



# Xtra Oil Company

2307 Pacific Avenue, Alameda, CA 94501

Tel (510) 865-9503, Fax (510) 865-1889

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June 4, 1993


Mr. Scott Seary  
Hazardous Materials Program  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, Ca. 94621

Regarding: 3495 Castro Valley Blvd. Castro Valley

Dear Mr. Seary,

Please find enclosed the quarterly report for the above location. This reports is for the first quarter of 1993. If you have any questions feel free to contact us.

Sincerely,

  
\_\_\_\_\_  
Keith Simas

# P & D ENVIRONMENTAL

300 Monte Vista, #101  
Oakland, CA 94611  
Telephone (510) 658-6916

May 17, 1993  
Report No. 0014.R3

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 (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 our proposal dated December 23, 1992. The reporting period is for December, 1992 through February, 1993. 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 10,000 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 15, 1990 by Wedge Western Geo-Engineers. 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 boreholes MW1 and MW3 at depths ranging from 5 to 15 feet below grade and at concentrations ranging from 40 to 1,400 ppm at MW1 and concentrations ranging from 25 to 250 ppm at MW3. In MW2, TPH-G was encountered at depths ranging from 10 to 15 feet below grade and at concentrations ranging from 95 to 230 ppm. In borehole MW3, TPH-D was encountered at concentrations ranging up to 1,200 ppm. Groundwater was encountered in the boreholes at a depth of 15 feet below grade.

On February 15, 1990 Wedge Western Geo-Engineers drilled three exploratory boreholes at the site designated as SB1, SB2 and SB3. Soil samples were collected from the exploratory boreholes at depths of 10 and 12 feet. TPH-G was detected in SB1 at a depth of 10 feet and at a concentration of 1,700 ppm. In SB2 and SB3, TPH-G was detected at depths of 10 and 12 feet. TPH-G concentrations in both boreholes were 800 ppm at a depth of 10 feet and 2,000 ppm at a depth of 12 feet. A groundwater monitoring and sampling program was initiated at the site on February 20, 1990.

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 constructed in one corner of the new tank pit at the time of installation for the new tanks. The location of EW1 is shown on Figure 2.

### FIELD ACTIVITIES

On February 23, 1993 all of the monitoring wells at the site were monitored and sampled by P&D personnel. 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 using an electric water level indicator. The presence of sheen was evaluated using a transparent bailer. No sheen was observed in any of the wells. Depth to water level measurements are presented in Table 1.

Prior to sampling, the monitoring wells were purged of a minimum of three casing volumes of water. 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, water samples were collected using a clean Teflon bailer. At the request of XTRA OIL, a water sample was also collected from extraction well EW1, which was installed in the tank pit during the August 1992 fuel tank replacement activities. Well EW1 was not purged prior to sample collection.

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 the monitoring wells once during the quarter. The measured depth to water at the site on February 23, 1993 ranged from 6.39 to 8.01 feet. Groundwater levels have increased in wells MW1 and MW2 by 1.79 and 2.31 feet, respectively, and decreased in well MW3 by 0.15 feet since the previous monitoring on November 13, 1992. The calculated groundwater flow direction on February 23, 1993 was to the southwest with a gradient of 0.027. The groundwater flow direction has reversed and the gradient has increased since the previous monitoring on November 13, 1992.

Groundwater level data collected during the quarter are presented in Table 1. The groundwater flow direction at the site on February 23, 1993 is shown on Figure 2.

### LABORATORY RESULTS

All of the groundwater samples collected from the monitoring wells and the extraction well were analyzed for TPH-G using EPA Method 5030 and Modified EPA Method 8015; benzene, toluene, ethylbenzene and total xylenes (BTEX) 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 MW1, MW2 and MW3 showed TPH-G at concentrations of 100, 76 and 110 ppm, respectively, and TPH-D at concentrations of 14, 7.0 and 8.1 ppm, respectively. TPH-G and TPH-D concentrations in EW1 were 66 and 9.6 ppm, respectively. Since the previous quarter, TPH-G concentrations have decreased in wells MW1, MW2 and MW3, and increased slightly in well EW1. TPH-D concentrations have decreased in wells MW2 and EW1 and increased in wells MW1 and MW3 since the previous quarter. The laboratory analytical results are summarized in Table 2. Copies of the

laboratory analytical results and chain of custody documentation are attached with this report.

#### DISCUSSION AND RECOMMENDATIONS

In response to a letter dated March 4, 1993 from Mr. Scott Seery of the Alameda County Department of Environmental Health, the wellheads for the groundwater monitoring wells were resurveyed relative to [REDACTED]. It is P&D's understanding that the monitoring wells were surveyed vertically to the nearest 0.01 feet on March 24, 1993 by Andreas Desk of Alameda, a State-licensed surveyor. It is also P&D's understanding that the benchmark which was used was the top of the fire hydrant located on Redwood Road at the southeast corner of the subject site.

Comparison of the relative differences in elevation for the different wellheads in both the December 5, 1992 and the March 24, 1993 survey data shows that the relative differences are identical for the two surveys. This indicates that the November, 1992 calculated groundwater flow direction is unchanged from the previously calculated November, 1992 groundwater flow direction which was based on the December 5, 1992 survey data.

Based on the laboratory analytical results of the water samples collected from the monitoring wells, P&D recommends that the quarterly groundwater monitoring and sampling program be continued.

#### DISTRIBUTION

Copies of this report should be sent to Mr. Richard Hiatt 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. 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 judgement 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 judgement based upon data and findings identified in this report and

May 17, 1993  
Report No. 0014.R3

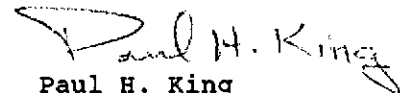
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interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

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

Sincerely,

P&D Environmental



Paul H. King  
Hydrogeologist



Sherban A. Duncan  
Registered Civil Engineer  
Registration No.: 32972  
Expiration Date: 6/30/94

PHK  
0014.R3

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

TABLE 1  
 WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1	2/23/93	177.43*	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
MW2	2/23/93	176.04*	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			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
MW3	2/23/93	176.41*	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 March 24, 1993

\*\* = Surveyed on December 5, 1992

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS

Well No.	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on February 23, 1993						
MW1	14	100	4.5	11	2.1	12
MW2	7.0	76	12	17	1.6	9.6
MW3	8.1	110	31	18	1.9	11
EW1	9.6	66	14	8.5	1.4	9.8
Samples Collected on November 13, 1992						
MW1	4.4	120	5.8	10	2.1	13
MW2	8.2	79	10	13	1.4	8.6
MW3	4.7	140	38	24	2.0	12
EW1	13	62	11	9.2	1.1	9.6
Samples Collected On May 27, 1992						
MW1	11	120	8.8	16	2.3	15
MW2	130	89	18	19	1.7	14
MW3	27	370	91	57	3.0	21
Samples Collected On January 14, 1992						
MW1	19	39	7.3	8.7	1.3	8.9
MW2	1600	59	17	14	1.8	15
MW3	270	130	76	30	3.4	21
Samples Collected On December 23, 1991						
MW1	34	78	9.3	7.3	0.54	13
MW2	700	2100	36	130	79	560
MW3	540	740	30	61	31	180

TPH-G = Total Petroleum Hydrocarbons as Gasoline.  
 TPH-D = Total Petroleum Hydrocarbons as Diesel.  
 Results in parts per million (ppm), unless otherwise indicated.

TABLE 2  
 SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 (Continued)

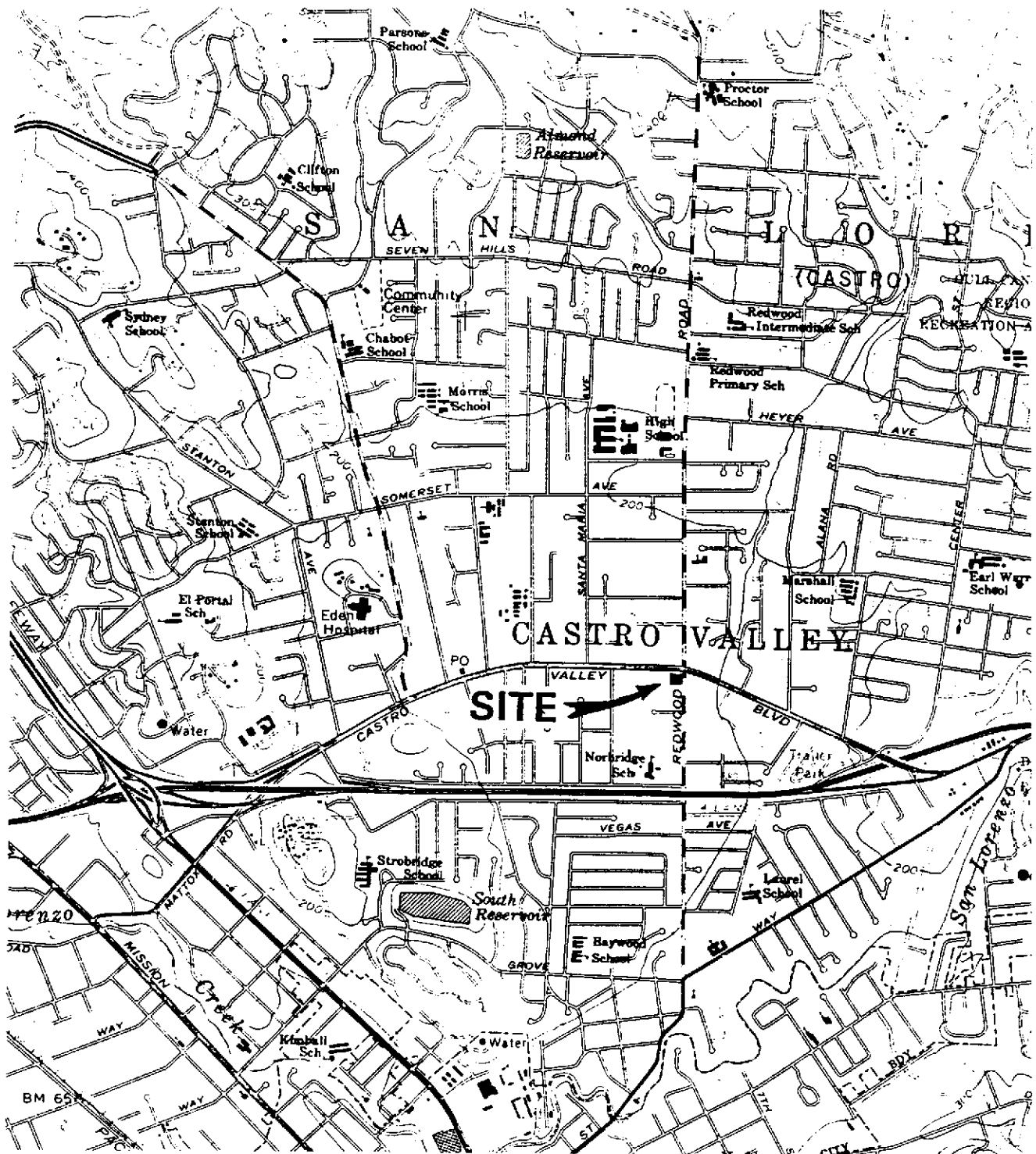
Well No.	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected On November 25, 1991						
MW1	36	170	5.5	5.6	1.6	8.4
MW2	130	230	11	9.7	1.4	9.7
MW3	74	150	65	31	3.4	18
Samples Collected On October 10, 1991						
MW1	19	28	4.1	4.7	1.0	4.8
MW2	360	85	21	25	2.1	14
MW3	39	140	57	31	2.2	14
Samples Collected On September 17, 1991						
MW1	19	39	4.9	4.1	1.2	5.9
MW2	56	74	10	11	1.4	8.1
MW3	140	180	47	25	2.6	15
Samples Collected On August 19, 1991						
MW1	47	48	13	8.4	0.99	29
MW2	19	69	26	22	2.1	18
MW3	150	170	82	31	4.4	22

TPH-G = Total Petroleum Hydrocarbons as Gasoline.  
 TPH-D = Total Petroleum Hydrocarbons as Diesel.  
 Results in parts per million (ppm), unless otherwise indicated.



# P & D ENVIRONMENTAL

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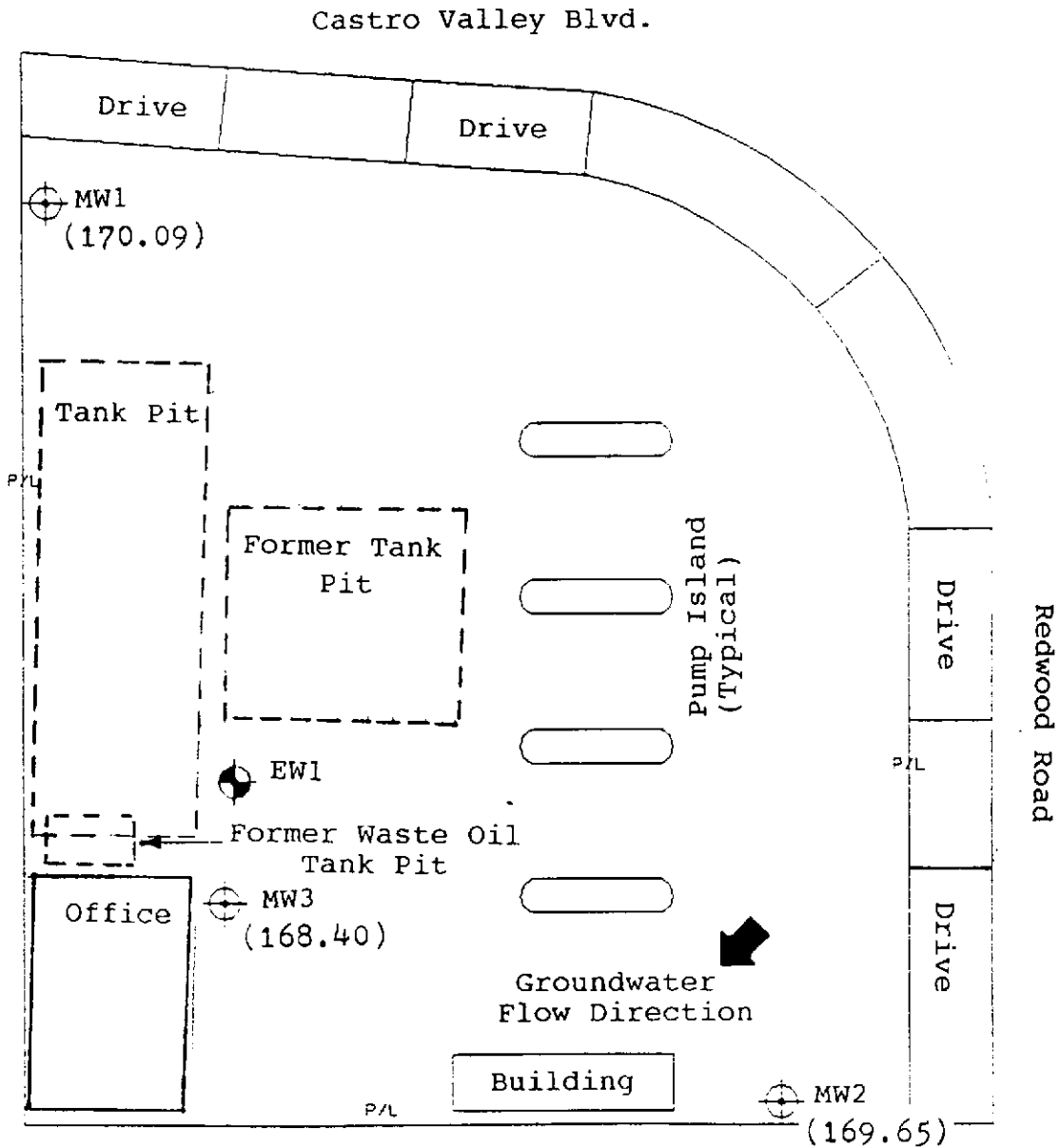


Base Map from:  
U.S. Geological Survey  
Hayward, Calif.  
7.5 Minute Quadrangle  
Photorevised 1980




Figure 1  
SITE LOCATION MAP  
XTRA OIL Company  
3495 Castro Valley Blvd.  
Alameda, California

# P & D ENVIRONMENTAL

300 Monte Vista, #101  
Oakland, CA 94611  
Telephone (510) 658-6916



## LEGEND

-  Extraction Well Location
-  Monitoring Well Location
-  Groundwater Flow Direction
- ( ) Groundwater Surface Elevation on February 23, 1993

P/L Property Line

Base Map From:  
K&B Environmental  
Dated 9/14/92



0 10 20 30 60



Scale in Feet

Figure 2  
**SITE PLAN**  
XTRA OIL Company  
3495 Castro Valley Blvd.  
Castro Valley, CA

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET



Site Name XTRV OIL - Castro Valley  
Job No. 0014  
TOC to Water (ft.) 7.34 10:01 AM  
Well Depth (ft.) 20.3  
Well Diameter 4"  
Gal./Casing Vol. 8.6

Well No. AW1  
Date 2/23/93  
Sheen None  
Free Product Thickness ∅  
Sample Collection Method Teflon Bailer

TIME	GAL. PURGED	pH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm)
1:22	0.5	7.54	58.9	3.11 x 100
1:24	3.0	6.99	65.1	16.11 x 100
1:26	6.0	6.92	66.8	16.87 x 100
1:28	9.0	6.96	65.8	16.67 x 100
Empty buckets → 1:36	12.0	7.22	63.2	14.95 x 100
1:38	15.0	7.01	65.4	15.24 x 100
Empty buckets → 1:40	18.0	6.91	66.0	15.34 x 100
1:55	21.0	7.03	65.9	19.00 x 100
1:58	24.0	6.99	66.2	14.76 x 100
2:02	27.0	6.94	66.2	14.80 x 100
		<u>Collect Samples</u>		

NOTES: PHK Rain

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name XTRA OIL - Castro Valley  
 Job No. 0014  
 TOC to Water (ft.) 6.39      10:4 AM  
 Well Depth (ft.) 18.3  
 Well Diameter 4"  
 Gal./Casing Vol. 7.9

Well No. MW2  
 Date 2/23/93  
 Sheen None  
 Free Product Thickness 0  
 Sample Collection Method Teflon Bailor

TIME	GAL. PURGED	pH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm)
3:53	0.5	6.97	62.9	1.53 X 1000
3:55	3.0	6.79	64.8	1.46 X 1000
3:57	6.0	6.70	65.2	1.47 X 1000
3:59	9.0	6.62	66.2	1.49 X 1000
Empty buckets → 4:05	12.0	6.59	63.2	1.50 X 1000
4:07	15.0	6.65	65.4	1.49 X 1000
Empty buckets → 4:09	18.0	6.66	66.7	1.50 X 1000
4:15	21.0	6.71	66.7	1.47 X 1000
4:17	24.0	6.66	66.7	1.45 X 1000
<i>Collect Samples</i>				

NOTES: PHIK      Rain

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name ATRA DEL-Castro Valley Well No. MW3  
 Job No. 0014 Date 2/23/93  
 TOC to Water (ft.) 8.01 10:06 Am Sheen None  
 Well Depth (ft.) 18.4 Free Product Thickness 0  
 Well Diameter 4" Sample Collection Method \_\_\_\_\_  
 Gal./Casing Vol. 6.5 Teflon Bailor

*MW3*

TIME	GAL. PURGED	pH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm)
<u>2:40</u>	<u>0.5</u>	<u>7.01</u>	<u>60.2</u>	<u>14.23 x 100</u>
<u>2:42</u>	<u>3.0</u>	<u>6.99</u>	<u>63.5</u>	<u>2.98 x 1000</u>
<u>2:44</u>	<u>6.0</u>	<u>7.01</u>	<u>64.0</u>	<u>2.72 x 1000</u>
<u>2:45</u>	<u>7.0</u>	<u>Well</u>	<u><del>Purged</del></u>	<u>dry dewatered</u>
<u>3:02</u>	<u>9.0</u>	<u>7.19</u>	<u>64.7</u>	<u>2.63 x 1000</u>
<u>3:04</u>	<u>12.0</u>	<u>7.17</u>	<u>66.7</u>	<u>2.72 x 1000</u>
<u>3:05</u>	<u>12.3</u>	<u>Well dewatered</u>		
<u>3:15</u>	<u>15.0</u>	<u>7.10</u>	<u>66.5</u>	<u>2.85 x 1000</u>
<u>3:16</u>	<u>16.5</u>	<u>Well dewatered</u>		
		<u>Collect samples</u>		

NOTES: PHK Rain

Xtra Oil Company 2307 Pacific Avenue Alameda, CA 94501	Client Project ID: Castro Valley	Date Sampled: 02/23/893
		Date Received: 02/23/893
	Client Contact: Keith Simas	Date Extracted: 02/24/893
	Client P.O:	Date Analyzed: 02/24/893

**Low Boiling Point (C6-C12) TPH\* as Gasoline and BTEX\***

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(G) <sup>+</sup>	Benzene	Toluene	Ethyl Benzene	Xylenes	% Rec. Surrogate
21588	MW1	W	100,000,a	4500	11,000	2100	12,000	99
21589	MW2	W	76,000,a	12,000	17,000	1600	9600	100
21590	MW3	W	110,000,a	31,000	18,000	1900	11,000	100
21591	EW1	W	66,000,a	14,000	8500	1400	9800	98
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	0.005	

\*water samples are reported in ug/L and soils in mg/kg

\*cluttered chromatogram; sample peak co-elutes with surrogate peak

\*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) predominately unmodified or weakly modified gasoline; b) heavier gasoline range compounds predominate (aged gasoline?); c) lighter gasoline range compounds predominate (the most mobile gasoline compounds); d) heavy and light gasoline range compounds predominate (aged gasoline together with introduced light compounds?); e) gasoline range compounds predominate; no recognizable pattern; f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds predominate.

*EH*  
 Edward Hamilton, Lab Director

Xtra Oil Company 2307 Pacific Avenue Alameda, CA 94501		Client Project ID: Castro Valley		Date Sampled: 02/23/893
				Date Received: 02/23/893
		Client Contact: Keith Simas		Date Extracted: 02/24/893
		Client P.O:		Date Analyzed: 02/24/893
<b>Medium Boiling Point (C10-C23) TPH* as Diesel</b>				
EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)				
Lab ID	Client ID	Matrix	TPH(D) †	
21588	MW1	W	14,000,d	
21589	MW2	W	7000,d,b	
21590	MW3	W	8100,d,b	
21591	EW1	W	9600,d,b	
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	
*water samples are reported in ug/L and soils in mg/kg				
* cluttered chromatogram; sample peak co-elutes with surrogate peak				
† The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) predominately unmodified or weakly modified diesel; b) diesel range compounds predominate; no recognizable pattern; c) diesel range compounds together with gasoline range compounds; d) gasoline range compounds predominate; e) medium boiling point pattern that does not match diesel(); f) one to a few isolated peaks present; g) oil range compounds predominate.				

*EH*  
Edward Hamilton, Lab Director

## QC REPORT

Date: 02/22-02/24/93

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	112.5	108.9	102	110	107	3.3
Benzene	0.0	9.3	9.0	10	93	90	3.3
Toluene	0.0	10.6	10.3	10	106	103	2.9
Ethyl Benzene	0.0	10.8	10.6	10	108	106	1.9
Xylenes	0.0	32.0	31.2	30	107	104	2.5
TPH (diesel)	0	659	663	600	110	111	0.7
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

N/A\* sample concentration 10X that of MS; recovery not



