XTRA OIL COMPANY
2307 PACIFIC AVE.
ALAMEDA, CA 94501
(510) 865-9503
FAX (510) 865-1889

AUGUST 16, 1994

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MS JULIET SHIN
ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
1131 HARBOR BAY PARKWAY, 2ND FLOOR
ALAMEDA, CA 94502-6577

REGARDING: WORK PLAN FOR PRELIMINARY SITE ASSESSMENT
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CA 94501

DEAR MS. SHIN,

PLEASE FIND ENCLOSED, WORK PLAN FOR PRELIMINARY SITE ASSESSMENT FOR THE ABOVE LOCATION.

PLEASE CALL IF YOU HAVE QUESTIONS OR COMMENTS.

SINCERELY,

TED SIMAS

ENCLOSURE

WORK PLAN
FOR
PRELIMINARY SITE ASSESSMENT

Xtra Oil Company Service Station
1701 Park Street
Alameda, California

Project No. 10-210-02-001

Prepared for:

Edward Simas
2307 Pacific Avenue
Alameda, California

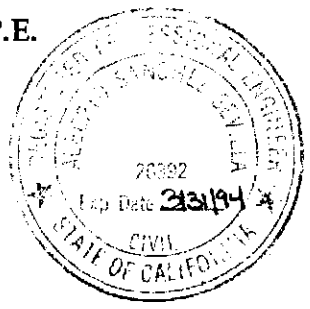
Prepared by:

Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California

August 15, 1994

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal



WORK PLAN
FOR
PRELIMINARY SITE ASSESSMENT

Xtra Oil Company Service Station
1701 Park Street
Alameda, California

Project No. 10-210-02-001

INTRODUCTION

This work plan presents the proposed scope of work for preliminary site assessment at the Xtra Oil Company service station at 1701 Park Street, Alameda, California. A site vicinity map is shown in Figure 1.

SCOPE OF WORK

The scope of work to conduct a preliminary site assessment includes: drilling three soil borings for installation of three groundwater monitoring wells; sampling and analyzing soil and groundwater at the site; and preparing a report presenting the findings and conclusions of the investigation.

The work will be conducted in accordance with the guidelines and requirements of the Alameda County Health Care Services Agency (ACHCSA) and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). The scope of work has been divided into the following tasks:

Task 1: Pre-Field Activities

Before beginning the field work, a thorough records search for this and neighboring sites will be conducted, underground utilities will be located, and field activities will be scheduled.

Task 2: Install Groundwater Monitoring Wells

To investigate the lateral and vertical extent of soil and groundwater contamination, three soil borings will be drilled using a truck-mounted CME 75 drilling rig equipped with 8-inch-diameter hollow-stem augers.

Soil samples will be collected at 5-foot intervals and at significant stratigraphic changes beginning at 5 feet below grade and continuing to the total depth of the borings. Samples will be collected from a split-spoon sampler lined with stainless steel tubes and logged in the field by a qualified geologist or engineer using the Unified Soils Classification System. Each sample will also be field screened using a photo-ionization detector or combustible gas indicator to assist

in selecting samples for laboratory analysis. The samples selected for analysis will be sealed airtight with Teflon or aluminum sheeting, plastic caps, and adhesive tape, and placed immediately into a cooler containing blue or dry ice.

The proposed wells will be installed and constructed based on site-specific hydrogeologic conditions and the nature of contamination encountered. The three borings will be converted into 2-inch-diameter groundwater monitoring wells to depths of approximately 10 to 15 feet below the top of the first saturated zone. The wells will be constructed using 2-inch-diameter, Schedule 40, PVC casing, with 0.010-inch perforations, and the associated filter pack. An approximately 1-foot-thick bentonite spacer will be installed above the sand pack, and the remainder of the annulus will be sealed with Portland Type I/II neat cement. The top of each well will be secured with a watertight locking cap and utility box finished flush with the ground surface.

Task 3: Develop, Sample, and Survey Groundwater Monitoring Wells

Well development will be performed to: (1) consolidate and stabilize the filter pack; (2) optimize well production; and (3) reduce the turbidity of subsequent groundwater samples. The monitoring wells will be developed to: (1) consolidate and stabilize the filter pack; and (2) optimize production. The proposed groundwater monitoring well will be developed during drilling and before installation of the bentonite spacer and neat cement seal. Development will be accomplished by purging up to 10 saturated well volumes or until the groundwater is visually free of sediment.

The groundwater monitoring well will be sampled at least 72 hours after development. Before sampling, the water level in each well will be measured and the wells will be inspected for free product or sheen. They will then be purged to allow groundwater representative of the aquifer to enter. Purging will be accomplished using a bailer or pump so as not to agitate the groundwater or expose it to air. Purging will continue until at least 3 and up to 10 saturated well casing volumes have been evacuated and indicator parameters have stabilized. Indicator parameters will be pH, temperature, and specific conductivity. Stabilization of the parameters will be determined when they vary no more than the following values:

- pH - 0.2 units
- Temperature - 0.5 degrees Celsius
- Specific conductivity - 10 percent

The samples will be placed in an iced cooler and transported to a state-certified laboratory for analysis. Purged water from sampling and development, as well as decontamination rinsate, will be stored onsite in Department of Transportation approved 55-gallon drums for transport and disposal.

To calculate the hydraulic gradient and groundwater flow direction of the shallow aquifer, each well will be surveyed by a state-licensed surveyor from the top of the casing to within 0.01 foot accuracy in reference to an established benchmark or a common datum.

Task 4: Analyze Soil and Groundwater Samples

Selected soil samples will be transported to a state-certified laboratory and analyzed for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, and total xylenes using Environmental Protection Agency (EPA) Methods 5030/8015/8020, and total petroleum hydrocarbons as diesel using EPA 8015. The samples will be analyzed on a standard 2-week turnaround time.

Task 5: Evaluate Data and Laboratory Results

On completion of sample analysis, a detailed evaluation of results and available information will be conducted to assess the nature and extent of petroleum hydrocarbons in the soil and groundwater. This will include the following:

- Interpretation of geologic and hydrogeologic characteristics of the water-bearing formation and the nature of subsurface contamination.
- Preparation of groundwater potentiometric surface maps and hydrocarbon concentration maps.
- Assessment of the extent of hydrocarbons in the soil and/or groundwater.

Task 6: Prepare Report

A report presenting the results, findings, and conclusions of this preliminary site investigation will be submitted to the ACHCSA and RWQCB. The report will present analytical results, boring logs, field notes, and sampling protocol and documentation.

SITE SAFETY PLAN

All field procedures and activities related to the site investigation will be conducted in accordance with the attached site-specific safety plan. The site safety plan was developed in accordance with the applicable requirements of the California Environmental Protection Agency and the federal and state Occupational Safety and Health Administration.

IMPLEMENTATION SCHEDULE

The proposed preliminary site assessment will be completed and a report submitted within 75 days after receipt of written approval of the proposed work plan from the appropriate regulatory agencies.

The estimated schedule for completion of the tasks is as follows:

Task/Activity	Days After Work Plan Approval
- Acquire permits	15
- Drill soil borings and install wells	25
- Develop and sample wells	30
- Analyze samples	45
- Analyze data	60
- Prepare report	75

SOURCE:
USGS MAP, OAKLAND WEST AND EAST QUADRANGLE, 7.5 MINUTE SERIES. 1959, PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

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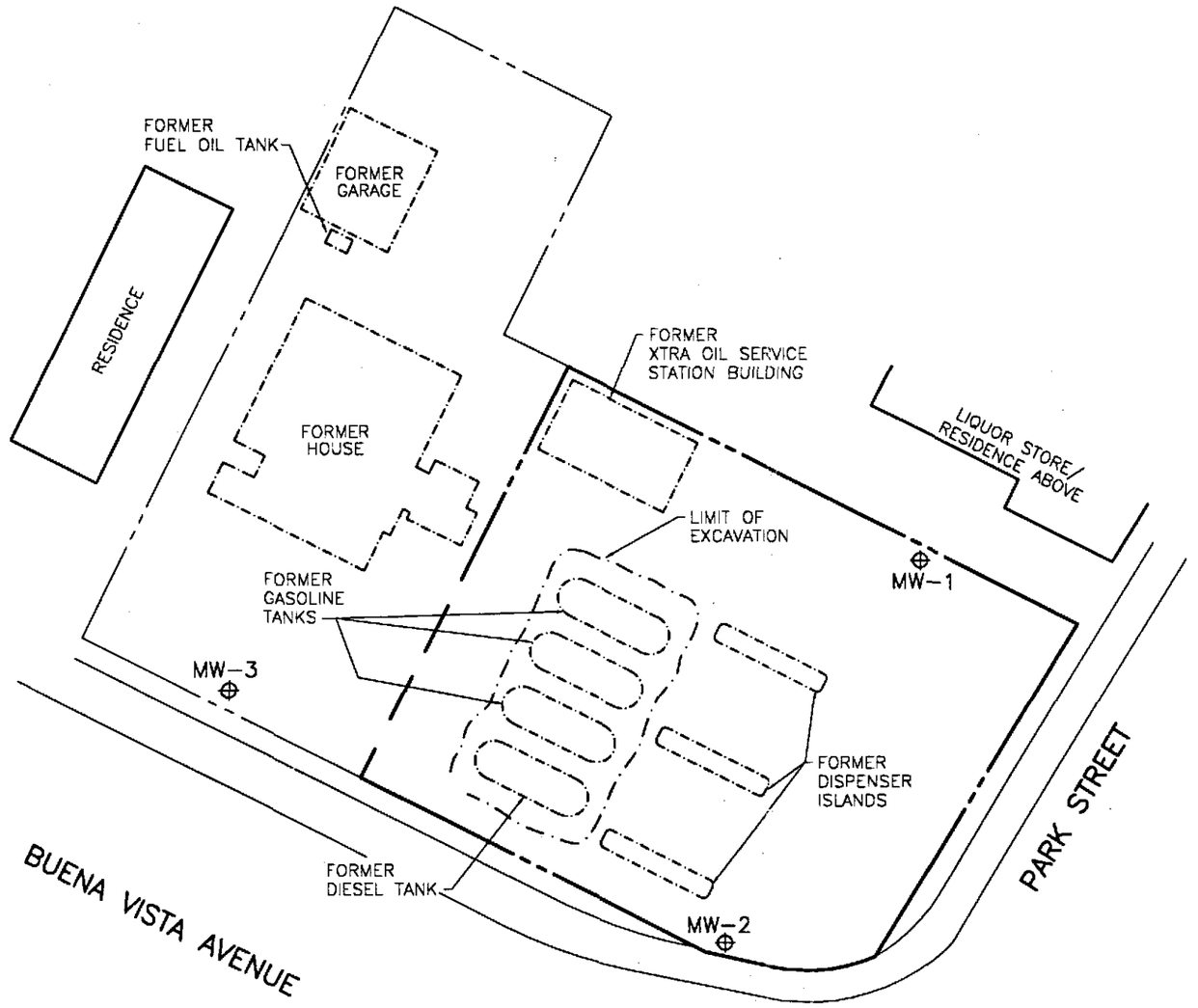

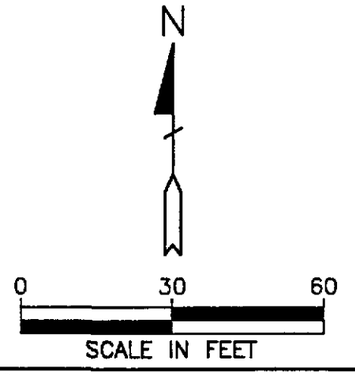

LEGEND

⊕ PROPOSED GROUNDWATER MONITORING WELL

FIGURE 2

SITE PLAN

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

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