



ALTON GEOSCIENCE

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TO: Gil Wistar-ACHD

DATE: 10/16

ATTN:

NO. OF PAGES:  
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REF:

Mobil 100 E. McArthur Blvd

FROM: Matt Hopwood

SPECIAL INSTRUCTIONS:

This the site map and scope of work for the Mobil site. Please call ASAP to discuss or approve.

Thank you very much

Matt

If this telefax message is not well received, please contact us at:

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FORMER MOBIL SERVICE STATION  
100 MACARTHUR AVENUE  
OAKLAND, CALIFORNIA

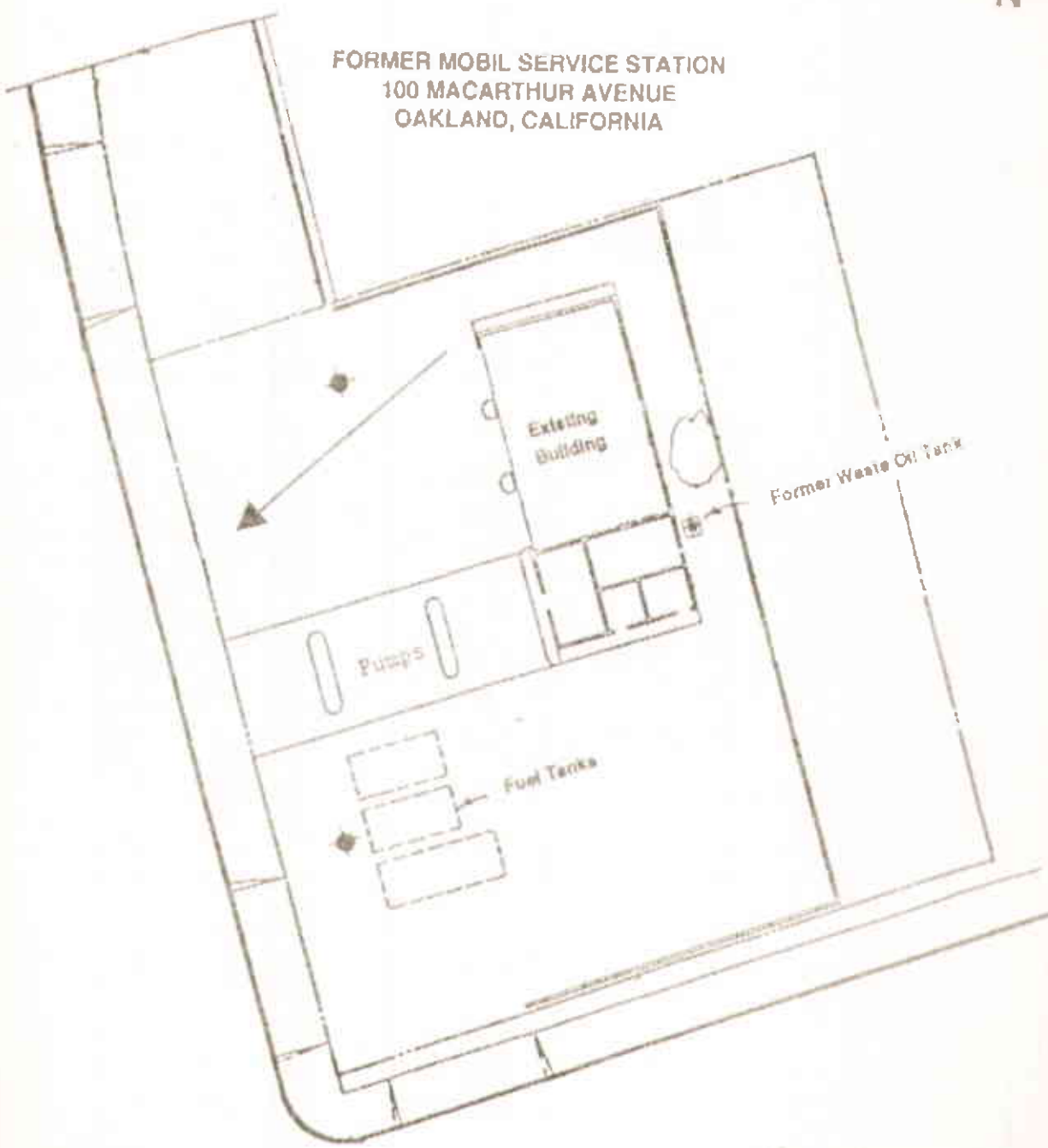


Figure 1. Site Plan Showing  
Proposed Groundwater  
Monitoring Wells



**PROPOSED SCOPE OF WORK  
FOR  
PRELIMINARY SITE INVESTIGATION**

**Mobil Oil Corporation  
Former Service Station 10-E6A  
100 MacArthur Boulevard  
Oakland, California**

**INTRODUCTION**

This work plan presents the proposed scope of work to conduct a preliminary investigation of a suspected subsurface contamination at the former Mobil Oil Service Station 10-E6A, located at 100 MacArthur Boulevard, Oakland, California. The proposed scope of work is based on the requirements of Alameda County Health Care Services (ACHCS), as set forth in the letter to Mobil Oil Corporation dated August 4, 1989.

The primary intent of this proposed site investigation is to: (1) address the concerns of the regulatory agencies, (2) determine the extent of the subsurface contamination, if any, and (3) define the appropriate course of action for further site investigation or for remediation.

**PROJECT BACKGROUND**

In September 1988, Mobil Oil Company retained Kaprealian Engineering Inc. (KEI) to conduct soil sampling during removal of a waste oil tank at the Mobil Service Station 10-E6A. According to the KEI report of October 7, 1988, the tank was in fair condition, with no visible holes or cracks.

On September 19, 1988, two soil samples were collected during the tank removal. One sample was collected approximately 2 feet beneath the tank or one foot into the native material, at about 9 feet below grade. The other sample was collected by compositing two grab samples from the stock pile of the excavated fill materials.

Review of the soil sampling report indicates that the concentration of hydrocarbons present in the native materials at 9 feet below grade was relatively low. However, laboratory analysis of the composited backfill material indicates that the sample contains 6.5 percent oil and grease constituents. This high concentration of oil and grease in the backfill materials may be due to poor composite sampling, and the source of contamination may be related to overspill

conditions. Results of laboratory analysis is presented below:

<u>CONSTITUENT</u>	<u>CONCENTRATION (ppm)</u>	<u>SAMPLE LOCATION</u>
TPH as diesel	2.0	Native
TPH as diesel	1,700	Backfill
TOG	24	Native
TOG	65,000	Backfill
Volatile Organics	<1.0	Native

Although the extent of subsurface contamination in the native materials appeared to be limited to the backfill material, Alameda County Health Care Services Agency requested in their letter of August 4, 1998, that at least one ground water monitoring well be installed in a confirmed downgradient direction from the former tank, to determine if the ground water has been impacted by the suspected hydrocarbon release.

#### SCOPE OF WORK

The proposed preliminary site investigation work will be conducted in accordance with applicable regulations and guidelines of the Alameda County Health Care Services Agency (ACHCS) and San Francisco Bay Regional Water Quality Control Board (RWQCB). The scope of work is as follows:

##### Task A: Review Available Information, Prepare Work Plan, and Acquire Necessary Permits

Collect and review available information pertinent to the site and on any on-going investigation work on nearby sites, as provided by Mobil Oil and/or other sources. Where appropriate, this information will be used in the preparation of the work plan for submittal to ACHCS for their approval.

Prior to commencement of field work, procure all necessary drilling/ground water well permits, schedule the field activities, and locate underground utility lines.

##### Task B: Install Exploratory Soil Borings and Ground Water Monitoring Wells

ACHCS is requiring the installation of at least one ground water monitoring well at a location downgradient of the confirmed groundwater flow direction. To accomplish this task, hydrogeologic

data on the site and information on monitoring wells in the immediate vicinity (within one-half mile) will be reviewed. If existing groundwater data is not sufficient to document flow direction at the site, three groundwater monitoring wells will need to be installed. These three wells will aid in determining the ground water flow characteristics and the extent of soil/groundwater contamination (if any).

The exploratory soil boring/s will be drilled by a CME 55 or 75 drilling rig using 8- or 10-inch-diameter hollow stem augers. The proposed soil boring locations are shown in Figure 1. During drilling, soil samples will be collected at 5-foot intervals beginning at 5 feet below grade, continuing through the capillary fringe and terminating at the water table. Soil samples will be obtained through a split spoon sampler lined with brass tubes. The samples recovered for analysis will be sealed airtight with teflon tape and plastic caps, and placed immediately into an iced cooler.

Soil borings will be converted to ground water monitoring wells if ground water is encountered above 45 feet below grade and will extend 15 feet below the stabilized water table zone (for a maximum well depth of 60 feet below grade). If ground water is not encountered above 45 feet below grade, each soil boring will be backfilled with neat cement in accordance with ACHCS and RWQCB guidelines.

Each well will be constructed of clean 4-inch diameter PVC pipe, with 0.020 inch slotted perforations and the appropriate gravel packs. The well construction will follow the ACHCS and RWQCB guidelines. The top of each well will be secured with locking caps and water tight christy boxes finished flush with the ground surface.

**Task C: Develop, Sample and Survey Ground Water Monitoring Wells**

The ground water monitoring wells will be properly developed and sampled, in accordance with the ACHCS and RWQCB guidelines. Water samples will be collected in clean containers and transported to a State certified laboratory for analysis.

Each well will be surveyed to determine the top of casing elevations and distances between each well,

in relation to an established benchmark or a common datum to within 0.01 foot. Water levels at each well will be measured, as well as thickness of free product, if any.

Task D: Analyze Soil and Ground Water Samples

Soil and ground water samples will be analyzed at a State certified laboratory for the specified constituents. Soil samples will be analyzed for: (1) total petroleum hydrocarbons (TPH) as diesel with benzene, toluene, ethylbenzene, and xylenes (BTEX) distinction, by EPA method 8015/8020, (2) total oil and grease, by EPA method 503E, and (3) volatile halocarbons, by EPA method 8010.

Water samples will be analyzed for the same constituents discussed above by corresponding EPA methods for a water matrix. All samples will be analyzed on a standard 2 week turnaround time.

Task E: Analyze Data and Laboratory Results

Upon completion of laboratory testing and background research, a detailed analysis of results and available information will be conducted to determine the extent and nature of subsurface contamination, if any. This will include interpretation of geologic and hydrogeologic information, and assessment of the potential short- and long-term impacts of contamination on the beneficial uses of ground and surface water.

Based on the results of the investigation and data analysis, develop appropriate courses of action to consider one or a combination of the following:

- 1) Request regulatory agencies for closure of the case.
- 2) Further site characterization to adequately define the extent of subsurface contamination.
- 3) Remediation of subsurface contamination.

Task F: Prepare Report

A report presenting our findings, conclusions, and recommendations will be prepared and submitted to ACHCS and RWQCB. The report will also include the proposed scope of work for further investigation

work, if warranted, or for remediation, laboratory results, sampling documentation, boring logs, field notes, and sampling protocol.

#### SITE SAFETY PLAN

All field procedures and activities related to the conduct of the site investigation work will be in accordance with the site specific safety plan to be developed for the project. The site safety plan will be developed in compliance with applicable requirements of the California Department of Health Services and the Federal and State Occupational Safety and Health Administration (OSHA and Cal-OSHA).