

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

January 22, 1996

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 ~~OFFSITE GROUNDWATER QUALITY REPORT~~ FOR THE
ABOVE LOCATION. IF YOU HAVE ANY QUESTIONS FEEL FREE TO CONTACT ME.

SINCERELY,



KEITH SIMAS

ENCLOSURES

13-2-96 DE 11:25
13-2-96 DE 11:25
13-2-96 DE 11:25

P & D ENVIRONMENTAL

- NO LOGS -

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

January 5, 1996
Report 0014.R14

Mr. Ted Simas
Mr. Keith Simas
XTRA OIL Company
2307 Pacific Ave.
Alameda, CA 94501

SUBJECT: **OFFSITE GROUNDWATER QUALITY INVESTIGATION 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 collection of ten offsite groundwater grab samples, designated as P10, P11, P12, P13, P14, P15, P16, P17, P18, and P19, to evaluate groundwater quality in the vicinity of the subject site. Groundwater grab sample P10 was collected on October 13, 1994. Groundwater grab sample P11 was collected on January 17, 1995. Groundwater grab samples P12 through P15 were collected on March 24, 1995. Groundwater grab samples P16 through P19 were collected on June 8, 1995. This work was performed in accordance with a letter from Mr. Scott Seery of the Alameda County Department of Environmental Health (ACDEH) dated July 27, 1994; P&D's work plan 0014.W2 dated August 16, 1994; P&D's proposal 093094.P1 dated September 30, 1994; P&D's work plan addendum 0014.L39 dated March 23, 1995; and P&D's work plan addendum 0014.L43 dated June 7, 1995. A Site Location Map (Figure 1) and a Site Vicinity Map (Figure 2) are attached with this report.

Following workplan approval, P&D obtained permits for the groundwater grab sample locations from the Alameda County Water Agency, Zone 7; received copies of permission for offsite property access which was obtained by XTRA OIL Company; notified Underground Service Alert; notified the ACDEH of dates for field activities; and prepared a health and safety plan.

All work was performed under the direct supervision of an appropriately registered professional. This report is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

BACKGROUND

The subject site is presently 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 groundwater monitoring wells are present at the site, and a quarterly groundwater monitoring and sampling program is currently in progress.

The topography in the vicinity of the site is relatively flat, sloping slightly to the south-southwest. The site is bordered to the north by Castro Valley Boulevard, to the East by Redwood Road and to the South and West by a shopping center. Two unnamed streams are present in the vicinity of the site. One stream is located approximately 800 feet to the east of the site and one stream is located approximately 2,500 feet to the west of the site.

A former Chevron station is located approximately 600 feet west of the subject site on the south side of Castro Valley Boulevard. An active Unocal station is located approximately 700 feet to the north of the subject site on the west side of Redwood Road. A Safeway property is located directly to the north of the subject site and directly to the south of the Unocal station at the intersection of Redwood Road and Castro Valley Boulevard, on the west side of Redwood Road. An active Chevron station (formerly a BP station) is located directly to the east of the subject site at the intersection of Redwood Road and Castro Valley Boulevard, on the east side of Redwood Road. It is P&D's understanding that a former Exxon station is located to the northeast of the subject site, approximately across Redwood Road from the presently active Unocal station.

1994?

Between February 21 and 22, 1994, P&D collected nine groundwater grab samples, designated as P1 through P9, from offsite locations to the southwest of the subject site. The sample collection locations are shown in Figure 2. The groundwater grab samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G); benzene, toluene, ethylbenzene and xylenes (BTEX); and for Total Petroleum Hydrocarbons as Diesel (TPH-D). The sample results are summarized in Table 1. Documentation of the offsite subsurface investigation is presented in P&D's report 0014.R8 dated April 28, 1994.

Based on the investigation sample results, the ACDEH requested that additional investigation be performed further to the southwest of the subject site in a letter dated July 27, 1994. P&D submitted a work plan (Work Plan 0014.W2) dated August 16, 1994 for the collection of additional groundwater grab samples, and the work plan was subsequently approved by the ACDEH.

FIELD ACTIVITIES

On October 13, 1994 groundwater grab sample [redacted] was collected. On January 17, 1995 groundwater grab sample [redacted] was collected. On March 24, 1995 groundwater grab samples [redacted] were collected. On June 8, 1995 groundwater grab samples [redacted] were collected. The groundwater grab sample collection locations are shown on Figure 2.

The groundwater grab samples were collected with a Teflon bailer from boreholes which were hand augered using a 3.5-inch outside diameter hand auger. Boreholes P10 and P11 were hand augered to total depths of approximately 8.0 and 4.5 feet below grade, respectively. Boreholes P12 and P13 were hand augered to total depths of approximately 6.5 and 3.0 feet, respectively. Boreholes P14 and P15 were hand augered to total depths of approximately 10.5 feet each. Boreholes P16, P17, P18, and P19 were hand augered to total depths of approximately 6.5, 9.5, 10.0, and 11.0 feet, respectively.

The hand auger and Teflon bailer were thoroughly washed with an Alconox solution followed by a clean water rinse prior to each use.

Following collection of the groundwater in the borehole into the Teflon bailer, the groundwater grab samples were transferred to 40-milliliter Volatile Organic Analysis (VOA) vials and one-liter amber glass bottles and capped with Teflon-lined screw caps. The bottles were labeled and stored in a cooler with ice pending delivery to McCampbell Analytical, Inc. in Pacheco, California. McCampbell Analytical, Inc. is a State-accredited hazardous waste testing laboratory.

Following groundwater grab sample collection, the boreholes were filled with neat cement, in accordance with permit requirements. Soil generated during hand augering and water generated during decontamination procedures were stored in 55-gallon DOT drums at the subject site pending appropriate disposal.

SUBSURFACE CONDITIONS

Groundwater was initially encountered in borehole P10 at a depth of approximately six feet below grade, and was later measured at a depth of approximately 3.9 feet below grade immediately prior to groundwater sample collection. Groundwater was initially encountered in borehole P11 at a depth of approximately four feet below grade, and was later measured at a depth of approximately 3.4 feet below grade immediately prior to groundwater sample collection. In borehole P12, groundwater was initially encountered at a depth of approximately 4.8 feet below grade and was later measured at a depth of approximately 4.0 feet below grade immediately prior to groundwater sample collection. In borehole P13, groundwater was initially encountered at a depth of approximately 1.0 foot below grade, and later was found to be unstable and allowed to stabilize. In the sidewalk near Borehole P13 appeared to be weeping. In addition, a layer and what appeared to be black droplets of old gasoline appeared to be floating on the water in the borehole. In borehole P14, groundwater was initially encountered at a depth of approximately 8.1 feet below grade and was later measured at a depth of approximately 8.0 feet below grade immediately prior to groundwater sample collection. In borehole P15, groundwater was initially encountered at a depth of approximately 10.3 feet below grade and was later measured at a depth of approximately 8.5 feet below grade immediately prior to groundwater sample collection.

Sheen"
P 13

In borehole P16, groundwater was initially encountered at a depth of approximately 5.0 feet below grade and was later measured at a depth of approximately 4.8 feet below grade immediately prior to groundwater sample collection. In borehole P17, groundwater was initially encountered at a depth of approximately 7.5 feet below grade and was later measured at a depth of approximately 6.3 feet below grade immediately prior to groundwater sample collection. In borehole P18, groundwater was initially encountered at a depth of approximately 7.5 feet below grade and was later measured at a depth of approximately 6.5 feet below grade immediately prior to groundwater sample collection. In borehole P19, groundwater was initially encountered at a depth of approximately 10.0 feet below grade and was later measured at a depth of approximately 9.8 feet below grade immediately prior to sample collection.

The subsurface materials encountered in borehole P16 consisted of approximately one foot of baserock directly beneath the asphalt surface, below which was very soft gray and brown silty clay to the total depth explored of approximately 8.0 feet.

gasoline odors

The subsurface materials encountered in borehole P17 consisted of brown silty clay and clay to the total depth explored of approximately 4.5 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

The subsurface materials encountered in borehole P18 consisted of approximately one foot of baserock directly beneath the asphalt surface, below which was green silty clay and clay to a depth of approximately 3.0 feet, which was in turn underlain by brown silty clay to the total depth explored of approximately 6.5 feet. A strong petroleum hydrocarbon odor which was qualitatively identified as gasoline was encountered in the green silty clay and brown clay in the borehole.

gasoline odors

The subsurface materials encountered in borehole P19 consisted of approximately one foot of baserock directly beneath the asphalt surface, below which was black silty clay to the total depth explored of approximately 3.0 feet. A strong petroleum hydrocarbon odor which was qualitatively identified as gasoline appeared to be associated with the groundwater in the borehole. The groundwater entered the borehole from the base of the baserock layer.

gasoline odors

The subsurface materials encountered in borehole [redacted] consisted of black silty clay to a depth of approximately 3.5 feet, beneath which was a brown silty clay and clay to the total depth explored of approximately 10.5 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

The subsurface materials encountered in borehole [redacted] consisted of brown silty clay to a depth of approximately 2.5 feet, beneath which was a black silty clay to a depth of approximately 6.0 feet, which was in turn underlain by a brown silty clay to the total depth explored of approximately 10.5 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

The subsurface materials encountered in borehole [redacted] consisted of black silty clay to a depth of approximately 1.5 feet, beneath which was a brown sandy clay to a depth of approximately 4.0 feet, which was in turn underlain by a dark brown silty clay to the total depth explored of approximately 6.5 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

The subsurface materials encountered in borehole [redacted] consisted of black silty clay to a depth of approximately 2.5 feet, beneath which was a brown sandy clay to a depth of approximately 3.0 feet, which was in turn underlain by an orange sandy clay to the total depth explored of approximately 9.5 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

The subsurface materials encountered in borehole [redacted] consisted of black silty clay to a depth of approximately 2.0 feet, beneath which was a brown sandy clay to a depth of approximately 4.0 feet, which was in turn underlain by a light brown silty clay to the total depth explored of approximately 10.0 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

The subsurface materials encountered in borehole [redacted] consisted of brown silty clay to a depth of approximately 1.0 feet, beneath which was a brown silty clay to the total depth explored of approximately 11.0 feet. No petroleum hydrocarbon or solvent odors were detected in the borehole.

LABORATORY RESULTS

The groundwater grab samples collected from all of the boreholes were analyzed for TPH-G using EPA Method 5030 and Modified EPA Method 8015; BTEX using EPA Method 8020; and for TPH-D using EPA Method 3510 in conjunction with Modified EPA Method 8015. In addition, the samples from boreholes [redacted] were analyzed for halogenated volatile organic compounds using EPA Method 8010.

Review of the laboratory analytical results shows that TPH-G, BTEX and TPH-D were not detected in samples P14, P15, P16, P17, P18, and P19 with the exception of 0.10 parts per million (ppm) TPH-D, which was detected in sample P15, and 1.9 ppm TPH-G, which was detected in P16. Review of the laboratory analytical report for sample P15 shows that the results reported as TPH-D consist of both gasoline-range and diesel-range compounds. In addition, no EPA Method 8010 compounds were detected in the sample from borehole [redacted].

The laboratory analytical results for the groundwater grab samples from P10, P11, P12 and P13 showed TPH-G concentrations of 55, 0.46, 62, and 5.3 ppm, respectively. Review of the laboratory reports for the [redacted] sample shows that the TPH-G analysis results were comprised of one to a few isolated peaks. Because of the isolated peaks identified for the P11 TPH-G results, analysis for halogenated volatile organic compounds using EPA Method 8010 was performed on sample P11. The results of the EPA Method 8010 analysis showed 0.93 ppm Tetrachloroethane (PCE), 0.14 ppm Trichloroethane (TCE), and 0.10 ppm cis-1,2-Dichloroethane (DCE).

P11
PCE
TCE
1,2-DCE

	MCLs
PCE	0.005 mg/l
TCE	0.005
1,2 DCE	0.01 - 0.006
	(trans) (cis)

Review of the laboratory reports for the P16 sample shows that the TPH-G analysis results were reported as consisting of "lighter" gasoline range compounds. Because of the lighter gasoline range compounds identified for the P16 TPH-G results and the EPA method 8010 compounds detected in sample collection location P11, analysis for volatile halocarbons compounds using EPA Method 8010 was performed on sample P16. The results of the EPA Method 8010 analysis showed 0.74 ppm DCE, 1.20 ppm PCE, 0.25 ppm TCE, and 0.091 ppm Vinyl Chloride.

P16
PCE
DCE
TCE
VC

The laboratory analytical results for the groundwater grab samples from boreholes P10, P11, P12 and P13 showed TPH-D concentrations of 4.6, 0.12, 9.6, and 1.4 ppm, respectively. Review of the laboratory reports for the samples shows that the TPH-D analysis results were gasoline-range compounds in samples P10, P12 and P13, and oil-range compounds in sample P11.

The laboratory analytical results for the groundwater grab samples from P10, P11, P12, P13 and P16 showed benzene concentrations of 3.3, 0.011, 1.1, 0.18, and 0.13 ppm, respectively.

The groundwater TPH-G concentrations reported for the groundwater grab sample collection locations are shown on Figure 3. In addition, inferred TPH-G isoconcentration contours showing 100 ppm, 10 ppm and Not Detected (ND) contours are shown on Figure 3. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

DISCUSSION AND RECOMMENDATIONS

Groundwater contamination with petroleum hydrocarbons has been documented at the former Chevron, Unocal and former BP sites located in the vicinity of the subject site. At the former Chevron site, the ACDEH has required that the extent of groundwater contamination be defined; at the Unocal site, the consultant has recommended that the extent of the contaminant plume be defined; and the extent of contamination at the former BP site is unknown. The presence of groundwater contamination is unknown at the former Exxon station, and it is P&D's understanding that no investigation of the Exxon site has been performed.

The occurrence of the static groundwater level in the vicinity of the site ranges in depth from approximately 10 feet below grade immediately north of the subject site at sample collection location P15, to approximately 3 feet below grade to the south of the site in the vicinity of sample collection locations P10 through P13. Groundwater flow direction in the vicinity of the subject site is discussed in P&D's offsite subsurface investigation report 0014.R8 dated April 28, 1994. The report identifies the regional groundwater flow direction in the vicinity of the site to be to the south-southwest, with groundwater flow direction appearing to be locally influenced towards the east-southeast in the vicinity of the stream located to the east of the subject site.

The elevated TPH-G concentrations encountered at sample collection locations P10, P11 and P13 (in Redwood Court) relative to the TPH-G concentrations encountered at locations P4 and P9 (on the southeast edge of the shopping center property) may be the result of rapid transmission of petroleum hydrocarbons through trench backfill materials. The elevated TPH-G concentrations encountered at sample collection locations P10, P11 and P13 may be the result of contamination originating in the Redwood Court area. The source of the petroleum hydrocarbons detected in sample collection locations P10, P11 and P13 is unknown at this time.

The artesian conditions encountered at sample collection P13 are attributed to either a locally located leaking water pipe or the large amount of rain which occurred in the days before the hand augering of P13.

Based on the laboratory analytical results of groundwater grab samples P8, P11, P14, P16, P17, P18, and P19, the extent of TPH-G and HTEX appears to have been defined to the south and southwest of the subject site. Review of the laboratory analytical reports shows that the P10 TPH-D results are TPH-G compounds, and that the P11 TPH-G results appear to be halogenated volatile organic compounds (PCE, TCE and DCE). Halogenated volatile organic compounds were detected at both P11 and P16. Review of the available site plan for the Castro Valley East property shows that sample collection locations P11 and P16 may be located near what is identified on the site plan as a solvent storage shed. Based on the sample collection location P11, P16, P17 and P18 results, the extent of petroleum hydrocarbons detected at locations P10, P12 and P13 appears to be defined to the southwest, south, and southeast. Inferred isoconcentrations contours for TPH-G in groundwater for concentrations of 100, 10 ppm and ND (not detected) are shown in Figure 3.

HUOC
P11
P16

P&D recommends that XTRA OIL Company coordinate with the Regional Water Quality Control Board and the Agency of Resources regarding regulatory requirements for addressing surface contamination in the study area.

DISTRIBUTION

Copies of this report should be sent to Mr. Kevin Graves at the RWQCB, San Francisco Bay Region, and to Mr. Scott Seery at the ACDEH. 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.

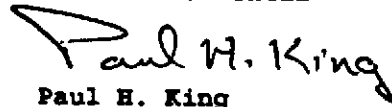
January 5, 1996
Report 0014.R14

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

Sincerely,

P&D Environmental



Paul H. King
Hydrogeologist



Don R. Braun
Certified Engineering Geologist
Registration No.: 1310
Expiration Date: 6/30/96



PHK
0014.R14

Attachments: Tables 1 & 2
Site Location Map (Figure 1)
Site Vicinity Map (Figure 2)
Site Vicinity Map (Figure 3)
Laboratory Analytical Reports
Chain of Custody Documentation

TABLE 1
 GROUNDWATER GRAB SAMPLE
 SUMMARY OF LABORATORY ANALYTICAL RESULTS

Location No.	TPH-D	TPH-G	Gasoline	Toluene	Ethyl-benzene	Total Xylenes
Samples Collected on February 15, 16, 18 and 24, 1993						
P1	ND	ND	ND	ND	ND	ND
P2	ND	ND	ND	ND	ND	ND
P3	ND	ND	ND	ND	ND	ND
P4*	30	160	19	38	4.7	25
P5*	10	130	25	21	3.2	15
P6*	0.097	0.56	0.025	0.064	0.018	0.088
P7	210	57	10	5.2	2.7	12
P8	ND	ND	ND	ND	ND	ND
P9*	2.2	11	0.47	1.1	0.35	1.6

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

ND = Not Detected.

* = The laboratory identified the results reported as diesel for these samples as gasoline-range compounds.

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

TABLE 2
 GROUNDWATER GRAB SAMPLE
 SUMMARY OF LABORATORY ANALYTICAL RESULTS

Location No.	TPH-D	TPH-G	Gasolene	Toluene	Ethyl-benzene	Total Xylenes
Sample Collected on October 13, 1994						
P10*	4.6	55	2.1	4.1	1.7	6.3
Sample Collected on January 17, 1995						
P11**	0.12	0.46	ND	ND	ND	0.00078
Samples Collected on March 24, 1995						
P12*	9.6	62	2.1	0.23	3.9	11
P13*	1.4	5.3	0.18	0.48	0.18	0.86
P14***	0.10	ND	ND	ND	ND	ND
P15	ND	ND	ND	ND	ND	ND

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

* = The laboratory identified the results reported as diesel for this sample as gasoline-range compounds.

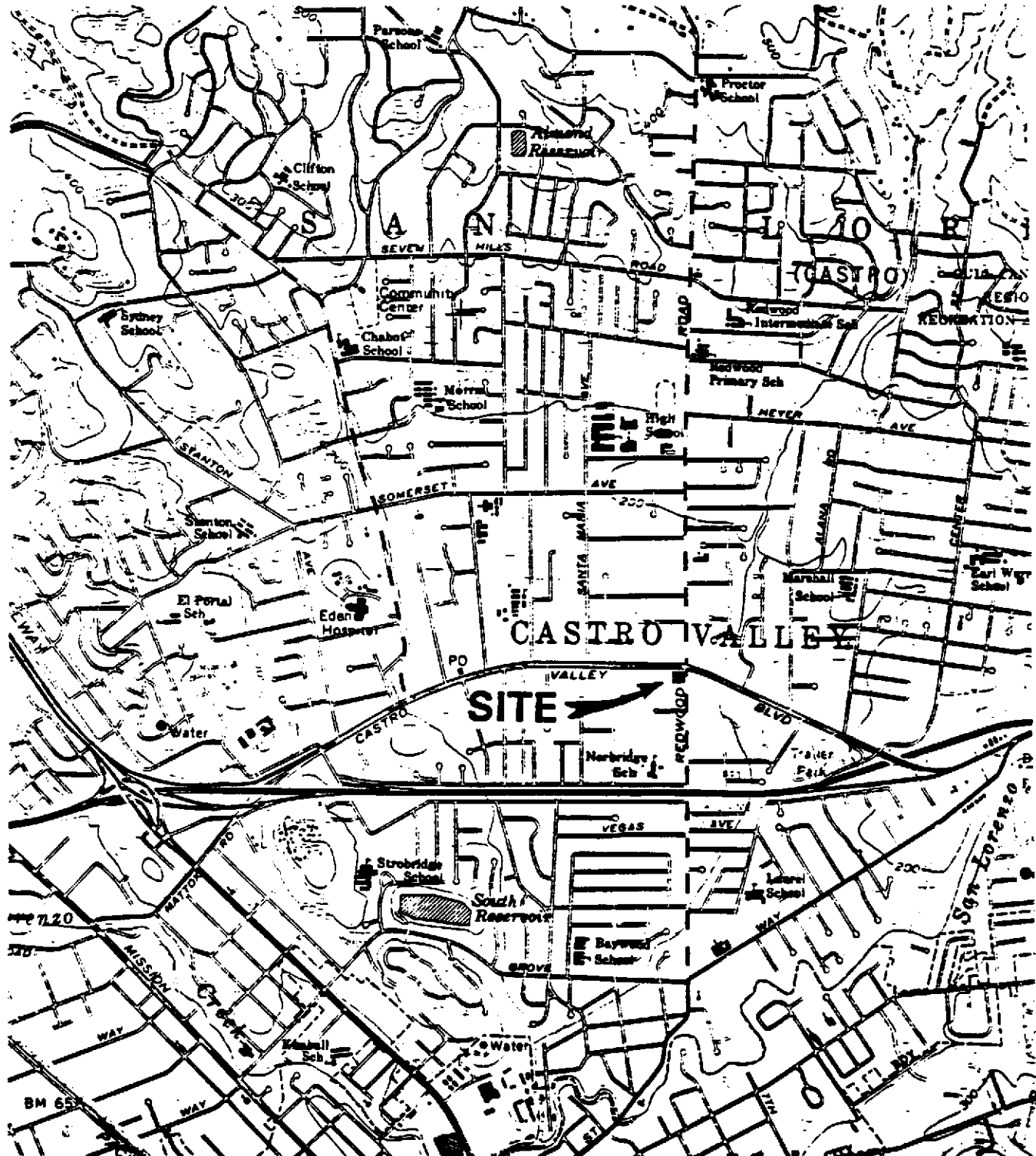
** = The laboratory identified the TPH-D analysis results as oil-range compounds, and the TPH-G analysis results as being comprised of one to a few isolated peaks. EPA Method 8010 analysis results showed 0.93 ppm Tetrachloroethene, 0.14 ppm Trichloroethene, and 0.18 ppm cis 1,2-Dichloroethene.

*** = The laboratory identified the results reported as diesel for this sample as both diesel-range and gasoline-range compounds.

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

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Oakland, CA 94611
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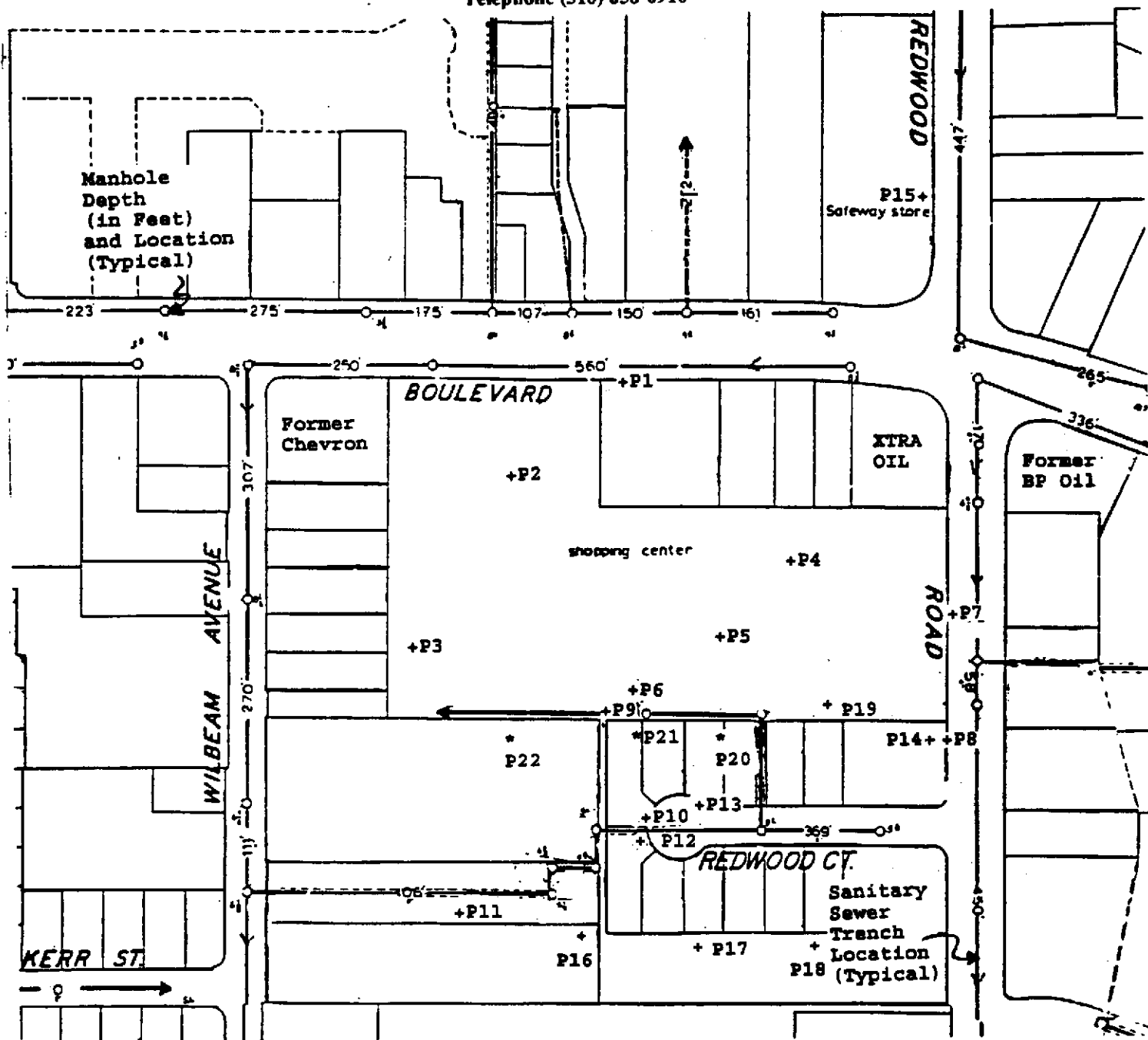


Base Map from:
U.S. Geological Survey
Hayward, Calif.
7.5 Minute Quadrangle
Photorevised 1980

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

P & D ENVIRONMENTAL

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



LEGEND

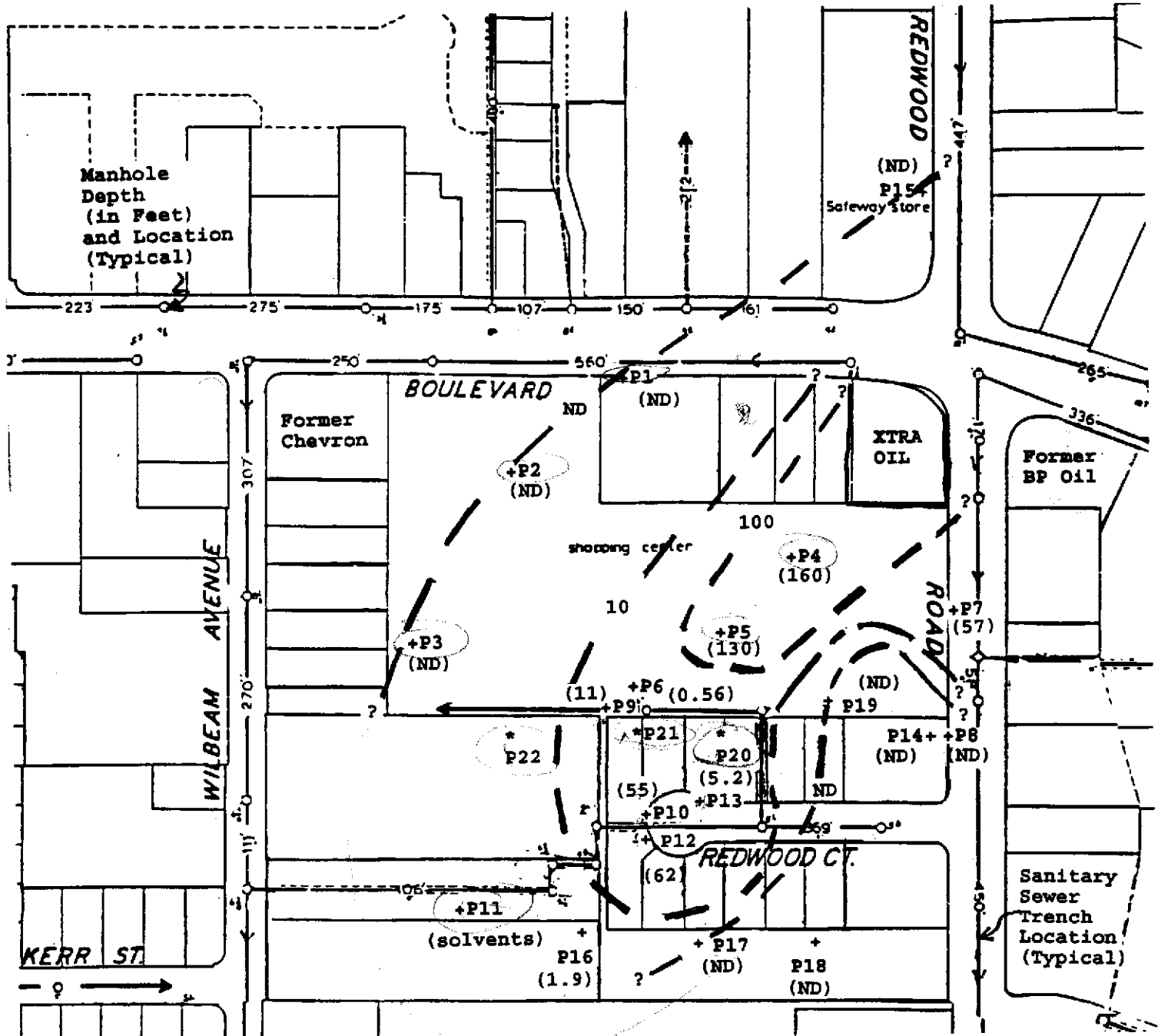
- + Groundwater Grab Sample Collection Location
- * Proposed Groundwater Grab Sample Collection Location

Base Map From
 Castro Valley
 Sanitation District
 Undated

Figure 2
SITE VICINITY MAP
 XTRA OIL Company
 3495 Castro Valley Blvd.
 Castro Valley, California

P & D ENVIRONMENTAL

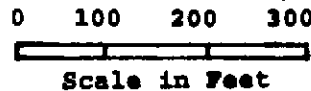
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Oakland, CA 94611
Telephone (510) 658-6916



LEGEND

Groundwater Grab Sample Collection Location Showing TPH-Gasoline Concentrations in Groundwater in (ppm)
Proposed Groundwater Grab Sample Collection Location
TPH-Gasoline groundwater Iso-concentration Contour

North



Base Map From
Castro Valley
Sanitation District
Undated

Figure 3
SITE VICINITY MAP
XTRA OIL Company
3495 Castro Valley Blvd.
Castro Valley, California

P & D Environmental 4020 Panama Ct. Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 10/13/94
	Client Contact: Paul King	Date Received: 10/14/94
	Client P.O.:	Date Extracted: 10/15/94
		Date Analyzed: 10/15/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
41612	P10	W	55,000,a,h	3300	4100	1700	6300	95
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, soil samples in mg/kg, and all TCLP extracts in mg/L

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) 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 are significant; no recognizable pattern; 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; h) lighter than water immiscible sheen is present.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/15/94

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	98.9	98.4	100	98.9	98.4	0.5
Benzene	0	9.1	9.4	10	91.0	94.0	3.2
Toluene	0	9.4	9.8	10	94.0	98.0	4.2
Ethyl Benzene	0	9.5	9.7	10	95.0	97.0	2.1
Xylenes	0	29.8	30.5	30	99.3	101.7	2.3
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/17-10/18/94

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	101.7	106.0	100	101.7	106.0	4.1
Benzene	0	10.8	10.9	10	108.0	109.0	0.9
Toluene	0	10.6	10.7	10	106.0	107.0	0.9
Ethyl Benzene	0	10.5	10.6	10	105.0	106.0	0.9
Xylenes	0	32.9	33.2	30	109.7	110.7	0.9
TPH (diesel)	0	160	165	150	107	110	3.2
TRPH (oil & grease)	0	21900	23700	23700	92	100	7.9

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

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

P & D ENVIRONMENTAL

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

CHAIN OF CUSTODY RECORD

3074 APD 85 PAGE 1 OF 1

PROJECT NUMBER: 0014		PROJECT NAME: XTRA DEL - Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES):				PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King						PH-Gas	STEX				
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION							
P10	10/13/94		water	Borehole P10	3	X	X			ICE	Normal Turn Around
											41612
					ICE / GOOD CONDITION / HEAD SPACE ABSENT / PRESERVATIVE APPROPRIATE / CONTAINERS						
RELINQUISHED BY: (SIGNATURE) Paul H. King		DATE 10/14/94	TIME 2:47	RECEIVED BY: (SIGNATURE) Michael Dele		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 1		LABORATORY: McCamden Analytical			
RELINQUISHED BY: (SIGNATURE) Michael Dele		DATE 10/14/94	TIME 4:15	RECEIVED BY: (SIGNATURE) Ed Hamilton		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 3		LABORATORY CONTACT: Ed Hamilton LABORATORY PHONE NUMBER: (510) 798-1620			
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO					
					REMARKS: WAS preserved with HCL						

P & D Environmental 4020 Panama Ct. Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 01/17/95
	Client Contact: Paul King	Date Received: 01/20/95
	Client P.O.:	Date Extracted: 01/22/95
		Date Analyzed: 01/22/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
43743	P11	W	460.41	11	ND	ND	0.78	118 [#]
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, soil samples in mg/kg, and all TCLP extracts in mg/L
[#] 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) 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 are significant; no recognizable pattern; 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; h) lighter than water immiscible phase is present.

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553

Tele: 510-798-1620 Fax: 510-798-1622

P & D Environmental 4020 Panama Ct. Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 01/17/95
	Client Contact: Paul King	Date Received: 01/20/95
	Client P.O.:	Date Extracted: 01/20/95
		Date Analyzed: 01/20-01/23/95

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) ⁺	% Recovery Surrogate
43743	P11	W	120.g	101
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L		
	S	10 mg/kg		

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ 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) modified diesel?; light(CL) or heavy(CH) diesel compounds are 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 phase is present.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 01/22-01/23/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	101.3	100.2	100	101.3	100.2	1.1
Benzene	0	9.8	10.3	10	98.0	103.0	5.0
Toluene	0	10.1	10.7	10	101.0	107.0	5.8
Ethyl Benzene	0	10	10.8	10	100.0	108.0	7.7
Xylenes	0	31.1	33.3	30	103.7	111.0	6.8
TPH (diesel)	0	137	156	150	92	104	12.9
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

P & D ENVIRONMENTAL

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

CHAIN OF CUSTODY RECORD

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PROJECT NUMBER: 0014		PROJECT NAME: XTRA OIL - Castro Valley			NUMBER OF CONTAINERS 3	ANALYSIS(ES): TPH - Gas, DTEX TPH - Diesel					PRESERVATIVE ICE	REMARKS Normal Turn Around 43743
SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King Paul H. King												
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION								
P11	11/17/95		Water	Soil Boring P11		X	X					
					VOAS		D & G	NETS	OTHER			
					ICE/T		GOOD CONDITION		HEAD SPACE ABSENT		PRESERVATIVE APPROPRIATE CONTAINERS	
RELINQUISHED BY: (SIGNATURE) Paul H. King		DATE 11/20/95	TIME 7:50 AM	RECEIVED BY: (SIGNATURE) Desiree King		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 1		LABORATORY: McCampbell Analytical				
RELINQUISHED BY: (SIGNATURE) Desiree King		DATE 1/20	TIME 9:58 AM	RECEIVED BY: (SIGNATURE) Nicki-Rice		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 3		LABORATORY CONTACT: Ed Hamilton (570) 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							

P & D Environmental 4020 Panama Ct. Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 01/17/95
	Client Contact: Paul King	Date Received: 01/20/95
	Client P.O:	Date Extracted: 01/31/95
		Date Analyzed: 01/31/95

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	43743			
Client ID	P11			
Matrix	W			
Compound ⁽¹⁾	Concentration*	Concentration*	Concentration*	Concentration*
Bromodichloromethane	ND < 25			
Bromoform ⁽²⁾	ND < 25			
Bromomethane	ND < 25			
Carbon Tetrachloride ⁽³⁾	ND < 25			
Chlorobenzene	ND < 25			
Chloroethane	ND < 25			
2-Chloroethyl Vinyl Ether ⁽⁴⁾	ND < 25			
Chloroform ⁽⁵⁾	ND < 25			
Chloromethane	ND < 25			
Dibromochloromethane	ND < 25			
1,2-Dichlorobenzene	ND < 25			
1,3-Dichlorobenzene	ND < 25			
1,4-Dichlorobenzene	ND < 25			
1,1-Dichloroethane	ND < 25			
1,2-Dichloroethane	ND < 25			
1,1-Dichloroethene	ND < 25			
cis 1,2-Dichloroethene	180			
trans 1,2-Dichloroethene	ND < 25			
1,2-Dichloropropane	ND < 25			
cis 1,3-Dichloropropene	ND < 25			
trans 1,3-Dichloropropene	ND < 25			
Methylene Chloride ⁽⁶⁾	ND < 25			
1,1,2,2-Tetrachloroethane	ND < 25			
Tetrachloroethene ⁽⁷⁾	930			
1,1,1-Trichloroethane	ND < 25			
1,1,2-Trichloroethane	ND < 25			
Trichloroethene	140			
Trichlorofluoromethane	ND < 25			
Vinyl Chloride ⁽⁸⁾	ND < 25			
% Recovery Surrogate	100			
Comments				

Detection limit unless otherwise stated: water, ND < 0.5ug/L; soil, ND < 10ug/kg.

* water samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L

(1) IUPAC allows "ylene" or "ene"; ex ethylene or ethene; (2) tribromomethane; (3) tetrachloromethane; (4) (2-chloroethoxy) ethene; (5) trichloromethane; (6) dichloromethane; (7) perchlorethylene, PCE or perclor; (8) chloroethene; (9) unidentified peak(s) present.

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QC REPORT FOR EPA 8010/8020/EDB

Date: 01/30-01/31/95

Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	10.7	10.6	10.0	107	106	0.9
Trichloroethene	0.0	9.1	9.1	10.0	91	91	0.0
EDB	0.0	9.1	9.5	10.0	91	95	4.3
Chlorobenzene	0.0	9.9	9.9	10.0	99	99	0.0
Benzene	0.0	10.5	10.6	10.0	105	106	0.9
Toluene	0.0	11.1	10.1	10.0	111	101	9.4
Chlorobz (PID)	0.0	9.8	9.8	10.0	98	98	0.0

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

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

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 0014		PROJECT NAME: XTRA OIL - Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-Gras, ISTEK DOD K's 1-30-91	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King Paul H. King								
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION				
P11	11/7/95		water	Soil Boring P11	3	X X X	ICE	Normal Turn Around 43743
					VOAS <input type="checkbox"/> D & G <input type="checkbox"/> METAL <input type="checkbox"/> OTHER <input type="checkbox"/> ICE/T* <input checked="" type="checkbox"/> GOOD CONDITION <input checked="" type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> PRESERVATIVE <input checked="" type="checkbox"/> APPROPRIATE CONTAINERS <input checked="" type="checkbox"/>			
RELINQUISHED BY: (SIGNATURE) Paul H. King		DATE 11/21/95	TIME 7:50 AM	RECEIVED BY: (SIGNATURE) Desiree King		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 1	LABORATORY: McCampbell Analytical	
RELINQUISHED BY: (SIGNATURE) Desiree King		DATE 1/20	TIME 9:50 AM	RECEIVED BY: (SIGNATURE) Nick Ricci		LABORATORY CONTACT: Ed Hamilton		LABORATORY PHONE NUMBER: (570) 798-1620
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO		
REMARKS: VOAs preserved with WCL								

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 03/24/95
		Date Received: 03/28/95
	Client Contact: Paul King	Date Extracted: 03/28-03/29/95
	Client P.O:	Date Analyzed: 03/28-03/29/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
51154	P12	W	62,000,a,h	1100	230	3900	11,000	99
51155	P13	W	5300,a	180	480	180	860	95
51156	P14	W	ND	ND	ND	ND	ND	104
51157	P15	W	ND	ND	ND	ND	ND	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	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 and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant (aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 03/24/95
	Client Contact: Paul King	Date Received: 03/28/95
	Client P.O:	Date Extracted: 03/30/95
		Date Analyzed: 03/31/95

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) ⁺	% Recovery Surrogate
51154	P12	W	9600,d,h	100
51155	P13	W	1400,d	100
51156	P14	W	100,b,d	99
51157	P15	W	ND	100
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L		
	S	1.0 mg/kg		

* water samples are reported in ug/L, soil samples in mg/kg, and all TCLP and STLC extracts in mg/L

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

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) 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 phase is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 03/24/95
	Client Contact: Paul King	Date Received: 03/28/95
	Client P.O:	Date Extracted: 04/02/95
		Date Analyzed: 04/02/95

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	51157		
Client ID	P15		
Matrix	W		
Compound	Concentration		
Bromodichloromethane	ND		
Bromoform ^(b)	ND		
Bromomethane	ND		
Carbon Tetrachloride ^(c)	ND		
Chlorobenzene	ND		
Chloroethane	ND		
2-Chloroethyl Vinyl Ether ^(d)	ND		
Chloroform ^(e)	ND		
Chloromethane	ND		
Dibromochloromethane	ND		
1,2-Dichlorobenzene	ND		
1,3-Dichlorobenzene	ND		
1,4-Dichlorobenzene	ND		
Dichlorodifluoromethane	ND		
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND		
1,1-Dichloroethene	ND		
cis 1,2-Dichloroethene	ND		
trans 1,2-Dichloroethene	ND		
1,2-Dichloropropane	ND		
cis 1,3-Dichloropropene	ND		
trans 1,3-Dichloropropene	ND		
Methylene Chloride ^(f)	ND		
1,1,2,2-Tetrachloroethane	ND		
Tetrachloroethene	ND		
1,1,1-Trichloroethane	ND		
1,1,2-Trichloroethane	ND		
Trichloroethene	ND		
Trichlorofluoromethane	ND		
Vinyl Chloride ^(g)	ND		
% Recovery Surrogate	96		
Comments			

* water and vapor samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L.

Reporting limit unless otherwise stated: water/TCLP extracts, ND < 0.5ug/L; soil, ND < 5ug/kg

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

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene;

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/29/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	95.9	97.6	100	95.9	97.6	1.8
Benzene	0	9.9	10.6	10	99.0	106.0	6.8
Toluene	0	9.8	10.4	10	98.0	104.0	5.9
Ethyl Benzene	0	9.9	10.3	10	99.0	103.0	4.0
Xylenes	0	30.7	31.8	30	102.3	106.0	3.5
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/31/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	97.4	107.3	100	97.4	107.3	9.6
Benzene	0	9.1	9.3	10	91.0	93.0	2.2
Toluene	0	9.2	9.9	10	92.0	99.0	7.3
Ethyl Benzene	0	9.3	9.9	10	93.0	99.0	6.2
Xylenes	0	29	29.4	30	96.7	98.0	1.4
TPH (diesel)	0	147	163	150	98	108	10.0
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

QC REPORT FOR EPA 8010/8020/EDB

Date: 04/02/95

Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	5.2	4.6	5.0	104	92	12.2
Trichloroethene	0.0	4.8	4.2	5.0	96	84	13.3
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0.0	4.9	4.3	5.0	98	86	13.0
Benzene	0.0	5.1	4.3	5.0	102	86	17.0
Toluene	0.0	5.0	4.3	5.0	100	86	15.1
Chlorobz (PID)	0.0	4.9	4.1	5.0	98	82	17.8

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

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

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 06/08/95
	Client Contact: Paul King	Date Received: 06/13/95
	Client P.O.:	Date Extracted: 06/13-06/15/95
		Date Analyzed: 06/13-06/15/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
53279	P16	W	1900,c,i	130	1.8	0.81	2.4	---#
53280	P17	W	ND	ND	ND	ND	ND	99
53281	P18	W	ND,i	ND	ND	ND	ND	111
53282	P19	W	ND	ND	ND	ND	ND	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	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 and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 06/08/95
	Client Contact: Paul King	Date Received: 06/13/95
	Client P.O.:	Date Extracted: 06/15/95
		Date Analyzed: 06/16/95

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) ⁺	% Recovery Surrogate
53279	P16	W	ND,i	103
53280	P17	W	ND	104
53281	P18	W	ND,i	104
53282	P19	W	ND	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L		
	S	1.0 mg/kg		

* water samples are reported in ug/L, soil samples in mg/kg, and all TCLP and STLC extracts in mg/L

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

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) 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.

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0014; Xtra Oil-Castro Valley	Date Sampled: 06/08/95
	Client Contact: Paul King	Date Received: 06/13/95
	Client P.O:	Date Extracted: 06/20/95
		Date Analyzed: 06/20/95

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	53279		
Client ID	P16		
Matrix	W		

Compound	Concentration*		
Bromodichloromethane	ND		
Bromoform ^(b)	ND		
Bromomethane	ND		
Carbon Tetrachloride ^(c)	ND		
Chlorobenzene	ND		
Chloroethane	ND		
2-Chloroethyl Vinyl Ether ^(d)	ND		
Chloroform ^(e)	ND		
Chloromethane	ND		
Dibromochloromethane	ND		
1,2-Dichlorobenzene	ND		
1,3-Dichlorobenzene	ND		
1,4-Dichlorobenzene	ND		
Dichlorodifluoromethane	ND		
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND		
1,1-Dichloroethene	ND		
cis 1,2-Dichloroethene	740		
trans 1,2-Dichloroethene	ND		
1,2-Dichloropropane	ND		
cis 1,3-Dichloropropene	ND		
trans 1,3-Dichloropropene	ND		
Methylene Chloride ^(f)	ND		
1,1,2,2-Tetrachloroethane	ND		
Tetrachloroethene	1200		
1,1,1-Trichloroethane	ND		
1,1,2-Trichloroethane	ND		
Trichloroethene	250		
Trichlorofluoromethane	ND		
Vinyl Chloride ^(g)	91		
% Recovery Surrogate	98		
Comments	i		

* water and vapor samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L.

Reporting limit unless otherwise stated: water/TCLP extracts, ND < 0.5ug/L; soil, ND < 5ug/kg

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

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene;

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 06/13/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	97.1	90.9	100	97.1	90.9	6.5
Benzene	0	9.1	8.4	10	91.0	84.0	8.0
Toluene	0	9.2	8.7	10	92.0	87.0	5.6
Ethyl Benzene	0	9.3	8.7	10	93.0	87.0	6.7
Xylenes	0	28.6	27	30	95.3	90.0	5.8
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 06/14-06/15/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	110.0	109.9	100	110.0	109.9	0.1
Benzene	0	10.6	10.4	10	106.0	104.0	1.9
Toluene	0	10.4	10.3	10	104.0	103.0	1.0
Ethyl Benzene	0	10.2	10.2	10	102.0	102.0	0.0
Xylenes	0	31.8	31.5	30	106.0	105.0	0.9
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0	21600	22000	23700	91	93	1.8

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

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 06/16-06/17/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	99.7	104.9	100	99.7	104.9	5.0
Benzene	0	9.9	10.2	10	99.0	102.0	3.0
Toluene	0	9.8	10.2	10	98.0	102.0	4.0
Ethyl Benzene	0	9.8	10.1	10	98.0	101.0	3.0
Xylenes	0	31.3	31.8	30	104.3	106.0	1.6
TPH (diesel)	0	158	158	150	105	105	0.1
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR EPA 8010/8020/EDB

Date: 06/20/95

Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	10.3	9.8	10.0	103	98	5.0
Trichloroethene	0.0	9.6	8.8	10.0	96	88	8.7
EDB	0.0	10.0	8.9	10.0	100	89	11.6
Chlorobenzene	0.0	10.9	9.9	10.0	109	99	9.6
Benzene	0.0	10.6	9.8	10.0	106	98	7.8
Toluene	0.0	11.4	10.8	10.0	114	108	5.4
Chlorobz (PID)	0.0	11.0	9.8	10.0	110	98	11.5

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

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

P & D ENVIRONMENTAL

4020 Panama Court
Oakland, CA 94611
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CHAIN OF CUSTODY RECORD

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PROJECT NUMBER: 0014		PROJECT NAME: XTRA OIL - Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES):			PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King						TPH-Ges.	BTEX	8010 6-18-95 500AY		
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION						
5+ P16	6/8/95	7:40 PM	Water	Gw. Grab Sample - BART	3	X	X	X	ICE	Normal Turn Around
+ P17	"	7:05 PM	"	" " " - " "	3	X	X		"	" " "
5+ P18	"	2:55 PM	"	" " " - " "	3	X	X		"	" " "
+ P19	"	10:00 PM	"	" " " - Sizzler	3	X	X		"	" " "
					<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> 53278 53280 53281 53282 </div>					
ICE? <input checked="" type="checkbox"/> GOOD CONDITION <input checked="" type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> PRESERVATIVE <input checked="" type="checkbox"/> APPROPRIATE CONTAINERS <input checked="" type="checkbox"/>					VOAs <input checked="" type="checkbox"/> D&G <input checked="" type="checkbox"/> VENS <input checked="" type="checkbox"/> OTHER <input checked="" type="checkbox"/>					
RELINQUISHED BY: (SIGNATURE) Paul H. King		DATE 6/14/95	TIME 9:37	RECEIVED BY: (SIGNATURE) P. Louie		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 4		LABORATORY: McCampbell Analytical		
RELINQUISHED BY: (SIGNATURE) D. Louie		DATE 6/13/95	TIME	RECEIVED BY: (SIGNATURE) P. Louie - 701		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 12		LABORATORY CONTACT: Ed Hamilton LABORATORY PHONE NUMBER: (510) 798-1620		
RELINQUISHED BY: (SIGNATURE) P. Louie - 701		DATE 6/13	TIME 10:25	RECEIVED FOR LABORATORY BY: (SIGNATURE) Nishi Rieck		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO				
REMARKS:					VOAs preserved with HCl					