

# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

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Oakland, CA 94611

(510) 658-6916

February 11, 2005  
Report 0014.R54

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

APR 20 2005  
ENVIRONMENTAL DIVISION

SUBJECT: GROUNDWATER MONITORING AND SAMPLING REPORT  
(NOVEMBER 2004 THROUGH JANUARY 2005)  
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 and onsite wells MW1, MW3, MW4, and EW1 were monitored and onsite wells MW1, MW3 and EW1 were sampled on January 31, 2005. The reporting period for this report is for November 2004 through January 2005. 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

Offsite observation wells OW1 and OW2 and onsite wells MW1, MW3, MW4, and EW1 were monitored and onsite wells MW1, MW3 and EW1 were sampled on January 31, 2005. 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.

No free product or sheen were detected in any of the wells except for well MW4, where a floating separate phase hydrocarbon layer measuring 0.19 feet in thickness was measured. Measurements were made in well MW4 following removal of the passive hydrocarbon collection device from the well.

Based on the small volume of liquid in wells OW1 and OW2, samples were not collected from these wells.

Prior to well sampling on January 31, 2005, onsite 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 measured depth to water in offsite observation wells OW1 and OW2 on January 31, 2005 was 7.03 and 7.29 feet, respectively. The measured depth to water in onsite wells MW1, MW3, MW4 and EW1 on January 31, 2005 was 7.20, 6.79, 7.34, and 6.25 feet, respectively. The separate phase hydrocarbon layer in MW4 was 0.19 feet in thickness. Using a specific gravity of 0.75, the corrected depth to water in well MW4 is 7.20 feet. Since the previous quarter, the measured depth to water has decreased in offsite wells OW1 and OW2 by 0.10 and 0.08 feet, respectively, and in onsite wells MW1, MW3, MW4 and EW1 by 1.32, 1.49, 1.42 and 1.40 feet, respectively. The corrected groundwater elevation in well MW4 has decreased by 1.42 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 January 31, 2005 was calculated to be to the east with a gradient of 0.012. Since the previous monitoring event the groundwater flow direction at the site has shifted slightly from the southeast toward the east and the gradient has decreased slightly from 0.0013. The groundwater flow direction on January 31, 2005 is shown on Figure 2.

#### LABORATORY RESULTS

The groundwater sample collected from onsite wells MW1, MW3 and EW1 on January 31, 2005 were analyzed for TPH-D and TPH-G using Modified EPA Method 8015; and benzene, toluene, ethylbenzene, and total xylenes (BTEX) 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 of the samples from wells MW1, MW3, and EW1 show TPH-D concentrations of 14, 13, and 3.4 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 39, 93, and 1.9 mg/L, respectively; and benzene concentrations of 2.2, 36 mg/L, and not detected, respectively. MTBE was detected at concentrations of 0.27, 31, and 38 mg/L, respectively. No other fuel oxygenates or lead scavengers were detected except for t-butyl alcohol (TBA) at concentrations of 24 and 32 mg/L in wells MW3 and EW1, respectively.

Since the previous sampling on November 15, 2004, MTBE and benzene concentrations have increased in wells MW1 and MW3. TPH-G and TBA concentrations have also decreased in well MW3 and TPH-G concentrations have increased in well EW1. In well MW1 TPH-D and TPH-G concentrations have decreased, and in well EW1 TPH-D, MTBE and TBA concentrations have decreased. 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

Offsite observation wells OW1 and OW2 and onsite wells MW1, MW3, MW4, and EW1 were monitored and wells MW1, MW3 and EW1 were sampled on January 31, 2005. A 0.19-foot thick floating separate phase layer was measured in well MW4 following removal of a passive hydrocarbon collection device. Based on the small volume of liquid in wells OW1 and OW2, samples were not collected from these wells.

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 a log be maintained of product removed. P&D recommends that use of petroleum hydrocarbon absorbent socks in well MW1 be continued.

The historical presence of petroleum hydrocarbons in both observation wells OW1 and OW2 during previous quarters, followed by the absence of liquids in well OW2 during the present quarter suggests that petroleum hydrocarbons could be preferentially migrating in the sanitary sewer trench where the observation wells are located on a seasonal basis. The presence of separate phase hydrocarbons in well OW1 during previous quarters indicates that separate phase hydrocarbons detected in well MW4 are migrating eastward seasonally.

The laboratory analytical results for the groundwater samples from wells MW1, MW3, and EW1 showed that TPH-D concentrations ranged from 3.4 to 14 mg/L, TPH-G concentrations ranged from 1.9 to 93 mg/L, and benzene concentrations ranged from 2.2 to 32 mg/L. Review of the results for the fuel oxygenate and lead scavenger analysis shows that only MTBE and TBA were detected, with MTBE concentrations ranging from 0.27 to 38 mg/L and TBA detected in wells MW3 and EW1 at concentrations of 24 and 32 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. Amir Gholami 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.

February 11, 2005  
Report 0014.R54

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

Sincerely,

P&D Environmental

A handwritten signature in black ink that reads "Paul H. King". The signature is written in a cursive style with a large initial "P".

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

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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	01/31/05	177.37*	7.20	170.17
	10/15/04		8.52	168.85
	07/13/04		8.33	169.04
	04/06/04		7.93	169.44
	12/18/03		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
	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

NOTES:

\* = Surveyed on August 20, 1997

TABLE 1  
 WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1	1/29/99		6.99	170.38
(Continued)	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
	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

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

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW3	01/31/05	176.40*	6.79	169.61
	10/15/04		8.28	168.12
	07/13/04		8.11	168.29
	04/06/04		7.41	168.99
	12/18/03		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		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

NOTES:

\* = Surveyed on August 20, 1997

\*\* = Surveyed on March 24, 1993

\*\*\* = Surveyed on December 5, 1992

TABLE 1  
 WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW3	8/31/99		7.95	168.45
(Continued)	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
	11/06/97		7.80	168.80
	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

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW4	01/31/05	176.35*	7.34 (0.19)#	169.15
	10/15/04		8.73 (0.15)#	167.73
	07/13/04		8.44 (0.03)#	167.93
	04/06/04		9.58 (2.83)#	168.89
	02/11/04		9.43 (2.70)#	168.95
	12/18/03		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

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)
EW1	01/31/05	Not Surveyed	6.25
	10/15/04		7.65
	07/13/04		7.51
	04/06/04		6.63
	12/18/03		6.72
	9/18/03		7.29

TABLE 1  
WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Total Well Depth (ft.)
OW1	01/31/05	Not Surveyed	7.03	7.44
	10/15/04		7.19 (0.08)#	7.44
	07/14/04		7.02	7.44
	04/06/04		7.01	7.44
	02/11/04		7.01	7.44
	10/06/03		7.07 (0.01)#	7.44
	11/02/00		7.12,+	
	12/09/99		7.27	
	01/29/99		7.12	
	OW2		01/31/05	Not Surveyed
10/15/04		No Water or Product	7.35	
07/14/04		No Water or Product	7.35	
04/06/04		7.27	7.33	
02/11/04		7.19	7.33	
10/06/03		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*
1/31/05	14,b	29	0.27	2.2	1.2	1.9	5.0	ND<0.05, TBA ND<0.5
10/15/04	16,a,b	36,a	ND<0.05	1.5	1.0	2.1	5.1	ND<0.05, TBA ND<0.5
7/13/04	22a,b	34,a	0.053	2.1	0.59	2.1	4.4	ND<0.5, TBA ND<0.5
4/6/04	18,a,b	28,a	0.11	2.3	0.8	0.99	4.5	ND<0.1 TBA ND<1
12/18/03	13,b	33	0.038	2.1	0.77	1.8	4.4	ND<0.005 TBA ND<0.05

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 MW1 (continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Other Fuel Additives by 8260*
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	--
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	--

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*
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	--
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	--
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.

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).

\*\* 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	--
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.

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).

\*\* 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*
1/31/05	13,a,b	93,a	31	36	1.5	2.5	11	ND<1, except TBA = 24
10/15/04	13,a,b	76,a	24	28	ND<0.5	1.1	3.6	ND<0.5, except TBA = 18
7/13/04	57,a,b	98,a	15	28	2.9	1.7	8.9	ND<0.5, except TBA = 11
4/6/04	32,a,b	81,a	17	34	5.9	1.5	9.9	ND<0.5, except TBA = 8.8
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

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 MW3 (Continued)

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Other Fuel Additives by 8260*
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	--
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	--

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 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*
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	--
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.

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).

\*\* 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*
1/31/05	Not Sampled (Free Product Present in Well)							
10/15/04	Not Sampled (Free Product Present in Well)							
7/13/04	Not Sampled (Free Product Present in Well)							
2/11/04	Free Product sampled. Laboratory fuel fingerprint notes pattern resembling diesel, with less significant gasoline-range pattern.							
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	--
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.

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 EW1

Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Other Fuel Additives by 8260*
1/31/05	3.4,b	1.9	38	ND<1	ND<1	ND<1	ND<1	ND<1, except TBA = 32
10/15/04	4.1,a,b	ND<5.0,a, e	96	ND<1.7	ND<1.7	ND<1.7	ND<1.7	ND<1.7, except TBA = 97
7/13/04	3.3,a,b	2.6,a	73	ND<1.2	ND<1.2	ND<1.2	ND<1.2	ND<1.2, except TBA = 40
4/6/04	3.4,a,b	2.6,a	72	ND<1	ND<1	ND<1	ND<1	ND<1, except TBA = 34
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**
1/31/05	No sample recovered							
10/15/04	No sample recovered							
7/14/04	240,a,b	66,a	ND<0.05	1.8	ND<0.05	1.8	0.056	ND<0.05, TBA ND<0.5
4/6/04	74,a,b	50,a	--	3.1	ND<0.1	0.21	0.14	ND<0.1, TBA ND<1
2/11/04	450,a,b	15,a	130	2.2	0.031	0.16	0.054	ND<0.025, TBA ND<0.25
11/21/03	1,900,a,b	38,e	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.

e = Laboratory analytical report note: unmodified or weakly modified gasoline is significant.

\*\* = 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**
1/31/05	No sample recovered							
10/15/04	No sample recovered							
07/14/04	No sample recovered							
4/6/04	--	0.069,a	--	ND <0.00062	ND <0.00062	ND <0.00062	ND <0.00062	--
2/11/04	--	0.21	--	ND <0.0005	ND <0.0005	ND <0.0005	ND <0.0005	ND<0.0005, 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.

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.

e = Laboratory analytical report note: unmodified or weakly modified gasoline is significant.

\* = 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.

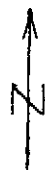
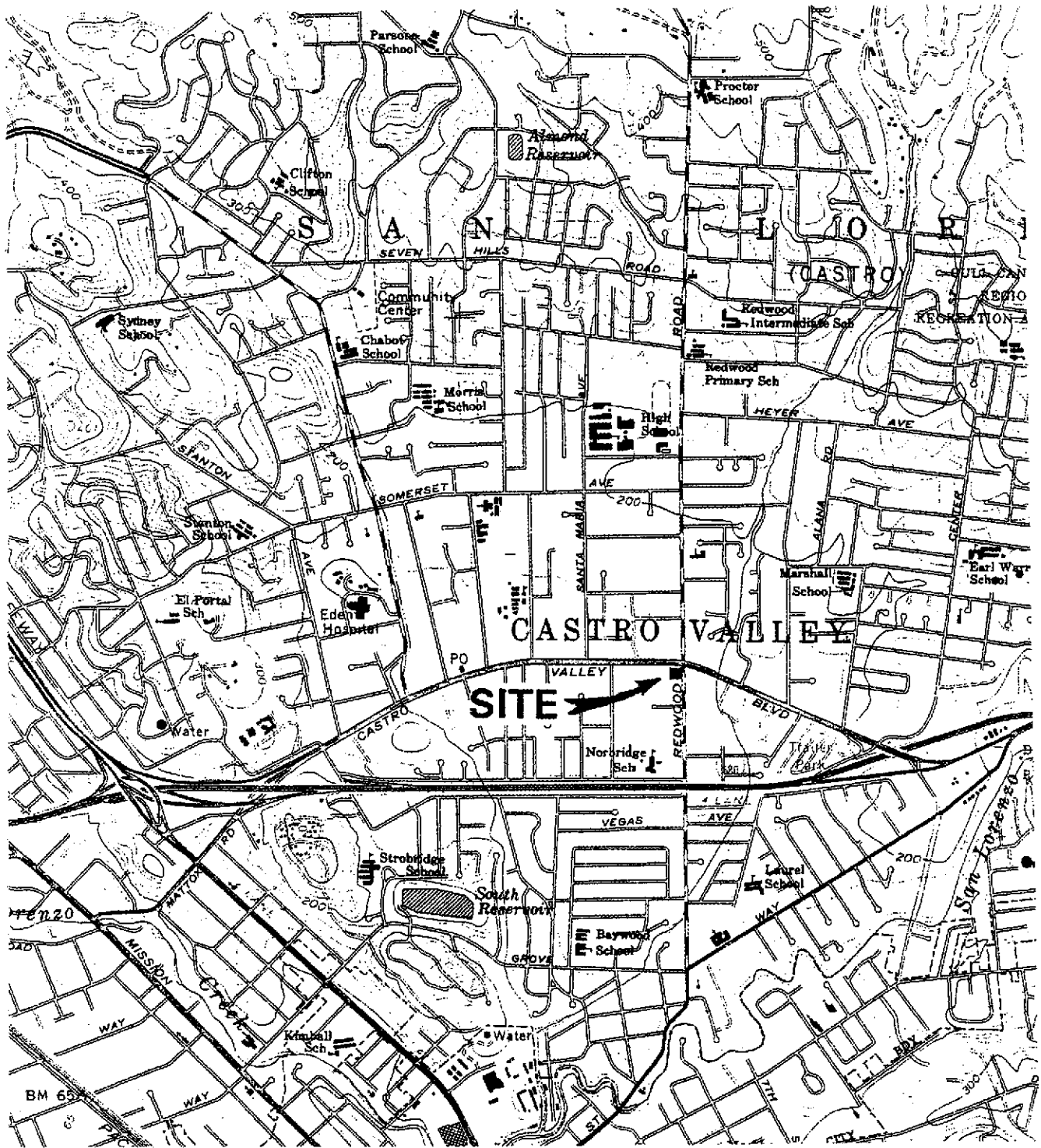
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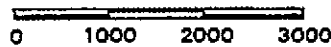
4020 Panama Court

Oakland, CA 94611

(510) 658-6916



Scale in Feet



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

# P & D ENVIRONMENTAL

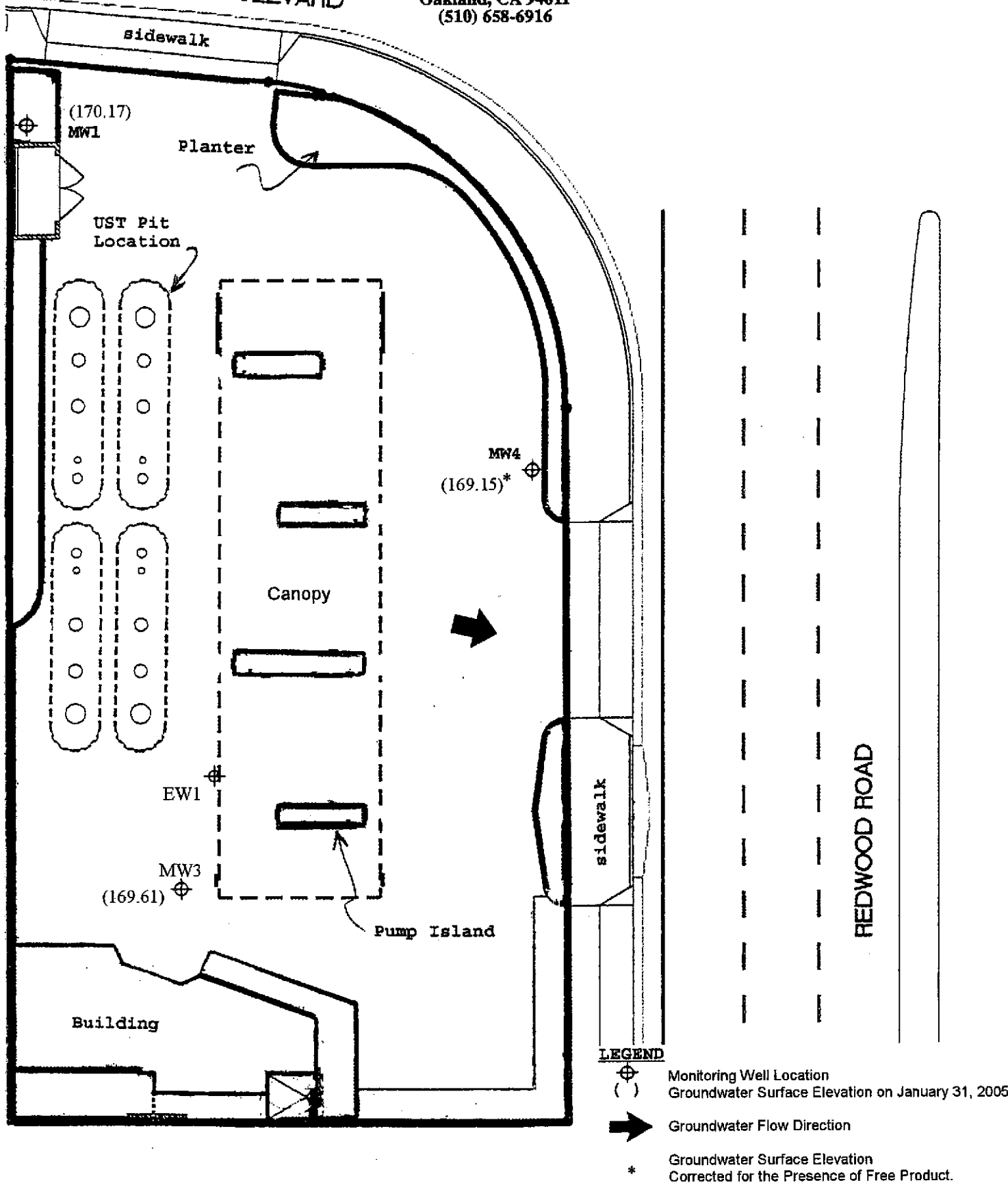
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CASTRO VALLEY BOULEVARD

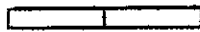


Base Map From:  
RHL Design Group, Inc.  
June, 1997

North



0 20



Scale in Feet

Figure 2

SITE PLAN

Xtra Oil Company

3495 Castro Valley Blvd

Castro Valley, CA

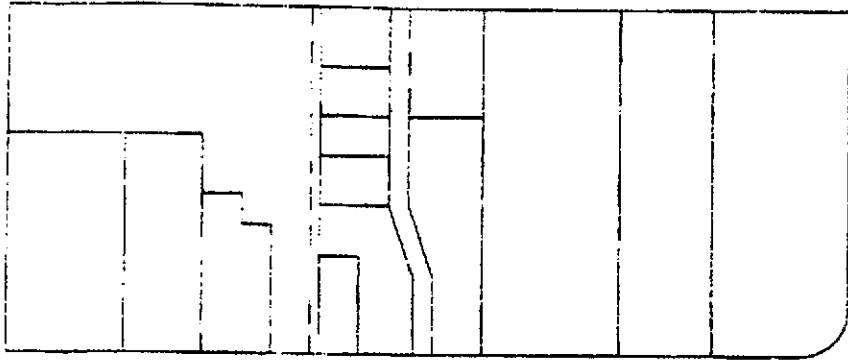
# P & D ENVIRONMENTAL

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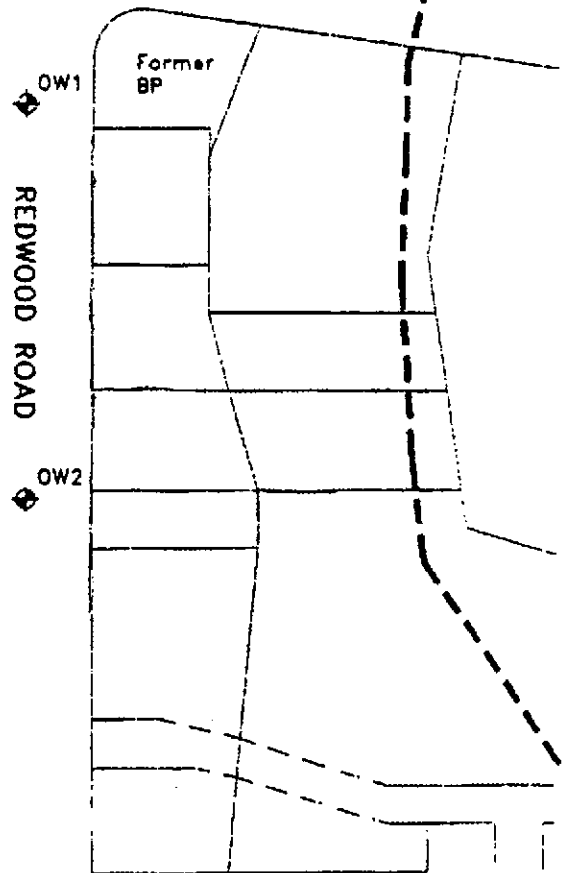
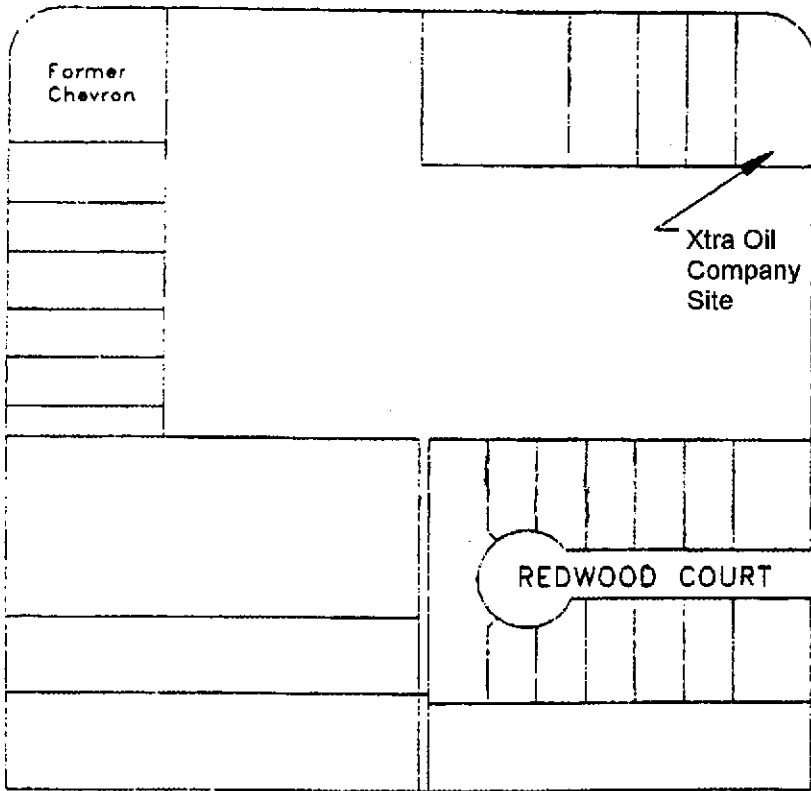
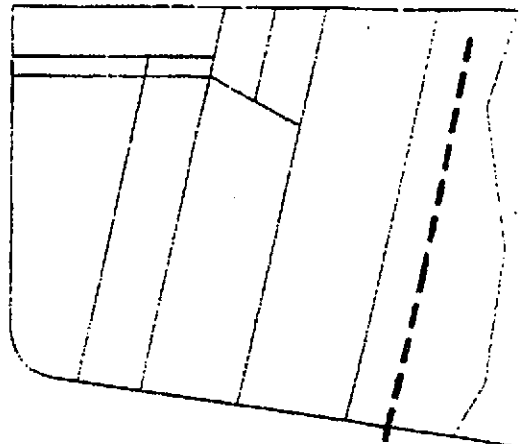
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CASTRO VALLEY BOULEVARD



### LEGEND

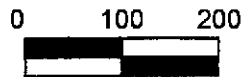


Observation Well Location



Approximate Creek Location

Base Map From:  
Castro Valley Sanitation District  
Undated



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 X:0 Castro Valley  
 Job No. 0014  
 TOC to Water (ft.) 7.20  
 Well Depth (ft.) 20  
 Well Diameter ~~20~~ 4 in.  
 Gal./Casing Vol. 2.1  
                               Σ=6.3

Well No. MW1  
 Date 1/31/05  
 Sheen None  
 Free Product Thickness Ø  
 Sample Collection Method Teflon bailer  
 (°F) (MS/cm)

TIME	GAL. PURGED	DH	TEMPERATURE	ELECTRICAL CONDUCTIVITY
4:36	0.5	3.06	67.3	1.44
4:36	1.0	2.97	69.4	1.31
4:37	2.0	2.99	70.6	1.20
4:37	3.5	3.02	71.1	1.18
4:38	5.0	3.00	71.2	1.17
4:39	6.5	3.09	71.4	1.18
4:45	Sampling Time			

NOTES: Strong PHE odor & sheen on  
purge water.

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name X.O. Castro Valley Well No. MW3  
 Job No. 0014 Date 1/31/05  
 TOC to Water (ft.) 6.79 Sheen None  
 Well Depth (ft.) 18.7 Free Product Thickness Ø  
 Well Diameter 4 in. (0.646 gal/ft.) Sample Collection Method Teflon bailer  
 Gal./Casing Vol. 7.7

$\Sigma = 23.7$

TIME	GAL. PURGED	DH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm)
<del>1541</del>	<del>(DTW) 6.78</del>			
6:00	2.0	3.70	70.1	1.70
6:02	5.0	3.79	71.2	1.70
6:05	10.0	3.79	71.2	1.01
6:10	15.0	3.76	71.8	1.02
6:11	<del>20.0</del> 23.5	pumped dry		<del>1.90</del>
6:15	Sampling			

NOTES: Strong PHC odor, but no sheen on  
sample - purge water.







P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name X.O. - Castro Valley

Well No. OW1

Job No. 0014

Date 1/31/05

TOC to Water (ft.) \_\_\_\_\_

Sheen (None recorded.)

Well Depth (ft.) \_\_\_\_\_

Free Product Thickness 0

Well Diameter 1 in

Sample Collection Method \_\_\_\_\_

Gal./Casing Vol. N/A

None

Length on Steel Tape (ft., in.)

feature

ELECTRICAL  
CONDUCTIVITY

TIME

~~GAL. PURGED~~

~~DI~~

~~TEMPERATURE~~

7.44 ~~137~~ =

7ft, 5 1/4 in.

T.O.C.

7.03' {

0.41' =

4 7/8 in.

Top of Water

0

Bottom of Well

NOTES:

Depths measured with steel tape and water <sup>gasoline</sup> finding pastes. Well not sampled.









# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mcccampbell.com E-mail: main@mcccampbell.com

P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0014; Xtra Oil, Castro Valley	Date Sampled: 01/31/05
	Client Contact: Paul King	Date Received: 02/01/05
	Client P.O.:	Date Extracted: 02/02/05-02/03/05
		Date Analyzed: 02/02/05-02/03/05

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

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0502031

Lab ID	0502031-001B	0502031-002B	0502031-003B	Reporting Limit for DF = 1	
Client ID	MW1	MW3	EW1		
Matrix	W	W	W		
DF	100	2000	2000	S	W

Compound	Concentration			ug/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<50	ND<1000	ND<1000	NA	0.5
Benzene	2200	36,000	ND<1000	NA	0.5
t-Butyl alcohol (TBA)	ND<500	24,000	32,000	NA	5.0
1,2-Dibromoethane (EDB)	ND<50	ND<1000	ND<1000	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<50	ND<1000	ND<1000	NA	0.5
Diisopropyl ether (DIPE)	ND<50	ND<1000	ND<1000	NA	0.5
Ethylbenzene	1900	2500	ND<1000	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<50	ND<1000	ND<1000	NA	0.5
Methyl-t-butyl ether (MTBE)	270	31,000	38,000	NA	0.5
Toluene	1200	1500	ND<1000	NA	0.5
Xylenes	5000	11,000	ND<1000	NA	0.5

### Surrogate Recoveries (%)

%SS1:	103	94	100		
%SS2:	97	102	101		
%SS3:	92	91	93		

### Comments

h

i

\* 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 surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0502031

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 14887			Spiked Sample ID: 0502030-002A			
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	LCS / LCSD
TPH(btex) <sup>£</sup>	ND	60	88.4	87.8	0.722	85	84.9	0.0682	70 - 130	70 - 130
MTBE	ND	10	83.8	83	0.939	85.7	85.5	0.245	70 - 130	70 - 130
Benzene	ND	10	103	103	0	89.6	89.9	0.334	70 - 130	70 - 130
Toluene	ND	10	102	101	1.27	88.7	89.6	1.08	70 - 130	70 - 130
Ethylbenzene	ND	10	104	103	1.58	91.8	91.9	0.0148	70 - 130	70 - 130
Xylenes	ND	30	103	103	0	94	94.3	0.354	70 - 130	70 - 130
%SS:	108	10	105	103	2.41	100	101	1.50	70 - 130	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 / 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 applicable or 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.

QA/QC Officer



**McC Campbell Analytical, Inc.**

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Website: www.mccampbell.com E-mail: main@mccampbell.com

### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0502031

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 14886		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	LCS / LCSD
TPH(d)	N/A	7500	N/A	N/A	N/A	108	108	0	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	110	109	0.630	N/A	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 / 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.

DHS Certification No. 1644

 QA/QC Officer



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0502031

EPA Method: SW8260B		Extraction: SW5030B			BatchID: 14884		Spiked Sample ID: 0502042-005C			
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	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	81	80.9	0.125	94.1	100	6.51	70 - 130	70 - 130
Benzene	ND	10	116	119	2.26	109	116	6.62	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	50	92.8	90.9	2.05	99	102	3.10	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	106	110	3.28	119	112	5.47	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	102	103	0.782	109	114	4.77	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	113	112	0.736	112	119	6.31	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	96.5	95.1	1.46	110	117	6.57	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	99.8	99	0.816	105	111	5.77	70 - 130	70 - 130
Toluene	ND	10	112	113	1.66	104	110	5.94	70 - 130	70 - 130
%SS1:	105	10	96	94	1.82	104	103	1.04	70 - 130	70 - 130
%SS2:	100	10	94	93	0.542	98	98	0	70 - 130	70 - 130
%SS3:	101	10	105	100	5.15	100	101	1.21	70 - 130	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 / 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.





# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.  
 55 Santa Clara Ave, Suite 240  
 Oakland, CA 94610  
 (510) 658-6916

## CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

0010

0502031

50 line  
 45 + lead  
 scavengers  
 by 8260

PROJECT NUMBER: 0014		PROJECT NAME: Xtra Oil, Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES): TPH, HSP, BTEX, Phe, o, p, m, xylene	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) Wilhelm Welzenbach								
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION				
MW1	1/3/05		water		7		ICE Normal Tamarand	
MW3	↓		↓		↓		↓	
EW1	↓		↓		↓		↓	
ICE/GOOD CONDITION <input checked="" type="checkbox"/> APPROPRIATE CONTAINERS <input checked="" type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> PRESERVED IN LAB <input checked="" type="checkbox"/> DECHLORINATED IN LAB <input type="checkbox"/>				PRESERVATION: VOAS <input type="checkbox"/> O&G <input type="checkbox"/> METALS <input type="checkbox"/> OTHER <input type="checkbox"/>				
RELINQUISHED BY: (SIGNATURE) Wilhelm Welzenbach		DATE 2/1/05	TIME 10:00	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 3	LABORATORY: McCampbell Analytical	
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE 2/1/05	TIME	RECEIVED BY: (SIGNATURE)		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 21	LABORATORY PHONE NUMBER: 1925 798-1620	
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		LABORATORY CONTACT: Angela Rydholm SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO		
				REMARKS: VOAs preserved to HCL.				

X  
 X  
 X