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

November 3, 2000
Report 0014.R37

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

- work performed > 2 years prior to receipt of report

SUBJECT: **PIEZOMETER INSTALLATION REPORT**
XTRA OIL Company
3495 Castro Valley Boulevard
Castro Valley, CA

Gentlemen:

P&D Environmental (P&D), a division of Paul H. King, Inc. is pleased to present this report documenting the installation and monitoring of two piezometers in the vicinity of the subject site. The purpose of the piezometers is to evaluate if groundwater is seasonally present in the sanitary sewer pipe trench located in Redwood Road. This work was performed in accordance with P&D's Offsite Groundwater Quality Investigation Work Plan (Work Plan 0014.W5, dated December 15, 1997). A Site Location Map (Figure 1) and a Site Vicinity Map (Figure 2) showing the piezometer 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

A review of conditions at and in the vicinity of the subject site can be found in P&D's "Offsite Groundwater Quality Investigation Report," Report 0014.R34, dated June 28, 2000, and in P&D's most recent Quarterly Groundwater Monitoring and Sampling Report, Report 0014.R36, dated October 5, 2000.

FIELD ACTIVITIES

On June 10, 1998, P&D personnel oversaw the installation of two piezometers, designated as OW1 and OW2. The locations of the two piezometers are shown on Figure 2.

Prior to performing field work, work plan approval was received from Mr. Scott Seery of the Alameda County Department of Environmental Health (ACDEH), a permit was obtained from the Alameda County Department of Public Works (ACDPW), notification was provided to the ACDEH and ACDPW of the scheduled drilling date, Underground Safety Alert was notified for buried utility location, and a site health and safety plan was prepared.

Piezometer Installation

The soil for the boreholes for the piezometers was removed using a vacuum rig by Miller Pipeline (Miller) of Oakland, California. The two borings were each advanced to a total depth of seven feet, seven inches (a total of 91 inches) below grade. In each boring, between the depths of 83 and 89 inches below grade, the side of a sanitary sewer pipe was encountered. Groundwater was not encountered during boring activities. Soil samples were not collected during boring activities; however, soil from the boreholes was evaluated for organic vapors using a Photoionization Detector (PID). The PID consisted of a Model 580B OVM equipped with a 10.0 eV bulb which was

calibrated with a 100 ppm isobutylene standard. Additionally, soil from each of the borings was evaluated for petroleum hydrocarbon (PHC) odor and visible signs of contamination.

During boring activities, PHC odors were reported in each boring beginning at a depth of approximately 4.5 feet below grade. A PID value of 87 was detected in OW1 at a depth of approximately 7.0 feet below grade. In OW2, PID values of 3 and 4 ppm were detected at depths of approximately 4.5 and 6.0 feet below grade, respectively.

Subsurface conditions observed during boring activities were classified lithologically in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. The subsurface conditions were recorded on boring logs, copies of which are attached with this report. Boring locations are shown on the attached Site Vicinity Map, Figure 2.

The piezometers were constructed by Vironex, Inc. (Vironex), of San Leandro, California. The piezometers were constructed using one-inch diameter Schedule 40 PVC with 3.0 feet of 0.010-inch factory slot which was placed in the bottom of the borehole, approximately between the depths of 4.5 and 7.5 feet below grade. A #3 Lonestar sack sand was placed into the annular space surrounding the PVC pipe to one foot above the top of the slotted interval. A one-foot thick layer of Bentonite pellets was placed above the sand and hydrated. The remaining annular space was filled with a neat cement grout to the ground surface.

The tops of the PVC pipes for the piezometers were secured with watertight locking plugs and enclosed in a watertight Christy boxes, which were completed at grade. Piezometer construction specifications are provided in Piezometer Construction Detail diagrams for OW1 and OW2, which are attached with this report.

Soil generated during drilling activities was stored onsite in a 55 gallon drum pending appropriate disposal.

Monitoring

On January 29, 1999, December 9, 1999, and November 2, 2000, piezometers OW1 and OW2 were monitored for depth to water by P&D personnel. Depth to water was measured to the nearest 0.01 foot using an electric water level indicator. The measured depth to water in OW1 was either 7.12 or 7.27 feet. The total measured depth of OW1 is 7.54 feet. The measured depth to water in OW2 was either 7.19 or 7.17 feet. The total measured depth of OW2 is 7.46 feet.

No petroleum hydrocarbon odors were detected on the water level indicator probe in any of the piezometers except for OW1 on November 2, 2000 where petroleum hydrocarbon odors described as resembling diesel fuel were reported. No measurable thickness of petroleum hydrocarbons were detected in OW1 on November 2, 2000 as measured with gas-finding and water-finding paste. Measured depth to water data for each piezometer is tabulated in Table 1.

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.

The subsurface materials encountered in the borings consisted of brown silty clay to a total depth explored of seven feet, seven inches below grade. Groundwater was not encountered in the borings during the installation of the piezometers.

DISCUSSION AND RECOMMENDATIONS

For all but one of the water level measurements, the water level measured in the sanitary sewer trench piezometers located in Redwood Road is interpreted to be water which has accumulated in the bottom of the piezometers below the bottom of the slotted interval of the piezometers. On December 9, 1999 it appears that 0.15 feet of water was present in OW1. In addition, on November 2, 2000 petroleum hydrocarbon odors were detected on the water level indicator probe in OW1.

P&D recommends that the piezometers be monitored on a monthly basis for the presence of water or petroleum hydrocarbons. The next monthly monitoring will be performed in December, 2000. P&D recommends quarterly reporting of the monitoring results.

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

Greg Brown
Project Scientist

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)
Boring Logs (2)
Piezometer Construction Detail Diagrams (2)

PHK/gmb
0014.R37

TABLE 1
PIEZOMETER MONITORING DATA

Piezometer No.	Date Monitored	Depth to Water (ft.)
OW1	11/02/00	7.12*
	12/09/99	7.27
	01/29/99	7.12
OW2	11/02/00	7.19
	12/09/99	7.17
	01/29/99	7.19

NOTES:

* Indicates petroleum hydrocarbon odor reported on water level indicator sensor.

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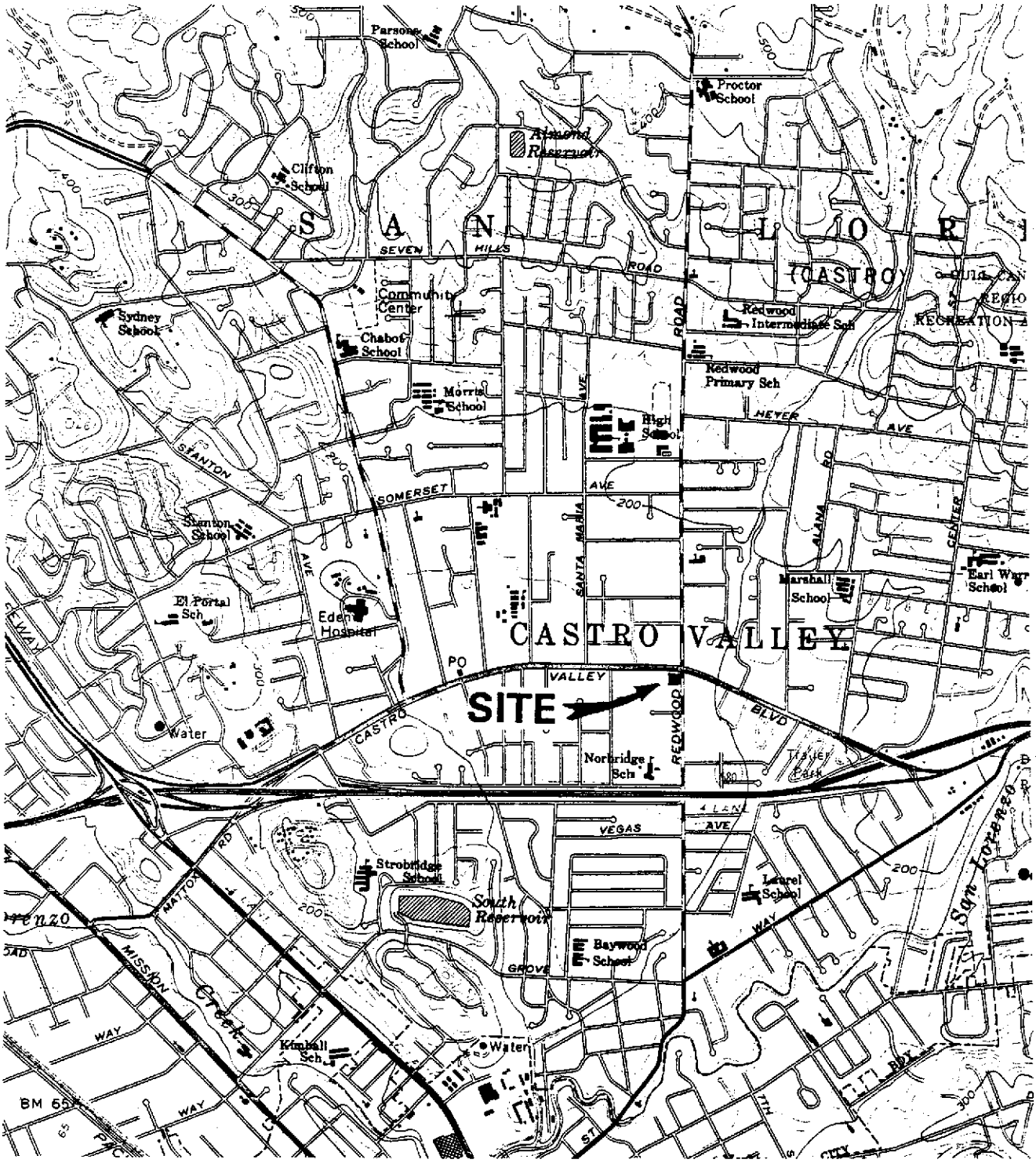

Scale in Feet
0 1000 2000 3000

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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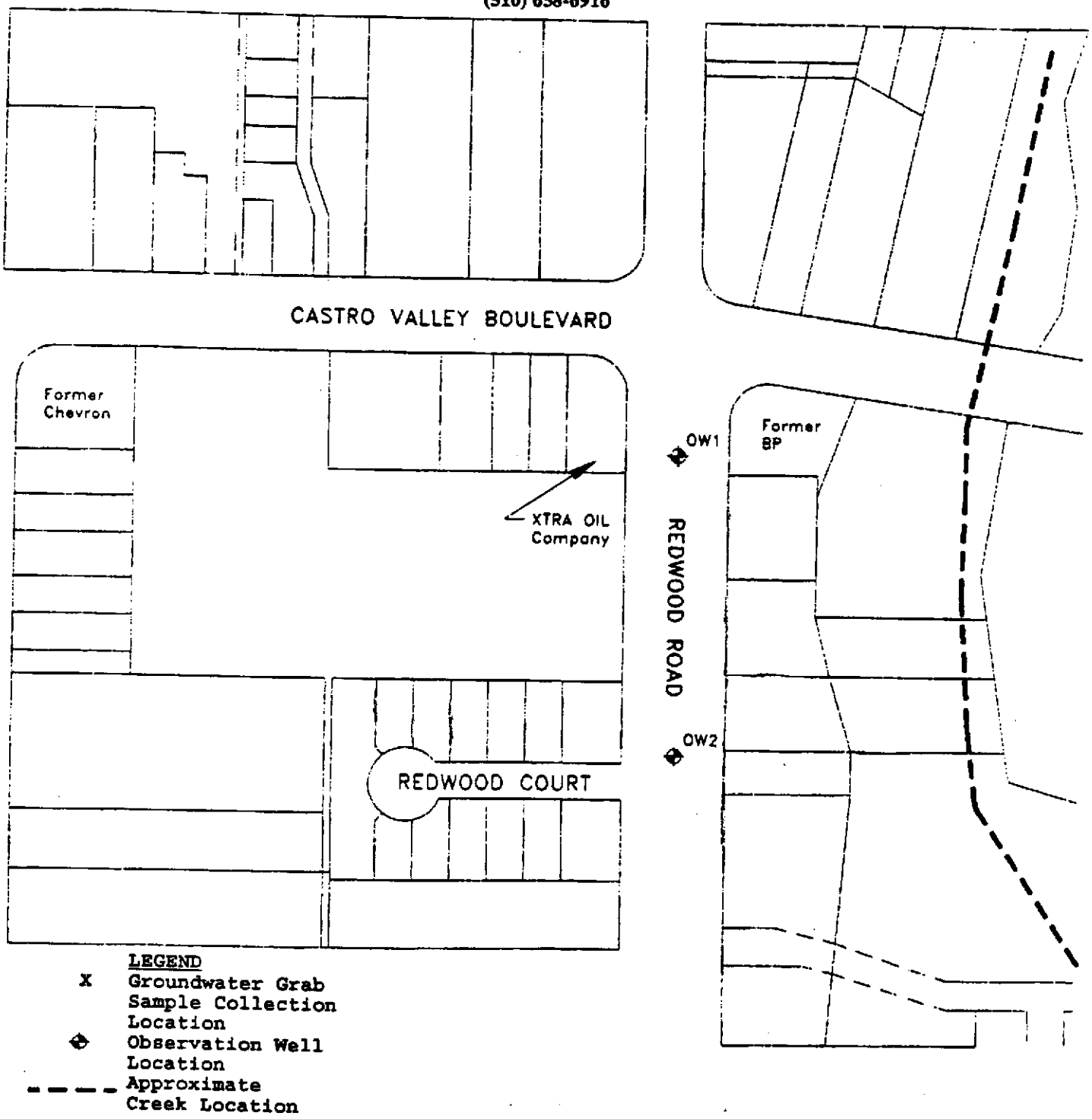

Base Map From:
Castro Valley Sanitation District
Undated

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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BORING NO.: OW1	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL – CASTRO VALLEY	
BORING LOCATION: SEE MAP		ELEVATION AND DATUM:	
DRILLING AGENCY: MILLER PIPELINE/VIRONEX	DRILLER:	DATE & TIME STARTED: 6/10/98	DATE & TIME FINISHED: 6/10/98
DRILLING EQUIPMENT: BOREHOLE SOIL REMOVED BY VACUUM			
COMPLETION DEPTH: 7 FEET, 7 INCHES (91 INCHES)	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: NONE	NO. OF SAMPLES: NONE		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
0	6 in. Asphalt		See Piezometer Construction diagram.			Borehole drilled with vacuum rig by Miller Pipeline. Piezometer constructed by VIRONEX.
	Brown silty clay (CL), moist, stiff, no petroleum hydrocarbon (PHC) odor.	CL				
5	PHC odor (diesel) begins at 4.5 feet.				87	Sanitary sewer pipe encountered in side of borehole wall between 83 and 89 inches below ground surface
10						Borehole terminated at 7 feet, 7 inches (91 inches) below grade.
15						
20						
25						
30						

P & D ENVIRONMENTAL

BORING NO.: OW2	PROJECT NO.: 0014	PROJECT NAME: XTRA OIL – CASTRO VALLEY	
BORING LOCATION: SEE MAP		ELEVATION AND DATUM:	
DRILLING AGENCY: MILLER PIPELINE/VIRONEX	DRILLER:	DATE & TIME STARTED: 6/10/98	DATE & TIME FINISHED: 6/10/98
DRILLING EQUIPMENT: BOREHOLE SOIL REMOVED BY VACUUM			
COMPLETION DEPTH: 7 FEET, 7 INCHES (91 INCHES)	BEDROCK DEPTH: NONE ENCOUNTERED	LOGGED BY: PHK	CHECKED BY:
FIRST WATER DEPTH: NONE	NO. OF SAMPLES: NONE		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	6 in. Asphalt		See Piezometer Construction diagram.			Borehole drilled with vacuum rig by Miller Pipeline. Piezometer constructed by VIRONEX.
	Brown silty clay (CL), moist, stiff, no petroleum hydrocarbon (PHC) odor.	CL				
5	PHC odor (diesel) begins at 4.5 feet.				3 4	Sanitary sewer pipe encountered in side of borehole wall between 83 and 89 inches below ground surface
10						Borehole terminated at 7 feet, 7 inches (91 inches) below grade.
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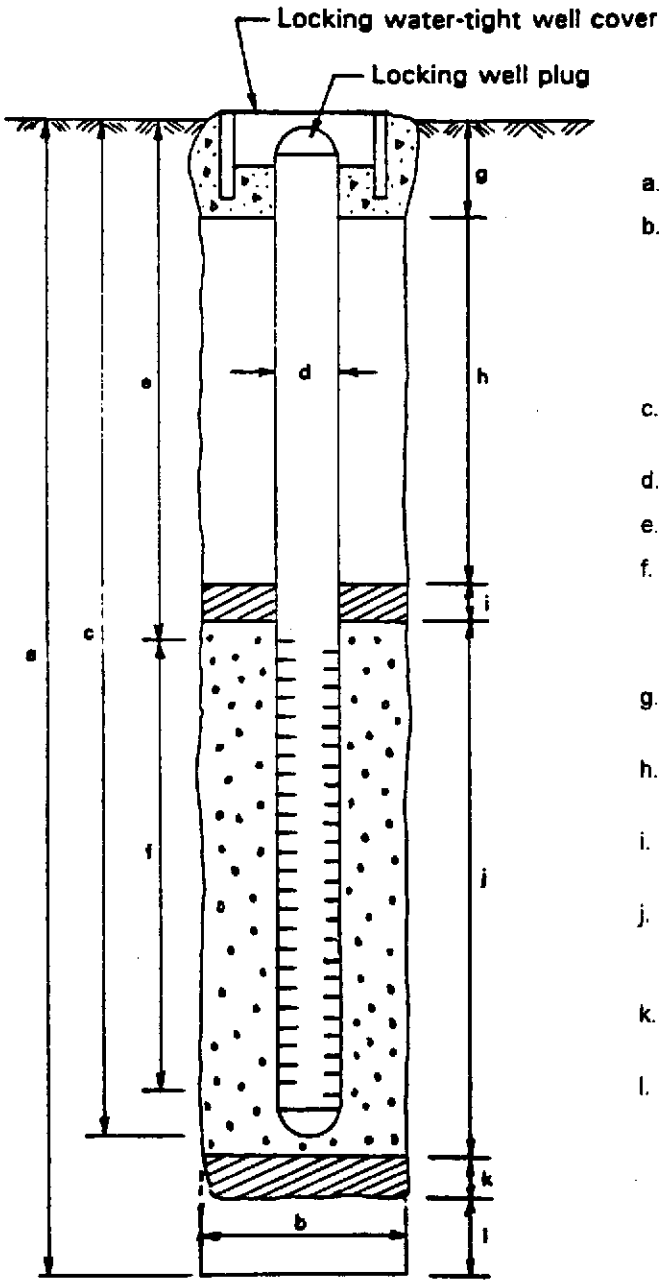
PIEZOMETER CONSTRUCTION DETAILS

PROJECT NUMBER 0014
PROJECT NAME XTRA OIL – Castro Valley
COUNTY ALAMEDA
WELL PERMIT NO. 98WR125

BORING/WELL NO. OW1
TOP OF CASING ELEVATION TBD
GROUND SURFACE ELEVATION TBD
DATUM TBD



EXPLORATORY BORING

a. Total Depth 7.5 ft.
b. Diameter 8 in.
Drilling Method Borehole Soil Removal by Vacuum

WELL CONSTRUCTION

c. Casing Length 7.5 ft.
Material Schedule 40 PVC
d. Diameter 1 in.
e. Depth to top perforations 4.5 ft.
f. Perforated length 3.0 ft.
Perforated interval from 4.5 to 7.5 ft.
Perforation type Factory Slot
Perforation size 0.010 inch
g. Surface sanitary seal 0.5 ft.
Seal material Neat cement grout
h. Sanitary seal 2.0 ft.
Seal material Neat cement grout
i. Filter pack seal 1.0 ft.
Seal material Bentonite pellets
j. Filter pack length 4.0 ft.
Filter pack interval from 3.5 to 7.5 ft.
Pack material #3 Lonestar sand
k. Bottom seal 0 ft.
Seal material
l. Slough in bottom of borehole 0 ft.

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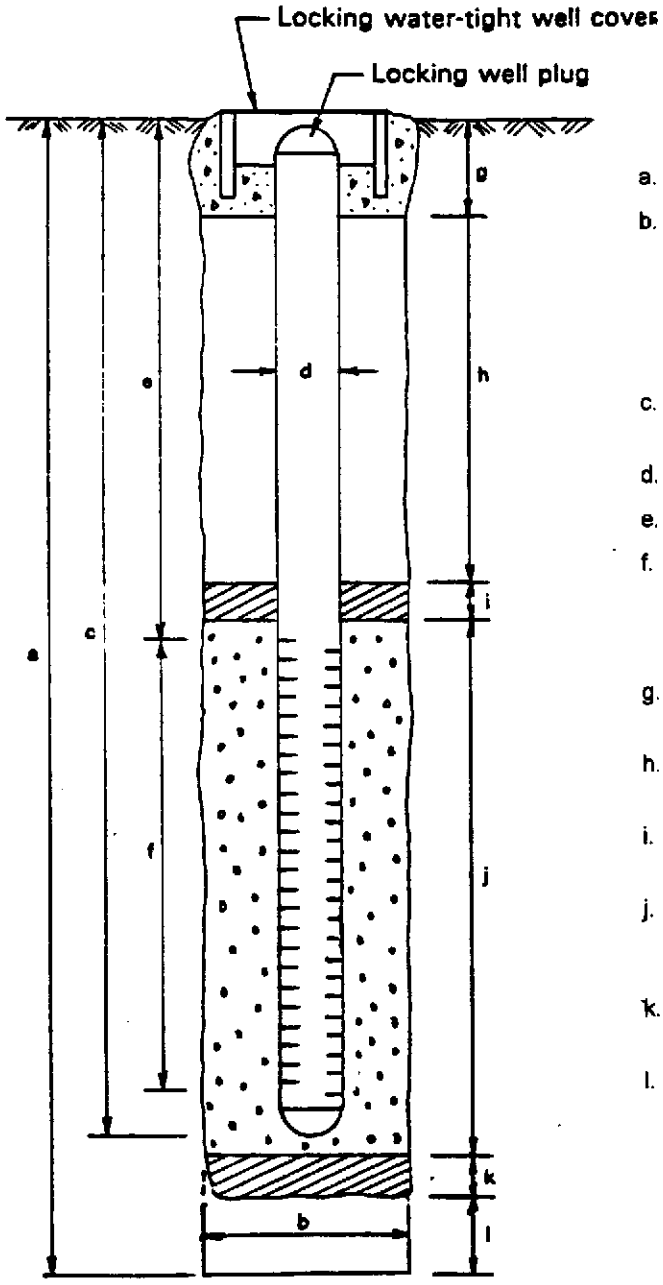
PIEZOMETER CONSTRUCTION DETAILS

PROJECT NUMBER 0014
PROJECT NAME XTRA OIL – Castro Valley.
COUNTY ALAMEDA
WELL PERMIT NO. 98WR125

BORING/WELL NO. OW2
TOP OF CASING ELEVATION TBD
GROUND SURFACE ELEVATION TBD
DATUM TBD



EXPLORATORY BORING

a. Total Depth 7.5 ft.
b. Diameter 8 in.
Drilling Method Borehole Soil Removal by Vacuum

WELL CONSTRUCTION

c. Casing Length 7.5 ft.
Material Schedule 40 PVC
d. Diameter 1 in.
e. Depth to top perforations 4.5 ft.
f. Perforated length 3.0 ft.
Perforated interval from 4.5 to 7.5 ft.
Perforation type Factory Slot
Perforation size 0.010 inch
g. Surface sanitary seal 0.5 ft.
Seal material Neat cement grout
h. Sanitary seal 2.0 ft.
Seal material Neat cement grout
i. Filter pack seal 1.0 ft.
Seal material Bentonite pellets
j. Filter pack length 4.0 ft.
Filter pack interval from 3.5 to 7.5 ft.
Pack material #3 Lonestar sand
k. Bottom seal 0 ft.
Seal material
l. Slough in bottom of borehole 0 ft.