

Xtra OIL COMPANY

2307 PACIFIC AVENUE
ALAMEDA, CA 94501
(510) 865-9503 FAX (510) 866-1889

RECEIVED

3:59 pm, Apr 19, 2011

Alameda County
Environmental Health

April 15, 2011

Ms. Barbara Jakub
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: GROUNDWATER EXTRACTION FEASIBILITY TEST WORK PLAN CERTIFICATION
County Case # RO 191
Xtra Oil Company
1701 Park Street
Alameda, CA

Dear Ms. Jakub:

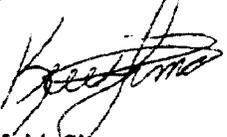
P&D Environmental, Inc. has prepared the following document:

- Groundwater Extraction Feasibility Test Work Plan dated April 15, 2011 (document 0058.W4).

I declare under penalty of perjury that the contents and conclusions in the document are true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to contact me at (510) 865-9506.

Sincerely,
Xtra Oil Company



Keith Simas

0058.L39

P&D ENVIRONMENTAL, INC.

55 Santa Clara Avenue, Suite 240

Oakland, CA 94610

(510) 658-6916

April 15, 2011
Work Plan 0058.W4

Ms. Barbara Jakub
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: GROUNDWATER EXTRACTION FEASIBILITY TEST WORK PLAN
County Case # RO 191
Xtra Oil Company
1701 Park Street
Alameda, CA

Dear Ms. Jakub:

P&D Environmental, Inc. (P&D) is pleased to present this work plan for installation of one observation well (OW2) and three extraction wells (EW2, EW4 and EW5), and performing a groundwater extraction feasibility test as an interim step for implementation of the Corrective Action Plan (CAP) prepared by P&D dated October 11, 2010 (document 0058.W3). The CAP was approved by the Alameda County Department of Environmental Health (ACDEH) in an e-mail dated February 11, 2011. This interim step is being performed to verify groundwater pumping feasibility prior to implementation of the CAP. Although soil vapor extraction and air sparging feasibility were previously evaluated, groundwater extraction feasibility has not been previously evaluated at the site. The proposed well installation locations are shown on Figure 1. Proposed wells OW1, EW1 and EW3 and the proposed air sparging points shown on Figure 1 will not be installed as part of this proposed feasibility test.

SCOPE OF WORK

The following tasks will be performed.

- Permitting for well installation and groundwater discharge, regulatory agency, client, and subcontractor coordination and health and safety plan preparation.
- Installation, development, surveying and sampling of observation well OW2 and extraction wells EW2, EW4 and EW5 using methods described in P&D's October 24, 2007 Remedial Action Work Plan (RAWP).
- Groundwater extraction feasibility testing, including monitoring water levels in all existing wells (MW1, MW2, MW3 and MW4) and proposed wells (OW2, EW2, EW4, EW5) during the groundwater extraction feasibility test, and collection of one groundwater sample from each extracting well at the conclusion of the groundwater extraction feasibility test.
- Arrange for soil and groundwater sample analysis for Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as Bunker Oil (TPH-BO), Total

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- Petroleum Hydrocarbons as Gasoline (TPH-G), benzene, toluene, ethylbenzene and xylenes (BTEX), and fuel oxygenates and lead scavengers.
- Report preparation.

Each of these is discussed below in detail.

Permitting and Health and Safety Plan Preparation

Following ACDEH approval of this work plan, permits will be obtained from the Alameda County Public Works Agency (ACPWA) for well installation and from the East Bay Municipal Utility District (EBMUD) for discharge from the extraction wells to the sanitary sewer. A health and safety plan and a traffic control plan will be prepared, the proposed drilling locations will be marked with white paint, and Underground Service Alert will be notified for underground utility location. Existing underground utility maps will also be evaluated for underground utility location prior to the beginning of drilling. Notification will be provided to the regulatory agencies prior to performing field work.

Well Installation, Development, Surveying and Initial Sampling

Installation, development, surveying and initial sampling of observation well OW2 and extraction wells EW2, EW4 and EW5 will be performed using methods described in P&D's October 24, 2007 RAWP.

Groundwater Extraction Feasibility Testing

To evaluate flow rates and drawdown, groundwater will be pumped from well EW4 for seven days. The pumping rate will be determined based on drawdown and recharge rates observed during well development and initial well sampling. Water pumped from the well will be discharged to sanitary sewer following receipt of appropriate permits.

While pumping from well EW4, water levels will be monitored in wells OW2, EW2, EW4, EW5, MW-1, MW-2, MW-3, and MW-4 using pressure transducers. Water level monitoring will be performed using the pressure transducers for seven days prior to the beginning of the pump test to establish water level trends prior to the test.

At the completion of the 7 day pump test for EW4, pumping will be initiated at well EW5 for an additional 7 days while continuing to pump from well EW4 and continuing to monitor water levels in the wells with the pressure transducers.

At the conclusion of the pump test, a water sample will be collected from each of wells EW4 and DW5 using methods described for water sample collection from wells P&D's October 24, 2007 RAWP.

Arrange for Sample Analysis

All of the groundwater samples collected from the wells will be analyzed for TPH-D, TPH-BO, TPH-G, BTEX, and fuel oxygenates and lead scavengers in accordance with P&D's October 24, 2007 RAWP.

Report Preparation

A report will be prepared documenting the installation, development, surveying and initial sampling of the wells; the results of the observations of water level changes during the groundwater extraction feasibility test; and the results of the water samples collected at the end of the groundwater extraction feasibility test. The report will include maps showing the drilling locations, boring logs, well construction diagrams, tables summarizing the laboratory results, analysis of water level changes obtained during the groundwater extraction feasibility test, and a discussion and recommendations based on the findings.

SCHEDULE

The following schedule addresses elements identified in this work plan.

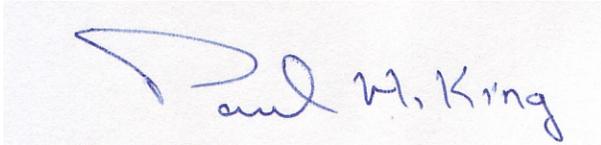
<u>Activity</u>	<u>Calendar Days</u>
Work plan submittal to ACDEH	Day 0
Work plan approval by ACDEH	Day 30
Permit application submittal to EBMUD, ACPWA	Day 35
Set drill date with driller	Day 35
Permit application approval by ACPWA	Day 40
Well installation	Day 45
Well development and surveying	Day 50
Well sample collection	Day 55
Receive well sample results	Day 63
Permit application approval by EBMUD	Day 65
Install pressure transducers	Day 70
Initiate groundwater extraction at well EW4	Day 77
Initiate groundwater extraction at well EW5	Day 84
End groundwater extraction and collect groundwater samples	Day 91
Receive well sample results	Day 98
Submittal of draft report to client for review	Day 128
Submittal of final report to ACDEH	Day 143

April 15, 2011
Work Plan 0058.W4

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

Sincerely,

P&D Environmental, Inc.

A handwritten signature in blue ink that reads "Paul H. King". The signature is written in a cursive style with a large initial "P".

Paul H. King
Professional Geologist #5901
Expires 12/31/11



Attachments:

Figure 1: Site Vicinity Map Showing Proposed Drilling Locations

PHK
0058.W4

FIGURES

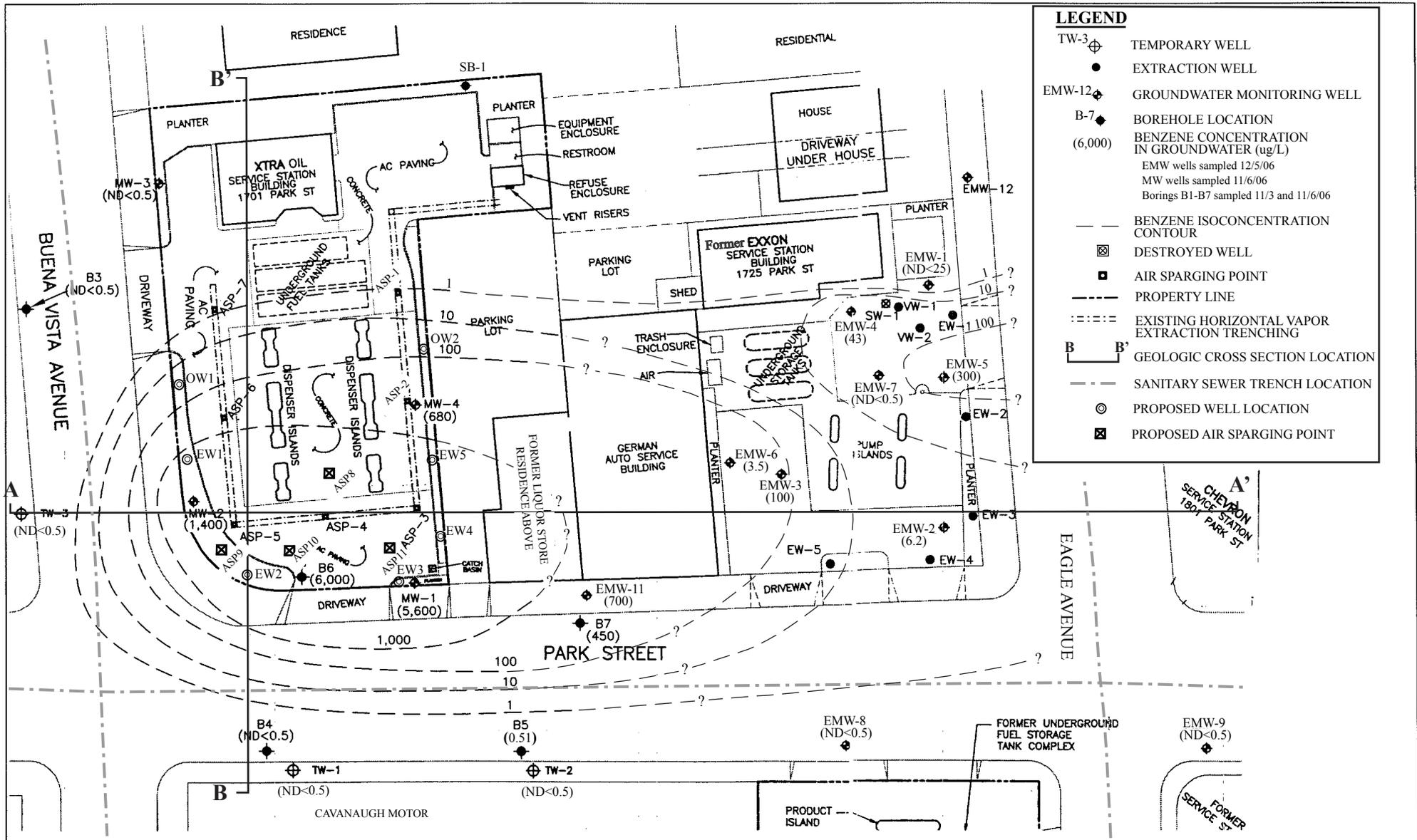


Figure 1
 Site Vicinity Map Showing Proposed Extraction Well, Observation Well, and Air Sparge Point Locations
 1701 Park Street
 Alameda, CA



Base Map From:
 Alisto Engineering Group, 9/23/2005
 and Environmental Resources, Inc.,
 6/15/2004

P&D Environmental, Inc.
 55 Santa Clara Ave, Ste. 240
 Oakland, CA 94610

