R0285

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

[redacted] Report 0014.R41

AUG 30 2001

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

SUBJECT: OFFSITE GROUNDWATER QUALITY INVESTIGATION REPORT (P31-P44)
XTRA OIL Company
3495 Castro Valley Blvd.
Castro Valley, CA

Gentlemen:

P&D Environmental (P&D), a division of Paul H. King, Inc. is pleased to present this report documenting the drilling of 14 exploratory borings, designated as P31 through P44, for the collection of soil and groundwater grab samples in the vicinity of the subject site. This work was performed in accordance with P&D's Offsite Groundwater Quality Investigation Work Plan (Work Plan 0014.W8, dated March 9, 2001). The work plan was approved by the Alameda County Department of Environmental Health (ACDEH) in a letter dated April 6, 2001. A Site Location Map (Figure 1) and a Site Vicinity Map (Figure 2) showing the boring locations are attached with this report.

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 site is currently used as a gasoline station. Four 12,000 gallon underground fuel storage tanks are present at the site. Three of the tanks contain gasoline and the fourth tank contains diesel fuel. A 550 gallon waste oil tank was removed from the site in November, 1988. The fuel tanks were replaced during August, 1992.

Three monitoring wells, designated as MW1, MW2 and MW3 were installed at the site on February 14 and 15, 1990 by Western Geo-Engineers. The subsurface materials encountered in the boreholes consisted primarily of silt and clay. 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. 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 photoionization detector. In borehole SB1, TPH-G was detected at the depths of 10 and 12 feet

at concentrations of 1,700 and 450 ppm, respectively. In boreholes SB2 and SB3, TPH-G was detected at the depths of 10 and 12 feet in both boreholes at concentrations of 800 ppm and greater than 2,000 ppm, respectively. A groundwater monitoring and sampling program was initiated at the site on February 20, 1990.

It is P&D's understanding that during fuel tank replacement activities in August 1992, soil surrounding the tank pit was removed and disposed of offsite. An extraction well, designated as EW1, was designed and constructed in one corner of the new tank pit by K&B Environmental at the time of installation of the new tanks.

On February 7, 1996 well MW2 was destroyed for the purpose of widening Redwood Road. The destruction was overseen by ACC Environmental Consultants of Oakland, California.

On August 15, 1997 P&D personnel oversaw the installation of one groundwater monitoring well, designated as MW4 at the subject site. The purpose of well MW4 was to replace well MW2. This work was performed in accordance with P&D's work plan 0014.W4 dated June 27, 1997. The work plan was approved by the Alameda County Department of Environmental Health (ACDEH) in a telephone conversation with Mr. Scott Seery on August 14, 1997. During the conversation, Mr. Seery indicated that he would record his approval of the work plan in the county file for the site.

In February 1994, P&D collected offsite groundwater grab samples designated P1 through P9. Results from those samples are presented in P&D's Report 0014.R8, entitled "Offsite Groundwater Quality Investigation Report," dated April 28, 1994, and are summarized in Table 5 attached with this report. Between October 1994 and June 1995, P&D collected offsite groundwater grab samples designated P10 through P19. Results from these samples are presented in P&D's Report 0014.R14, entitled "Offsite Groundwater Quality Investigation Report," dated January 5, 1996, and are summarized in Table 6 attached with this report. Based on the results from these two sets of borings, the ACDEH requested further offsite investigation. To address this request, P&D prepared an Offsite Groundwater Quality Investigation Work Plan (Work Plan 0014.W5, dated December 15, 1997), which was approved by ACDEH on January 22, 1998. In the course of performing the scope of work in 0014.W5, some adjustments in sample location had to be made to accommodate offsite property access issues. These changes are addressed in P&D's Work Plan 0014.W6, "Updated Subsurface Investigation Work Plan" dated October 8, 1999. This updated work plan was approved by ACDEH on October 18, 1999.

Between June 1998 and May 2000, P&D personnel hand augered 11 boreholes designated as P20 through P30 at offsite locations in the vicinity of the subject site. Details of this most recent subsurface investigation can be found in P&D's Report 0014.R34, titled "Offsite Groundwater Quality Investigation Report," dated June 28, 2000, and are summarized in Table 7 attached with this report.

In a letter from the ACDEH dated July 11, 2000 a work plan for installation of offsite groundwater monitoring wells was requested. A Groundwater Monitoring Well Installation Work Plan dated August 21, 2000 (Work Plan 0014.W7) was subsequently submitted to the ACDEH. On January 19, 2001 Mr. Seery requested a meeting to discuss the work plan, offsite conditions and the future direction of offsite investigation. On February 7, 2001 Mr. Scott Seery of the ACDEH, Mr. Chuck Headlee of the Regional Water Quality Control Board, San Francisco Bay Region, Mr. Keith Simas of XTRA OIL Company, and Mr. Paul King of P&D met at the ACDEH offices. During the meeting, it was agreed that additional groundwater grab samples would be collected to increase the density of information available for delineation of offsite petroleum hydrocarbons. In a letter dated February 7, 2001 Mr. Seery requested a work plan for additional subsurface investigation.

In response to the February 7, 2001 ACDEH request, P&D submitted to the ACDEH Offsite Groundwater Quality Investigation Work Plan 0014.W8 dated March 9, 2001. The work plan was approved by the ACDEH in a letter dated April 6, 2001.

FIELD ACTIVITIES

Between June 19 and 25, 2001, P&D personnel oversaw drilling of 13 boreholes using GeoProbe Technology and hand augered one borehole at offsite locations in the vicinity of the subject site. A total of 15 soil and 14 groundwater grab samples were collected from the boreholes and analyzed. The borehole locations are shown on the attached Site Vicinity Map, Figure 2.

Prior to performing field work, permits were obtained from the Alameda County Public Works Agency, Water Resources Division, offsite property owners were contacted to permit P&D's accessing the boring locations, Underground Safety Alert was notified for buried utility location, an underground utility locator identified underground utilities on private property, a site health and safety plan and a traffic plan were prepared, and notification of the scheduled drilling dates were provided to the ACDEH.

Soil Boring Oversight and Sample Collection

A total of 14 soil borings, designated as borings P31 through P44, were drilled to characterize subsurface conditions in the vicinity of the subject site. All of the borings drilled using GeoProbe technology were continuously cored using a 2.5-inch outside diameter barrel sampler lined with cellulose acetate tubes. **Borehole P38 was hand augered because of limited access to the drilling location.** Subsurface conditions observed during boring and hand augering activities were classified lithologically in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. All soil samples from the boreholes were evaluated with a 10.3 eV Photoionization Detector (PID) calibrated using a 100 ppm isobutylene standard. The subsurface conditions were recorded on boring logs, copies of which are attached with this report. Borehole depth, PID values, depth to first encountered groundwater, depth intervals in which odors were encountered, and the presence of sheen for the present investigation and historic site vicinity investigations are summarized in Table 8.

The boreholes were drilled to total depths of 7.5 to 30.0 feet. With the exception of boreholes P35, P36, P37, P38 and P43, the total borehole depth was 18.0 to 24.0 feet; the depth to first-encountered groundwater was near the bottom of the boreholes and ranged from approximately 18.0 to 22.5 feet; and the depth to water was measured in the boreholes at depths of 3.7 to 10.3 feet within 5 to 15 minutes after first being encountered.

Boreholes P35, P37, and P43 were drilled to 12.0 or 15.0 feet. Borehole P36 was drilled to 30.0 feet, and borehole P38 was hand augered to 7.5 feet. **First groundwater was encountered near the bottom of these boreholes with the exception of P37, where water and a separate phase layer of clear, brown petroleum hydrocarbons was encountered at a depth of 7.0 feet.** The water and free product in P37 at a depth of 7.0 feet was interpreted to be perched liquid, drilling was stopped in this borehole at a depth of 15.0 feet to prevent possible downward vertical migration of the free product layer. *

One soil sample was collected from each borehole for laboratory analysis at a depth of approximately 5.0 feet. One additional soil sample was collected from borehole P35 at a depth of 1.5 feet to evaluate the presence of petroleum hydrocarbons closer to the ground surface. Organic vapors were recorded with the PID and petroleum hydrocarbon odors were recorded on the boring logs in boreholes P34, P35, P37, and P39. The range of depths at which the organic vapors and odors were encountered were 1.0 to 21.0, 2.5 to 12.0, 4.0 to 15.0 and 1.5 to 21.5

feet, respectively. No organic vapors or odors were detected in any of the other boreholes. **Free product was observed on the groundwater in boreholes P34, P35, and P37, and sheen was observed on the groundwater in borehole P39.** No free product or sheen was observed in any of the other boreholes.

The soil samples were retained for laboratory analysis by cutting from the cellulose acetate liners a 6-inch long section of cellulose acetate tube corresponding to the sample collection depth identified on the boring logs. The ends of the cut section were covered with aluminum foil and plastic end caps. The section of tube was then labeled and placed in a cooler with ice pending delivery to McCampbell Analytical Laboratory, Inc. (McCampbell).

In borehole P38, a 3.5-inch diameter hand auger was used to drill all of the borings. The soil sample for laboratory analysis was collected from the borehole using a stainless steel percussion sampler lined with a 2-inch diameter, 6-inch long brass tube. Following sample collection, the brass tube was extruded from the sampler and was sealed and placed in a cooler with ice following procedures identified above.

Groundwater grab samples were collected from the boreholes drilled using GeoProbe technology using a stainless steel bailer. The groundwater grab sample collected from the hand augered borehole was collected using a Teflon bailer. The samples were collected into 1-liter amber glass bottles and 40-milliliter VOA vials. The VOA vials were overturned and tapped to ensure that no air bubbles were present. The bottles and VOAs were labeled and placed in a cooler pending delivery to McCampbell. McCampbell is a State-accredited hazardous waste testing laboratory. Chain of custody procedures were observed for all sample handling.

All drilling, hand augering, and sampling equipment was cleaned with an Alconox solution followed by a clean water rinse prior to use in each borehole. Following completion of sample collection activities, the boreholes were filled with neat cement grout. Soil and water generated during drilling was stored in drums at the subject site pending characterization and disposal.

GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U.S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E.J. Helley and K.R. Lajoie, 1979 the subject site is underlain by Late Pleistocene alluvium (Qpa). The alluvium is described as typically consisting of weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand and gravel and is considered to overlie bedrock on the alluvial plain marginal to San Francisco Bay. An unnamed stream which is oriented approximately parallel to Redwood Road is located approximately 800 feet to the east of the subject site.

Sample collection locations P16, P17 and P18 from an earlier investigation are located along the northern portion of the BART parking lot. Based on anecdotal recollections provided by construction workers affiliated with construction of the parking lot for the BART station on Redwood Road at the time of parking lot construction, the northernmost portion of the parking lot adjacent to Redwood Road was identified as having a higher clay content, not draining well after rain, and requiring the longest time to dry after rain.

Subsurface materials encountered in borings P31 through P44 consisted primarily of silty clay ranging in color from light brown to black, in moistness from moist to wet, and in density from soft to hard. The maximum depth explored was 30.0 feet below the ground surface. Subsurface materials in the vicinity of the water table which did not consist of silty clay were as follows. In boreholes P32, P39 and P42, silt was encountered at the bottom of the boreholes between the depths of 22.5 and 24.0, 21.0 and 21.5, and 19.5 and 20.0 feet,

respectively. In boreholes P33, P36, and P41, sand was encountered at the bottom of the boreholes between the depths of 19.5 and 20.0, 29.5 and 30.0, and 19.8 and 20.0 feet, respectively. In addition, in borehole P41 approximately 0.5 feet of sand was encountered between the depths of 9.0 and 9.5 feet.

With the exception of boreholes P35, P37, P38 and P43, the depth to first-encountered groundwater was near the bottom of the boreholes and ranged from approximately 18.0 to 22.5 feet. The depth to water was measured in these boreholes at depths of 3.7 to 10.3 feet within 5 to 15 minutes after first being encountered. Boreholes P35, P37, and P43 were drilled to 12.0 or 15.0 feet. The depth to water was measured in boreholes P35 and P43 at depths of 6.8 and 4.0 feet within 10 and 5 minutes, respectively, after first being encountered. As discussed above, first groundwater was encountered in borehole P37 at a depth of 7.0 feet and was later measured at a depth of 7.0 feet immediately prior to sample collection. In borehole P36, groundwater was first encountered at a depth of 29.5 feet, and was measured in the borehole at a depth of 10.1 feet within 5 minutes of first being encountered. In borehole P38, groundwater was first encountered at a depth of 6.0 feet, and was measured in the borehole at a depth of 4.0 feet within 20 minutes of first being encountered.

Based upon review of 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. Groundwater flow direction in the vicinity of the subject site may have been historically influenced by the stream located to the east of the subject site. Based upon the southwesterly groundwater flow direction at the former Chevron site located at 3369 Castro Valley Boulevard; the south to southwesterly groundwater flow direction at the former Unocal site located at 20405 Redwood Road; the east to southeasterly groundwater flow direction at the former BP site located at 3519 Castro Valley Boulevard; and the variable groundwater flow direction at the subject site which has historically has 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 former BP station being more strongly influenced than the subject site.

LABORATORY ANALYTICAL RESULTS

All of the soil and groundwater grab samples were analyzed for the following: Total Petroleum Hydrocarbons as Diesel (TPH-D) using EPA Method 3550 (for soil) and EPA Method 3510 (for water) in conjunction with modified EPA Method 8015; Total Petroleum Hydrocarbons as Gasoline (TPH-G) using EPA Method 5030 and modified EPA Method 8015; benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020; and for methyl tert-butyl ether (MTBE) using EPA Method 8020. Based on suspect positive TPH-D results in some of the soil samples, additional analysis for TPH-D with silica gel clean-up was performed for samples P33-5.5, P36-5.5, P37-5.5, and P41-5.5. Total Organic Carbon (TOC) analysis was performed for samples P38-5.0, P40-5.0, P42-6.0 and P44-5.0 using EPA Method 9060.

Review of the laboratory analytical results for the soil samples shows that MTBE was not detected in any of the soil samples. TPH-D, TPH-G and BTEX were not detected in soil samples P38-5.0, P40-5.0, P42-5.0 or P44-5.0. In addition, TPH-G and BTEX were not detected in soil samples P31-5.0, P33-5.5, P35-1.5, and P43-5.0. TPH-G was detected at concentrations ranging from 1.2 to 9.9 ppm in samples P32-5.0, P36-5.5, P37-5.5, P39-5.0 and P41-5.5, and benzene was not detected in these samples except for 0.95 ppm in P37-5.5 and 0.83 ppm in P39-5.0. TPH-G was detected at concentrations of 130 and 1,100 ppm in samples P35-5.0 and P34-5.0, and benzene was detected at concentrations of 5.9 and 24 ppm, respectively.

TPH-D was not analyzed in one of the soil samples, was not detected in four of the samples, was detected at concentrations ranging from 1.5 to 19 ppm in nine of the samples, and was detected at 160 ppm in one of the samples. In the nine samples where TPH-D concentrations ranged from 1.5 to 19 ppm, notes on the laboratory analytical reports show that seven of the nine samples were identified as oil-range compounds, and one of the samples (P35-5.0) was identified as gasoline-range compounds. In sample P34-5.0, TPH-D was reported at a concentration of 160 ppm. However, review of the laboratory report shows that the sample result consisted of both gasoline-range and diesel-range compounds. The laboratory analytical results for TPH-D, TPH-G, BTEX and MTBE for the soil samples are summarized in Table 1. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

Review of the laboratory analytical results for the soil samples analyzed for TPH-D with silica gel clean-up shows a reduction in TPH-D concentration in sample P33-5.5 from 6.9 to 4.0 ppm, a reduction in TPH-D concentration in sample P36-5.5 from 17 to 12 ppm, a reduction in TPH-D concentration in sample P37-5.5 from 5.2 to 3.3 ppm, and a reduction in TPH-D concentration in sample P41-5.5 from 12 to 9.6 ppm. Review of notes on the laboratory reports shows that the laboratory identified all of the samples for which TPH-D analysis with silica gel clean-up was performed as consisting of oil-range compounds both before and after the silica gel clean-up analysis was performed. The laboratory analytical results for TPH-D with silica gel clean-up for the soil samples are summarized in Table 2. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

Review of the laboratory analytical results for the soil samples analyzed for TOC shows concentrations of 1,010, 631, 1,080 and 648 ppm for samples P38-5.0, P40-5.0, P42-6.0, and P44-5.0, respectively. The laboratory analytical results for TOC for the soil samples are summarized in Table 3. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

Review of the laboratory analytical results for the water samples shows that MTBE was not detected in any of the water samples. TPH-D, TPH-G and BTEX were not detected in water samples P32, P38, P42, P43 or P44. In addition, TPH-G and BTEX were not detected in water samples P31, P33, P40, and P41. Sheen was reported by the laboratory on samples P34, P35, P36, P37 and P39.

TPH-G was detected at a concentration of 0.4 ppm in sample P36, and at concentrations ranging from 23 to 100 ppm in samples P34, P35, P37 and P39. Similarly, benzene was detected at concentrations of 0.0092 and 0.5 ppm in samples P36 and P39, respectively, and at concentrations of 8.6, 6.5 and 5.1 ppm in samples P34, P35, and P37, respectively.

TPH-D was not detected in water samples P32, P38, P42, P43 and P44. TPH-D was reported in water samples P31, P33 and P41 at concentrations of 0.13, 0.055 and 0.14 ppm, respectively. Review of the laboratory report shows that the sample results consisted of oil-range compounds. In water samples P36 and P40, TPH-D was reported at concentrations of 0.22 and 0.06 ppm, respectively. Review of the laboratory report shows that the sample results consisted of diesel-range compounds with no recognizable pattern. In water samples P34, P35 and P39, TPH-D was reported at concentrations of 27, 13 and 3.6 ppm, respectively. Review of the laboratory reports show that the sample results consisted of gasoline-range compounds. In water sample P39, TPH-D was reported at a concentration of 380 ppm. Review of the laboratory report shows that the sample result consisted of gasoline-range compounds, diesel-range compounds with no recognizable pattern, and oil-range compounds. The laboratory analytical results for TPH-D, TPH-G, BTEX and MTBE for the water samples are summarized in Table 4. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

DISCUSSION AND RECOMMENDATIONS

A total of 15 soil and 14 groundwater grab samples were collected to further define the extent of petroleum hydrocarbons in soil and groundwater in the vicinity of the subject site. The subsurface materials encountered consisted almost entirely of silty clay. Silt or sand were encountered in the bottom of boreholes P32, P33, P36, P39, P41 and P42. In addition, in borehole P41 approximately 0.5 feet of sand was encountered between the depths of 9.0 and 9.5 feet. With the exception of boreholes P35, P37, P38 and P43, the depth to first-encountered groundwater ranged from approximately 18.0 to 22.5 feet, and was measured in the boreholes at depths of 3.7 to 10.3 feet within 5 to 15 minutes after first being encountered.

MTBE was not detected in any of the soil samples. Benzene was detected in soil samples at a depth of approximately five feet at a concentration exceeding 1 ppm only in samples P34-5.0 and P35-5.0. Analysis of the soil sample collected at a depth of 1.5 feet in borehole P35 shows that TPH-G and BTEX were all not detected at the 1.5 foot depth. With the exception of borehole P34, TPH-D was either not detected or was detected at a concentration of less than 20 ppm in the boreholes at a depth of approximately five feet. The laboratory reports for seven of the ten samples where TPH-D was reported identified the TPH-D as oil-range compounds. In sample P34-5.0, the TPH-D was reported at a concentration of 160 ppm. Review of the laboratory report shows the TPH-D results were identified as both diesel and gasoline-range compounds.

Additional TPH-D analysis using silica gel clean-up for four of the samples where TPH-D was reported as oil-range compounds showed a 20 to 42 percent reduction in the initially reported TPH-D concentration. However, the silica gel clean-up did not eliminate all of the compounds identified as oil-range compounds. TOC analysis for four of the soil samples showed TOC concentrations ranging from 631 to 1,080 ppm.

MTBE was not detected in any of the water samples. TPH-G and BTEX were not detected in samples P31, P32, P33, P38 and P40 through 44. Petroleum hydrocarbon odors, detectable organic vapors with a PID, and sheen or free product were identified in the field in boreholes P34, P35, P37 and P39. In addition to the water samples from these boreholes, the laboratory also identified sheen on the water sample from borehole P36.

Benzene was detected at a concentration of less than one ppm in water samples P36 and P39, and was detected at a concentration greater than one ppm in samples P34, P35 and P37. TPH-G was detected at a concentration of 0.4 ppm in sample P36, and at concentrations ranging from 23 to 100 ppm in samples P34, P35, P37 and P39. With the exception of sample P36, TPH-D concentrations exceeding 1 ppm corresponded to samples where the laboratory reported sheen was on the sample. In three of the samples (P34, P35 and P39) the laboratory identified the TPH-D results as gasoline-range compounds.

Review of the water sample results for the present investigation (Table 4) and for previous investigations (Tables 5, 6 and 7) show the extent of petroleum hydrocarbons in groundwater has been defined by samples P31, P32, P33, P22, P38, P40, P41, P42, P17, P27, P28, P29, P30, P8 and P26. Sheen was reported by the laboratory for samples P4, P5, P7, P10, P12, P20, P21, P24, P25, P34, P35, P36 and P37.

Review of Tables 4, 5, 6 and 7 shows that TPH-D results were identified as gasoline-range compounds for samples P4, P5, P6, P10, P12, P13, P25, P34, P35 and P39; were identified as oil-range compounds for samples P11, P31, P33 and P41; were identified as both gasoline-range and diesel-range compounds for samples P7, P14, P20, P21, P24, and P37; and as oil-range and diesel-range compounds for sample P26. In samples P14, P26, P31, P33, P40 and P41 The TPH-D results were

less than 1 ppm and the associated TPH-G and BTEX results showed not detected. The only samples which showed TPH-D results as either diesel-range compounds, diesel-range and gasoline-range, or diesel-range and oil-range compounds are samples P7, P14, P20, P21, P24, P26, P36 and P37. An iso-concentration contour map showing TPH-D contours for sample locations reported as diesel-range compounds or a combination of diesel-range and gasoline or oil-range compounds is attached with this report as Figure 3. Sample results identified by the laboratory as gasoline-range compounds or oil-range compounds only are identified on the figure with their associated chromatogram range.

Review of Tables 4, 5, 6 and 7 shows that TPH-G was detected in water samples at concentrations of less than 1 ppm in samples P6, P11, P23, and P36; at concentrations greater than 1 and less than 10 ppm in water samples P13 and P16; at concentrations greater than 10 and less than 100 ppm in water samples P7, P9, P10, P12, P21, P24, P25, P35 and P39; and at concentrations greater than 100 ppm in water samples P4, P5, P20, P34 and P37. An iso-concentration contour map showing TPH-G contours is attached with this report as Figure 4.

Benzene was detected in water samples at concentrations of less than 1 ppm in samples P6, P9, P11, P16, P25, P36 and P39, and at concentrations of greater than 1 ppm in samples P4, P5, P10, P12, P20, P21, P24, P34, P35 and P37. An iso-concentration contour map showing benzene contours is attached with this report as Figure 5.

A Site Vicinity Map showing the sample collection locations where the laboratory identified sheen on samples or where free product was identified on groundwater in the field is attached with this report as Figure 6.

Review of the isoconcentration contour maps shows that there appear to be two distinctly different petroleum hydrocarbon plumes. One plume consists predominantly of TPH-G, and extends to the southwest of the site. The second plume consists predominantly of TPH-D, and extends to the southeast of the site. The absence of petroleum hydrocarbons in groundwater grab samples collected during previous investigations and located directly to the south of the subject site (beginning at a distance of approximately 150 feet from the site) is interpreted to be the result of a higher clay content in the subsurface materials directly to the south of the site in this area. Review of the isoconcentration contour maps shows that the petroleum hydrocarbons in groundwater do not extend to the creek located to the east of the area of investigation.

The results of the present investigation (sample locations P31 through P44) has more accurately defined the extent of petroleum hydrocarbons in groundwater to the west and south of the site. The limit of petroleum hydrocarbons in groundwater formerly defined by sample locations P1, P2 and P3 has been amended to locations P31, P32 and P33. Similarly, the limit of petroleum hydrocarbons in groundwater formerly defined by sample locations P8, P19, and P17 has been amended to locations P40, P41, P42, P8 and P17. The high clay content area to the south of the subject site was further defined to the north by borehole P40 and was further defined to the west of Redwood Road by boreholes P41 through P44.

Based on the defined extent of petroleum hydrocarbons in groundwater in the vicinity of the subject site, P&D recommends that the ACDEH be consulted concerning further steps for installation of offsite groundwater monitoring wells and evaluation of potential human health risk concerns.

DISTRIBUTION

Copies of this report should be distributed to Mr. Scott Seery at the ACDEH, and to Mr. Chuck Headlee at the San Francisco Bay Regional Water Quality Control Board. Copies of the report should be accompanied by a transmittal letter signed by the principal executive officer of 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 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
California Registered Geologist
Registration No. : 5901
Expires: 12/31/01

Attachments:
Table 1
Site Location Map (Figure 1)
Site Vicinity Map (Figure 2)
Site Vicinity Map Showing TPH-Diesel Iso-concentration Contours (Figure 3)
Site Vicinity Map Showing TPH-Gasoline Iso-concentration Contours (Figure 4)
Site Vicinity Map Showing Benzene Iso-concentration Contours (Figure 5)
Site Vicinity Map Showing Sample Locations Exhibiting Sheen or Free Product (Figure 6)
Boring Logs (14)
Laboratory Analytical Reports
Chain of Custody Documentation

PHK
0014.R41

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL BORING SOIL SAMPLES
TPH-D, TPH-G, MTBE AND BTEX ANALYSIS
(Samples Collected on June 19, 20, 22, and 25, 2001)

Sample No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
P31-5.0	19[a]	ND	ND	ND	ND	ND	ND
P32-5.0	1.5[a]	1.2[b]	ND	ND	0.028	ND	ND
P33-5.5	6.9[a]	ND	ND	ND	ND	ND	ND
P34-5.0	160[c,d]	1100	ND<1.0	24	84	22	130
P35-1.5	NA	ND	ND	ND	ND	ND	ND
P35-5.0	16[d]	130	ND<0.40	5.9	14	3.3	19
P36-5.5	17[a]	1.3[e]	ND	ND	ND	0.005	0.030
P37-5.5	5.2[a]	5.6	ND	0.95	0.042	0.20	0.69
P38-5.0	ND	ND	ND	ND	ND	ND	ND
P39-5.0	6.7	9.6	ND	0.83	0.083	0.22	0.085
P40-5.0	ND	ND	ND	ND	ND	ND	ND
P41-5.5	12[a]	1.2[e]	ND	ND	0.009	0.010	0.049
P42-6.0	ND	ND	ND	ND	ND	ND	ND
P43-5.0	2.8[a]	ND	ND	ND	ND	ND	ND
P44-5.0	ND	ND	ND	ND	ND	ND	ND

TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
a = Laboratory Analytical Report note: Oil range compounds are significant.
b = Laboratory Analytical Report note: No recognizable pattern.
c = Laboratory Analytical Report note: Unmodified or weakly modified diesel is significant.
d = Laboratory Analytical Report note: Gasoline range compounds are significant.
e = Laboratory Analytical Report note: Heavier gasoline range compounds are significant (aged gasoline?).
Results are in parts per million (ppm), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL BORING SOIL SAMPLES
TPH-D WITH SILICA GEL CLEAN-UP ANALYSIS
(Samples Collected on June 25, 2001)

Sample No.	TPH-D prior to silica gel clean-up	TPH-D after silica gel clean-up
P33-5.5	6.9[a]	4.0[a]
P36-5.5	17[a]	12[a]
P37-5.5	5.2[a]	3.3[a]
P41-5.5	12[a]	9.6[a]

TPH-D = Total Petroleum Hydrocarbons as Diesel.
a = Laboratory Analytical Report note: Oil range compounds are significant.
Results are in parts per million (ppm), unless otherwise indicated.

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL BORING SOIL SAMPLES
TOTAL ORGANIC CARBON ANALYSIS
(Samples Collected on June 19, 20 and 22, 2001)

Sample No.	Total Organic Carbon Sample Result (mg/kg)	TOC Concentration Expressed As A Percentage of Sample Mass
P38-5.0	1010	0.101
P40-5.0	631	0.0631
P42-6.0	1080	0.108
P44-5.0	648	0.0648

TOC = Total Organic Carbon
Results are in parts per million (ppm), unless otherwise indicated.

TABLE 4
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL BORING GROUNDWATER GRAB SAMPLES
TPH-D, TPH-G, MTBE AND BTEX ANALYSIS
(Samples Collected on June 19, 20, 22, and 25, 2001)

Sample No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
P31	0.13[a]	ND	ND	ND	ND	ND	ND
P32	ND	ND	ND	ND	ND	ND	ND
P33	0.055[a]	ND	ND	ND	ND	ND	ND
P34	27[d,f]	100[f]	ND<0.1	8.6	17	2.1	12
P35	13[d,f]	72[f]	ND<0.2	6.5	6	2	8
P36	0.22[f,g]	0.4[f]	ND	0.0092	0.041	0.0014	0.065
P37	380[d,g,a,f]	100[f]	ND<0.25	5.1	2.9	2	8.6
P38	ND	ND	ND	ND	ND	ND	ND
P39	3.6[d,f]	23[f]	ND<0.05	0.5	2.2	0.49	2.7
P40	0.06[g]	ND	ND	ND	ND	ND	ND
P41	0.14[a]	ND	ND	ND	ND	ND	ND
P42	ND	ND	ND	ND	ND	ND	ND
P43	ND	ND	ND	ND	ND	ND	ND
P44	ND	ND	ND	ND	ND	ND	ND

TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
a = Laboratory Analytical Report note: Oil range compounds are significant.
d = Laboratory Analytical Report note: Gasoline range compounds are significant.
f = Laboratory Analytical Report note: Lighter than water immiscible sheen is present.
g = Laboratory Analytical Report note: Diesel range compounds are significant; no recognizable pattern.
Results are in parts per million (ppm), unless otherwise indicated.

TABLE 5
SUMMARY OF HISTORIC LABORATORY ANALYTICAL RESULTS
SOIL BORING GROUNDWATER GRAB SAMPLES
TPH-D, TPH-G, AND BTEX ANALYSIS
(Samples Collected on February 15, 16, 18 and 24, 1993)

Sample No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
P1	ND	ND	NA	ND	ND	ND	ND
P2	ND	ND	NA	ND	ND	ND	ND
P3	ND	ND	NA	ND	ND	ND	ND
P4	30[d,f]	160	NA	19	38	4.7	25
P5	10[d,f]	130	NA	26	21	3.2	15
P6	0.097[d]	0.56	NA	0.035	0.064	0.018	0.088
P7	210[c,d,f]	57	NA	10	5.2	2.7	12
P8	ND	ND	NA	ND	ND	ND	ND
P9	2.2	11	NA	0.47	1.1	0.35	1.6

TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
ND = Not Detected.
NA = Not Analyzed.
c = Laboratory Analytical Report note: Unmodified or weakly modified diesel is significant.
d = Laboratory Analytical Report note: Gasoline range compounds are significant.
f = Laboratory Analytical Report note: Lighter than water immiscible sheen is present.
Results in parts per million (ppm), unless otherwise indicated.

Source: Offsite Groundwater Quality Investigation Report 0014.R8 dated April 28, 1994.

TABLE 6
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL BORING GROUNDWATER GRAB SAMPLES
TPH-D, TPH-G, AND BTEX ANALYSIS
(Samples Collected Between October 13, 1994 and June 8, 1995)

Sample No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
P10	4.6[d,f]	55[f]	NA	3.3	4.1	1.7	6.3
P11*	0.12[a]	0.46[h,i]	NA	0.011	ND	ND	0.00078
P12	9.6[d,f]	62[f]	NA	1.1	0.23	3.9	11
P13	1.4[d]	5.3	NA	0.18	0.48	0.18	0.86
P14	0.1[g,d]	ND	NA	ND	ND	ND	ND
P15**	ND	ND	NA	ND	ND	ND	ND
P16***	ND	1.9[h]	NA	0.13	0.0018	0.00081	0.0024
P17	ND	ND	NA	ND	ND	ND	ND
P18	ND	ND	NA	ND	ND	ND	ND
P19	ND	ND	NA	ND	ND	ND	ND

TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
a = Laboratory Analytical Report note: Oil range compounds are significant.
d = Laboratory Analytical Report note: Gasoline range compounds are significant.
f = Laboratory Analytical Report note: Lighter than water immiscible sheen is present.
g = Laboratory Analytical Report note: Diesel range compounds are significant; no recognizable pattern.
h = Laboratory Analytical Report note: Lighter gasoline range compounds (the most mobile fraction) are significant.
i = Laboratory Analytical Report note: One to a few isolated peaks present.
* = EPA Method 8010 analysis results showed 0.93 ppm Tetrachloroethene, 0.14 ppm Trichloroethene, and 0.18 ppm cis 1,2-Dichloroehene.
** = EPA Method 8010 analysis results showed Not Detected for all analytes.
*** = EPA Method 8010 analysis results showed 0.74 ppm cis 1,2-Dichloroethene, 1.2 ppm Tetrachloroethene, 0.25 ppm Trichloroethene and 0.091 ppm Vinyl Chloride.
Results are in parts per million (ppm), unless otherwise indicated.

Source: Offsite Groundwater Quality Investigation Report 0014.R14 dated January 5, 1996.

TABLE 7
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER GRAB SAMPLES
TPH-D, TPH-G, AND BTEX ANALYSIS
(Samples Collected between June 1998 and May 2000)

Sample No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
P20	68[d,g,f]	100[f]	ND	1.5	1.6	2.3	18
P21	36[d,g,f]	71[f]	ND	15	8.5	3.3	9.5
P22	ND	ND	ND	ND	ND	ND	ND
P23	ND	0.088[b]	NA	ND	ND	ND	ND
P24	230[d,c,f]	36[f]	NA	3.6	0.25	1.9	7
P25	32[d,f]	22[f]	ND<0.2	0.28	0.09	0.69	2.1
P26	0.054[g,a]	ND	ND	ND	ND	ND	ND
P27	ND	ND	ND	ND	ND	ND	ND
P28	ND	ND	ND	ND	ND	ND	ND
P29	ND	ND	ND	ND	ND	ND	ND
P30	ND	ND	ND	ND	ND	ND	ND

TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
MTBE = Methyl tert-Butyl Ether.
ND = Not Detected.
a = Laboratory Analytical Report note: Oil range compounds are significant.
b = Laboratory Analytical Report note: No recognizable pattern.
c = Laboratory Analytical Report note: Unmodified or weakly modified diesel is significant.
d = Laboratory Analytical Report note: Gasoline range compounds are significant.
f = Laboratory Analytical Report note: Lighter than water immiscible sheen is present.
g = Laboratory Analytical Report note: Diesel range compounds are significant; no recognizable pattern.
Results are in parts per million (ppm), unless otherwise indicated.

Source: Offsite Groundwater Quality Investigation Report 0014.R34 dated June 28, 2000.

TABLE 8
SUMMARY OF SOIL BORING INFORMATION

Sample No.	Date Sampled	Total Depth (feet)	Boring Logs Exist?	PID Range (ppm)	Odor Depth Interval (feet)	Last Water Depth (feet)	Sheen Present?
Report dated April 28, 1994 (0014.R8)							
P1	2/15-16/94	NR+	No	NR	NR	NR	NR
P2	2/15-16/94	NR+	No	NR	NR	NR	NR
P3	2/15-16/94	NR+	No	NR	NR	NR	NR
P4	2/15-16/94	NR+	No	NR	NR	NR	NR[f]
P5	2/15-16/94	NR+	No	NR	NR	NR	NR[f]
P6	2/15-16/94	NR+	No	NR	NR	NR	NR
P7	2/15-16/94	NR+	No	NR	NR	NR	NR[f]
P8	2/18/94	NR+	No	NR	NR	NR	NR
P9	2/24/94	NR+	No	NR	NR	NR	NR
Report dated January 5, 1996 (0014.R14)							
P10	10/13/94	8.0	No++	NR	0-3.0 (Strong)	6.0/3.9	NR[f]
P11	1/17/95	4.5	No++	NR	None	4.0/3.4	NR
P12	3/12/95	6.5	No++	NR	1.0-3.0 (Strong)	4.8/4.0	NR[f]
P13	3/12/05	3.0	No++	NR	In water (Strong)	1.0/ artesian	Yes/ FP
P14	3/12/95	10.5	No++	NR	None	8.1/8.0	NR
P15	3/12/95	10.5	No++	NR	None	10.3/8.5	NR
P16	6/8/95	6.5	No++	NR	None	5.0/4.8	NR
P17	6/8/95	9.5	No++	NR	None	7.5/6.3	NR
P18	6/8/95	10.0	No++	NR	None	7.5/6.5	NR
P19	6/8/95	11.0	No++	NR	None	10.0/9.8	NR
Report dated June 28, 2000 (0014.R34)							
P20	1/29/99	9.0	Yes	119-324	5.5-9.0	7.0/NR	Yes[f]
P21	1/29/99	9.0	Yes	303-o/s	3.3-9.0	3.0#/NR	Yes[f]
P22	5/12/00	6.5	Yes	0	None	4.0/NR	None
P23	11/24/98	12.5	Yes	14	8.5-9.5	10.5/NR	NR
P24	11/24/98	10.0	Yes	80-337	4.5-10.0	9.5/NR	NR[f]
P25	6/28/98	14.5	Yes	10-o/s	5.0-14.0	12/NR	NR[f]
P26	6/28/98	10.0	Yes	0	None	8.0/NR	NR
P27	5/18/00	14.0	Yes	0	None	13.0/NR	NR
P28	5/12/00	13.5	Yes	0	None	12.0/NR	NR
P29	3/21/99	11.0	Yes	0	None	9.5/NR	NR
P30	3/21/99	9.5	Yes	0	None	7.5/NR	NR

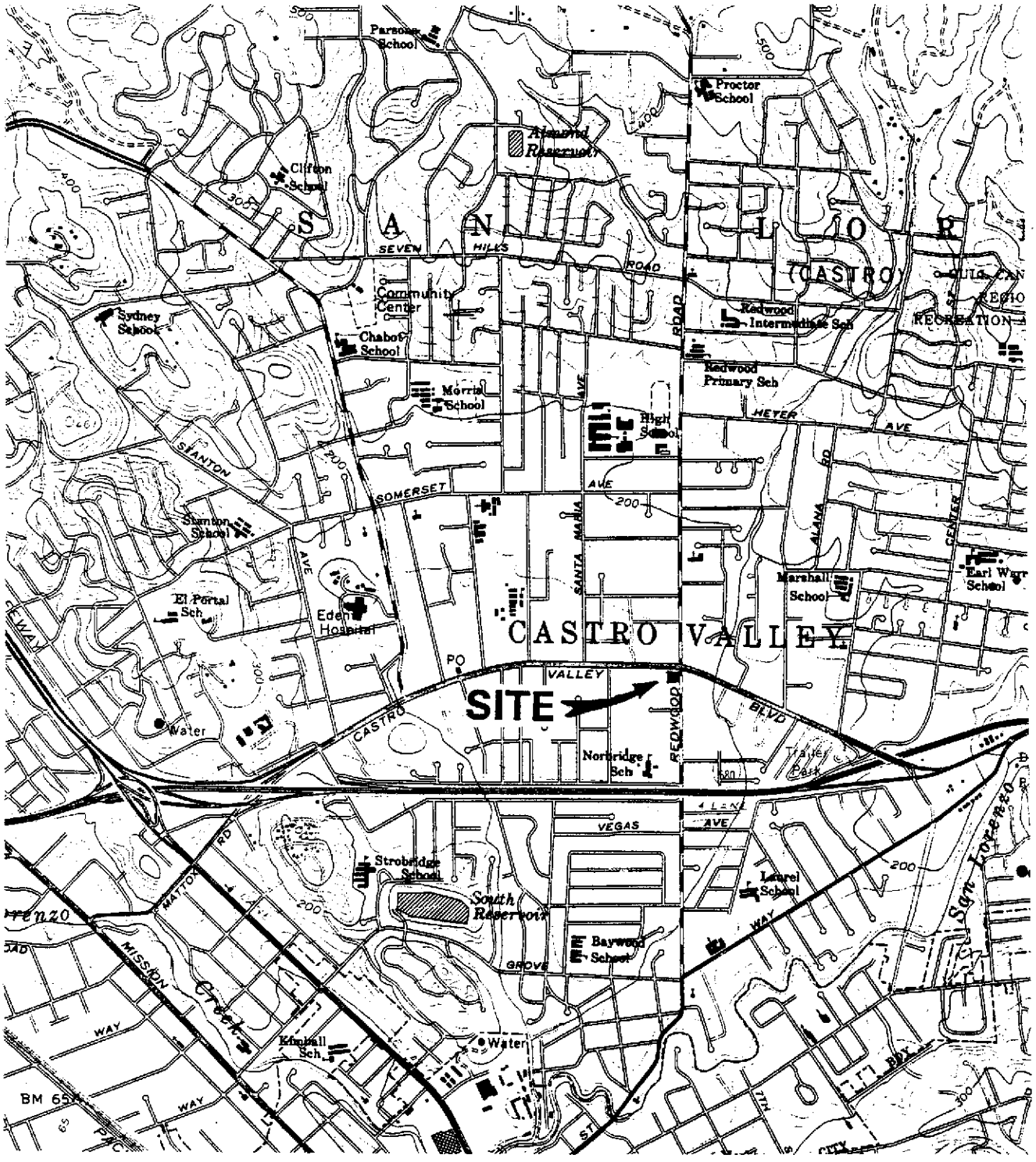
NR = Not Recorded
+ = Total borehole depth reported between 13 to 20 feet.
++ = Lithologic description provided in January 5, 1996 report text.
f = Laboratory Analytical Report identified a lighter than water immiscible sheen present on the sample.
o/s = Off Scale
FP = Free Product reported on water in borehole.

TABLE 8 (Continued)
SUMMARY OF SOIL BORING INFORMATION

Sample No.	Date Sampled	Total Depth (feet)	Boring Logs Exist?	PID Range (ppm)	Odor Depth Interval (feet)	First/ Last Water Depth (feet)	Sheen Present?
Current Investigation							
P31	6/19/01	20.0	Yes	0	None	18.0/6.5	No
P32	6/19/01	24.0	Yes	0	None	22.5/4.0	No
P33	6/25/01	20.0	Yes	0	None	19.5/7.6	No
P34	6/20/01	21.0	Yes	10-184	1.0-21.0	21.0/8.1	Yes/FP[f]
P35	6/20/01	12.0	Yes	10-253	2.5-12.0	12.0/6.8	Yes/FP[f]
P36	6/25/01	30.0	Yes	0	None	29.5/10.1	No[f]
P37	6/25/01	15.0	Yes	16-253	4.0-15.0	7.0#/7.0	Yes/FP[f]
P38##	6/22/01	7.5	Yes	0	None	6.0/4.0	No
P39	6/20/01	21.5	Yes	83-252	1.5-21.5	21.0/5.1	Yes[f]
P40	6/20/01	18.0	Yes	0	None	18.0/5.8	No
P41	6/25/01	20.0	Yes	0	None	19.8/10.3	No
P42	6/19/01	20.0	Yes	0	None	20.0/4.8	No
P43	6/19/01	15.0	Yes	0	None	15.0/4.0	No
P44	6/19/01	20.0	Yes	0	None	20.0/3.7	No

NR = Not Recorded
f = Laboratory Analytical Report identified a lighter than water immiscible sheen present on the sample.
FP = Free Product reported on water in borehole.
# = First encountered water interpreted as perched.
= Borehole was hand augered.

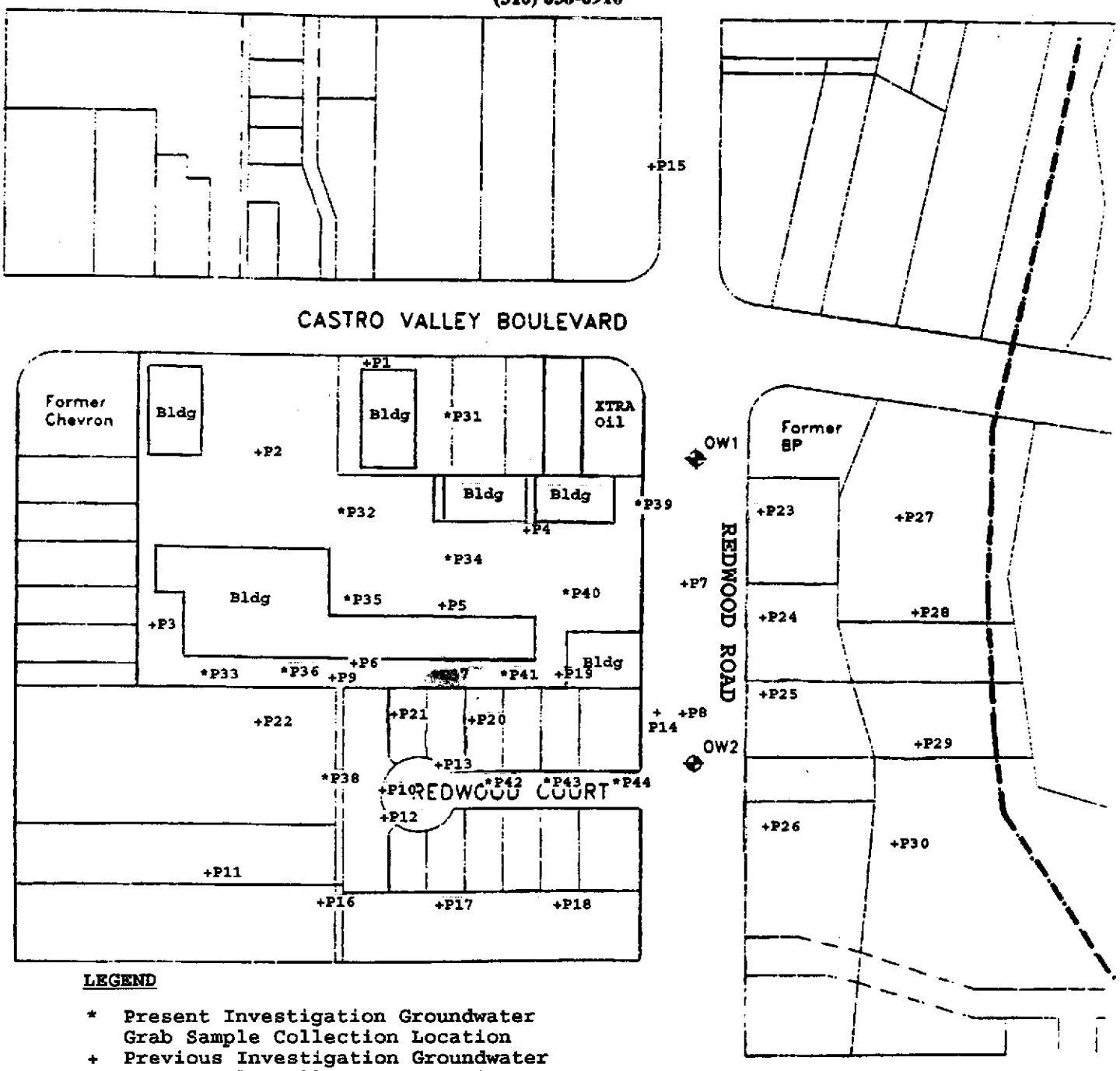
P & D ENVIRONMENTAL
A Division of Paul H. King, Inc.
4020 Panama Court
Oakland, CA 94611
(510) 658-6916



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

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

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



LEGEND

* Present Investigation Groundwater Grab Sample Collection Location
\+ Previous Investigation Groundwater Grab Sample Collection Location
Observation Well Location
Approximate Creek Location

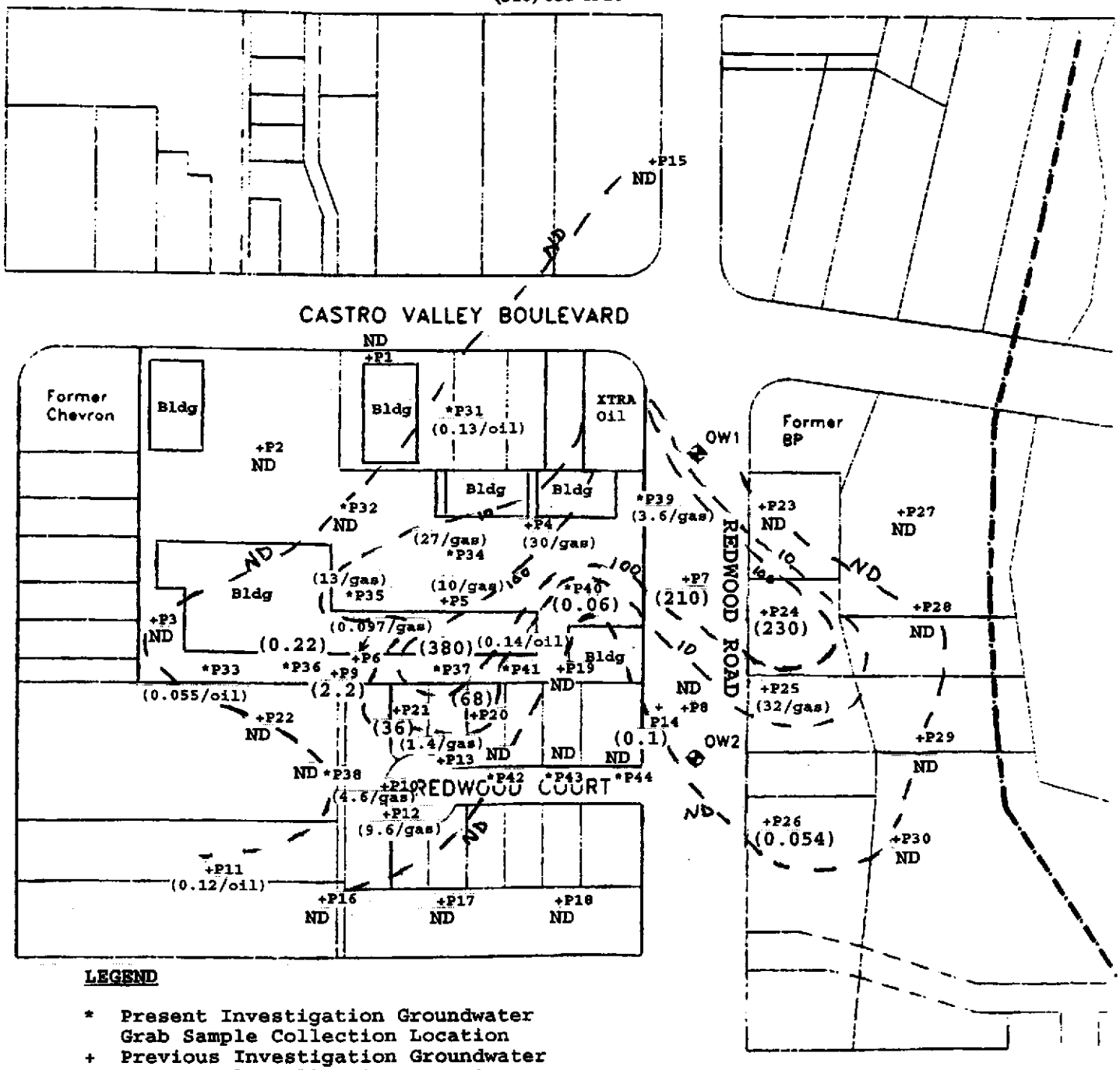
Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

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

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



LEGEND

* Present Investigation Groundwater Grab Sample Collection Location
\+ Previous Investigation Groundwater Grab Sample Collection Location
◆ Observation Well Location
Approximate Creek Location
(27) TPH-D Concentration (ppm)
TPH-D Iso-Concentration Contour

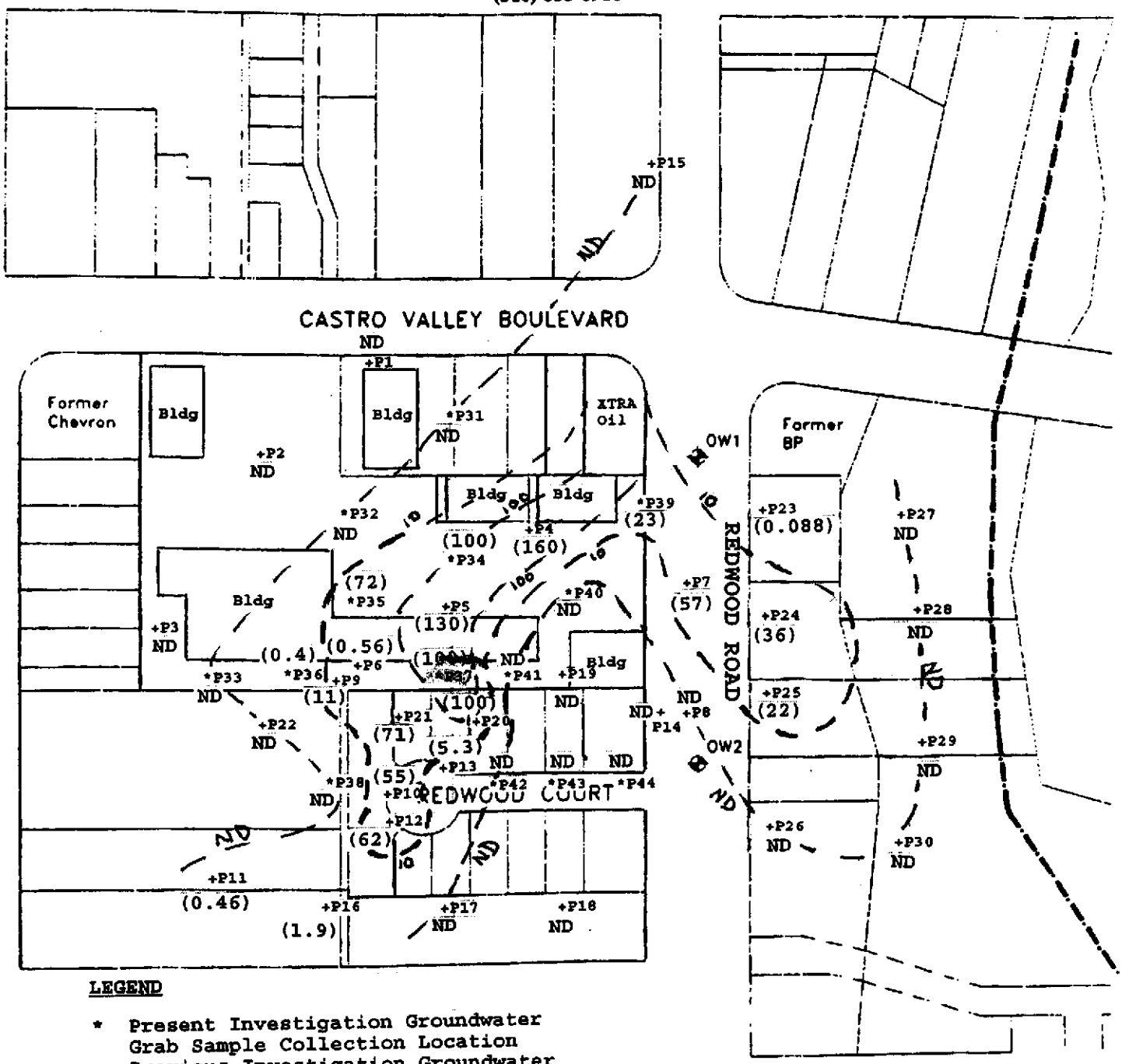
Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

Figure 3
SITE VICINITY MAP SHOWING
TPH-D ISO-CONCENTRATION CONTOURS
XTRA OIL Company
3495 Castro Valley Boulevard
Castro Valley, California

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



LEGEND

- * Present Investigation Groundwater Grab Sample Collection Location
- \+ Previous Investigation Groundwater Grab Sample Collection Location
- ◈ Observation Well Location
- Approximate Creek Location
- (32) TPH-G Concentration (ppm)
- TPH-G Iso-Concentration Contour

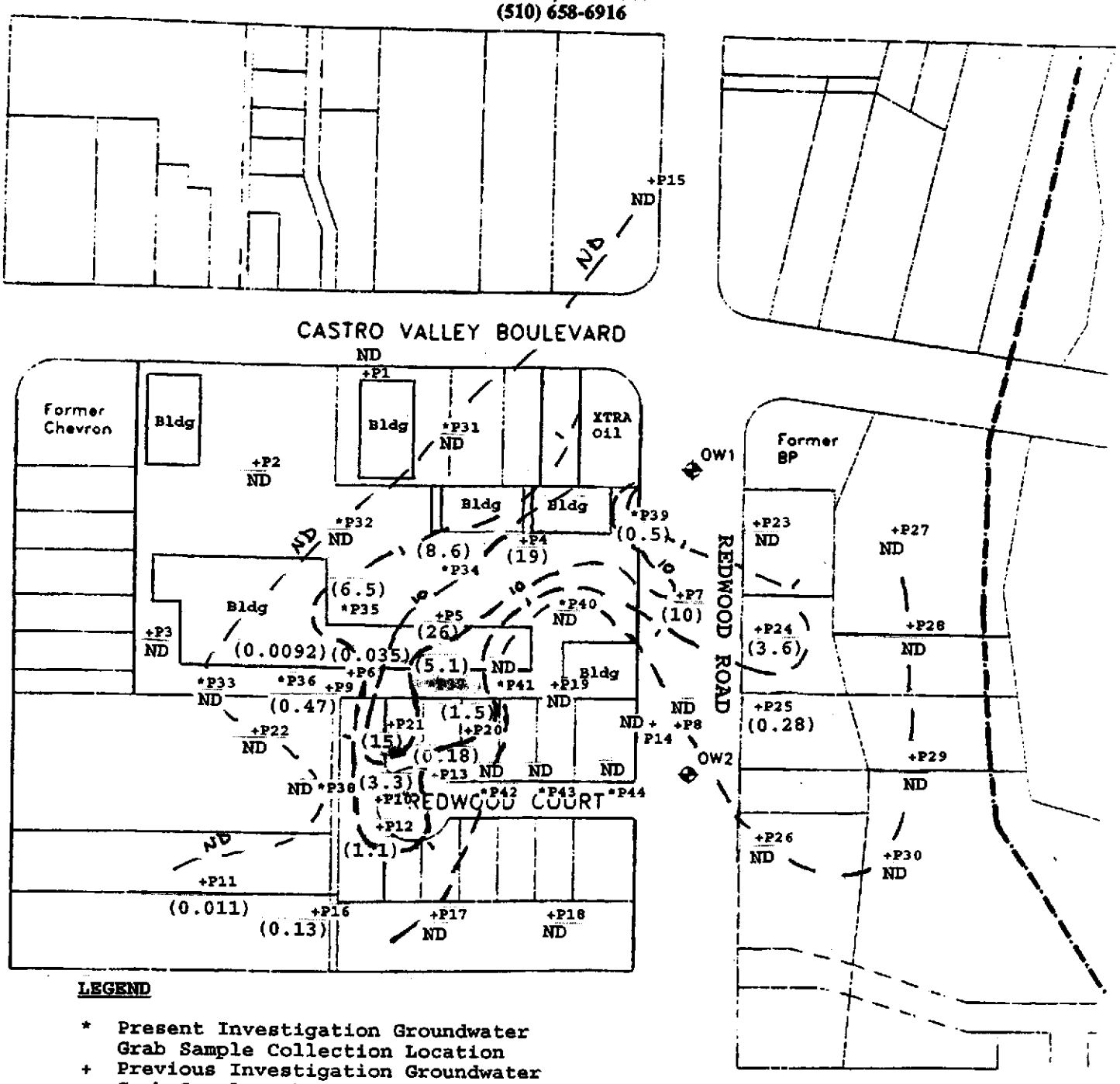
Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

Figure 4
SITE VICINITY MAP SHOWING TPH-G ISO-CONCENTRATION CONTOURS
XTRA OIL Company
3495 Castro Valley Boulevard
Castro Valley, California

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



LEGEND

* Present Investigation Groundwater Grab Sample Collection Location
\+ Previous Investigation Groundwater Grab Sample Collection Location
Observation Well Location
Approximate Creek Location
(1.4) Benzene Concentration (ppm)
Benzene Iso-Concentration Contour

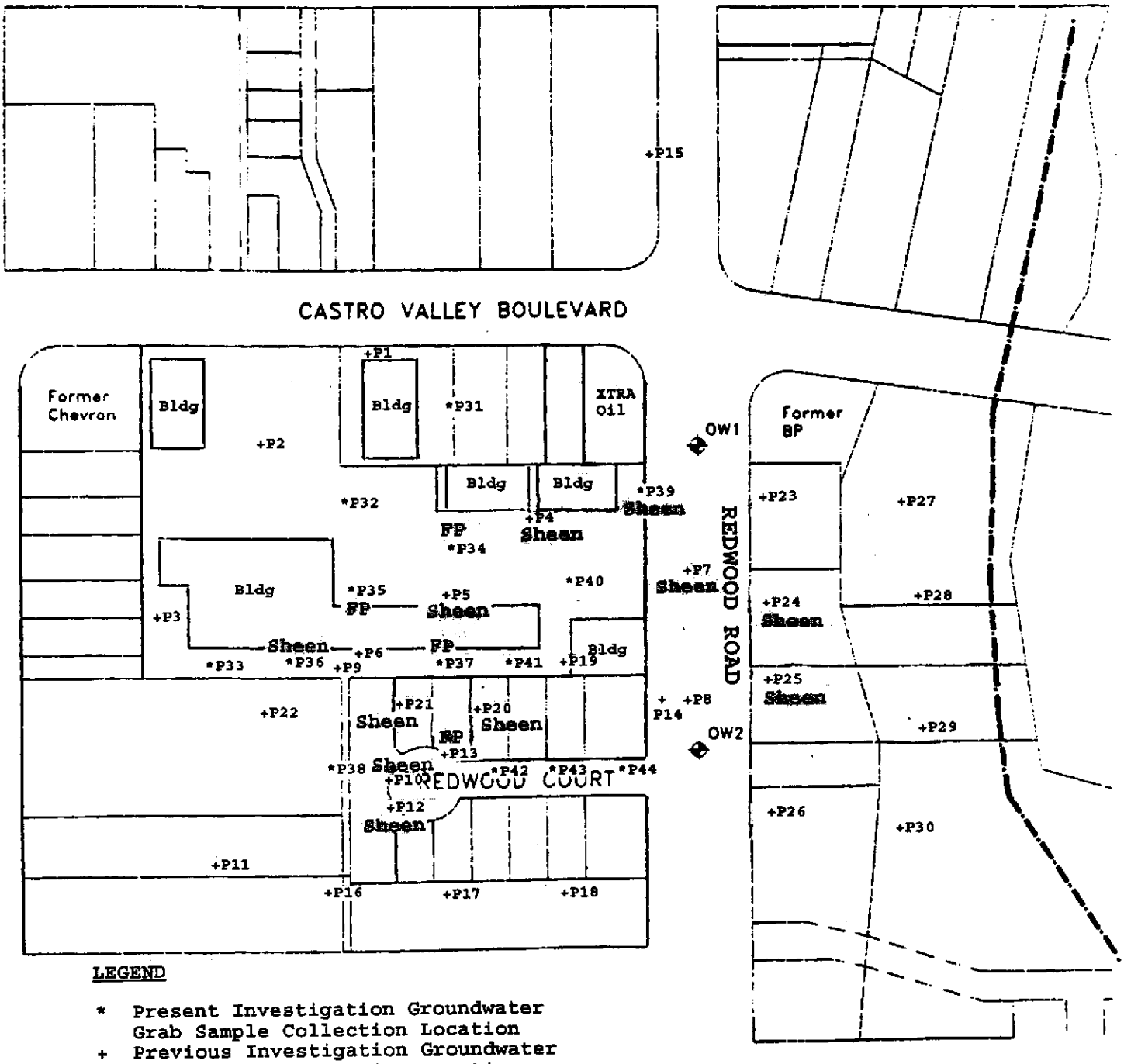
Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

Figure 5
SITE VICINITY MAP SHOWING BENZENE ISO-CONCENTRATION CONTOURS
XTRA OIL Company
3495 Castro Valley Boulevard
Castro Valley, California

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



LEGEND

* Present Investigation Groundwater Grab Sample Collection Location
\+ Previous Investigation Groundwater Grab Sample Collection Location
Observation Well Location
Approximate Creek Location
FP Free Product In Borehole
Sheen Sheen In Borehole or Sample

Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

Figure 6
SITE VICINITY MAP SHOWING FREE PRODUCT OR SHEEN
XTRA OIL Company
3495 Castro Valley Boulevard
Castro Valley, California

P&D ENVIRONMENTAL

BORING NO.: P31	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/19/01 / DATE & TIME FINISHED: 06/19/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 20.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 20.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt		No Well Constructed			Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BLACK SILTY CLAY (CL); minor fine to medium sand, faint brown mottling, moist, stiff. No Petroleum Hydrocarbon (PHC) odor.	CL				
5					0	
		▼			0	
	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor.				0	
10	No PHC odor.				0	
		CL				
	No PHC odor.				0	8:15 AM At 16 feet, no water in borehole. 8:25 AM. At 16 feet, no water in borehole.
15	No PHC odor.				0	8:45 AM at 20 feet. Water in sampler. Depth at which water encountered is approximately 18 feet.
	Saturated at 18 feet.	▽				8:55 AM water came up to 6.5 feet. No odor or sheen in water.
20	No PHC odor.				0	
						Borehole terminated at 20.0 feet. Borehole backfilled with neat cement grout.
25						
30						

P&D ENVIRONMENTAL

BORING NO.: P32	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX	DRILLER: DAN	DATE & TIME STARTED: 06/19/01	DATE & TIME FINISHED: 06/19/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 24.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: 22.5 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt		No Well Constructed			Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BROWN CLAYEY SAND (FILL); medium sand, moist, loose. No Petroleum Hydrocarbon (PHC) odor	FILL				
5	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor.	CL			0	
					0	
	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor.				0	
10					0	
	No PHC odor.	CL			0	
15	No PHC odor.				0	Cored 16 to 19 feet, and 19 to 20 feet because of expansive clay in sampler.
	No PHC odor.				0	
20	No PHC odor.				0	10:07 AM. At 20.5 feet, no water in borehole. 10:22 AM. At 20.5 feet, no water in borehole. 10:40 AM. At 22.5 feet, first water encountered.
	BROWN SILT (ML); hard, saturated. No PHC odor.	ML			0	10:45 AM: Water at 4.0 feet. No odor or sheen on water.
25						Borehole terminated at 24.0 feet. Borehole backfilled with neat cement grout.

P&D ENVIRONMENTAL

BORING NO.: P33	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/25/01 / DATE & TIME FINISHED: 06/25/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 20.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 19.5 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	" Asphalt	FILL	No Well Constructed			Borehole continuously cored in 5-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BROWN SANDY CLAY (FILL) No PHC odor.					
	BLACK SILTY CLAY (CL); minor fine to medium sand. No PHC odor.	CL			0	Two attempts to drill encountered concrete obstructions at a depth of two feet (possible footing for adjacent wall or buried concrete pipe).
5						
	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, hard. No PHC odor.	▼				
10	No PHC odor.				0	
		CL				
15	No PHC odor.				0	10:38 AM. At 20.0 feet, first water encountered. 10:40 AM. Water at 10.0 feet. 10:57 AM. Water at 7.6 feet.
	BROWN FINE SAND (SP), loose, saturated. No PHC odor.	▽ SP			0	No odor or sheen on water.
20						Borehole terminated at 20.0 feet. Borehole backfilled with neat cement grout.
25						
30						

P&D ENVIRONMENTAL

BORING NO.: P34	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX	DRILLER: DAN	DATE & TIME STARTED: 06/20/01	DATE & TIME FINISHED: 06/20/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 21.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: 21.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt	FILL	No Well Constructed		10	Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	10" BROWN-GRAY CLAYEY SAND (FILL); medium sand, moist, loose. No Petroleum Hydrocarbon (PHC) odor.	CL				
5	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, stiff. Moderate PHC odor beginning at 1 foot.				52	
	GRAY SILTY CLAY (CL); minor fine to medium sand, moist, stiff. Moderate PHC odor.	▼			57	
10					111	Old gasoline odor.
						Cored 16 to 18 feet, and 18 to 20 feet because of expansive clay in sampler.
15	BROWN SILTY CLAY (CL); minor fine to medium sand, moist stiff. Strong PHC odor.					12:10 PM. At 18.0 feet, no water in borehole.
	Black oily PHC visible in fractures in soil core at 13, 16, 20 and 21 feet depth.				184	12:24 PM. At 21.0 feet, first water encountered. 12:27 PM. Water at 8.1 feet. Strong PHC odor in water. Old gasoline odor in water. Black PHC droplets floating on water.
20		▽			87	
25						Borehole terminated at 21.0 feet. Borehole backfilled with neat cement grout.

P&D ENVIRONMENTAL

BORING NO.: P35	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: IN FRONT OF DOUG'S PLACE DINER		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/20/01 / DATE & TIME FINISHED: 06/20/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 12.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 12.0 FEET	NO. OF SAMPLES: 2 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt		No Well Constructed			Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	GRAY-GREEN CLAYEY SAND (FILL); medium sand,moist, loose. No Petroleum Hydrocarbon (PHC) odor.	FILL				
	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor. Mild PHC beginning at 2.5 feet. Increasing odor strength with depth. Very strong PHC odor by 8.0 feet.	CL			0 10	Old gasoline odor at 8.0 feet (odor not sweet and not oily).
10	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff (wet at 10 feet).				253	7:55 AM at 12.0 feet. Wet. 8:05 AM. Water at 6.8 feet. Strong old PHC (gasoline) odor in water. Spots of separate phase black PHC on water.
						Borehole terminated at 12.0 feet. Borehole backfilled with neat cement grout.
15						
20						
25						

P&D ENVIRONMENTAL

BORING NO.: P36	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/25/01 / DATE & TIME FINISHED: 06/25/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 30.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 29.5 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt		No Well Constructed			Borehole continuously cored in 5-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BROWN SANDY CLAY (FILL), moist, hard. No Petroleum Hydrocarbon (PHC) odor.	FILL				
5	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, hard. No PHC odor.	CL			0	
	BROWN SILTY CLAY (CL). Hard, moist. No PHC odor.					
10	No PHC odor. ▼	CL			0	
15	No PHC odor.				0	
20	No PHC odor.				0	
25	No PHC odor.				0	12:45 PM Dry at 25.0 feet. 1:04 PM water at 30 feet. 1:09 PM water at 10.1 feet. No sheen or odor on water.
	29.5 – 30.0 feet. FINE BROWN SAND (SP). Saturated, loose. No PHC odor.	SP ▽				Borehole terminated at 30.0 feet. Borehole backfilled with neat cement grout.
30					0	

P&D ENVIRONMENTAL

BORING NO.: P37	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX	DRILLER: DAN	DATE & TIME STARTED: 06/25/01	DATE & TIME FINISHED: 06/25/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 15.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: 7.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt BROWN SANDY CLAY (FILL); medium sand, moist. No Petroleum Hydrocarbon (PHC) odor.	FILL	No Well Constructed		0	Borehole continuously cored in 5-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
5	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, hard. Strong PHC odor.	CL			253	Very wet with clear brown free product (diesel fuel?) at 7.0 feet. Hole closed at 7.0 feet during attempts to sound borehole below 7.0 feet. Water at 7.0 feet interpreted as perched and possibly associated with adjacent buried utility trench.
10					127	
	BROWN SILTY CLAY (CL); extensive green mottling, fine to medium sand, moist, hard. Moderate PHC odor.					Drilling stopped at 15.0 feet to prevent fluid at 7.0 feet from migrating vertically. Strong PHC odor in water. Clear brown free product floating on water.
15					16	
						Borehole terminated at 15.0 feet. Borehole backfilled with neat cement grout.
20						
25						
30						

P&D ENVIRONMENTAL

BORING NO.: P38	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: APT COMPLEX BACKYARD (W END OF REDWOOD CT.)		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: P&D	DRILLER: PAUL	DATE & TIME STARTED: 06/22/01	DATE & TIME FINISHED: 06/22/01
DRILLING EQUIPMENT: 3.5" O.D. HAND AUGER			
COMPLETION DEPTH: 7.5 FEET	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: 6.5 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No Petroleum Hydrocarbon (PHC) odor.	CL	No Well Constructed		0 0	Borehole hand augered with a 3.5" O.D. stainless steel hand auger. Soil sample collected at 5.0 feet using a stainless steel percussion sampler lined with a 2-inch diameter, 6-inch long brass tube. 1:15 PM Water at 6.5 feet. 1:35 PM Water at 4.0 feet. No sheen or odor on water.
	3.5 – 4.5 Gray mottling.	▼			0	
5	4.5 GRAY SILTY CLAY (CL); moist, stiff. 6.0 LIGHT GRAY SILTY CLAY (CL) black nodules. 6.5 – 7.5 LIGHT BROWN SILTY CLAY (CL) orange mottling, saturated, stiff. No PHC odor.	▽			0 0	
10						Borehole terminated at 7.5 feet. Borehole backfilled with neat cement grout.
15						
20						
25						

P&D ENVIRONMENTAL

BORING NO.: P39	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: NEXT TO STATION		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/20/01 / DATE & TIME FINISHED: 06/20/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 21.5 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 21.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt	FILL	No Well Constructed			Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler fined with cellulose acetate tube liners.
	BROWN SANDY CLAY (FILL); medium sand, moist, loose. No Petroleum Hydrocarbon (PHC) odor.					
5	BLACK SILTY CLAY (CL); minor fine to medium sand, moist, stiff. Strong PHC odor.	CL			180	
	GREEN GRAY SILTY CLAY (CL); minor fine to medium sand, moist, stiff. Strong PHC odor.	CL			247	Old gasoline odor.
10	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. Strong PHC odor.	CL			181	
	13.5 – 14.5 GREEN GRAY (CL)					
15	Wet at 15.5. Black oil visible in fractures at 15.5, 16.0, 17.0, 17.5, 19, 20.5 feet.				227	4:35 PM at 15.0 feet. Wet. No water. 4:45 PM Drill to 18.0 feet. 5:05 PM No water at 18.0 feet. 5:14 PM No water at 20.0 feet.
20	BROWN SANDY SILT (ML), fine sand saturated, stiff, moderate PHC odor.	ML			252 / 83	5:30 PM Water at 21.5 feet. 5:35 PM Water at 5.1 feet. Sheen and odor on water. No free product on water.
25						Borehole terminated at 21.5 feet. Borehole backfilled with neat cement grout.

P&D ENVIRONMENTAL

BORING NO.: P40	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: IN FRONT OF VIDEO STORE		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX	DRILLER: DAN	DATE & TIME STARTED: 06/20/01	DATE & TIME FINISHED: 06/20/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 18.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: 18.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt	FILL	No Well Constructed		0	Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	10 " BROWN & GRAY-GREEN CLAYEY SAND (FILL); moist. No Petroleum Hydrocarbon (PHC) odor.					
	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff to hard. No PHC odor.	CL			0	Very hard drilling.
5		▼			0	Drive from 4.0 to 6.0 feet.
						Very hard drilling.
10	No PHC odor.				0	Drive from 10.0 to 12.0 feet.
	No PHC odor.				0	Drive from 12.0 to 14.0 feet.
	No PHC odor.				0	Drive from 14.0 to 16.0 feet.
15						Drive from 16.0 to 18.0 feet.
	No PHC odor.				0	3:05 PM Water at 18.0 feet. 3:10 PM Water at 5.8 feet.
	No PHC odor.	▽			0	No odor or sheen in water.
20						Borehole terminated at 18.0 feet. Borehole backfilled with neat cement grout.
25						

P&D ENVIRONMENTAL

BORING NO.: P41	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/25/01 / DATE & TIME FINISHED: 06/25/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 20.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 19.8 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt	FILL	No Well Constructed			Borehole continuously cored in 5-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BROWN SANDY CLAY (FILL); medium sand. No Petroleum Hydrocarbon (PHC) odor.					
	BLACK SILTY CLAY (CL); minor fine and medium sand, moist, stiff. No PHC odor.	CL				
5	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor.	CL				
	9.0 to 9.5 feet, BROWN SAND (SP), fine to medium sand, minor coarse sand, dense, moist. No PHC odor.	SP				
10	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor.	CL				
15						8:05 AM Water at 20.0 feet. 8:59 AM Water at 10.3 feet. No odor or sheen on water.
	19.8 to 20.0 feet. BROWN FINE SAND (SP); dense, saturated. No PHC odor.	SP				
20						Borehole terminated at 20.0 feet. Borehole backfilled with neat cement grout.
25						
30						

P&D ENVIRONMENTAL

BORING NO.: P42	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: BANK PARKING LOT		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/19/01 / DATE & TIME FINISHED: 06/19/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 20.0FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 20.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt					Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BLACK SILTY CLAY (CL); minor fine to coarse sand, moist, stiff. No Petroleum Hydrocarbon (PHC) odor.	CL	No Well Constructed		0	
5	GREEN-GRAY SILTY CLAY (CL) Minor fine to coarse sand, stiff, moist. No PHC odor.	CL ▼			0	
10	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor. 11.5 to 12.5 feet: green-gray discoloration	CL			0	
15	16 to 18 feet: green mottling. No PHC odor.				0	2:25 PM At 16.0 feet. No water.
					0	2:40 PM No water at 16.0 feet.
	19.5 to 20.0 feet BROWN SILT (ML); hard, saturated. No PHC odor.	▽ ML			0	2:50 PM Water at 20.0 feet. 3:00 PM Water at 4.8 feet. No odor or sheen on water.
20						Borehole terminated at 20.0 feet. Borehole backfilled with neat cement grout.
25						

P&D ENVIRONMENTAL

BORING NO.: P43 PROJECT NO.: 0014 PROJECT NAME: XTRA OIL CASTRO VALLEY

BORING LOCATION: HALFWAY FROM REDWOOD RD. TO END OF REDWOOD CT. ELEVATION AND DATUM: NONE

DRILLING AGENCY: VIRONEX DRILLER: DAN

DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.

COMPLETION DEPTH: 15.0 FEET BEDROCK DEPTH: NONE ENCOUNTERED

FIRST WATER DEPTH: 15.0 FEET NO. OF SAMPLES: 1 SOIL, 1 WATER

DATE & TIME STARTED:	DATE & TIME FINISHED:
06/19/01	06/19/01
LOGGED BY:	**CHECKED BY:**
PHK	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt					Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	DARK BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No Petroleum Hydrocarbon (PHC) odor.	CL	No Well Constructed			
5	LIGHT BROWN SILTY CLAY (CL); minor fine to medium sand, extensive black mottling, moist, stiff. No PHC odor.	CL			0	
	No PHC odor.				0	
10	No PHC odor.				0	Last drive is 3.0 feet. 12:50 PM No water at 12.0 feet. 1:00 PM Water at 15.0 feet. 1:05 PM Water at 4.0 feet. No odor or sheen in water.
15						Borehole terminated at 15.0 feet. Borehole backfilled with neat cement grout.
20						
25						

P&D ENVIRONMENTAL

BORING NO.: P44	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL CASTRO VALLEY	
BORING LOCATION: ON REDWOOD CT. CLOSEST TO REDWOOD RD.		ELEVATION AND DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: DAN	DATE & TIME STARTED: 06/19/01 / DATE & TIME FINISHED: 06/19/01
DRILLING EQUIPMENT: GEOPROBE 2.5" O.D.			
COMPLETION DEPTH: 20.0 FEET	BEDROCK DEPTH: NONE ENCOUNTERED		LOGGED BY: PHK / CHECKED BY:
FIRST WATER DEPTH: 20.0 FEET	NO. OF SAMPLES: 1 SOIL, 1 WATER		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	2" Asphalt					Borehole continuously cored in 4-foot intervals with a 2.5" O.D. barrel sampler lined with cellulose acetate tube liners.
	BROWN MEDIUM SAND (FILL); moist, loose. No Petroleum Hydrocarbon (PHC) odor.	FILL	No Well Constructed			
	GRAY-BROWN SILTY CLAY (CL); moist, stiff. No PHC odor.				0	
5	BROWN SILTY CLAY (CL); minor fine to medium sand, moist, stiff. No PHC odor.	CL				
	7.0 to 8.5 feet is gray.				0	
10	No PHC odor.				0	
	12.0 to 16.0 Core stuck in sampler (expansive clay). When extracted, pieces showed same material as above.					
15	Cleaned out hole to 16.0 feet. Very soft. No PHC odor.				0	11:00 AM No water at 16.0 feet. 11:25 AM no water at 16.0 feet. 11:35 AM Water at 20.0 feet.
	16.0 to 20.0 feet very soft. No PHC odor.					11:40 AM water at 3.7 feet. No odor or sheen in water.
20					0	Borehole terminated at 20.0 feet. Borehole backfilled with neat cement grout.
25						

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil – Castro Valley	Date Sampled: 06/19-06/20/2001
		Date Received: 06/21/2001
	Client Contact: Paul King	Date Extracted: 06/21/2001
	Client P.O:	Date Analyzed: 06/21-06/22/2001

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70493	P31-5.0	S	ND	ND	ND	ND	ND	ND	109
70494	P32-5.0	S	1.2,j	ND	ND	0.028	ND	ND	---#
70495	P34-5.0	S	1100,a	ND<1.0	24	84	22	130	---#
70496	P35-5.0	S	130,a	ND<0.40	5.9	14	3.3	19	---#
70497	P39-5.0	S	9.6,a	ND	0.83	0.083	0.22	0.085	---#
70498	P40-5.0	S	ND	ND	ND	ND	ND	ND	98
70499	P42-6.0	S	ND	ND	ND	ND	ND	ND	106
70500	P43-5.0	S	ND	ND	ND	ND	ND	ND	104
70501	P44-5.0	S	ND	ND	ND	ND	ND	ND	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil – Castro Valley	Date Sampled: 06/19-06/20/2001
		Date Received: 06/21/2001
	Client Contact: Paul King	Date Extracted: 06/21/2001
	Client P.O:	Date Analyzed: 06/21-06/26/2001

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
70493	P31-5.0	S	19,g	103
70494	P32-5.0	S	1.5,g	109
70495	P34-5.0	S	160,a,d	101
70496	P35-5.0	S	16,d	101
70497	P39-5.0	S	6.7,a	103
70498	P40-5.0	S	ND	103
70499	P42-6.0	S	ND	97
70500	P43-5.0	S	2.8,g	100
70501	P44-5.0	S	ND	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil – Castro Valley	Date Sampled: 06/19-06/20/2001
		Date Received: 06/21/2001
	Client Contact: Paul King	Date Extracted: 07/11/2001
	Client P.O:	Date Analyzed: 07/12-07/13/2001

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel with Silica Gel Clean-Up*

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
70493	P31-5.0	S	3.0,g	109
70494	P32-5.0	S	ND	102
70500	P43-5.0	S	2.3,g	109
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 06/21/01 **Matrix:** Soil

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 61901	Extraction: EPA 5030				Instrument: GC-3		
Surrogate1	ND	99.000	99.000	100.00	99	99	0.0
Xylenes	ND	31.100	29.700	30.00	104	99	4.6
Ethylbenzene	ND	10.200	9.700	10.00	102	97	5.0
Toluene	ND	10.000	9.500	10.00	100	95	5.1
Benzene	ND	9.600	9.200	10.00	96	92	4.3
MTBE	ND	11.200	10.600	10.00	112	106	5.5
TPH (gas)	ND	95.159	91.972	100.00	95	92	3.4
SampleID: 62901	Extraction: TTLC				Instrument: MB-1		
Oil & Grease	ND	19.800	20.000	23.70	84	84	1.0
SampleID: 62201	Extraction: EPA 3510				Instrument: GC-2 A		
Surrogate1	ND	92.000	92.000	100.00	92	92	0.0
TPH (diesel)	ND	000.00	175.00	7500.00	93	96	2.5

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

QC REPORT

EPA 8015m + 8020

Date: 07/12/01 **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 71201	Extraction: EPA 5030				Instrument: GC-3		
Surrogate1	ND	99.000	99.000	100.00	99	99	0.0
Xylenes	ND	0.259	0.262	0.30	86	87	1.2
Ethylbenzene	ND	0.085	0.086	0.10	85	86	1.2
Toluene	ND	0.089	0.090	0.10	89	90	1.1
Benzene	ND	0.092	0.092	0.10	92	92	0.0
MTBE	ND	0.094	0.095	0.10	94	95	1.1
TPH (gas)	ND	0.862	0.862	1.00	86	86	0.1
SampleID: 70501	Extraction: EPA 3550				Instrument: GC-6 A		
Surrogate1	ND	95.000	95.000	100.00	95	95	0.0
TPH (diesel)	ND	176.000	171.500	150.00	117	114	2.6

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

CHAIN OF CUSTODY RECORD

26442zpd72.doc

PROJECT NUMBER: 0014

PROJECT NAME: Xtra Oil ~ Castro Valley

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

SAMPLE NUMBER	DATE	TIME	TYPE	SAMP[LE LOCATION]		NUMBER OF CONTAINERS	ANALYSIS(ES): TPH - Diesel	TPH - Gasoline	BTEX/MTBE by 8020	TOC Added on 6/28/01	TPH diesel w/ SG cleanup	SAT AT ENPK 7-4-01	PRESERVATIVE	REMARKS
P31 - 5.0	6/19/01		Soil		70493	1	X	X	X		X		ICE	Normal Turn Around
P32 - 5.0	6/20/01		"		70494	1	X	X	X		X		"	" " "
					70495									
P34 - 5.0	6/20/01		"		70496	1	X	X	X				"	" " "
P35 - 5.0	6/20/01		"			1	X	X	X				"	" " "
					70497									
P39 - 5.0	6/20/01		"		70498	1	X	X	X				"	" " "
P40 - 5.0	6/20/01		"			1	X	X	X	X			"	" " "
					70499									
P42 - 6.0	6/19/01		"			1	X	X	X	X			"	" " "
P43 - 5.0	6/19/01		"		70500	1	X	X	X		X		"	" " "
P44 - 5.0	6/19/01		"		70501	1	X	X	X	X			"	" " "

ICE/4° ____ PRESERVATION ____ VOAS | O&G | METALS | OTHER
GOOD CONDITION ____ APPROPRIATE
HEAD SPACE ABSENT ____ CONTAINERS ____

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)		
Paul H. King	6/21	945	Ernst Hamm	TOTAL NO. OF SAMPLES (THIS SHIPMENT): 9 TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 9	LABORATORY: McCampbell Analytical
Ernst G Hamm	6/21	1500		LABORATORY CONTACT: Angela	LABORATORY PHONE NUMBER: (925) 798-1620
			RECEIVED FOR LABORATORY BY: (SIGNATURE) [signature]	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO	

REMARKS: Plse perform Total Organic Carbon analysis for all soil samples which do not have any detectable concentrations of petroleum hydrocarbons

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/25/01
		Date Received: 06/26/01
	Client Contact: Paul King	Date Extracted: 06/26-07/03/01
	Client P.O:	Date Analyzed: 06/26-07/03/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70876	P33-5.5	S	ND	ND	ND	ND	ND	ND	97
70877	P36-5.5	S	1.3,b	ND	ND	ND	0.005	0.030	95
70878	P37-5.5	S	5.6,a	ND	0.95	0.042	0.20	0.69	102
70879	P41-5.5	S	1.2,b	ND	ND	0.009	0.010	0.049	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/25/01
		Date Received: 06/26/01
	Client Contact: Paul King	Date Extracted: 06/26/01
	Client P.O:	Date Analyzed: 06/26-07/03/01

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
70876	P33-5.5	S	6.9,g	98
70877	P36-5.5	S	17,g	101
70878	P37-5.5	S	5.2,g	96
70879	P41-5.5	S	12,g	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 06/26/01 **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62001	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	97.000	98.000	100.00	97	98	1.0
Xylenes	ND	0.351	0.308	0.30	117	103	13.1
Ethylbenzene	ND	0.109	0.095	0.10	109	95	13.7
Toluene	ND	0.106	0.099	0.10	106	99	6.8
Benzene	ND	0.096	0.091	0.10	96	91	5.3
MTBE	ND	0.096	0.097	0.10	96	97	1.0
TPH (gas)	ND	1.157	1.079	1.00	116	108	7.0
SampleID: 62201	Extraction: EPA 3550				Instrument: GC-2 A		
Surrogate1	ND	93.000	101.000	100.00	93	101	8.2
TPH (diesel)	ND	141.000	140.500	150.00	94	94	0.4

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

26508 ZP1078

CHAIN OF CUSTODY RECORD

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-Diesel	TPH-Gasoline	BTEX/MTBE by 8020			PRESERVATIVE	REMARKS
P33-5.5	6/25/01		Soil		1	X	X	X			ICE	Normal Turn Around
P36-5.5	"		"		1	X	X	X			"	" " "
P37-5.5	"		"		1	X	X	X			"	" " "
P41-5.5	"		"		1	X	X	X			"	" " "

70876
70877
70878
70879

ICE/4° ✓ PRESERVATION
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS ✓

VOAs O&G METALS OTHER

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	6/26/01	9:22	486
486	6/26/01	10:28	
			RECEIVED FOR LABORATORY BY: (SIGNATURE) 6/26

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 4
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 4
LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Angela
LABORATORY PHONE NUMBER: (925) 798-1620
SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS: Analyze any samples with positive MTBE results for MTBE using EPA 8260

McCAMPBELL ANALYTICAL INC.

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/20/01
		Date Received: 06/21/01
	Client Contact: Paul King	Date Extracted: 06/21/01
	Client P.O:	Date Analyzed: 06/21-06/22/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70492	P35-1.5	S	ND	ND	ND	ND	ND	ND	107
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

Date: 06/21/01 Matrix: Soil

Extraction: TTLC

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62001					Instrument:		GC-7
Surrogate1	0.000	101.000	92.000	100.00	101	92	9.3
Xylenes	0.000	0.335	0.335	0.30	112	112	0.0
Ethyl Benzene	0.000	0.106	0.104	0.10	106	104	1.9
Toluene	0.000	0.105	0.099	0.10	105	99	5.9
Benzene	0.000	0.096	0.089	0.10	96	89	7.6
MTBE	0.000	0.117	0.112	0.10	117	112	4.4
GAS	0.000	1.081	1.166	1.00	108	117	7.6
SampleID: 6201					Instrument:		GC-11 A
Surrogate1	0.000	115.000	114.000	100.00	115	114	0.9
TPH (diesel)	0.000	312.000	309.000	300.00	104	103	1.0

$$\%\,\text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

a6491

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

ZPE79.doc

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 0014

PROJECT NAME: 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-Gasoline	BTEX/MTBE by 8021					PRESERVATIVE	REMARKS
P35-1.5	6/20/01		Soil		1	X	X					ICE	~~HOLD~~ OFF HOLD 7/03/01

70492

ICE/t° ___ PRESERVATION ___ VOAS O&G METALS OTHER
GOOD CONDITION ___ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	6/21	948	Ernst Gamm
Ernst B. Gamm	6/21	1500	
			RECEIVED FOR LABORATORY BY: (SIGNATURE) [signature]

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 1

LABORATORY: McCampbell Analytical

LABORATORY CONTACT: Angela

LABORATORY PHONE NUMBER: (925) 798-1620

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

REMARKS:

TR.IM

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/22/01
		Date Received: 06/25/01
	Client Contact: Paul King	Date Extracted: 06/25/01
	Client P.O:	Date Analyzed: 06/25/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70766	P38-5.0	S	ND	ND	ND	ND	ND	ND	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/22/01
		Date Received: 06/25/01
	Client Contact: Paul King	Date Extracted: 06/25/01
	Client P.O:	Date Analyzed: 06/28/01

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
70766	P38-5.0	S	ND	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 06/24/01-06/25/01 **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62501	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	93.000	92.000	100.00	93	92	1.1
Xylenes	ND	0.331	0.331	0.30	110	110	0.0
Ethylbenzene	ND	0.103	0.102	0.10	103	102	1.0
Toluene	ND	0.098	0.098	0.10	98	98	0.0
Benzene	ND	0.088	0.088	0.10	88	88	0.0
MTBE	ND	0.108	0.106	0.10	108	106	1.9
TPH (gas)	ND	1.143	1.153	1.00	114	115	0.9
SampleID: 62201	Extraction: EPA 3550				Instrument: GC-2 A		
Surrogate1	ND	96.000	96.000	100.00	96	96	0.0
TPH (diesel)	ND	147.500	148.000	150.00	98	99	0.3

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{Amount Spiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

QC REPORT

EPA 8015m + 8020

Date: 06/28/01 **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62101	Extraction: EPA 5030				Instrument: GC-12		
Surrogate1	ND	101.000	108.000	100.00	101	108	6.7
Xylenes	ND	0.336	0.347	0.30	112	116	3.2
Ethylbenzene	ND	0.110	0.107	0.10	110	107	2.8
Toluene	ND	0.108	0.111	0.10	108	111	2.7
Benzene	ND	0.098	0.102	0.10	98	102	4.0
MTBE	ND	0.095	0.102	0.10	95	102	7.1
TPH (gas)	ND	0.960	0.883	1.00	96	88	8.3
SampleID: 62201	Extraction: EPA 3550				Instrument: GC-2 A		
Surrogate1	ND	96.000	92.000	100.00	96	92	4.3
TPH (diesel)	ND	135.500	147.500	150.00	90	98	8.5

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

26483 ZP075

CHAIN OF CUSTODY RECORD

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-Diesel	TPH-Gasoline	BTEX/MTBE by 8020				PRESERVATIVE	REMARKS
P38-5.0	6/22/01		Soil		1	X	X	X				ICE	Normal Turn Around
													70766

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT

PRESERVATION APPROPRIATE ✓
CONTAINERS

	VOAS	O&G	METALS	OTHER
			✓	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	6/25	1110	[signature]
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
[signature]	6-25	1630	Maria Venegas
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 1

LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Angela
LABORATORY PHONE NUMBER: (925) 798-1620

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

REMARKS: Analyze any samples with a positive MTBE result for MTBE by EPA 8260

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/25/01
		Date Received: 06/26/01
	Client Contact: Paul King	Date Extracted: 07/11/01
	Client P.O:	Date Analyzed: 07/12-07/13/01

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel with Silica Gel Clean-Up*

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
70876	P33-5.5	S	4.0,g	103
70877	P36-5.5	S	12,g	100
70878	P37-5.5	S	3.3,g	102
70879	P41-5.5	S	9.6,g	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 07/12/01 **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 71201	Extraction: EPA 5030				Instrument: GC-3		
Surrogate1	ND	99.000	99.000	100.00	99	99	0.0
Xylenes	ND	0.259	0.262	0.30	86	87	1.2
Ethylbenzene	ND	0.085	0.086	0.10	85	86	1.2
Toluene	ND	0.089	0.090	0.10	89	90	1.1
Benzene	ND	0.092	0.092	0.10	92	92	0.0
MTBE	ND	0.094	0.095	0.10	94	95	1.1
TPH (gas)	ND	0.862	0.862	1.00	86	86	0.1
SampleID: 70501	Extraction: EPA 3550				Instrument: GC-6 A		
Surrogate1	ND	95.000	95.000	100.00	95	95	0.0
TPH (diesel)	ND	176.000	171.500	150.00	117	114	2.6

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 200$$

RPD means Relative Percent Deviation

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

26508 ZPD78

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NUMBER: 0014
PROJECT NAME: Xtra Oil - Castro Valley
SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King Paul H. King

ANALYSIS(ES): TPH-Diesel; TPH-Gasoline; BTEX/MTBE by 8020; TPH(diesel) w/ SG (cleanup); EDF? per PK 7-11-01

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	TPH-Diesel	TPH-Gasoline	BTEX/MTBE by 8020	TPH(diesel) w/ SG		PRESERVATIVE	REMARKS
P33 -5.5	6/25/01		Soil		1	X	X	X	X		ICE	Normal Turn Around
P36 -5.5	"		"		1	X	X	X	X		"	" " "
P37 -5.5	"		"		1	X	X	X	X		"	" " "
P41 -5.5	"		"		1	X	X	X	X		"	" " "

70876
70877
70878
70879

ICE/4° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ____
PRESERVATION ____ (VOAS | O&G | METALS | OTHER)
APPROPRIATE CONTAINERS ✓

RELINQUISHED BY: (SIGNATURE) Paul H. King	DATE 6/26/01	TIME 9:22	RECEIVED BY: (SIGNATURE) [signature] 486	TOTAL NO. OF SAMPLES (THIS SHIPMENT) 4; TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 4	LABORATORY: McCampbell Analytical
RELINQUISHED BY: (SIGNATURE) [signature] 486	DATE 6/26/01	TIME 10:28	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: Angela	LABORATORY PHONE NUMBER: (925) 798-1620
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) [signature] 6/26	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO	

REMARKS: Analyze any samples with positive MTBE results for MTBE using EPA 8260

Alpha Analytical Laboratories Inc.
860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/23/01 16:01
Project No: 26483
Project ID: PD #0014

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A107254	07/12/2001 09:50	MCCLAB	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
P38-5.0 70766 (A107254-01)			**Sample Type: Soil**			**Sampled: 06/22/01 00:00**		
Organic Carbon by 9060								
Total Organic Carbon	EPA 9060	AG11915	07/19/01	07/20/01	1	**1010 mg/kg**	**1.00**	

Sheri Speaks

Sheri L. Speaks
Project Manager

7/23/01

Alpha Analytical Laboratories Inc. 860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/23/01 16:01
Project No: 26483
Project ID: PD #0014

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A107254	07/12/2001 09:50	MCCLAB	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P38-5.0 70766	A107254-01	Soil	06/22/01 00:00	07/12/01 09:50

Sheri Speaks

Sheri L. Speaks
Project Manager

7/23/01

Alpha Analytical Laboratories Inc. 860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/23/01 16:01
Project No: 26483
Project ID: PD #0014

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A107254	07/12/2001 09:50	MCCLAB	

Organic Carbon by 9060 - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG11915 - General Prep										
LCS (AG11915-BS1)				Prepared: 07/19/01 Analyzed: 07/20/01						
Total Organic Carbon	5890	1.00	mg/kg	6250		94.2	85-115			
LCS Dup (AG11915-BSD1)				Prepared: 07/19/01 Analyzed: 07/20/01						
Total Organic Carbon	6040	1.00	mg/kg	6250		96.6	85-115	2.51	20	
Duplicate (AG11915-DUP1)		Source: A107254-01		Prepared: 07/19/01 Analyzed: 07/20/01						
Total Organic Carbon	914	1.00	mg/kg		1010			9.98	20	

Sheri Speaks

Sheri L. Speaks
Project Manager

7/23/01

Alpha Analytical Laboratories Inc. 860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/23/01 16:01
Project No: 26483
Project ID: PD #0014

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A107254	07/12/2001 09:50	MCCLAB	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

Alpha

McCAMPBELL ANALYTICAL INC.
1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☐ 5 DAY ☒ ROUTINE

Report To: Maria Venegas **Bill To:** MAI

Project #: 26483 **Project Name:** PD# 0014

Project Location:

SAMPLE ID	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
P38-5.0	6/22		2	Voa		X				X			

ANALYSIS REQUEST

Asbestos	BOD	Sulfide	Cyanide	96hr Static % Survival Fish BioAssay Flat Headminnows & 3 Spine Stickelsback	DOC	TOC	Ammonia	TKN	Alkalinty	Turbidity	Nitrate	Fish Bioassay	Flouride	Coliform	Chloride	General Minerals	EPA
						X			A	1	0	7	3	5	4		

COMMENTS

☐ *36 hr hold time please dechlorinate

70766

Relinquished By:	Date:	Time:	Received By:
Maria Venegas	7/16/01		Cal-Overnight
Relinquished By:	Date:	Time:	Received By:
			Shon Spoke'd
Relinquished By:	Date:	Time:	Received By:

Remarks:

Please Fax when done!

7-12-01
09'50

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

26483 ZPD75

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NUMBER: 0014

PROJECT NAME: 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-Diesel	TPH-Gasoline	BTEX/MTBE by 8020	TOC Added 7-11-01 per PK STD TAT		PRESERVATIVE	REMARKS
P38-5.0	6/22/01		Soil		1	X	X	X	X		ICE	Normal Turn Around

70766

ICE/4° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
PRESERVATION
APPROPRIATE CONTAINERS ✓

VOAS	O&G	METALS	OTHER

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	6/25	1110	[signature] X233
[signature] X233	6-25	1630	Maria Venegas
			RECEIVED FOR LABORATORY BY: (SIGNATURE)

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 1

LABORATORY: McCampbell Analytical

LABORATORY CONTACT: Angela

LABORATORY PHONE NUMBER: (925) 798-1620

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

REMARKS: Analyze any samples with a positive MTBE result for MTBE by EPA 8260

Alpha Analytical Laboratories Inc. 860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/17/01 15:19
Project No: 26442
Project ID: P & D

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A106538	06/29/2001 10:30	MCCAMP	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
P40-5.0 70498 (A106538-01)			**Sample Type: Soil**			**Sampled: 06/20/01 00:00**		
Organic Carbon by 9060								
Total Organic Carbon	EPA 9060	AG11007	07/09/01	07/10/01	1	**631 mg/kg**	**1.00**	
P42-6.0 70499 (A106538-02)			**Sample Type: Soil**			**Sampled: 06/19/01 00:00**		
Organic Carbon by 9060								
Total Organic Carbon	EPA 9060	AG11007	07/09/01	07/10/01	1	**1080 mg/kg**	**1.00**	
P44-5.0 70501 (A106538-03)			**Sample Type: Soil**			**Sampled: 06/19/01 00:00**		
Organic Carbon by 9060								
Total Organic Carbon	EPA 9060	AG11007	07/09/01	07/10/01	1	**648 mg/kg**	**1.00**	

Sheri Speaks

Sheri L. Speaks
Project Manager

7/17/01

Alpha Analytical Laboratories Inc.
860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/17/01 15:19
Project No: 26442
Project ID: P & D

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A106538	06/29/2001 10:30	MCCAMP	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P40-5.0 70498	A106538-01	Soil	06/20/01 00:00	06/29/01 10:30
P42-6.0 70499	A106538-02	Soil	06/19/01 00:00	06/29/01 10:30
P44-5.0 70501	A106538-03	Soil	06/19/01 00:00	06/29/01 10:30

Sheri Speaks

Sheri L. Speaks
Project Manager

7/17/01

Alpha Analytical Laboratories Inc.
860 Waugh Lane, H-1, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

McCampbell Analytical
110 2nd Ave. South, #D7
Pacheco CA, 94553-5560
Attn: Ed Hamilton

Report Date: 07/17/01 15:19
Project No: 26442
Project ID: P & D

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A106538	06/29/2001 10:30	MCCAMP	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☐ 5 DAY ☒ ROUTINE

Report To: ELISA VENEGAS **Bill To:** MAI
Project #: 26442 **Project Name:** PSD
Project Location:

SAMPLE ID	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Asbestos	BOD	Sulfide	Cyanide	96hr Static % Survival Fish BioAssay Flat Headminnows & 3 Spine Stickelsback	DOC	TOC	Ammonia	TKN	Alkalinity	Turbidity	Nitrate	Fish Bioassay	Flouride	Coliform	Chloride	General Minerals	EPA	COMMENTS ☐ *36 hr hold time please dechlorinate
P40-5.0	6/20		1			X														X			A106538						-	1		70498
P42-6.0	6/19		"			"														"									-	2		70499
P44-5.0	6/19		"			"														"									-	3		70501

Relinquished By:	Date:	Time:	Received By:
Jason Venegas	6/28	—	UPS AIR
Relinquished By:	Date: 6/29/01	Time: 1030	Received By: [signature]
Relinquished By:	Date:	Time:	Received By:

Remarks:

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

CHAIN OF CUSTODY RECORD

26442 zpd 72.doc

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	SAMP	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-Diesel	TPH-Gasoline	BTEX/MTBE by 8020	TOC Add 6/28/01	TPH diesel w/ SG cleanup	Std TAT exp TPH 7/01	PRESERVATIVE	REMARKS
P31 - 5.0	6/19/01		Soil	70493	1	X	X	X		X		ICE	Normal Turn Around
P32 - 5.0	6/20/01		"	70494	1	X	X	X		X		"	" " "
P34 - 5.0	6/20/01		"	70495	1	X	X	X				"	" " "
P35 - 5.0	6/20/01		"	70496	1	X	X	X				"	" " "
P39 - 5.0	6/20/01		"	70497	1	X	X	X				"	" " "
P40 - 5.0	6/20/01		"	70498	1	X	X	X	X			"	" " "
P42 - 6.0	6/19/01		"	70499	1	X	X	X	X			"	" " "
P43 - 5.0	6/19/01		"	70500	1	X	X	X		X		"	" " "
P44 - 5.0	6/19/01		"	70501	1	X	X	X	X			"	" " "

ICE/t° ____ PRESERVATION ____ VOAS | O&G | METALS | OTHER
GOOD CONDITION ____ APPROPRIATE
HEAD SPACE ABSENT ____ CONTAINERS ____

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	6/21	945	Ernst Hamm
RELINQUISHED BY: (SIGNATURE) Ernst B. Hamm	DATE 6/21	TIME 1500	RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) [signature]

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 9
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 9

LABORATORY: McCampbell Analytical

LABORATORY CONTACT: Angela

LABORATORY PHONE NUMBER: (925) 798-1620

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

REMARKS: Plse perform Total Organic Carbon analysis for all soil samples which do not have any detectable concentrations of petroleum hydrocarbons

McCAMPBELL ANALYTICAL INC.

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/19-06/20/01
		Date Received: 06/21/01
	Client Contact: Paul King	Date Extracted: 06/21-06/28/01
	Client P.O:	Date Analyzed: 06/21-06/28/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70502	P31	W	ND,i	ND	ND	ND	ND	ND	96
70503	P32	W	ND,i	ND	ND	ND	ND	ND	101
70504	P34	W	100,000,a,h,i	ND<100	8600	17,000	2100	12,000	110
70505	P35	W	72,000,a,h,i	ND<200	6500	6000	2000	8000	98
70506	P39	W	23,000,a,h,i	ND<50	500	2200	490	2700	93
70507	P40	W	ND,i	ND	ND	ND	ND	ND	96
70508	P42	W	ND,i	ND	ND	ND	ND	ND	103
70509	P43	W	ND,i	ND	ND	ND	ND	ND	95
70510	P44	W	ND,i	ND	ND	ND	ND	ND	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/19-06/20/01
		Date Received: 06/21/01
	Client Contact: Paul King	Date Extracted: 06/21/01
	Client P.O:	Date Analyzed: 06/21-06/25/01

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
70502	P31	W	130,g,i	103
70503	P32	W	ND,i	99
70504	P34	W	27,000,d,h,i	107
70505	P35	W	13,000,d,h,i	106
70506	P39	W	3600,d,h,i	109
70507	P40	W	60,b,i	92
70508	P42	W	ND,i	103
70509	P43	W	ND,i	103
70510	P44	W	ND,i	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 06/28/01 **Matrix:** Water

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62001	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	93.0	93.0	100.00	93	93	0.0
Xylenes	ND	32.8	33.5	30.00	109	112	2.1
Ethylbenzene	ND	10.1	10.3	10.00	101	103	2.0
Toluene	ND	10.0	10.1	10.00	100	101	1.0
Benzene	ND	9.4	9.3	10.00	94	93	1.1
MTBE	ND	10.8	11.1	10.00	108	111	2.7
TPH (gas)	ND	113.7	115.8	100.00	114	116	1.9
SampleID: 62201	Extraction: EPA 3510				Instrument: GC-2 A		
Surrogate1	ND	105.0	103.0	100.00	105	103	1.9
TPH (diesel)	ND	6725.0	6700.0	7500.00	90	89	0.4

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

CHAIN OF CUSTODY RECORD

26443ZPD70.doc 8020

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 - Diesel	TPH - Gasoline	BTEX / MTBE by				PRESERVATIVE	REMARKS
P31	6/19/01		water		7	X	X	X				ICE	Normal Turn Around
P32	6/20/01		"		7	X	X	X				"	70502 +S
													70503 +S
P34	6/20/01		"		7	X	X	X				"	" "
P35	6/20/01		"		7	X	X	X				"	
													70504 +S
P39	6/20/01		"		7	X	X	X				"	70505 +S
P40	6/20/01		"		7	X	X	X				"	
P42	6/19/01		"		7	X	X	X				"	70506 +S
P43	6/19/01		"		7	X	X	X				"	70507 +S
P44	6/19/01		"		7	X	X	X				"	
				VOAS / O&G / METALS / OTHER									70508 +S
ICE/t° ___	PRESERVATION												70509 +S
GOOD CONDITION	APPROPRIATE												70510 +S
HEAD SPACE ABSENT ___	CONTAINERS												

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	TOTAL NO. OF SAMPLES (THIS SHIPMENT)	9	LABO
Paul H. King	6/21	945	Ernest Lamm	TOTAL NO. OF CONTAINERS (THIS SHIPMENT)	63	Mccampbell Analytical
RELINQUISHED BY: (SIGNATURE) Ernest B. Lamm	DATE 6/21	TIME 1500	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: Angela		LABORATORY PHONE NUMBER: (925) 798-1620
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) Norma V Cruz	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO		

REMARKS: Plse perform MTBE confirmation analysis by 8260 for any positive MTBE results.

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/25/01
		Date Received: 06/26/01
	Client Contact: Paul King	Date Extracted: 06/26-06/29/01
	Client P.O:	Date Analyzed: 06/26-06/29/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70872	P33	W	ND,i	ND	ND	ND	ND	ND	95
70873	P36	W	400,a,i	ND	9.2	41	14	65	99
70874	P37	W	100,000,a,h,i	ND<250	5100	2900	2000	8600	---#
70875	P41	W	ND,i	ND	ND	ND	ND	ND	87
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/25/01
		Date Received: 06/26/01
	Client Contact: Paul King	Date Extracted: 06/26-06/28/01
	Client P.O:	Date Analyzed: 06/26-07/03/01

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
70872	P33	W	55,g,i	109
70873	P36	W	220,g,b,i	103
70874	P37	W	380,000,d,b,g,h,i	103
70875	P41	W	140,g,i	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 06/26/01 **Matrix:** Water

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62001	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	97.0	98.0	100.00	97	98	1.0
Xylenes	ND	34.1	35.1	30.00	114	117	2.9
Ethylbenzene	ND	10.5	11.0	10.00	105	110	4.7
Toluene	ND	10.3	10.7	10.00	103	107	3.8
Benzene	ND	9.6	10.0	10.00	96	100	4.1
MTBE	ND	10.3	10.6	10.00	103	106	2.9
TPH (gas)	ND	112.6	116.6	100.00	113	117	3.4
SampleID: 62201	Extraction: EPA 3510				Instrument: GC-2 A		
Surrogate1	ND	97.0	96.0	100.00	97	96	1.0
TPH (diesel)	ND	7225.0	7350.0	7500.00	96	98	1.7

$$\%\,\text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

26507 ZP077

CHAIN OF CUSTODY RECORD

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-Diesel	TPH-Gasoline	BTEX/MTBE by 8020			PRESERVATIVE	REMARKS
+10	P33	6/25/01	10:45	water		7	X	X	X			ICE	Normal Turn Around
+10	P36	"	1:10	"		7	X	X	X			"	"
+10	P37	"	9:30	"		7	X	X	X			"	"
+10	P41	"	8:30	"		7	X	X	X			"	"

70872
70873
70874
70875

ICE/4° ✓ PRESERVATION ✓ VOA'S O&G METALS OTHER
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS ✓

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	TOTAL NO. OF SAMPLES (THIS SHIPMENT) 4	LABORATORY:
Paul H. King	6/26/01	9:22	486	TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 28	McCampbell Analytical
RELINQUISHED BY: (SIGNATURE) 486	DATE 6/26/01	TIME 10:28	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: Angela	LABORATORY PHONE NUMBER: (925) 798-1620
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) 6/26	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO	

REMARKS: Analyze samples with positive MTBE results for MTBE using EPA 8260

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/22/01
		Date Received: 06/25/01
	Client Contact: Paul King	Date Extracted: 06/25-06/28/01
	Client P.O:	Date Analyzed: 06/25-06/28/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
70762	P38	W	ND	ND	ND	ND	ND	ND	110
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0014; Xtra Oil-Castro Valley	Date Sampled: 06/22/01
		Date Received: 06/25/01
	Client Contact: Paul King	Date Extracted: 06/25/01
	Client P.O:	Date Analyzed: 06/26/01

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
70762	P38	W	ND	107
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 06/24/01-06/25/01 **Matrix:** Water

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62001	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	102.0	93.0	100.00	102	93	9.2
Xylenes	ND	34.9	32.9	30.00	116	110	5.9
Ethylbenzene	ND	11.0	9.9	10.00	110	99	10.5
Toluene	ND	10.8	9.6	10.00	108	96	11.8
Benzene	ND	10.1	8.8	10.00	101	88	13.8
MTBE	ND	10.2	9.1	10.00	102	91	11.4
TPH (gas)	ND	113.0	114.2	100.00	113	114	1.1
SampleID: 62201	Extraction: EPA 3510				Instrument: GC-2 A		
Surrogate1	ND	97.0	93.0	100.00	97	93	4.2
TPH (diesel)	ND	7375.0	7600.0	7500.00	98	101	3.0

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

QC REPORT

EPA 8015m + 8020

Date: 06/26/01 **Matrix:** Water

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 62001	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	97.0	98.0	100.00	97	98	1.0
Xylenes	ND	34.1	35.1	30.00	114	117	2.9
Ethylbenzene	ND	10.5	11.0	10.00	105	110	4.7
Toluene	ND	10.3	10.7	10.00	103	107	3.8
Benzene	ND	9.6	10.0	10.00	96	100	4.1
MTBE	ND	10.3	10.6	10.00	103	106	2.9
TPH (gas)	ND	112.6	116.6	100.00	113	117	3.4
SampleID: 62201	Extraction: EPA 3510				Instrument: GC-2 A		
Surrogate1	ND	97.0	96.0	100.00	97	96	1.0
TPH (diesel)	ND	7225.0	7350.0	7500.00	96	98	1.7

$$\%\,\text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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

CHAIN OF CUSTODY RECORD

26481 ZPD73

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 - Diesel	TPH - Gasoline	BTEX/MTBE by 8020				PRESERVATIVE	REMARKS
P38	6/22/01		Water		7	X	X	X				ICE	Normal Turn Around
													70762

ICE+ ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT

PRESERVATION APPROPRIATE CONTAINERS ✓

VOAs | O&G | METALS | OTHER

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	TOTAL NO. OF SAMPLES (THIS SHIPMENT)	1	LABORATORY:
Paul H. King	6-25	1140	X233	TOTAL NO. OF CONTAINERS (THIS SHIPMENT)	7	McCampbell Analytical
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT:		LABORATORY PHONE NUMBER:
X233	6/25	1630	Maria Venegas	Angela		(925) 798-1620
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO		

REMARKS: Analyze any samples with a positive MTBE result for MTBE by EPA 8260