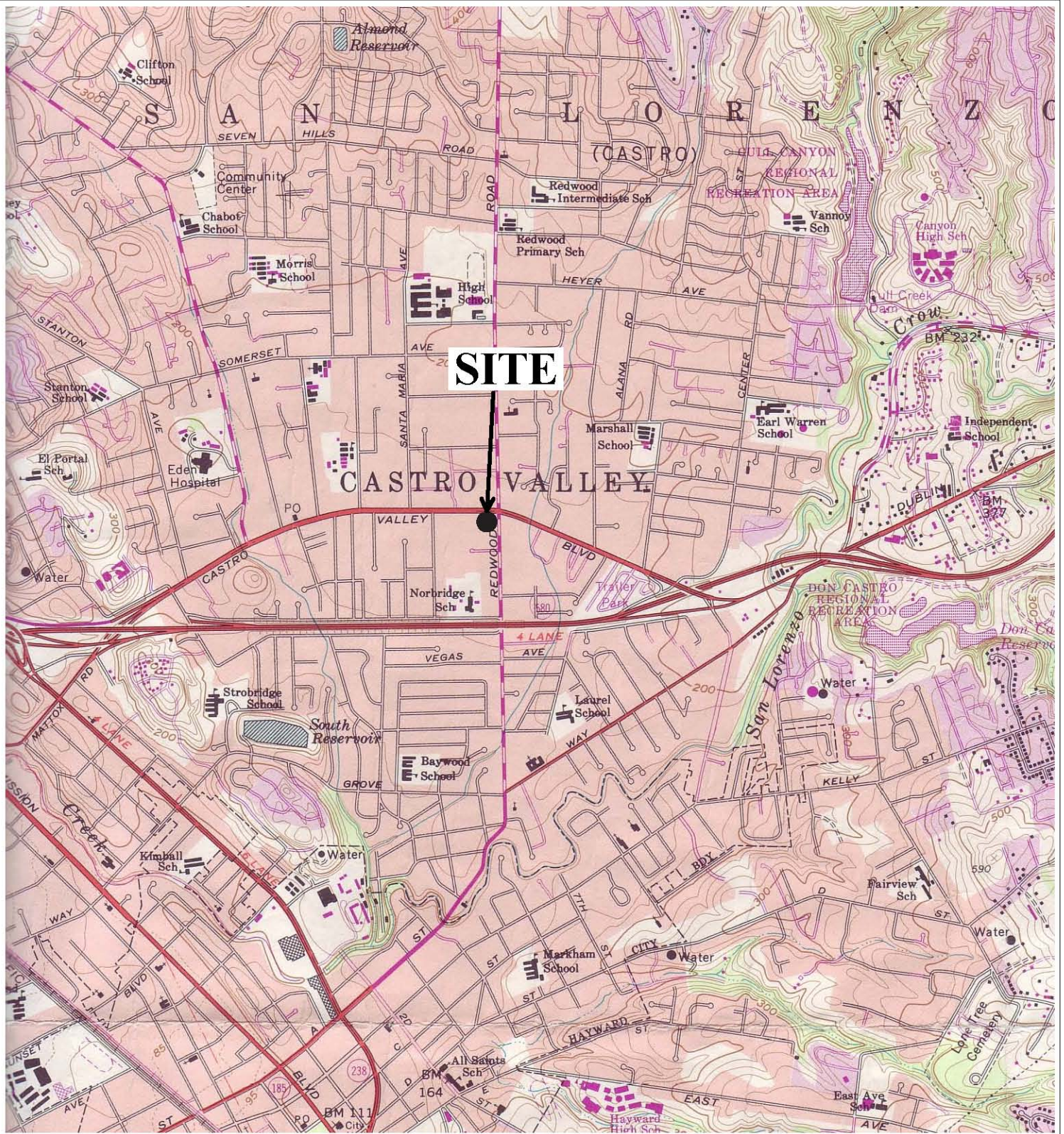
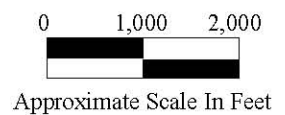


Figure 1  
 Site Location Map  
 Xtra Oil Company  
 3495 Castro Valley Blvd.  
 Castro Valley, California



Base Map From:  
 U.S. Geological Survey  
 Hayward, California  
 7.5 Minute Quadrangle  
 Photorevised 1980

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



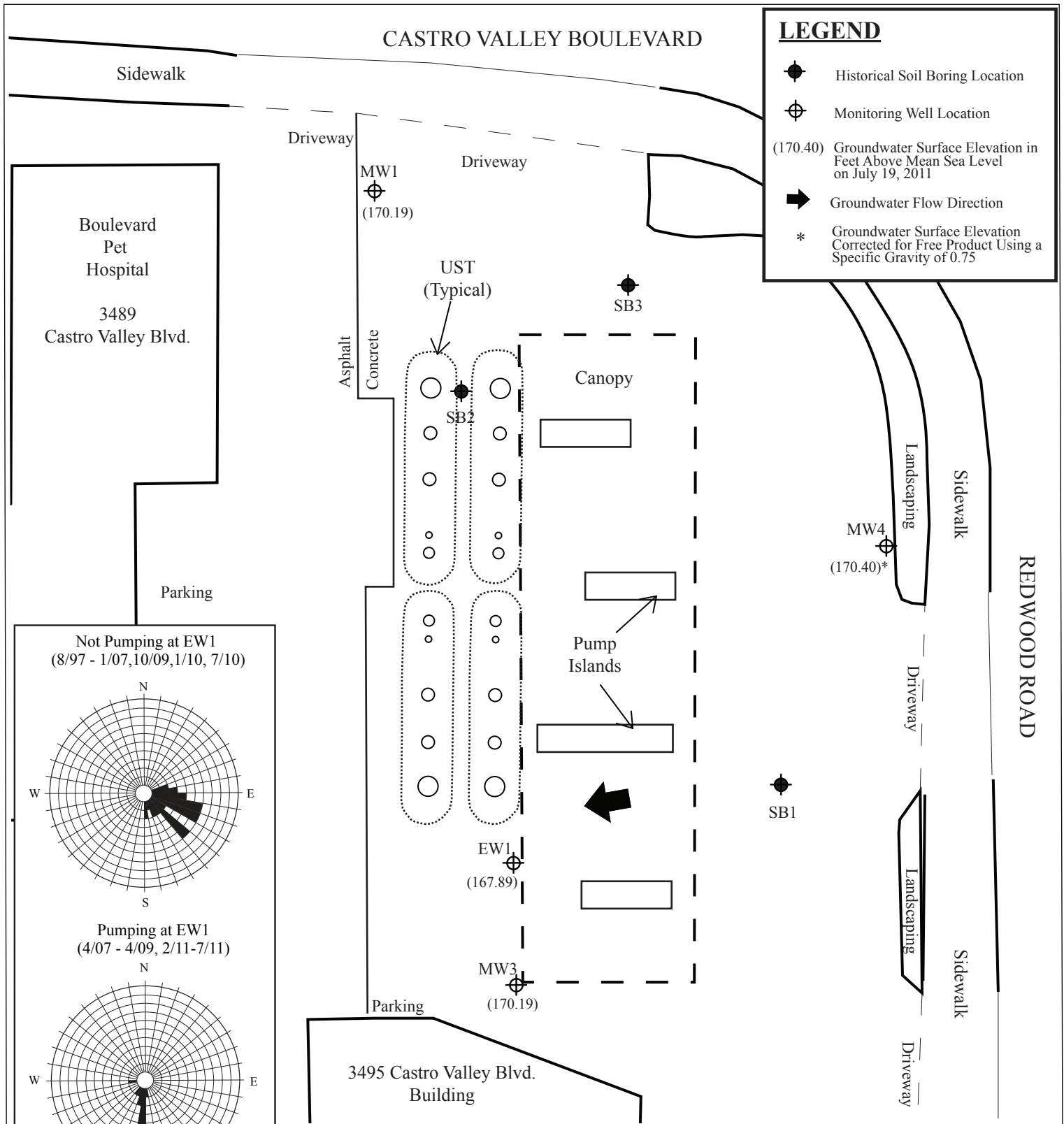
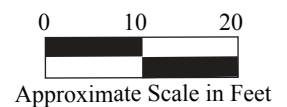


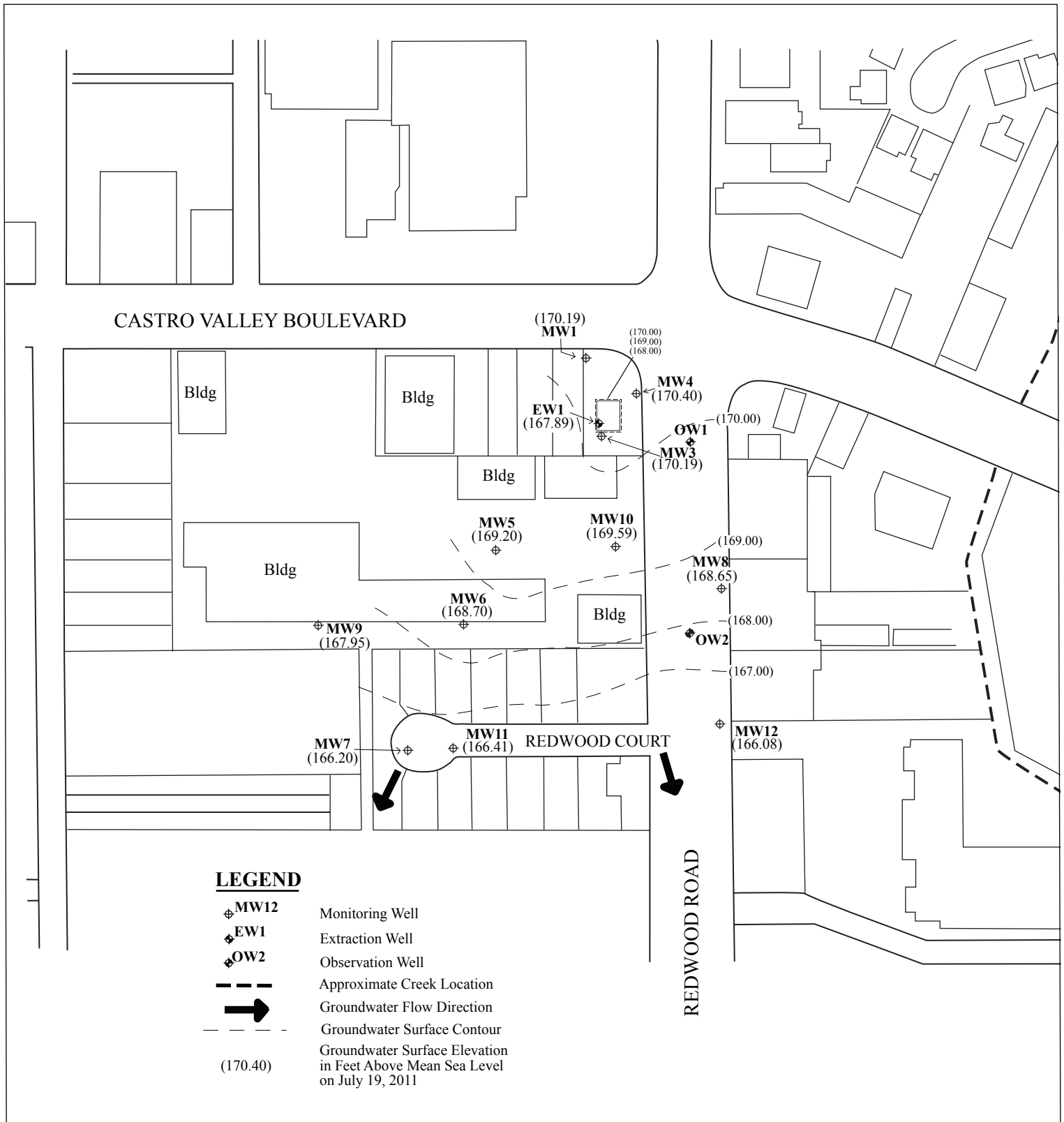
Figure 2  
 Site Plan Showing July 19, 2011 Water Level Data  
 Xtra Oil Company  
 3495 Castro Valley Boulevard  
 Castro Valley, California



Base Map From:  
 RHL Design Group, Inc.,  
 June 2009, and Google Earth,  
 October 2009

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



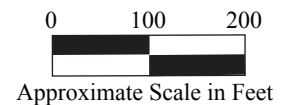


**Figure 3**  
**Site Vicinity Map Showing July 19, 2011 Water Level Data**  
**Xtra Oil Company**  
**3495 Castro Valley Boulevard**  
**Castro Valley, California**



Base Map From:  
Castro Valley Sanitation  
District

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



**WELL MONITORING AND  
PURGE DATA SHEETS**

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name XtraOil - Castro Valley

Well No. AW-<sup>sic</sup> MW1 sampled  
 Date 7/19 + 20/2011 monitored

Job Number 0014

Sheen No

TOC to Water (ft.) 9.79

Free Product Thickness 0

Well Depth (ft.) 20.0

Sample Collection Method Unused

Well Diameter 4"

PE tubing or Peristaltic pump

Flow Rate (mL/minute) 250

Start Purge Time 1148

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
1151	750	7.12	9.66	24.7	893	0.00
1154	1,500	6.92	9.83	23.2	791	0.00
1157	2,250	6.60	9.98	23.2	782	0.00
1200	3,000	6.84	10.14	22.9	775	0.00
1203	3,750	6.86	10.26	23.0	778	0.00
	End Purge					

**NOTES**

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

Tubing set @ 12' below TOC  
 No sheen mod procedure  
 Sample time => 1215



**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 9.27  
 Well Depth (ft.) 18.6  
 Well Diameter 4"  
 Flow Rate (mL/minute) 250  
 Start Purge Time 1311

Well No. Sit ~~AAW2~~ MW3 *sampled*  
 Date 7/19 + 20/2011 *monitored*  
 Sheen yes  
 Free Product Thickness Ø  
 Sample Collection Method New/Used  
PE tubing & peristaltic pump

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
1314	750	6.89	9.46	24.6	1,407	0.00
1317	1,500	6.52	9.67	23.7	1,368	0.00
1320	2,250	6.62	9.91	23.4	1,362	0.00
1323	3,000	6.68	10.10	23.1	1,366	0.00
1326	3,750	6.66	10.21	23.0	1,354	0.00
	End Purge					

**NOTES**

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

Tubing set @ 12' below TOC

Sheen no <sup>light</sup> mod phc odor.

Sample time -> 1335

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 9.38  
 Well Depth (ft.)         
 Well Diameter 4"  
 Flow Rate (mL/minute) N/A  
 Start Purge Time N/A

Well No. MW4  
 Date 7/19/11  
 Sheen N/A  
 Free Product Thickness 0.56  
 Sample Collection Method Sph  
Encountered - No Sample Collected

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)

$9.5' - 10.5" = 9.5' - 0.875' = 8.63'$   
 $9.5' - 1.5" = 9.5' - 0.125' = 9.38'$   
 FP thickness =  $0.75'$   
 FP correction =  $0.75' \times 0.75 = 0.56'$   
 Corrected water Level =  $9.38' - 0.56' = 8.82'$  TOC to H<sub>2</sub>O  
sic

**NOTES**

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

P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 6.92  
 Well Depth (ft.) 21.8  
 Well Diameter 2"  
 Flow Rate (mL/minute) 250  
 Start Purge Time 1004

Well No. MW5  
 monitored 7/19 + 20/2011  
 Date sampled  
 Sheen NO  
 Free Product Thickness Ø  
 Sample Collection Method New Chased PE tubing + peristaltic pump

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
1007	750	7.66	7.08	23.9	663	0.00
1010	1,500	6.76	7.16	22.7	531	0.00
1013	2,250	6.53	7.17	22.3	532	0.00
1016	3,000	6.39	7.19	21.7	540	0.00
1019	3,750	6.31	7.19	21.9	573	0.00
	End Purge					

**NOTES**

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

Tubing set @ 12' below TOC (screen)  
 No sheen + no odor  
 Sample time => 1030

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 6.54  
 Well Depth (ft.) 10.5  
 Well Diameter 2"  
 Flow Rate (mL/minute) 750  
 Start Purge Time 1605

Well No. MW6  
 Date 7/19/11  
 Sheen NO  
 Free Product Thickness Ø  
 Sample Collection Method New unused PE tubing & peristaltic pump

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
1608	750	6.94	6.95	26.1	905	3.04
1611	1,500	7.06	7.36	25.4	709	4.35
1614	2,250	7.08	7.71	25.8	675	0.04
1617	3,000	7.06	8.11	25.6	671	0.00
1620	3,750	7.08	8.41	25.7	694	0.00
	End Purge					

**NOTES**

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

Tubing set @ bottom of well (history of dewatering)  
 No sheen; mud-stony phc odor  
 Sample time ~~1630~~<sup>sic</sup> 1630

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 4.14  
 Well Depth (ft.) 10.2  
 Well Diameter 2"  
 Flow Rate (mL/minute) 250  
 Start Purge Time 1214

Well No. MW7  
 Date 7/19/11  
 Sheen No  
 Free Product Thickness 0  
 Sample Collection Method New unused PE tubing & Peristaltic pump

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>pH</u>	<u>Depth to Water (ft.)</u>	<u>Temperature (C°)</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Turbidity (NTU)</u>
<u>1218</u>	<u>1,000</u>	<u>7.36</u>	<u>5.27</u>	<u>26.3</u>	<u>755</u>	<u>2.29</u>
<u>1220</u>	<u>1,500</u>	<u>7.26</u>	<u>6.02</u>	<u>25.1</u>	<u>729</u>	<u>0.00</u>
<u>1223</u>	<u>2,250</u>	<u>7.28</u>	<u>6.42</u>	<u>25.5</u>	<u>733</u>	<u>0.28</u>
<u>1226</u>	<u>3,000</u>	<u>7.32</u>	<u>6.83</u>	<u>25.4</u>	<u>488</u>	<u>0.00</u>
<u>1229</u>	<u>3,750</u>	<u>7.28</u>	<u>7.23</u>	<u>25.0</u>	<u>561</u>	<u>0.00</u>
	<u>End Purge</u>					

**NOTES**

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

*Tubing set @ bottom of well (history of dewatering)*  
*No sheen & no phc odor*  
*sample time => 1240*

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 7.35  
 Well Depth (ft.) 14.4  
 Well Diameter 2"  
 Flow Rate (mL/minute) 250  
 Start Purge Time 1507

Well No. MW8  
 Date 7/19/11  
 Sheen No  
 Free Product Thickness site  $\emptyset$   
 Sample Collection Method New unused PE tubing Peristaltic pump

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>pH</u>	<u>Depth to Water (ft.)</u>	<u>Temperature (C°)</u>	<u>Electrical Conductivity (<math>\mu</math>S/cm)</u>	<u>Turbidity (NTU)</u>
<u>1510</u>	<u>750</u>	<u>6.90</u>	<u>7.51</u>	<u>22.5</u>	<u>775</u>	<u>0.29</u>
<u>1513</u>	<u>1,500</u>	<u>6.81</u>	<u>7.54</u>	<u>21.3</u>	<u>754</u>	<u>0.86</u>
<u>1516</u>	<u>2,250</u>	<u>6.69</u>	<u>7.55</u>	<u>21.0</u>	<u>768</u>	<u>0.00</u>
<u>1519</u>	<u>3,000</u>	<u>6.66</u>	<u>7.55</u>	<u>20.8</u>	<u>776</u>	<u>0.00</u>
<u>1522</u>	<u>3,750</u>	<u>6.56</u>	<u>7.55</u>	<u>20.8</u>	<u>778</u>	<u>0.00</u>

**NOTES**

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

Tubing set @ ~ 2' from bottom of well.  
 No sheen, very light phc odor Sample time  $\Rightarrow$  1530

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 7.14  
 Well Depth (ft.) 21.3  
 Well Diameter 2"  
 Flow Rate (mL/minute) ~250  
 Start Purge Time 1306

Well No. MW9  
 Date 7/19/11  
 Sheen No  
 Free Product Thickness Ø  
 Sample Collection Method New unused  
PET tubing + peristaltic pump

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>pH</u>	<u>Depth to Water (ft.)</u>	<u>Temperature (C°)</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Turbidity (NTU)</u>
1309	750	7.76	7.96	24.7	102	4.92
1312	1,500	7.44	8.50	23.5	73	0.58
1315	2,250	7.19	8.72	22.6	69	0.00
1318	3,000	7.07	8.86	22.2	71	0.00
1321	3,750	6.98	8.89	22.1	91	0.00
	End purge					

**NOTES**

Stability Parameters

p.H. = +/- 0.1  
 Sp. Conductivity = +/- 3%  
 Turbidity = +/- 10%

Tubing set ~ 12' <sup>below</sup> btoc <sup>asins</sup> (history of draw down)  
 mod-strong H<sub>2</sub>S odor ~~first~~ s.c.  
 No sheen & no phc odor. Sample time => 1330

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil-Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 6.44  
 Well Depth (ft.) 21.6  
 Well Diameter 2"  
 Flow Rate (mL/minute) 250  
 Start Purge Time 1045

Well No. MW10  
 Date 7/19 + 20/2011 *sample*  
 Sheen No  
 Free Product Thickness Ø  
 Sample Collection Method New unlined PE tubing & peristaltic pump

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>pH</u>	<u>Depth to Water (ft.)</u>	<u>Temperature (C°)</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Turbidity (NTU)</u>
1048	750	7.31	7.68	25.8	145	0.00
1051	1,500	7.24	8.19	24.9	124	2.03
1054	2,250	7.14	8.47	24.1	121	0.54
1057	3,000	7.08	8.59	23.9	122	0.49
1100	3,750	7.07	8.65	23.4	117	0.80
		<u>End Purge</u>				

**NOTES**

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

Tubing set @ 12' below TOC  
 No sheen & no phc odor.  
 yellowish color + moderate H<sub>2</sub>S odor  
 sample time => 1115



**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 4.62  
 Well Depth (ft.) 14.4  
 Well Diameter 2 1/2  
 Flow Rate (mL/minute) ~250  
 Start Purge Time 1133

Well No. MW11  
 Date 7/19/11  
 Sheen No  
 Free Product Thickness Ø  
 Sample Collection Method New Unused  
PE tubing & peristaltic pump

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
1136	750	8.41	5.56	23.5	770	0.53
1139	1,500	8.13	6.53	23.0	566	0.00
1142	2,250	<del>7.74</del>	7.74	22.9	548	0.46
1145	3,000	<del>7.74</del> 7.66	8.86	23.1	474	0.56
1148	3,750	7.57	9.81	23.1	428	0.82
	End Purge					

**NOTES**

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

Tubing set at bottom of well (history of decontamination)  
 No sheen & no odor. Sample time = 1205

**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 7.90  
 Well Depth (ft.) 12.5  
 Well Diameter 2"  
 Flow Rate (mL/minute) 750  
 Start Purge Time 1428

Well No. MW12  
 Date 7/19/11  
 Sheen No  
 Free Product Thickness Ø  
 Sample Collection Method New unwell  
PE tubing + peristaltic pump.

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
1425 <del>1428</del>	750	7.12	8.03	24.8	687	301
1428	1,500	7.08	8.04	23.6	663	35.33
1431	2,250	7.09	8.05	22.8	662	0.00
1433	2,750	7.07	8.05	22.8	663	0.00
1437	3,750	6.91	8.05	22.4	659	0.00
			End Purge			

**NOTES**

Stability Parameters

p.H. = +/- 0.1  
 Sp. Conductivity = +/- 3%  
 Turbidity = - - 10%

Tubing set @ bottom of well.  
 No sheen & no odor.  
 Sample time 1445

P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet

Site Name Xtra Oil - Castro Valley  
Job Number 0014  
TOC to Water (ft.) 11.39  
Well Depth (ft.) 13.2  
Well Diameter 8"  
Flow Rate (mL/minute) N/A  
Start Purge Time \_\_\_\_\_

Well No. EW1 *sampled*  
Date 7/19 + 20/2011 *monitored*  
Sheen yes  
Free Product Thickness Ø  
Sample Collection Method New unused  
~~PE tubing + peristaltic pump~~ *src*  
Disposable bailer

Time	Vol. Purged (mL)	pH	Depth to Water (ft.)	Temperature (C°)	Electrical Conductivity (µS/cm)	Turbidity (NTU)
<u>1248</u>	<u>—</u>	<u>6.84</u>	<u>—</u>	<u>23.8</u>	<u>892</u>	<u>32.64</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

**NOTES**

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

*Pump running  
Sample time -> 1255*

*sheen + strong pher odor*



**P&D Environmental  
Groundwater Monitoring/Well Purging Data Sheet**

Site Name Xtra Oil - Castro Valley  
 Job Number 0014  
 TOC to Water (ft.) 7.1  
 Well Depth (ft.) 7.1  
 Well Diameter 1"  
 Flow Rate (mL/minute) N/A  
 Start Purge Time N/A

Well No. OW2  
 Date 7/19/11  
 Sheen N/A  
 Free Product Thickness Ø  
 Sample Collection Method Insufficient water; No Sample Collected

<u>Time</u>	<u>Vol. Purged (mL)</u>	<u>pH</u>	<u>Depth to Water (ft.)</u>	<u>Temperature (C°)</u>	<u>Electrical Conductivity (µS/cm)</u>	<u>Turbidity (NTU)</u>

SIC

**NOTES**

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

*No sample collected; insufficient water*

**LABORATORY REPORTS  
AND CHAIN OF CUSTODY  
DOCUMENTATION**



## Analytical Report

P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil; 3495 Castro Valley Blvd. Castro V	Date Sampled: 07/19/11-07/20/11
		Date Received: 07/21/11
	Client Contact: Steve Carmack	Date Reported: 07/28/11
	Client P.O.:	Date Completed: 07/27/11

**WorkOrder: 1107590**

July 28, 2011

Dear Steve:

Enclosed within are:

- 1) The results of the **11** analyzed samples from your project: **#0014; Xtra Oil; 3495 Castro Valley Blvd. Castro**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: <b>0014</b>				PROJECT NAME: <b>Xtra Oil 3495 Castro Valley Blvd. Castro Valley</b>				NUMBER OF CONTAINERS	ANALYSIS(ES): <b>TPH Multi (GIP, MO) MBTEX, Fuel Oils, &amp; Phthalates by EPA Method 8260</b>	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) <b>Steve Carmack</b>				SIGNATURE: <i>[Signature]</i>							
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION							
MW1	7/20/11	1215	H <sub>2</sub> O					7	X	ICE	Normal Turnaround
MW3	↓	1335						7	X		
MW5	↓	1030						7	X		
MW6	7/19/11	1430						7	X		
MW7	↓	1240						7	X		
MW8	↓	1530						7	X		
MW9	↓	1330						6	X		
MW10	7/20/11	1115						7	X		
MW11	7/19/11	1205						7	X		
vic EW1	↓	1445						7	X		
EW1	7/20/11	1255						7	X		
				ICE/# <b>1.2</b>							
				GOOD CONDITION _____				APPROPRIATE CONTAINERS _____			
				HEAD SPACE ABSENT _____				PRESERVED IN LAB _____			
				DECHLORINATED IN LAB _____				VOAS   O&G METALS   OTHER _____			
				PRESERVATION _____							
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>			DATE <b>7/21/11</b>	TIME <b>153</b>	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>			TOTAL NO. OF SAMPLES (THIS SHIPMENT) <b>11</b>	LABORATORY: <b>McLampbell Analytical</b>		
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>			DATE <b>7/21/11</b>	TIME <b>1700</b>	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>			TOTAL NO. OF CONTAINERS (THIS SHIPMENT) <b>76</b>	LABORATORY CONTACT: <b>Angela Rydelius</b>		
RELINQUISHED BY: (SIGNATURE)			DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)			LABORATORY PHONE NUMBER: <b>(877) 252-9262</b>			
							SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO				
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com							REMARKS:				

+  
+  
(1)  
+  
↓



**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1107590**

**ClientCode: PDEO**

WaterTrax     WriteOn     EDF     Excel     Fax     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

**ProjectNo:** #0014; Xtra Oil; 3495 Castro Valley Blvd.  
Castro Valley

**Bill to:** Accounts Payable  
Xtra Oil Company  
2307 Pacific Avenue  
Alameda, CA 94501

**Requested TAT:** 5 days

**Date Received:** 07/21/2011  
**Date Printed:** 07/21/2011

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	
1107590-001	MW 1	Water	7/20/2011 12:15	<input type="checkbox"/>	A	B											
1107590-002	MW 3	Water	7/20/2011 13:35	<input type="checkbox"/>	A	B											
1107590-003	MW 5	Water	7/20/2011 10:30	<input type="checkbox"/>	A	B											
1107590-004	MW 6	Water	7/19/2011 14:30	<input type="checkbox"/>	A	B											
1107590-005	MW 7	Water	7/19/2011 12:40	<input type="checkbox"/>	A	B											
1107590-006	MW 8	Water	7/19/2011 15:30	<input type="checkbox"/>	A	B											
1107590-007	MW 9	Water	7/19/2011 13:30	<input type="checkbox"/>	A	B											
1107590-008	MW 10	Water	7/20/2011 11:15	<input type="checkbox"/>	A	B											
1107590-009	MW 11	Water	7/19/2011 12:05	<input type="checkbox"/>	A	B											
1107590-010	MW 12	Water	7/19/2011 14:45	<input type="checkbox"/>	A	B											
1107590-011	EW 1	Water	7/20/2011 12:55	<input type="checkbox"/>	A	B											

**Test Legend:**

1	G-MBTX_W	2	IBTEXOXPBSCV-8260B_V	3		4		5	
6		7		8		9		10	
11		12							

The following SampID's: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A contain testgroup.

**Prepared by: Zoraida Cortez**

**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.



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **7/21/2011 5:55:21 PM**  
Project Name: **#0014; Xtra Oil; 3495 Castro Valley Blvd. Castro Valley** Checklist completed and reviewed by: **Zoraida Cortez**  
WorkOrder N°: **1107590** Matrix: Water Carrier: Rob Pringle (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   
Container/Temp Blank temperature Cooler Temp: 1.2°C NA   
Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
Sample labels checked for correct preservation? Yes  No   
Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

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

-----

Client contacted: Date contacted: Contacted by:  
Comments:



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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil; 3495 Castro Valley Blvd. Castro V	Date Sampled: 07/19/11-07/20/11
	Client Contact: Steve Carmack	Date Received: 07/21/11
	Client P.O.:	Date Extracted 07/22/11-07/27/11
		Date Analyzed 07/22/11-07/27/11

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method: SW5030B

Analytical methods: SW8015Bm

Work Order: 1107590

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS	Comments
001A	MW 1	W	7600	10	91	d1
002A	MW 3	W	30,000	33	115	d1
003A	MW 5	W	ND	1	99	
004A	MW 6	W	45,000	100	104	d1
005A	MW 7	W	420	1	111	d1
006A	MW 8	W	2500	2	121	d1
007A	MW 9	W	ND	1	100	
008A	MW 10	W	ND	1	107	
009A	MW 11	W	ND	1	109	
010A	MW 12	W	ND	1	102	
011A	EW 1	W	9700	10	117	d1,b6
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L			
	S	NA	NA			

\* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:  
b6) lighter than water immiscible sheen/product is present  
d1) weakly modified or unmodified gasoline is significant



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil; 3495 Castro Valley Blvd. Castro V	Date Sampled: 07/19/11-07/20/11
	Client Contact: Steve Carmack	Date Received: 07/21/11
	Client P.O.:	Date Extracted: 07/25/11-07/26/11
		Date Analyzed: 07/25/11-07/26/11

### Oxygenates, MBTEX & Lead Scavengers by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 1107590

Lab ID	1107590-001B	1107590-002B	1107590-003B	1107590-004B	Reporting Limit for DF=1	
Client ID	MW 1	MW 3	MW 5	MW 6		
Matrix	W	W	W	W		
DF	50	1000	1	330	S	W
Compound	Concentration				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<25	ND<500	ND	ND<170	NA	0.5
Benzene	120	17,000	ND	4600	NA	0.5
t-Butyl alcohol (TBA)	ND<100	3200	6.3	ND<670	NA	2.0
1,2-Dibromoethane (EDB)	ND<25	ND<500	ND	ND<170	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<25	ND<500	ND	ND<170	NA	0.5
Diisopropyl ether (DIPE)	ND<25	ND<500	ND	ND<170	NA	0.5
Ethylbenzene	710	520	ND	2300	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<25	ND<500	ND	ND<170	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<25	1400	1.9	ND<170	NA	0.5
Toluene	52	ND<500	ND	1500	NA	0.5
Xylenes, Total	490	ND<500	ND	9500	NA	0.5

### Surrogate Recoveries (%)

%SS1:	101	103	104	103	
%SS2:	100	99	99	99	
%SS3:	91	89	88	91	
<b>Comments</b>					

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

b6) lighter than water immiscible sheen/product is present



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil; 3495 Castro Valley Blvd. Castro V	Date Sampled: 07/19/11-07/20/11
	Client Contact: Steve Carmack	Date Received: 07/21/11
	Client P.O.:	Date Extracted: 07/25/11-07/26/11
		Date Analyzed: 07/25/11-07/26/11

### Oxygenates, MBTEX & Lead Scavengers by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 1107590

Lab ID	1107590-005B	1107590-006B	1107590-007B	1107590-008B	Reporting Limit for DF = 1	
Client ID	MW 7	MW 8	MW 9	MW 10		
Matrix	W	W	W	W		
DF	5	2	1	1	S	W
Compound	Concentration				ug/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<2.5	ND<1.0	ND	ND	NA	0.5
Benzene	130	17	ND	ND	NA	0.5
t-Butyl alcohol (TBA)	10	ND<4.0	ND	ND	NA	2.0
1,2-Dibromoethane (EDB)	ND<2.5	ND<1.0	ND	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<2.5	ND<1.0	ND	ND	NA	0.5
Diisopropyl ether (DIPE)	ND<2.5	ND<1.0	ND	ND	NA	0.5
Ethylbenzene	25	7.7	ND	ND	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<2.5	ND<1.0	ND	ND	NA	0.5
Methyl-t-butyl ether (MTBE)	6.7	ND<1.0	ND	ND	NA	0.5
Toluene	ND<2.5	ND<1.0	ND	ND	NA	0.5
Xylenes, Total	ND<2.5	ND<1.0	ND	ND	NA	0.5

### Surrogate Recoveries (%)

%SS1:	105	103	105	106	
%SS2:	100	99	100	99	
%SS3:	89	94	91	91	
<b>Comments</b>					

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

b6) lighter than water immiscible sheen/product is present



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	Client Contact: Steve Carmack	Date Received: 07/21/11
	Client P.O.:	Date Extracted: 07/25/11-07/26/11
		Date Analyzed: 07/25/11-07/26/11

### Oxygenates, MBTEX & Lead Scavengers by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 1107590

Lab ID	1107590-009B	1107590-010B	1107590-011B		Reporting Limit for DF=1	
Client ID	MW 11	MW 12	EW 1			
Matrix	W	W	W			
DF	1	1	100		S	W
Compound	Concentration				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND<50		NA	0.5
Benzene	ND	ND	3100		NA	0.5
t-Butyl alcohol (TBA)	ND	ND	5900		NA	2.0
1,2-Dibromoethane (EDB)	ND	ND	ND<50		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND<50		NA	0.5
Diisopropyl ether (DIPE)	ND	ND	ND<50		NA	0.5
Ethylbenzene	ND	ND	ND<50		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND<50		NA	0.5
Methyl-t-butyl ether (MTBE)	ND	4.4	1400		NA	0.5
Toluene	ND	ND	ND<50		NA	0.5
Xylenes, Total	ND	ND	300		NA	0.5

### Surrogate Recoveries (%)

%SS1:	106	105	104		
%SS2:	99	98	99		
%SS3:	92	92	89		
<b>Comments</b>			b6		

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; (&) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

b6) lighter than water immiscible sheen/product is present



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil; 3495 Castro Valley Blvd. Castro V	Date Sampled: 07/19/11-07/20/11
	Client Contact: Steve Carmack	Date Received: 07/21/11
	Client P.O.:	Date Extracted: 07/21/11
		Date Analyzed: 07/23/11-07/27/11

### Total Extractable Petroleum Hydrocarbons\*

Extraction method: SW3510C

Analytical methods: SW8015B

Work Order: 1107590

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1107590-001A	MW 1	W	2900	ND	1	100	e4,e2
1107590-002A	MW 3	W	4000	560	1	98	e4,e1
1107590-003A	MW 5	W	94	ND	1	100	e2
1107590-004A	MW 6	W	920	ND	1	98	e4,e2
1107590-005A	MW 7	W	ND	ND	1	99	
1107590-006A	MW 8	W	620	ND	1	95	e4,e2
1107590-007A	MW 9	W	ND	ND	1	99	
1107590-008A	MW 10	W	ND	ND	1	100	
1107590-009A	MW 11	W	ND	ND	1	100	
1107590-010A	MW 12	W	ND	ND	1	97	
1107590-011A	EW 1	W	5600	1500	1	110	e4,e1,b6

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	NA	NA	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

- b6) lighter than water immiscible sheen/product is present
- e1) unmodified or weakly modified diesel is significant
- e2) diesel range compounds are significant; no recognizable pattern
- e4) gasoline range compounds are significant.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59876

WorkOrder: 1107590

Table with columns: EPA Method: SW8021B/8015Bm, Extraction: SW5030B, Spiked Sample ID: 1107561-001A. Rows include Analyte (TPH, MTBE, Benzene, Toluene, Ethylbenzene, Xylenes, %SS) and Acceptance Criteria (%).

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 59876 SUMMARY

Table with columns: Lab ID, Date Sampled, Date Extracted, Date Analyzed. Lists sample IDs and corresponding dates.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.
% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.
£ TPH(btex) = sum of BTEX areas from the FID.
# cluttered chromatogram; sample peak coelutes with surrogate peak.
N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.





**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59909

WorkOrder: 1107590

EPA Method: SW8260B		Extraction: SW5030B							Spiked Sample ID: 1107590-003B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	79.9	80.4	0.556	71.1	73.9	3.38	70 - 130	30	70 - 130	30
Benzene	ND	10	100	103	2.49	112	114	2.16	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	6.3	50	98.7	102	2.63	100	99.4	0.873	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	89.8	92.1	2.62	109	109	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	95.9	98.1	2.26	108	109	0.940	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	105	106	1.10	118	121	1.70	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	92	92.6	0.621	112	112	0	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	1.9	10	96.3	95.5	0.625	117	118	0.673	70 - 130	30	70 - 130	30
Toluene	ND	10	90.9	95.1	4.45	111	114	2.08	70 - 130	30	70 - 130	30
%SS1:	104	25	103	101	1.70	110	110	0	70 - 130	30	70 - 130	30
%SS2:	99	25	99	100	1.04	106	107	0.455	70 - 130	30	70 - 130	30
%SS3:	88	2.5	88	88	0	121	118	2.18	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 59909 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107590-003B	07/20/11 10:30 AM	07/25/11	07/25/11 10:42 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.  
 Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59910

WorkOrder: 1107590

EPA Method: SW8260B		Extraction: SW5030B							Spiked Sample ID: 1107590-005B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND<2.5	10	86.9	86.5	0.492	79.6	81.8	2.65	70 - 130	30	70 - 130	30
Benzene	130	10	NR	NR	NR	101	104	3.30	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	10	50	78	81.3	3.31	88	92	4.43	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND<2.5	10	96.3	96	0.352	100	105	4.94	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND<2.5	10	96.5	95.5	1.13	87.3	89.8	2.86	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND<2.5	10	107	105	1.67	97.3	100	2.87	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND<2.5	10	100	99.8	0.520	99.6	102	2.66	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	6.7	10	89.4	90.8	0.878	92.9	95.1	2.34	70 - 130	30	70 - 130	30
Toluene	ND<2.5	10	94.4	92.4	2.13	106	111	4.79	70 - 130	30	70 - 130	30
%SS1:	105	25	92	94	1.41	98	96	1.71	70 - 130	30	70 - 130	30
%SS2:	100	25	97	97	0	107	108	0.424	70 - 130	30	70 - 130	30
%SS3:	89	2.5	96	96	0	130	130	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 59910 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107590-005B	07/19/11 12:40 PM	07/25/11	07/25/11 11:59 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.  
 Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59911

WorkOrder: 1107590

EPA Method: SW8260B		Extraction: SW5030B							Spiked Sample ID: 1107590-009B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	92.8	85.8	7.79	81.6	79.2	2.92	70 - 130	30	70 - 130	30
Benzene	ND	10	106	93.6	12.1	94.6	97.3	2.82	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	103	92.5	10.8	117	101	14.8	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	97.5	92.3	5.46	91.7	105	13.1	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	98.7	93.1	5.81	95.6	101	5.17	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	114	107	6.09	102	105	3.38	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	108	101	6.04	92.3	102	10.1	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	105	98.5	6.14	98.5	110	11.4	70 - 130	30	70 - 130	30
Toluene	ND	10	92.1	87.2	5.44	84.6	93.4	9.86	70 - 130	30	70 - 130	30
%SS1:	106	25	96	95	0.632	102	109	5.87	70 - 130	30	70 - 130	30
%SS2:	99	25	96	96	0	98	106	7.72	70 - 130	30	70 - 130	30
%SS3:	92	2.5	95	95	0	90	119	27.9	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 59911 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107590-009B	07/19/11 12:05 PM	07/26/11	07/26/11 2:33 AM	1107590-011B	07/20/11 12:55 PM	07/26/11	07/26/11 3:49 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.  
 Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59918

WorkOrder: 1107590

EPA Method: SW8260B		Extraction: SW5030B							Spiked Sample ID: 1107590-010B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	86.8	83.3	4.19	83.2	85.2	2.38	70 - 130	30	70 - 130	30
Benzene	ND	10	113	108	4.39	99.6	104	4.35	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	99.3	99.3	0	121	121	0	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	112	108	3.12	95.2	98	2.91	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	105	100	5.13	99.3	101	1.89	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	119	115	3.75	106	110	3.11	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	112	108	4.14	94.9	98	3.17	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	4.4	10	121	120	0.611	102	104	2.20	70 - 130	30	70 - 130	30
Toluene	ND	10	109	106	3.33	91	94.8	4.19	70 - 130	30	70 - 130	30
%SS1:	105	25	109	108	0.816	102	102	0	70 - 130	30	70 - 130	30
%SS2:	98	25	103	102	0.979	99	99	0	70 - 130	30	70 - 130	30
%SS3:	92	2.5	123	118	3.86	89	90	1.28	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 59918 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107590-008B	07/20/11 11:15 AM	07/26/11	07/26/11 1:54 AM	1107590-010B	07/19/11 2:45 PM	07/26/11	07/26/11 3:11 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.  
 Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59919

WorkOrder: 1107590

EPA Method: SW8260B		Extraction: SW5030B							Spiked Sample ID: 1107609-003A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	0.83	10	78.7	77.1	1.88	74.7	76.2	1.97	70 - 130	30	70 - 130	30
Benzene	ND	10	106	105	0.885	78.6	82.2	4.55	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	2.0	50	113	116	2.10	82.5	78.3	5.21	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	97.7	97.6	0.129	84	84.4	0.547	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	102	101	0.808	79.9	83.2	4.04	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	112	110	1.72	91.1	94.9	3.99	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	99.6	97.5	2.13	87.3	89.6	2.57	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	104	104	0	85.5	87	1.78	70 - 130	30	70 - 130	30
Toluene	ND	10	96.8	96.4	0.383	76.8	78.7	2.44	70 - 130	30	70 - 130	30
%SS1:	105	25	102	101	0.589	97	99	1.35	70 - 130	30	70 - 130	30
%SS2:	99	25	99	99	0	100	100	0	70 - 130	30	70 - 130	30
%SS3:	90	2.5	88	87	0.329	99	98	0.431	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 59919 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107590-001B	07/20/11 12:15 PM	07/25/11	07/25/11 9:26 PM	1107590-002B	07/20/11 1:35 PM	07/25/11	07/25/11 10:04 PM
1107590-004B	07/19/11 2:30 PM	07/25/11	07/25/11 11:21 PM	1107590-006B	07/19/11 3:30 PM	07/26/11	07/26/11 12:37 AM
1107590-007B	07/19/11 1:30 PM	07/26/11	07/26/11 1:16 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.  
 Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59907

WorkOrder: 1107590

EPA Method: SW8015B		Extraction: SW3510C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	126	127	1.45	N/A	N/A	70 - 130	30
%SS:	N/A	625	N/A	N/A	N/A	92	99	7.71	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 59907 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107590-001A	07/20/11 12:15 PM	07/21/11	07/26/11 3:10 AM	1107590-002A	07/20/11 1:35 PM	07/21/11	07/23/11 12:59 AM
1107590-003A	07/20/11 10:30 AM	07/21/11	07/27/11 5:11 AM	1107590-004A	07/19/11 2:30 PM	07/21/11	07/26/11 4:19 AM
1107590-005A	07/19/11 12:40 PM	07/21/11	07/26/11 5:27 AM	1107590-006A	07/19/11 3:30 PM	07/21/11	07/25/11 5:19 PM
1107590-007A	07/19/11 1:30 PM	07/21/11	07/25/11 8:10 PM	1107590-008A	07/20/11 11:15 AM	07/21/11	07/23/11 7:58 AM
1107590-009A	07/19/11 12:05 PM	07/21/11	07/23/11 9:08 AM	1107590-010A	07/19/11 2:45 PM	07/21/11	07/25/11 5:47 PM
1107590-011A	07/20/11 12:55 PM	07/21/11	07/23/11 11:31 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.