

# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916

November 8, 2002

Letter 0014L.104

Mr. Scott Seery, CHMM  
Alameda County  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT  
TRANSMITTAL  
Xtra Oil Company  
3495 Castro Valley Blvd.  
Castro Valley, CA

Dear Mr. Seery:

In response to your request in a letter dated October 25, 2002, you will find enclosed the following Quarterly Groundwater Monitoring and Sampling Reports:

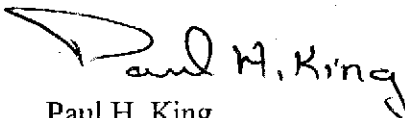
- 0014.R43 dated January 22, 2002
- 0014.R44 dated April 22, 2002
- 0014.R45 dated September 19, 2002

No quarterly monitoring and sampling was performed in June, 2002.

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

Sincerely,

P&D Environmental



Paul H. King  
President

Enclosures

PHK/hcm  
0014L.104

# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916

September 19, 2002

Report 0014.R45

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

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT  
Xtra Oil Company  
3495 Castro Valley Blvd.  
Castro Valley, CA

Gentlemen:

P&D Environmental, a division of Paul H. King, Inc. (P&D) is pleased to present this report documenting the results of the most recent quarterly monitoring and sampling of the wells at the subject site. This work was performed in accordance with P&D's proposal 020599.P1 dated February 5, 1999. All three wells (MW1, MW3 and MW4) were monitored and wells MW1 and MW3 were sampled on September 10, 2002. The reporting period for this report is for April through September, 2002. A Site Location Map (Figure 1) and Site Plan (Figure 2) 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 ppm, respectively; in borehole MW2 at depths of 10 and 15 feet below grade at concentrations of 230 and 95 ppm, respectively; and in borehole MW3 at depths of 5, 10 and 15 feet at concentrations of 140, 250 and 25 ppm, respectively. In addition, 120 ppm 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 ppm, 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 ppm and greater than 2,000 ppm, 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.

#### FIELD ACTIVITIES

On September 10, 2002, the three groundwater monitoring wells at the site (MW1, MW3 and MW4) were monitored and wells MW1 and MW3 were sampled by P&D personnel. A joint groundwater monitoring with Allisto Engineering, Inc. was performed this quarter. Extraction well EW1 was not monitored or sampled at the subject site during the quarter.

The wells were monitored for depth to water and the presence of free product or sheen. Depth to water was measured to the nearest 0.01 foot in wells MW1 and MW3 using an electric water level indicator. In MW4 the depth to water was measured to the nearest 0.01 foot using a steel tape with water-finding paste and product-finding paste. The presence of free product and sheen was evaluated using a transparent bailer in wells MW1 and MW3. **No free product was observed in any of the monitoring wells prior to purging with the exception of MW4, where free product measuring 1.60 feet in thickness was encountered.** In addition, sheen was observed in wells MW1 and MW3 prior to purging the wells. A petroleum-absorbent sock was present in monitoring well MW1.

A passive hydrocarbon collection device was present in well MW4. ~~The collection device was~~ observed to be full of what appeared to be diesel fuel, based on odor. The collection device was removed and emptied into a steel drum at the site. The height of the device was adjusted after monitoring of the well to match the measured water level, in order to better collect free product. The water level was measured in well MW4 after removal of the passive hydrocarbon collection device. Depth to water level measurements are presented in Table 1.

Prior to sampling, monitoring wells MW1 and MW3 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 which 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 monitoring period. The measured depth to water at the site in wells MW1, MW3 and MW4 on September 10, 2002 was 8.28, 7.97, and 9.09 feet, respectively. A separate phase layer measuring 1.60 feet in thickness was measured in well MW4. Using a specific gravity of 0.75, the corrected depth to water in well MW4 is 7.89 feet. Since the previous quarter, groundwater levels have decreased in wells MW1 and MW3 by 0.85 and 1.00 feet, respectively and increased in well MW4 by 0.77 feet. In well MW4, the separate phase layer thickness has decreased from 2.49 feet in thickness on March 30, 2002 to 1.60 feet in thickness on September 10, 2002. The corrected groundwater level in well MW4 has increased by 0.10 feet since the previous quarter.

Based on the measured depth to groundwater in the groundwater monitoring wells, the apparent groundwater flow direction at the site on September 10, 2002 was calculated to be to the southeast with a gradient of 0.0069. The groundwater flow direction has shifted toward the south and the gradient has decreased since the previous monitoring. The groundwater flow direction on September 10, 2002 is shown on Figure 2.

## LABORATORY RESULTS

The groundwater samples collected from monitoring wells MW1 and MW3 on September 10, 2001 were analyzed for TPH-G using EPA Method 5030 and Modified EPA Method 8015; benzene, toluene, ethylbenzene, total xylenes (BTEX), and MTBE using EPA Method 8020; and for TPH-D using EPA Method 3510 in conjunction with Modified EPA Method 8015.

The laboratory analytical results for the groundwater samples from wells MW1 and MW3 show TPH-G concentrations of 31 and 70 ppm, respectively; benzene concentrations of 2.2 and 21 ppm, respectively; and TPH-D concentrations of 18 and 43 ppm, respectively. MTBE was detected at a concentration of 19 ppm in well MW3 and was not detected in well MW1. Review of the laboratory analytical reports indicates that the TPH-D results for well MW1 consist of gasoline-range compounds, and in well MW3 consist of both diesel- and gasoline-range compounds.

Since the previous sampling on March 30, 2002, TPH-D concentrations have increased in wells MW1 and MW3. TPH-G, Benzene, Toluene, Ethylbenzene, Xylenes and MTBE concentrations have all decreased in wells MW1 and MW3 with the exception of MTBE which remained undetected in well MW1. The laboratory analytical results of 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

The three wells at the site were monitored and wells MW1 and MW3 were sampled once during the quarter. A layer of separate phase petroleum hydrocarbon measuring 1.60 feet in thickness was detected in well MW4. The collection device in well MW4 was emptied and adjusted to facilitate the collection of the separate phase hydrocarbons. It is P&D's understanding that the collection device is maintained by Xtra Oil Company personnel. P&D recommends that a log be maintained of product removed.

P&D recommends that use of absorbent socks in well MW1 be continued. The socks should be checked periodically and replaced as needed.

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 which are presently being monitored and sampled.

## DISTRIBUTION

Copies of this report should be sent to Mr. Chuck Headlee at the Regional Water Quality Control Board, San Francisco Bay Region, and 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 the principal executive officer of the 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.

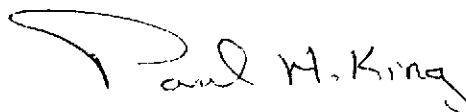
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the 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  
President  
California Registered Geologist  
Registration No. : 5901  
Expires: 12/31/03

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

PHK/hcm  
0014.R45

TABLE 1  
 WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1	9/10/02	177.37*	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

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1	5/19/94		8.05	169.38
(continued)	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	9/10/02	176.40	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
	11/06/97		7.80	168.80
	8/26/97		7.67	168.93
	7/24/97		176.41**	7.90
	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	

**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	8/22/94		7.65	168.76
(continued)	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	190.97***	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	9/10/02	176.35	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 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on September 10, 2002							
MW1 ++	18	31	ND<0.25	2.2	0.65	1.7	4.8
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3 +	43	70	19	21	2.2	1.6	7.6
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

Samples Collected on March 30, 2002							
MW1 +,@	12	99	ND	4.1	1.2	2.5	6.4
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3 +,@	8.5	170	26	40	17	2.6	16
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

NA = Not Analyzed.

@ = Review of the laboratory analytical reports indicates the presence of a lighter than water immiscible sheen on the sample.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
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Samples Collected  
on December 22, 2001

MW1 +,@	22	60	ND	3.2	1.9	2	6.2
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3 +,@	9.2	140	27	37	20	2.6	15
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

Samples Collected  
on September 23, 2001

MW1 ++,@	16	49	ND	4	1.4	2.2	6.2
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3 +,@	47	130	26	32	9.1	2.4	12
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

@ = Review of the laboratory analytical reports indicates the presence of a lighter than water immiscible sheen on the sample.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
	Samples Collected on June 22, 2001						
MW1 @,+	85	35	ND	3.1	0.75	1.2	4.0
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3 @,+	33	110	25	31	7.2	1.9	11
MW4 @,+	440	140	15	35	19	2.0	10
EW1	Not Sampled						
	Samples Collected on April 22, 2001						
MW1 @	16	43	ND	3.6	1.2	1.6	5.8
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+,@	61	140	24	25	5.4	1.7	11
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

@ = Review of the laboratory analytical reports indicates that both the TPH-D and the TPH-G results indicate the presence of a lighter than water immiscible sheen.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

Results in parts per million (ppm), unless otherwise indicated.



TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on December 14, 2000							
MW1 @,@@@ 11		49	ND	5.8	1.6	2	6.9
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+,@ 120		140	35	37	16	2.4	15
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

Samples Collected on September 18, 2000							
MW1@,+ 15		86	ND	7.2	2	3.2	13
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3@,+ 43		130	33	39	91	2.3	14
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

@ = Review of the laboratory analytical reports indicates the presence of a lighter than water immiscible sheen on the sample.

@@@ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both oil-range and gasoline-range compounds.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
----------	-------	-------	------	---------	---------	---------------	---------------

Samples Collected  
on July 26, 2000

MW1	Not Sampled						
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3@@	NA	NA	21	NA	NA	NA	NA
MW4	Not Sampled						
EW1	Not Sampled						

Samples Collected  
on June 8, 2000

MW1@,++	6.5	50	ND	5.7	1.5	1.8	7
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3@,+	74	130	23	41	16	1.9	13
MW4	Not Sampled (Free Product Present in Well)						
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

@ = Review of the laboratory analytical reports indicates the presence of a lighter than water immiscible sheen.

@@ = Review of the laboratory analytical reports indicate that the oxygenated volatile organic compounds (including DIPE, ETBE, TAME, methanol, ethanol, EDB, and 1,2-DCA) were not detected except for MTBE at 21 ppm and tert-butanol at 19 ppm.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on March 9, 2000							
MW1+	7.4	48	ND	5.3	3.1	1.6	8.1
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+,@	14	180	24	39	22	2.5	16
MW4+,@	2,100	130	6.9	35	13	2.1	11
EW1	Not Sampled						
Samples Collected on December 9, 1999							
MW1+,@	12	65	ND	9.3	2.9	2.2	8.8
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+,@	17	120	16	35	6.7	2.4	12
MW4+,@	9,000	120	8.1	33	6	2.4	12
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

@ = Review of the laboratory analytical reports indicates that both the TPH-D and the TPH-G results indicate the presence of a lighter than water immiscible sheen.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on August 31, 1999							
MW1+	22	66	0.71	8.7	2.7	2.4	10
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	22	120	4.7	35	3.7	2.4	14
MW4+	9.4	190	4.4	46	30	2.8	15
EW1	Not Sampled						
Samples Collected on April 29, 1999							
MW1+	22	48	ND	8.4	2.8	2.0	8.1
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	48	100	2.5	33	8.0	2.1	14
MW4+	9.4	210	3.2	42	35	2.8	15
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline-range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on January 29, 1999							
MW1+	9.1	47	ND	9.0	2.9	1.9	8.0
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	240	84	1.3	31	2.8	1.8	12
MW4+	7.3	190	2.4	44	40	3.1	17
EW1	Not Sampled						
Samples Collected on April 26, 1998							
MW1++	7.8	60	ND	9.3	5.7	2.1	9.1
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	380	100	9.7	29	7.1	1.8	14
MW4+	13	190	ND	49	37	3.2	18
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on January 24, 1998							
MW1+	24	57	ND	6.9	5.5	2.0	8.7
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	77	97	ND	28	7.1	1.8	11
MW4+	20	200	ND	50	40	3.1	17
EW1	Not Sampled						
Samples Collected on November 6, 1997							
MW1++	17	63	ND	7.4	6.7	2.3	9.9
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	120	140	ND	37	19	2.4	14
MW4+	110	160	ND	48	30	2.8	16
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
----------	-------	-------	------	---------	---------	---------------	---------------

Samples Collected  
 on August 26, 1997

MW1	Not Sampled						
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3	Not Sampled						
MW4+	5.5	210	1.7	48	42	3.4	19
EW1	Not Sampled						

Samples Collected  
 on July 24, 1997

MW1++	28	66	1.8	8.6	8.1	2.2	10
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3++	91	120	1.4	33	17	2.2	12
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on April 25, 1997							
MW1+	170	77	ND	7.4	7.9	2.1	9.8
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3+	760	240	1.6	24	18	4.1	24
EW1	Not Sampled						
Samples Collected on January 21, 1997							
MW1++	57	80	0.25	7.8	8.3	1.9	8.9
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3++	34	150	1.30	40	14	2.6	12
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.



TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on July 26, 1996							
MW1++	11	76	ND	11	13	2.4	10
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3++	24	130	0.89	40	22	2.4	12
EW1	Not Sampled						
Samples Collected on April 23, 1996							
MW1++	5.7	73	ND	8.6	12	2.2	9.8
MW2	Not Sampled (Destroyed on February 7, 1996)						
MW3++	280	170	0.72	34	22	2.2	14
EW1	Not Sampled						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on January 29, 1996							
MW1++	6.6	81	0.25	7.6	13	1.9	8.9
MW2++	4.6	38	0.0071	1.9	5.7	1.1	5.9
MW3++	45	150	0.54	32	21	1.9	12
EW1	Not Sampled						
Samples Collected on October 26, 1995							
MW1++	62	89	ND	7.8	12	2.4	11
MW2	900	74	ND	2.9	5.9	2.0	10
MW3	33	130	0.69	37	21	0.21	11
EW1	Not Sampled.						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on July 28, 1995							
MW1++	2.0	35	NA	3.8	8.7	1.1	6.5
MW2++	2.0	15	NA	1.4	2.3	0.62	3.2
MW3+	1.9	86	NA	28	16	1.3	7.6
EW1	Not Sampled.						
Samples Collected on May 2, 1995							
MW1++	6.5	86	NA	8.9	14	2.3	11
MW2+	6.6	55	NA	3.3	10	1.8	10
MW3+	9.7	170	NA	43	30	2.5	14
EW1	Not Sampled.						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on February 24, 1995							
MW1	9.1	90	NA	7.5	12	1.5	11
MW2	22	67	NA	4.9	11	1.8	11
MW3	9.2	130	NA	31	19	1.8	10
EW1	Not Sampled.						
Samples Collected on November 18, 1994							
MW1	10	96	NA	9.3	14	2.5	11
MW2	5.0	86	NA	11	17	1.8	12
MW3	23	140	NA	38	22	2.0	11
EW1	Not Sampled.						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

+ = Review of the laboratory analytical reports indicates that the TPH-D results consist of both diesel-range and gasoline range compounds.

++ = Review of the laboratory analytical reports indicates that the TPH-D results consist of gasoline range compounds.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on August 22, 1994							
MW1	8.3	100	NA	9.0	11	2.1	9.4
MW2	4.1	91	NA	10	13	1.5	9.0
MW3	5.3	170	NA	35	20	1.8	10
EW1	Not Sampled.						
Samples Collected on May 19, 1994							
MW1	30	100	NA	12	14	3.5	17
MW2	5.8	62	NA	9.2	13	1.3	8.4
MW3	30	150	NA	38	25	2.4	14
EW1	Not Sampled.						
Samples Collected on February 28, 1994							
MW1	110	90	NA	11	9.6	2.1	9.9
MW2	13	91	NA	13	16	1.5	9.0
MW3	210	110	NA	36	21	1.9	11
EW1	Not Sampled.						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on November 24, 1993							
MW1	8.2	66	NA	8.3	8.9	2.0	11
MW2	79	12	NA	13	17	2.5	17
MW3	24	160	NA	48	26	2.2	12
EW1	Not Sampled.						
Samples Collected on August 30, 1993							
MW1	9.4	77	NA	6.4	11	2.2	12
MW2	110	110	NA	11	14	1.8	11
MW3	32	130	NA	36	21	1.9	8.2
EW1	Not Sampled.						
Samples Collected on May 18, 1993							
MW1	30	92	NA	4.0	11	2.5	15
MW2	44	67	NA	9.2	12	1.4	9.3
MW3	7.2	130	NA	36	21	2.1	12
EW1	Not Sampled.						

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

ND = Not Detected.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on February 23, 1993							
MW1	14	100	NA	4.5	11	2.1	12
MW2	7.0	76	NA	12	17	1.6	9.6
MW3	8.1	110	NA	31	18	1.9	11
EW1	9.6	66	NA	14	8.5	1.4	9.8
Samples Collected on November 13, 1992							
MW1	4.4	120	NA	5.8	10	2.1	13
MW2	8.2	79	NA	10	13	1.4	8.6
MW3	4.7	140	NA	38	24	2.0	12
EW1	13	62	NA	11	9.2	1.1	9.6
Samples Collected On May 27, 1992							
MW1	11	120	NA	8.8	16	2.3	15
MW2	130	89	NA	18	19	1.7	14
MW3	27	370	NA	91	57	3.0	21

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On January 14, 1992							
MW1	19	39	NA	7.3	8.7	1.3	8.9
MW2	1600	59	NA	17	14	1.8	15
MW3	270	130	NA	76	30	3.4	21
Samples Collected On December 23, 1991							
MW1	34	78	NA	9.3	7.3	0.54	13
MW2	700	2100	NA	36	130	79	560
MW3	540	740	NA	30	61	31	180
Samples Collected On November 25, 1991							
MW1	36	170	NA	5.5	5.6	1.6	8.4
MW2	130	230	NA	11	9.7	1.4	9.7
MW3	74	150	NA	65	31	3.4	18

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

ND = Not Detected.

Results in parts per million (ppm), unless otherwise indicated.



TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On October 10, 1991							
MW1	19	28	NA	4.1	4.7	1.0	4.8
MW2	360	85	NA	21	25	2.1	14
MW3	39	140	NA	57	31	2.2	14
Samples Collected On September 17, 1991							
MW1	19	39	NA	4.9	4.1	1.2	5.9
MW2	56	74	NA	10	11	1.4	8.1
MW3	140	180	NA	47	25	2.6	15
Samples Collected On August 19, 1991							
MW1	47	48	NA	13	8.4	0.99	29
MW2	19	69	NA	26	22	2.1	18
MW3	150	170	NA	82	31	4.4	22

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

ND = Not Detected.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On July 20, 1991							
MW1	49	100	NA	11	14	2.3	17
MW2	100	51	NA	9.9	7.7	1.2	7.5
MW3	270	450	NA	46	29	3.5	21
Samples Collected On June 20, 1991							
MW1	42	76	NA	4.7	7.1	1.5	9.8
MW2	69	87	NA	8.1	8.4	1.1	8.9
MW3	210	920	NA	39	49	13	69
Samples Collected On May 17, 1991							
MW1	26	72	NA	7.7	9.9	ND	11
MW2	33	62	NA	5.9	6.3	1.2	9.0
MW3	70	170	NA	32	22	2.2	18

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed.

ND = Not Detected.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On April 15, 1991							
MW1	NA	56	NA	6.5	8.5	0.41	9.9
MW2	NA	82	NA	5.3	7.4	1.0	9.4
MW3	NA	110	NA	31	15	0.88	7.4
Samples Collected On March 21, 1991							
MW1	NA	36	NA	4.5	5.7	0.087	7.3
MW2	NA	62	NA	9.3	11	0.35	9.7
MW3	NA	87	NA	30	14	0.69	5.4
Samples Collected On February 15, 1991							
MW1	NA	120	NA	7.4	6.6	ND	13
MW2	NA	200	NA	12	12	1.7	14
MW3	NA	230	NA	44	40	ND	31

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

NA = Not Analyzed.

+++ Indicates Organic Lead was not detected.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
(Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On January 14, 1991							
MW1	NA	33	NA	3.9	2.9	0.21	5.3
MW2	NA	78	NA	11	8.7	0.58	8.0
MW3	NA	160	NA	48	25	1.0	16
Samples Collected On September 27, 1990							
MW1	NA	28	NA	3.7	3.5	0.01	6.5
MW2	NA	59	NA	8.4	12	0.88	9.0
MW3	NA	25	NA	7.2	6.4	0.42	3.4
Samples Collected On August 23, 1990							
MW1	NA	40	NA	5.1	4.9	0.35	6.0
MW2	NA	96	NA	8.1	8.4	1.5	8.6
MW3	NA	220	NA	67	46	27	18

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

NA = Not Analyzed.

Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On July 20, 1990							
MW1	44	NA	NA	5.1	4.2	ND	9.1
MW2	86	NA	NA	9.1	14	0.94	13
MW3	88	NA	NA	25.1	21.1	0.61	14.1
Samples Collected On March 19, 1990							
MW1	NA	40	NA	3.7	1.1	ND	3.3
MW2	NA	50	NA	7.7	8.7	0.075	5.6
MW3	NA	210	NA	38	28	1.8	12
Samples Collected On February 20, 1990							
MW1+++	NA	7.6	NA	1.6	ND	ND	1.3
MW2+++	NA	38	NA	7.3	3.1	0.075	6.8
MW3+++	NA	46	NA	20	15	1.8	9.7

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

NA = Not Analyzed.

+++ Indicates Organic Lead was not detected.

Results in parts per million (ppm), unless otherwise indicated.

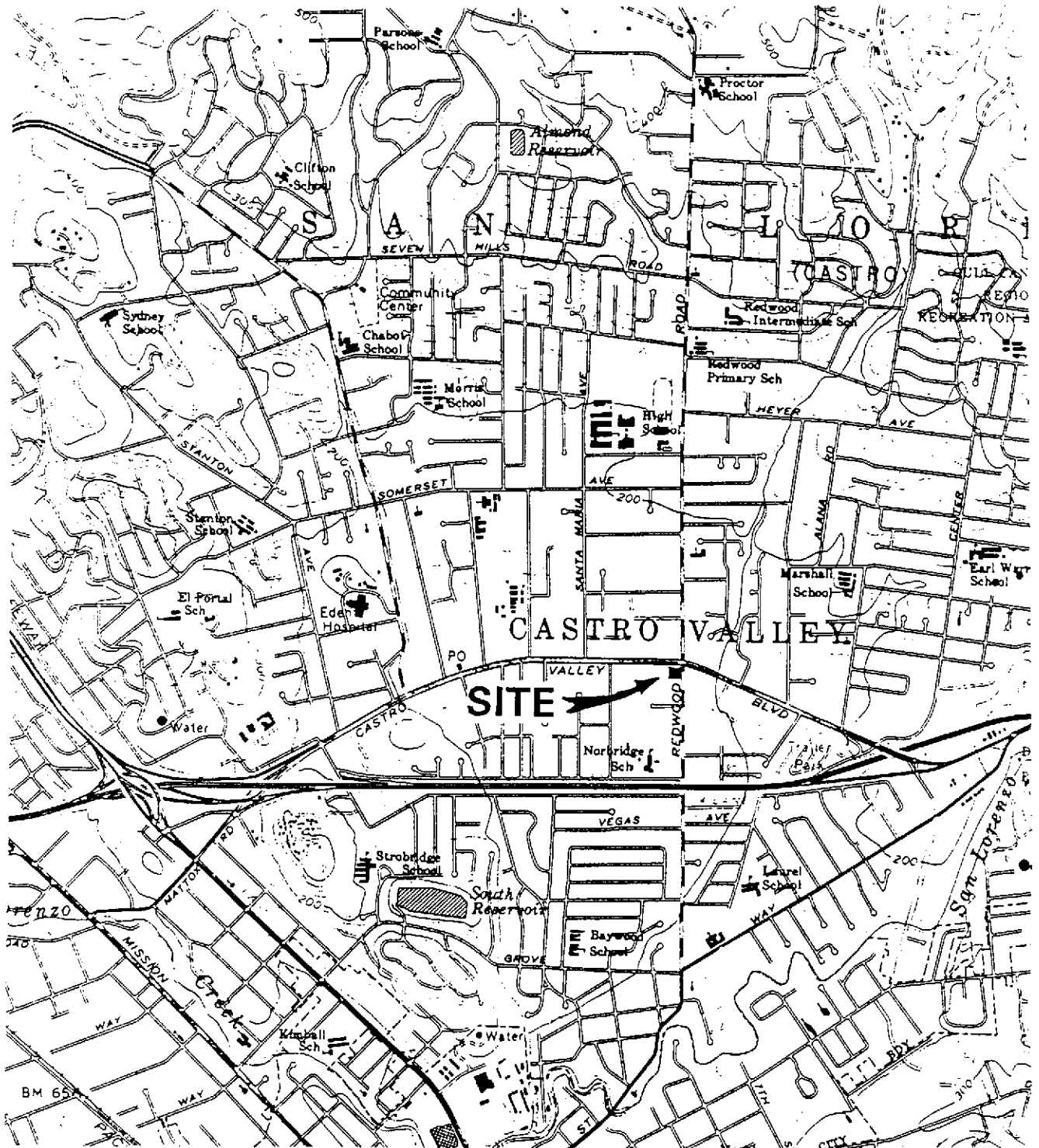
# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916



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

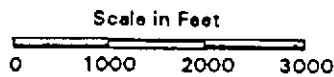
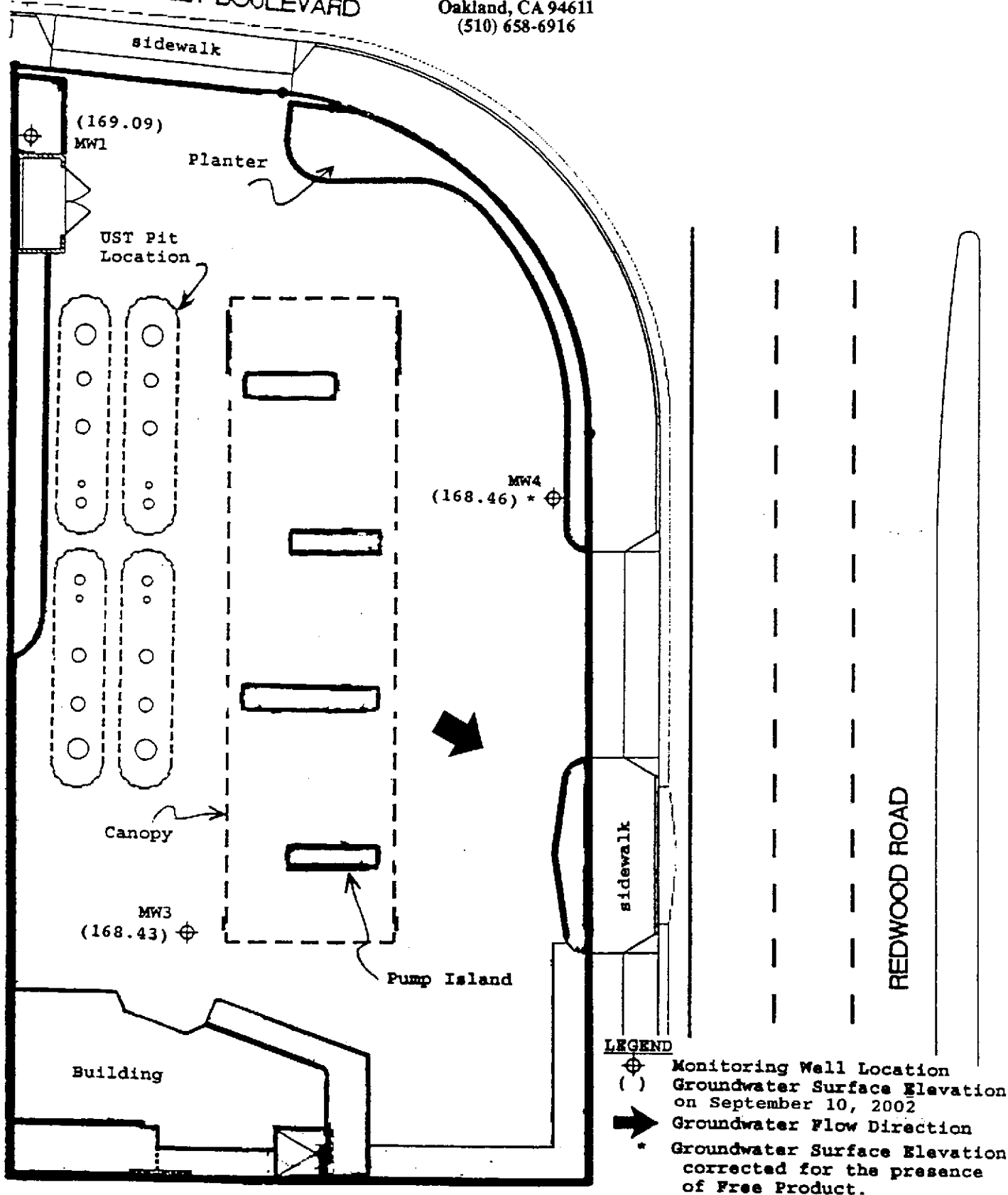


Figure 1  
SITE LOCATION MAP  
XTRA OIL Company  
3195 Castro Valley Blvd.  
Alameda, California

# P & D ENVIRONMENTAL

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

CASTRO VALLEY BOULEVARD

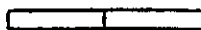


Base Map From  
RHL Design Group, Inc.  
June, 1997

North



0 20



Scale in Feet

Figure 2  
SITE PLAN  
ITRA OIL Company  
3459 Castro Valley Blvd.  
Castro Valley, CA

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name Xtra 0.1 - Castro Valley

Well No. MW1

Job No. 0014

Date 9/10/02

TOC to Water (ft.) 8.28

Sheen Yes

Well Depth (ft.) 20.0

Free Product Thickness 0

Well Diameter 4"

Sample Collection Method Teflon Bailor

Gal./Casing Vol. 7.6

$\Sigma = 22.8$

TIME	GAL. PURGED	DH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm)
8:48	0.5	7.41	71.0	9.10 x 100
8:51	3	7.37	70.7	9.52
8:55	6	7.37	71.3	9.51
9:00	9	7.36	72.5	10.21
9:03	12	7.37	72.5	10.25
9:08	15	7.44	76.8	11.20
9:12	17	Well dewatered		
9:23	18	7.40	78.7	11.82
9:27	22	7.38	72.5	10.23
9:28	Well dewatered			
9:35	Collect sample			

NOTES: Hydrocarbon - absorbent rock in well



P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name Atta Oil - Castro Valley

Well No. MW 3

Job No. 0014

Date 9/10/02

TOC to Water (ft.) 7.97

Sheen Yes (diesel)

Well Depth (ft.) 18.7

Free Product Thickness ∅

Well Diameter 4"

Sample Collection Method

Gal./Casing Vol. 6.9

Teflon Bailor

20.7

<u>TIME</u>	<u>GAL. PURGED</u>	<u>pH</u>	<u>TEMPERATURE (°F)</u>	<u>ELECTRICAL CONDUCTIVITY <math>\mu\text{S}/\text{cm}</math></u>
<u>10:19</u>	<u>0.5</u>	<u>7.42</u>	<u>72.8</u>	<u>12.17 X 100</u>
<u>10:21</u>	<u>3</u>	<u>7.21</u>	<u>71.0</u>	<u>14.76</u>
<u>10:23</u>	<u>6</u>	<u>7.28</u>	<u>71.8</u>	<u>15.00</u>
<u>10:26</u>	<u>9</u>	<u>7.29</u>	<u>72.8</u>	<u>15.15</u>
<u>10:27</u>	<u>9.5</u>	<u>well dewatered</u>		
<u>10:52</u>	<u>12</u>	<u>7.25</u>	<u>70.0</u>	<u>14.76</u>
<u>10:56</u>	<u>15</u>	<u>7.26</u>	<u>70.8</u>	<u>14.80</u>
<u>10:58</u>	<u>16</u>	<u>well dewatered</u>		
<u>11:10</u>	<u>Collect sample</u>			

NOTES: Sheen on purge water

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name Atra Oil - Castro Valley

Well No. MW4

Job No. 0014

Date 9/10/02

TOC to Water (ft.) 112" - 22 1/8" = 89 7/8

Sheen N/A

Well Depth (ft.) NA

Free Product Thickness See below

Well Diameter 2"

Sample Collection Method

Gal./Casing Vol.

None

TIME	GAL. PURGED	DH	TEMPERATURE	ELECTRICAL CONDUCTIVITY
		112"	Top of casing	
		9.09	22 1/8"	1.84
	90	Top of oil	Diesel	1.60
			2 7/8"	
			water	
			$0.75 \times 1.60 = 1.20$	
			$9.09 - 1.20 = 7.89 =$ corrected water table	
			$176.35 - 7.89 = 168.46$	

NOTES: Petroleum Collection Device (PCD) present in well.  
PCD emptied and <sup>height</sup> adjusted slightly



McC Campbell Analytical Inc.

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

P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 09/10/02
	Client Contact: Paul King	Date Received: 09/11/02
	Client P.O.:	Date Extracted: 09/15/02
		Date Analyzed: 09/15/02

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0209159

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW1	W	31,000,a	ND<250	2200	650	1700	4800	50	103
002A	MW3	W	70,000,a	19,000	21,000	2200	1600	7600	100	93.4

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell 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); 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.

 Edward Hamilton, Lab Director



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P & D Environmental 4020 Panama Court Oakland, CA 94611-4931	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 09/10/02
	Client Contact: Paul King	Date Received: 09/11/02
	Client P.O.:	Date Extracted: 09/11/02
		Date Analyzed: 09/13/02

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

Extraction method: SW3510C

Analytical methods: SW8015C

Work Order: 0209159

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0209159-001B	MW1	W	18,000,d	100	--#
0209159-002B	MW3	W	43,000,a,d	100	--#


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

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

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: 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; j) sample diluted due to high organic content; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0209159

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 3919		Spiked Sample ID: 0209150-002A				
Compound	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(gas)	ND	60	109	108	0.405	115	112	2.96	80	120
MTBE	7.241	10	88.9	96.3	4.48	96.1	97.1	1.07	80	120
Benzene	ND	10	95.5	99.5	4.10	99.4	97.5	1.94	80	120
Toluene	ND	10	91.9	94.8	3.14	93.7	93.1	0.569	80	120
Ethylbenzene	ND	10	97	99.5	2.55	101	97.8	3.13	80	120
Xylenes	ND	30	93	93.3	0.358	96.7	93	3.87	80	120
%SS:	98.3	100	96.3	98.5	2.29	102	98.8	2.91	80	120

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.

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.

% 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.



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## QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0209159

EPA Method: SW8015C	Extraction: SW3510C			BatchID: 3913			Spiked Sample ID: N/A			
Compound	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	83.1	105	23.4	70	130
%SS:	N/A	100	N/A	N/A	N/A	83.1	104	22.8	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.

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.

% 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.

**McC Campbell Analytical Inc.**

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 (925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0209159

**Client:**

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

TEL: (510) 658-6916  
 FAX: (510) 658-9074  
 ProjectNo: #0014; Xtra Oil-C  
 PO:

11-Sep-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests	
					SW8015C	8021B/8015
0209159-001	MW1	Water	9/10/02		B	A
0209159-002	MW3	Water	9/10/02		B	A

**Comments:**

	Date/Time		Date/Time
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	

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.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

# P & D ENVIRONMENTAL


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4020 Panama Court  
Oakland, CA 94611  
(510) 658-6916

0209159

## CHAIN OF CUSTODY RECORD

1060

ANALYSIS(ES):  
TPH-G/STEX/MS/PAH-D  
8020

PROJECT NUMBER: 0014		PROJECT NAME: Xtra Oil - Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-G/STEX/MS/PAH-D					PRESERVATIVE	REMARKS										
SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King and H. King																						
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION																		
MW1	9/10/02		Water										7	X X						ICE	Normal Turn Around	
MW3	9/10/02		"										7	X X						"	" "	
ICER <input checked="" type="checkbox"/> PRESERVATION APPROPRIATE CONTAINERS <input checked="" type="checkbox"/> PRESERVED IN LAB GOOD CONDITION <input checked="" type="checkbox"/> VOAS <input type="checkbox"/> O&G <input type="checkbox"/> METALS <input type="checkbox"/> OTHER <input type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> CONTAINERS <input checked="" type="checkbox"/> DECHLORINATED IN LAB <input type="checkbox"/> PRESERVED IN LAB <input type="checkbox"/>												TOTAL NO. OF SAMPLES (THIS SHIPMENT)		2	LABORATORY:							
RELINQUISHED BY: (SIGNATURE) Paul H. King		DATE	TIME	RECEIVED BY: (SIGNATURE) B. Butth		TOTAL NO. OF CONTAINERS (THIS SHIPMENT)		14	LABORATORY CONTACT:		LABORATORY PHONE NUMBER:											
RELINQUISHED BY: (SIGNATURE) B. Butth		DATE	TIME	RECEIVED BY: (SIGNATURE)		LABORATORY CONTACT:		Angela Rydelms					LABORATORY PHONE NUMBER: (925) 798-1620									
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO																
				REMARKS: VOAS preserved with Hcl								 LOG BY SV										