



ALISTO ENGINEERING GROUP

ENVIRONMENTAL  
PROTECTION

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October 12, 1995

Ms. Susan Hugo  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

510 1683

10-309-01-001

Subject: Work Plan for Additional Tank Closure Activities and  
Preliminary Site Investigation  
Former Mobil Oil Station 99-205  
6301 San Pablo Avenue  
Oakland, California

Dear Ms. Hugo:

On behalf of Mobil Oil Corporation, the following work plan has been submitted for additional tank closure activities and preliminary site investigation at former Mobil Oil Station 99-105, 6301 San Pablo Avenue, Oakland, California.

Please call Ms. Cherine Foutch of Mobil Oil Corporation if you have questions or need additional information.

Sincerely,

ALISTO ENGINEERING GROUP

Ken Simas  
Project Manager

Enclosure

cc: Ms. Cherine Foutch, Mobil Oil Corporation  
Mr. Kevin Graves, San Francisco Bay Regional Water Quality Control Board

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

Prepared for:

Mobil Oil Corporation  
2063 Main Street, Suite 501  
Oakley, California

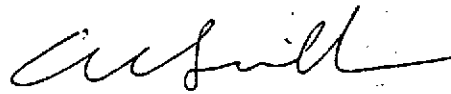
Prepared by:

Alisto Engineering Group  
1575 Treat Boulevard, Suite 201  
Walnut Creek, California

October 5, 1995



Ken Simas  
Project Manager



Al Sevilla, P.E.  
Principal



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 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 ~~5/10~~ 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)



- Total lead using EPA Method 7420

Additionally, soil samples collected near the former waste oil tank location will be analyzed for TOG using EPA Method 55420 DF.

Task 5: Backfilling of the Excavations

The excavations will be backfilled to grade with either imported clean backfill material or regulatory-approved stockpiled soils. Onsite stockpiled soils will be used as backfill if the petroleum hydrocarbon concentrations in the composite soil samples are less than the regulatory criteria for soil reuse.

Task 6: Report Preparation

A report presenting the results, findings, and conclusions of the tank closure activities will be submitted to the ACHCSA and RWQCB. The report will present analytical results, field notes, and sampling protocol and documentation.

**Part 2: Preliminary Site Investigation**

The preliminary site investigation will be performed after completion of Part 1: Tank Closure Activities, and will include the following tasks:

Task 1: Regulatory Records Review

Initially, the files of ACHCSA and RWQCB will be reviewed to obtain information on the history of the site and neighboring properties, including previous investigations and tank removal. This will include a sensitive receptor survey to identify site features that may be impacted by petroleum hydrocarbons in the subsurface, if any.

Task 2: Acquire Permits

Drilling, groundwater well installation, and site access permits will be procured; underground utilities will be located; and field activities will be scheduled before beginning work.

Task 3: Drill Exploratory Soil Borings

To assess the lateral and vertical extent of soil and groundwater contamination, four exploratory soil borings will be drilled using a truck-mounted CME 75 drilling rig equipped with 10-inch-diameter hollow-stem augers.

Soil samples will be collected from the borings at 5-foot intervals, at significant stratigraphic changes, and at the capillary fringe, beginning at 5 feet below grade



and continuing to the total depth of the boring. Soil samples will be collected from a split- spoon sampler lined with stainless steel or brass tubes and logged in the field by a qualified geologist or engineer using the Unified Soils Classification System (USCS). Each sample will also be field screened using a photo-ionization detector to assist in selecting the 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 ice.

#### Task 4: Install Groundwater Monitoring Wells

The proposed wells will be installed and constructed based on site-specific hydrogeologic conditions and the nature of contamination encountered. The four soil borings will be converted into groundwater monitoring wells to depths of approximately 10 feet below and 5 feet above the top of the first saturated zone. The wells will be constructed using 4-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. The locations of the monitoring wells will be surveyed by a state licensed surveyor. The proposed locations of the borings and wells are shown in Figure 2.

#### Task 5: Develop, Sample, and Survey Groundwater Monitoring Wells

Wells will be developed to: (1) consolidate and stabilize the filter pack; (2) optimize well production; and (3) reduce the turbidity of subsequent groundwater samples. The proposed wells will be developed during drilling, before installation of the bentonite spacer and neat cement seal. Additionally, wells will be developed by alternately using a surge block and submersible pump or bailer to evacuate the water and sediment. Development will continue to a maximum of 10 saturated well volumes or until the groundwater is relatively free of sediment.

The wells will be sampled a minimum of 72 hours after well development and installation of the neat cement seal. Before sampling, water level measurements at each well will be recorded, and the wells will be observed for free product or sheen. The wells 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 a minimum of 3 and a maximum of 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 indicator 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. The purged water from sampling and development, as well as decontamination rinsate, will be stored onsite in 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 from the top of the casing to within 0.01 foot accuracy in reference to an established benchmark or a common datum.

Task 6: Analyze Soil and Groundwater Samples

Selected soil and groundwater 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)
- Total lead using EPA Method 7420

Additionally, soil and groundwater samples collected near the former waste oil tank location will be analyzed for TOG using EPA Method 55420 DF.

Task 7: 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 the geologic and hydrogeologic characteristics of the water-bearing formation and the nature of subsurface contamination.
- Preparation of groundwater potentiometric surface maps, hydrocarbon concentration maps, and hydrogeologic cross sections.





- Assessment of the extent of hydrocarbons in the soil and/or groundwater.
- Recommendations on disposal or reuse of the stockpiled soils.

Task 8: Prepare Report

A report presenting the results, findings, and conclusions of the 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**

Field procedures and activities related to the additional tank closure activities and the site investigation will be in accordance with the attached site-specific safety plan. The site safety plan was developed in accordance with the applicable requirements of the California EPA and the federal and state Occupational Safety and Health Administration.

### **IMPLEMENTATION SCHEDULE**

The proposed tank closure and preliminary site investigation will begin within 2 weeks after receipt of: 1) written approval of the work plan from the regulatory agencies; and 2) written authorization from the property owner for site access.



## REFERENCES

ACHCSA, 1994. Letter - Underground Storage Tanks Removal at the Former Cars Rent A Car, 6301 San Pablo Avenue, Oakland, California. Alameda County Health Care Services Agency. November 21.



## **SITE SAFETY PLAN**

**FOR**

**Former Mobil Oil Station No. 99-105  
6301 San Pablo Avenue  
Oakland, California**

**Project No. 10-309-01**

### **1.0 INTRODUCTION**

This site safety plan (SSP), designed to address safety provisions during the tank closure activities and site investigation and well closure, provides procedures to protect onsite personnel from physical and chemical hazards resulting from drilling, abandonment, excavation, site restoration, groundwater monitoring and sampling, and system maintenance operations. The SSP establishes personnel responsibilities, general safe work practices and field procedures, personal protective equipment (PPE) standards, decontamination procedures, and emergency action plans.

This SSP conforms with health and safety requirements promulgated by the United States Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration (Cal-OSHA). Alisto Engineering Group will conduct the proposed scope of work at the above property following the procedures set forth in this SSP.

### **2.0 RESPONSIBILITIES OF KEY PERSONNEL**

Onsite personnel will have assigned responsibilities. The project manager, assigned to supervise field work, will serve as the site safety officer (SSO). The SSO or a designated alternative will ensure that all personnel have received a copy of the SSP. The SSO will ensure that personnel understand and comply with the SSP. Additionally, the SSO will be responsible for initiating emergency response procedures, if necessary.

Before the work begins, the SSO will conduct a site-specific training session to ensure that personnel are aware of potential physical and chemical hazards and safe work practices.

Personnel must initially complete a 40-hour hazardous materials training course as required by Code of Federal Regulations (CFR) 1910.120. Thereafter, they are required to complete an 8-hour hazardous materials refresher course annually. Additionally, personnel will be required to document their full understanding of this SSP before admission to the site. Compliance with the SSP will be monitored at all times by the SSO. Appropriate PPE, listed in Section 7.0, will be available and used by onsite personnel.

Personnel will take reasonable precautions to avoid unforeseen hazards. They will be held responsible to perform only those tasks for which they are qualified. Each person will be responsible for strict adherence to all procedures described in the SSP. Any deviation will be reported to the SSO and corrected.

### 3.0 STANDARD OPERATING PROCEDURES

Onsite personnel will be briefed each day in "tail-gate" meetings as to the day's goals and equipment to be used. Anticipated contaminants, physical hazards, and emergency procedures will be reviewed. Appropriate PPE will be worn and verified correct by the SSO, including respirator fit. Health and safety procedures will be discussed.

A qualified drilling contractor will deliver and operate equipment. Only qualified personnel will have contact with this equipment. All personnel, including the drilling contractor and his employees, will be required to wear hard hats and steel-toed boots when close to drilling equipment. Additionally, safety glasses with side shields or goggles and hearing protection may be required. Nitrile or neoprene gloves will be worn by personnel collecting or handling samples, to prevent exposure to contaminants. Gloves will be changed between samples, and used ones discarded, to avoid cross-contamination.

Respiratory equipment will be worn if vapor contamination levels exceed action levels. No onsite smoking, open flame, or sparks will be permitted, to prevent accidental ignition of gasoline. All personnel will adhere to safety procedures and requirements.

### 4.0 JOB HAZARD ANALYSIS

Physical and chemical hazards which may be encountered onsite include those associated with operating mechanical equipment and dealing with potentially hazardous chemicals.

#### 4.1 Physical Hazard Assessment

Physical hazards which may be encountered during drilling, excavation, site restoration, and system maintenance include the following:

1. Injury or limb amputation from falling objects, moving machinery, or equipment placed in a walk area.
2. Explosion and fires resulting from punctured natural gas pipelines or combustion of flammable/combustible liquids.
3. Electrocution from buried or overhead power lines.
4. Explosion in trenches or excavations containing flammable/combustible chemicals.
5. Asphyxiation or toxic inhalation resulting from entering confined spaces containing less than 19.5 percent oxygen or more than 25 percent oxygen or containing hazardous chemicals.
6. Hearing loss resulting from noise generated during operation of heavy equipment.

7. Heat stress associated with hot weather and/or use of PPE.

#### 4.2 Chemical Hazard Assessment

Hazardous chemicals which may be encountered onsite include gasoline fuel hydrocarbons; benzene, toluene, ethylbenzene, and total xylenes (BTEX); and tetraethyl lead. These chemicals are volatile, flammable, and moderately to extremely toxic. They present a possible inhalation, absorption, and ingestion hazard. They may damage an unprotected individual's liver, kidneys, central nervous system, and bone marrow. Benzene is a known human carcinogen and ethylbenzene in vapor and liquid form is a skin irritant.

Gasoline vapors in concentrations greater than 300 parts per million (ppm) can cause eye, nose, and throat irritation, headaches, dizziness, and anesthesia. Skin contact with liquid gasoline may result in irritation, dermatitis, and absorption of specific toxic petroleum fractions.

OSHA and the American Conference of Governmental Industrial Hygienists (ACGIH) have established exposure limits for these chemicals. Threshold limit value (TLV) is the exposure limit determined by ACGIH to which a person may be repeatedly exposed without adverse effects. The permissible exposure limit (PEL) is the maximum permitted 8-hour time-weighted average (TWA) of airborne contaminant that a person may be exposed to. The short-term exposure limit (STEL) is a 15-minute TWA exposure which is not to be exceeded at any time during a workday even if the 8-hour TWA is below the PEL. The ceiling limit (CL) is the maximum concentration of an airborne contaminant to which a person may be exposed at any time.

PEL, STEL, and CL are measured in ppm and/or milligrams per meter cubed ( $\text{mg}/\text{m}^3$ ). Exposure limits established by OSHA and ACGIH for contaminants which may become airborne at this site are listed in the following table. Values are from OSHA unless otherwise noted. For purposes of health and safety, the strictest established exposure limit will be used.

<u>Compound</u>	<u>TLV</u> <u>(ppm)</u>	<u>PEL</u> <u>(ppm)</u>	<u>STEL</u> <u>(ppm)</u>	<u>CL</u> <u>(ppm)</u>
Gasoline	300	500		
Benzene	1.0	5.0	0.10*	1.0*
Ethylbenzene	100	100	125	
Toluene	100	150	100	500
Total Xylenes	100	150	100	300

\*Values specified by ACGIH.

## 5.0 SITE MONITORING

Physical and chemical hazards must be monitored at the site to ensure that employees are not exposed to hazardous situations. Monitoring will be performed during this project as described below.

### 5.1 Monitoring of Physical Hazards

Exposure to excessive heat, noise, and hazardous work conditions will be monitored throughout the project. Personnel entering areas where people cannot carry on a normal conversation will be required to wear hearing protection. If heat stress is anticipated due to hot weather or use of PPE, personnel will be monitored by the SSP and provided beverages, shaded rest areas, and breaks.

Work area safety inspections will be conducted by the SSO on a daily basis before start of work and as conditions change. Hazardous conditions reported to or observed by the SSO will be corrected immediately.

### 5.2 Exposure Monitoring Plan

Fire, explosive, and toxic inhalation hazards will be evaluated throughout the project. A direct-reading combustible gas indicator (CGI) or organic vapor meter (OVM) will be used to evaluate possible formation of flammable atmospheres in the work area. Continuous flammability measurements will be taken at the top of the boring near the work crew throughout well installation. Periodic measurements will be taken from soil piles, excavations, and confined areas where flammable/combustible vapors may accumulate. Work will be suspended if combustible readings exceed 10 percent of the lower explosive limit (LEL).

## 6.0 SAFETY PRACTICES AND PRECAUTIONS

Simple precautions will reduce or eliminate physical and chemical hazards associated with drilling, excavation, site restoration, and system maintenance. Precautions include using qualified and trained personnel; ensuring compliance with the SSP; ensuring proper engineering controls; good housekeeping procedures; using PPE; and familiarity with emergency response procedures.

To prevent injury from moving machinery, automobiles, fires, or other physical hazards, the following procedures will be implemented:

1. Keep drill rig and mast at least 50 feet away from overhead electrical power lines.
2. Identify underground utilities before work begins. Shut down, lock out, and tag power lines and pipelines as appropriate, particularly power supply and emergency "shutoffs" for dispenser pumps and associated delivery lines.

3. Bond and ground drilling and excavation equipment during all operations. Bond and ground handling and transportation equipment during loading of soils and pumping and transfer of leachate.
4. Maintain equipment in proper working order and inspect before each use.
5. Use spark-resistant tools in areas where an ignition source could start a fire.
6. Clean up spills or deposits of oil or flammable, combustible, or hazardous liquids.
7. Water down, if necessary, working areas, excavated material, and unpaved roadways during excavation, handling, stockpiling, and backfilling, to minimize dust.
8. Remove or properly contain waste materials daily. Store excavated materials in closed-top barrels or roll-off bins located onsite to prevent any volatile organic compounds (VOCs) from escaping into the atmosphere.
9. Remove materials which may fuel a fire or impede regress of a fire from the work area.
10. Keep access to the fire extinguisher clear. Use fire extinguishers on equipment or small fires only.
11. Maintain an adequately-stocked first-aid kit onsite at all times.
12. Keep the work area clean and free of obstacles.
13. Use a "buddy system" in areas of high automobile traffic.
14. Wear ear plugs in areas of high noise (whenever noise makes it difficult for a normal conversation to be carried on).
15. Do not use drugs or alcohol during response operations.

The following procedures must be followed when working with or around hazardous materials or soils which may be contaminated with hazardous chemicals:

1. Do not smoke, eat, drink, or engage in any other activity which would increase hand- to-mouth contact.
2. Wear respiratory protective equipment and clothing as deemed necessary by the SSO. Do not wear a respirator over facial hair as this prevents a proper seal.
3. Do not walk, sit, lean, or kneel in puddles, leachate, or discolored surfaces.
4. Wash hands and face when leaving the work area.

5. Wash the entire body if decontamination procedures are in effect for outer garments.
6. Clean, sanitize, inspect, and maintain respirators after each use.
7. Establish work areas including the hot (contaminated) zone, decontamination zone, and safe zone, as necessary. Minimize personnel and equipment in the hot zone.
8. Establish procedures for exiting the hot zone before beginning onsite activities.

## **7.0 PPE**

PPE may be required to safely perform onsite work. Onsite personnel will have access to respirators with organic vapor cartridges. Replacement cartridges will be available onsite as needed. When handling samples, the geologist will wear nitrile or neoprene gloves. Personnel will wear hard hats and steel-toed boots when in the proximity of drilling equipment.

PPE required for this project includes:

1. Half-face air purifying respirator with organic vapor cartridges and dust/mist filters
2. Hard hat
3. Steel-toed boots or chemically-resistant booties
4. Safety glasses with side-shields or safety goggles
5. Nitrile or Neoprene gloves
6. Ear plugs or muffs
7. Coveralls or other suitable work clothing

## **8.0 WORK ZONES AND SECURITY MEASURES**

Access to the site will be restricted to authorized personnel. Barricades and/or traffic cones will be placed to form a barricade at least 20 feet away from and surrounding the site during drilling operations. The SSO will be responsible for site security.

## **9.0 DECONTAMINATION MEASURES**

The best method for protection is to avoid contamination. To achieve this, comply with the safety precautions discussed in Section 6.0. Drilling and sampling equipment will be



decontaminated by steam cleaning before being brought onsite. Sampling equipment will be decontaminated before each sample is collected and drilling equipment will be decontaminated before each boring is drilled.

The project geologist will oversee operations and log borings in consultation with drillers. He or she will also ensure that proper protocol is used when collecting and handling samples.

## **10.0 TRAINING**

The SSO will conduct a pre-job training session to discuss all points of the SSP. The SSO will ensure that everyone fully understands site hazards before work begins. Onsite personnel will be trained in the following:

1. Anticipated hazards
2. Safety practices to be followed
3. PPE
4. Emergency procedures and location of posted phone numbers

Personnel must initially complete a 40-hour hazardous materials training course as required by CFR 1910.120. Thereafter, personnel are required to annually complete an 8-hour hazardous materials refresher course. Use of respirators must be in accordance with the written respiratory protection program. Personnel must be properly trained and fit-tested for the respirator worn.

## **11.0 MEDICAL SURVEILLANCE**

According to CFR 29, 1910.120, paragraph (f), employees who wear respirators 30 days or more during 1 year or who have been exposed to hazardous substances or health hazards above established PELs are required to be medically monitored. Although airborne contamination levels are anticipated below permissible PELs, respirators fitted with organic vapor cartridges should be worn when a gasoline odor is present. Consequently, personnel must participate in a medical surveillance program.

## **12.0 RECORD-KEEPING**

Documentation will be kept on all personnel exposed to contaminant hazards on the job site according to OSHA regulations. This will include documentation that employees have received training on the SSP, respiratory protection, MSDS forms, and all emergency procedures. These will be reviewed during the pre-site training meeting.

Exposure records on each job will be kept for 30 years to meet regulatory requirements. Included will be names and social security numbers of employees, medical evaluations, on-the-job logs from entry to exit, first aid administered, visits onsite by non-employees, and personal air monitoring records.

### 13.0 EMERGENCY RESPONSE AND CONTINGENCY PLAN

In the event of accident, injury, fire, explosion, or other emergency, the project geologist, SSO, or designated representative will be responsible for coordinating emergency response activities. The responsible person will call: 911; the hospital during a medical emergency; and the appropriate government agencies. During an emergency, the following steps will be implemented:

1. The SSO will verbally notify onsite personnel of the emergency and direct personnel to perform any required duties, including shutdown of site utilities, if necessary.
2. If the emergency cannot be readily contained, extinguished, or controlled by onsite personnel, the SSO will call 911 and inform them of the location and details of the emergency situation.
3. **If evacuation is necessary, personnel will meet at the northwest corner of the intersection of San Pablo Avenue and 63rd Street.**
4. The SSO will notify the project manager and principal, if necessary.
5. The SSO and the project manager, will decide when to resume operations after an incident has been controlled.

### 13.1 Flammable Atmosphere

In the event that CGI or OVM readings on site exceed 10 percent LEL, work will be suspended, monitoring will be continued, the area will be isolated, and some or all of the following engineering controls will be implemented:

1. Contaminated soils will be sprayed down, if necessary, with deodorizing chemicals to reduce vaporization of volatile organic compounds or permeation of other gases.
2. Vapors from pooled petroleum product will be suppressed, if necessary, by spraying with foam or an appropriate chemical suppressant.
3. Portions of the stockpiled soil will be covered with plastic sheeting.
4. Air movers will be used to ventilate areas of concentration to below 10 percent LEL.

5. Wells emitting excessive chemical concentrations will be ventilated, capped, or shut in, as necessary.

### 13.2 Toxic Atmosphere

In the event that airborne concentrations of the chemicals of concern exceed the TLV, the above engineering control measures will be implemented to reduce concentrations to or below the TLVs, if practical. If such reduction is not possible, PPE will be used to limit worker exposure during operations.

In the event that airborne concentrations of the chemicals exceed twice the TLV, work will be suspended and appropriate engineering controls will be implemented to reduce concentrations to or below twice the TLV.

### 14.0 RESPONSIBLE PARTIES

Responsible parties involved with tank closure activities and preliminary site investigation are:

- Mobil Oil Corporation  
2063 Main Street, Suite 501  
Oakley, California, 94561  
  
Contact: Cherine Foutch  
(510) 625-1173
- Alisto Engineering Group  
1575 Treat Boulevard, Suite 201  
Walnut Creek, California 94598  
  
Contact: Ken C. Simas  
Project Manager  
(510) 295-1650

### 15.0 SUMMARY OF SITE ORGANIZATION AND COORDINATION

- General:  
Site Safety Officer (SSO) - Ken C. Simas  
Subcontractor - To Be Determined  
Driller -  
Driller's helper -
- Site Access Control -

Activities will be on- and offsite, outside, and the work area will be well ventilated. The area will be barricaded at least 20 feet in all directions.

Standard Caltrans lane or side walk closure procedures will be followed for work performed in the public right-of-way, if necessary.

### 16.0 EMERGENCY MEDICAL CARE AND PROCEDURES

- Nearest Emergency Medical Facility

Name: Alta Bates Hospital

Address: 2450 Ashby Avenue, Berkeley

Phone Number: (510) 204-4444

Directions: Continue north on San Pablo Avenue 7 city blocks, approximately .5 miles, turning right on Ashby Avenue. Continue east on Ashby Avenue approximately 1.5 miles, Alta Bates will be on the right.

- Emergency Telephone Numbers

Fire Department: 911

Police Department: 911

Other: \_\_\_\_\_

I have read, understand, and agree to comply with the health and safety plan for the following project:

Former Mobil Oil Station No. 99-105  
6301 San Pablo Avenue, Oakland, California

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Representing: \_\_\_\_\_  
Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Representing: \_\_\_\_\_  
Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Representing: \_\_\_\_\_  
Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Representing: \_\_\_\_\_  
Title: \_\_\_\_\_