P & D ENVIRONMENTAL

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

March 28, 2001
Letter 0014.L95

Mr. Scott Seery
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway. Suite #250
Alameda, CA 94502

APR 0 2 2001

SUBJECT: OFFSITE SUBSURFACE INVESTIGATION WORK PLAN
XTRA OIL Company
3495 Castro Valley Blvd.
Castro Valley, CA

Dear Mr. Seery:

In response to your February 7, 2001 request, P&D Environmental, a Division of Paul H. King, Inc. (P&D) is pleased to present this Offsite Subsurface Investigation Work Plan for the subject site. A copy of the work plan was faxed to you on March 9, 2001.

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

Sincerely,

P&D Environmental

Paul H. King

Paul H. King
Hydrogeologist

Attachment: Offsite Subsurface Investigation Work Plan (0014.W8)

cc: Mr. Keith Simas, XTRA OIL Company

PHK
0014.L95

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A Division of Paul H. King, Inc.
4020 Panama Court
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March 9, 2001
Work Plan 0014.W8

Mr. Scott Seery
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

SUBJECT: **OFFSITE SUBSURFACE INVESTIGATION WORK PLAN**
XTRA OIL Company
3495 Castro Valley Boulevard
Castro Valley, CA

Dear Mr. Seery:

P&D Environmental, a division of Paul H. King, Inc. (P&D), is pleased to present this work plan for drilling of 14 soil borings designated as P31 through P44 in the vicinity of the subject site. This work plan is submitted in response to your February 7, 2001 request. A Site Location Map is attached as Figure 1, and a Site Vicinity Map showing the proposed soil boring locations is attached as Figure 2. Additionally, Site Vicinity Maps showing Total Petroleum Hydrocarbons as Gasoline (TPH-G) Isoconcentration Contours and Total Petroleum Hydrocarbons as Diesel (TPH-D) Isoconcentration Contours are attached as Figure 3 and Figure 4.

All work will be performed under the direct supervision of an appropriately registered professional. This work plan 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. The locations of the monitoring wells are shown in Figure 2. Soil samples collected during drilling of the boreholes for the monitoring wells revealed the presence of total petroleum hydrocarbons as gasoline (TPH-G) and total petroleum hydrocarbons as diesel (TPH-D). TPH-G was encountered in borehole MW1 at depths of 5 and 10 feet below grade at concentrations of 40 and 1,400 ppm, respectively; in borehole MW2 at depths of 10 and 15 feet below grade at concentrations of 230 and 95 ppm, respectively; and in borehole MW3 at depths of 5, 10 and 15 feet at concentrations of 140, 250 and 25 ppm, respectively. In addition, 120 ppm TPH-D was detected in borehole MW3 at a depth of 5 feet. Soil samples collected at a depth of 20 feet in borehole MW1 and at a depth of 18 feet in boreholes in MW2 and MW3 did not show any detectable concentrations of TPH-G or TPH-D. Groundwater was encountered in the boreholes at depths of approximately 15 to 16 feet below grade.

On February 15, 1990 Western Geo-Engineers drilled three exploratory boreholes at the site designated as SB1, SB2 and SB3. The subsurface materials encountered in the boreholes consisted primarily of silt and clay. The approximate locations of the boreholes are shown on Figure 2. It is P&D's understanding that soil samples were collected from the exploratory boreholes at

depths of 10 and 12 feet and evaluated in the field using a photo ionization detector. In borehole SB1, TPH-G was detected at the depths of 10 and 12 feet at concentrations of 1,700 and 450 ppm, respectively. In boreholes SB2 and SB3, TPH-G was detected at the depths of 10 and 12 feet in both boreholes at concentrations of 800 ppm and greater than 2,000 ppm, respectively. A groundwater monitoring and sampling program was initiated at the site on February 20, 1990.

It is P&D's understanding that during fuel tank replacement activities in August 1992, soil surrounding the tank pit was removed and disposed of offsite. An extraction well, designated as EW1, was designed and constructed in one corner of the new tank pit by K&B Environmental at the time of installation of the new tanks. The location of EW1 is shown on Figure 2.

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

On August 15, 1997 P&D personnel oversaw the installation of one groundwater monitoring well, designated as MW4 at the subject site. The location of the monitoring well is shown on the attached Site Plan, Figure 2. This work was performed in accordance with P&D's work plan 0014.W4 dated June 27, 1997. The work plan was approved by the Alameda County Department of Environmental Health (ACDEH) in a telephone conversation with Mr. Scott Seery on August 14, 1997. During the conversation, Mr. Seery indicated that he would record his approval of the work plan in the county file for the site.

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. 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. 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.

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.

SCOPE OF WORK

In order to further define the nature and extent of petroleum hydrocarbons in the vicinity of the subject site, P&D will perform the following tasks:

- o Regulatory agency coordination, including permitting for drilling of 14 soil borings.
- o Health and safety plan preparation.
- o Client and contractor (driller and laboratory) coordination.
- o Soil boring oversight.
- o Collection of one soil sample and one groundwater sample from each borehole.
- o Arrange for sample analysis.
- o Report preparation documenting collection of soil and groundwater samples and the laboratory analytical results.

Each of these is discussed below in detail.

Permitting and Regulatory Coordination

Offsite access will be obtained from offsite property owners, a permit will be obtained for the installation of the soil borings from the Alameda County Department of Public Works, a traffic plan will be prepared, and Underground Service Alert will be notified for underground utility location. A utility location contractor will be used to identify underground utility locations on private property. In addition, notification will be provided to the ACDEH of the scheduled drilling dates.

Health and Safety Plan Preparation

A health and safety plan will be prepared for the scope of work identified in this work plan.

Client and Contractor Coordination

Following ACDEH approval of this work plan, UST Fund pre-approval will be obtained. Following UST Fund approval, permits will be obtained and field activities will be scheduled with the ACDEH, client, drillers, and the laboratory.

Soil Boring Oversight and Sample Collection

A total of 14 soil borings, designated as borings P31 through P44, will be drilled to characterize subsurface conditions in the vicinity of the subject site. The boreholes will be drilled to total depths ranging from approximately 6 to 14 feet, or two feet below first encountered groundwater, whichever is greater. One soil and one groundwater grab sample will be collected from each borehole for laboratory analysis. The soil samples collected for laboratory analysis will be from a depth of five feet with the exception of boreholes P42, P43 and P44, where soil samples will be collected at a depth of two feet because of anticipated shallow groundwater conditions. The groundwater grab sample will be collected using a Teflon or stainless steel bailer. The proposed locations of the soil borings are shown on the attached Site Vicinity Map, Figure 2.

All of the borings will be continuously cored using GeoProbe technology. The soil from all of the borings will be logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. All soil samples from the boreholes will be evaluated with a 10.3 eV Photoionization Detector (PID) calibrated using a 100 ppm isobutylene standard. Chain of custody procedures will be observed for all sample handling.

All drilling and sampling equipment will be 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 will be filled with neat cement grout. Any soil or water generated during drilling will be stored in drums at the subject site pending characterization and disposal.

Arrange for Sample Analysis

All of the soil and groundwater samples will be analyzed on a normal (five working day) turn around basis at McCampbell Analytical, Inc. McCampbell Analytical, Inc. is a State-approved hazardous waste testing laboratory. Soil and groundwater sample analysis will be performed for all of the samples for TPH-Diesel, TPH-Gas, BTEX and MTBE by EPA Method 8020. In all groundwater samples where MTBE is detected, MTBE confirmation analysis will be performed using EPA Method 8260.

All soil samples collected from boreholes where petroleum hydrocarbons are not detected in both soil and groundwater will be analyzed for Total Organic Carbon for RBCA preparation purposes.

Report Preparation

Upon receipt of the laboratory analytical results, a report will be prepared. The report will document soil and groundwater sample collection and sample results. The report will include a site plan showing the drilling locations, tables summarizing the sample results, recommendations for offsite groundwater monitoring well locations, recommendations for Risk-Based Corrective Action (RBCA) evaluation, and the stamp of an appropriately registered professional.

SCHEDULE

The following schedule addresses elements identified in this work plan.

Activity	Work Days
Work plan submittal to ACDEH	Day 0
Work plan approval by ACDEH	Day 7
Solicit bids for scope of work	Day 14
SWRCB UST Fund pre-approval application submittal	Day 28
SWRCB UST Fund application approval	Day 42
Award work	Day 46
Permit application submittal to ACDPW	Day 50
Permit application approval by ACDPW	Day 57
Set drill date with driller	Day 61
Drill boreholes	Day 68
Receipt of soil and groundwater sample results	Day 75
Submittal of draft report to client for review	Day 85
Submittal of final report to ACDEH	Day 95

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:
Site Location Map - Figure 1
Site Vicinity Map - Figure 2
Site Vicinity Map showing TPH-Gasoline Isoconcentration Contours - Figure 3
Site Vicinity Map showing TPH-Diesel Isoconcentration Contours - Figure 4

cc: Mr. Keith Simas, XTRA OIL Company

PHK
0014.W8

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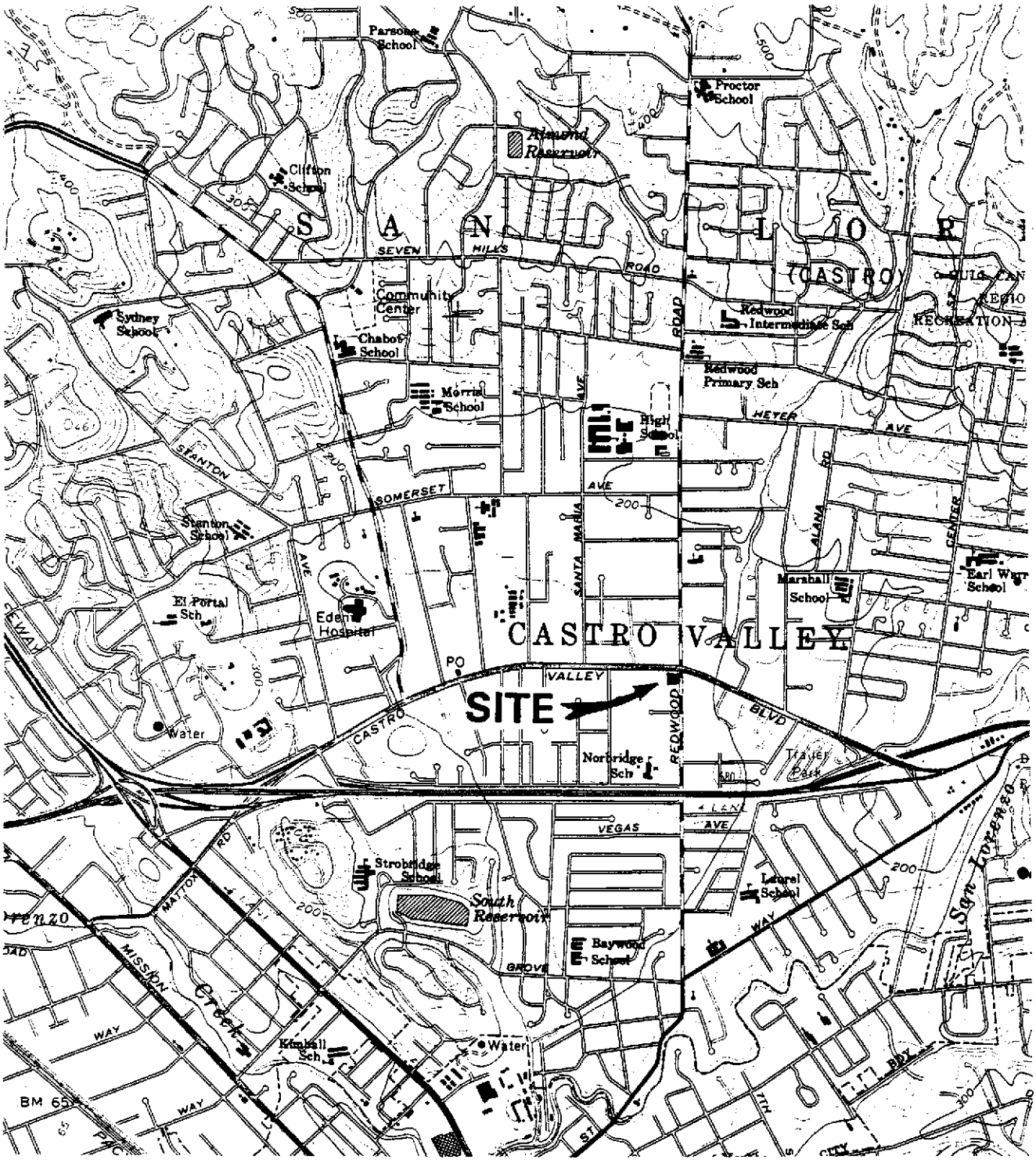

Scale in Feet
0 1000 2000 3000

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

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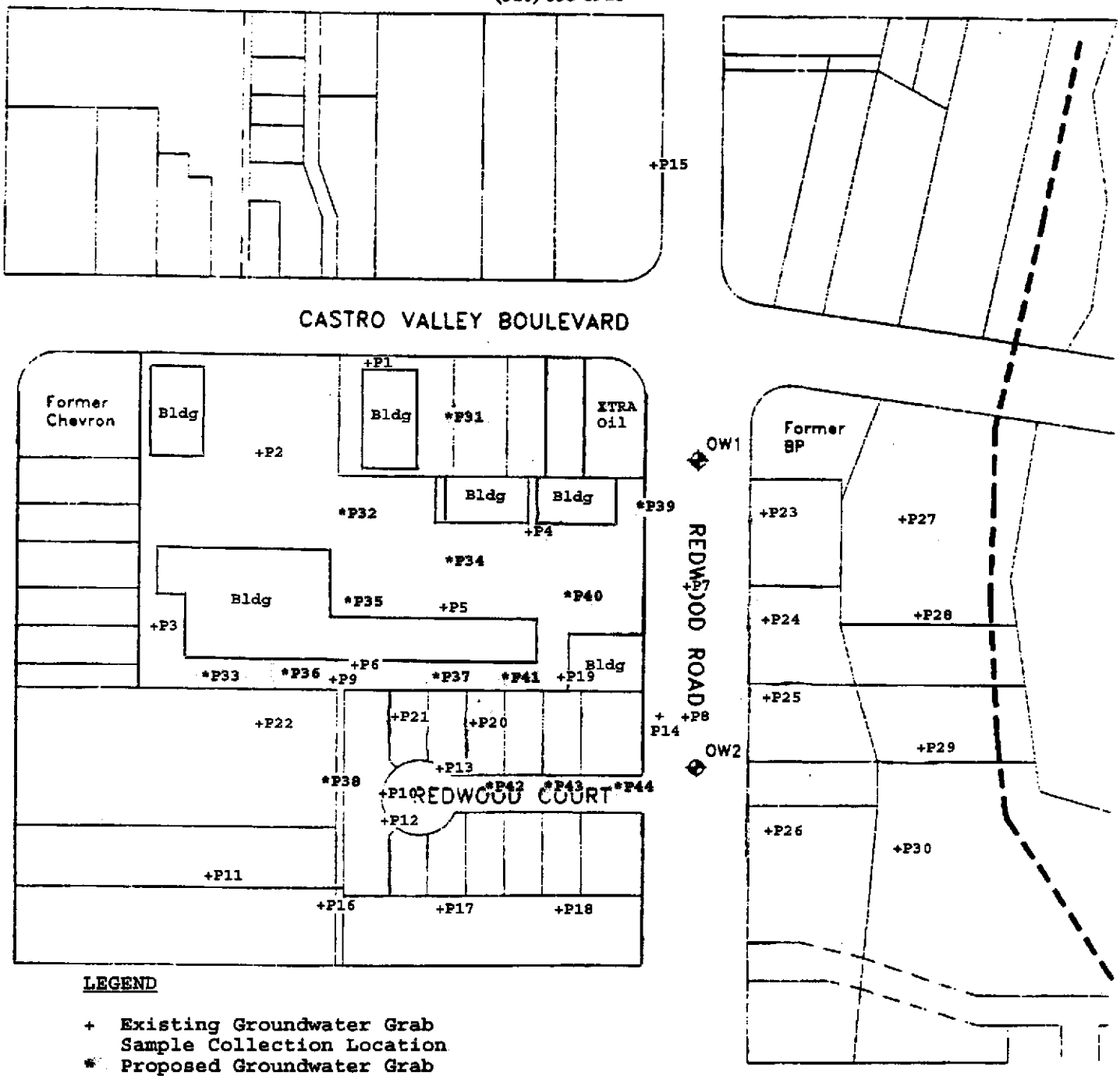

LEGEND

+ Existing Groundwater Grab Sample Collection Location
* Proposed 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 Blvd.
Castro Valley, CA

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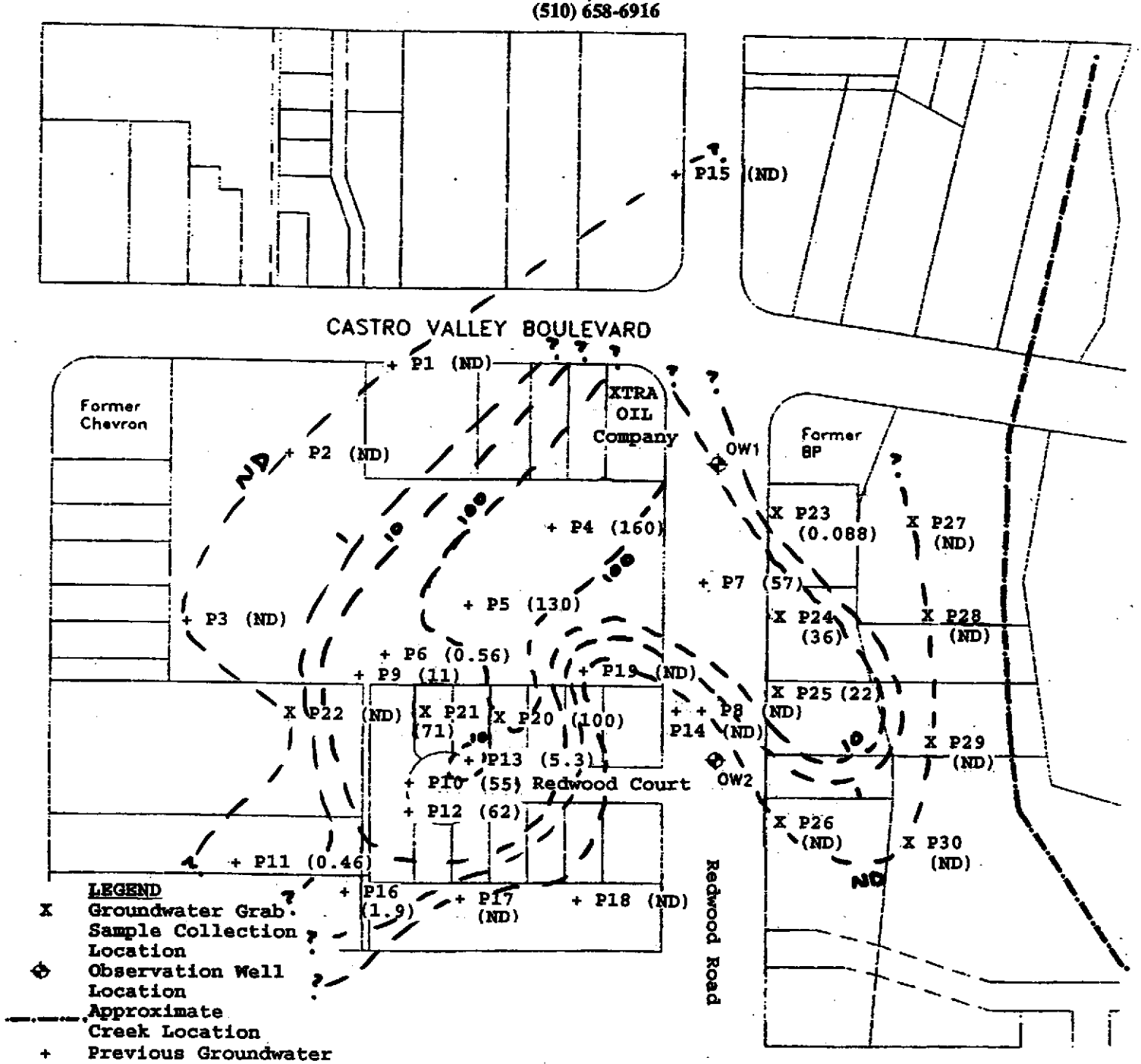

LEGEND

- X — Groundwater Grab Sample Collection Location
- ⊕ — Observation Well Location
- Approximate Creek Location
- \+ — Previous Groundwater Quality Investigation Sample Collection Location
- (5) — TPH-Gasoline Concentration in Groundwater in ppm
- TPH-Gasoline Groundwater Isoconcentration Contour

Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

Figure 3
SITE VICINITY MAP SHOWING TPH-GASOLINE ISO-CONCENTRATION CONTOURS
XTRA OIL Company
3495 Castro Valley Blvd.
Castro Valley, CA

P & D ENVIRONMENTAL
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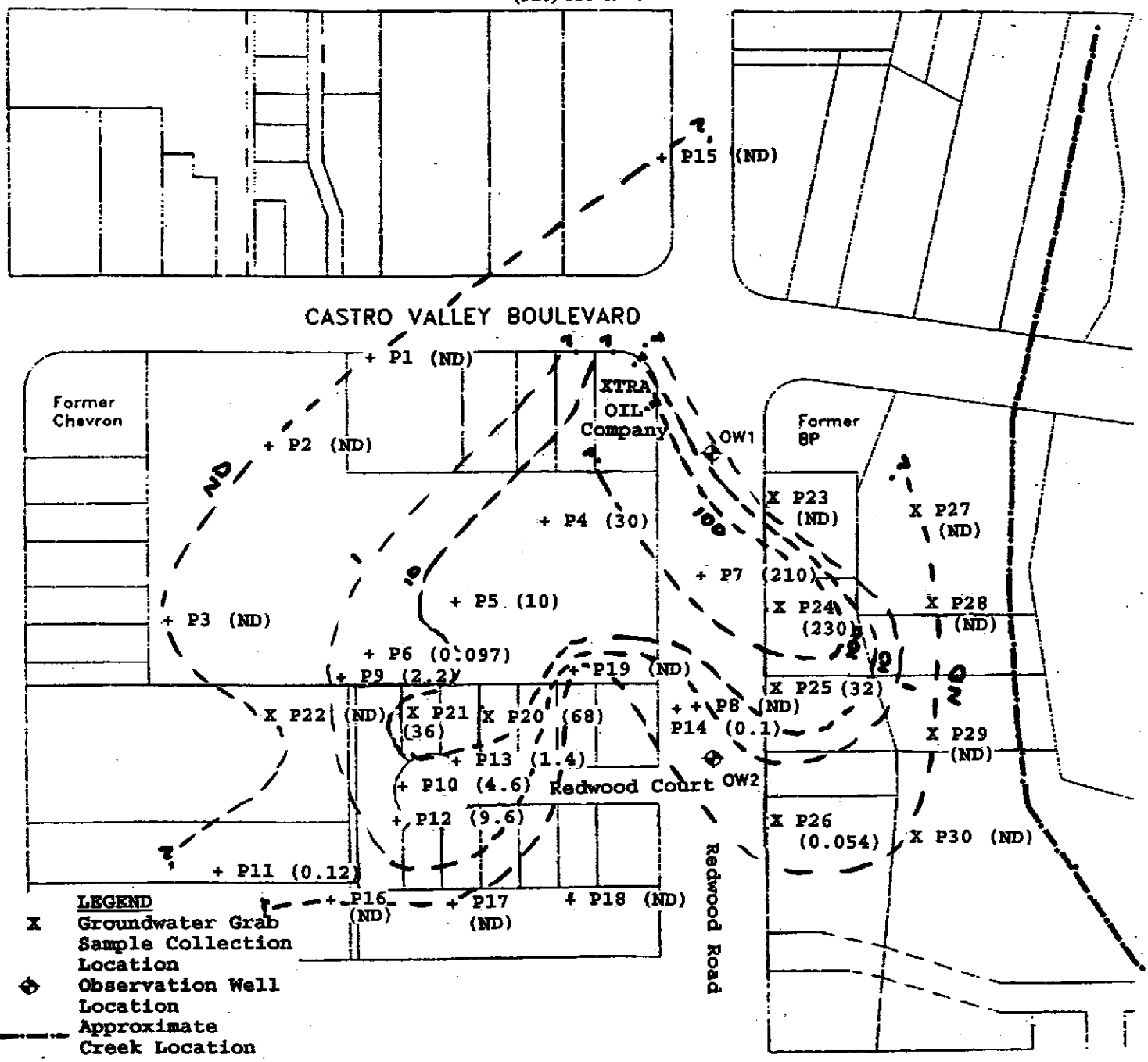

LEGEND

- X — Groundwater Grab Sample Collection Location
- ⊕ — Observation Well Location
- ——·—— Approximate Creek Location
- \+ — Previous Groundwater Quality Investigation Sample Collection Location
- (5) — TPH-Diesel Concentration in Groundwater in ppm
- – – – TPH-Diesel Groundwater Isoconcentration Contour

Base Map From:
Castro Valley Sanitation District
Undated

0 100 200
SCALE IN FEET

North

Figure 4
SITE VICINITY MAP SHOWING TPH-DIESEL ISO-CONCENTRATION CONTOURS
XTRA OIL Company
3495 Castro Valley Blvd.
Castro Valley, CA