

ENVIRONMENTAL  
PROTECTION  
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November 1, 1996

Alameda County Health Care Services Agency  
Environmental Protection (LOP)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

ATTN: MR. BARNEY M. CHAN

SITE: MOOSE LODGE #324  
690 HEGENBERGER ROAD.  
OAKLAND, CALIFORNIA  
SID # 5506

RE: WORKPLAN FOR SUBSURFACE INVESTIGATION

Dear Mr. Chan:

On the behalf of Moose Lodge #324, Alton Geoscience submits this workplan for the subsurface investigation activities requested in your letter, dated October 2, 1996, for the subject site, located at 690 Hegenberger Road in Oakland, California (Figure 1).

## 1.0 OBJECTIVES

The planned subsurface investigation activities will be performed to:

- Investigate if the soil located beneath the former dispenser island area has been impacted by gasoline hydrocarbons;
- Investigate if lead has impacted the groundwater at the site; and,
- Evaluate site conditions prior to requesting site closure.

## 2.0 BACKGROUND SITE CONDITIONS

The referenced site was formerly utilized as a trucking company's yard complete with a 10,000 gallon underground fuel storage tank (UST) and a fuel dispenser area (Figure 2). The Moose Lodge has not used the UST system to dispense fuel since they bought the property in approximately 1980, however, the UST contained approximately 640 gallons of gasoline prior

## Workplan for Subsurface Investigation

Moose Lodge #324, 690 Hegenberger Road, Oakland, California

November 1, 1996

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to its removal from the UST on August 16, 1996. The UST was removed under permit and guidance from the City of Oakland and the Alameda County Health Care Services Agency (ACHCSA) on August 21, 1996 by VCI of California (of San Leandro California). Two soil samples (SS-1 and SS-2) and a "grab-type" groundwater sample (WS-1) were collected from the excavated UST cavity by VCI and analyzed for various gasoline constituents. The results are contained in the UST removal report prepared by VCI (dated November 9, 1994). The excavation was subsequently backfilled with clean, imported, structural backfill.

### 3.0 PLANNED SITE ASSESSMENT ACTIVITIES

#### 3.1 PRE-FIELD WORK ACTIVITIES

A soil boring will be acquired prior to conducting soil sampling at the site. Underground Service Alert (USA) will be notified approximately 4 days prior to field activities. A site specific Health and Safety Plan designed to promote project personnel safety and preparedness during the activities described below will be prepared.

#### 3.2 SOIL AND GROUNDWATER SAMPLING

One soil borings will be advanced, using a "direct-push" drill rig, in the vicinity of the former fuel dispenser to approximately 15 feet below grade (fbg) for the purpose of collecting soil and groundwater samples (Figure 2). Soil samples will be collected from the boring at five-foot depth intervals, changes of lithology, areas of contamination, and at the soil/groundwater interface beginning at a depth of approximately 4 1/2 feet below grade. One representative sample will be preserved for analysis by a State-certified laboratory. Drilling will be terminated approximately three feet below the groundwater interface. Groundwater is anticipated to be encountered approximately 12 fbg.

*better 2' bgs*

An attempt will be made to collect a groundwater grab sample from the boring after allowing a reasonable amount of time for groundwater to infiltrate the boring. The unfiltered groundwater sample will be collected using a stainless steel or teflon bailer, and transferred to an unpreserved sample container for analysis by a State-certified laboratory. Refer to Appendix A for the general field procedures proposed for this work.

The soil sample will be analyzed for the following constituents:

- Total petroleum hydrocarbons (TPH-G) using EPA Method 8015 modified for gasoline;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020.

## Workplan for Subsurface Investigation

Moose Lodge #324, 690 Hegenberger Road, Oakland, California

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The groundwater sample will be analyzed for the following constituents:

- Total petroleum hydrocarbons (TPH-G) using EPA Method 8015 modified for gasoline;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020; and,
- total lead using EPA Method 6010.

Following completion of the sampling activities, the boring will be properly sealed with neat cement grout. A tremie pipe will be used to place the grout from the bottom of the boring to the top in one continuous pour.

These activities are not anticipated to generate any hazardous wastes. However, if any wastes are generated during these activities, they will be stored onsite in properly labeled containers. The wastes will be appropriately disposed of based on the results from laboratory analyses.

### 3.3 RESULTS REPORTING

The findings of the subsurface investigation will be compiled and presented in a subsurface investigation summary report. The report will include a boring log, laboratory analysis results, and Alton Geoscience's conclusions and recommendations.

### 4.0 PROJECT SCHEDULE

Alton is prepared to initiate the proposed work within two weeks following workplan approval, and complete each task according to the following schedule:

<u>TASK</u>	<u>ESTIMATED COMPLETION</u> <u>(time following workplan approval)</u>
Obtain boring permit and prepare site health and safety plan	2 weeks
Drill boring and collect samples	3 weeks
Submit assessment report	6 weeks

**Workplan for Subsurface Investigation**  
Moose Lodge #324, 690 Hegenberger Road, Oakland, California  
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## 5.0 LIST OF ATTACHMENTS

- Figure 1: Vicinity Map
- Figure 2: Site Plan
- Appendix A: General Field Procedures

If you have any questions regarding this workplan, please call us at (510) 606-9150.

Sincerely,

ALTON GEOSCIENCE

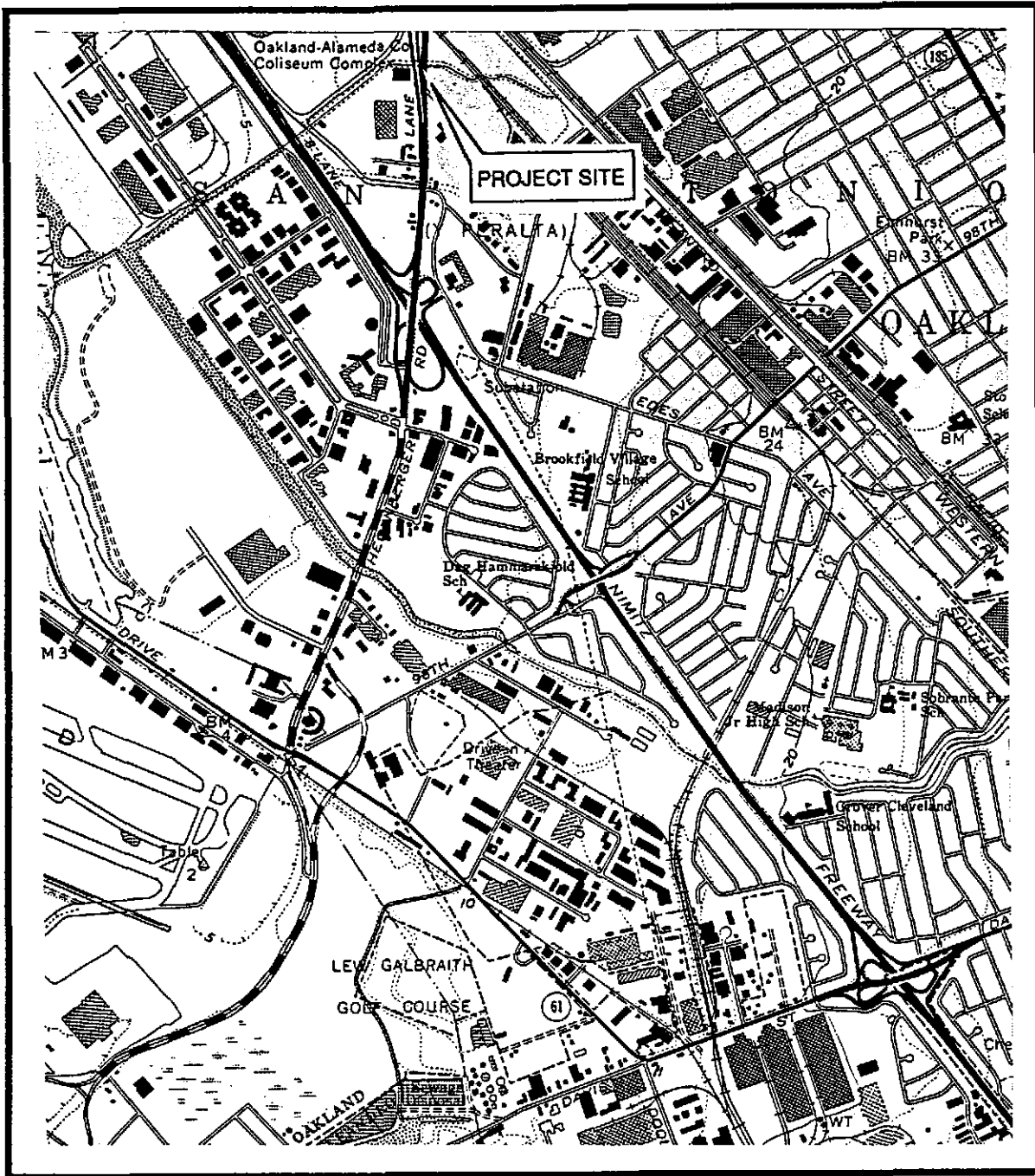


Ron Scheele  
Project Geologist



Matthew W. Katen, RG  
Senior Geologist





SCALE 1:24,000



Source: U.S.G.S. Map  
Hayward Quadrangle  
California  
7.5 Minute Series

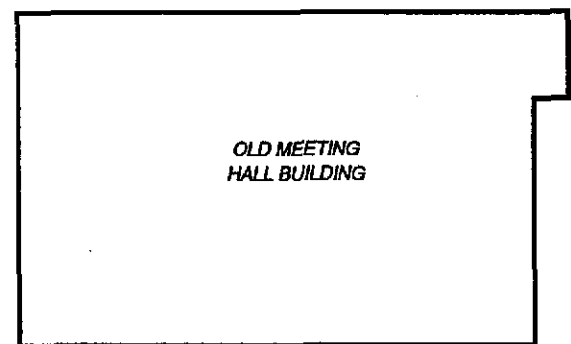
**VICINITY MAP**

690 Hegenberger Road  
Oakland, California

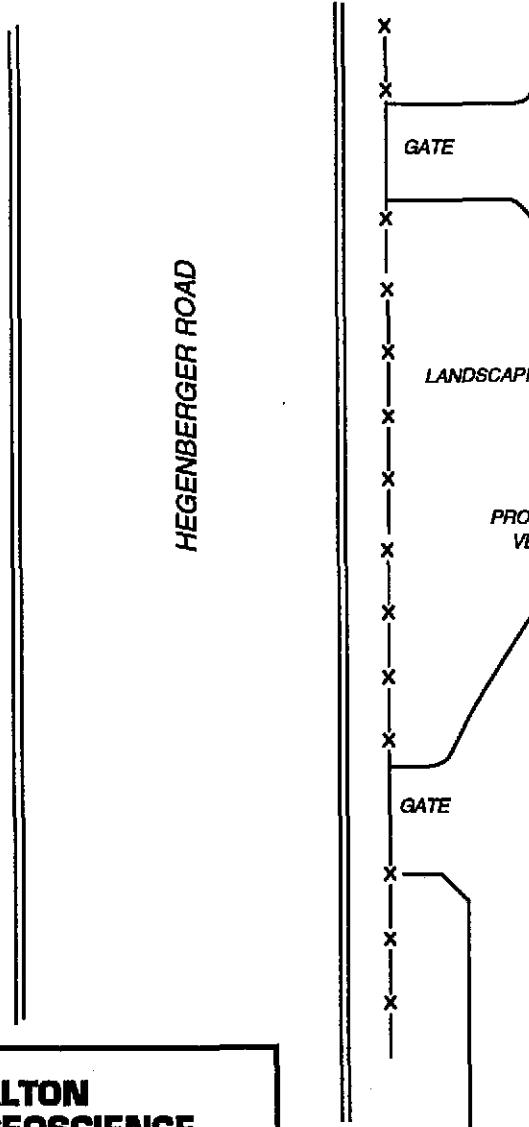
**FIGURE 1**

**LEGEND**

⊕ SS-2 Groundwater Monitoring Well



OLD MEETING  
HALL BUILDING



HEGENBERGER ROAD

GATE

GATE

LANDSCAPING

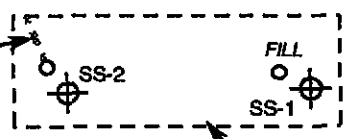
FORMER  
DISPENSER  
ISLAND

LIGHT POLE

BOLLARDS

VENTS

PRODUCT LINE  
VENT LINE

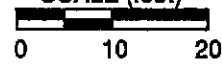


10,000 gallon UST

PARKING

A/C PAVING

SCALE (feet)



**SITE PLAN**

690 Hegenberger Road  
Oakland, California

**FIGURE 2**



## APPENDIX A

### GENERAL FIELD PROCEDURES

A description of the general field procedures used during site investigation and monitoring activities is presented below. For an overview of protocol, refer to the appropriate section(s).

#### DRILLING AND SOIL SAMPLING

Soil borings are drilled using a Geoprobe drill rig. Borings that are not completed as monitoring wells are grouted to within 2 feet of the ground surface with a cement/bentonite slurry. The remaining 2 feet is filled with concrete and/or native soil.

Soil samples are obtained for soil description, field hydrocarbon vapor screening, and possible laboratory analysis. Soil samples are retrieved from the boring by one of two methods: 1) continuously, using a 1- or 1.5-inch diameter 4-foot-long, continuous-core sampler advanced into the soil with a weighted hammer or 2) at five-foot intervals using a 1-inch diameter 2-foot-long, split spoon sampler advanced into the soil with a weighted hammer, each lined with acetate or brass tube lining.

During drilling activities, soil adjacent to the laboratory sample is screened for combustible vapors using a combustible gas indicator (CGI) or equivalent field instrument. For each hydrocarbon vapor screening event, a 6-inch-long by 2.5-inch-diameter sample insert is filled approximately 1/3 full with the soil sample, capped at both ends, and shaken. The probe is then inserted through a small opening in the cap, and a reading is taken after approximately 15 seconds and recorded on the boring log. The remaining soil recovered is removed from the sample insert or sampler, and described in accordance with the Unified Soil Classification System. For each sampling interval, field estimates of soil type, density/consistency, moisture, color, and grading are recorded on the boring logs.

#### SOIL SAMPLE HANDLING

Upon retrieval, soil samples are immediately removed from the sampler, sealed with Teflon sheeting and polyurethane caps, and wrapped with tape. Each sample is labeled with the project number, boring/well number, sample depth, geologist's initials, and date of collection. After the samples have been labeled and documented in the chain of custody record, they are placed in a cooler with ice at approximately 4 degrees Celsius (°C) prior to and during transport to a state-certified laboratory for analysis. Samples not selected for immediate analysis may be transported in a cooler with ice and archived in a frostless refrigerator at approximately 4°C for possible future testing.

## GROUNDWATER SAMPLING

Once total depth is reached with the geoprobe equipment, groundwater samples are collected by lowering a bottom-filling bailer into the boring, just below the static water level and allowed to fill. The bailer is retrieved and the sample is properly decanted to 1-liter and 40-milliliter glass containers. The sample containers are filled to zero headspace and fitted with Teflon-sealed caps. Each sample is labeled with the project number, well number, sample date, and sampler's initials. After the samples have been labeled and documented in the chain of custody record, they are placed in a cooler with ice at approximately 4 degrees Celsius (°C) prior to and during transport to a state-certified laboratory for analysis.

## CHAIN OF CUSTODY PROTOCOL

Chain of custody protocol is followed for all soil and ground water samples selected for laboratory analysis. The chain of custody form(s) accompanies the samples from the sampling locality to the laboratory, providing a continuous record of possession prior to analysis.

## DECONTAMINATION

Drilling/geoprobe equipment is decontaminated by steam cleaning before being brought onsite. The rods are also steam cleaned before each new boring is commenced. Prior to use, the sampler and sampling tubes are brush-scrubbed in a Liqui-nox and potable water solution and rinsed twice in clean potable water. Sampling equipment and tubes are also decontaminated before each sample is collected to avoid cross-contamination between borings.