

# **Xtra** OIL COMPANY

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**RECEIVED**

1:53 pm, Oct 25, 2010

Alameda County  
Environmental Health

October 15, 2010

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:

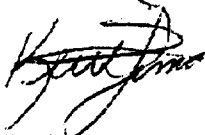
- Quarterly Groundwater Monitoring and Sampling Report (March Through August 2009) dated October 15, 2010 (document 0014.R75).

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

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

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

October 15, 2010  
Report 0014.R75

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 2009)**  
County Case # RO 285  
Xtra Oil Company  
3495 Castro Valley Blvd.  
Castro Valley, California

Gentlemen:

P&D Environmental, Inc. (P&D) is pleased to present this report documenting the results of this semiannual monitoring and sampling of both the on- and off-site wells for the subject property. The reporting period is for June through August 2009. This work was performed in accordance with P&D's proposal 020599.P1 dated February 5, 1999 and P&D's recommendations set forth in P&D's Quarterly Groundwater Monitoring and Sampling Report for the period of December 2008 through February 2009.

Onsite wells MW1, MW3, MW4, and EW1, offsite observation wells OW1 and OW2, and offsite monitoring wells MW5 through MW12 were monitored on April 6, 2009 and July 7, 2009 and wells MW1, MW3, EW1, and MW5 through MW12 were sampled on July 7 and 8, 2009. The groundwater extraction system 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. In addition, the historical water quality summary tables were converted from milligrams per liter (mg/L) to micrograms per liter ( $\mu\text{g/L}$ ).

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.

## **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).

#### FIELD ACTIVITIES

Onsite wells MW1, MW3, MW4, and EW1, and offsite monitoring wells MW5 through MW12 were additionally monitored for depth to water on April 6, 2009. Onsite wells MW1, MW3, MW4, and EW1, offsite observation wells OW1 and OW2, and offsite monitoring wells MW5 through MW12 were also monitored on July 7, 2009 and wells MW1, MW3, EW1, and MW5 through MW12 were sampled on July 7 and 8, 2009. 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. The groundwater extraction system 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.

On April 6, 2009 depth to water was measured in onsite wells MW1, MW3, MW4, and EW1, and offsite monitoring wells MW5 through MW12, the depth to water was measured to the nearest 0.01 foot using an electric water level indicator., and 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 measured free product thickness in well MW4 was 0.22 feet.

On July 7, 2009 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 0.17 feet. No water or free product was encountered in observation wells OW1 and OW2 located in Redwood Road.

No sample was collected from MW4 due to the presence of free product in the well.

Prior to well sampling, onsite wells MW1, MW3, and EW1, and offsite wells MW5 through MW12 were purged of a minimum of three casing volumes of water or until the wells had been purged dry. Petroleum hydrocarbon odors and petroleum hydrocarbon sheen were detected on the purge water from all three of the onsite sampled wells (MW1, MW3 and EW1). Petroleum hydrocarbon odors were also detected for the samples collected from offsite wells MW6, MW8, and MW12, and petroleum hydrocarbon sheen was observed on the sample collected from offsite well MW6.

During purging operations, the field parameters of electrical conductivity, temperature, and pH were monitored and recorded on a groundwater monitoring/well purging data sheet. Once the field parameters were observed to stabilize and a minimum of three casing volumes had been purged, or the wells had purged dry and partially recovered, water samples were collected using a clean, new disposable bailer. Records of the field parameters measured during well purging are included with this report.

The water samples were transferred to 40-milliliter glass VOA vials and 1-liter amber glass bottles that were sealed with Teflon-lined screw caps. 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

Water levels were measured in all of the wells twice during the reporting period. The groundwater extraction system 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.

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 groundwater surface elevations and associated groundwater flow direction were calculated using the January 7, 2008 survey elevations for all of the wells.

On April 6, 2009 the measured depth to water in onsite wells MW1, MW3, MW4, and EW1 was 8.35, 8.73, 7.91, and 11.35 feet, respectively. A separate phase hydrocarbon layer measuring approximately 0.17 feet in thickness was measured in well MW4 (changed from 0.19 feet on January 6, 2009). Using a specific gravity of 0.75, the corrected depth to water in well MW4 was 7.78 feet. Since the previous monitoring event on January 6, 2009, the groundwater elevations (corrected for the presence of any detected free product) have increased in onsite wells MW1, MW3, MW4, and EW1 by 0.07, 0.15, 0.08, and 0.06 feet, respectively. Since the previous monitoring and sampling event for the offsite wells on January 6, 2009 the groundwater elevations have increased in offsite groundwater monitoring wells MW5, MW6, MW7, MW8, MW9, MW10, and MW11 by 0.05, 0.06, 0.05, 0.04, 0.05, 0.08, and 0.07 feet, respectively, and the groundwater elevation for MW12 decreased by 0.09 feet. 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, the change in water level since the previous sampling event in well MW11 of 0.07 feet is approximately comparable to the water level change in nearby well MW7 of 0.05 feet. The measured depth to water in the wells and the separate phase layer thickness measured in monitoring well MW4 are summarized in Table 1.

On July 7, 2009 the measured depth to water in onsite wells MW1, MW3, MW4, and EW1 was 8.44, 8.50, 8.16, and 8.29 feet, respectively. A separate phase hydrocarbon layer measuring approximately 0.22 feet in thickness was measured in well MW4 (changed from 0.17 feet on April 6, 2009). Using a specific gravity of 0.75, the corrected depth to water in well MW4 is 7.99 feet. Since the previous monitoring event on April 6, 2009, the groundwater elevations (corrected for the presence of any detected free product) have decreased in wells MW1 and MW4 by 0.09 and 0.21 feet, respectively, and the groundwater elevations increased in onsite wells MW3 and EW1 by 0.23 and 3.06 feet. Since the previous monitoring event for the offsite wells on April 6, 2009 the groundwater elevations have decreased in offsite groundwater monitoring wells MW5, MW6, MW7, MW8, MW9, MW10, MW11, and MW12 by 0.32, 0.34, 0.41, 0.50, 0.42, 0.37, 0.43, and 0.61 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, the change in water level since the previous monitoring event in well MW11 of 0.43 feet is approximately comparable to the water level change in nearby well MW7 of 0.41 feet. 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 April 6, 2009 was calculated to be to the south-southwest with a gradient of 0.010. During the previous quarterly monitoring and sampling event on January 6, 2009, the groundwater flow direction was calculated to be to the south-southwest with a gradient of 0.011. The groundwater flow direction at the site on April 6, 2009 is shown on Figure 2. The groundwater flow direction and gradient are consistent with the flow direction and gradient observed at the site during the previous monitoring and sampling event on January 6, 2009. The April 6, 2009 groundwater flow direction and gradient are different from historic values prior to 2007, and are considered to be the result of groundwater pumping at well EW1 in the former UST pit which began in February 2007. Rose diagrams showing historical groundwater flow directions at the site before and after groundwater pumping at well EW1 are shown on Figure 2.

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 7, 2009 was calculated to be to the south-southeast with a gradient of 0.007. During the previous quarterly monitoring event on April 6, 2009, the groundwater flow direction was calculated to be to the south-southwest with a gradient of 0.010. The groundwater flow direction at the site on July 7, 2009 is shown on Figure 4. The groundwater flow direction and gradient are consistent with the flow direction and gradient observed at the site prior to the initiation of groundwater pumping at well EW1 in the former UST pit which began in February 2007. The increase in water levels in onsite wells MW3 and EW1 and the change in groundwater flow direction from the April 6, 2009 groundwater flow direction is attributed to the discontinuation of pumping at well EW1 which occurred on April 29, 2009. Rose diagrams showing historical groundwater flow directions at the site before and after groundwater pumping at well EW1 are shown on Figure 5. The July 7, 2009 groundwater flow direction is shown on the rose diagram for the time period 4/07 – 7/09.

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 0.015 in the vicinity of Redwood Road to the south-southwest with a gradient of 0.013 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 previous monitoring and sampling episodes. Groundwater surface elevations and contours and the approximate groundwater flow direction in the vicinity of the site based on April 6, 2009 and July 7, 2009 water level measurements from the offsite wells are shown on Figures 3 and 5, respectively.

## LABORATORY RESULTS

All of the groundwater samples collected on July 7 and 8, 2009 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, DIPE, 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 6,800, 7,400, and 7,500 µg/L, respectively; TPH-G was detected at concentrations of 16,000, 82,000, and 9,100 µg/L, respectively; benzene was detected at concentrations of 99, 37,000, and 3,400 µg/L, respectively; and MTBE was detected in the groundwater samples collected from wells MW3 and EW1 at concentrations of 3,300 and 2,900 µg/L, respectively. 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 5,000 and 6,400 µg/L, respectively.

The laboratory analytical results for the samples collected from offsite wells MW5 through MW12 shows that TPH-D was detected in the samples collected from wells MW6, MW7, MW8 and MW9 at concentrations of 8,400, 62, 1,000 and 69 µg/L, respectively; TPH-G was detected in wells MW6, MW7, MW8, and MW12 at concentrations of 60,000, 150, 2,000, and 76 µg/L, respectively; benzene was detected in wells MW6, MW7, and MW8 at concentrations of 6,600, 38, and 28 µg/L, respectively; and that MTBE was detected in wells MW5, MW7, MW8, MW10, and MW11 at concentrations of 0.72, 4.8, 3.8, 0.71, 37 and 7.8 µg/L, respectively.

TPH-D was not detected in the sample collected from offsite well MW12. In the samples collected from the remaining offsite wells (MW6, MW7, and MW8) TPH-D was detected at concentrations of 8,400, 62, and 1,000, µg/L, respectively. In the samples collected from offsite wells MW6, MW7, MW8, and MW12 TPH-G was detected at concentrations of 60,000, 150, 2,000, and 76 µg/L, respectively. Benzene was detected in the samples collected from offsite wells MW6, MW7, and MW8 at concentrations of 6,600, 38, and 28 µg/L, respectively, and was not detected in the sample collected from well MW12. MTBE was detected in the samples collected from offsite wells MW7, MW8, and MW12 at concentrations of 4.8, 3.8, and 7.8 µg/L, respectively, and was not detected in the sample collected from offsite well MW6. No other fuel oxygenates or lead scavengers were detected in any of the samples collected from any of offsite wells MW5 through MW12, except for TBA in the sample collected from well MW7 at a concentration of 2.2 µg/L.

Review of the laboratory analytical reports shows that the TPH-D results for the samples collected from wells MW1, MW3, MW7, MW8, and EW1 are described as consisting of both oil and gasoline range compounds, and the TPH-D results for the sample collected from well MW6 are described as consisting of gasoline-range compounds.

The laboratory analytical results for the groundwater samples are summarized in Table 2. 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 April 6 and July 7, 2009 and wells MW1, MW3, EW1, and MW5 through MW12 were sampled on July 7 and 8, 2009. Separate phase hydrocarbons were measured in well MW4 at a thickness of 0.17 feet on April 6 and 0.22 feet on July 7, 2010. The passive hydrocarbon collection device in well MW4 was removed



on November 2, 2006 by P&D personnel during pressure transducer installation associated with preparation for dewatering the former UST pit.

Dewatering of the former UST pit began February 2007 in UST pit extraction well EW1. The increase in depth to water in EW1 on April 6, 2009 relative to water level measurements prior to 2007 is associated with the dewatering of the UST pit, which began during the first quarter of 2007. Similarly, the change in the onsite groundwater flow direction from a historic southeasterly flow direction to a southerly flow direction with a higher gradient on April 6, 2009 is attributed to the UST pit dewatering.

The increase in water levels in onsite wells MW3 and EW1 on July 7, 2009 and the associated decrease in gradient and change in groundwater flow direction to southeasterly from the April 6, 2009 south-southwesterly groundwater flow direction is attributed to the discontinuation of pumping at well EW1 which occurred on April 29, 2009. Rose diagrams showing historical groundwater flow directions at the site before and after initiation of groundwater pumping at well EW1 are shown on Figures 2 and 4. The July 7, 2009 groundwater flow direction is shown on the rose diagram in Figure 4 for the time period April 2007 through July 2009 (4/07 – 7/09).

The groundwater surface elevations and associated groundwater flow direction were calculated using the January 7, 2008 survey elevations for all of the wells. 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 0.015 in the vicinity of Redwood Road to the south-southwest with a gradient of 0.013 in the vicinity of the west end of Redwood Court.

The UST pit dewatering pump is located in well EW1, and the increase in petroleum hydrocarbon concentrations in well EW1 (including on April 6, 2009) when compared to water quality data prior to 2007 is attributed to groundwater with elevated concentrations of petroleum hydrocarbons moving into the UST pit as a result of the UST pit dewatering. The July 8, 2009 decrease in EW1 petroleum concentrations is attributed to the discontinuation of pumping at well EW1 which occurred on April 29, 2009.

Review of changes in onsite water quality since the previous sampling event on January 6 and 7, 2009 shows that all analyte concentrations have decreased in well EW1, BTEX concentrations have decreased in well MW1 and increased or remained unchanged in well MW3, MTBE and TBA concentrations have remained not detected in well MW1 and have decreased in well MW3, and that TPH-G and TPH-D concentrations have increased in both wells with the exception of TPH-D in well MW3, which decreased.

Review of changes in offsite water quality since the previous sampling event on January 6 and 7, 2009 shows that all analyte concentrations in wells MW5 and MW8 through 12 have decreased or remained not detected with the exception of TPH-D in MW9 and MTBE in MW11 which increased. In wells MW6 and MW7 all analyte concentrations either increased or remained not detected with the exception of benzene in MW6 and TPH-D in MW7, which decreased.

Based on the laboratory analytical results of the water samples collected from the monitoring wells, P&D recommends that groundwater monitoring and sampling be continued. In accordance with a letter from the ACDEH dated July 24, 2009 the wells will be monitored on a quarterly basis. 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 recent 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.

### 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.

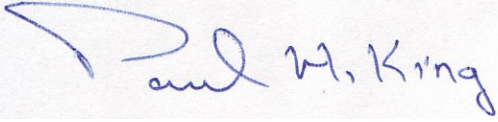
This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals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

October 15, 2010  
Report 0014.R75

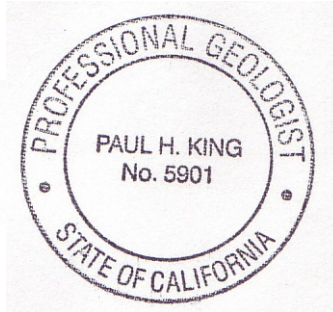
Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

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 Water Quality Data  
Figure 1 - Site Location Map  
Figure 2 - Site Plan Showing April 6, 2009 Water Level Data  
Figure 3 - Site Vicinity Map Showing April 6, 2009 Water Level Data  
Figure 4 - Site Plan Showing July 7, 2009 Water Level Data  
Figure 5 - Site Vicinity Map Showing July 7, 2009 Water Level Data  
Well Monitoring and Purge Data Sheets  
Laboratory Analytical Reports and Chain of Custody Documentation

PHK/ sjc  
0014.R75

# **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	7/7/2009	180.22++	8.44	171.78
	4/6/2009		8.35	171.87
	1/6/2009		8.42	171.80
	10/22/2008		8.80	171.42
	7/16/2008		8.40	171.82
	4/15/2008		8.41	171.81
	1/17/2008	177.37*	8.01	169.36
	10/16/2007		8.65	168.72
	7/25/2007		8.49	168.88
	4/17/2007		8.30	169.07
	1/18/2007		7.85	169.52
	11/14/2006		7.38	169.99
	6/29/2006		7.80	169.57
	2/3/2006		6.65	170.72
	11/18/2005		8.17	169.20
	7/28/2005		7.98	169.39
	4/13/2005		6.90	170.47
	1/31/2005		7.20	170.17
	10/15/2004		8.52	168.85
	7/13/2004		8.33	169.04
	4/6/2004		7.93	169.44
	12/18/2003		7.65	169.72
	9/18/2003		8.15	169.22
	6/19/2003		8.13	169.24
	3/18/2003		7.77	169.60
	12/21/2002		5.74	171.63
	9/10/2002		8.28	169.09
	3/30/2002		7.43	169.94
	12/21/2001		6.92	170.45
	9/23/2001		8.53	168.84
	6/22/2001		8.30	169.07
	4/22/2001		7.77	169.60
	12/14/2000		8.49	168.88
	9/18/2000		8.56	168.81
	6/8/2000		7.97	169.40
	3/9/2000		6.68	170.69
	12/9/1999		8.15	169.22
	8/31/1999		8.36	169.01
	4/29/1999		7.68	169.69
	01/29/1999	177.37*	6.99	170.38
	4/26/1998		7.5	169.87
	1/24/1998		6.61	170.76
	11/6/1997		8.79	168.58
	8/26/1997	177.37*	8.51	168.86
	7/24/1997		8.71	168.72
	4/25/1997		7.98	169.45
	1/20/1997		7.12	170.31
	7/26/1996		8.39	169.04
	7/9/1996		8.16	169.27
	4/23/1996		7.47	169.96
	2/7/1996		6.09	171.34
	1/29/1996		6.17	171.26
	10/26/1995		8.45	168.98
	7/28/1995		8.27	169.16
	5/2/1995		6.96	170.47
	2/23/1995		7.72	169.71
	11/18/1994		7.14	170.29
	8/22/1994		8.67	168.76
	5/19/1994	177.43**	8.05	169.38
	2/28/1994		7.44	169.99
	11/24/1993		8.74	168.69

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	8/30/1993		8.78	168.65
(Continued)	5/18/1993		8.12	169.31
	2/23/1993		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		8.57	167.16
	12/23/1991		9.65	166.08
	11/25/1991		9.41	166.32
	10/10/1991		9.7	166.03
	9/17/1991		9.5	166.23
	8/19/1991		9.31	166.42
MW2	ED (DESTROYED ON FEBRUARY 7, 1996)			
	2/7/1996	176.04**	5.70	170.34
	1/29/1996		5.16	170.88
	10/26/1995		8.21	167.83
	7/28/1995		7.99	168.05
	5/2/1995		6.79	169.25
	2/23/1995		7.51	168.53
	11/18/1994		6.92	169.12
	8/22/1994		8.59	167.45
	5/19/1994		7.70	168.34
	2/28/1994		6.99	169.05
	11/24/1993		8.47	167.57
	8/30/1993		8.64	167.40
	5/18/1993		7.73	168.31
	2/23/1993		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		8.97	166.48
	12/23/1991		10.39	165.06
	11/25/1991		9.81	165.64
	10/10/1991		10.39	165.06
	9/17/1991		10.23	165.22
	8/19/1991		9.60	165.85
MW3	7/7/2009	179.46++	8.50	170.96
	4/6/2009		8.73	170.73
	1/6/2009		8.88	170.58
	10/22/2008		9.29	170.17
	7/16/2008		9.03	170.43
	4/15/2008		9.19	170.27
	1/17/2008	176.40*	8.90	167.50
	11/16/2007		9.43	166.97
	7/25/2007		9.35	167.05
	4/17/2007		8.88	167.52
	1/18/2007		7.32	169.08
	11/14/2006		7.53	168.87
	6/29/2006		7.58	168.82
	2/3/2006		6.10	170.30
	11/18/2005		7.63	168.77
	7/28/2005		7.58	168.82
	4/13/2005		6.35	170.05
	1/31/2005		6.79	169.61
	10/15/2004		8.28	168.12
	7/13/2004		8.11	168.29
	4/6/2004		7.41	168.99
	12/18/2003		6.99	169.41
	9/18/2003		7.91	168.49
	6/19/2003		7.60	168.80
	3/18/2003		7.35	169.05
	12/21/2002		5.43	170.97
	09/10/2002		7.97	168.43
	03/30/2002		6.97	169.43
	12/22/2001		6.44	169.96

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>
MW3	09/23/2001		8.17	168.23
(Continued)	06/22/2001		8.06	168.34
	04/22/2001		7.50	168.90
	12/14/2000		8.13	168.27
	9/18/2000		7.83	168.57
	09/26/2000		7.77	168.63
	6/8/2000		7.50	168.90
	03/09/2000		6.08	170.32
	12/9/1999		7.90	168.50
	8/31/1999	176.41**	7.95	168.45
	4/29/1999		7.09	169.31
	1/29/1999		6.42	169.98
	04/26/1998		6.85	169.55
	01/24/1998		5.90	170.50
	11/6/1997		7.80	168.80
	8/26/1997		7.67	168.93
	7/24/1997	176.41**	7.90	168.51
	4/25/1997		7.12	169.29
	01/20/1997		6.35	170.06
	7/26/1996		7.84	169.57
	7/9/1996		7.61	168.80
	04/23/1996		6.81	169.60
	2/7/1996		5.05	170.36
	01/29/1996		5.77	170.64
	10/26/1995		7.72	168.69
	07/28/1995		7.80	168.61
	05/02/1995		6.50	169.91
	2/23/1995		7.24	169.17
	11/18/1994		6.05	170.36
	8/22/1994	190.97***	7.65	168.76
	5/19/1994		7.15	169.26
	2/24/1994		6.68	169.73
	11/24/1993		7.55	168.86
	8/30/1993		7.64	168.77
	5/18/1993		7.12	169.29
	2/23/1993		8.01	168.40
	11/13/1992		7.86	191.12
	5/29/1992	175.00	8.45	166.55
	1/14/1992		8.24	166.55
	12/23/1991		9.37	165.63
	11/25/1991		9.19	165.81
	10/10/1991		9.43	165.57
	09/17/1991		9.20	165.80
	8/19/1991		8.95	166.05

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>
MW4	7/7/2009	179.21++	8.16(0.22)#	171.22
	4/6/2009		7.91(0.17)#	171.43
	1/6/2009		8.00(0.19)#	171.35
	10/22/2008		8.46(0.08)#	170.81
	7/16/2008		8.04(0.21)#	171.33
	4/15/2008		8.00(0.25)#	171.40
	1/17/2008	176.35*	7.50(0.17)#	168.98
	10/16/2007		8.50(0.25)#	168.04
	7/25/2007		8.04(0.17)#	168.44
	4/17/2007		7.94(0.19)#	168.55
	1/18/2007		7.38(0.21)#	169.13
	11/14/2006		7.36(0.25)#	169.18
	6/29/2006		Unknown	Unknown
	2/3/2006		5.86	170.49
	11/18/2005		7.99 (0.51)#	168.36
	7/28/2005		7.59	168.76
	4/13/2005		6.78 (0.01)#	169.58
	1/31/2005		7.34 (0.19)#	169.15
	10/15/2004		8.73 (0.15)#	167.73
	7/13/2004		8.44 (0.03)#	167.93
	4/6/2004		9.58 (2.83)#	168.89
	2/11/2004		9.43 (2.70)#	168.95
	12/18/2003		9.75 (1.51)#	167.73
	9/18/2003		9.13 (1.80)#	168.57
	6/19/2003		8.56 (0.31)#	168.02
	3/18/2003		7.49 (0.06)#	168.91
	12/21/2002		8.58 (4.39)#	171.06
	9/10/2002		9.09 (1.60)#	168.46
	03/30/2002		9.86 (2.49)#	168.36
	12/22/2001		7.79 (1.75)#	169.87
	9/23/2001		8.97 (1.17)#	168.26
	06/22/2001		7.79	168.56
4/22/2001		9.07 (2.20)#	168.93	
12/14/2000		8.87 (0.72)#	168.02	
09/18/2000		8.50 (0.45)#	168.19	
6/8/2000		7.34	169.01	
3/9/2000		6.61 (0.46)#	170.08	
12/9/1999		8.80	167.55	
08/31/1999		8.28	168.07	
4/29/1999		7.14	169.21	
1/29/1999		6.68	169.67	
04/26/1998		6.87	169.48	
01/24/1998		6.61	169.74	
11/6/1997		9.16	167.19	
08/26/1997		8.92	167.43	
08/20/1997			7.66 (prior to development)	
MW5	7/7/2009	176.02++	6.18	169.84
	4/6/2009		5.86	170.16
	1/6/2009		5.91	170.11
	10/22/2008		6.55	169.47
	7/16/2008		6.01	170.01
	4/15/2008		5.90	170.12
	12/17/2007		5.83	170.19
	12/13/2007		5.83	170.19
12/12/2007		5.98	170.04	
MW6	7/7/09	175.24++	6.00	169.24
	4/6/2009		5.66	169.58
	1/6/2009		5.72	169.52
	10/22/2008		6.36	168.88
	7/16/2008		5.88	169.36
	4/15/2008		5.00	170.24
	12/17/2007		5.69	169.55
	12/13/2007		5.63	169.61
12/11/2007		6.17\$	169.07	



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>
MW7	7/7/2009	170.34++	3.98	166.36
	4/6/2009		3.57	166.77
	1/6/2009		3.62	166.72
	10/22/2008		4.24	166.10
	7/16/2008		4.06	166.28
	4/15/2008		3.60	166.74
	12/17/2007		3.68	166.66
	12/13/2007		4.74	165.60
	12/12/2007		5.49	164.85
	12/11/2007		5.98\$	164.36
MW8	7/7/2009	176.00++	7.34	168.66
	4/6/2009			
	1/6/2009		6.88	169.12
	10/22/2008		7.91	168.09
	7/16/2008		7.20	168.80
	4/15/2008		6.76	169.24
	12/17/2007		6.73	169.27
	12/13/2007		6.52	169.48
	12/12/2007		6.56\$	169.44
MW9	7/7/2009	175.09++	6.69	168.40
	4/6/2009		6.27	168.82
	1/6/2009		6.32	168.77
	10/22/2008		6.96	168.13
	7/16/2008		6.57	168.52
	4/15/2008		6.44	168.65
	12/17/2007		6.35	168.74
	12/13/2007		6.31	168.78
	12/12/2007		11.21\$	163.88
MW10	7/7/2009	176.03++	6.00	170.03
	4/6/2009		5.63	170.40
	1/6/2009		5.71	170.32
	10/22/2008		6.46	169.57
	7/16/2008		5.83	170.20
	4/15/2008		5.64	170.39
	12/17/2007		5.77	170.26
	12/13/2007		5.55	170.48
	12/12/2007		5.70\$	170.33
MW11	7/7/2009	171.03++	4.40	166.63
	4/6/2009		3.97	167.06
	1/6/2009		4.04	166.99
	10/22/2008		4.87	166.16
	7/16/2008		4.38	166.65
	4/15/2008		3.70	167.33
	12/17/2007		10.19	160.84
	12/13/2007		12.72	158.31
	12/12/2007		12.99	158.04
	12/11/2007		11.94\$	159.09
MW12	7/7/2009	173.98++	8.31	165.67
	4/6/2009		7.70	166.28
	1/6/2009		7.61	166.37
	10/22/2008		9.02	164.96
	7/16/2008		8.47	165.51
	4/15/2008		7.77	166.21
	12/17/2007		7.71	166.27
	12/13/2007		7.66	166.32
	12/12/2007		7.67\$	166.31

TABLE I  
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>	
EW1	7/7/2009	179.27++	8.29	170.98	
	4/6/2009		11.35	167.92	
	1/6/2009		11.41	167.86	
	10/22/2008		11.40	167.87	
	7/16/2008		11.40	167.87	
	4/15/2008		11.40	167.87	
	1/17/2008		Not Surveyed	11.41	167.86
	11/16/2007		11.95	167.32	
	7/25/2007		11.57	167.70	
	4/17/2007		11.35	167.92	
	1/18/2007		6.60	172.67	
	11/14/2006		6.11	173.16	
	6/29/2006		6.88	172.39	
	2/3/2006		5.23	174.04	
	11/18/2005		6.63	172.64	
	7/28/2005		6.94	172.33	
	4/13/2005		5.23	174.04	
	1/31/2005		6.25	173.02	
	10/15/2004		7.65	171.62	
	7/13/2004		7.51	171.76	
4/6/2004	6.63	172.64			
12/18/2003	6.72	172.55			
9/18/2003	7.29	171.98			
OW1	7/7/2009	178.93++	No Water or Product	7.17	
	4/6/2009		Not measured.		
	1/6/2009		No Water or Product	7.17	
	10/22/2008		No Water; (0.33)	7.17	
	7/16/2008		6.95	7.17	
	4/15/2008		7.11	7.17	
	1/17/2008		4.00	Not Measured	
	11/16/2007		No Water or Product	7.41	
	7/25/2007		No Water or Product	7.41	
	4/17/2007		No Water or Product	7.41	
	1/18/2007		No Water or Product	7.41	
	11/14/2006		No Water (sheen)	7.41	
	6/29/2006		7.13	7.42	
	2/3/2006		6.97	7.45	
	11/18/2005		7.43 (0.13)#	7.50	
	7/28/2005		7.06 (0.01)#	7.45	
	4/13/2005		6.99	7.44	
	1/31/2005		7.03	7.44	
	10/15/2004		7.19 (0.08)#	7.44	
	7/14/2004		7.02	7.44	
4/6/2004	7.01	7.44			
2/11/2004	7.01	7.44			
10/6/2003	7.07 (0.01)#	7.44			
11/2/2000	7.12,##				
1/29/1999	7.12				
12/9/1999	7.27				

TABLE I  
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>
OW2	7/7/2009	176.03++	No Water or Product	7.28
	4/6/2009		Not measured.	
	1/6/2009		No Water or Product	7.28
	10/22/2008		No Water or Product	7.28
	7/16/2008		No Water or Product	7.28
	4/15/2008		No Water or Product	7.28
	1/17/2008		No Water or Product	Not Measured
	11/16/2007	Not Surveyed	No Water or Product	7.28
	7/25/2007		No Water or Product	7.28
	4/17/2007		No Water or Product	7.28
	1/18/2007		No Water or Product	7.28
	11/14/2006		7.27	7.28
	6/29/2006		7.30	7.33
	2/3/2006		7.08	7.35
	11/18/2005		7.33	7.35
	7/28/2005		7.27	7.32
	4/13/2005		7.06	7.35
	1/31/2005		7.29	7.37
	10/15/2004		No Water or Product	7.35
	7/14/2004		No Water or Product	7.35
	4/6/2004		7.27	7.33
	2/11/2004		7.19	7.33
	10/6/2003		7.29	7.34
	11/2/2000		7.19	
	1/29/1999		7.19	
	12/9/1999		7.17	
<b>NOTES:</b>				
++ = 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.				
N/A = Not Applicable				

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MW1</b>								
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, d	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	320	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	22,000a,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

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MWI (Cont.)</b>								
6/8/2000	6,500,a,c	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
9/17/1991	19,000	39,000	NA	4,900	4,100	1,200	5,900	NA
8/19/1991	47,000	48,000	NA	13,000	8,400	990	29,000	NA
7/20/1991	49,000	100,000	NA	11,000	14,000	2,300	17,000	NA
6/20/1991	42,000	76,000	NA	4,700	7,100	1,500	9,800	NA
5/17/1991	26,000	72,000	NA	7,700	9,900	ND	11,000	NA
4/15/1991	NA	56,000	NA	6,500	8,500	410	9,900	NA
3/21/1991	NA	36,000	NA	4,500	5,700	87	7,300	NA
2/15/1991	NA	120,000	NA	7,400	6,600	ND	13,000	NA
1/15/1991	NA	33,000	NA	3,900	2,900	210	5,300	NA
9/27/1990	NA	28,000	NA	3,700	3,500	10	6,500	NA
8/23/1990	NA	40,000	NA	5,100	4,900	350	6,000	NA
7/20/1990	44,000	NA	NA	5,100	4,200	ND	9,100	NA
3/19/1990	NA	40,000	NA	3,700	1,100	ND	3,300	NA
02/20/90**	NA	7,600	NA	1,600	ND	ND	1,300	NA



TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MW3</b>								
7/8/2009	7,400, d	82,000	3,300	37,000	ND<500	2,400	8,200	ND, except TBA= 5,000
1/7/2009	13,000, a, d	50,000, a	3,500	28,000	ND<500	1,300	3,200	ND, except TBA= 5,700
10/23/2008	7,800, d	87,000	4,700	26,000	ND<500	ND<500	8,200	ND, except TBA= 8,000
7/17/2008	19,000, a, d	63,000, a	5,100	24,000	ND<1,000	ND<1,000	4,100	ND, except TBA= 6,100
4/16/2008	14,000, a, d	52,000, a	6,700	24,000	ND<500	ND<500	5,100	ND, except TBA= 6,700
1/17/2008	9,900, a, d	110,000, a, h	9,300	34,000	ND<500	2,500	9,500	ND, except TBA= 8,000
10/16/2007	13,000, a, d	69,000, a	13,000	18,000	ND<500	ND<500	5,000	ND, except TBA= 10,000
7/25/2007	6,700, a, f	52,000, a	12,000	23,000	ND<250	ND<250	6,000	ND, except TBA= 8,600
4/17/2007	7,900, a, d	92,000, a	14,000	23,000	ND<500	1,500	5,900	ND<500, except TBA = 8,000
1/18/2007	6,400, d	94,000	22,000	29,000	1,300	2,100	9,600	ND<500, except TBA = 12,000
11/14/2006	21,000, a, d	100,000, a	23,000	37,000	1,000	2,200	11,000	ND<500 except, TBA= 16,000, Ethanol ND<5,000, Methanol ND<50,000
6/29/2006	12,000,d	36,000	27,000	14,000	ND<500	ND<500	ND<500	ND<500, except TBA = 11,000
2/3/2006	22,000,d	86,000	24,000	26,000	ND<500	1,700	6,000	ND<500, except TBA = 11,000
11/18/2005	32,000,a,d	87,000,a	22,000	35,000	ND<1,000	2,000	11,000	ND<1,000, except TBA ND<10,000
7/28/2005	77,000,a,d	100,000,a	32,000,+	30,000	1,100	2,300	12,000	ND<500, except TBA = 13,000
4/13/2005	19,000,a,d	96,000,a	28,000	31,000	4,000	2,300	12,000	ND<500, except TBA = 12,000
1/31/2005	13,000,a,d	93,000,a	31,000	36,000	1,500	2,500	11,000	ND<1,000, except TBA = 24,000
10/15/2004	13,000,a,d	76,000,a	24,000	28,000	ND<500	1,100	3,600	ND<500, except TBA = 18,000
7/13/2004	57,000,a,d	98,000,a	15,000	28,000	2,900	1,700	8,900	ND<500, except TBA = 11,000
4/6/2004	32,000,a,d	81,000,a	17,000	34,000	5,900	1,500	9,900	ND<500, except TBA = 8,800
12/18/2003	32,000,a,d	130,000,a	32,000	33,000	5,400	720	11,000	ND<500, except TBA = 17,000
9/18/2003	140,000,a,d	130,000	23,000	34,000	11,000	2,500	14,000	ND<500, except TBA = 10,000
6/26/2003	27,000,a,d	96,000	21,000	29,000	5,200	2,000	10,000	ND, except TBA = 8,900

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
MW3 (Cont.)								
3/18/2003	11,000.a,d	120,000	16,000	36,000	12,000	1,800	2,400	ND, except TBA = 5,100
12/21/2002	21,000.a,d	110,000	33,000	34,000	9,300	2,000	13,000	ND, except TBA = 14,000
9/10/2002	43,000.d	70,000	19,000	21,000	2,200	1,600	7,600	NA
3/30/2002	8,500.a,d	170,000	26,000	40,000	17,000	2,600	16,000	NA
12/22/2001	9,200.a,d	140,000	27,000	37,000	20,000	2,600	15,000	NA
9/23/2001	47,000.a,d	130,000	26,000	32,000	9,100	2,400	12,000	NA
6/22/2001	33,000.a,d	110,000	25,000	31,000	7,200	1,900	11,000	NA
4/22/2001	61,000.a	140,000	24,000	25,000	5,400	1,700	11,000	NA
12/14/2000	120,000.a,d	140,000	35,000	37,000	16,000	2,400	15,000	NA
9/18/2000	43,000.a,d	130,000	33,000	39,000	91,000	2,300	14,000	NA
7/26/2000	NA	NA	21,000	NA	NA	NA	NA	ND***, except tert-butanol = 19,000
6/8/2000	74,000.a,d	130,000	23,000	41,000	16,000	1,900	13,000	NA
3/9/2000	14,000.a,d	180,000	24,000	39,000	22,000	2,500	16,000	NA
12/9/1999	17,000.a,d	120,000	16,000	35,000	6,700	2,400	12,000	NA
8/31/1999	22,000.d	120,000	4,700	35,000	3,700	2,400	14,000	NA
4/29/1999	48,000.d	100,000	2,500	33,000	8,000	2,100	14,000	NA
1/29/1999	240,000.d	84,000	1,300	31,000	2,800	1,800	12,000	NA
4/26/1998	380,000.d	100,000	9,700	29,000	7,100	1,800	14,000	NA
1/24/1998	77,000.d	97,000	ND	28,000	7,100	1,800	11,000	NA
11/6/1997	120,000.d	140,000	ND	37,000	19,000	2,400	14,000	NA
7/24/1997	91,000.c	120,000	1,400	33,000	17,000	2,200	12,000	NA
4/25/1997	760,000.d	240,000	1,600	24,000	18,000	4,100	24,000	NA
1/21/1997	34,000.c	150,000	1,300	40,000	14,000	2,600	12,000	NA
7/26/1996	24,000.c	130,000	890	40,000	22,000	2,400	12,000	NA
4/23/1996	280,000.c	170,000	720	34,000	22,000	2,200	14,000	NA
1/29/1996	45,000.c	150,000	540	32,000	21,000	1,900	12,000	NA
10/26/1995	33,000	130,000	690	37,000	21,000	210	11,000	NA
7/28/1995	1,900.d	86,000	NA	1,400	2,300	620	3,200	NA
5/2/1995	9,700.d	170,000	NA	43,000	30,000	2,500	14,000	NA
2/24/1995	9,200	130,000	NA	31,000	19,000	1,800	10,000	NA
11/18/1994	23,000	140,000	NA	38,000	22,000	2,000	11,000	NA
7/22/1994	5,300	170,000	NA	35,000	20,000	1,800	10,000	NA



TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
MW3 (Cont.)								
5/19/1994	30,000	150,000	NA	38,000	25,000	2,400	14,000	NA
2/28/1994	210,000	110,000	NA	36,000	21,000	1,900	11,000	NA
11/24/1993	24,000	160,000	NA	48,000	26,000	2,200	12,000	NA
7/30/1993	32,000	130,000	NA	36,000	21,000	1,900	8,200	NA
5/18/1993	7,200	130,000	NA	36,000	21,000	2,100	12,000	NA
2/23/1993	8,100	110,000	NA	31,000	18,000	1,900	11,000	NA
11/13/1992	4,700	140,000	NA	38,000	24,000	2,000	12,000	NA
5/27/1992	27,000	370,000	NA	91,000	57,000	3,000	21,000	NA
7/14/1992	270,000	130,000	NA	76,000	30,000	3,400	21,000	NA
12/23/1991	540,000	740,000	NA	30,000	61,000	31,000	180,000	NA
11/25/1991	74,000	150,000	NA	65,000	31,000	3,400	18,000	NA
10/10/1991	39,000	140,000	NA	57,000	31,000	2,200	14,000	NA
9/17/1991	140,000	180,000	NA	47,000	25,000	2,600	15,000	NA
8/19/1991	150,000	170,000	NA	82,000	31,000	4,400	22,000	NA
7/20/1991	270,000	450,000	NA	46,000	29,000	3,500	21,000	NA
6/20/1991	210,000	920,000	NA	39,000	49,000	13,000	69,000	NA
5/17/1991	70,000	170,000	NA	32,000	22,000	2,200	18,000	NA
4/15/1991	NA	110,000	NA	31,000	15,000	880	7,400	NA
3/21/1991	NA	87,000	NA	30,000	14,000	690	5,400	NA
2/15/1991	NA	230,000	NA	44,000	40,000	ND	31,000	NA
1/14/1991	NA	160,000	NA	48,000	25,000	1,000	16,000	NA
9/27/1990	NA	25,000	NA	7,200	6,400	420	3,400	NA
8/23/1990	NA	220,000	NA	67,000	46,000	27,000	18,000	NA
7/20/1990	86,000	NA	NA	9,100	14,000	940	13,000	NA
3/19/1990	NA	210,000	NA	38,000	28,000	1,800	12,000	NA
02/20/90**	NA	46,000	NA	20,000	15,000	1,800	9,700	NA

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MW4</b>								
7/7/2009								Not Sampled (Free Product Present in Well)
1/6/2009								Not Sampled (Free Product Present in Well)
10/22/2008								Not Sampled (Free Product Present in Well)
7/16/2008								Not Sampled (Free Product Present in Well)
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 = 7000
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)

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MW4 (Cont.)</b>								
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>								
7/8/2009	ND<50	ND<50	0.72	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
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<2.0
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<2.0
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<2.0
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<2.0
12/13/2007	ND<50	110	4.0	5.3	0.5	ND<0.5	5.1	ND<0.5, except TBA ND<5.0
<b>MW6</b>								
7/7/2009	8,400, c	60,000	ND<170	6,600	3,500	2,800	13,000	ND<170, except TBA ND<670
1/6/2009	6,200, c	51,000	ND<120	6,900	3,400	2,100	13,000	ND<120, except TBA ND<500
10/23/2008	4,100, c	82,000	ND<120	7,800	4,200	3,400	16,000	ND<120, except TBA ND<500
7/17/2008	5,700, c	88,000	ND<250	6,100	3,400	2,500	16,000	ND<250, except TBA ND<1,000
4/16/2008	6,500, c	51,000	ND<170	4,800	3,300	2,400	16,000	ND<170, except TBA ND<670
12/13/2007	6,200, c	66,000	ND<120	7,900	3,600	2,600	16,000	ND<120, except TBA ND<1,200
<b>MW7</b>								
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<2.0
10/22/2008	66, d	170	8.3	67	ND<1.7	20	ND<1.7	ND<1.7, except TBA ND<6.7
7/16/2008	78, d	280	7.0	59	ND<1.0	8.3	1.3	ND<1.0, except TBA ND<4.0
4/15/2008	77, d	170	4.8	48	1.5	13	5.0	ND<1.0, except TBA ND<4.0
12/13/2007	ND<50	ND<50	9.3	ND<0.5	ND<0.5	ND<0.5	0.83	ND<0.5, except TBA = 14

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MW8</b>								
7/7/2009	1,000, d	2,000	3.8	28	ND<1.2	30	1.9	ND<1.2, except TBA ND<5.0
1/7/2009	1,000, c	3,100	3.8	36	ND<1.7	74	2.7	ND<1.7, except TBA ND<6.7
10/22/2008	910, c	4,800	5.2	32	ND<1.0	41	2.6	ND<1.0, except; TBA = 5.0
7/16/2008	1,500, c	7,000	ND<5.0	53	ND<5.0	140	7.1	ND<5.0, except TBA ND<20
4/15/2008	2,000, c	4,300	6.5	63	ND<2.5	110	9.1	ND<2.5, except TBA ND<10
12/13/2007	1,500, c	6,200	11	57	ND<5.0	160	18	ND<5.0, except TBA ND<50
<b>MW9</b>								
7/7/2009	69	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
1/6/2009	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<2.0
10/22/2008	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<2.0
7/17/2008	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<2.0
4/16/2008	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<2.0
12/13/2007	ND<50	ND<50	ND<0.5	1.0	ND<0.5	ND<0.5	4.5	ND<0.5, except TBA ND<5.0
<b>MW10</b>								
7/8/2009	ND<50	ND<50	0.71	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
1/7/2009	ND<50	ND<50	1.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
10/23/2008	ND<50	ND<50	1.6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
7/17/2008	ND<50	ND<50	1.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
4/16/2008	ND<50	ND<50	1.7	ND<0.5	ND<0.5	0.6	0.56	ND<0.5, except TBA ND<2.0
12/13/2007	ND<50	ND<50	1.9	ND<0.5	ND<0.5	1.5	1.8	ND<0.5, except TBA ND<5.0
<b>MW11</b>								
7/7/2009	ND<50	ND<50	37	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0, except TBA ND<4.0
1/6/2009	ND<50	ND<50	32	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
10/22/2008	ND<50	ND<50	31	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except; TBA = 3.1
7/16/2008	ND<50	ND<50	23	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
4/15/2008	ND<50	ND<50	26	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
12/14/2007	ND<50	ND<50	21	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<5.0

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>MW12</b>								
7/7/2009	ND<50	76	7.8	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
1/7/2009	ND<50	110, b	8.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except; TBA = 2.7
10/22/2008	54, c	200, b	11	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except; TBA = 2.3
7/16/2008	89, d	440, b	8.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
4/15/2008	76, d	180, b	9.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<2.0
12/13/2007	200, c	320, b	11	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5, except TBA ND<5.0
<b>EW1</b>								
7/8/2009	7,500, d	9,100	2,900	3,400	ND<50	290	290	ND<50, except TBA = 6,400
1/7/2009	7,900, a, d	33,000, a	16,000	10,000	1,900	1,700	3,300	ND, except TBA = 16,000
10/23/2008	7,600, d	21,000	7,700	4,500	ND<120	820	390	ND, except TBA = 10,000
7/17/2008	6,900, d	16,000	7,600	4,100	ND<100	ND<100	650	ND, except TBA = 15,000
4/16/2008	7,700, a, d	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, j	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

TABLE 2  
HISTORICAL WATER QUALITY DATA

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
<b>EW1 (Cont.)</b>								
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	3,300.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>								
7/8/2009	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, h	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,g	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,d	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							



# FIGURES

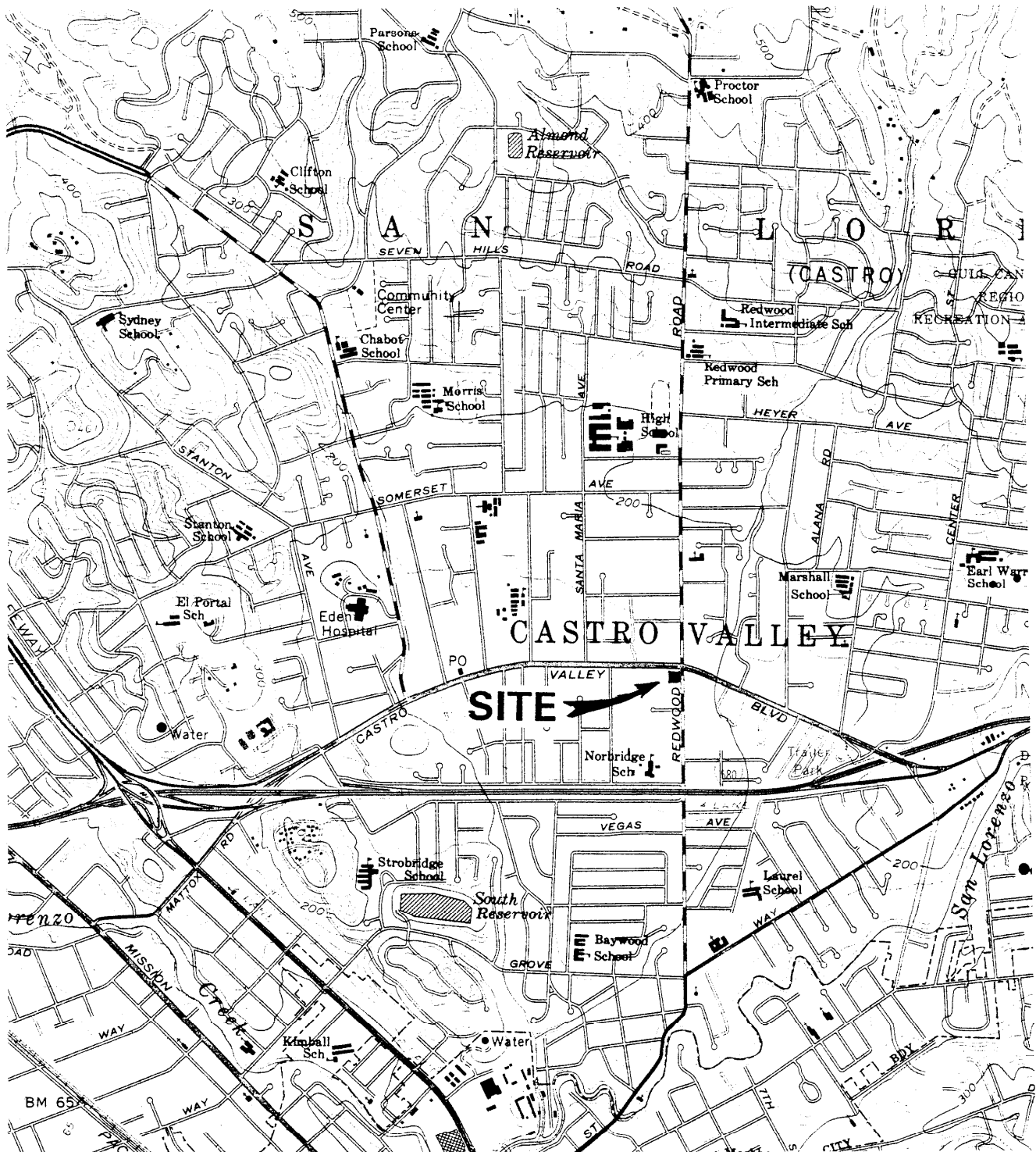


# P&D ENVIRONMENTAL, INC.

55 Santa Clara Avenue, Suite 240

Oakland, CA 94610

(510) 658-6916



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

North

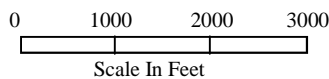
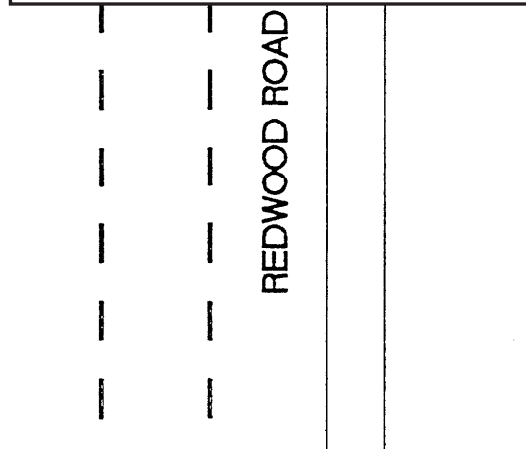
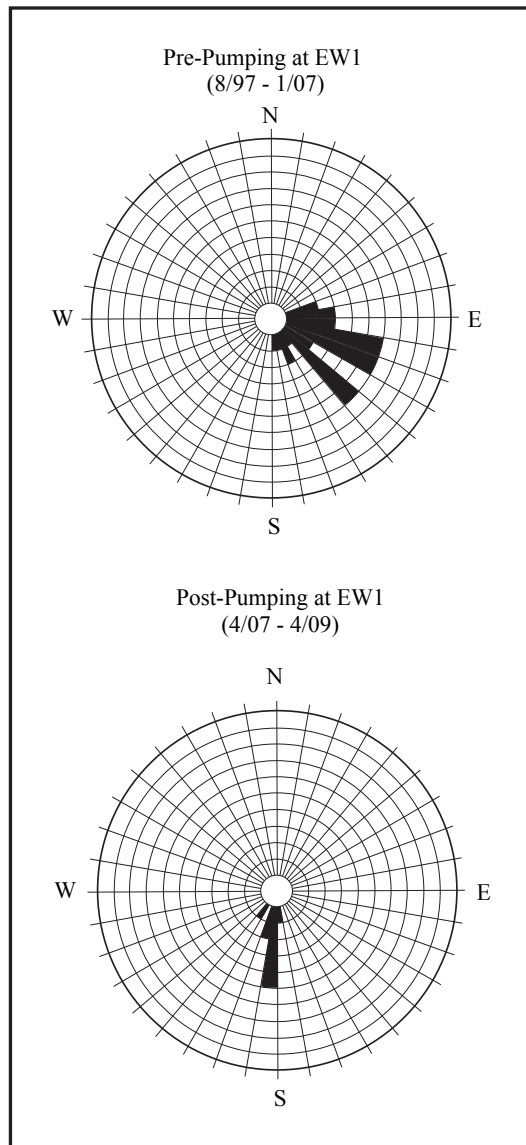
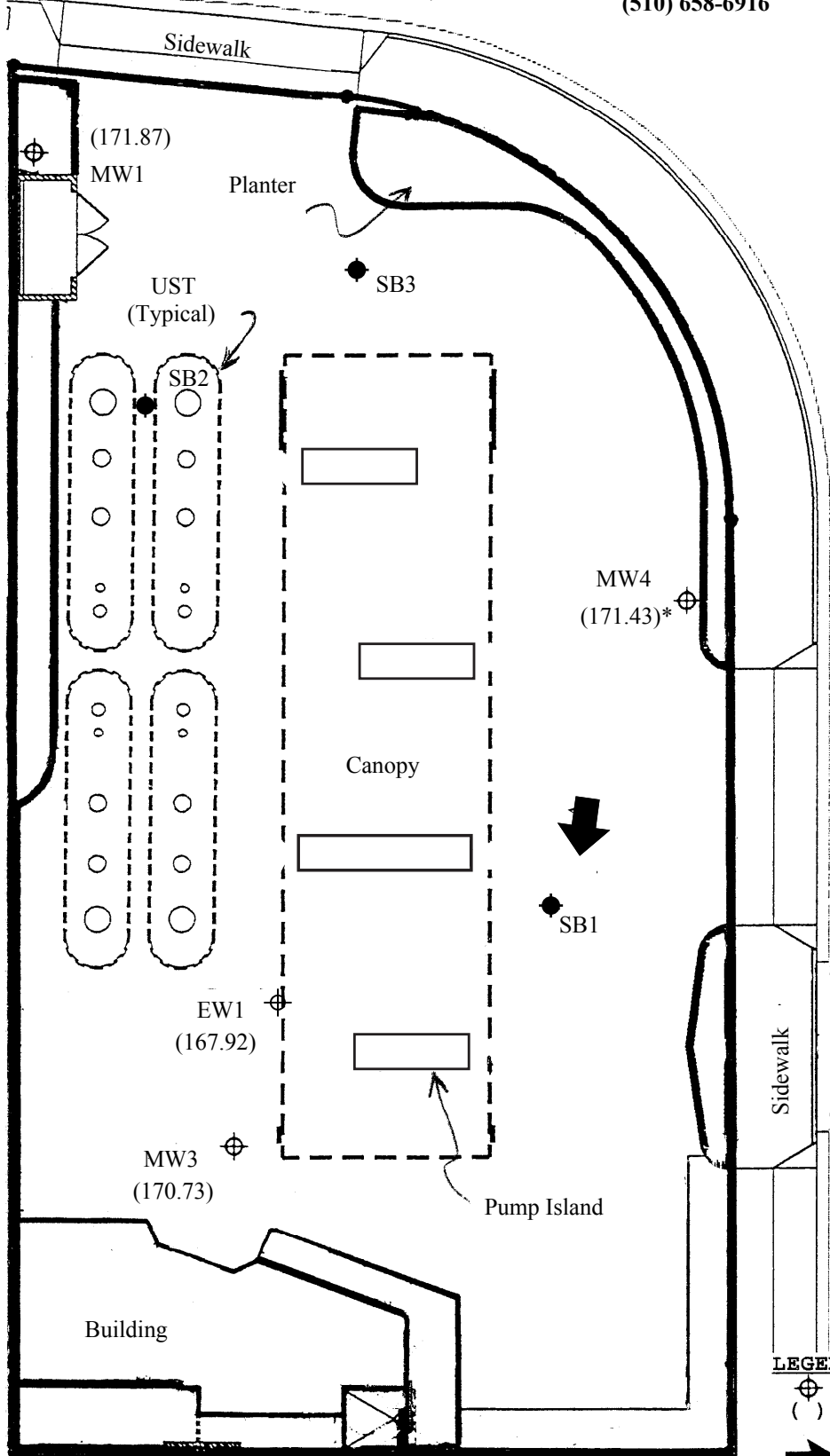


Figure 1  
SITE LOCATION MAP  
Xtra Oil Company  
3495 Castro Valley Blvd.  
Castro Valley, California

# P&D ENVIRONMENTAL, INC.

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

CASTRO VALLEY BOULEVARD



**LEGEND**

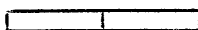
- Monitoring Well Location
- Groundwater Surface Elevation in Feet Above Mean Sea Level on April 6, 2009
- Groundwater Flow Direction
- \* Groundwater Surface Elevation Corrected For Free Product Using a Specific Gravity of 0.75
- Soil Boring Location

Base Map From:  
RHL Design Group, Inc.  
June, 1997

North

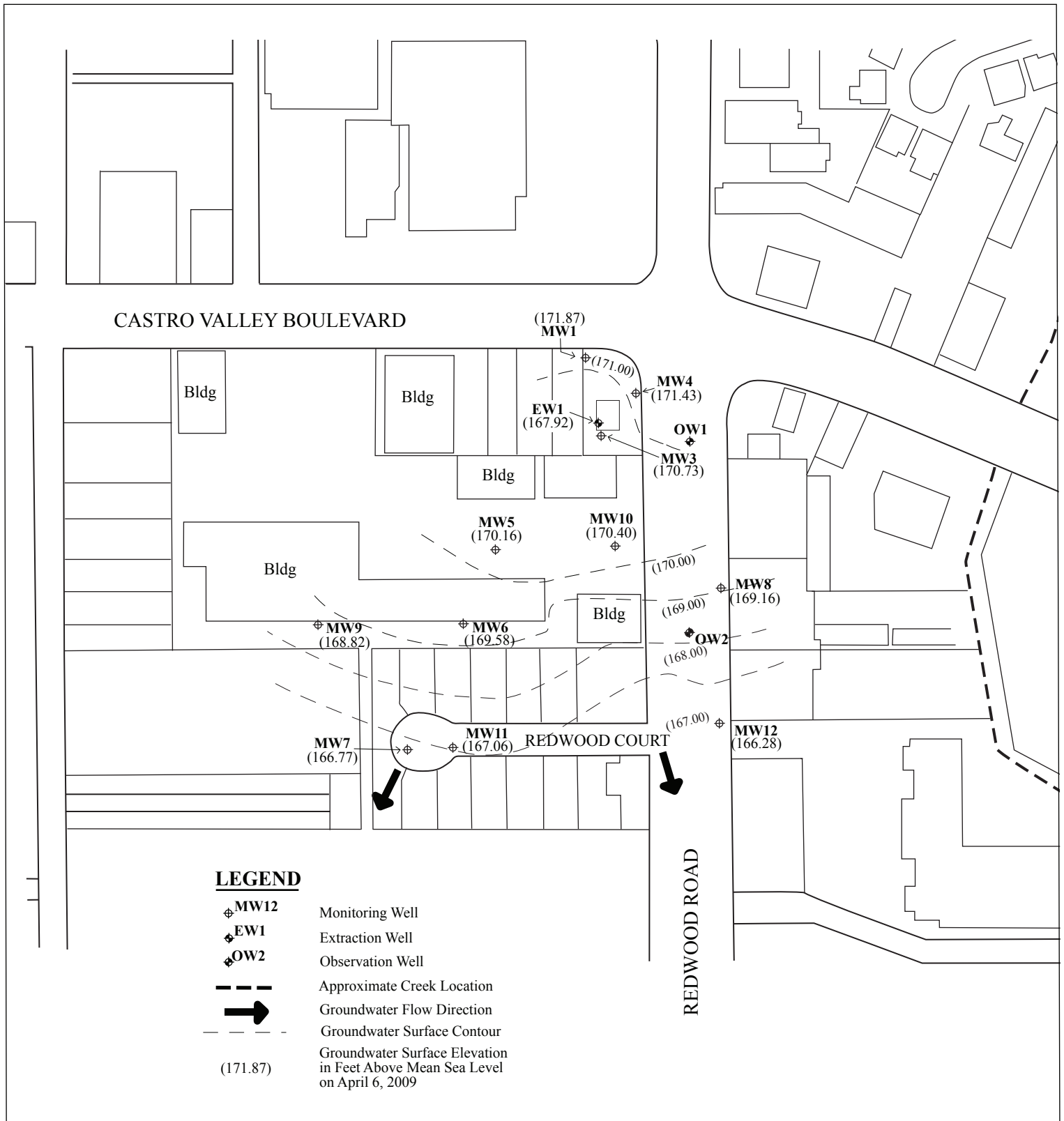


0 20



Scale in Feet

Figure 2  
Site Plan Showing April 6, 2009 Water Level Data  
Xtra Oil Company  
3495 Castro Valley Blvd  
Castro Valley, CA

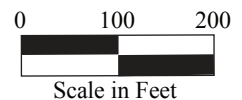


**Figure 3**  
**Site Vicinity Map Showing April 6, 2009 Water Level Data**  
**Xtra Oil Company**  
**3495 Castro Valley Boulevard**  
**Castro Valley, California**



Base Map From:  
Castro Valley Sanitation  
District

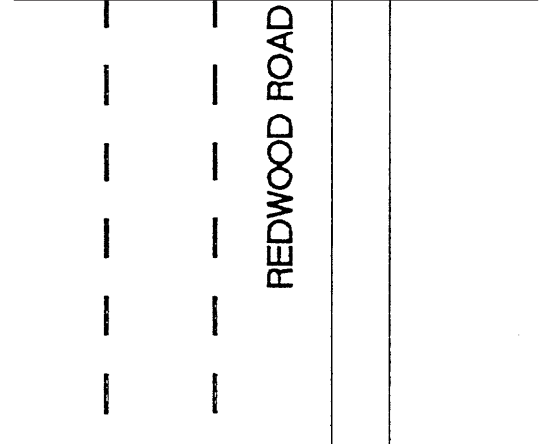
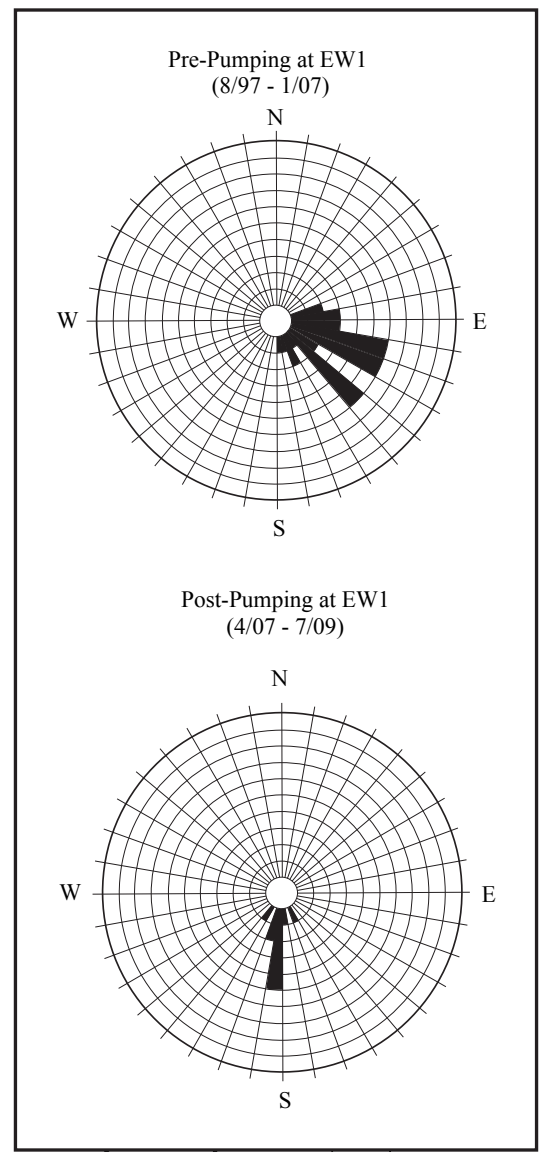
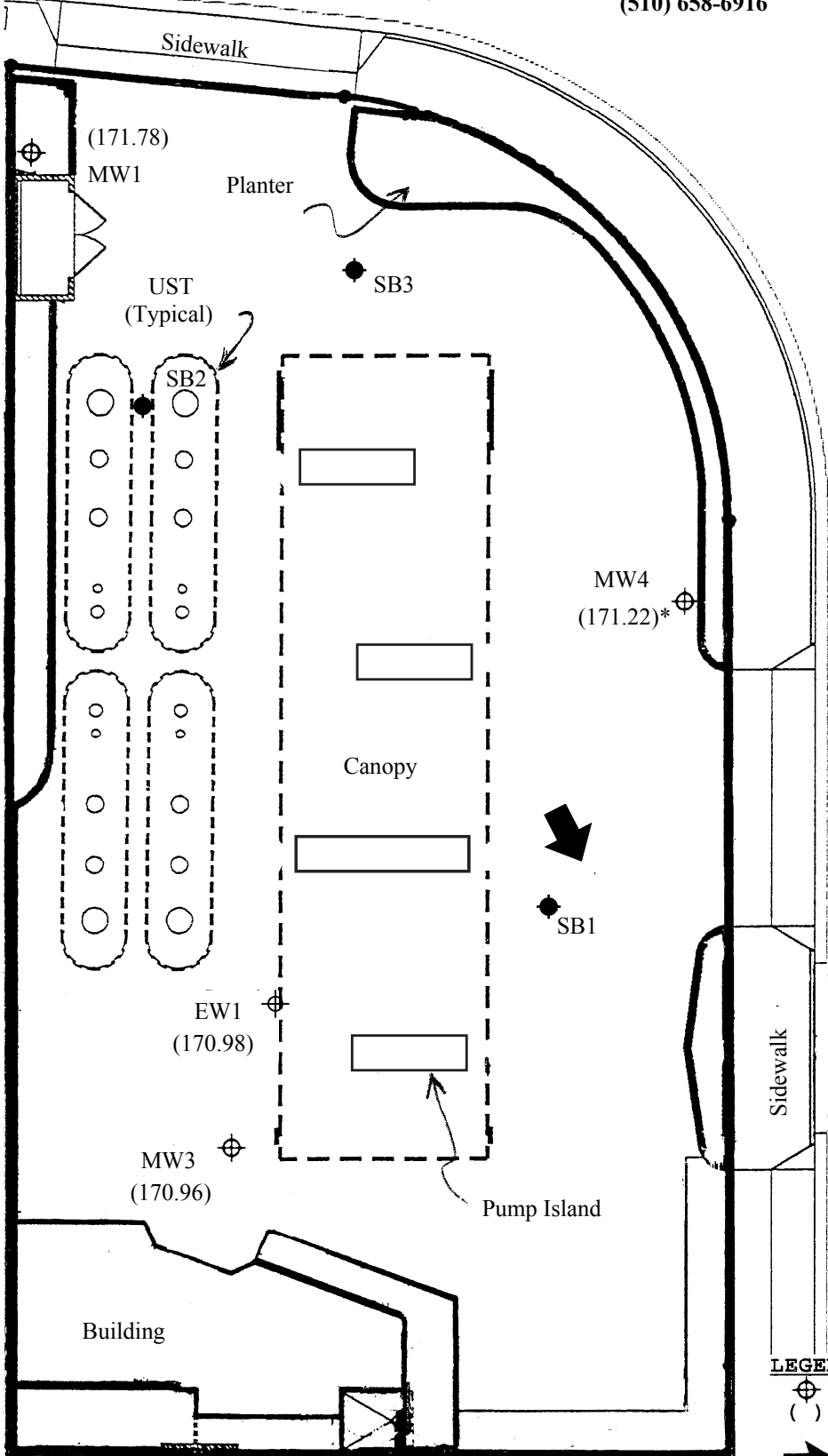
P&D Environmental, Inc.  
 55 Santa Clara Avenue, Suite 240  
 Oakland CA 94610



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

CASTRO VALLEY BOULEVARD



**LEGEND**

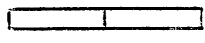
- Monitoring Well Location
- Groundwater Surface Elevation in Feet Above Mean Sea Level on July 7, 2009
- Groundwater Flow Direction
- \* Groundwater Surface Elevation Corrected For Free Product Using a Specific Gravity of 0.75
- Soil Boring Location

Base Map From:  
RHL Design Group, Inc.  
June, 1997

North

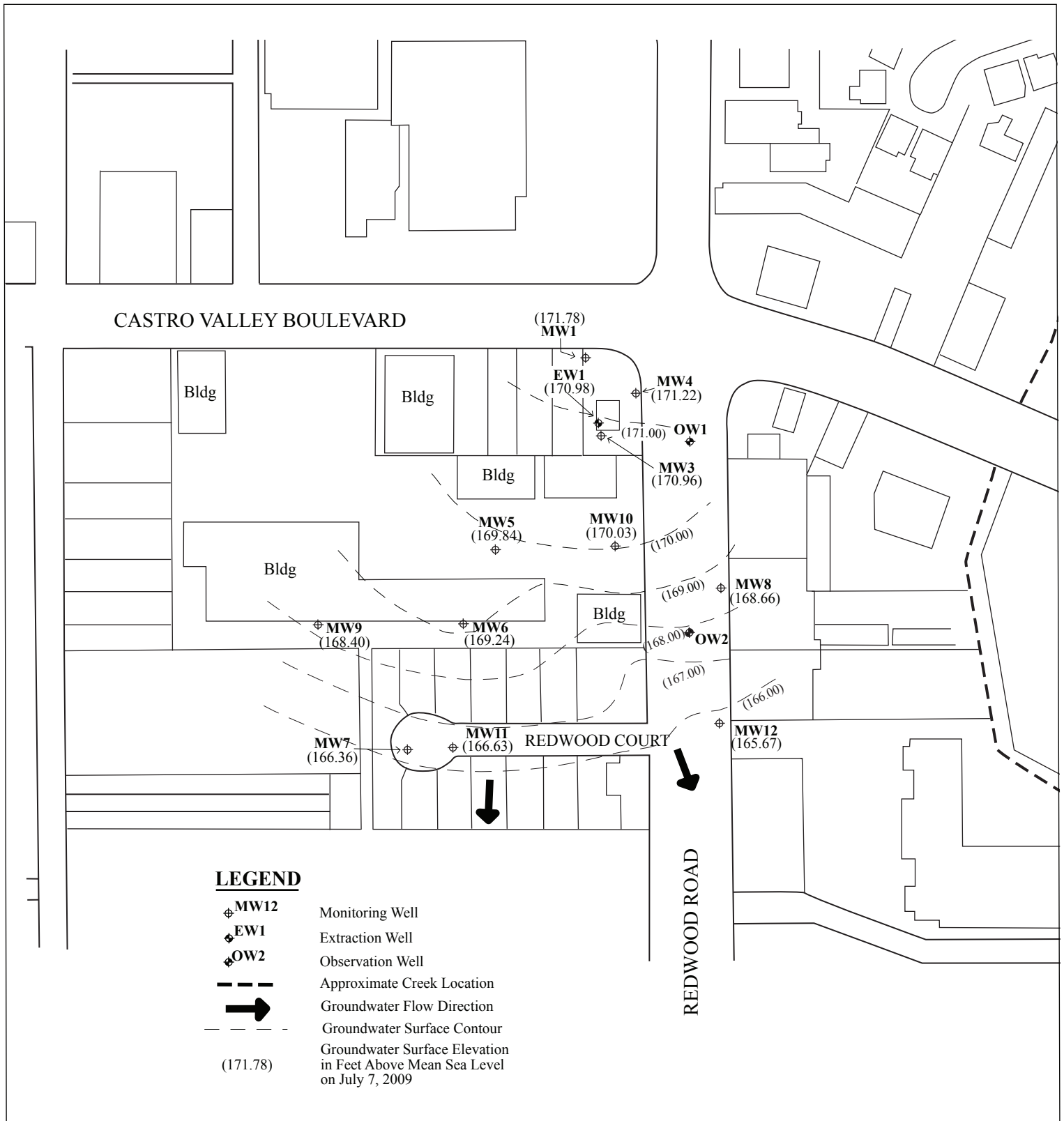


0 20



Scale in Feet

Figure 4  
Site Plan Showing July 7, 2009 Water Level Data  
Xtra Oil Company  
3495 Castro Valley Blvd  
Castro Valley, CA

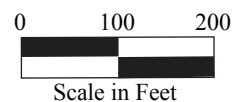


**Figure 5**  
 Site Vicinity Map Showing July 7, 2009 Water Level Data  
 Xtra Oil Company  
 3495 Castro Valley Boulevard  
 Castro Valley, California



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 Xtra Oil/ Castro Valley  
 Job No. 0017  
 TOC to Water (ft.) 7.34  
 Well Depth (ft.) 14.4  
 Well Diameter 2" (0.16)  
 Gal./Casing Vol. 1.2

Well No. MW8  
 Date 7/7/09  
 Sheen No  
 Free Product Thickness 0  
 Sample Collection Method Disposable bailer

TIME	GAL. PURGED	DH	TEMPERATURE <small>°C</small>	ELECTRICAL CONDUCTIVITY <small>µs/cm</small>
1527	0.4	6.63	22.2	847
1530	0.8	6.55	21.7	904
1532	1.2	6.52	21.3	937
1534	1.6	6.51	21.2	944
1536	2.0	6.52	21.1	939
1537	2.4	6.51	21.0	940
1539	2.8	6.51	21.0	946
1540	3.2	6.52	20.9	944
1541	3.6	6.55	20.8	941

NOTES: mod-strong phc odor; No Sheen Sample time => 1545 hrs

















**LABORATORY REPORTS  
AND CHAIN OF CUSTODY  
DOCUMENTATION**



**McC Campbell Analytical, Inc.**

"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	Date Sampled: 07/07/09-07/08/09
		Date Received: 07/09/09
	Client Contact: Steve Carmack	Date Reported: 07/15/09
	Client P.O.:	Date Completed: 07/14/09

**WorkOrder: 0907233**

July 15, 2009

Dear Steve:

Enclosed within are:

- 1) The results of the **11** analyzed samples from your project: **#0014; Xtra Oil**,
- 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.

CHAIN OF CUSTODY RECORD

0907233

PROJECT NUMBER: 0014			PROJECT NAME: Xtra Oil/ Castro Valley			ANALYSIS(ES): TPH, Multi (G.P.M.O) MBTEX, Fluoride, Pb, Se, V, Cu, Ni by EPA 8260B	NUMBER OF CONTAINERS	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) Steve Carmack <i>[Signature]</i>									
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION					
MW1	7/8/09	1530	Water			7	X X	ICE	Normal Turnaround Time
MW3	↓	1715				7	X X		
MW5	↓	1300				7	X X		
MW6	7/7/09	1750				7	X X		
MW7	↓	1405				6	X X		
MW8	↓	1545				7	X X		
MW9	↓	1710				7	X X		
MW10	7/8/09	1400				7	X X		
MW11	7/7/09	1630		1630		6	X X		
MW12	↓	1515				7	X X		
EW1	7/8/09	1655	↓			7	X X		
ICE / GOOD CONDITION			APPROPRIATE CONTAINERS						
HEAD SPACE ABSENT			PRESERVED IN LAB						
DECHLORINATED IN LAB			VOC'S / O & G						
PRESERVATION			METALS / OTHER						
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		TOTAL NO. OF SAMPLES (THIS SHIPMENT)	11	LABORATORY:	
<i>[Signature]</i>		7/9/09	1412	<i>[Signature]</i>		TOTAL NO. OF CONTAINERS (THIS SHIPMENT)	75	McCampbell Analytical	
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		LABORATORY CONTACT:		LABORATORY PHONE NUMBER:	
<i>[Signature]</i>		7/9/09	355	Me Vall		Angel Rydelius		(877) 232-9262	
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO			
<i>[Signature]</i>				<i>[Signature]</i>					
Results and billing to: P&D Environmental, Inc. lob@pdenviro.com				REMARKS: All bottles preserved w/ HCL.					

# McCampbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0907233

ClientCode: PDEO

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  
cc:  
PO:  
ProjectNo: #0014; Xtra Oil

**Bill to:**

Accounts Payable  
Xtra Oil Company  
2307 Pacific Avenue  
Oakland, CA 94501

**Requested TAT: 5 days**

**Date Received: 07/09/2009**

**Date Printed: 07/09/2009**

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	
0907233-001	MW1	Water	7/8/2009 15:20	<input type="checkbox"/>	A	B											
0907233-002	MW3	Water	7/8/2009 17:15	<input type="checkbox"/>	A	B											
0907233-003	MW5	Water	7/8/2009 13:00	<input type="checkbox"/>	A	B											
0907233-004	MW6	Water	7/7/2009 17:50	<input type="checkbox"/>	A	B											
0907233-005	MW7	Water	7/7/2009 14:05	<input type="checkbox"/>	A	B											
0907233-006	MW8	Water	7/7/2009 15:45	<input type="checkbox"/>	A	B											
0907233-007	MW9	Water	7/7/2009 17:10	<input type="checkbox"/>	A	B											
0907233-008	MW10	Water	7/8/2009 14:00	<input type="checkbox"/>	A	B											
0907233-009	MW11	Water	7/7/2009 16:30	<input type="checkbox"/>	A	B											
0907233-010	MW12	Water	7/7/2009 15:15	<input type="checkbox"/>	A	B											
0907233-011	EW1	Water	7/8/2009 16:55	<input type="checkbox"/>	A	B											

**Test Legend:**

1	G-MBTEX_W	2	MBTEXOXY-8260B_W	3		4		5	
6		7		8		9		10	
11		12							

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

**Prepared by: Melissa Valles**

**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: **7/9/09 5:34:00 PM**

Project Name: **#0014; Xtra Oil**

Checklist completed and reviewed by: **Melissa Valles**

WorkOrder N°: **0907233** 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: 4.2°C NA
  - Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
  - Sample labels checked for correct preservation? Yes  No
  - TTLC 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:



# McC Campbell Analytical, Inc.

"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	Date Sampled: 07/07/09-07/08/09
		Date Received: 07/09/09
	Client Contact: Steve Carmack	Date Extracted: 07/10/09-07/13/09
	Client P.O.:	Date Analyzed 07/10/09-07/13/09

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

Extraction method SW5030B

Analytical methods SW8015Bm

Work Order: 0907233

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS	Comments
001A	MW1	W	16,000	50	119	d1,b6
002A	MW3	W	82,000	100	102	d1
003A	MW5	W	ND	1	96	
004A	MW6	W	60,000	100	102	d1
005A	MW7	W	150	1	104	d1
006A	MW8	W	2000	5	100	d1
007A	MW9	W	ND	1	101	
008A	MW10	W	ND	1	101	
009A	MW11	W	ND	1	107	b1
010A	MW12	W	76	1	116	
011A	EW1	W	9100	10	114	d1

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.

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

- b1) aqueous sample that contains greater than ~1 vol. % sediment
- b6) lighter than water immiscible sheen/product is present
- d1) weakly modified or unmodified gasoline is significant
- d9) no recognizable pattern



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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil	Date Sampled: 07/07/09-07/08/09
		Date Received: 07/09/09
	Client Contact: Steve Carmack	Date Extracted: 07/13/09-07/14/09
	Client P.O.:	Date Analyzed: 07/13/09-07/14/09

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0907233

Lab ID	0907233-001B	0907233-002B	0907233-003B	0907233-004B	Reporting Limit for DF =1	
Client ID	MW1	MW3	MW5	MW6		
Matrix	W	W	W	W		
DF	33	1000	1	330		

Compound	Concentration				ug/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<17	ND<500	ND	ND<170	NA	0.5
Benzene	99	37,000	ND	6600	NA	0.5
t-Butyl alcohol (TBA)	ND<67	5000	ND	ND<670	NA	2.0
1,2-Dibromoethane (EDB)	ND<17	ND<500	ND	ND<170	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<17	ND<500	ND	ND<170	NA	0.5
Diisopropyl ether (DIPE)	ND<17	ND<500	ND	ND<170	NA	0.5
Ethylbenzene	880	2400	ND	2800	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<17	ND<500	ND	ND<170	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<17	3300	0.72	ND<170	NA	0.5
Toluene	100	ND<500	ND	3500	NA	0.5
Xylenes	1100	8200	ND	13,000	NA	0.5

### Surrogate Recoveries (%)

%SS1:	90	87	91	89
%SS2:	107	108	109	109

**Comments** 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; 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.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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	Date Sampled: 07/07/09-07/08/09
		Date Received: 07/09/09
	Client Contact: Steve Carmack	Date Extracted: 07/13/09-07/14/09
	Client P.O.:	Date Analyzed: 07/13/09-07/14/09

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0907233

Lab ID	0907233-005B	0907233-006B	0907233-007B	0907233-008B	Reporting Limit for DF =1	
Client ID	MW7	MW8	MW9	MW10		
Matrix	W	W	W	W		
DF	1	2.5	1	1		

Compound	Concentration				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND<1.2	ND	ND	NA	0.5
Benzene	38	28	ND	ND	NA	0.5
t-Butyl alcohol (TBA)	2.2	ND<5.0	ND	ND	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND<1.2	ND	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<1.2	ND	ND	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<1.2	ND	ND	NA	0.5
Ethylbenzene	15	30	ND	ND	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<1.2	ND	ND	NA	0.5
Methyl-t-butyl ether (MTBE)	4.8	3.8	ND	0.71	NA	0.5
Toluene	ND	ND<1.2	ND	ND	NA	0.5
Xylenes	ND	1.9	ND	ND	NA	0.5

### Surrogate Recoveries (%)

%SS1:	87	91	90	90
%SS2:	108	105	109	107

### Comments

\* 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; 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.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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	Date Sampled: 07/07/09-07/08/09
		Date Received: 07/09/09
	Client Contact: Steve Carmack	Date Extracted: 07/13/09-07/14/09
	Client P.O.:	Date Analyzed: 07/13/09-07/14/09

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0907233

Lab ID	0907233-009B	0907233-010B	0907233-011B		Reporting Limit for DF =1
Client ID	MW11	MW12	EW1		
Matrix	W	W	W		
DF	2	1	100		

Compound	Concentration			ug/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<1.0	ND	ND<50	NA	0.5
Benzene	ND<1.0	ND	3400	NA	0.5
t-Butyl alcohol (TBA)	ND<4.0	ND	6400	NA	2.0
1,2-Dibromoethane (EDB)	ND<1.0	ND	ND<50	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<1.0	ND	ND<50	NA	0.5
Diisopropyl ether (DIPE)	ND<1.0	ND	ND<50	NA	0.5
Ethylbenzene	ND<1.0	ND	290	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<1.0	ND	ND<50	NA	0.5
Methyl-t-butyl ether (MTBE)	37	7.8	2900	NA	0.5
Toluene	ND<1.0	ND	ND<50	NA	0.5
Xylenes	ND<1.0	ND	290	NA	0.5

### Surrogate Recoveries (%)

%SS1:	89	89	90	
%SS2:	108	106	110	

**Comments** b1

\* 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; 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.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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	Date Sampled: 07/07/09-07/08/09
		Date Received: 07/09/09
	Client Contact: Steve Carmack	Date Extracted: 07/09/09
	Client P.O.:	Date Analyzed: 07/11/09-07/12/09

### Total Extractable Petroleum Hydrocarbons\*

Extraction method: SW3510C

Analytical methods: SW8015B

Work Order: 0907233

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
0907233-001A	MW1	W	6800	480	1	113	e4,e2,b6
0907233-002A	MW3	W	7400	410	1	108	e4,e2
0907233-003A	MW5	W	ND	ND	1	107	
0907233-004A	MW6	W	8400	270	1	110	e4
0907233-005A	MW7	W	62	ND	1	108	e2,e4
0907233-006A	MW8	W	1000	ND	1	109	e4,e2
0907233-007A	MW9	W	69	ND	1	106	e2
0907233-008A	MW10	W	ND	ND	1	106	
0907233-009A	MW11	W	ND	ND	1	106	b1
0907233-010A	MW12	W	ND	ND	1	104	
0907233-011A	EW1	W	7500	2400	1	116	e1,e4

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.

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

- b1) aqueous sample that contains greater than ~1 vol. % sediment
- 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: 44376

WorkOrder 0907233

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0907195-025A			
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(btex) <sup>£</sup>	ND	60	110	106	4.34	117	108	7.40	70 - 130	20	70 - 130	20
MTBE	ND	10	117	106	9.72	106	109	3.31	70 - 130	20	70 - 130	20
Benzene	ND	10	96.3	94.7	1.67	97.3	99.2	2.00	70 - 130	20	70 - 130	20
Toluene	0.77	10	90.7	90.8	0.0784	99.7	102	2.70	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	99.9	96.5	3.34	96.8	102	5.35	70 - 130	20	70 - 130	20
Xylenes	1.0	30	108	109	1.58	112	116	3.11	70 - 130	20	70 - 130	20
%SS:	102	10	102	102	0	102	104	1.91	70 - 130	20	70 - 130	20

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

BATCH 44376 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0907233-001A	07/08/09 3:20 PM	07/10/09	07/10/09 5:37 PM	0907233-002A	07/08/09 5:15 PM	07/13/09	07/13/09 9:15 PM
0907233-003A	07/08/09 1:00 PM	07/11/09	07/11/09 1:47 AM	0907233-004A	07/07/09 5:50 PM	07/13/09	07/13/09 9:50 PM
0907233-005A	07/07/09 2:05 PM	07/13/09	07/13/09 2:30 PM	0907233-006A	07/07/09 3:45 PM	07/13/09	07/13/09 10:25 PM
0907233-007A	07/07/09 5:10 PM	07/11/09	07/11/09 2:46 AM	0907233-008A	07/08/09 2:00 PM	07/11/09	07/11/09 3:16 AM
0907233-009A	07/07/09 4:30 PM	07/11/09	07/11/09 3:45 AM	0907233-010A	07/07/09 3:15 PM	07/13/09	07/13/09 3:01 PM
0907233-011A	07/08/09 4:55 PM	07/10/09	07/10/09 8:29 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.

£ 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: 44356

WorkOrder 0907233

Analyte	Extraction SW5030B		EPA Method SW8260B						Spiked Sample ID: 0907143-020B			
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
tert-Amyl methyl ether (TAME)	ND	10	103	103	0	115	117	1.72	70 - 130	30	70 - 130	30
Benzene	ND	10	107	110	1.97	121	124	1.84	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	104	100	3.80	104	111	5.69	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	109	108	0.990	120	122	1.78	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	103	104	1.54	115	116	1.14	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	107	109	1.92	121	122	1.14	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	105	106	1.29	117	118	0.530	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	106	107	0.631	117	119	2.14	70 - 130	30	70 - 130	30
Toluene	ND	10	101	102	0.757	115	117	2.01	70 - 130	30	70 - 130	30
%SS1:	86	25	98	98	0	97	98	0.596	70 - 130	30	70 - 130	30
%SS2:	106	25	101	101	0	102	102	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 44356 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0907233-011B	07/08/09 4:55 PM	07/14/09	07/14/09 2:52 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: 44362

WorkOrder 0907233

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	112	124	9.69	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	93	118	23.4	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 44362 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0907233-001A	07/08/09 3:20 PM	07/09/09	07/11/09 10:14 PM	0907233-002A	07/08/09 5:15 PM	07/09/09	07/11/09 11:24 PM
0907233-003A	07/08/09 1:00 PM	07/09/09	07/12/09 12:34 AM	0907233-004A	07/07/09 5:50 PM	07/09/09	07/12/09 6:22 AM
0907233-005A	07/07/09 2:05 PM	07/09/09	07/12/09 4:03 AM	0907233-006A	07/07/09 3:45 PM	07/09/09	07/12/09 5:12 AM
0907233-007A	07/07/09 5:10 PM	07/09/09	07/12/09 1:44 AM	0907233-008A	07/08/09 2:00 PM	07/09/09	07/12/09 9:53 AM
0907233-009A	07/07/09 4:30 PM	07/09/09	07/12/09 11:05 AM	0907233-010A	07/07/09 3:15 PM	07/09/09	07/12/09 12:17 PM
0907233-011A	07/08/09 4:55 PM	07/09/09	07/12/09 1:29 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.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 44411

WorkOrder 0907233

Analyte	Extraction SW5030B			Spiked Sample ID: 0907225-002B								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
tert-Amyl methyl ether (TAME)	ND	10	113	113	0	104	93.1	10.9	70 - 130	30	70 - 130	30
Benzene	ND	10	120	122	1.19	126	113	10.4	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	95.6	99.8	4.31	101	91.3	9.58	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	116	116	0	123	107	14.3	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	114	114	0	118	108	9.13	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	119	119	0	114	106	7.35	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	115	115	0	122	113	8.06	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	116	117	0.664	101	92	9.58	70 - 130	30	70 - 130	30
Toluene	1.0	10	101	99.3	2.01	121	109	10.3	70 - 130	30	70 - 130	30
%SS1:	88	25	96	98	1.41	88	86	2.44	70 - 130	30	70 - 130	30
%SS2:	106	25	101	101	0	108	107	0.369	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 44411 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0907233-001B	07/08/09 3:20 PM	07/13/09	07/13/09 3:51 PM	0907233-002B	07/08/09 5:15 PM	07/13/09	07/13/09 9:00 PM
0907233-003B	07/08/09 1:00 PM	07/13/09	07/13/09 5:22 PM	0907233-004B	07/07/09 5:50 PM	07/13/09	07/13/09 6:06 PM
0907233-005B	07/07/09 2:05 PM	07/13/09	07/13/09 10:31 PM	0907233-006B	07/07/09 3:45 PM	07/13/09	07/13/09 11:15 PM
0907233-007B	07/07/09 5:10 PM	07/13/09	07/13/09 11:59 PM	0907233-008B	07/08/09 2:00 PM	07/14/09	07/14/09 12:42 AM
0907233-009B	07/07/09 4:30 PM	07/14/09	07/14/09 1:26 AM	0907233-010B	07/07/09 3:15 PM	07/14/09	07/14/09 2:09 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.