



**ALISTO ENGINEERING GROUP**

December 13, 1995

Ms. Susan Hugo  
Alameda County Health Care Service  
1131 Harbor Bay Parkway  
Alameda, California 94502-6700

10-309-1

Subject: Site Map and Monitoring Well Construction Diagram  
Former Mobil Service Station 99-105  
6301 San Pablo Avenue  
Oakland, California

Dear Ms. Hugo:

In response to your November 29, 1995 letter, enclosed is a site map for the former Mobil service station 99-105, 6301 San Pablo Avenue, Oakland, California and a monitoring well construction diagram.

The site map was inadvertently not submitted with the Additional Tank Closure Activities and Preliminary Site Investigation Work Plan, dated October 5, 1995. The site map shows the locations of: 1) the underground storage tanks and associated piping; 2) previous soil compliance soil samples; and 3) proposed monitoring wells. The proposed soil sampling locations for additional compliance samples in the former tank excavations and the associated piping is described in the work plan (see attached pages from the work plan).

Also enclosed is a copy of the proposed monitoring well construction diagram.

If you have any questions, please call.

Sincerely,

ALISTO ENGINEERING GROUP

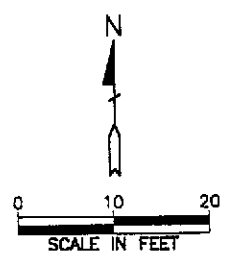
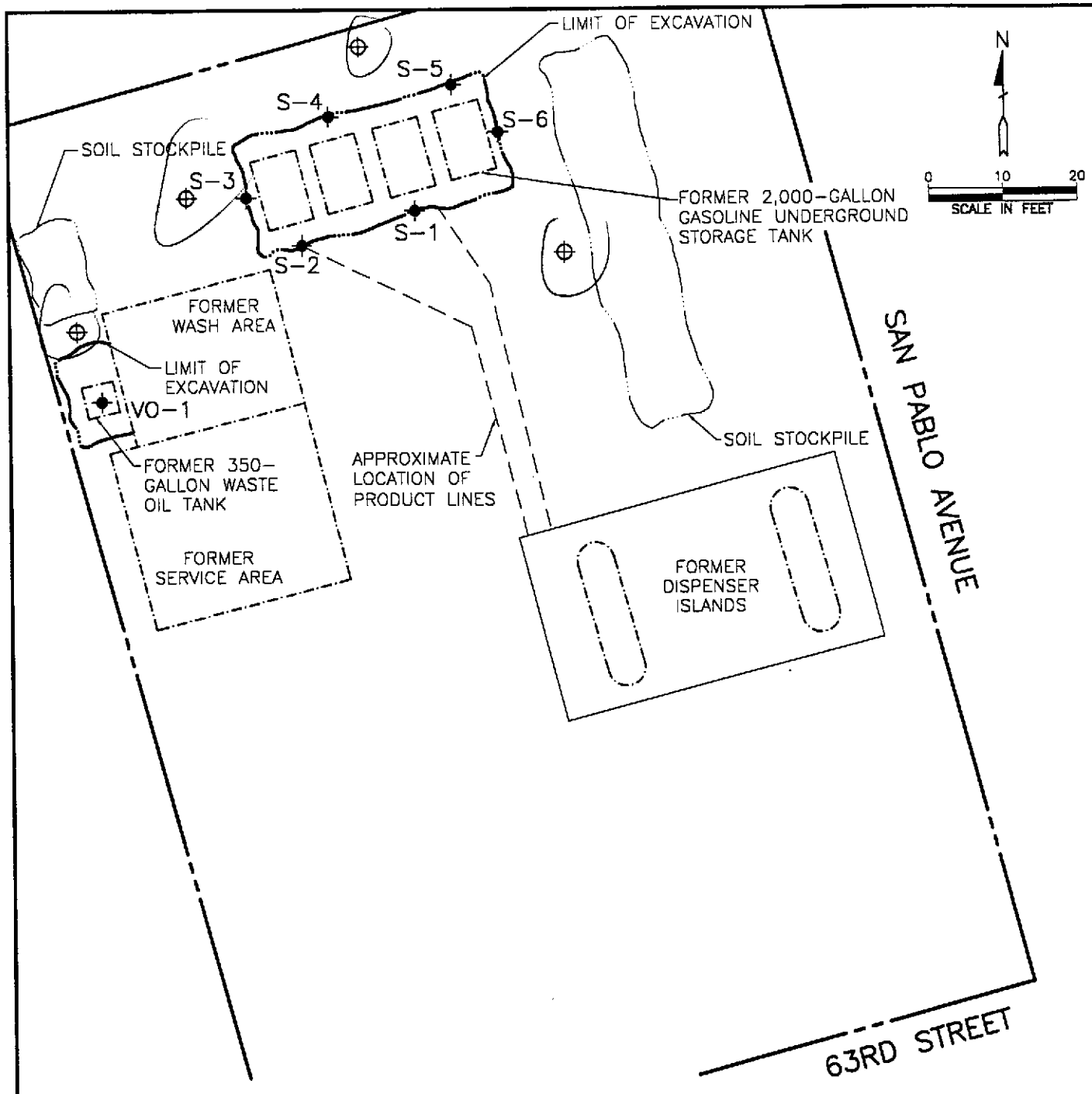
Ken C. Simas  
Project Manager

Enclosure

cc: Ms. Cherine Foutch, Mobil Oil Corporation (w/o enclosure)

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**LEGEND**

- ◆ SOIL SAMPLE LOCATION
- ⊕ PROPOSED GROUNDWATER MONITORING WELL LOCATION

MOBIL OIL CORPORATION  
 FORMER MOBIL STATION NO. 99-105  
 6301 SAN PABLO AVENUE  
 OAKLAND, CALIFORNIA

PROJECT NO. 10-309



WORK PLAN  
FOR  
ADDITIONAL TANK CLOSURE ACTIVITIES AND  
PRELIMINARY SITE INVESTIGATION

Former Mobil Oil Corporation Station 99-105  
6301 San Pablo Avenue  
Oakland, California

Project No. 10-309-01-001

October 5, 1995

## INTRODUCTION

Mobil Oil Corporation proposes to conduct additional tank closure activities and a perform a preliminary site investigation at former Mobil Oil Station 99-105, 6301 San Pablo Avenue, Oakland, California. The work plan proposed herein was based on available reports and information and on 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).

## PROJECT BACKGROUND

In August 1994, five underground storage tanks (four 2000-gallon gasoline and one 350-gallon waste oil) were removed from the site by Tank Protect Engineering. Holes were observed in two of the gasoline tanks. Analysis of soil samples collected from beneath the tank excavation at 11 feet below grade detected petroleum hydrocarbons of up to 520 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPH-G), 0.18 mg/kg benzene, 4.1 mg/kg toluene, 24 mg/kg ethylbenzene, and 72 mg/kg total xylenes. TPH as diesel (TPH-D) at a concentration of 1.2 mg/kg and total oil and grease (TOG) at 94 mg/kg were also detected in the soil sample collected from the former waste oil tank location at a depth of 6 feet. Groundwater with free-phase petroleum hydrocarbons were also observed in the excavation (ACHCSA, 1994). The results of soil analysis are presented in Tables 1 and 2.

The site is currently vacant and the service and wash area building have been boarded up. To date, the former tank excavations have not been backfilled to grade and the product lines to the dispenser islands are still in place. Soil excavated during the tank removal are presently stockpiled onsite. The site is secured by a cyclone fence and an 8 foot-high plywood fence along San Pablo Avenue and 63rd Street.

## SCOPE OF WORK

The scope of work to complete the tank closure and conduct a preliminary site investigation will be performed in two parts. The tasks to complete the tank closure activities will include the following:

- Additional compliance sampling from the former tank excavation
- Removal of the product lines and compliance sampling
- Stockpile soil characterization
- Backfilling of the excavation


After the tank closure activities have been completed, the preliminary site investigation will be conducted. The investigation will include the following tasks:

- Regulatory file review
- Drilling of four soil borings for conversion into groundwater monitoring wells
- Sampling and analysis of soil and groundwater
- Preparation of a report presenting the findings and conclusions of the additional tank closure activities and investigation.

### Part 1: Additional Tank Closure Activities

The proposed tasks to perform tank closure activities are as follows:

#### Task 1: Additional Compliance Soil Sampling



In order to assess if over-excavation of the former gasoline and waste oil tank locations is necessary, additional compliance soil samples will be collected for analysis. A total of 8 soil samples (2 from the bottom, 2 each from the north and south sidewalls, and 1 each from the east and west sidewalls) will be collected from the former gasoline tank cavity, and 2 from the bottom of the former waste oil tank cavity. The sidewall samples will be collected from within 1-foot of the bottom of the excavation. The proposed locations of the compliance soil samples are shown in Figure 2.

The compliance samples will be collected by hand auger to a minimum of 1-foot into native material. After augering to the desired depths, soil samples will be collected using a hand sampler lined with stainless steel tubes. A slide hammer will

be used to advance the sample 6-inches into undisturbed soil. The augers and soil sampler will be decontaminated and rinsed cleaned before each sample collection.

Each compliance sample collected will be sealed airtight with Teflon or aluminum sheeting, plastic caps, and adhesive tape, and placed immediately into a cooler containing blue ice for analysis by a state-certified laboratory.

After evaluation of the analytical results, the need for additional over-excavation and source removal will be determined. If any over-excavation is to be performed, the work will be conducted at the time when the product lines are also removed. Additional compliance samples will be collected after over-excavation.

Task 2: Excavation and Removal of Product Lines and Compliance Sampling

This task will involve: (a) preparing and acquiring the necessary permits, (b) notifying the appropriate regulatory agencies, (c) locating underground utilities (d) excavating the asphalt surface and soil, (e) removing underground product delivery pipeline to the extent of excavation, and (f) disposing of the pipeline.

The excavated soil from the pipeline removal will be stockpiled onsite adjacent to the existing soil stockpile and covered with plastic sheeting while awaiting for laboratory results for reuse as backfill material or disposal. Soil will be excavated only to the extent necessary to remove the pipeline. Compliance soil samples will be collected from the excavated area every 20 linear feet and analyzed for the specified hydrocarbon constituents.



Task 3: Stockpile Soil Characterization

The stockpiled soils from the gasoline, waste oil tank, and product line excavations will be sampled and analyzed to characterize the petroleum hydrocarbon concentrations in the soil for either disposal or reused as backfill in accordance with regulatory requirements. Before sampling the stockpiles, the volume of soil will be estimated to determine the number of samples to be collected based on the requirements of the disposal facility and/or regulatory agencies.

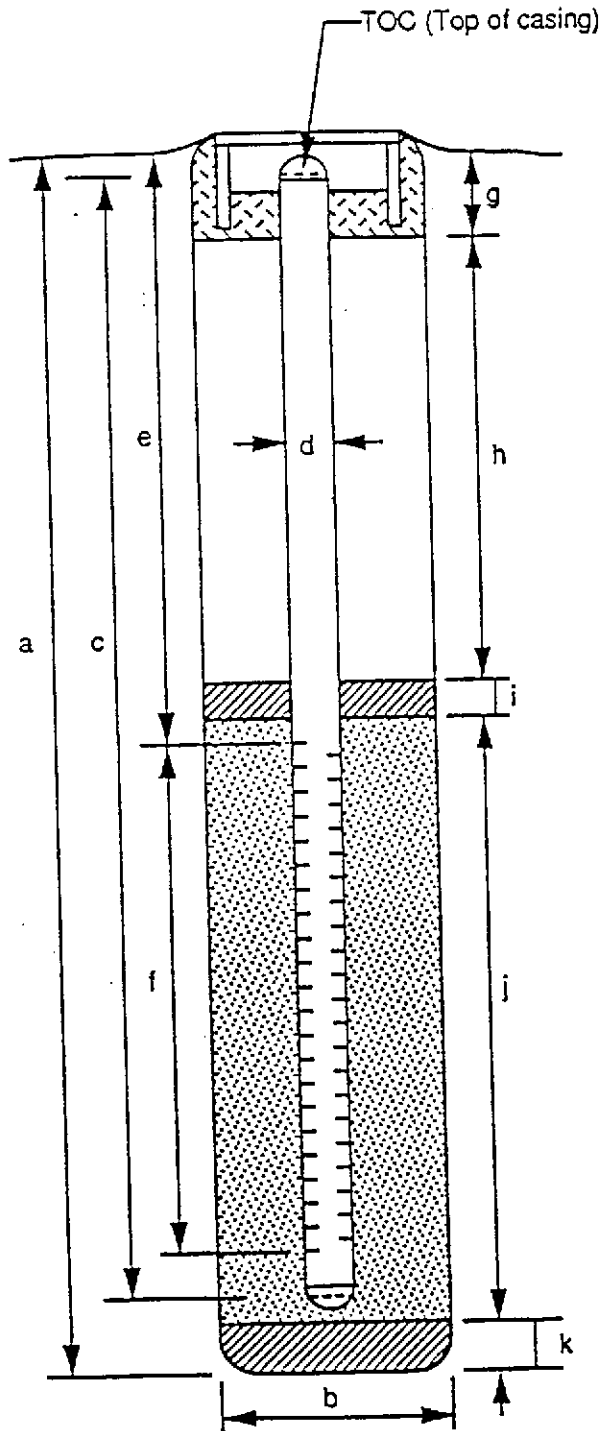
Task 4: Analysis of Compliance Soil Samples

Selected soil samples will be transported to a state-certified laboratory and analyzed on a standard 2-week turnaround time for the following:

- TPH-G using Environmental Protection Agency (EPA) Methods 5030/8015 (modified)
- Benzene, toluene, ethylbenzene, and total xylenes using EPA Method 8020
- TPH-D using EPA Methods 5030/8015 (modified)

# WELL DETAILS

PROJECT NUMBER \_\_\_\_\_ BORING / WELL NO. \_\_\_\_\_  
 PROJECT NAME \_\_\_\_\_ TOP OF CASING ELEV. \_\_\_\_\_  
 LOCATION \_\_\_\_\_ GROUND SURFACE ELEV. \_\_\_\_\_  
 WELL PERMIT NO. \_\_\_\_\_ DATUM \_\_\_\_\_  
 INSTALLATION DATE \_\_\_\_\_



## EXPLORATORY BORING

a. Total depth \_\_\_\_\_ ft.  
 b. Diameter \_\_\_\_\_ in.  
 Drilling method \_\_\_\_\_

## WELL CONSTRUCTION

c. Total casing length \_\_\_\_\_ ft.  
 Material \_\_\_\_\_  
 d. Diameter \_\_\_\_\_ in.  
 e. Depth to top perforations \_\_\_\_\_ ft.  
 f. Perforated length \_\_\_\_\_ ft.  
 Perforated interval from \_\_\_\_\_ to \_\_\_\_\_ ft.  
 Perforation type \_\_\_\_\_  
 Perforation size \_\_\_\_\_  
 g. Surface seal \_\_\_\_\_ ft.  
 Material \_\_\_\_\_  
 h. Backfill \_\_\_\_\_ ft.  
 Material \_\_\_\_\_  
 i. Seal \_\_\_\_\_ ft.  
 Material \_\_\_\_\_  
 j. Gravel pack \_\_\_\_\_ ft.  
 Gravel pack interval from \_\_\_\_\_ to \_\_\_\_\_ ft.  
 Material \_\_\_\_\_  
 k. Bottom seal/fill \_\_\_\_\_ ft.  
 Material \_\_\_\_\_