P & D ENVIRONMENTAL
A Division of Paul H. King, Inc.
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January 15, 2004
Report 0014.R50

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

SUBJECT: GROUNDWATER MONITORING AND SAMPLING REPORT
(OCTOBER THROUGH DECEMBER 2004)
Xtra Oil Company
3495 Castro Valley Blvd.
Castro Valley, California

Gentlemen:

P&D Environmental, a division of Paul H. King, Inc. (P&D) is pleased to present this report documenting the results of quarterly monitoring and sampling of both the on- and off-site wells for the subject property. This work was performed in accordance with P&D's proposal 020599.P1 dated February 5, 1999. Offsite observation wells OW1 and OW2 were monitored on October 6, 2003, and well OW1 was sampled on November 11, 2003. Wells MW1, MW3, MW4, and EW1 were monitored, and wells MW1, MW3, and EW1 were sampled on December 18, 2003. The reporting period for this report is for October through December 2003. A Site Location Map (Figure 1), a Site Plan showing onsite well locations (Figure 2), and a Site Vicinity Map showing offsite observation well locations (Figure 3) are attached with this report.

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 as 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 in 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 concentrations 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 photo ionization 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 for the purpose of widening 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 (MTBE, TAME, ETBE, TAME and TBA), and lead scavengers (EDB, 1,2-DCA/EDC) 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.

FIELD ACTIVITIES

Following review of well permit records issued by the Alameda County Public Works Department, offsite observation wells OW1 and OW2 were monitored by P&D personnel on October 6, 2003, and well OW1 was sampled on November 11, 2003. On December 18, 2003, onsite wells MW1, MW3, MW4, and EW1 were monitored and wells MW1, MW3 and EW1 sampled by P&D personnel. A joint groundwater monitoring with Allisto Engineering, Inc. was not performed.

The wells were monitored for depth to water and the presence of free product or sheen. In wells MW4, OW1 and OW2 the depth to water and depth to free product was measured to the nearest 1/32-inch with a steel tape and water-finding or product-finding paste. In wells 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 evaluated using a transparent bailer in wells MW1, MW3, and EW1.

On October 6, 2003 the measured depth to water in OW1 and OW2 was 7.07 and 7.29 feet, respectively. Free product measuring 0.01 feet in thickness was measured in well OW1. Well OW1 was not monitored for depth to water or free product thickness prior to sampling on November 21, 2003. On December 18, 2003 wells MW1, MW3, MW4 and EW1 were monitored prior to sampling. No free product was observed in any of the wells with the exception of well MW4 where 1.51 feet of free product was encountered. In addition, sheen was observed in wells MW3 and EW1.

The passive hydrocarbon collection device in well MW4 was accidentally disconnected and sank in the well during the monitoring and sampling event on June 19, 2003 and was not present in well MW4 at the time of the monitoring event on December 18, 2003. Depth to water level and free product layer thickness measurements are presented in Table 1.

On November 21, 2003 well OW1 was sampled using a vacuum pump and 0.25-inch diameter polyethylene tubing. Based on the small sample volume, well OW1 was not purged prior to sample collection. The water sample from well OW1 was decanted to sample bottles and managed as described below. Because of the small diameter of observation well OW2 (1-inch), the small amount of water in the well (0.05 feet) and the low rate of recharge, a sample could not be obtained from well OW2.

Prior to well sampling on December 18, 2003, monitoring wells MW1, MW3, and EW1 were purged of a minimum of three casing volumes of water, or until the wells had been purged dry. During purging operations, the field parameters of electrical conductivity, temperature, and pH were monitored. 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 Teflon bailer.

The water samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials and 1-liter amber glass bottles that were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure 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 Pacheco, California. McCampbell Analytical, Inc. is a State-certified hazardous waste testing laboratory. Chain of custody documentation accompanied the samples to the laboratory. Records of the field parameters measured during well purging are attached with this report.

HYDROGEOLOGY

Water levels were measured in all of the wells once during the quarter. The measeured depth to water in offsite observation wells OW1 and OW2 on October 6, 2003 was 7.07 and 7.29 feet, respectively. The separate phase layer in OW1 was 0.01 feet in thickness. The measured depth to water for onsite wells MW1, MW3, MW4 and EW1 on December 18, 2003 was 7.65, 6.99, 9.75, and 6.72 feet, respectively. The separate phase hydrocarbon layer in MW4 was 1.51 feet in thickness. Using a specific gravity of 0.75, the corrected depth to water in well MW4 is 8.62 feet. Since the previous quarter, the measured depth to water has increased in wells MW1 and MW3 by 0.50 and 0.92 feet, respectively. In well MW4, the separate phase layer thickness has decreased from 1.80 feet in

thickness on September 18, 2003 to 1.51 feet in thickness on December 18, 2003. The corrected groundwater elevation in well MW4 has decreased by 0.84 feet since the previous quarter.

Based on the groundwater surface elevations in monitoring wells MW1 and MW3 and the corrected groundwater surface elevation in well MW4, the groundwater flow direction at the site on December 18, 2003 was calculated to be to the east with a gradient of 0.0053. Since the previous monitoring event the groundwater flow direction at the site has shifted from the southeast toward the east and the gradient has decreased from 0.0073. The groundwater flow direction on December 18, 2003 is shown on Figure 2.

LABORATORY RESULTS

The groundwater sample collected from offsite observation well OW1 on November 21, 2003 was analyzed for TPH-Multirange using Modified EPA Method 8015; for BTEX, fuel oxygenates, and lead scavengers using EPA Method 8260: and analyzed for a fuel finger print using EPA Methods 3550 and 8015. The groundwater samples collected from onsite monitoring wells MW1, MW3, and EW1 on December 18, 2003 were analyzed for TPH-D and TPH-G using Modified EPA Method 8015; benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020; as well as, fuel oxygenates (MTBE, TAME, ETBE, TAME, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC) using EPA Method 8260.

The laboratory analytical results for the groundwater sample from well OW1 show that TPH-G, TPH-D and TPH-MO were detected at concentrations of 38, 1900, and 570 mg/L, respectively. In addition benzene was detected at a concentration of 2 mg/L. None of the fuel oxygenates or lead scavengers were detected. Review of the laboratory analytical reports shows that the results reported as TPH-D are identified by the laboratory as consisting of both gasoline and diesel-range compounds. Review of the fuel finger print results shows that the sample is identified as diesel, with a small amount of gasoline present.

The laboratory analytical results of the samples from wells MW1, MW3, and EW1 show TPH-D concentrations of 13, 32, and 3.0 mg/L, respectively. Review of the laboratory analytical reports indicates that the TPH-D results for each of the wells consist of both diesel- and gasoline-range compounds. In addition, laboratory results from MW1, MW3, and EW1 show TPH-G concentrations of 33, 130 mg/L, and not detected (due to the high quantities of MTBE), respectively; and benzene concentrations of 2.1, 33, and 0.22 mg/L, respectively. MTBE was detected at concentrations of 0.038, 32, and 160 mg/L, respectively. No other fuel oxygenates or lead scavengers were detected except for t-butyl alcohol (TBA) at concentrations of 17 and 64 mg/L in wells MW3 and EW1, respectively.

Since the previous sampling on September 18, 2003, TPH-D and benzene concentrations have decreased in all of the wells. MTBE concentrations have also decreased in wells MW1 and EW1 and increased in MW3. 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 attached with this report.

DISCUSSION AND RECOMMENDATIONS

Wells OW1, OW2, MW1, MW3, MW4 and EW1 were monitored and wells OW1, MW1, MW3 and EW1 were sampled once during the quarter. A 0.01-foot thick separate phase hydrocarbon layer was measured in OW1. Although an attempt was made to collect a groundwater sample from offsite observation well OW2, sample collection was not possible because of the small amount of water in the well and the low rate of recharge to the well. Based on the depth of the well, it is suspected that the water detected in the bottom of the well was water that had accumulated in the bottom cap of the well.

A 1.51-foot thick separate phase petroleum hydrocarbon layer was measured in well MW4. Based on odor and viscosity, the petroleum hydrocarbon layer in well MW4 was qualitatively identified as diesel fuel. The passive hydrocarbon collection device in well MW4 was accidentally disconnected and sank in the well during the previous monitoring and sampling event on June 19, 2003 and was not present in well MW4 at the time of the monitoring and sampling event on December 18, 2003. The separate phase layer thickness in well MW4 has decreased from 1.80 feet in thickness on September 18, 2003 to 1.51 feet in thickness on December 18, 2003. The decrease in separate phase layer thickness may be related to the seasonal increase in the water table.

It is P&D's understanding that the hydrocarbon collection device in well MW4 is maintained by Xtra Oil Company personnel. P&D recommends that the collection device be repaired for use, and a log be maintained of product removed. P&D recommends that use of petroleum hydrocarbon absorbent socks in well MW1 be continued. The sock in MW1 needs to be replaced, and socks should be checked periodically and replaced as needed.

The laboratory analytical results of the water sample collected from well OW1, including a fuel finger print analysis, showed that the sample was identified as diesel, with a small amount of gasoline. The laboratory analytical results for the groundwater samples from wells MW1, MW3, and EW1 showed that TPH-D concentrations ranged from 3 to 32 mg/L, TPH-G concentrations ranged from not detected to 130 mg/L, and benzene concentrations ranged from 0.22 to 33 mg/L. Review of the results for the fuel oxygenate and lead scavenger analysis shows that only MTBE and TBA were detected with MTBE detected in all of the wells at concentrations ranging from 0.038 to 160 mg/L and TBA detected in wells MW3 and EW1 at concentrations of 17 and 64 mg/L, respectively.

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 addition, P&D recommends that future monitoring and sampling efforts be coordinated with other sites in the vicinity of the subject site that are presently being monitored and sampled.

DISTRIBUTION

Copies of this report should be sent to Mr. Scott Seery at the Alameda County Department of Environmental Health. Copies of the report should be accompanied by a transmittal letter signed by an authorized representative of Xtra Oil Company.

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.

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

Sincerely,

P&D Environmental

Paul H. King

Paul H. King
President
California Registered Geologist
Registration No. 5901
Expires: 12/31/05

Attachments: Tables 1 & 2
Site Location Map (Figure 1)
Site Plan (Figure 2)
Site Vicinity Map (Figure 3)
Field Parameter Forms
Laboratory Analytical Results
Chain of Custody Documentation

PHK/wrw/zep
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TABLE 1
WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1	12/18/03	177.37*	7.65	169.72
	09/18/03		8.15	169.22
	06/19/03		8.13	169.24
	03/18/03		7.77	169.60

NOTES:
* = Surveyed on August 20, 1997

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1 (Continued)	12/21/02	177.37*	5.74	171.63
	9/10/02		8.28	169.09
	3/30/02		7.43	169.94
	12/22/01		6.92	170.45
	9/23/01		8.53	168.84
	6/22/01		8.30	169.07
	4/22/01		7.77	169.60
	12/14/00		8.49	168.88
	9/18/00		8.56	168.81
	6/08/00		7.97	169.40
	3/09/00		6.68	170.69
	12/09/99		8.15	169.22
	8/31/99		8.36	169.01
	4/29/99		7.68	169.69
	1/29/99		6.99	170.38
	4/26/98		7.50	169.87
	1/24/98		6.61	170.76
	11/06/97		8.79	168.58
	8/26/97		8.51	168.86
	7/24/97	177.43**	8.71	168.72
	4/25/97		7.98	169.45
	1/20/97		7.12	170.31
	7/26/96		8.39	169.04
	7/09/96		8.16	169.27
	4/23/96		7.47	169.96
	2/07/96		6.09	171.34
	1/29/96		6.17	171.26
	10/26/95		8.45	168.98
	7/28/95		8.27	169.16
	5/02/95		6.96	170.47
	2/23/95		7.72	169.71
	11/18/94		7.14	170.29
	8/22/94		8.67	168.76

NOTES:
* = Surveyed on August 20, 1997
** = Surveyed on March 24, 1993
*** = Surveyed on December 5, 1992

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1 (continued)	5/19/94	177.43**	8.05	169.38
	2/28/94		7.44	169.99
	11/24/93		8.74	168.69
	8/30/93		8.78	168.65
	5/18/93		8.12	169.31
	2/23/93		7.34	170.09
	11/13/92	200.00***	9.13	190.87
	5/29/92	175.73	8.59	167.14
	1/14/92		8.57	167.16
	12/23/91		9.65	166.08
	11/25/91		9.41	166.32
	10/10/91		9.70	166.03
	9/17/91		9.50	166.23
	8/19/91		9.31	166.42

NOTES:
* = Surveyed on August 20, 1997
** = Surveyed on March 24, 1993
*** = Surveyed on December 5, 1992

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW2	NOT MEASURED (DESTROYED ON FEBRUARY 7, 1996)			
	2/07/96	176.04**	5.70	170.34
	1/29/96		5.16	170.88
	10/26/95		8.21	167.83
	7/28/95		7.99	168.05
	5/02/95		6.79	169.25
	2/23/95		7.51	168.53
	11/18/94		6.92	169.12
	8/22/94		8.59	167.45
	5/19/94		7.70	168.34
	2/28/94		6.99	169.05
	11/24/93		8.47	167.57
	8/30/93		8.64	167.40
	5/18/93		7.73	168.31
	2/23/93		6.39	169.65
	11/13/92	198.61***	8.70	189.91
	5/29/92	175.45	9.31	166.14
	1/14/92		8.97	166.48
	12/23/91		10.39	165.06
	11/25/91		9.81	165.64
	10/10/91		10.39	165.06
	9/17/91		10.23	165.22
	8/19/91		9.60	165.85

NOTES:
* = Surveyed on August 20, 1997
** = Surveyed on March 24, 1993
*** = Surveyed on December 5, 1992

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW3	12/18/03	176.40*	6.99	169.41
	09/18/03		7.91	168.49
	06/19/03		7.60	168.80
	03/18/03		7.35	169.05
	12/21/02	176.40*	5.43	170.97
	9/10/02		7.97	168.43
	3/30/02		6.97	169.43
	12/22/01		6.44	169.96
	9/23/01		8.17	168.23
	6/22/01		8.06	168.34
	4/22/01		7.50	168.90
	12/14/00		8.13	168.27
	9/18/00		7.83	168.57
	9/26/00		7.77	168.63
	6/08/00		7.50	168.90
	3/09/00		6.08	170.32
	12/09/99		7.90	168.50
	8/31/99		7.95	168.45
	4/29/99		7.09	169.31
	1/29/99		6.42	169.98
	4/26/98		6.85	169.55
	1/24/98		5.90	170.50

NOTES:
* = Surveyed on August 20, 1997
** = Surveyed on March 24, 1993
*** = Surveyed on December 5, 1992

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW3	11/06/97		7.80	168.80
(continued)	8/26/97		7.67	168.93
	7/24/97	176.41**	7.90	168.51
	4/25/97		7.12	169.29
	1/20/97		6.35	170.06
	7/26/96		7.84	169.57
	7/09/96		7.61	168.80
	4/23/96		6.81	169.60
	2/07/96		5.05	170.36
	1/29/96		5.77	170.64
	10/26/95		7.72	168.69
	7/28/95		7.80	168.61
	5/02/95		6.50	169.91
	2/23/95		7.24	169.17
	11/18/94		6.05	170.36
	8/22/94	190.97***	7.65	168.76
	5/19/94		7.15	169.26
	2/24/94		6.68	169.73
	11/24/93		7.55	168.86
	8/30/93		7.64	168.77
	5/18/93		7.12	169.29
	2/23/93		8.01	168.40
	11/13/92		7.86	191.12
	5/29/92	175.00	8.45	166.55
	1/14/92		8.24	166.55
	12/23/91		9.37	165.63
	11/25/91		9.19	165.81
	10/10/91		9.43	165.57
	9/17/91		9.20	165.80
	8/19/91		8.95	166.05

NOTES:
* = Surveyed on August 20, 1997
** = Surveyed on March 24, 1993
*** = Surveyed on December 5, 1992

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW4	12/18/03	176.35*	9.75 (1.51)#	167.73
	9/18/03		9.13 (1.80)#	168.57
	6/19/03		8.56 (0.31)#	168.02
	3/18/03		7.49 (0.06)#	168.91
	12/21/02		8.58 (4.39)#	171.06
	9/10/02		9.09 (1.60)#	168.46
	3/30/02		9.86 (2.49)#	168.36
	12/22/01		7.79 (1.75)#	169.87
	9/23/01		8.97 (1.17)#	168.26
	6/22/01		7.79	168.56
	4/22/01		9.07 (2.20)#	168.93
	12/14/00		8.87 (0.72)#	168.02
	9/18/00		8.50 (0.45)#	168.19
	6/08/00		7.34	169.01
	3/09/00		6.61 (0.46)#	170.08
	12/09/99		8.80	167.55
	8/31/99		8.28	168.07
	4/29/99		7.14	169.21
	1/29/99		6.68	169.67
	4/26/98		6.87	169.48
	1/24/98		6.61	169.74
	11/06/97		9.16	167.19
	8/26/97		8.92	167.43
	8/20/97		7.66 (prior to development)	

NOTES:
* = Surveyed on August 20, 1997
# = 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.

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)
EW1	12/18/03	Not Surveyed	6.72
	9/18/03		7.29

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Total Well Depth (ft.)
OW1	10/06/03	Not Surveyed	7.07 (0.01)#	7.44
	11/02/00		7.12,+	
	12/09/99		7.27	
	01/29/99		7.12	
OW2	10/06/03	Not Surveyed	7.29	7.34
	11/02/00		7.19	
	12/09/99		7.17	
	01/29/99		7.19	

NOTES:
= Indicates free product thickness in feet.
+ = Petroleum hydrocarbon odor reported on probe for water level indicator.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW1

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
12/18/03	13,b	33	0.038	2.1	0.77	1.8	4.4	ND<0.005 TBA ND<0.05
9/18/03	15,a,b	32	0.052	2.2	0.62	1.8	3.8	ND<0.017, TBA ND<0.17
6/26/03	67,a,b	45	ND<0.05	2.1	0.72	2.3	5.5	ND
3/18/03	7.3,a,b	33	ND<0.05	2.4	0.9	1.6	1.0	ND
12/21/02	11,a,b	32	ND<0.1	2.6	0.98	2.2	5.5	ND
9/10/02	18,c	31	ND<0.25	2.2	0.65	1.7	4.8	--
3/30/02	12,a,b	99	ND	4.1	1.2	2.5	6.4	--
12/22/01	22,a,b	60	ND	3.2	1.9	2	6.2	--
9/23/01	16,a,c	49	ND	4	1.4	2.2	6.2	--
6/22/01	85,a,b	35	ND	3.1	0.75	1.2	4.0	--
4/22/01	16,a	43	ND	3.6	1.2	1.6	5.8	--
12/14/00	11,a,d	49	ND	5.8	1.6	2	6.9	--
9/18/00	15,a,b	86	ND	7.2	2	3.2	13	--
6/8/00	6.5,a,c	50	ND	5.7	1.5	1.8	7	--
3/9/00	7.4,a,b	48	ND	5.3	3.1	1.6	8.1	--
12/9/99	12,a,b	65	ND	9.3	2.9	2.2	8.8	--
8/31/99	22,b	66	0.71	8.7	2.7	2.4	10	--
4/29/99	22,b	48	ND	8.4	2.8	2.0	8.1	--
1/29/99	9.1,b	47	ND	9.0	2.9	1.9	8.0	--
4/26/98	7.8,c	60	ND	9.3	5.7	2.1	9.1	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
a = Lighter than water immiscible sheen present on the sample.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
c = TPH-D results consist of both gasoline-range compounds.
d = TPH-D results consist of both oil-range and gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW1 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
1/24/98	24,b	57	ND	6.9	5.5	2.0	8.7	--
11/6/97	17,c	63	ND	7.4	6.7	2.3	9.9	--
7/27/97	28,c	66	1.8	8.6	8.1	2.2	10	--
4/25/97	170,b	77	ND	7.4	7.9	2.1	9.8	--
1/21/97	57,c	80	0.25	7.8	8.3	1.9	8.9	--
7/26/96	11,c	76	ND	11	13	2.4	10	--
4/23/96	5.7,c	73	ND	8.6	12	2.2	9.8	--
1/29/96	6.6,c	81	0.25	7.6	13	1.9	8.9	--
10/26/95	62,c	89	ND	7.8	12	2.4	11	--
7/28/95	2.0,c	35	--	3.8	8.7	1.1	6.5	--
5/2/95	6.5,c	86	--	8.9	14	2.3	11	--
2/24/95	9.1	90	--	7.5	12	1.5	11	--
11/18/94	10	96	--	9.3	14	2.5	11	--
8/22/94	8.3	100	--	9.0	11	2.1	9.4	--
5/19/94	30	100	--	12	14	3.5	17	--
2/28/94	110	90	--	11	9.6	2.1	9.9	--
11/24/93	8.2	66	--	8.3	8.9	2.0	121	--
8/30/93	9.4	77	--	6.4	11	2.2	12	--
5/18/93	30	92	--	4.0	11	2.5	15	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
c = TPH-D results consist of both gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW1 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
2/23/93	14	100	--	4.5	11	2.1	12	--
11/13/92	4.4	120	--	5.8	10	2.1	13	--
5/27/92	11	120	--	8.8	16	2.3	15	--
1/24/92	19	39	--	7.3	8.7	1.3	8.9	--
12/23/91	34	78	--	9.3	7.3	0.54	13	--
11/25/91	36	170	--	5.5	5.6	1.6	8.4	--
10/10/91	19	28	--	4.1	4.7	1.0	4.8	--
9/17/91	19	39	--	4.9	4.1	1.2	5.9	--
8/19/91	47	48	--	13	8.4	0.99	29	--
7/20/91	49	100	--	11	14	2.3	17	--
6/20/91	42	76	--	4.7	7.1	1.5	9.8	--
5/17/91	26	72	--	7.7	9.9	ND	11	--
4/15/91	--	56	--	6.5	8.5	0.41	9.9	--
3/21/91	--	36	--	4.5	5.7	0.087	7.3	--
2/15/91	--	120	--	7.4	6.6	ND	13	--
1/15/91	--	33	--	3.9	2.9	0.21	5.3	--
9/27/90	--	28	--	3.7	3.5	0.01	6.5	--
8/23/90	--	40	--	5.1	4.9	0.35	6.0	--
7/20/90	44	--	--	5.1	4.2	ND	9.1	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW1 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
3/19/90	--	40	--	3.7	1.1	ND	3.3	--
2/20/90**	--	7.6	--	1.6	ND	ND	1.3	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
** Inorganic lead not detected in sample.
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW2

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
2/7/96	MW2 Destroyed							
1/29/96	4.6,c	38	0.0071	1.9	5.7	1.1	5.9	--
10/26/95	900	74	ND	2.9	5.9	2.0	10	--
7/28/95	2.0,c	15	--	1.4	2.3	0.62	3.2	--
5/2/95	6.6,b	55	--	3.3	10	1.8	10	--
2/24/95	22	67	--	4.9	11	1.8	11	--
11/18/94	5.0	86	--	11	17	1.8	12	--
8/22/94	4.1	91	--	10	13	1.5	9.0	--
5/19/94	5.8	62	--	92	13	1.3	8.4	--
2/28/94	13	91	--	13	16	1.5	9.0	--
11/24/93	79	12	--	13	17	2.5	17	--
8/30/93	110	110	--	11	14	1.8	11	--
5/18/93	44	67	--	9.2	12	1.4	9.3	--
2/23/93	7.0	76	--	12	17	1.6	9.6	--
11/13/92	8.2	79	--	10	13	1.4	8.6	--
5/27/92	130	89	--	18	19	1.7	14	--
1/14/92	1600	59	--	17	14	1.8	15	--
12/23/91	700	2100	--	36	130	79	560	--
11/25/91	130	230	--	11	9.7	1.4	9.7	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
c = TPH-D results consist of both gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW2 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
10/10/91	360	85	--	21	25	2.1	14	--
9/17/91	56	74	--	10	11	1.4	8.1	--
8/19/91	19	69	--	26	22	2.1	18	--
7/20/91	100	51	--	9.9	7.7	1.2	7.5	--
6/20/91	69	87	--	8.1	8.4	1.1	8.9	--
5/17/91	33	62	--	5.9	6.3	1.2	9.0	--
4/15/91	--	82	--	5.3	7.4	1.0	9.4	--
3/21/91	--	62	--	9.3	11	0.35	9.7	--
2/15/91	--	200	--	12	12	1.7	14	--
1/14/91	--	78	--	11	8.7	0.58	8.0	--
9/27/90	--	59	--	8.4	12	0.88	9.0	--
8/23/90	--	96	--	8.1	8.4	1.5	8.6	--
7/20/90	86	--	--	9.1	14	0.94	13	--
3/19/90	--	50	--	7.7	8.7	0.075	5.6	--
2/20/90**	--	38	--	7.3	3.1	0.075	6.8	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
** Inorganic lead not detected in sample.
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW3

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
12/18/03	32,a,b	130,a	32	33	5.4	0.72	11	ND<0.5, except TBA = 17
9/18/03	140,a,b	130	23	34	11	2.5	14	ND<0.5, except TBA = 10
6/26/03	27,a,b	96	21	29	5.2	2.0	10	ND, except TBA = 8.9
3/18/03	11,a,b	120	16	36	12	1.8	2.4	ND, except TBA = 5.1
12/21/02	21,a,b	110	33	34	9.3	2.0	13	ND, except TBA = 14
9/10/02	43,b	70	19	21	2.2	1.6	7.6	--
3/30/02	8.5,a,b	170	26	40	17	2.6	16	--
12/22/01	9.2,a,b	140	27	37	20	2.6	15	--
9/23/01	47,a,b	130	26	32	9.1	2.4	12	--
6/22/01	33,a,b	110	25	31	7.2	1.9	11	--
4/22/01	61,a	140	24	25	5.4	1.7	11	--
12/14/00	120,a,b	140	35	37	16	2.4	15	--
9/18/00	43,a,b	130	33	39	91	2.3	14	--
7/26/00	--	--	21	--	--	--	--	ND***, except tert-butanol = 19
6/8/00	74,a,b	130	23	41	16	1.9	13	--
3/9/00	14,a,b	180	24	39	22	2.5	16	--
12/9/99	17,a,b	120	16	35	6.7	2.4	12	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
a = Lighter than water immiscible sheen present on the sample.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
***Review of laboratory analytical reports indicate that oxygenated volatile organic compounds (including DIPE, ETBE, TAME, methanol, ethanol, EDB, and 1,2-DCA) were not detected except MTBE at 21 ppm and tert-butanol at 19 ppm.
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW3 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
8/31/99	22,b	120	4.7	35	3.7	2.4	14	--
4/29/99	48,b	100	2.5	33	8.0	2.1	14	--
1/29/99	240,b	84	1.3	31	2.8	1.8	12	--
4/26/98	380,b	100	9.7	29	7.1	1.8	14	--
1/24/98	77,b	97	ND	28	7.1	1.8	11	--
11/6/97	120,b	140	ND	37	19	2.4	14	--
7/24/97	91,c	120	1.4	33	17	2.2	12	--
4/25/97	760,b	240	1.6	24	18	4.1	24	--
1/21/97	34,c	150	1.3	40	14	2.6	12	--
7/26/96	24,c	130	0.89	40	22	2.4	12	--
4/23/96	280,c	170	0.72	34	22	2.2	14	--
1/29/96	45,c	150	0.54	32	21	1.9	12	--
10/26/95	33	130	0.69	37	21	0.21	11	--
7/28/95	1.9,b	86	--	1.4	2.3	0.62	3.2	--
5/2/95	9.7,b	170	--	43	30	2.5	14	--
2/24/95	9.2	130	--	31	19	1.8	10	--
11/18/94	23	140	--	38	22	2.0	11	--
7/22/94	5.3	170	--	35	20	1.8	10	--
5/19/94	30	150	--	38	25	2.4	14	--
2/28/94	210	110	--	36	21	1.9	11	--
11/24/93	24	160	--	48	26	2.2	12	--
7/30/93	32	130	--	36	21	1.9	8.2	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
c = TPH-D results consist of gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW3 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
5/18/93	7.2	130	--	36	21	2.1	12	--
2/23/93	8.1	110	--	31	18	1.9	11	--
11/13/92	4.7	140	--	38	24	2.0	12	--
5/27/92	27	370	--	91	57	3.0	21	--
7/14/92	270	130	--	76	30	3.4	21	--
12/23/91	540	740	--	30	61	31	180	--
11/25/91	74	150	--	65	31	3.4	18	--
10/10/91	39	140	--	57	31	2.2	14	--
9/17/91	140	180	--	47	25	2.6	15	--
8/19/91	150	170	--	82	31	4.4	22	--
7/20/91	270	450	--	46	29	3.5	21	--
6/20/91	210	920	--	39	49	13	69	--
5/17/91	70	170	--	32	22	2.2	18	--
4/15/91	--	110	--	31	15	0.88	7.4	--
3/21/91	--	87	--	30	14	0.69	5.4	--
2/15/91	--	230	--	44	40	ND	31	--
1/14/91	--	160	--	48	25	1.0	16	--
9/27/90	--	25	--	7.2	6.4	0.42	3.4	--
8/23/90	--	220	--	67	46	27	18	--
7/20/90	86	--	--	9.1	14	0.94	13	--
3/19/90	--	210	--	38	28	1.8	12	--
2/20/90**	--	46	--	20	15	1.8	9.7	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
** Inorganic lead not detected in sample.
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW4

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
12/18/03	Not Sampled (Free Product Present in Well)							
9/18/03	Not Sampled (Free Product Present in Well)							
6/26/03	Not Sampled (Free Product Present in Well)							
3/18/03	Not Sampled (Free Product Present in Well)							
12/21/02	Not Sampled (Free Product Present in Well)							
9/10/02	Not Sampled (Free Product Present in Well)							
3/30/02	Not Sampled (Free Product Present in Well)							
12/22/01	Not Sampled (Free Product Present in Well)							
9/23/01	Not Sampled (Free Product Present in Well)							
6/22/01	440,a,b	140	15	35	19	2.0	10	--
4/22/01	Not Sampled (Free Product Present in Well)							
12/14/00	Not Sampled (Free Product Present in Well)							
9/18/00	Not Sampled (Free Product Present in Well)							
6/8/00	Not Sampled (Free Product Present in Well)							
3/9/00	2,100,a,b	130	6.9	35	13	2.1	11	--
12/9/99	9,000,a,b	120	8.1	33	6	2.4	12	--
8/31/99	9.4,b	190	4.4	46	30	2.8	15	--
4/29/99	9.4,b	210	3.2	42	35	2.8	15	--
1/29/99	7.3,b	190	2.4	44	40	3.1	17	--
4/26/98	13,b	190	ND	49	37	3.2	18	--

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
a = Lighter than water immiscible sheen present on the sample.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well MW4 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
1/24/98	20,b	200	ND	50	40	3.1	17	--
11/6/97	110,b	160	ND	48	30	2.8	16	--
8/26/97	5.5,b	210	1.7	48	42	3.4	19	--
8/15/97	MW4 Installed							

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well EW1

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260*
12/18/03	3.0,b	ND<5.0,e	160	0.22	ND<50	ND<50	0.073	ND<5, except TBA = 64
9/18/03	8.2,a,b	7.5	220	0.33	ND<0.05	ND<0.05	ND<0.05	ND<2.5, except TBA = 51
2/23/93	9.6	66	--	14	8.5	1.4	9.8	--
11/13/92	13	62	--	11	9.2	1.1	9.6	--
8/92	EW1 Installed							

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
a = Lighter than water immiscible sheen present on the sample.
b = TPH-D results consist of both diesel-range and gasoline-range compounds.
e = reporting limit raised due to high MTBE content
* = This column summarizes results for analysis using EPA Method 8260 for non-MTBE fuel oxygenates (TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well OW1

Date	TPH-D	TPH-G	TPH-MO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260, incl. MTBE
11/21/03	1,900,a,b	38	570	2.0	0.059	0.19	0.095	ND<0.05, TBA ND<0.5
6/10/98	OW1 Installed							

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
a = Laboratory analytical report note: lighter than water immiscible sheen present on the sample.
b = Laboratory analytical report note: TPH-D results consist of both diesel-range and gasoline-range compounds.
* = This column summarizes results for analysis using EPA Method 8260 for fuel oxygenates (MTBE, TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Well OW2

Date	TPH-D	TPH-G	TPH-MO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other Fuel Additives by 8260, incl. MTBE
2/11/04	--	0.21	--	ND	ND	ND	ND	ND, except MTBE = 0.0064 TBA = 0.0070
11/21/03	No sample recovered.							
6/10/98	OW2 Installed							

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
-- = Not Analyzed.
* = This column summarizes results for analysis using EPA Method 8260 for fuel oxygenates (MTBE, TAME, ETBE, and TBA) and lead scavengers (EDB, 1,2-DCA/EDC).
Results in milligrams per liter (mg/L), unless otherwise indicated.

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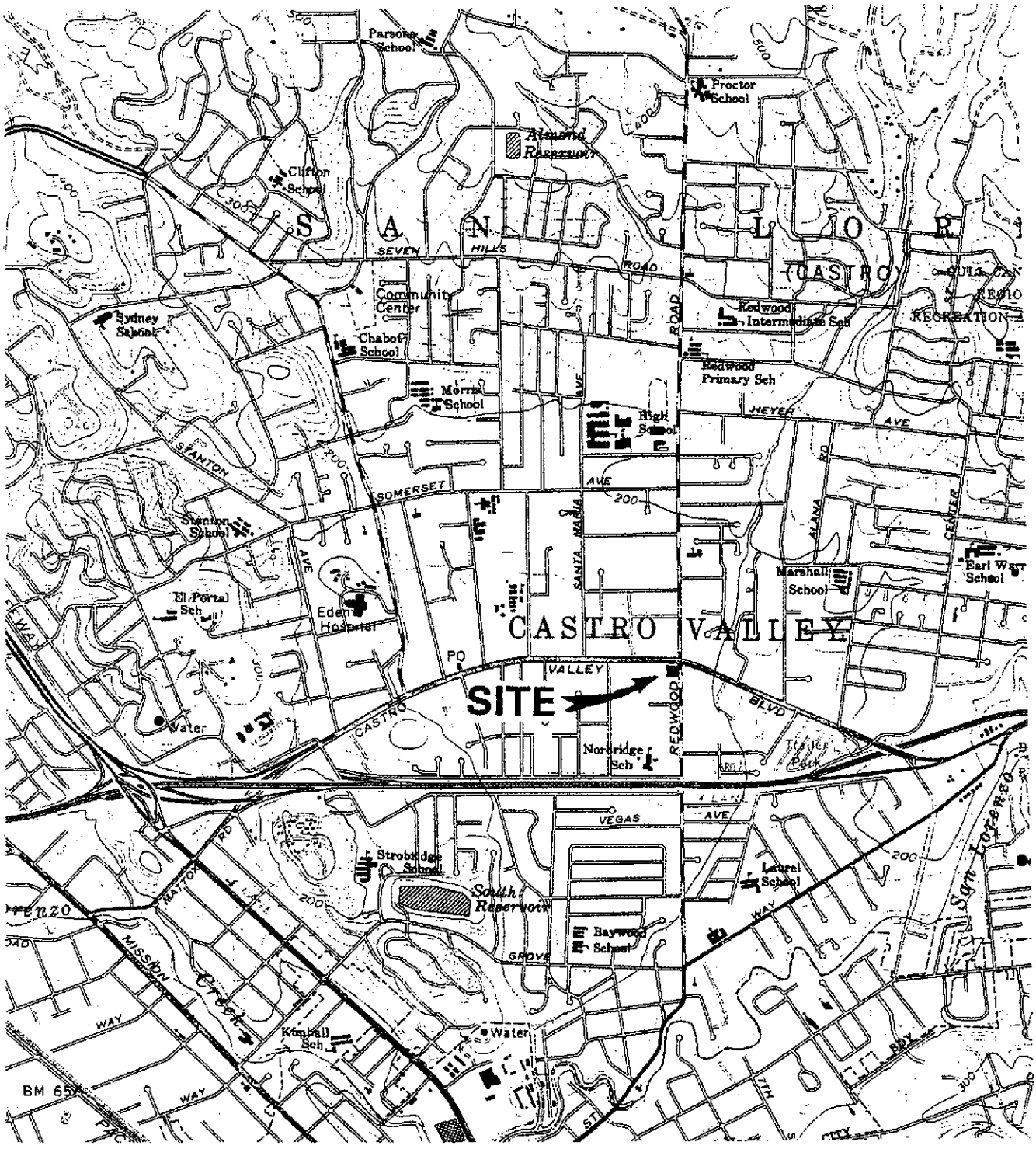

Scale in Feet
0 1000 2000 3000

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

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

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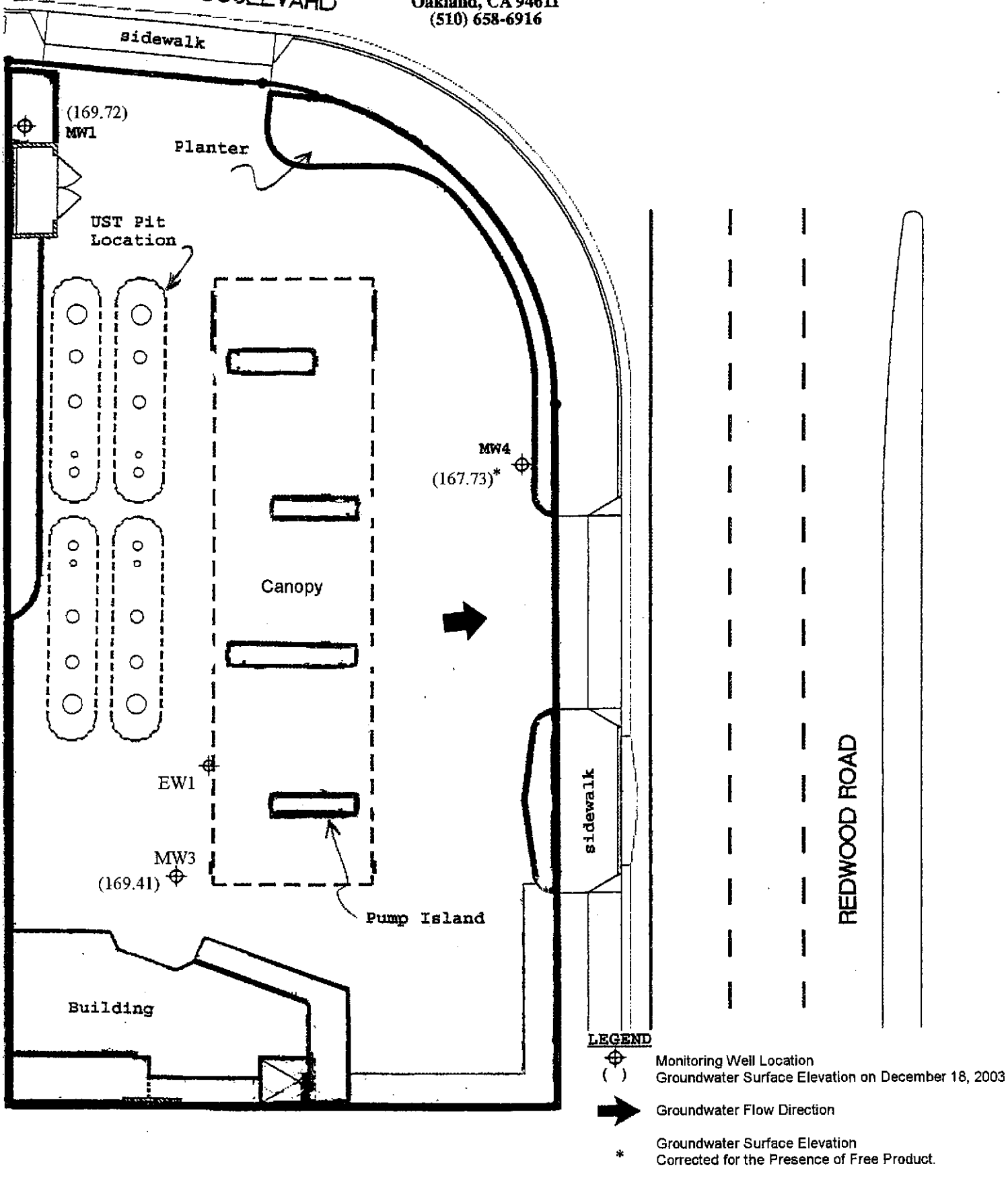

Base Map From:
RHL Design Group, Inc.
June, 1997

Figure 2
SITE PLAN
Xtra Oil Company
3495 Castro Valley Blvd
Castro Valley, CA

P & D ENVIRONMENTAL
A Division of Paul H. King, Inc.
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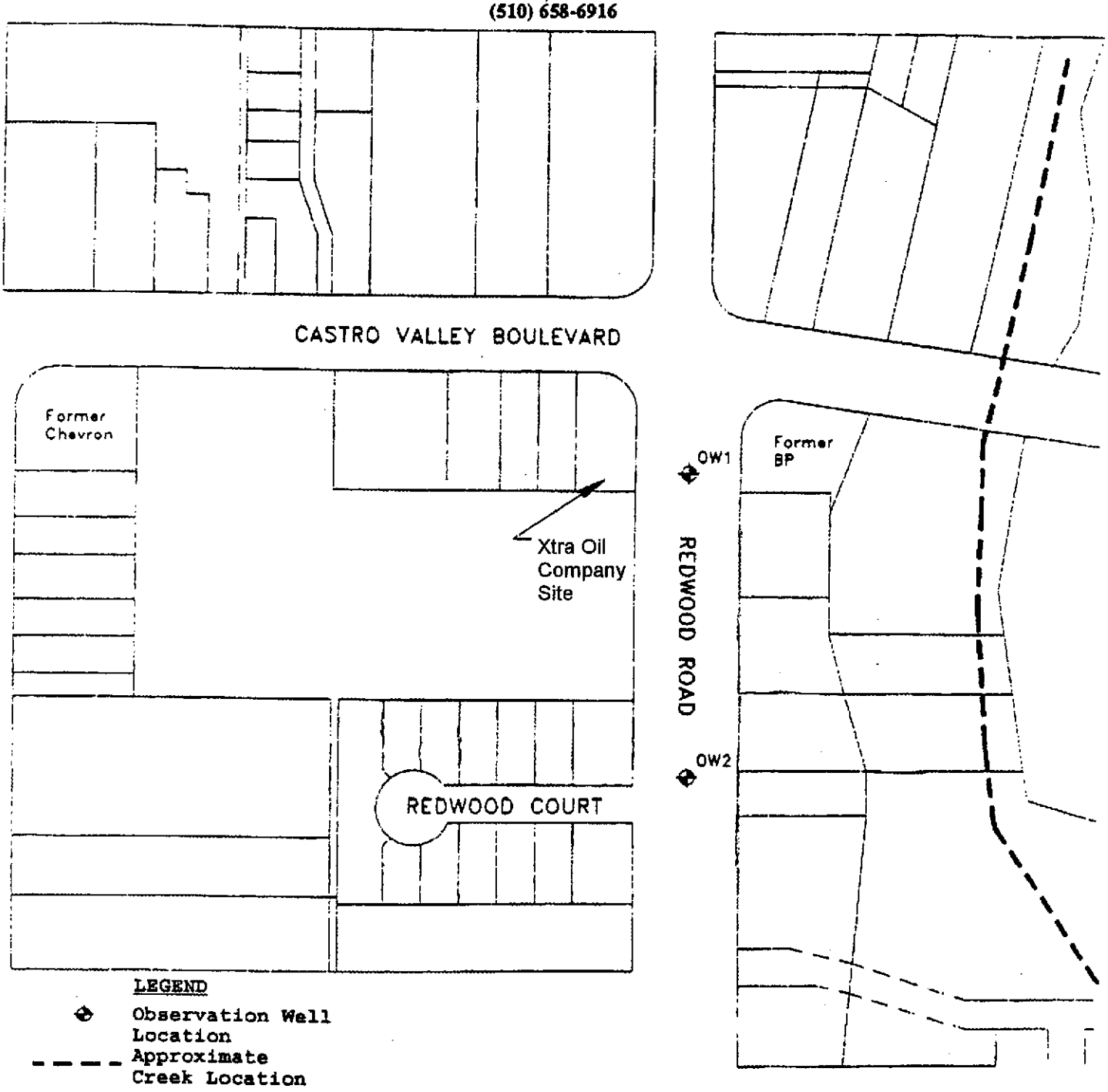
Oakland, CA 94611
(510) 658-6916



Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
Scale In Feet

North

Figure 3
SITE VICINITY MAP
Xtra Oil Company
3495 Castro Valley Blvd.
Castro Valley, CA

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name: Xtra Oil - Castro Valley
Well No.: OW1
Job No.: 0014
Date: 10/6/03
TOC to Water (ft.): 7.07
Sheen: X
Well Depth (ft.): 7.44
Free Product Thickness: ~~0.16~~ ~~0.03~~ 0.01
Well Diameter: 1 in.
Sample Collection Method: NA
Gal./Casing Vol.:

TIME	GAL. PURGED	pH	TEMPERATURE	ELECTRICAL CONDUCTIVITY
			TOC	
89.25	~~89 8/32~~		89 1/4 in. = 7.44 ft	
84.88" = 7.07 ft				
			Measurements taken w steel tap & gas/water finding pastes.	
	5/32" = 0.013 ft		4 17/32 in. ← TOP of free product	
4.375	Free product 4 12/32		4 3/8 in. ← Top of water	
			Ø in. ← bottom of well	

NOTES: Water in christie box to T.O.C.
Free product measured 11:25 am. Free product smelled like gasoline.

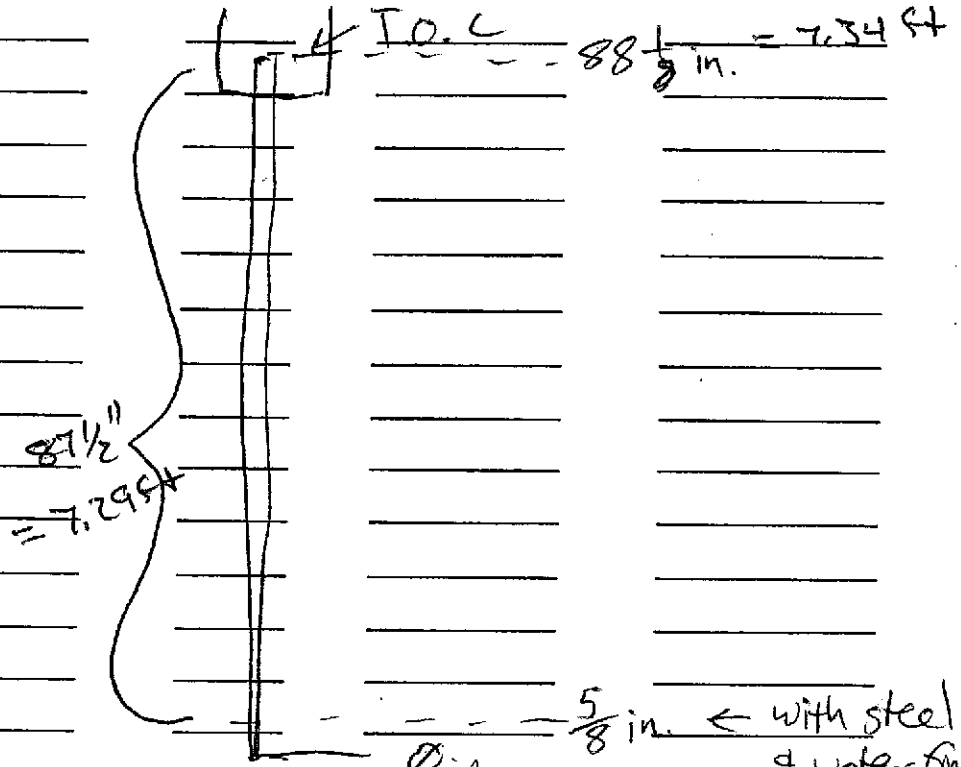
PURGE10.92

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Xtra Oil - Castro Valley
Job No. 0014
TOC to Water (ft.) 87½ in.
Well Depth (ft.) 88 1/8 in. ← from (N) high side of casing
Well Diameter 1 in.
Gal./Casing Vol. _____

Well No. 042
Date 10/6/03
Sheen NONE
Free Product Thickness Ø
Sample Collection Method NA

TIME	GAL. PURGED	pH	TEMPERATURE	ELECTRICAL CONDUCTIVITY



NOTES: Water in Christie box below T.O.C.
Attempt to collect sample with ¾ in. bailer unsuccessful.

PURGE10.92

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name _____ Well No. MW1

Job No. 0014 Date 12/18/03

TOC to Water (ft.) 7.65 Sheen NONE

Well Depth (ft.) 20 Free Product Thickness 0

Well Diameter 4 in. Sample Collection Method _____

Gal./Casing Vol. 8.0 Teflon bailer

$\Sigma = 24.0$

TIME	GAL. PURGED	pH	TEMPERATURE (oF)	ELECTRICAL CONDUCTIVITY (mS/cm) X 1000
2:23	5	7.64	67.1	~~0.90~~ 0.90
2:24	10	7.63	68.7	0.93
2:26	15	7.61	68.9	0.93
2:28	20	well pumped dry		
2:35	22	Sampling time		
	24			

NOTES: PHC sheen + aged PHC odor on purge water.

PURGE10.92

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Xtra Oil - Castro Valley
Job No. 0014
TOC to Water (ft.) 6.99
Well Depth (ft.) 18.7
Well Diameter 4in
Gal./Casing Vol. 7.6
E=22.8

Well No. MW3
Date 12/18/03
Sheen NONE
Free Product Thickness Ø
Sample Collection Method
Teflon bailer

TIME	GAL. PURGED	pH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm) X1000
2:56	5	7.48	66.5	1.09
2:58	10	7.53	68.5	1.07
2:59	12	7.55	68.8	1.08
3:00	16	7.57	69.4	1.15
3:03	~~20~~	well Purged dry		
3:10	~~23~~	Sampling Time		

NOTES: PH Color & Sheen on Purge water

PURGE10.92

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Xtra Oil - Castle Valley
Job No. 0014
TOC to Water (ft.) ~~10.25~~ 9.75 ✓
Well Depth (ft.)
Well Diameter 2in.
Gal./Casing Vol.

Well No. MW4
Date 12/18/03
Sheen —
Free Product Thickness 1.51 ft. ✓
Sample Collection Method
None Collected

TIME	Depth (in.) ~~GAL. PURGED~~	feature ~~pH~~	TEMPERATURE	ELECTRICAL CONDUCTIVITY
~~0~~ ~~132~~	~~0~~	T.O.C		
	27.125"			
98.88"	(126-27⅛)"			Top of product
18.12"		PRODUCT		
117"	(126-9)"			Top of water
126" ~~0~~	126"			Bottom of steel tape

FP Correction = 0.75 x 1.51 = 1.13
Corrected depth to water = 8.62

NOTES: Water with sheen above T.O.C. in Christie box.

PURGE10.92

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name _____ Well No. EW 1

Job No. 6014 Date 12/18/03

TOC to Water (ft.) 6.72 Sheen _____

Well Depth (ft.) ~~7.29~~ 13.2 Free Product Thickness _____

Well Diameter ~~13.2~~ 8in Sample Collection Method _____

Gal./Casing Vol. 16.8

€=50.4

TIME	GAL. PURGED	pH	TEMPERATURE	ELECTRICAL CONDUCTIVITY
1:30	5	2.60	66.9	0.63
1:31	15	7.43	67.4	0.61
1:34	30	7.34	66.9	0.63
1:37	40	7.34	67.1	0.62
1:39	50	7.33	66.6	0.64
1:45	Sampling	time		

NOTES: No PHC odor or sheen on purge water.
PHC sheen on sample.

PURGE10.92

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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 11/21/03
		Date Received: 11/21/03
	Client Contact: Paul King	Date Extracted: 11/21/03
	Client P.O.:	Date Analyzed: 11/25/03

Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil*

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0311308

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0311308-001A	OW1	W	1,900,000,a,d,h	570,000	200	---#

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 McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 11/21/03
		Date Received: 11/21/03
	Client Contact: Paul King	Date Extracted: 11/25/03
	Client P.O.:	Date Analyzed: 11/25/03

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

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0311308

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	OW1	W	38,000,a,h	100	120

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 11/21/03
		Date Received: 11/21/03
	Client Contact: Paul King	Date Extracted: 11/25/03
	Client P.O.:	Date Analyzed: 11/25/03

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0311308

					Reporting Limit for DF =1	
Lab ID	0311308-001B					
Client ID	OW1					
Matrix	W					
DF	100				S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<50				NA	0.5
Benzene	2000				NA	0.5
t-Butyl alcohol (TBA)	ND<500				NA	5.0
1,2-Dibromoethane (EDB)	ND<50				NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<50				NA	0.5
Diisopropyl ether (DIPE)	ND<50				NA	0.5
Ethylbenzene	190				NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<50				NA	0.5
Methyl-t-butyl ether (MTBE)	ND<50				NA	0.5
Toluene	59				NA	0.5
Xylenes	95				NA	0.5
Surrogate Recoveries (%)						
%SS1:	104					
%SS2:	99.1					
%SS3:	97.5					
Comments						

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

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

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 11/21/03
		Date Received: 11/21/03
	Client Contact: Paul King	Date Extracted:
	Client P.O.:	Date Analyzed: 11/25/03

Fuel FingerPrint *

Extraction method: SW3550C Analytical methods: SW8015C Work Order: 0311308

Lab ID	Client ID	Matrix	Fuel Fingerprint
0311308-001C	OW1	O	This sample shows a significant hydrocarbon pattern between C10 and C23 that resembles a diesel .It also shows small hydrocarbon pattern between C6 and C12 that resembles a gasoline range Chromatograms enclosed.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: O WorkOrder: 0311308

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 9421 Spiked Sample ID: 0311298-004A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)£	ND	0.60	101	99.7	1.77	97.2	101	4.05	70	130
MTBE	ND	0.10	86.6	87.3	0.834	94.8	89.4	5.81	70	130
Benzene	ND	0.10	98.6	97.8	0.843	103	102	1.15	70	130
Toluene	ND	0.10	101	99.9	0.999	103	104	0.853	70	130
Ethylbenzene	ND	0.10	107	105	1.13	109	110	0.826	70	130
Xylenes	ND	0.30	110	107	3.08	110	110	0	70	130
%SS:	79.6	100	126	130	3.60	95.7	93.2	2.65	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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 = 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.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0311308

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 9423 Spiked Sample ID: 0311236-003A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)£	ND	60	94.7	94.6	0.106	99.5	97.3	2.22	70	130
MTBE	ND	10	96.6	90.8	6.19	87.9	86.6	1.56	70	130
Benzene	ND	10	97.8	92	6.15	92.7	92.7	0	70	130
Toluene	ND	10	102	96.3	5.99	96.5	96.7	0.222	70	130
Ethylbenzene	ND	10	102	97.1	5.19	99.9	101	1.18	70	130
Xylenes	ND	30	103	100	3.28	100	103	3.28	70	130
%SS:	108	100	105	103	1.91	103	103	0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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 = 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.

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QC SUMMARY REPORT FOR SW8015C

Matrix: W WorkOrder: 0311308

EPA Method: SW8015C	Extraction: SW3510C	BatchID: 9428	Spiked Sample ID: N/A

	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	93.5	93.7	0.173	70	130
%SS:	N/A	100	N/A	N/A	N/A	99	97.3	1.73	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

TPH(d)

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.

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QC SUMMARY REPORT FOR SW8015C

Matrix: O WorkOrder: 0311308

EPA Method: SW8015C Extraction: SW3550C BatchID: 9422 Spiked Sample ID: 0311309-005A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ND	150	105	105	0	106	108	1.09	70	130
%SS:	87.7	100	108	108	0	111	112	1.58	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.

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QC SUMMARY REPORT FOR SW8260B

Matrix: W WorkOrder: 0311308

EPA Method: SW8260B	Extraction: SW5030B		BatchID: 9427			Spiked Sample ID: 0311315-005B				
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
tert-Amyl methyl ether (TAME)	ND	10	89.2	89.3	0.0574	85	89.1	4.70	70	130
Benzene	ND	10	95.3	94.5	0.783	91.8	94.8	3.24	70	130
t-Butyl alcohol (TBA)	ND	50	106	105	1.39	96.6	102	5.20	70	130
Diisopropyl ether (DIPE)	ND	10	95	94.8	0.215	92.5	97.5	5.23	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	89.8	88.8	1.18	85.2	89.2	4.56	70	130
Methyl-t-butyl ether (MTBE)	9.49	10	104	99.9	1.94	93	97.4	4.54	70	130
Toluene	ND	10	106	106	0	101	106	4.70	70	130
%SS1:	102	100	103	102	0.521	102	101	1.63	70	130
%SS2:	101	100	99.5	99.8	0.251	101	102	0.424	70	130
%SS3:	93.5	100	97.9	98	0.132	99.8	102	1.89	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.

McCampbell Analytical Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0311308

Client:
P & D Environmental
4020 Panama Court
Oakland, CA 94611-4931

TEL: (510) 658-6916
FAX: (510) 834-0772
ProjectNo: #0014; Xtra Oil-Castro Valley
PO:

Date Received: **11/21/03**
Date Printed: **11/21/03**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests			
					G-MBTEX_Oil	G-MBTEX_W	MBTEXOXY-8260B_W	TPH(DMO)_W
0311308-001	OW1	Oil	11/21/03	☐	C			
0311308-001	OW1	Water	11/21/03	☐		A	B	A

Prepared by: Melissa Valles

Comments: 48hr Rush

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

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 0311308

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4020 Panama Court
Oakland, CA 94611-4931

TEL: (510) 658-6916
FAX: (510) 834-0772
ProjectNo: #0014; Xtra Oil-Castro Valley
PO:

Date Received: **11/21/03**
Date Printed: **11/21/03**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests			
					TPH(FF)_O			
0311308-001	OW1	Oil	11/21/03	☐	C			
0311308-001	OW1	Water	11/21/03	☐				

Prepared by: Melissa Valles

Comments: 48hr Rush

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

P & D ENVIRONMENTAL
A Division of Paul H. King, Inc.
4020 Panama Court
Oakland, CA 94611
(510) 658-6916

RUSH!

CHAIN OF CUSTODY RECORD

0311308

lead scavengers by 8260

PAGE 1 OF 1

PROJECT NUMBER:	PROJECT NAME:
0014	Xtra Oil - Castro Valley

SAMPLED BY: (PRINTED AND SIGNATURE)
Wilhelm Welzenbach Wilhelm Welzenbach

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-M/H range	BTEX + oxygenates + fuel fingerprint	PRESERVATIVE	REMARKS
+ OW1	11/21/03		water + oil		~~7~~ 4	X	X	ICE	48 hour Turn
OW2	"		"	No sample recovery	~~7~~	X	X	X	Normal Turnaround

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVATION ✓ (VOAs | O&G | METALS | OTHER)
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Wilhelm Welzenbach	11/21/03	4:51	
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 2 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): ~~7~~ 4

LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Angela Rydelius
LABORATORY PHONE NUMBER: (925) 798-1620

SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS: VOAs preserved w HCl. Decant product / run extractibles minus free product (

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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valey	Date Sampled: 12/18/03
		Date Received: 12/19/03
	Client Contact: Paul King	Date Extracted: 12/19/03
	Client P.O.:	Date Analyzed: 12/23/03

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0312412

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0312412-001C	MW1	W	13,000,a,d	2	106
0312412-002C	MW3	W	32,000,a,d,h	2	110
0312412-003C	EW1	W	3000,a,d	1	115

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

* 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 McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

DHS Certification No. 1644

for Angela Rydelius, Lab Manager

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P & D Environmental	Client Project ID: #0014; Xtra Oil-Castro Valey	Date Sampled: 12/18/03
4020 Panama Court		Date Received: 12/19/03
Oakland, CA 94611-4931	Client Contact: Paul King	Date Extracted: 12/24/03-12/30/03
	Client P.O.:	Date Analyzed: 12/24/03-12/30/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0312412

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW1	W	33,000,a	---	2100	770	1800	4400	100	100
002A	MW3	W	130,000,a,h	---	33,000	5400	720	11,000	200	118
003A	EW1	W	ND<5000,j	---	220	ND<50	ND<50	73	100	90.6
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valey	Date Sampled: 12/18/03
		Date Received: 12/19/03
	Client Contact: Paul King	Date Extracted: 12/23/03
	Client P.O.:	Date Analyzed: 12/23/03

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0312412

Lab ID	0312412-001B	0312412-002B	0312412-003B		Reporting Limit for DF =1	
Client ID	MW1	MW3	EW1			
Matrix	W	W	W			
DF	10	1000	10000		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<5.0	ND<500	ND<5000		NA	0.5
t-Butyl alcohol (TBA)	ND<50	17,000	64,000		NA	5.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<500	ND<5000		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0	ND<500	ND<5000		NA	0.5
Diisopropyl ether (DIPE)	ND<5.0	ND<500	ND<5000		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<500	ND<5000		NA	0.5
Methyl-t-butyl ether (MTBE)	38	32,000	160,000		NA	0.5
Surrogate Recoveries (%)						
%SS:	101	102	102			
Comments	j	h				

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

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

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0312412

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 9797 Spiked Sample ID: 0312418-002A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)£	ND	60	98.5	99.3	0.892	105	108	3.40	70	130
MTBE	ND	10	98	102	4.11	98.6	99.8	1.20	70	130
Benzene	ND	10	105	109	4.13	105	110	4.83	70	130
Toluene	ND	10	108	114	5.68	96.1	105	9.24	70	130
Ethylbenzene	ND	10	111	116	4.72	111	111	0	70	130
Xylenes	ND	30	113	120	5.71	103	107	3.17	70	130
%SS:	112	100	107	107	0	104	103	0.921	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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 = 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.

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QC SUMMARY REPORT FOR SW8015C

Matrix: W WorkOrder: 0312412

EPA Method: SW8015C	Extraction: SW3510C		BatchID: 9795			Spiked Sample ID: N/A				
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	111	111	0	70	130
%SS:	N/A	100	N/A	N/A	N/A	117	116	0.834	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.

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http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8015C

Matrix: W WorkOrder: 0312412

EPA Method: SW8015C	Extraction: SW3510C		BatchID: 9798		Spiked Sample ID: N/A					
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	113	102	10.7	70	130
%SS:	N/A	100	N/A	N/A	N/A	121	106	14.0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 0312412

Report to:
Paul King
P & D Environmental
4020 Panama Court
Oakland, CA 94611-4931

TEL: (510) 658-6916
FAX: (510) 834-0772
ProjectNo: #0014; Xtra Oil-Castro Valley
PO:

Bill to:
Accounts Payable
P & D Environmental
4020 Panama Court
Oakland, CA 94611-4931

Requested TAT: 5 days
Date Received: 12/19/03
Date Printed: 12/19/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0312412-001	MW1	Water	12/18/03	☐	B	A	C												
0312412-002	MW3	Water	12/18/03	☐	B	A	C												
0312412-003	EW1	Water	12/18/03	☐	B	A	C												

Test Legend:

1	5-OXYS+PBSCV_W	2	G-MBTEX_W	3	TPH(D)_W	4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Melissa Valles

Comments:

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

P & D ENVIRONMENTAL
A Division of Paul H. King, Inc.
4020 Panama Court
Oakland, CA 94611
(510) 658-6916

pdeo

0312412

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NUMBER:	PROJECT NAME:
0614	Xtra Oil - Castro Valley

SAMPLED BY: (PRINTED AND SIGNATURE)
Wilhelm Welzenbach — Wilhelm Welzenbach

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-G / BTEX	Fuel Oxy's & Lead Scavengers by 8260	TPH-D				PRESERVATIVE	REMARKS
MW1	12/18/03		Water		7	X	X	X				ICE	Normal Turnaround
MW3					7	X	X	X					
EW1					7	X	X	X					

ICE/t° ✓
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS ✓
DECHLORINATED IN LAB ___ PRESERVED IN LAB ___

PRESERVATION	VOAs	O&G	METALS	OTHER
	✓			

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Wilhelm Welzenbach	12/19	1615	UPTEX #280
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
UPTEX #280	12/19	14:00	Mel Valli
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 3
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 21
LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Angela Rydelius
LABORATORY PHONE NUMBER: (925) 798-1620
SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS: VOAs preserved w HCl