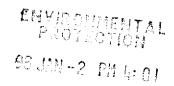
XTRA OIL COMPANY 2307 PACIFIC AVE. ALAMEDA, CA 94501 (510) 865-9503



December 31, 1997

ALAMEDA COUNTY
DEPT. OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
1131 HARBOR BAY PKWY. ROOM 250
ALAMEDA, CA. 94502

ATTENTION:

SCOTT SEERY

REGARDING:

3495 CASTRO VALLEY BLVD.

CASTRO VALLEY

DEAR MR. SEERY,

PLEASE FIND ENCLOSED, THE MOST RECENT QUARTERLY REPORT FOR THE ABOVE LOCATION. IF YOU HAVE ANY QUESTIONS FEEL FREE TO CONTACT ME.

IT WAS MY UNDERSTANDING THAT PAUL KING WOULD SEND YOU THE WORKPLAN FOR FURTHER INVESTIGATION DIRECTLY; LET ME KNOW IF YOU DID NOT RECIEVE IT.

SINCERELY,

ENCLOSURES

P & D ENVIRONMENTAL

A Division of Paul H. King, Inc. 4020 Panama Court Oakland, CA 94611 (510) 658-6916 MTBE confirmed -EPA 8260 method

December 22, 1997 Report 0014.R26

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 Faul 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 093097.P2 dated September 30, 1997. The wells were monitored and sampled on November 6, 1997. The reporting period is for August through October, 1997. 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 November 6, 1997 the three groundwater monitoring wells at the site (MW1, MW3, and MW4) were monitored and sampled by PED personnel. A joint groundwater monitoring with Allisto Engineering, Inc. was not possible for this quarter. Allisto Engineering, Inc. monitored and sampled the wells of the former BP station across Redwood Road from the subject site on October 27, 1997.

Extraction well EWI 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 using an electric water level indicator. The presence of free product and sheen was evaluated using a transparent bailer. No free product was observed in any of the monitoring wells. However, sheen was observed in all of the wells. A petroleum-absorbent sock was present in monitoring well MW1. 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.

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 in wells MW1, MW3, and MW4 on November 6, 1997 was 8.79, 7.80, and 9.16 feet, respectively. Groundwater levels have decreased in wells MW1, MW3, and MW4 by 0.28, 0.13, and 0.24 feet, respectively, since the previous monitoring on August 26, 1997. Based on the measured depth

to groundwater in groundwater monitoring wells MW1, MW3, and MW4, the apparent groundwater flow direction at the site on November 6, 1997 was calculated to be to the east-northeast with a gradient of 0.024. The groundwater flow direction has remained relatively unchanged, and the gradient has increased slightly since the last monitoring on August 26, 1997.

Groundwater monitoring data collected on November 6, 1997 are presented in Table 1. The groundwater flow direction at the site on November 6, 1997 is shown on Figure 2.

## LABORATORY RESULTS

The groundwater samples collected from the monitoring wells 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. In addition, at the request of Mr. Scott Seery of the Alameda County Department of Environmental Health, the groundwater sample from the well exhibiting the highest TPH-G value (monitoring well MW4), was analyzed for MTBE confirmation using modified EPA Method 8260 (GC/MS).

The laboratory analytical results for the groundwater samples from wells MW1, MW3, and MW4 show TPH-G concentrations of 63, 140, and 160 ppm, respectively; benzene concentrations of 7.4, 37, and 44 ppm, respectively; and TPH-D concentrations of 17, 120, and 110 ppm, respectively. Review of the laboratory analytical reports indicates that the TPH-D results for wells MW3 and MW4 consist of both diesel-range and gasoline-range compounds, and that the TPH-D results for well MW1 consist of gasoline-range compounds. The MTBE confirmation analysis for the sample from well MW4 showed that MTBE was detected at a concentration of 1.2 ppm.

During the previous sampling episode on July 24, 1997 well MW4 had not yet been installed. Since the previous sampling episode on July 24, 1997 TPH-D and TPH-G concentrations have increased in wells MW1 and MW3 except for the TPH-D concentration in well MW1 (gasoline range compounds), which has decreased. Since the previous sampling episode of MW4 on August 26, 1997, the TPH-D concentration has increased and the TPH-G concentration has decreased in well MW4. 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

P&D recommends that the use of absorbent socks in the wells 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 the quarterly groundwater monitoring and sampling program be continued. In addition, P&D recommends that future monitoring and sampling efforts continue to 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. Kevin Graves 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 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 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.

DOME STANK

CERTIFIED Engineering

**GEOLOGIST** 

Sincerely,

P&D Environmental

Paul H. King Hydrogeologist

Don R. Braun

Certified Engineering Geologist

Registration No. : 1310

Expires: 6/30/98

PHK 0014.R26

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	11/06/97 8/26/97	177.37*	8.79 8.51	168.58 168.86
	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		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 9.50	166.03 166.23
	9/17/91			166.42
	8/19/91		9.31	100.42
MW2		ED (DESTROYED ON B		
	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

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	11/13/92 5/29/92 1/14/92 12/23/91	198.61*** 175.45	8.70 9.31 8.97 10.39	189.91 166.14 166.48 165.06
	11/25/91 10/10/91 9/17/91 8/19/91		9.81 10.39 10.23 9.60	165.64 165.06 165.22 165.85
MW3	11/06/97 8/26/97 7/24/97 4/25/97 1/20/97 7/26/96	176.60* 176.41**	7.80 7.67 7.90 7.12 6.35 7.84	168.80 168.93 168.51 169.29 170.06 169.57
	7/09/96 4/23/96 2/07/96 1/29/96 10/26/95 7/28/95		7.61 6.81 5.05 5.77 7.72 7.80	168.80 169.60 170.36 170.64 168.69 168.61
	5/02/95 2/23/95 11/18/94 8/22/94 5/19/94		6.50 7.24 6.05 7.65 7.15	169.91 169.17 170.36 168.76 169.26
	2/24/94 11/24/93 8/30/93 5/18/93 2/23/93		6.68 7.55 7.64 7.12 8.01	169.73 168.86 168.77 169.29 168.40
	11/13/92 5/29/92 1/14/92 12/23/91 11/25/91 10/10/91	190.97*** 175.00	7.86 8.45 8.24 9.37 9.19 9.43	191.12 166.55 166.55 165.63 165.81 165.57
MW4	9/17/91 8/19/91 11/06/97	176.35*	9.20 8.95 9.16	165.80 166.05 167.19
	8/26/97 8/20/97		8.92 7.66 (prior t	167.43 o development)

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

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS

Well No.	TPH-D	TPH-G	MTBE	Benzens	Toluene	Ethyl- benzene	Total Xylenes			
Samples Collected on November 6, 1997										
MW1****	17	63	ND	7.4	6.7	2.3	9.9			
MW2	Not S	ampled (Dest	royed o	n February	7, 1996)					
MW3***	120	140	ND	37	19	2.4	14			
MW4***	110	160	<del>-ND</del>	44"	30	2.8	16			
EW1	Not S	Sampled /.2								
Samples Collected on August 26, 1997										
MWl	Not S	ampled								
MW2	Not S	sampled (Des	troyed o	n February	7, 1996)					
MW3	Not S	ampled								
MW4****	5.5	210	1.7	48	42	3.4	19			
EW1	Not S	Sampled								
				ples Collec July 24, 19						
MW1****	28	66	1.8	₩.6	8.1	2.2	10			
MW2	Not S	Sampled (Des	troyed o	n February	7, 1996)					
MW3***	91	120	1.4	33	17	2.2	12			
EW1	Not S	Sampled								

## NOTES:

NA = Not Analyzed

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 gasoline range compounds.

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

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 Sam	pled (Dest	royed o	n February	7, 1996)					
WM3****	760	240	1.6	24	18	4.1	24			
EW1	Not Sam	pled								
Samples Collected on January 21, 1997										
MW1****	57	80	0.25	7.8	8.3	1.9	8.9			
MW2	Not Sam	pled (Des	royed o	n February	7, 1996)					
MW3***	34	150	1.30	40	14	2.6	12			
EW1	Not Sam	pled		= '						
Samples Collected on July 26, 1996										
MW1****	11	76	ND	11	13	2.4	10			
MW2	Not Sam	pled (Des	troyed o	n February	7, 1996)					
MW3****	24	130	0.89	40	22	2.4	12			
EW1	Not Sam	pled								
				ples Collec April 23, 1						
MW1****	5.7	73	ND	8.6	12	2.2	9.8			
MW2	Not Sam	pled (Des	troyed o	n February	7, 1996)					
MW3***	280	170	0.72	34	22	2.2	14			
EW1	Not Sam	pled								
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 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 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 Sam	pled								
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			
мwз	33	130	0.69	37	21	0.21	11			
EW1	Not Sam	pled.								
				les Collec July 28, 19						
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 Sam	pled.								
				les Collec May 2, 199						
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 Sam	pled.								

## 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 gasoline range compounds.

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

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		
ммз	9.2	130	NA	31	19	1.8	10		
EW1	Not Samp	pled.							
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 Samp	pled.							
				ples Collec August 22, 1					
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 Sam	pled.							
				ples Collec May 19, 19					
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 Sam	oled.							

## NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline. TPH-D = Total Petroleum Hydrocarbons as Diesel.

NA = Not Analyzed. ND = Not Detected.

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS (Continued)

				(oom cameou,							
Well No.	TPH-D	TPH-G	Benzen	e Toluene	Ethyl- benzene	Total Xylenes					
	Samples Collected on February 28, 1994										
MWl	110	90	11	9.6	2.1	9.9					
MW2	13	91	13	16	1.5	9.0					
MW3	210	110	36	21	1.9	11					
EW1	Not Sam	pled.									
		Samples Collected on November 24, 1993									
MW1	8.2	66	8.3	8.9	2.0	11					
MW2	79	12	13	17	2.5	17					
MW3	24	160	48	26	2.2	12					
EW1	Not Sampled.										
				oles Collectugust 30, 1							
MW1	9.4	77	6.4	11	2.2	12					
MW2	110	110	11	14	1.8	11					
MW3	32	130	36	21	1.9	8.2					
EW1	Not Sar	mpled.									
				ples Collec May 18, 19							
MW1	30	92	4.0	11	2.5	15					
MW2	44	67	9.2	12	1.4	9.3					
MW3	7.2	130	36	21	2.1	12					
EW1	Not Sam	pled.									

## NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline. TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS (Continued)

Well No.	TPH-D	TPH-G	Benzen	e Toluene	Ethyl- benzene	Total Xylenes			
				oles Collec bruary 23,					
MW1	14	100	4.5	11	2.1	12			
MW2	7.0	76	12	17	1.6	9.6			
мw3	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			
мw3	4.7	140	38	24	2.0	12			
EW1	13	62	11	9.2	1.1	9.6			
				oles Collec May 27, 19					
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			
				ples Collec anuary 14,					
MW1	19	39	7.3	8.7	1.3	8.9			
WW2	1600	59	17	14	1.8	15			
мw3	270	130	76	30	3.4	21			

 $\mbox{TPH-G} = \mbox{Total Petroleum Hydrocarbons as Gasoline.}$   $\mbox{TPH-D} = \mbox{Total Petroleum Hydrocarbons as Diesel.}$ 

ND = Not Detected.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
(Continued)

Well No.	TPH-D	TPH~G	Benzen	e Toluene	Ethyl- benzene	Total Xylenes		
				oles Collect cember 23,				
WMI	34	78	9.3	7.3	0.54	13		
MW2	700	2100	36	130	79	560		
MW3	540	740	30	61	31	180		
		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		
				oles Collect etember 17,				
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		
				oles Collect ugust 19, 1				
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		

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline. TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS (Continued)

Well No.	TPH-D	TPH-G	Benzene	e Toluene	Ethyl- benzene	Total Xylenes				
Samples Collected On July 20, 1991										
MW1	49	100	11	14	2.3	17				
MW2	100	51	9.9	7.7	1.2	7.5				
MW3	270	450	46	29	3.5	21				
	Samples Collected On June 20, 1991									
MW1	42	76	4.7	7.1	1.5	9.8				
MW2	69	87	8.1	8.4	1.1	8.9				
ммз	210	920	39	49	13	69				
	Samples Collected On May 17, 1991									
MW1	26	72	7.7	9.9	ND	11				
MW2	33	62	5.9	6.3	1.2	9.0				
MW3	70	170	32	22	2.2	18				
			Samp On A	les Collec pril 15, 1	ted 991					
MW1	NA	56	6.5	8.5	0.41	9.9				
MW2	NA	82	5.3	7.4	1.0	9.4				
MW3	NA	110	31	15	0.88	7.4				
				les Collec arch 21, 1						
MW1	NA	36	4.5	5.7	0.087	7.3				
MW2	NA	62	9.3,	11	0.35	9.7				
MW3	NA	87.	30	14	0.69	5.4				

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	Benzen	e Toluene	Ethyl- benzene	Total Xylenes			
				ples Collec bruary 15,					
MW1	NA	120	7.4	6.6	ND	13			
MW2	NA	200	12	12	1.7	14			
KW3	NA	230	44	40	ND	31			
	Samples Collected On January 14, 1991								
MW1	NA	33	3.9	2.9	0.21	5.3			
MW2	NА	78	11	8.7	0.58	8.0			
MW3	NA	160	48	25	1.0	16			
	Samples Collected On September 27, 1990								
MW1	NA	28	3.7	3.5	0.01	6.5			
MW2	NA	59	8.4	12	0.88	9.0			
MW3	NA	<b>2</b> 5	7.2	6.4	0.42	3.4			
				oles Collec ugust 23, 1					
MWl	NA	40	5.1	4.9	0.35	6.0			
MW2	NA	96	8.1	8.4	1.5	8.6			
MW3	NA	220	67	46	27	18			
				ples Collec July 20, 19					
MW1	44	NA	5.1	4.2	ND	9.1			
MW2	86	NA	9.1	14	0.94	13			
MW3	88	NA	25.1	21.1	0.61	14.1			

### NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline. TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

NA = Not Analyzed.

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS (Continued)

Well No.	TPH-D	TPH-G	Benzen	e Toluene	Ethyl- benzene	Total Xylenes			
			_	les Collect arch 19, 19					
MW1	NA	40	3.7	1.1	ND	3.3			
MW2	NA	50	7.7	8.7	0.075	5.6			
MW3	NA	210	38	28	1.8	12			
	Samples Collected On February 20, 1990								
MW1+	NA	7.6	1.6	ND	ND	1.3			
MW2+	NA	38	7.3	3.1	0.075	6.8			
MW3+	NA	46	20	15	1.8	9.7			

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

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

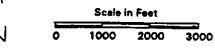
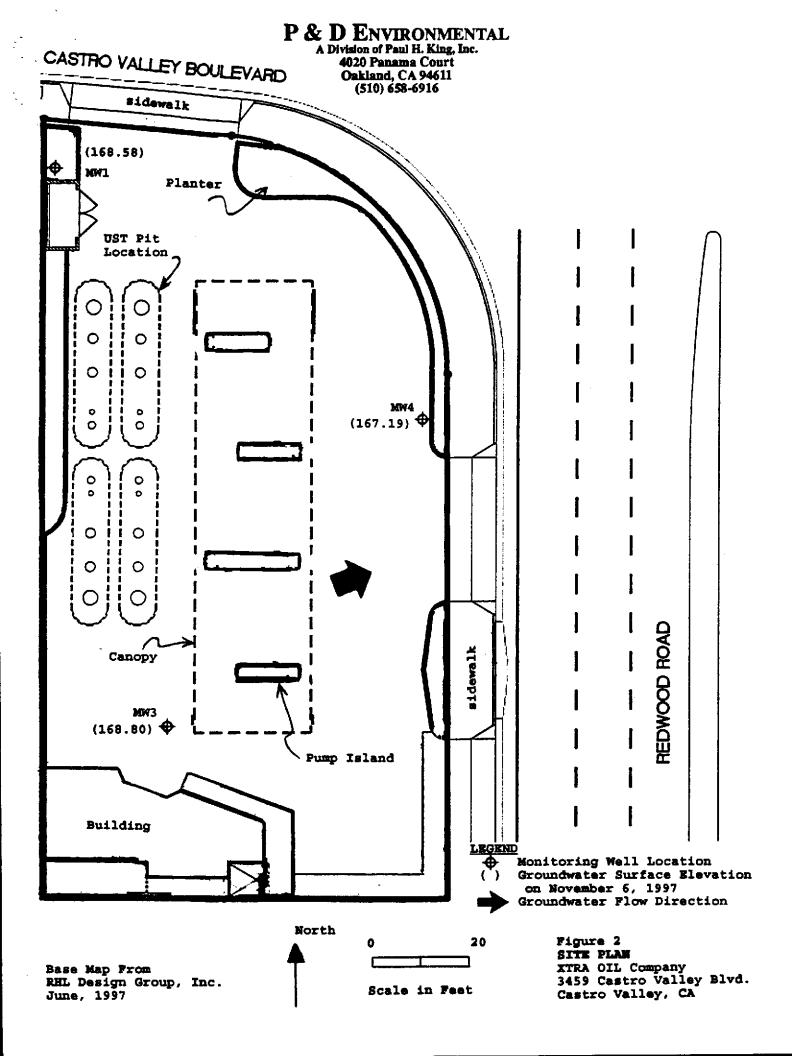


Figure 1 SITE LOCATION MAP XTRA OIL Company 3195 Castro Valley Blvd. Alameda, California



## P&D ENVIRONMENTAL GROUNDWATER MONITORING/WELL PURGING DATA SHEET

Site Name >	KTRA OIL Company	_ Castro Valley	Well No	mwi
Job No	0014	· · ·		11/6/97
	r (ft.) 8.79		Sheen	
	(ft.) 20.8			ct Thickness #
Well Diamet	er4"			lection Method
Gal./Casing	vol. 7.4	<del></del>	Teflon B	ailer
TIME	GAL. PURGED	_рн	TEMPERATURE ( )	ELECTRICAL CONDUCTIVITY (MS/CM)
11:20	3.7	6.35	71.3	9.54 X100
11:25	7.4	10.31	71.4	7.79
11:30	11.1	6.18	71.9	7.72
11:35	14,8	6.12	72.3	8.25
11:40	18.5	6.00		9.04
11:45	22.2	5.98		8.90
12:00	Semple	<u>/</u>		
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<del></del>				
	<del></del>		<del></del>	
			<del></del>	
	·			
			<del></del>	
NOTES:	G			
Well on	orged using	Honda pur	up & foot valv	<u>e</u>
PURGE10.92	<i>a</i> <u>J</u>	1	•	

# P&D ENVIRONMENTAL GROUNDWATER MONITORING/WELL PURGING DATA SHEET

Site Name	XIKA OIL Company	~~	Well No	mw3
	0014	<u> </u>	Date	11/6/97
TOC to Wate	er (ft.) 7,80	<del></del>	Sheen	yes
	(ft.) 20.0		Free Produ	ct Thickness $\phi$
Well Diame	ter <u> </u>		Sample Col	lection Method
	g Vol		Tellon F	Sculer
TIME	GAL. PURGED	рН	TEMPERATURE (*F)	ELECTRICAL (WS/CM)
12:20	4.0	5.31	72 2	1.56 x 1000
12:05	<u>       8.                             </u>	5,20	72.8	<u> </u>
12:30		5.12	72.5	1.51
12:35	16.0	5.09	71.8	1.50
12:40	20.0	5.16	71.6	[,53
12:45	24.0	5.15		
1:00	Sumples	<i>!</i>		
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		****	***	<u></u>
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NOTES: Ac	, <del>'</del>			
Well .	owned using	Honda o	rump & Post va	yl ve
PURGE10.92	7			

# P&D ENVIRONMENTAL GROUNDWATER MONITORING/WELL PURGING DATA SHEET

Site Name XIRA OIL Compa	ind	Well No	mw4
Job No. 0014	, -	Date	11/6/97
TOC to Water (ft.) 9.164	_	Sheen	yes
Well Depth (ft.) 20.0	<del>,</del>	Free Produc	t Thickness
Well Diameter 2.0"	_	Sample Coll	ection Method
Gal./Casing Vol. /8	_	To Hon Bo	riler
TIME GAL. PURGED	На	TEMPERATURE (CF)	ELECTRICAL (ME(CM)
1:30 0.9	5.37	71.8	1.51 X 1000
1.8	5,44	71.9	_1.29
1:36 2.7	5.45	72.4	1.20
1:39 3.6	5.46	72.0	1.16
1:42 45	5,45	71.7	1.14
1:45 5.4	5.45	71.5	1.09
2100 Sampled			
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	<del></del>	-	
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NOTES: AGG			
Well proped yeary Home	de primo	& Postvalue	· · · •
PURGE10.92	r		

110 Second Avenue South, #D7, Pacheco, CA 94553 Telephone: 510-798-1620 Fax: 510-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

P&D Environmental	Client Project ID: #0014; Xtra Oil	Date Sampled: 11/06/97
4020 Panama Court	Company- Castro Valley	Date Received: 11/07/97
Oakland, CA 94611	Client Contact: Paul King	Date Extracted: 11/08-11/10/97
	Client P.O:	Date Analyzed: 11/08-11/10/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & 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>	МТВЕ	Benzene	Toluene	Ethylben- zene	Xylenes	% Recovery Surrogate
82724	MWI	w	63,000 <b>,a,h</b>	ND<440	7400	6700	2300	9900	106
82725	MW3	w	140,00 <b>0,a,h</b>	ND<1600	37,000	19,000	2400	14,000	104
82726	MW4	w	160,000 <b>,a,h</b>	ND<2400	44,000	30,000	2800	16,000	103
<del></del>									
			;						
									<u> </u>
otherwis	Limit unless e stated; ND	w	50 ug/L	5.0	0.5	0.5	0.5	0.5	
above th	ot detected ne reporting imit	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

<sup>\*</sup> water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

<sup>&</sup>quot; cluttered chromatogram; sample peak coelutes with surrogate peak

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) paramodified 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 (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; ho lighter than water than the sheets is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

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P&D Environmental	Client Project ID: #0014; Xtra Oil	Date Sampled: 11/06/97
4020 Panama Court	Company- Castro Valley	Date Received: 11/07/97
Oakland, CA 94611	Client Contact: Paul King	Date Extracted: 11/07/97
	Client P.O:	Date Analyzed: 11/07/97

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

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) <sup>+</sup>	% Recovery Surrogate
82724	MW1	w	17,000,d,h	100
82725	MW3	w	120,000,a,d,h	100
82726	MW4	w	110,000,a,d,h	102
	· · · · · · · · · · · · · · · · · · ·			
Reporting Lin	nit unless otherwise ns not detected above	W	50 ug/L	
the rep	porting limit	S	1.0 mg/kg	

<sup>\*</sup> water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

<sup>\*</sup> 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.

<sup>\*</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



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P&D Enviror			t Project ID: #0014; Xtra Oil pany- Castro Valley		Date Sampled: 11/06/97 Date Received: 11/07/97			
Oakland, CA		Client	t Contact: Paul King	Date Extracted: 11/17/97				
,		Client	P.O:	Date Analyzed: 1	11/17/97			
EPA method 82	260 modified	Methyl tert-Butyl Ether *		-				
Lab ID	Client ID	Matrix	MTBE*		% Recovery Surrogate			
82726	MW4	W	1200,ե	1200,ի				
					· · · · · · · · · · · · · · · · · · ·			
		-						
					<del></del>			
Reporting Lin	nit unless otherwise	w	5.0 ug/L					
	ns not detected above porting limit	s	50 ug/kg					

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than  $\sim$ 5 vol. % sediment.

/// Edward Hamilton, Lab Director

<sup>\*</sup> water samples are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L

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## QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/07/97

Matrix: Water

	Concent	ration	(mg/L)				
Analyte	Sample  (#82640)	MS	MSD	Amount   Spiked 	   MS 	MSD	RPD
TPH (gas)	0.0	100.3	98.9	100.0	100.3	98.9	1.5
Benzene Toluene Ethyl Benzene	0.0	10.3 10.4 10.6	10.7 10.7 10.9	10.0   10.0   10.0	103.0   104.0   106.0	107.0 107.0 109.0	3.8 2.8 2.8
Xylenes	0.0	31.9	32.8	30.0	106.3	109.3	2.8
TPH(diesel)	   0 	159	159	   150 	   106 	106	0.0
TRPH (oil & grease)	0	23500	23900	   23700 	99	101	1.7

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

<sup>\*</sup> Rec. = (MS - Sample) / amount spiked x 100

## QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/10/97-11/11/97 Matrix: Water

	Concent	ration	(mg/L)		% Reco		
Analyte	Sample			Amount			RPD
l I	(#82837) 	MS	MSD	Spiked 	MS	MSD	
TPH (gas)	0.0	100.5	99.4	100.0	100.5	99.4	1.1
Benzene	0.0	10.4	10.4	10.0	104.0	104.0	0.0
Toluene	0.0	10.6	10.6	10.0	106.0	106.0	0.0
Ethyl Benzene	0.0	10.7	10.6	10.0	107.0	106.0	0.9
Xylenes	0.0	31.9	31.9	30.0	106.3	106.3	0.0
  TPH(diesel) 	0	151	151	150	101	100	0.3
TRPH (oil & grease)	0	23800	24800	23700	   100 	105	4.1

% Rec. = (MS - Sample) / amount spiked x 100

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

## QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/17/97

Matrix: WATER

	Concent	ration	(mg/L)		% Reco	very	
Analyte	Sample			Amount			RPD
	(#82720) 	MS	MSD	Spiked	M.S 	MSD	
TPH (gas)	0.0	102.0	100.4	100.0	102.0	100.4	1.6
Benzene	0.0	10.8	10.6	10.0	108.0	106.0	1.9
Toluene	j 0.0	10.7	10.8	10.0	107.0	108.0	0.9
Ethyl Benzene	0.0	10.5	10.8	10.0	105.0	108.0	2.8
Xylenes	0.0	31.7	32.5	30.0	105.7	108.3	2.5
TPH(diesel)	0	144	143	150	96	95	0.7
TRPH   (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

<sup>%</sup> Rec. = (MS - Sample) / amount spiked x 100

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

CHAIN OF CUSTODY RECORD

													NUC O	
PROJECT NUMBER:		P(	TMA C	NAME: 151 Company - Castro Willey	1, 10	STECT		(tring)	4	gà	://	/ J. /		
SAMPLED BY: (PRIN		SIGNAT	URE)	leadstondown	NUMBER OF CONTAINERS	AWAL YSISTER		TIPE CONTROL	3		//	THESERVA TIVE	REMARK	s
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NO.	To L	15	A TOE		* T				
mwi	116/47		Winter		4	X	$\mathbf{x}$				Ice	Horn	al Turn A	ופטותל
MW3	11		11		4	X	X			_	.,	te		41
mw4	11		11		4	凶	刈	$X\!\!\!\perp$		↓_			41	"
						1-1			-	<del> </del>	<del> </del>			:
					<u></u>	-			╫	╁			82724	<u>.</u>
	<u> </u>												82725	<u>,                                    </u>
											<u> </u>		92766	,
											<u> </u>		82726	
			VOASTOR	S METALS OTHER		ļ		_		-	-			
ICE/IO J		RVATION	1	7,000		-	$\vdash$	-	-	╂	╂			
GOOD CONDITION_  HEAD SPACE ABSENT_		PRIATE AINERS_				-			- -	<del>-</del>				
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RELINQUISHED 184:	ESIGNATUR	 F)	DATE	TIME RECEIVED BY: (SIGNATURE)				OF SA		13	3 1	ABORATO	RY:	. 0
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Az16624/12	^		11-797	0945 Naidi Miccu	_	8	占.	140	mil	ten	. <u> </u>	(510)7	48-1620	
RELINQUISHED BY:		E)	DATE	TIME RECEIVED FOR LABORATORY (SIGNATURE) HE MAT	r BY:							REQUES YES (人		
1			<del>-l</del>	REMARKS: NOA'S POR	serve	ļ ,	، در	76′	HC	L		_		
				Please Perform highest TPH-	an	M	TBF	3 6	50/1	M\$	C	n Hema	tion on	
	_			highest TPH-	Gas	SA	mp	le.						

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P&D Environmental 4020 Panama Court Oakland, CA 94611		Client Project ID: #0014; Xtra Oil Company- Castro Valley		Date Sampled: 11/06/97  Date Received: 11/07/97			
						Client Contact: Paul King Client P.O:	
		<del></del>	······································	N	Sethyl tert-Butyl Ether *		
		EPA method 8.	260 modified				% Recovery
Lab ID	Client ID	Matrix	MTBE"		Surrogate		
82726	MW4	w	1200,h		113		
<u> </u>							
			,				
					<del></del>		
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		w	5.0 ug/L				
		S	50 ug/kg				
		l					

* water samples are reported in ug/L, soil and sludge samples in ug/kg	, wipe samples in ug/wipe and all TCLP / STLC / SPLP extracts in
ue/L	

Edward Hamilton, Lab Director

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than -5 vol. % sediment.

## P& D Environmental

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CHAIN OF CUSTODY RECORD 9827 X PD245 PAGE \_\_\_ OF \_\_\_ (510) 658-6916 PROJECT NAME: PROJECT NUMBER: XTM OIL Company - Enstroyally 0014 SAMPLED BY: (PRINTED AND SIGNATURE) REMARKS Ahmad Ghandour SAMPLE LOCATION TYPE TIME SAMPLE NUMBER DATE TCE Normal Turn Around 116/147 Noter (4) mwl +2 MW3 mw4 82724 82725 82726 <del>voas Lob**i**s Metalstother</del> ICENO\_J PRESERVATION -GOOD CONDITION V APPROPRIATE HEAD SPACE ABSENT CONTAINERS IGTAL NO. OF SAMPLES LABORATORY: RECEIVED BY: (SIGNATURE) RELINGUISHED BY: ASIGNATURE) TIME DATE (1945 SEPHENT) McCampbell Analytical 12 TOTAL NO. OF CONTAINERS
(THE SHPMENT) 11/4/47 LABORATORY CONTACT: LABORATORY PHONE NUMBER: RECEIVED BY: (SIGNATURE) RELINOUISHED BY: (SIGNATURE) DATE TIME (510) 748 -1620 Sol. Hamilton CAKS 1197 1210 1024/1014 SAMPLE ANALYSIS REQUEST SHEET RECEIVED FOR LABORATORY BY: RELINQUISHED BY: (SIGNATURE) DATE TIME ATTACHED: ( )YES (X)NO (SIGNATURE) SHE MAT REMARKS: NOA'S pareserved with HCL MIBE GCIMS confirmation on hickest you are