**Xtra Oil Company**
2307 Pacific Avenue, Alameda, CA 94501
Tel. (510) 865-9503, Fax (510) 865-1889

May 10, 1994

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

Regarding: 3495 Castro Valley Blvd. Castro Valley

Dear Mr. Seary,

Please find enclosed the offsite groundwter quality investigation report performed by P & D Environmental for the above location. If you have any questions feel free to contact us.

Sincerely,

Keith Simas

NO LOGS


# P & D ENVIRONMENTAL

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


April 28, 1994
Report No. 0014.R8

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 offsite groundwater grab samples to evaluate groundwater quality in the vicinity of the subject site. It is P&D's understanding that based upon discussions between XTRA OIL Company and Mr. Scott Seery at the ACDEH, the area of investigation was defined as the South side of Castro Valley Boulevard and the West side of Redwood Road. The groundwater grab samples were collected between February 15 and February 25, 1994. This work was performed in accordance with P&D's proposal 090293.P1 dated September 2, 1993. A Site Location Map (Figure 1), a Site Plan (Figure 2), and a Site Vicinity Map (Figure 3) are attached with this report.

Prior to workplan preparation, P&D personnel reviewed files for sites in the vicinity of the subject site to evaluate groundwater flow direction, stratigraphy, and the known extent of groundwater contamination at these sites. Based upon the file review, P&D prepared a workplan (Workplan 0014.W1) dated December 10, 1993 proposing nine groundwater grab sample locations designated as P1 through P9. The workplan was accepted by the Alameda County Department of Environmental Health (ACDEH) in a letter dated January 7, 1994 addressed to XTRA OIL Company.

Following workplan approval, P&D obtained a permit for the groundwater grab sample locations from the Alameda County Water Agency, Zone 7; obtained copies of permission for offsite property access which were obtained by XTRA OIL Company; notified Underground Service Alert; notified the ACDEH; and prepared a health and safety plan. In addition, XTRA OIL Company retained C.U. Surveys of San Leandro, California to identify underground utility locations.

## SITE LOCATION/DESCRIPTION

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.

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 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. 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.

## BACKGROUND

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. Groundwater flow direction has been historically to the south southeast at the subject site. The laboratory analytical results of the samples collected for the groundwater monitoring program are summarized in Table 1.

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.

## FILE REVIEW

File reviews were performed at the ACDEH offices on October 4, 1993 for the subject site; the trans-gradient Chevron station located to the west of the subject site; the upgradient Unocal station located to the north of the subject site; the upgradient Safeway property located directly to the north of the subject site; and of the trans-gradient BP station located to the east of the subject site. 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 Unocal station. A file review of this site was not performed, and it is P&D's understanding that subsurface investigations have not been performed at this site. A discussion of the findings of the file reviews is provided below.

Subject Site

Review of the boring logs for the wells and exploratory borings at the site indicates that the site is underlain by silt, clay and silty clay or clayey silt materials. Since 1990, groundwater has been historically measured in the monitoring wells at depths ranging from approximately 8.0 to 10.5 feet. Groundwater flow direction has historically been predominantly between the east-northeast and the southeast at the site, but has included measured groundwater flow directions to the southwest. An unnamed stream which is oriented approximately parallel to Redwood Road is located approximately 800 feet to the east of the site. Groundwater flow direction at the site may be seasonally influenced by the stream. (TPH-G); Benzene, Toluene, Ethylbenzene and Xylenes (BTEX); and (TPH-D) have been historically detected in all of the monitoring wells.

Chevron Site

Review of the Chevron site file for 3369 Castro Valley Boulevard revealed one Subsurface Environmental Investigation report prepared by RESNA, Inc., dated December 16, 1992; one June 5, 1993 Tank/Line Removal and Over-Excavation Report prepared by Touchstone Developments; and one letter dated June 29, 1993 from the ACDEH addressed to Mr. Kenneth Kan at Chevron.

The RESNA, Inc. December 16, 1992 report states that unconsolidated sediments beneath the site consist primarily of silty clay and clay, and that groundwater was encountered at 11 to 12 feet below grade. The Touchstone Developments June 5, 1993 report documents the removal of approximately 7,500 cubic yards of soil to depths of 11 to 15 feet from the site and the remaining presence of TPH-G concentrations in soil ranging up to 990 parts per million.

The June 29, 1993 letter from the ACDEH addressed to Chevron states that, "Brown, free-phase product and product "sheen" was observed on groundwater encountered where the former generation UST pit was exposed."

Subsequent to the October 4, 1993 file review and submittal of the December 10, 1993 P&D workplan, a RESNA, Inc. report titled, "Additional Subsurface Environmental Investigation" dated December 13, 1993 was provided to P&D by XTRA OIL Company. Review of the report reveals that four groundwater monitoring wells, designated as MW1 through MW4, were installed at the site on October 25, 1993. Groundwater was reported to have been encountered during drilling at depths ranging from 8.5 to 10.0 feet.

Following well development on October 28, 1993 the wells were monitored on October 29, 1993. The measured depth to water ranged from approximately 5.5 to 7.9 feet. No free product was detected in any of the wells. Based on the water level measurements and surveyed well head elevations, the groundwater flow direction was reported to be to the southwest with a gradient of 0.006. The results of the groundwater samples showed concentrations of TPH-G ranging from 0.11 to 5.6 ppm. In addition, a compound not matching a typical gasoline pattern was detected in the water sample collected from the downgradient monitoring well, MW3. Review of a letter dated January 21, 1994 from Mr. Scott Seery of the ACDEH addressed to Mr. Kenneth Kan of Chevron, indicated that the compound identified in well MW3 is most likely perchloroethylene or trichloroethylene. The ACDEH letter also required that the extent of contamination be defined and that water levels be monitored on a monthly basis for twelve months to evaluate groundwater flow direction.

Unocal Site

Review of the Unocal site file for 20405 Redwood Road revealed numerous reports documenting subsurface investigation and quarterly monitoring and sampling of monitoring wells. Review of the most recent quarterly monitoring and sampling report dated July 1993 prepared by BSK & Associates indicated that groundwater is encountered at depths of 10 to 12 feet and that flow direction has been to the southwest since December 1989. However, the report states that, "seasonal precipitation appears to result in more southerly flow, a flatter gradient, and 1 to 2 feet higher water levels in early spring."

Chlorinated solvents were encountered in one of the monitoring wells downgradient of the site. The solvents were attributed to a dry cleaner located directly between the Unocal Site and the Safeway site. The dry cleaner is located directly to the south of the Unocal site. The further characterization of the contaminant plume is recommended in the report.

Safeway Property

Review of the Safeway property file revealed a Phase I Environmental Site Assessment performed by ERM-West, Inc. dated December 1, 1991 for the Safeway property, and several letters from attorneys for the Safeway and adjacent properties. In a letter addressed to the ACDEH from Pillsbury, Madison & Sutro dated February 22, 1993 the results of the Phase I Environmental Site Assessment are discussed. In part, the letter states that, "In 1991, Safeway performed a Phase I environmental investigation of its property. Based on this assessment, it is apparent that neither present nor past uses of the property could have resulted in hydrocarbon or chlorinated solvent releases. Safeway constructed the building in 1969, and has operated there since that time. Prior to 1969, site uses included open space and residential properties. At one time, a portion of the site supported a commercial building which is believed to have been a grocery store. To the best of Safeways (sic) knowledge, there have never been underground tanks at the site, nor have fuel or solvents ever been used at the site."

No record of subsurface investigation was encountered in the file, and subsurface lithology, depth to groundwater, groundwater flow direction and groundwater quality are not known for the site.

BP Site

Review of the BP site file for 3519 Castro Valley Boulevard revealed the presence of two reports. The first report consisted of a Preliminary Site Assessment Report prepared by Environmental Science & Engineering, Inc. dated November 23, 1992. The report documented the drilling of exploratory borings and the construction of five groundwater monitoring wells at the site. Subsurface materials encountered in soil borings consisted primarily of clayey materials. Groundwater was encountered at depths of approximately 7 to 9 feet, and groundwater flow direction was reported to be easterly. TPH-G and BTEX were detected in soil and groundwater at the site.

The second report consisted of a Groundwater Monitoring and Sampling report prepared by Alisto Engineering Group dated June 18, 1993. The depth to groundwater at the site was reported to be approximately 7 to 9 feet, and the groundwater flow direction was reported to be to the southeast. TPH-G was detected in all of the monitoring wells at the site.

Subsequent to the October 4, 1993 file review and submittal of the December 10, 1993 P&D workplan, an Alisto Engineering Group report titled, "Groundwater Monitoring and Sampling Report" dated November 16, 1993 was provided to P&D by XTRA OIL Company. The report documents the findings of groundwater monitoring

and sample collection for the monitoring wells at the BP site on September 23, 1993. The measured depth to water ranged from approximately 10.1 to 11.6 feet. The report does not indicate if free product or sheen were observed in any of the wells. TPH-G concentrations ranged from 0.072 to 2.0 ppm. Based on the water level measurements and the surveyed well head elevations, the groundwater flow direction was calculated to be to the southeast with a gradient of 0.02.

FIELD ACTIVITIES

On February 15, 16 and 18, 1994 P&D personnel collected groundwater grab samples from locations P1 through P8. At the request of XTRA OIL Company, P&D returned to the site on February 24, 1994 to collect groundwater grab sample P9. The groundwater grab sample collection locations are shown on Figure 3. The collection location for groundwater grab sample P9 is different from the proposed sample location identified in the December 10, 1993 workplan because the extent of contamination in the vicinity of the proposed P9 location had been defined by P8, and further investigation of the extent of contamination in the vicinity of P4 was requested.

Attempts to collect groundwater grab samples were initially made by driving a one-inch diameter steel pipe to a depth of approximately twelve feet. The steel probe was then withdrawn and a 3/4-inch diameter PVC slotted pipe was installed in the probehole. Although the depth to groundwater in MW1 at the subject site was measured to be approximately 7.0 feet below grade, groundwater was not encountered in the probeholes.

The probeholes were subsequently hand augered with a two-inch diameter hand auger to a depth of approximately 13 to 20 feet. The hand auger was thoroughly washed with an Alconox solution followed by a clean water rinse prior to each use. Groundwater was encountered in the hand augered probeholes, and groundwater samples were collected from the 3/4-inch diameter PVC pipe using a micro-bailer constructed of glass and Teflon. A new micro-bailer was used at each groundwater grab sample collection location, eliminating the need to decontaminate the micro-bailers between uses.

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 is a State-accredited hazardous waste testing laboratory.

Following groundwater grab sample collection, the PVC pipe was removed from the ground and the probeholes 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 pending appropriate disposal.

GEOLOGY AND HYDROGEOLOGY

Based upon review of the files at the ACDEH, the subsurface materials in the vicinity of the subject site are predominantly fine grained, with clay, silt and mixtures of silt and clay having been reported. As discussed above, an unnamed stream which is oriented approximately parallel to Redwood Road is located approximately 800 feet to the east of the subject site. Groundwater flow direction at the subject site may be seasonally influenced by the stream located to the east of the subject site. Based upon the southwesterly groundwater flow direction at the Chevron site; the south to southwesterly groundwater flow direction at the Unocal site; the east to southeasterly groundwater flow direction at the BP site; and the variable groundwater flow direction at the subject site which has historically ranged from easterly to southwesterly; groundwater flow direction appears to be regionally to the south-southwest, and

appears to be locally influenced towards the east-southeast in the vicinity of the stream located to the east of the subject site. The influence of the stream on groundwater flow direction appears to be related to the proximity of a site to the stream, with the BP station being more strongly influenced than the subject site.

LABORATORY RESULTS

All of the groundwater samples collected from the groundwater grab sample locations 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.

The laboratory analytical results for the groundwater grab samples from P1, P2, P3 and P8 did not show any detectable concentrations of TPH-G, BTEX or TPH-D. In groundwater grab samples P4, P5, P6, P7 and P9, TPH-D was detected at concentrations of 30, 10, 0.097, 210, and 2.2 ppm, respectively. However, review of the laboratory reports indicates that the results reported as TPH-D for P4, P5, P6 and P9 were gasoline-range compounds. Based on these laboratory observations, diesel-range compounds were detected only in sample P7 at a concentration of 210 ppm.

The laboratory analytical results of the groundwater grab samples from P4, P5, P6, P7 and P9 showed TPH-G concentrations of 160, 130, 0.56, 57 and 11 ppm, respectively, and benzene concentrations of 19, 26, 0.035, 10, and 0.47 ppm, respectively.

The laboratory analytical results of the groundwater grab samples are summarized in Table 2. Copies of the laboratory analytical results and chain of custody documentation are attached with this report.

DISCUSSION AND RECOMMENDATIONS

Groundwater contamination with petroleum hydrocarbons has been documented at the Chevron, Unocal and BP sites located in the vicinity of the subject site. At the 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 BP site is unknown. As discussed above, the presence of groundwater contamination is unknown at the former Exxon station, and it is P&D's understanding that no investigation of the site has been performed.

Based on the laboratory analytical results of the groundwater grab samples, the extent of TPH-G and BTEX appears to have been defined to the west of the subject site by sample collection locations P1, P2 and P3. The extent of TPH-G and BTEX appears to have been defined to the south of the subject site by sample collection location P8. The low concentrations of TPH-G and BTEX encountered in sample collection locations P6 and P9 indicate that the extent of TPH-G and BTEX have been almost completely defined to the southwest of the subject site.

P-9
450 ppb
benzene !

Based on the laboratory analytical results of the groundwater grab samples, the extent of TPH-D appears to have been defined to the west of the subject site by sample collection locations P1, P2 and P3. The extent of TPH-D appears to have been defined to the south of the subject site by sample collection location P8, and to the southwest of the subject site by sample collection location P4.

P&D recommends that potential offsite upgradient sources located to the north and northeast of the subject site be requested to evaluate groundwater quality to the north of the subject site, and on the east side of Redwood Road to the north of Castro Valley Boulevard. In addition, P&D recommends that the ACDEH be requested to notify XTRA OIL Company of the results of investigations

performed by BP to define the extent of petroleum hydrocarbons in groundwater in the vicinity of the BP station located across Redwood Road from the subject site. Finally, P&D recommends that attempts be made to coordinate future groundwater monitoring and sampling activities for the various sites in the vicinity of the subject site to occur on the same day.

## DISTRIBUTION

Copies of this report should be sent to Mr. Richard Hiett at the Regional Water Quality Control Board, 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. 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.

Sincerely,

P&D Environmental

Paul H. King

Paul H. King
Hydrogeologist

REGISTERED GEOLOGIST
DON R. BRAUN
No. 1310
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Don R. Braun

Don R. Braun
Certified Engineering Geologist
Registration No. : 1310
Expires: 6/30/94

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

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS

| Well No. | TPH-D | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes |
|---|---|---|---|---|---|---|
| | | | 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. | | | | | |
| | | | Samples Collected on August 30, 1993 | | | |
| 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 Sampled. | | | | | |
| | | | Samples Collected on May 18, 1993 | | | |
| 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 Sampled. | | | | | |
| | | | Samples Collected on February 23, 1993 | | | |
| MW1 | 14 | 100 | 4.5 | 11 | 2.1 | 12 |
| MW2 | 7.0 | 76 | 12 | 17 | 1.6 | 9.6 |
| MW3 | 8.1 | 110 | 31 | 18 | 1.9 | 11 |
| EW1 | 9.6 | 66 | 14 | 8.5 | 1.4 | 9.8 |

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

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS
(Continued)

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

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

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS
(Continued)

| Well No. | TPH-D | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes |
|---|---|---|---|---|---|---|
| | | | Samples Collected On October 10, 1991 | | | |
| MW1 | 19 | 28 | 4.1 | 4.7 | 1.0 | 4.8 |
| MW2 | 360 | 85 | 21 | 25 | 2.1 | 14 |
| MW3 | 39 | 140 | 57 | 31 | 2.2 | 14 |
| | | | Samples Collected On September 17, 1991 | | | |
| MW1 | 19 | 39 | 4.9 | 4.1 | 1.2 | 5.9 |
| MW2 | 56 | 74 | 10 | 11 | 1.4 | 8.1 |
| MW3 | 140 | 180 | 47 | 25 | 2.6 | 15 |
| | | | Samples Collected On August 19, 1991 | | | |
| MW1 | 47 | 48 | 13 | 8.4 | 0.99 | 29 |
| MW2 | 19 | 69 | 26 | 22 | 2.1 | 18 |
| MW3 | 150 | 170 | 82 | 31 | 4.4 | 22 |
| | | | 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 |
| MW3 | 210 | 920 | 39 | 49 | 13 | 69 |

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

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS
(Continued)

| Well No. | TPH-D | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes |
|---|---|---|---|---|---|---|
| | | | 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 |
| | | | Samples Collected On April 15, 1991 | | | |
| 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 |
| | | | Samples Collected On March 21, 1991 | | | |
| 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 |
| | | | Samples Collected On February 15, 1991 | | | |
| MW1 | NA | 120 | 7.4 | 6.6 | ND | 13 |
| MW2 | NA | 200 | 12 | 12 | 1.7 | 14 |
| MW3 | NA | 230 | 44 | 40 | ND | 31 |
| | | | Samples Collected On January 14, 1991 | | | |
| MW1 | NA | 33 | 3.9 | 2.9 | 0.21 | 5.3 |
| MW2 | NA | 78 | 11 | 8.7 | 0.58 | 8.0 |
| MW3 | NA | 160 | 48 | 25 | 1.0 | 16 |

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 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS
(Continued)

| Well No. | TPH-D | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes |
|---|---|---|---|---|---|---|
| | | | 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 | 25 | 7.2 | 6.4 | 0.42 | 3.4 |
| | | | Samples Collected On August 23, 1990 | | | |
| MW1 | 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 |
| | | | Samples Collected On July 20, 1990 | | | |
| 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 |
| | | | Samples Collected On March 19, 1990 | | | |
| 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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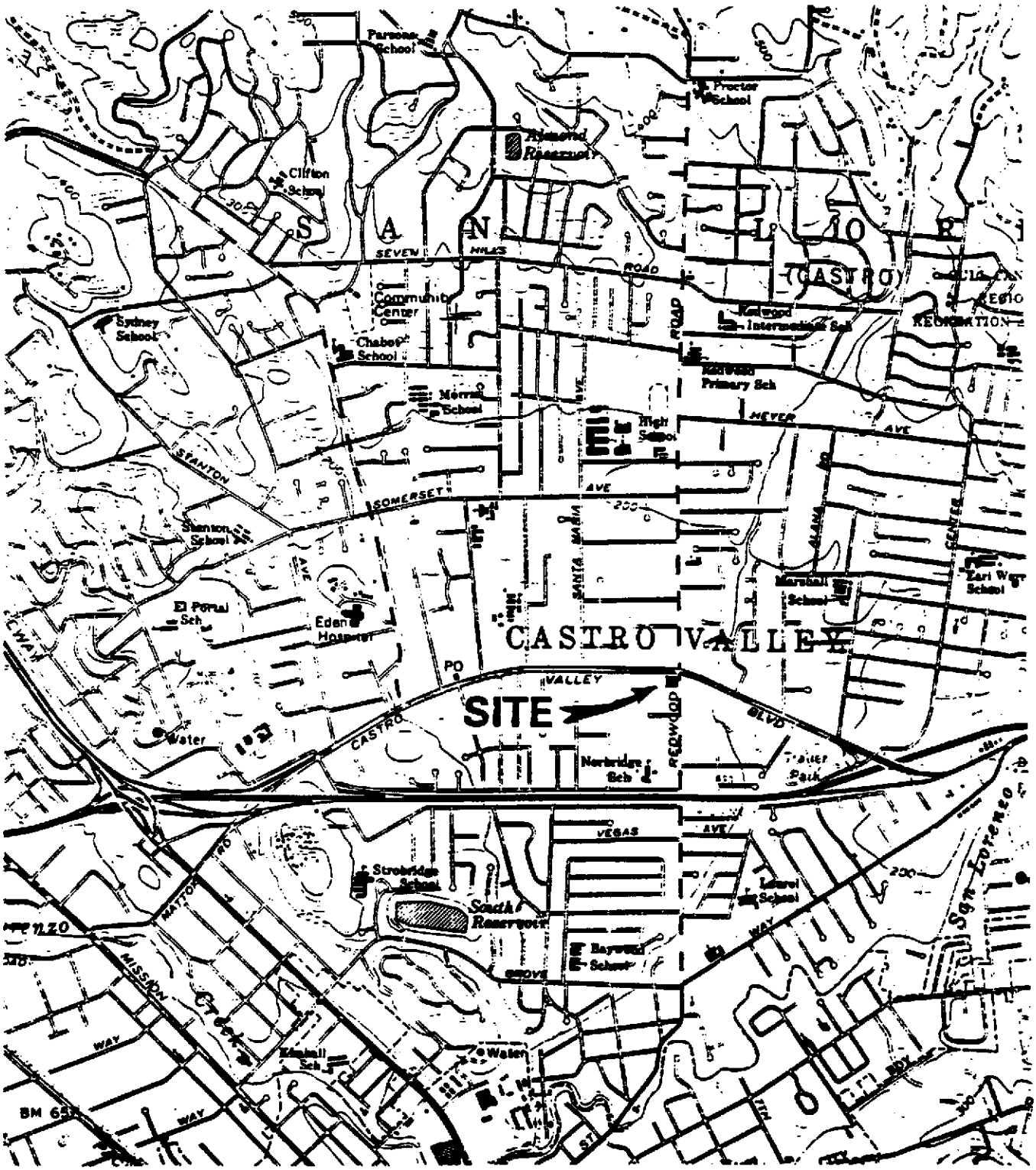
Oakland, CA 94611
Telephone (510) 658-6916


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

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

# P & D Environmental

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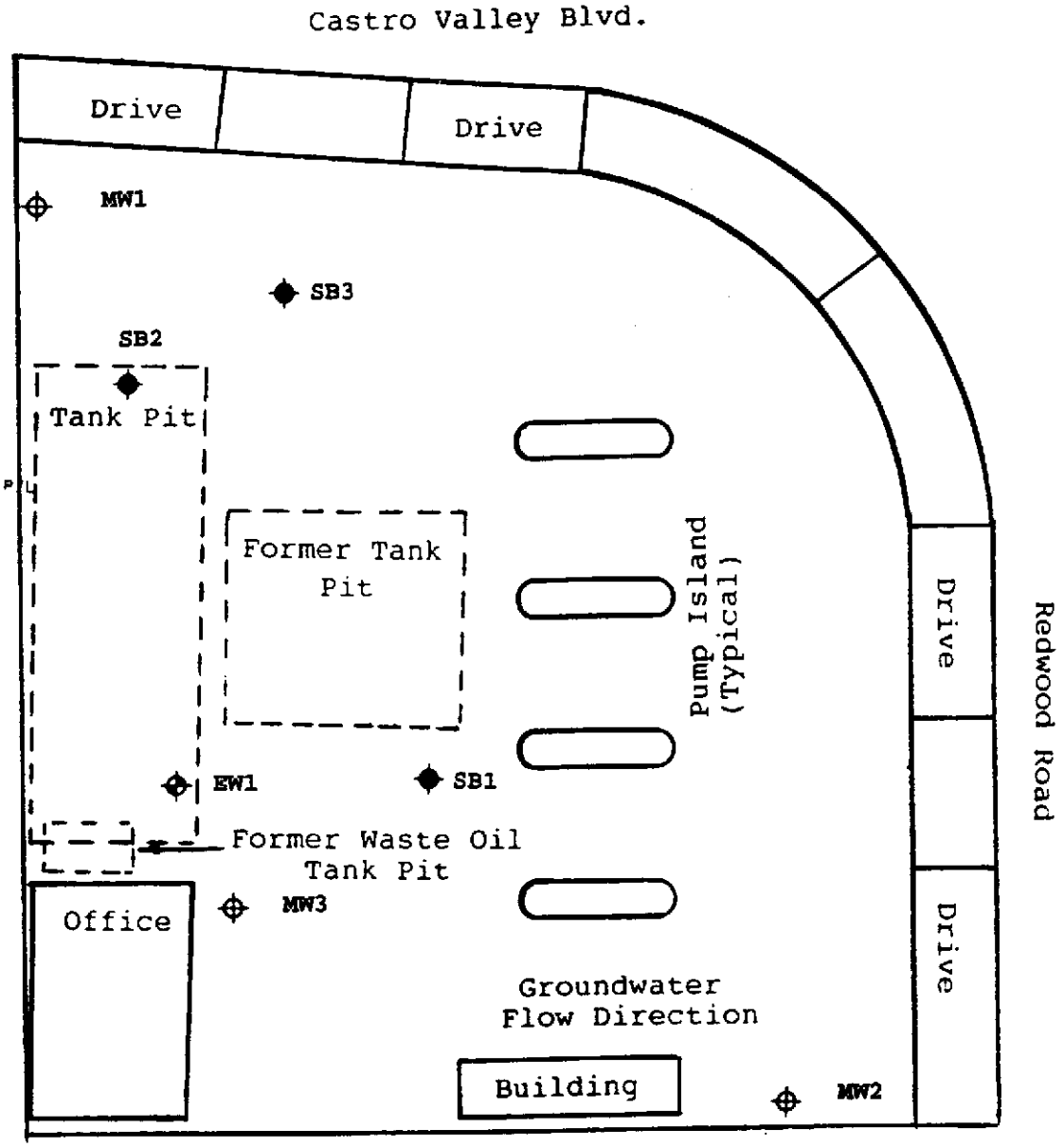
Oakland, CA 94611
Telephone (510) 658-6916


**LEGEND**

- Extraction Well Location
- Monitoring Well Location
- Soil Boring Location

N

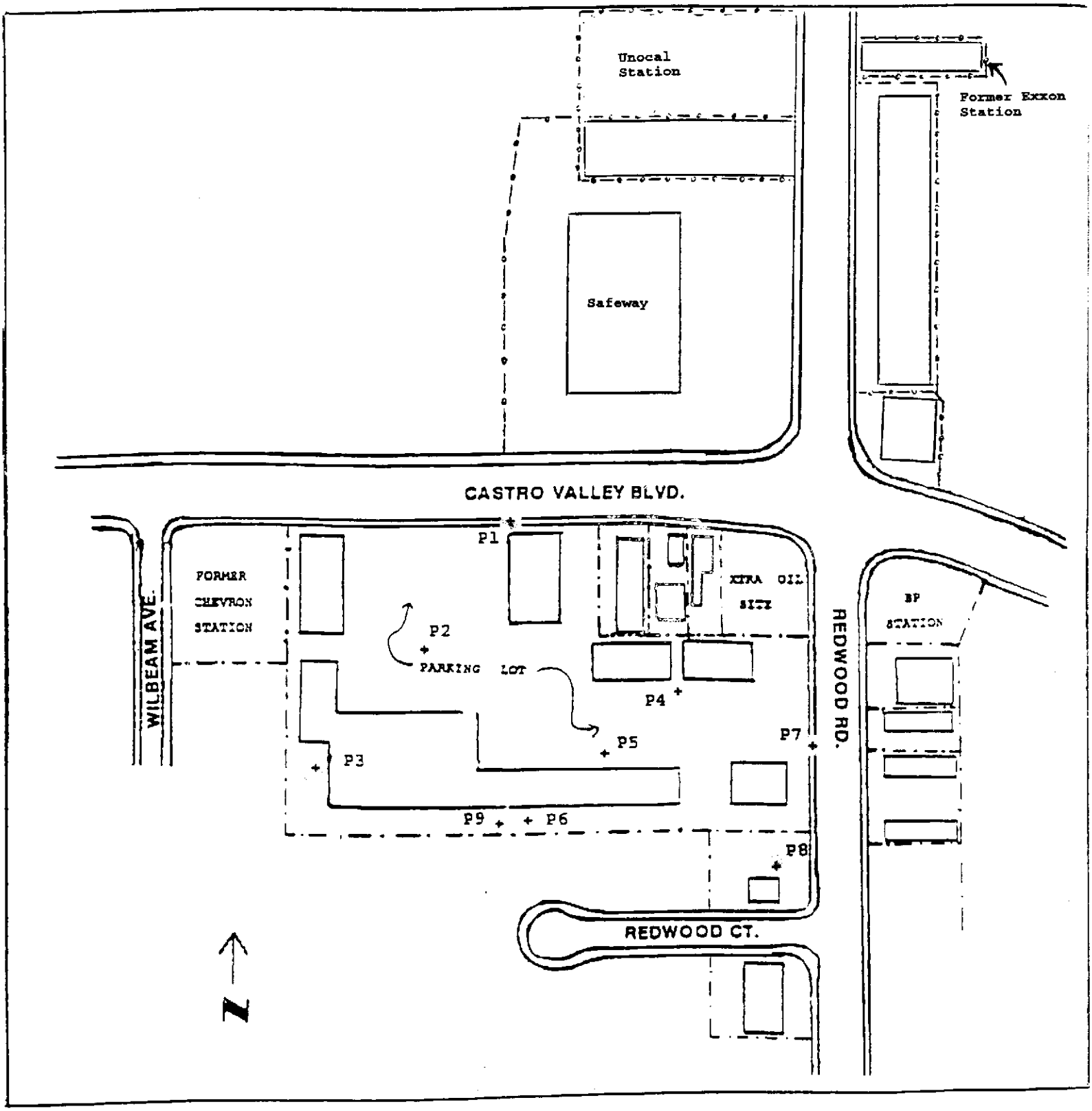
0 10 20 30 60

Scale in Feet

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

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

P & D ENVIRONMENTAL
4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916




LEGEND
Property Lines
Buildings/Structures
Proposed Sample Location

Base Map From
XTRA OIL Company
November, 1993

0 100 200
Scale In Feet

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

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS

| Location No. | [redacted] | [redacted] | [redacted] | 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 |
| FP [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| FP [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| FP [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| P8 | ND | ND | ND | ND | ND | ND |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
ND = Not Detected.
** = The laboratory noted that the results reported as diesel for these samples were gasoline-range compounds.
Results in parts per million (ppm), unless otherwise indicated.

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| | | |
|---|---|---|
| P & D Environmental<br>300 Monte Vista, # 101<br>Oakland, CA 94611 | Client Project ID: # 0014; Xtra Oil- Castro Valley | Date Sampled: 02/15-02/16/94 |
| | | Date Received: 02/17/94 |
| | Client Contact: Paul King | Date Extracted: 02/17-02/20/94 |
| | Client P.O: | Date Analyzed: 02/17-02/20/94 |

**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 | Ethylben-zene | Xylenes | % Rec. Surrogate |
|---|---|---|---|---|---|---|---|---|
| 34322 | P1 | W | ND | ND | ND | ND | ND | 115 |
| 34323 | P2 | W | ND | ND | ND | ND | ND | 109 |
| 34324 | P3 | W | ND | ND | ND | ND | ND | 112 |
| 34325 | P4 | W | 160,000,a | 19,000 | 38,000 | 4700 | 25,000 | 104 |
| 34326 | P5 | W | 130,000,a | 26,000 | 21,000 | 3200 | 15,000 | 103 |
| 34327 | P6 | W | 560,a | 35 | 64 | 18 | 88 | 102 |
| 34328 | P7 | W | 57,000,a | 10,000 | 5200 | 2700 | 12,000 | 103 |
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| Detection Limit unless other-wise stated; ND means Not Detected | | W | 50 ug/L | 0.5 | 0.5 | 0.5 | 0.5 | |
| | | S | 1.0 mg/kg | 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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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| | | |
|---|---|---|
| P & D Environmental<br>300 Monte Vista, # 101<br>Oakland, CA 94611 | Client Project ID: # 0014; Xtra Oil-Castro Valley | Date Sampled: 02/18/94 |
| | | Date Received: 02/18/94 |
| | Client Contact: Paul King | Date Extracted: 02/20/94 |
| | Client P.O: | Date Analyzed: 02/20/94 |

**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 |
|---|---|---|---|---|---|---|---|---|
| 34353 | P8 | W | ND | ND | ND | ND | ND | 104 |
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| Detection Limit unless otherwise stated; ND means Not Detected | | W | 50 ug/L | 0.5 | 0.5 | 0.5 | 0.5 | |
| | | S | 1.0 mg/kg | 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.

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| | | |
|---|---|---|
| P & D Environmental<br>300 Monte Vista, # 101<br>Oakland, CA 94611 | Client Project ID: # 0014; Xtra Oil-Castro Valley | Date Sampled: 02/24/94 |
| | | Date Received: 02/25/94 |
| | Client Contact: Paul King | Date Extracted: 02/25/94 |
| | Client P.O: | Date Analyzed: 02/25/94 |

**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 | Ethylben-zene | Xylenes | % Rec. Surrogate |
|---|---|---|---|---|---|---|---|---|
| 34426 | P9 | W | 11,000,a | 470 | 1100 | 350 | 1600 | 100 |
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| Detection Limit unless other-wise stated; ND means Not Detected | | W | 50 ug/L | 0.5 | 0.5 | 0.5 | 0.5 | |
| | | S | 1.0 mg/kg | 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.

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| | | |
|---|---|---|
| P & D Environmental<br>300 Monte Vista, # 101<br>Oakland, CA 94611 | Client Project ID: # 0014; Xtra Oil- Castro Valley | Date Sampled: 02/15-02/16/94 |
| | | Date Received: 02/17/94 |
| | Client Contact: Paul King | Date Extracted: 02/17/94 |
| | Client P.O: | Date Analyzed: 02/17/94 |

**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 |
|---|---|---|---|---|
| 34322 | P1 | W | ND | 95 |
| 34323 | P2 | W | ND | 96 |
| 34324 | P3 | W | ND | 96 |
| 34325 | P4 | W | 30,000,d,h | 100 |
| 34326 | P5 | W | 10,000,d,h | 98 |
| 34327 | P6 | W | 97,d | 97 |
| 34328 | P7 | W | 210,000,a,d,h | 98 |
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| 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($C_L$) or heavy($C_H$) 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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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| | | |
|---|---|---|
| P & D Environmental<br>300 Monte Vista, # 101<br>Oakland, CA 94611 | Client Project ID: # 0014; Xtra Oil-Castro Valley | Date Sampled: 02/18/94 |
| | | Date Received: 02/18/94 |
| | Client Contact: Paul King | Date Extracted: 02/22/94 |
| | Client P.O: | Date Analyzed: 02/22/94 |

**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 |
|---|---|---|---|---|
| 34353 | P8 | W | ND | 96 |
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| 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($C_L$) or heavy($C_H$) 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.

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| | | |
|---|---|---|
| P & D Environmental<br>300 Monte Vista, # 101<br>Oakland, CA 94611 | Client Project ID: # 0014; Xtra Oil-Castro Valley | Date Sampled: 02/24/94 |
| | | Date Received: 02/25/94 |
| | Client Contact: Paul King | Date Extracted: 02/25/94 |
| | Client P.O: | Date Analyzed: 02/25/94 |

**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 |
|---|---|---|---|---|
| 34426 | P9 | W | 2200,d | 101 |
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| | | | | |
| 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($C_L$) or heavy($C_H$) 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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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# QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/17/94 Matrix: Water

| Analyte | Concentration (ug/L) | | | Amount Spiked | % Recovery | | RPD |
|---|---|---|---|---|---|---|---|
| | Sample | MS | MSD | | MS | MSD | |
| TPH (gas) | 0.0 | 121.1 | 132.2 | 100 | 121.1 | 132.2 | 8.8 |
| Benzene | 0 | 10.2 | 10 | 10 | 102.0 | 100.0 | 2.0 |
| Toluene | 0 | 10.1 | 10 | 10 | 101.0 | 100.0 | 1.0 |
| Ethyl Benzene | 0 | 10.2 | 9.7 | 10 | 102.0 | 97.0 | 5.0 |
| Xylenes | 0 | 30.8 | 29.3 | 30 | 102.7 | 97.7 | 5.0 |
| TPH (diesel) | 0 | 154 | 145 | 150 | 103 | 97 | 6.2 |
| TRPH (oil & grease) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

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

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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# QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/20-02/22/94 Matrix: Water

| Analyte | Concentration (ug/L) | | | Amount Spiked | % Recovery | | RPD |
|---|---|---|---|---|---|---|---|
| | Sample | MS | MSD | | MS | MSD | |
| TPH (gas) | 0.0 | 93.5 | 91.8 | 100 | 93.5 | 91.8 | 1.8 |
| Benzene | 0 | 10.3 | 10.4 | 10 | 103.0 | 104.0 | 1.0 |
| Toluene | 0 | 10.5 | 10.5 | 10 | 105.0 | 105.0 | 0.0 |
| Ethyl Benzene | 0 | 10.6 | 10.6 | 10 | 106.0 | 106.0 | 0.0 |
| Xylenes | 0 | 32.4 | 32.3 | 30 | 108.0 | 107.7 | 0.3 |
| TPH (diesel) | 0 | 156 | 147 | 150 | 104 | 98 | 6.3 |
| TRPH (oil & grease) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

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

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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# QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/20-02/22/94 Matrix: Water

| Analyte | Concentration (ug/L) | | | Amount Spiked | % Recovery | | RPD |
|---|---|---|---|---|---|---|---|
| | Sample | MS | MSD | | MS | MSD | |
| TPH (gas) | 0.0 | 93.5 | 91.8 | 100 | 93.5 | 91.8 | 1.8 |
| Benzene | 0 | 10.3 | 10.4 | 10 | 103.0 | 104.0 | 1.0 |
| Toluene | 0 | 10.5 | 10.5 | 10 | 105.0 | 105.0 | 0.0 |
| Ethyl Benzene | 0 | 10.6 | 10.6 | 10 | 106.0 | 106.0 | 0.0 |
| Xylenes | 0 | 32.4 | 32.3 | 30 | 108.0 | 107.7 | 0.3 |
| TPH (diesel) | 0 | 156 | 147 | 150 | 104 | 98 | 6.3 |
| TRPH (oil & grease) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

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

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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# QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/25/94 Matrix: Water

| Analyte | Concentration (ug/L) | | | Amount Spiked | % Recovery | | RPD |
|---|---|---|---|---|---|---|---|
| | Sample | MS | MSD | | MS | MSD | |
| TPH (gas) | 0.0 | 94.0 | 91.6 | 100 | 94.0 | 91.6 | 2.6 |
| Benzene | 0 | 9.7 | 9.6 | 10 | 97.0 | 96.0 | 1.0 |
| Toluene | 0 | 9.8 | 9.7 | 10 | 98.0 | 97.0 | 1.0 |
| Ethyl Benzene | 0 | 9.9 | 9.9 | 10 | 99.0 | 99.0 | 0.0 |
| Xylenes | 0 | 30.4 | 30.1 | 30 | 101.3 | 100.3 | 1.0 |
| TPH (diesel) | 0 | 143 | 151 | 150 | 95 | 101 | 5.6 |
| TRPH (oil & grease) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

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

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

# CHAIN OF CUSTODY RECORD

2086APD43 PAGE 1 OF 1

| PROJECT NUMBER: | PROJECT NAME: |
|---|---|
| 0014 | XTRA OIL - Castro Valley |

SAMPLED BY: (PRINTED AND SIGNATURE)
Paul H. King Paul H. King

| SAMPLE NUMBER | DATE | TIME | TYPE | SAMPLE LOCATION | NUMBER OF CONTAINERS | ANALYSIS(ES): TPH Gas, BTEX | TPH-Diesel | | | | | PRESERVATIVE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | 2/16/94 | [illegible] | Water | | 3 | X | X | | | | | ICE | Normal Turn Around |
| P2 | 2/15/94 | 10:00AM | " | | " | X | X | | | | | " | " |
| P3 | 2/16/94 | 3:40PM | " | | " | X | X | | | | | " | " |
| P4 | 2/15/94 | | " | | " | X | X | | | | | " | " |
| P5 | 2/16/94 | | " | | " | X | X | | | | | " | " |
| P6 | 2/16/94 | | " | | " | X | X | | | | | " | " |
| P7 | 2/16/94 | | " | | " | X | X | | | | | " | " |

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATIVE APPROPRIATE ✓
CONTAINERS ✓

VOAS | O&G | METALS | OTHER

[redacted]

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) |
|---|---|---|---|
| Paul H. King | 2/17/94 | 0600AM | J R Hamilton |
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) |
| J R Hamilton | 2/17/94 | 1400 | |
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED FOR LABORATORY BY: (SIGNATURE) |
| | 2/17/94 | 1400 | Heidi Rieca |

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 7
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 21

LABORATORY: McCampbell Analytical

LABORATORY CONTACT: Ed Hamilton

LABORATORY PHONE NUMBER: (510) 798-1620

SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS: Note: VOAs preserved with HCl in the field

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

# CHAIN OF CUSTODY RECORD

2096AP044 PAGE 1 OF 1

| PROJECT NUMBER: | PROJECT NAME: |
|---|---|
| 0014 | XTRA OIL - Castro Valley |

SAMPLED BY: (PRINTED AND SIGNATURE)
Paul M. King Paul M. King

| SAMPLE NUMBER | DATE | TIME | TYPE | SAMPLE LOCATION | NUMBER OF CONTAINERS | ANALYSIS(ES): TPH-Gas BTEX | TPH-Diesel | PRESERVATIVE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| F-8 | 2/18/94 | | water | | 3 | X | X | ICE | Normal Turn Around |

34353

ICE ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATIVE APPROPRIATE ✓
VOAS ✓ O&G METALS OTHER
CONTAINERS ✓

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) |
|---|---|---|---|
| Paul M. King | 2/18/94 | 22:10 | |
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) |
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED FOR LABORATORY BY: (SIGNATURE) |

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 3
LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Ed Hamilton
LABORATORY PHONE NUMBER: (510) 798-1620
SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS: VOAs preserved with HCl in the field.

**P & D ENVIRONMENTAL**
300 Monte Vista, #101
Oakland, CA 94611
Telephone (510) 658-6916

# CHAIN OF CUSTODY RECORD

2116APP45 PAGE 1 OF 1

| PROJECT NUMBER: | PROJECT NAME: |
|---|---|
| 0014 | XTRA OIL - Castro Valley |

SAMPLED BY: (PRINTED AND SIGNATURE)
Paul H. King Paul H. King

| SAMPLE NUMBER | DATE | TIME | TYPE | SAMPLE LOCATION | NUMBER OF CONTAINERS | ANALYSIS(ES): TPH-Gas BTEX | TPH - Diesel | | | | | PRESERVATIVE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9 | 12/24/94 | | water | | 3 | X | X | | | | | ICE | Normal Turn Around |
| | | | | | | | | | | | | | 34426 |

ICE ✓ VOAS O&G METALS OTHER
GOOD CONDITION ✓ PRESERVATIVE ✓
HEAD SPACE ABSENT ✓ APPROPRIATE
CONTAINERS ✓

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) |
|---|---|---|---|
| Paul H. King | 12/24/94 | 3:00PM | |
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) |
| | 12/27/94 | 9:30AM | |
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED FOR LABORATORY BY: (SIGNATURE) |

| | |
|---|---|
| TOTAL NO. OF SAMPLES (THIS SHIPMENT) | 1 |
| TOTAL NO. OF CONTAINERS (THIS SHIPMENT) | 3 |
| LABORATORY: | McCampbell Analytical |
| LABORATORY CONTACT: | Ed Hamilton |
| LABORATORY PHONE NUMBER: | (510) 798-1620 |
| SAMPLE ANALYSIS REQUEST SHEET ATTACHED: | ( )YES (X)NO |

REMARKS: VOAs preserved in field with HCl.