Tom Edwards & Associates

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August 29, 1996

Mr. Brian Oliva
Alameda County Health Agency
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

SUBJECT: EXCAVATION AND SAMPLING WORKPLAN FOR THE PROPERTY LOCATED AT 1101 28TH STREET, OAKLAND, CALIFORNIA

Dear Mr. Oliva,

Enclosed please find the workplan describing the ongoing investigative and soil removal work we discussed for the subject property.

Mr. Race (client) and Mr. Failing (contractor) and I are prepared to begin work within approximately one week upon your authorization. The soil has been characterized and approved by Browning Ferris Industries for disposal.

If you should have any questions or comments, please don't hesitate to call me at (510) 724-3121. I will be awaiting your call or written approval. Once received, I will be calling you to schedule the work.

Yours very truly,
Tom Edwards & Associates

Tom Edwards, Principal

cc: Mr. W. L. Race
Mr. Gene L. Failing

EXCAVATION AND SAMPLING WORK PLAN

Underground Storage Tank Removal
1101 28th Street
Oakland, California

August 29, 1996

prepared for:

Alameda County Health Agency
Division of Environmental Protection Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

authorized by client:

Mr. W. L. Race, Trustee
Under the Will of Robert Hudson Johnson, Deceased
P. O. Box 3345
Walnut Creek, California 94598

prepared by:

Tom Edwards & Associates
2243 Del Monte Drive
San Pablo, California 94806

Tom Edwards
Registered Environmental Assessor No. 2645

Ronald Meschino
Registered Civil Engineer No. 27598

Job Number 110296

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EXCAVATION AND SAMPLING WORK PLAN

1101 28th Street, Oakland, California

A GENERAL INFORMATION

1. PROPERTY LOCATION

The subject property, called the Site in this work plan, is at the following address:

1101 28th Street, City of Oakland
County of Alameda, State of California

The study area consists of the sidewalk where Gene L. Failing (General Contractor) removed two underground petroleum storage tanks. Other portions of the Site, not concerned with the underground storage tank problem, do not pertain to this work plan.

2. PROPERTY DESCRIPTION

The study area is on the southwest corner of 28th Street and Chestnut Street (see Plate 1, Site Vicinity Map. The property is currently developed with an existing building (see Plate 2, Site Map). The building occupies the majority of the property and is currently being utilized as a auto repair shop. Land use of the surrounding area is commercial and residential. The underground fuel storage tanks, the subject of this work plan, formerly occurred on 28th Street beneath the driveway.

3. LEAD IMPLEMENTING AGENCY

The local government agency with jurisdiction over this case is:

Alameda County Health Agency, Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

The officer with authority on this case is Mr. Brian P. Oliva, Senior Hazardous Materials Specialist, who can be reached at (510) 567-6737. This agency will issue letters of completion concerning the investigation and clean up.

4. SITE BACKGROUND

Gene L. Failing, "Hoe-4-Rent", (General Contractor) removed two underground fuel tanks on May 30, 1996. The tanks occurred beneath the driveway area on the 28th Street. Both tanks (T-1 and T-2) had a capacity of approximately 700 gallon each with a burial depth of seven feet. Both tanks were in poor condition showing corrosion holes and obvious leaking. Tank T-1, formerly a gasoline tank, contained oil, grease and sludge which indicated it had been used as a waste oil tank. Tank T-2 was clean and dry prior to removal. TEA recovered two soil samples from beneath tank T-1 and analyzed the samples for Total Volatile Hydrocarbons as gasoline (TVHg) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), Total Extractable Hydrocarbons as diesel (TEHd), Total Oil and Grease (TOG) and methods 8010, 8270 and Cam 17 metals. TEA recovered one soil sample from beneath T-2 and analyzed the sample for TVHg and BTEX. TEA also took a composite of four soil samples from the stockpiled soil and analyzed the sample for the same constituents as T-1. The laboratory, Global Environmental Laboratory, Inc. (GEL), reported elevated levels of gasoline, diesel and oil and grease in all soil samples

collected (see attached analytical report). The tank removal was witnessed by Mr. Brian Oliva representing Alameda County health Agency, Department of Environmental Health.

A third underground tank was/is suspected because three vent lines were found at the site. Extensive investigation using electronic subsurface detection equipment has been performed without success. No subsurface anomalies were found during the investigation. However, underground utilities, rebar and other metal objects are assumed to have interfered with the investigation.

The proposed over-excavation of contaminated soils described in this work plan will likely uncover the third tank if, in fact, it exists.

B PROPOSED SCOPE OF ADDITIONAL WORK

The extent of soil contamination is not presently known. The local implementing agency, requires additional work to determine the extent of hydrocarbons beneath the ground. Additional soil sampling is necessary to investigate for the extent of petroleum contamination. Obvious soil contamination is present beneath the tanks as shown by petroleum staining, odor and analytical results. Over-excavation of contaminated soils beneath and around the previously removed tanks will remove the obvious contamination from beneath the tanks and possibly determine the vertical and lateral extent of serious contamination.

Upon the authorization of client, TEA is proposing additional work to investigate for the extent of petroleum contamination in the subsurface soils. As required by LUFT guidelines, the target chemicals for this investigation will be total petroleum hydrocarbons as gasoline, diesel, benzene, toluene, ethylbenzene, total xylenes, and total oil and grease. The objective is to remove contaminated soils which may impact the shallow groundwater and investigate for the extent of soil contamination surrounding the former location of underground storage tanks.

The report following the investigation and over-excavation will include the "Tank Removal Report". Per conversations with Mr. Brian Oliva, the tank removal report was not submitted after the removal of the tanks due to the suspicion that a third tank existed at the Site.

The scope of the work includes:

- The excavation of the backfill and soil surrounding the underground tanks to a maximum of 54 cubic yards.
- The sampling of the excavation sidewalls and bottom
- Laboratory analysis of the samples recovered for the target analytes
- Write a technical report detailing the tank removal process and explaining the methods and findings of the investigation and over-excavation of soils.

The tasks completed during this investigation agree with the guidelines of the State enforcing agency, the Regional Water Quality Control Board. The responsible party and/or owner of this property has sole responsibility for complying with all Federal, State and local environmental regulations. The

investigation and reporting guidelines applicable to leaking underground fuel tanks, available through this agency, apply to the Site.

C SAMPLING AND ANALYSIS PLAN

This Sampling and Analysis Plan (SAP) defines the procedures that will be observed by TEA personnel participating in the excavation and sampling. Modifications to this SAP will be made, as needed, by submitting amendment letters to the implementing agency. This SAP has been prepared to define standard operating procedures that will allow, to the extent practical, the following objectives to be achieved:

- Decontamination and disposal practices that minimize the risk of cross contamination during field measurements and sampling;
- Performance of field measurements and collection of samples that are representative of Site conditions at the location and time of measurement or collection, and;
- To produce field measurements and environmental sampling results that are representative of site conditions at the specified time and location.

1. SAMPLE COLLECTION AND HANDLING

1.1 EXCAVATION LIMIT SOIL SAMPLE COLLECTION

- The soil sampling will commence at selected depths below surface grade as determined by the supervising field technician or agency representative. If applicable, soil samples will be recovered from lithologic changes, obvious soil contamination areas, from soil-groundwater interface, and from each sidewall and bottom face of the excavation. If an excavation sidewall or bottom area exceeds 150 square feet in area, then additional soil samples will be collected at one sample per 150 square feet of area.

- Soil samples from excavation limits (bottom and sidewalls) will be recovered in the bucket of a backhoe from non-shored excavations. Care will be taken to recover relatively non-disturbed soils from the excavation sample points. A representative bucket of soil will be brought to the surface to recover a soil sample. A clean brass liner will be driven, with a clean mallet, into relatively non-disturbed soils in the backhoe bucket. The liner will be driven into the soil materials until no head space remains in the liner. The liner will be immediately sealed with a Teflon circle (or equivalent), capped with a plastic end cap, then sealed with Teflon tape or placed in a sealable plastic bag. The samples will be labeled and stored on ice for delivery to the analytical laboratory.

- Soil samples from weathered or fractured bedrock will be recovered with the backhoe bucket. A representative bucket of ripped bedrock will be brought to the surface to recover a soil sample. A clean liner tube or sample jar will be filled by hand from the clay fracture filling between blocks of hard bedrock in the backhoe bucket. The liner tube or sample jar will be filled with clay until no head space remains. The sample will be immediately sealed with a Teflon circle (or equivalent), capped with a plastic cap, then sealed with Teflon tape or placed in a sealable plastic bag. The samples will be labeled and stored on blue ice for delivery to the analytical laboratory.

- Soil samples from debris boxes, stockpiles, and properly shored excavations will be recovered with

hand sampling techniques. Care will be taken to recover representative samples of the stockpiled soil. A clean liner tube will be driven, with a clean mallet into the loose soil of the exterior of the pile or sidewalls of the excavation. The liner will be driven into the soil materials until no head space remains in the liner. Samples from the interior of the pile will be recovered with a pile sampler and placed in a glass sample jar or liner tube by hand. Two to four discrete samples will be recovered from each pile, about one sample for each five to ten cubic yards of soil. Samples from the excavation sidewalls will be recovered with hand augering equipment and a ten pound slide hammer. The liner tube will be immediately sealed with a Teflon circle (or equivalent), capped with a plastic end cap, then sealed with aluminized tape. The samples will be labeled and stored on blue ice for delivery to the analytical laboratory as described above.

- All samples retained for chemical analysis will be stored on blue ice in a clean, covered cooler-box for transport to the laboratory. Duplicate samples (if any) will also be transported to the laboratory and refrigerated. Samples will be delivered to the laboratory within 48 hours of sampling.

1.2 WATER SAMPLING FIELD PROCEDURES

- If water is encountered, the water sampling will commence at selected depths below surface grade as determined by the supervising field technician or agency representative according to the leaking underground fuel tank (LUFT) manual guidelines. TEA personnel will purge the pit of water prior to recovery of a water sample.

- Water samples from the excavation bottom will be recovered in a new and disposable PVC bailer dedicated to this project. Care will be taken to recover relatively non-disturbed water from the excavation sample point. A representative bailer of water will be brought to the surface to recover a water sample. For analysis, the water will be poured into two 40 ml VOA sample bottles with no head-space then sealed with Teflon lined caps. For additional analysis of diesel, then an additional one liter bottle supplied by the laboratory will be filled from the bailer. The samples will be labeled and stored on ice for delivery to the analytical laboratory.

- Samples analyzed on site will be delivered to the laboratory for extraction. All samples retained for off site chemical analysis will be stored on blue ice in a clean, covered cooler-box for transport to the laboratory. Duplicate samples (if any) will also be transported to the laboratory and refrigerated. Samples will be delivered to the laboratory within 24 hours of sampling.

2. LABORATORY PROCEDURES

2.1 LABORATORIES

- The designated laboratory for chemical analysis of environmental samples is Global Environmental Laboratory, Inc., Fremont, California.

- All chemical sampling, handling, and storage will be conducted according to Environmental Protection Agency and Regional Water Quality Control Board guidelines for the investigation of suspected underground storage tank leaks.

- The samples will be delivered to the laboratory within two days of its acquisition. Samples will be kept on ice or refrigerated to 4 degrees Celsius, or cooler, continuously during storage and transport

to the laboratory.

- Unless otherwise requested by the laboratory, no preservatives will be added to the sample unless provided with the sample bottles. The sealed sample will only be opened by laboratory personnel who will do the chemical analysis. The samples will analyzed within 7-14 days from their collection date depending on EPA quality control criteria appropriate for each analysis method.

2.2 LABORATORY PROCEDURES

- Soil and "grab" groundwater samples will be chemically analyzed for all analytes as indicated.

2.3 SAMPLE RECORDS

- All samples will be labeled with the following information using waterproof ink: site name, specific sample location identifier, date and time collected, name of the sample collector and affiliation

- A field data sheet provided by the local implementing agency will be filled out for each group of samples. The data sheet will contain the following information: label information, sampling method, type of container, physical characteristics (texture, color, odor, etc.), disposition, used for field analysis, stored, sent for laboratory analyses.

2.4 CHAIN OF CUSTODY

- A chain of positive, signature custody and transference will be strictly maintained. The chain of custody form will be included with any samples leaving the job site and will follow the samples until they are analyzed or disposed of. The chain of custody form will contain the following information: sample number, signature of collector, date and time of collection, sample type, identification of well or boring, number of containers, parameters requested for analysis, signature of person(s) involved in sample chain of possession, inclusive dates of possession, laboratory sample number

- When the samples arrive at the laboratory, the receiver will sign the chain of custody forms and enter a laboratory identification number onto the sample label and chain of custody form. The identification number will be used by the laboratory in its internal tracking system, thus the status of a particular sample can be determined at any time by referring to the laboratory log books. Both the laboratory identification and field sample numbers will be cited when the analytical results are reported.

- The wet signature originals of both the laboratory Certified Analytical Report and the completed chain of custody will be provided with the technical report to the client. A copy of the these documents will be retained by TEA on file for a period of three years from release of the report.

3. DECONTAMINATION

- All equipment that will come in contact with potentially contaminated soil or water will be decontaminated prior to and after each use. Decontamination will consist of high pressure hot water rinsing, or phosphate free detergent washing followed by deionized, reverse osmosis or distilled water rinse.

- Equipment probes, filtration apparatus, measuring tapes, transducers, foot valves, and well sounders will be cleaned with a phosphate free detergent solution and rinsed with distilled water. These

devices will be cleaned prior to initial use at the Site, and following each use.

- Water sample containers will be cleaned appropriately by the analytical laboratory.

- Field personnel will wear clean nitrile or latex gloves whenever they are handling sampling equipment or samples.

- All protective equipment worn by field personnel will be appropriately decontaminated or disposed of, as necessary, after use at each drilling or sampling location to avoid transporting contaminants to new work locations, and to meet health and safety objectives. Clean water will be available to rinse any exposed area of skin, clothing, or equipment that may accidentally come in contact with potentially contaminated material.

4. STORAGE AND DISPOSAL PRACTICES

- Equipment wash and rinse water, well development, and purged water will be collected in clean 55 gallon liquid drums for disposition or treatment within 90 days once laboratory analysis results are available dependent upon client authorization and funding. Barrels will be labeled immediately upon use and stored in a secure area.

- Soil and groundwater samples will be used as the first phase of testing. If any hazardous chemicals are detected in these samples, the cuttings and/or drilling development fluids will be tested, so that proper means of disposal can be determined. Handling and disposal methods for contaminated substances will depend on the types and concentrations of chemicals detected during testing.

- TEA cannot accept ownership or responsibility for disposal of any contaminated material encountered at the Site, nor can TEA accept ownership of responsibility for disposal of any contaminated drill cuttings or rinse water from cleaning of equipment produced as a result of investigation or remediation activities. The property owner will handle and dispose of contaminated substances in accordance with applicable regulations of local, state, and federal agencies. Disposal will occur at an appropriate regulated waste disposal facility. Uncontaminated soils generated during the above operations will be disposed of on site. Uncontaminated drilling and sampling fluids used during the above operations will be discharged to the Site or used for dust control, as appropriate.

D QUALITY ASSURANCE AND QUALITY CONTROL

1. OBJECTIVE

The objective of quality assurance and quality control is to provide environmental sampling and analysis data of known and acceptable quality. To meet this objective, field and laboratory quality control procedures will be implemented. These quality assurance and quality control guidelines have been prepared to define standard operating procedures that will allow, to the extent practical, the following objectives to be achieved:

- to assess whether chemical analysis of samples occurs in accordance with professional opinion of acceptable quality;
- to assess the accuracy and precision of the chemical analysis results, and;
- to assure that the samples collected are representative of the site conditions under study.

2. FIELD QUALITY ASSURANCE PROGRAM

The following sections contains procedures for collecting field samples and decontaminating equipment.

2.1 CALIBRATION AND MAINTENANCE

The procedures described in this section pertain to the calibration and maintenance of field equipment and instrumentation used during the investigation. The instruments are used for general qualitative survey tasks. The instruments will be calibrated according to the manufacturer's instructions and schedule. Any meters that cannot be calibrated will be returned for service and replaced with a properly functioning meter.

- OVA-FID instruments and Sensidyne or Gastech hydrocarbon detector calibration: calibrated monthly according to manufacturers instructions using factory supplied gas standards.

All equipment will receive routine preventive maintenance checks to minimize equipment breakdowns in the field.

2.2 FIELD QUALITY CONTROL CHECKS

Various types of field blanks verify that the sample collection and handling process have not effected the quality of the samples. Field blanks are used to determine the accuracy of the chemical analysis. An equipment blank is collected for each group of ten (lot) water samples collected in the field. The equipment blank is used for non dedicated equipment. The equipment blank is to be analyzed for all the required monitoring parameters. No equipment blank is collected for soil samples.

3. LABORATORY QUALITY ASSURANCE PROGRAM

All samples collected during this project will be analyzed by a California Department of Toxic Substances Control certified laboratory for the selected parameters in accordance with standard US Environmental Protection Agency approved methods. All laboratory QA/QC information will be made available in a QA/QC Summary Report prepared by the laboratory. Laboratory quality control measures will include those required by the DTSC under their Hazardous Waste Laboratory Certification Program.

The laboratory quality control and quality assurance program will provide for standards, laboratory blanks, duplicates, and spiked samples for calibration and identification of potential matrix interference's according to current EPA protocols. The extraction of volatile chemicals for analysis will strictly follow EPA guidelines for minimum time limits.

4. DATA VALIDATION AND REPORTING

Data collected and used in project reports will be appropriately identified and will be included in a separate appendix in the final report. The certified analytical reports from the reporting laboratory along with chain of custody forms will be in the appendix. All data will be reviewed and apparent abnormalities (e.g., unexpected order of magnitude difference among samples or instrument readings) will be investigated by reviewing procedures, field instrument procedures and calibrations, and laboratory QC results.

5. EVALUATION OF THE QUALITY OF DATA

All data reported is to be complete and fully documented. Laboratory detection limits are to meet California Department of Toxic Substances Control standards for minimum verification detection limits. Data that is much different from most other values in a data set will be considered an outlier. An outlier will be investigated and corrected if determined to be due to:

- inconsistent sampling or analytical chemistry methodology
- errors in the transcription of data values
- a catastrophic unnatural occurrence such as a spill

Documentation and validation of the cause of an outlier will accompany any attempt to correct or delete data values. Simple statistical methods will be used to evaluate data sets when sufficient sampling intervals are available.

To document that the data collected during the investigation are representative of conditions at the Site, the chemical data will be assessed in terms of accuracy and precision using both the analytical laboratory and field collection programs. A combination of qualitative and quantitative assessments will be used to check the quality of the chemical data. Complex statistical data verification and significance evaluations will not be performed. Analysis of internal laboratory QC samples will be used to evaluate the analytical procedures used by the laboratory. Analysis of field QC samples will be used to evaluate both the field handling and sampling procedures, and laboratory analytical procedures.

E LABORATORY CERTIFICATION

All soil and water samples will be analyzed by a California Department of Toxic Substances Control certified laboratory. The laboratory will have the appropriate certification for each analysis performed from the appropriate administrations listed below:

1. Hazardous Materials Laboratory Certification Program:
   California Department of Toxic Substances Control, Hazardous Materials Laboratory
   2151 Berkeley Way, Room 234, Berkeley, CA 94704, (510) 540-3003

2. Drinking Water Laboratory Certification:
   California Department of Toxic Substances Control, Sanitation and Radiation Laboratory
   2151 Berkeley Way, Room 465, Berkeley, CA 94704, (510) 540-2201

F. SITE SPECIFIC SAFETY PLAN

This Site Specific Safety Plan (SSP) has been prepared and accompanies this work plan. The SSP describes the health and safety procedures for the activities planned in performing all site investigation and potential remediation at the Site on 1101 28th Street in Oakland, California. The SSP is intended to apply to all future amendments to the scope of work.

1. INTRODUCTION

The following describes the health and safety procedures for the activities planned in performing all site investigation and remediation field activities at the Site. This safety plan is intended to apply to all future amendments to the scope of work. All personnel and subcontractors will follow this plan. Each company has the prime responsibility for it's own employee safety. It is expressly intended that all project work will comply with applicable sections of the California Occupational Health and Safety Code. All parties working on this project will maintain a general responsibility to identify and correct any health and safety hazards. All parties are responsible for working in a legally safe manner.

In the vicinity of the former underground storage tank, an area of **gasoline contamination** may be expected. Safety is the most important consideration during the performance of the work. The excavation will be back

filled with soil as soon as possible following sampling.

1.1 PROJECT DESCRIPTION

The project potentially involves the excavation and sampling of fuel contaminated soil and the handling and remediation of contaminated ground water. The work to be done will include all or part of the following tasks: excavation and handling of contaminated soil and the sampling of contaminated soil.

1.2 KEY PERSONNEL

The project personnel who will have complete responsibility for the safe operation of this project are:

Project Manager:	Tom Edwards	(510) 724-2604
Safety Officer:	Gene Failing	(408) 246-4217

1.3 SAFETY OFFICER RESPONSIBILITIES

The responsibilities of the Project Managers and Safety Officers are as follows:

To conduct initial site safety training for field team members as described in this document
To assure all field team personnel have read and understand the Health and Safety Plan
To assure all work done by field personnel is conducted according to safe practices outlined in this plan
To coordinate with safety personnel fire-watch, traffic control and site security
To monitor activities to assure the proper use of personal protective equipment such as hard hats, protective eye wear, gloves, coveralls, respirators, etc.
To monitor ambient hydrocarbon vapors
To make certain personnel safety equipment is in a usable condition
To shut down or modify field work activity based on criteria presented in this document.
Safety training is to be provided to the field team specific to this project. It may be used as a future reference for the field team concerning health and safety matters

1.4 SUBCONTRACTOR RESPONSIBILITIES

The responsibilities of the subcontractor with respect to safety are:

To read, understand and accept this Health and Safety Plan
To assure all members of the subcontractor crew attend the safety training program required by OSHA and EPA regulations, that the workers understand and read the English language and therefore understand the safety requirements in this safety plan
To make certain equipment and other machines are properly inspected and maintained and are complying with applicable sections of the California Health and Safety Code
To supply and maintain safety related protective equipment such as hard hats, safety boots, protective coveralls, gloves, safety eye wear, respirators, etc
To assure each employee working reads and complies with this Health and Safety Plan
To enforce corrective action under the direction of the Site Safety Officer
To enforce all shoring, trenching, confined space, and excavation regulations according to OSHA guidelines. All subcontractors agree to accept sole responsibility for complying with these regulations.

To post all applicable EPA, OSHA, and proposition 65 signs and labels.

Each subcontractor is responsible for the health and safety of its associated employees. Each subcontractor is obligated to comply with all applicable statutory safety and health requirements. Each subcontractor shall provide written incident / accident reports within 24 hours of occurrence. Each subcontractor shall identify one of its qualified employees as the Site Health and Safety Officer for its employer and operations.

1.5 FIELD TEAM MEMBER RESPONSIBILITIES

The responsibilities of the field team members are:

Read, understand and follow this plan
Do all work safety
Cooperate with safety personnel
Report any unsafe conditions to the immediate supervisor
Be aware and alert for signs and symptoms of potential exposure to site contaminants and heat stress

1.6 POTENTIAL HAZARD

As air, water, soil and chemical substance monitoring data become available for all site work, the information will be evaluated by the Safety Officer. Appropriate action as Health and Safety modifications will be initiated by the Safety Officer if necessary.

The anticipated activities of this project include:

Excavation, removal and disposal of a subsurface soil
Collection of soil and water samples
Monitoring of ambient hydrocarbon concentrations during project activities

The general types of hazards associated with this project include, but are not limited to the following:

Mechanical hazards: swinging objects, machinery, normal construction hazards, drill rigs, etc.
Electrical hazards: buried cables, overhead power lines, lightning bolts, electrical equipment, etc.
Chemical hazards: gasoline and its constituents
Fire hazards: natural gas and product lines, flammable petroleum hydrocarbons, and motor driven equipment
Thermal hazards: heat stress, heat stroke, minor burns
Acoustical hazards: excessive noise created by machinery, hammers, compressors, drill rigs, coring machines, etc.

Job hazard analyses associated with each major work activity are presented in the following sections.

2. HAZARD EVALUATION

2.1 SOIL EXCAVATION AND HANDLING

Excavating and handling petroleum contaminated soil will potentially expose field personnel to the following hazards:

- Chemical hazards: Exposure to various chemical substances, including but not limited to, petroleum hydrocarbon liquids and vapors, and liquid and solid chemically contaminated soil and construction equipment and material.
- Physical hazards: operating machinery; falling objects; and exposure to outside temperature extremes; working around excavators, backhoe, loaders, and dump trucks; tripping hazards; open trenches and excavations, confined space entry, shoring construction
- Fire, Electrical and Noise Hazards: underground gas and product lines, and excessive machinery noise from excavators, backhoe, loaders and dump trucks.

Excavation activities will be conducted by experienced personnel who specialize in the removal and excavation of underground tanks and contaminated soils. The personnel are responsible for the adequate training, equipment and enforcement of OSHA and EPA regulations concerning confined space entry, trenching and excavation, and shoring installation. Of special concern is the entry of non shored excavations that conform to OSHA confined space entry regulations. All personnel will pay special attention to these regulations and take appropriate action to implement them.

2.2 SOLID AND LIQUID MATERIALS SAMPLING

The sampling of soil and liquid exposes personnel to the same potential health hazards as listed above in soil excavation, the drilling of soil borings, and monitoring well installation. Soil samples are collected in all of both of these activities. Soil will be collected for analyses in a backhoe bucket or hand auger above ground. Ground water samples will be collected from excavations. Some samples may contain high levels of fuel or gasoline creating the potential for chemical exposure through inhalation and skin contact. Sample collecting may pose the greatest risks of chemical exposure for site workers. Sampling operations on a drill rig use a large hammer that may generate excessive noise.

2.3 PACKAGING AND SHIPMENT OF SAMPLES

The potential for overexposure to hazardous fuel or gasoline constituents still exists during the shipment of samples to the lab. After the samples have been collected in brass tubes or appropriate sample bottles, the containers will be properly packaged to protect shipping and laboratory personnel from exposure. The hazards associated with shipping samples are small provided the containers do not leak or break.

3. HAZARD CRITERIA

3.1 HYDROCARBON VAPORS

Hydrocarbon vapors expected to be encountered consist of mostly gasoline vapors. Very small amounts of gasoline vapor are expected to be encountered. Exposure to elevated levels of hydrocarbon vapors presents potential health risks that need to be properly controlled. Work practices and methods will be started to limit exposures. When elevated exposures persist, respiratory protection will be the primary control method to protect personnel from inhalation of hydrocarbon vapors.

Petroleum fuel has hundreds of chemical compounds. There are certain compounds (for example benzene) that present significant hazards and must be properly controlled. To do so, a working limit of 30 ppm total hydrocarbon vapor is the maximum acceptable level of exposure without respiratory protection. In a typical situation with <1% of the hydrocarbon vapors being benzene, a 30 ppm concentration of total hydrocarbon vapor will result in a breathing zone of less than 1 ppm benzene vapor. This level is one tenth of the current occupational Permissible Exposure Limit (PEL) for an 8 hour exposure to benzene.

A hydrocarbon vapor analyzer will be used to measure real time breathing zone concentration for comparison with the 30 ppm hydrocarbon vapor working limit. When a persistent vapor level of 30 ppm occurs, appropriate respirators will be donned and other vapor measurements will be made. If hydrocarbon vapors exceed 30 ppm as measured on the field instrument, work will be stopped. The field crew will be instructed to stay up wind. Methods will be applied to subdue fugitive vapor emissions such as sprinkling soil with water, or the use of a blower. The site Safety Officer will make such determinations.

Dust control during soil disturbance activities such as earth moving, soil drilling and sampling is required. Soil during disturbance must be wetted as practical to prevent generation of any dust. Failure to prevent generation of dust may require the usage of respirators.

3.2 HEAT STRESS AND NOISE

A hazard exists when individuals work in warm temperatures, particularly while wearing impervious protective clothing. When the ambient air temperature exceeds 65 degrees, heat stress may become a problem. If these conditions are encountered during day-to-day field work, the on-site supervisor will be alert for the signs and symptoms of heat stress.

Field workers will be observed for the following signs and symptoms of heat stress.

profuse sweating, or complete lack of sweating,
skin color change,
increased heart rate,
body temperatures more than 100 degrees as measured by thermometers, and
vision problems.

Any team member who exhibits any of these signs or symptoms will be removed immediately from field work. The team member will consume electrolyte fluid or cool water while resting in a shaded area. The individual will be instructed to rest until the symptoms are no longer recognizable. If the symptoms appear critical, persist or get worse, immediate medical attention will be sought. When working around mechanical equipment the potential exists for exposure to excessive noise. To deal with the health hazards of excessive noise, ear plugs or ear protection will be provided.

4. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

This section specifies personal protective equipment required for the various tasks of this project. The level of protection required is described as Level D (modified). Level D personal protective equipment will be used when hazard evaluation indicates that activities will be conducted in areas with low potential for contact with contaminants. Level C (modified) protection includes Level D protection and also respiratory protection. Level C is not anticipated on this Site.

4.1 SOIL EXCAVATION AND HANDLING

Respiratory Protection: all field personnel will be required to have available an air purifying respirator with organic vapor cartridges. The respirators will be required based on criteria listed herein.

Protective Clothing: all field personnel who handle contaminated soil or liquid will wear impervious coveralls and butyl rubber gloves. Impervious coveralls will not be required if soil or water is not visibly contaminated, or if vapor measurements are below 500 ppm.

Head Protection: Field personnel will wear non-metallic safety helmets always within the work zone.

Foot Protection: Field personnel will wear neoprene rubber boots with steel toes. Under non-liquid

exposure conditions, leather boots with steel toes and shanks are permissible.

Ear Protection: Field personnel, based on noise levels, may be required to wear earplugs during soil excavation and drilling.

Eye Protection: Field personnel will wear chemical-resistant safety glasses with attached side shield where splashes of potentially hazardous liquid or particles are likely.

4.2 SOIL AND LIQUID SAMPLE COLLECTION

Personnel who are likely to be exposed to contaminated soil or water samples will be required to wear the same personal protective equipment as outlined herein.

4.3 PACKAGING AND SHIPMENT OF SAMPLES

Eye Protection: Personnel will wear chemical resistant safety glasses with attached side shield while packaging samples.

Hand Protection: butyl rubber or nitrile gloves will be worn while packaging the samples.

Packaging and Shipping Requirements: all samples that are to be shipped for analysis must comply with Department of Transportation (DOT) regulations, as follows:

Package the primary container to protect it from breaking,
tape all lids with hydrocarbon resistant tape,
wrap the primary container with absorbent brown paper (wadding), and
place the primary container in a plastic sealable bag.

5. SITE CONTROL AND WORK ZONES

Controlled access areas or "work zones" will be established on the Site at locations where contaminants are present or the potential exists for contaminants to be present at levels requiring personal protective equipment of Level D (modified) or greater. General site security will be maintained within the controlled access areas.

During all phases of the project work a work zone around the immediate vicinity of the project will be established and taped off if necessary to prevent entry. Only authorized personnel will be permitted to enter the work zone. Authorized personnel will include those who have duties requiring their presence in the work zone and have read this site safety plan. Work zones will be created to aid in the decontamination of equipment and personnel. The following describes the zones to be established at the discretion of the site safety officer:

- **Exclusion Zone**: A 5 foot zone surrounding the work area will be defined before work starts. The area inside the zone is the "Exclusion Zone". The exclusion zone constitutes the area where potentially hazardous airborne contaminants and physical hazards to the workers exist. Full personal protection must be available to all personnel in this area. The size of the Exclusion Zone may be changed to fit site conditions and to ensure contaminant containment.

- **Support Zone**: A Support Zone, the outermost zone, must be defined for each field activity. Support equipment is in this uncontaminated or clean area. Normal work clothes are appropriate within this zone. The location of this zone depends on factors such as accessibility, wind direction (it should be up wind of excavation), and resources (e.g., roads, utilities, shelter).

6. *DECONTAMINATION PROCEDURES*

Petroleum hydrocarbon liquids and vapors may occur within the work zones. Due to the nonvolatile nature of the gasoline that may be encountered, decontamination of equipment and vehicles will be importance. Formal decontamination procedure will be followed including general cleaning of oil from all equipment, tools, and street and sidewalk surfaces. No eating, drinking or smoking will be permitted in the exclusion zone. All personnel involved in work activities will be instructed to wash their hands, face, neck and forearms after the work day. Soap, water and towels will be provided at the Site for this purpose. The field personnel will be instructed to shower at home after each work day.

In the event extreme contamination is encountered, decontamination of personnel, equipment and vehicles will be important to insure that contamination does not spread to unsuspecting people and property. Personal decontamination mainly involves personal hygiene. Contamination should not be present on the skin if the proper protective methods specified in this plan are used. However all field personnel will be instructed to follow these guidelines to ensure that contamination does not remain on equipment, sample containers or in contact with their bodies.

The field team should remove their personal protective clothing in the following sequence:

Step 1: Move out of the exclusion zone and into the decontamination zone. Do not remove personal protective equipment.

Step 2: Obtain decontamination solutions and decontaminate the spades, shovels and other equipment by brushing them under a water rinse. A high-pressure steam cleaner may be used for decontamination. All wastes and spent decontamination liquids will be properly contained.

Step 3: Remove outer gloves and coveralls and place them inside a garbage bag. Keep the air purifying respirator on.

Step 4: Move to the support zone and remove the respirator.

7. *MONITORING PROGRAM*

Personal exposure to ambient airborne hazards will be monitored to assure that personnel exposures do not exceed acceptable limits and the appropriate selection of protective equipment items. Airborne hydrocarbon vapor concentrations will be measured primarily by a hydrocarbon vapor meter. If concentrations approach criteria levels, all personnel will be notified of possible site safety changes. Audits will be conducted by the Safety Officer to insure compliance with the Safety Plan and to provide additional support as required.

7.1 AMBIENT VAPOR READING

A hydrocarbon vapor monitor will be used during sampling and excavation activities. This instrument will be used to measure both excavation and breathing zone concentrations of hydrocarbon vapors. The instrument will be calibrated before and after field measurements each day using known calibration gases. Readings will be taken in the area where the field team members are working and surrounding down-wind areas. Measurements will be taken every 10 minutes when hydrocarbon vapors show levels above **30 ppm**.

7.2 EXPLOSIVE VAPORS

In the event that explosive or flammable gases or vapors are detected the following criteria will apply:

<1% LEL Work proceeds with occasional monitoring.

1% to 5% LEL	Contact safety officer and work may proceed with continuous monitoring if the source and type of vapor is known.
5% to 9% LEL	Safety officer must be on location, work may proceed with caution and continuous monitoring.
10% or >10%	Stop work, then contact project manager and safety officer. Special controls will be implemented as necessary.

7.3 OXYGEN READINGS

Because the explosive and flammable gas indicator is often combined with an atmospheric oxygen meter the following criteria will be observed:

>22% Oxygen	Stop work. Area may be oxygen enriched leading to possible flash fire. Notify safety officer.
20.7% to 21%	Normal atmospheric content. Continue work.
19.5% to 20.0%	Proceed with caution. Atmosphere may be oxygen deficient or oxygen displacing gas may be present. Be prepared to stop work and evacuate.
<19.5% Oxygen	Stop work and evacuate area.

In the event that an atmosphere is discovered that is equal to or less than 19.5% oxygen, the area shall be evacuated immediately. For operations where entry into a confined space such as a tank is necessary, special permits and safety procedures must be followed. No entry of confined space is allowed in this site safety plan.

8. SAFETY AND HEALTH TRAINING

This section summarizes the content of the health and safety training to be provided to the field team. It may be used as a future reference for the field team concerning health and safety matters.

Each section of this safety plan provides information to ensure safety for all workers. It will be the responsibility of the Project Safety Officer to assure the field team has access to this plan, reads the safety procedures, and understands how to conduct work safely. It will be the individuals responsibility to bring to the attention of the Safety Officer any portion of this plan and related training they do not fully understand. Before beginning site work, the field team will discuss the contents of this plan. All members will be adequately informed in safe work practices.

All field team members will be instructed regarding potential health and safety hazards. Specifically, the following topics will be covered in the initial training session:

- Physical safety hazards, (e.g., muscular stress and strain, unguarded equipment, electrical shock, overhead hazards, etc.),
- Emergency procedures, (vapor controls, medical and fire emergencies, etc.),
- Explosive/flammability hazards,
- Hazardous materials that may be encountered and potential routes of exposures, (inhalation and skin contact with petroleum hydrocarbons),
- Physical hazards such as noise and heat stress,
- Hygienic practices, (washing up before lunch/coffee breaks, no eating drinking - smoking allowed in taped off areas, etc.), and

- Types, proper use, limitations, maintenance, inspection, and storage of protective clothing and equipment.

Personal protective equipment includes:

eye protection, gloves, coveralls, respirators, hard hats, and hearing protection

Special emphasis will be placed on the use and limitations of respiratory protection. Half-mask respirators equipped with air purifying organic vapor cartridges will be used. Half-mask respirators and eye goggles will be used if eye irritation or skin contact exposure potential exists. Each individual will be responsible for the limitations and maintenance of half-mask and full-face respirators including qualitative fit testing, routine inspection, replacement of parts, cleaning, disinfecting, and storage requirements. Written instructions and procedures concerning respirators and criteria for use will be provided for each field worker by the Site Safety Officer if needed.

9. MEDICAL MONITORING PROGRAM

Requirements for medical surveillance applicable to all companies and subcontractors are provided in OSHA 29 CFR Part 1910 and CAL OSHA Title 8. The work tasks in this work plan involve active physical work and potential exposure to petroleum hydrocarbons, heat stress, noise and physical safety hazards common to subsurface and construction operations. The work will require people of reasonable health with normal vision and hearing acuity. The companies involved with this project are responsible for assuring the health and fitness of their employees on this project. As a rule, each worker should have clearance from a physician dated by one year before start-up of the project. This documentation should show the employees' ability to do the required work while wearing an air purifying respirator.

Medical surveillance will be provided for employees who are or may be exposed to hazardous substances above permissible exposure limits and published exposure limits for 30 or more days a year or those who are injured in an emergency situation. Under these circumstances, employers must provide pre-employment physical and annual medical examinations.

10. EMERGENCY RESPONSE PLAN

Emergency procedures listed in this plan give the field team instruction on how to handle medical emergencies, fires and explosions. The emergency procedures will be carefully reviewed with the field team during the health and safety training session.

10.1 INJURIES

Medical problems occurring on site will be handled quickly. Emergency telephone numbers will be written down and posted in the passenger compartment of the field vehicles. The local emergency numbers are:

Police, Fire and Rescue Dial 911

The field team will be instructed to seek immediate professional medical attention for all serious injuries. A first aid kit will be present at the work site for use in minor injuries. If anyone receives a splash or particle in the eye, the field team will be instructed to irrigate the eye for 15 minutes. Instruction will be provided to wash any skin areas with soap and water if direct contact with contaminants has occurred.

10.2 FIRE AND EXPLOSION HAZARDS

Fires on site are of particular concern during soil excavation and removal activities due to the possibility of encountering flammable petroleum hydrocarbon liquid or vapors. During these activities the Site Safety Officer will be present and equipped with an explosive vapor monitor for area monitoring and a multi-purpose (A, B, C,) fire extinguisher.

The local fire department will be notified of the location and anticipated activities to minimize the fire risk to the surrounding neighborhood. In addition, any flammable material will be cleared away from the Site before the start of work. If a fire does occur, the local fire department will be contacted immediately.

10.3 OPERATION SHUTDOWN

Under extreme hazardous situations the on-site supervisor, Safety Officer, or Project Manager may temporarily suspend operations while controlling the hazard. If vapor measurements on the explosive vapor monitor show levels approaching explosive limits, operations will be stopped. During this activity, all personnel will be required to stand up wind to prevent exposure to fugitive vapor emissions. The Safety Officer will have ultimate authority for operations shutdown.

10.4 COMMUNITY PROTECTION

To assure the community protection from health and fire hazards, up wind and downwind monitoring with the hydrocarbon vapor monitor will be done if the general work area has hydrocarbon levels exceeding 30 ppmv. If down wind monitoring shows persistent levels above 30 ppmv at the perimeter of the work area, work will be shut down and vapor emission control efforts will begin until measurements show levels have dropped below 30 ppmv. An alternate approach of expanding the taped off area zone may be used to provide additional community protection.

10.5 RECORD KEEPING REQUIREMENT

The following record keeping requirements will be maintained in the program file indefinitely.

Copy of this Health and Safety Plan
Health and Safety Training Certification Form for Site Safety Officer
Any accident/illness report forms
Personal sampling results
Documentation of employees medical ability to do work and wear respirators

Pertinent documentation will be provided to workers and agencies as required by Federal and State safety laws.

10.6 ENVIRONMENTAL INCIDENT NOTIFICATION LIST

The following agency should be contacted as required during an environmental emergency:

AGENCY	PHONE NUMBER
Fire Department	911
Police	911
Ambulance	911
Sate Office of Emergency Services	800-852-7550

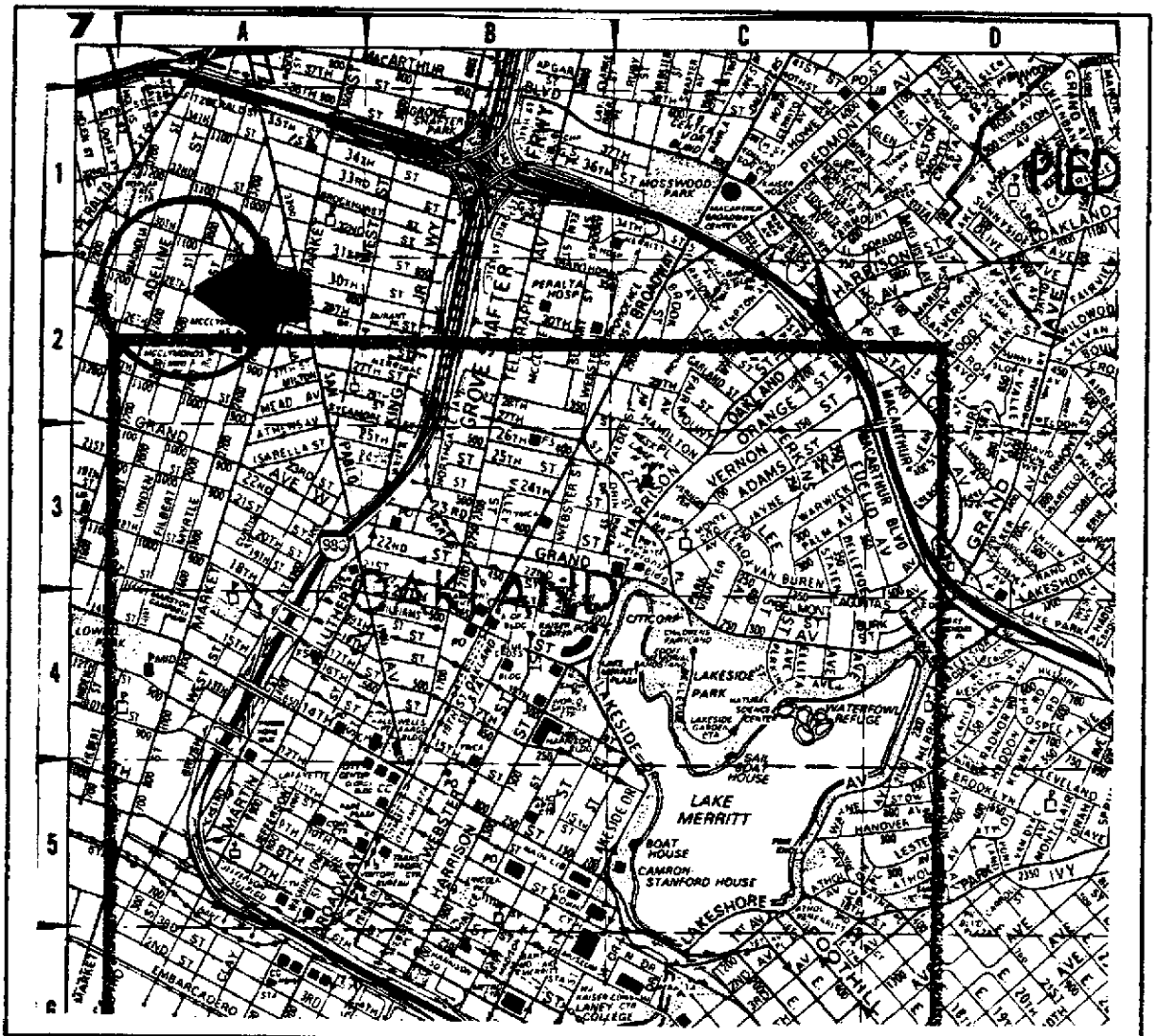
National Response Center	800-424-8802
Regional Water Quality Control Board	510-464-8802
Fish and Game,(day)	415-326-0324
Fish and Game,(night)	415-557-0220
Bay Area Air Quality Management	415-771-6000
Department of Health	415-363-4607
Coast Guard	415-437-3073
Environmental Protection Agency	415-974-8131

11. CONFINED SPACE ENTRY

No confined space entry is proposed during the course of work described in the work plan for this project. No underground tanks are present on the Site. All trenching and excavation will be performed under shored or sloped conditions complying with OSHA and EPA regulations in order to avoid confined space conditions. Experienced personnel knowledgeable in the field of underground tank removal and soil excavation will enforce all applicable regulations concerning confined space entry during all trenching and excavation work.

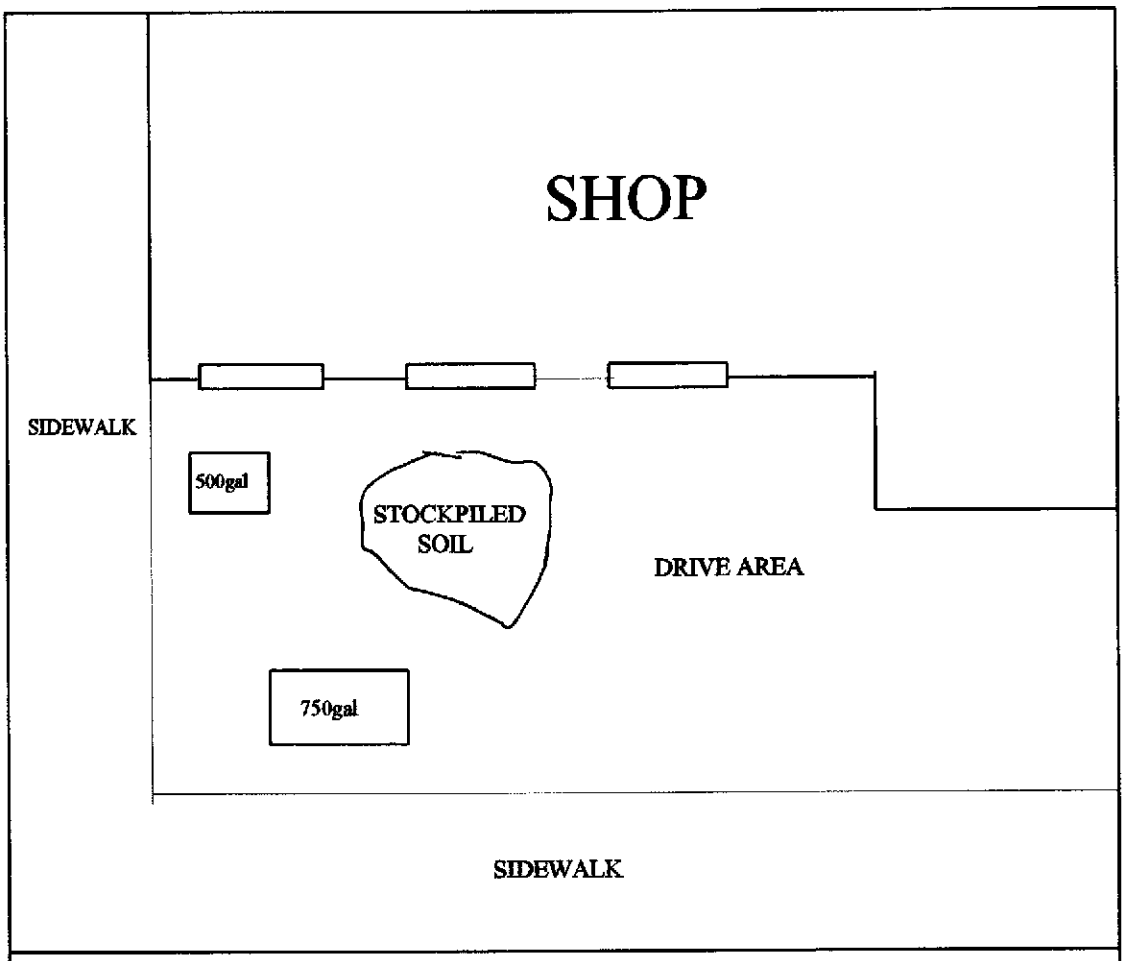
G LIMITATIONS

The procedures and opinions in this work plan agree with professional practice as provided in the guidelines of the California Regional Water Quality Control Board for addressing fuel leaks from underground tanks. This work plan is only part of the ongoing work required by the lead implementing agency at this Site. The lab test results rely on limited data collected at the sampling location only. Budget constraints restrict the amount of testing allowed. The lab test results do not apply to the general site as a whole. Therefore, TEA cannot have complete knowledge of the underlying conditions at the conclusion of the work specified in the work plan. Work plans and reports contain information provided to TEA by the client and government agencies. TEA does not warranty the accuracy of reported information. TEA provides the information in the resulting report to our client so a more informed decision about site conditions can be made. The professional opinion and judgment in the report is subject to revisions in light of new information. TEA does not state or imply any guarantees or warranties that the subject property is or is not free of environmental impairment.



Tom Edwards & Associates 2243 Del Monte Drive San Pablo, California	SITE VICINITY MAP 1101 28th Street Oakland, California

Proj. No. 110296	Not To Scale	Drawn By: TEE	Plate Number 1



Tom Edwards & Associates 2243 Del Monte Drive San Pablo, California	SITE PLAN 1101 28th Street Oakland, California

Proj. No. 110296	Not To Scale	Drawn By: TEE	Plate Number 2

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

DHS (LUFT) TPH-BTEX REPORT
(ug/kg)

Client:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Recieved:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 95008	Date Reported:	6-10-96
Project:	1-10296	Lab Job #:	960531A
Matrix:	Soil		

Client I.D.	Lab. I.D.	Benzene	Toluene	Ethyl Benzene	Total Xylenes	DF
SP-1,-2,-3,-4	960531A01-04	ND	ND	**390**	**1200**	1
TI-W	960531A05	**1500**	**8100**	**7100**	**35000**	1
TI-E	960531A06	**1500**	**4100**	**1800**	**9100**	1
T2	960531A07	**3500**	**510**	**1200**	**4100**	1
Units		ug/kg	ug/kg	ug/kg	ug/kg	
Reporting Limits		5ug/kg	5ug/kg	5ug/kg	5ug/kg	

ND Not Detected. All analytes recorded as ND were found to be at or below the Reporting Limit.

Reviewed By:

Lei Chen, Laboratory Director

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

DHS (LUFT) TPH-GASOLINE REPORT
(mg/kg)

Client:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Recieved:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 95008	Date Reported:	6-10-96
Project:	1-10296	Lab Job #:	960531A
Matrix:	Soil		

Client I.D.	Lab. I.D.	8015M GASOLINE	DF
SP-1,-2,-3,-4	960531A01-04	**50**	1
TI-W	960531A05	**530**	1
TI-E	960531A06	**120**	1
T2	960531A07	**350**	1
Units		mg/kg	
Reporting Limit		1.0 mg/kg	

ND Not Detected. All analytes recorded as ND were found to be at or below the Reporting Limit.

Reviewed By:

Lei Chen, Laboratory Director

EPA METHOD TEST QA/QC TABLE

GLOBAL PROJECT #: 960531A

Lab I.D.:	960601A-SP	Analytical Method:	EPA M8015
Client Project:	1-10296	Analysis date:	06-05-96
Ext/Prep. Method:	EPA 5030	Matrix:	Soil
Date:	06-05-96	Unit:	ug/kg

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery %	Matrix Spike Dul. Result	MSD Recovery %	Average Recovery %R	LCL %R	UCL %R	RPD %	UCL %RPD
Benzene	0.00	50.00	47.20	94	47.25	95	94	66	142	0	21
Toluene	0.00	50.00	48.08	96	48.38	97	96	59	139	1	21
Chlorobenzene	0.00	50.00	47.85	96	48.03	96	96	60	133	0	21
Gasoline	0.00	2500.00	2975.00	119	2892.50	116	117	60	133	3	30

Notes:
Sample Result-Concentration of Sample which is to used for Sample Spike & Sample Spike Duplicate
Spike Level- Level of Concentration Added to the Sample
MSP Result- Matrix Spike Result
MSP %R- Matrix Spike Percent Recovery
MSPD Result- Matrix Spike Duplicate Result
MSPD %R- Matrix Spike Dublicate Percent Recovery
AVG. %R - Average Recovery for MSP & MSPD % Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

DHS (LUFT) TPH-DIESEL REPORT
(mg/kg)

Client:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Recieved:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-4-96
	San Pablo, C 95008	Date Reported:	6-10-96
Project:	1-10296	Lab Job #:	960531A
Matrix:	Soil		

Client I.D.	Lab. I.D.	8015M Diesel	DF
SP-1,-2,-3,-4	960531A01-04	**90**	1
TI-W	960531A05	**870**	1
TI-E	960531A06	**320**	1
Units		mg/kg	
Reporting Limit		1.0 mg/kg	

ND Not Detected. All analytes recorded as ND were found to be at or below the Reporting Limit.

Reviewed By:

Lei Chen, Laboratory Director

EPA METHOD TEST QA/QC TABLE

GLOBAL PROJECT #: 960531A

Lab I.D.:	960531A-MSP	Analytical Method:	EPA M8015
Client Project:	1-10296	Analysis date:	06-04-96
Ext/Prep. Method:	EPA 3550	Matrix:	Soil
Date:	06-04-96	Unit:	mg/kg

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery %	Matrix Spike Dul. Result	MSD Recovery %	Average Recovery %R	LCL %R	UCL %R	RPD %	UCL %RPD
TPH-Diesel	0.00	100.00	97.20	97	98.20	98	98	60	133	1	30

Notes:
Sample Result-Concentration of Sample which is to used for Sample Spike & Sample Spike Duplicate
Spike Level- Level of Concentration Added to the Sample
MSP Result- Matrix Spike Result
MSP %R- Matrix Spike Percent Recovery
MSPD Result- Matrix Spike Duplicate Result
MSPD %R- Matrix Spike Dublicate Percent Recovery
AVG. %R - Average Recovery for MSP & MSPD % Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

GE Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 5520 REPORT
(mg/ kg)

Client:	Mr. Tom Edwards Tom Edwards Association 2243 Delmonte Dr. San Pablo, CA 94806	Date Sampled: Date Recieved: Date Analyzed: Date Reported:	5-30-96 5-31-96 6-6-96 6-10-96
Project:	1-10296	Lab Job #:	960531A
Matrix:	Soil	Analysis:	TOG

Client ID	Lab ID	Result	Reporting Limit	Spike % Recovery
SP-1, -2, -3, -4	960531A01, -02, -03, -04	**580**	1.0	80
TI-W	960531A05	**1800**	1.0	80
TI-E	960531A06	**1900**	1.0	80

ND = Not Detected at or below to Reporting Limit

Reviewed By:

Lei Chen, Laboratory Director

GE Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA METHOD TITLE 22 METALS REPORT
(mg/kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5,9-96
	San Pablo, CA 94806	Date Reported:	6-9-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID #:	960531A01-04
Client I.D.:	SP-1,-2,-3,-4		

Metal	Result	Reporting Limit	Blank Result	Blank Spike Result (%)
Antimony	ND	2.0	ND	98
Arsenic	ND	1.0	ND	80
Barium	**140**	1.0	ND	104
Beryllium	ND	0.5	ND	98
Cadmium	ND	0.5	ND	88
Chromium	**35**	1.0	ND	100
Cobalt	**8.7**	1.0	ND	99.5
Copper	**25**	1.0	ND	98
Lead	**10**	1.0	ND	96
Molybdenum	ND	1.0	ND	98
Nickel	**61**	1.0	ND	98
Selenium	ND	2.0	ND	110
Silver	ND	1.0	ND	96
Thallium	ND	2.0	ND	107
Vanadium	**27**	1.0	ND	98.7
Zinc	**100**	1.0	ND	88
Mercury	ND	0.05	ND	98

ND = Not Detected at or below to Reporting Limit

Reviewed By:

ELAP#: I -1080

Lei Chen, Laboratory Director

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA METHOD TITLE 22 METALS REPORT
(mg/kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: TI-W

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-5,9-96
Date Reported: 6-9-96
Lab. Project #: 960531A
Lab ID #: 960531A05

Metal		Result		Reporting Limit		Blank Result		Blank Spike Result (%)
Antimony		ND		2.0		ND		98
Arsenic		ND		1.0		ND		80
Barium		120		1.0		ND		104
Beryllium		ND		0.5		ND		98
Cadmium		ND		0.5		ND		88
Chromium		29		1.0		ND		100
Cobalt		7.1		1.0		ND		99.5
Copper		18		1.0		ND		98
Lead		4.1		1.0		ND		96
Molybdenum		ND		1.0		ND		98
Nickel		44		1.0		ND		98
Selenium		ND		2.0		ND		110
Silver		ND		1.0		ND		96
Thallium		ND		2.0		ND		107
Vanadium		24		1.0		ND		98.7
Zinc		110		1.0		ND		88
Mercury		ND		0.05		ND		85

ND = Not Detected at or below to Reporting Limit

Reviewed By:

Lei Chen, Laboratory Director

ELAP#: I -1080

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA METHOD TITLE 22 METALS REPORT
(mg/kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5,9-96
	San Pablo, CA 94806	Date Reported:	6-9-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID #:	960531A06
Client I.D.:	TI-E		

Metal	Result	Reporting Limit	Blank Result	Blank Spike Result (%)
Antimony	ND	2.0	ND	98
Arsenic	ND	1.0	ND	80
Barium	**120**	1.0	ND	104
Beryllium	ND	0.5	ND	98
Cadmium	ND	0.5	ND	88
Chromium	**33**	1.0	ND	100
Cobalt	**8.9**	1.0	ND	99.5
Copper	**20**	1.0	ND	98
Lead	**3.5**	1.0	ND	96
Molybdenum	ND	1.0	ND	98
Nickel	**43**	1.0	ND	98
Selenium	ND	2.0	ND	110
Silver	ND	1.0	ND	96
Thallium	ND	2.0	ND	107
Vanadium	**28**	1.0	ND	98.7
Zinc	**110**	1.0	ND	88
Mercury	ND	0.05	ND	85

ND = Not Detected at or below to Reporting Limit

Reviewed By:

ELAP#: I -1080

Lei Chen, Laboratory Director

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: SP-1, -2, -3, -4

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-5-96
Date Reported: 6-10-96
Lab. Project #: 960531A
Lab ID#: 960531A01,-02,-03,-04

COMPOUND		Result		Reporting Limit
acenaphthylene		ND		1.0
acenaphthene		ND		1.0
aniline		ND		1.0
anthracene		ND		1.0
azobenzene		ND		1.0
benzidine		ND		1.0
benzo (a) anthrancene		ND		1.0
benzo(a)pyrene		ND		1.0
benzo(b)fluoranthene		ND		2.0
benzo(g,h,i) perylene		ND		1.0
benzo(k) fluoranthene		ND		2.0
benzoic acid		ND		1.0
bis(2-chloroehthoxy) methane		ND		1.0
bis(2-chloroethyl) ether		ND		1.0
bis(2-chloroisopropyl) ether		ND		1.0
bis(2-ethylhexyl) phthalate		ND		1.0
4-bromophenyl phenyl ether		ND		1.0
butyl benzyl phthalate		ND		1.0
4-chloro-3-methylphenol		ND		1.0
4-chloroaniline		ND		1.0
1-chloronaphthalene		ND		1.0
2-chloronaphthalene		ND		1.0
2-chlorophenol		ND		1.0
chrysene		ND		1.0
di-n-butyl phthalate		ND		1.0
dibenzo(a,h)anthracene		ND		1.0
dibenzo(a,j)acridine		ND		1.0
dibenzofuran		ND		1.0

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: SP-1, -2, -3, -4

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-5-96
Date Reported: 6-10-96
Lab. Project #: 960531A
Lab ID#: 960531A01,-02,-03,-04

COMPOUND		Result		Reporting Limit
1,2-dichlorobenzene		ND		1.0
1,3-dichlorobenzene		ND		1.0
1,4-dichlorobenzene		ND		1.0
3,3-dichlorobenzidine		ND		1.0
2,4-dichlorophenol		ND		1.0
diethyl phthalate		ND		1.0
dimethyl phthalate		ND		1.0
2,4-dimethylphenol		ND		1.0
4,6-dinitro-2-methylphenol		ND		1.0
2,4-dinitrophenol		ND		1.0
2,4-dinitrotoluene		ND		1.0
2,6-dinitrotoluene		ND		1.0
fluoranthene		ND		1.0
fluorene		ND		1.0
hexachlorobenzene		ND		1.0
hexachlorobutadiene		ND		1.0
hexachlorocyclopentadiene		ND		1.0
hexachloroethyane		ND		1.0
indeno(1,2,3-cd)pyrene		ND		1.0
isophorone		ND		1.0
2-methyl phenol		ND		1.0
4-methyl phenol		ND		1.0
2-methyl pyridine		ND		1.0
3-methylcholanthrene		ND		1.0
2-methylnaphthalene		ND		1.0
n-nitroso-di-phenylamine		ND		1.0
n-nitrosodi-n-propylamine		ND		1.0
naphthalene		9.9		1.0
2-nitroaniline		ND		1.0
3-nitroaniline		ND		1.0

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: SP-1, -2, -3, -4

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-5-96
Date Reported: 6-10-96
Lab. Project #: 960531A
Lab ID#: 960531A01,-02,-03,-04

COMPOUND		Result		Reporting Limit
4-nitroaniline		ND		1.0
nitrobenzene		ND		1.0
2-nitrophenol		ND		1.0
4-nitrophenol		ND		1.0
pentachlorobenzene		ND		1.0
pentachlorophenol		ND		1.0
phenanthrene		ND		1.0
phenol		ND		2.0
pyrene		ND		1.0
1,2,4-trichlorobenzene		ND		1.0
2,4,5-trichlorophenol		ND		1.0
2,4,6-trichlorophenol		ND		1.0
SURROGATE COMPOUNDS		% Recovery		%Control Limits
Nitrobenzene-D5		67		35-114
2-Fluoro-Biphenyl		118		43-118
Terphenyl-D14		84		33-141
Phenol-D5		73		10-94
2-Fluoro phenol		67		21-100
2,4,6-Tribromo phenol		62		10-123

ND = Not Detected at or below to Reporting Limit

Reviewed By:

Lei Chen, Laboratory Director

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 94806	Date Reported:	6-10-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID#:	960531A05
Client I.D.:	TI-W		

COMPOUND		Result		Reporting Limit
acenaphthylene		ND		1.0
acenaphthene		ND		1.0
aniline		ND		1.0
anthracene		ND		1.0
azobenzene		ND		1.0
benzidine		ND		1.0
benzo (a) anthrancene		ND		1.0
benzo(a)pyrene		ND		1.0
benzo(b)fluoranthene		ND		2.0
benzo(g,h,i) perylene		ND		1.0
benzo(k) fluoranthene		ND		2.0
benzoic acid		ND		1.0
bis(2-chloroehthoxy) methane		ND		1.0
bis(2-chloroethyl) ether		ND		1.0
bis(2-chloroisopropyl) ether		ND		1.0
bis(2-ethylhexyl) phthalate		ND		1.0
4-bromophenyl phenyl ether		ND		1.0
butyl benzyl phthalate		ND		1.0
4-chloro-3-methylphenol		ND		1.0
4-chloroaniline		ND		1.0
1-chloronaphthalene		ND		1.0
2-chloronaphthalene		ND		1.0
2-chlorophenol		ND		1.0
chrysene		ND		1.0
di-n-butyl phthalate		ND		1.0
dibenzo(a,h)anthracene		ND		1.0
dibenzo(a,j)acridine		ND		1.0
dibenzofuran		ND		1.0

GE Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 94806	Date Reported:	6-10-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID#:	960531A05
Client I.D.:	TI-W		

COMPOUND		Result		Reporting Limit
1,2-dichlorobenzene		ND		1.0
1,3-dichlorobenzene		ND		1.0
1,4-dichlorobenzene		ND		1.0
3,3-dichlorobenzidine		ND		1.0
2,4-dichlorophenol		ND		1.0
diethyl phthalate		ND		1.0
dimethyl phthalate		ND		1.0
2,4-dimethylphenol		ND		1.0
4,6-dinitro-2-methylphenol		ND		1.0
2,4-dinitrophenol		ND		1.0
2,4-dinitrotoluene		ND		1.0
2,6-dinitrotoluene		ND		1.0
fluoranthene		ND		1.0
fluorene		ND		1.0
hexachlorobenzene		ND		1.0
hexachlorobutadiene		ND		1.0
hexachlorocyclopentadiene		ND		1.0
hexachloroethyane		ND		1.0
indeno(1,2,3-cd)pyrene		ND		1.0
isophorone		ND		1.0
2-methyl phenol		ND		1.0
4-methyl phenol		ND		1.0
2-methyl pyridine		ND		1.0
3-methylcholanthrene		ND		1.0
2-methylnaphthalene		**20**		1.0
n-nitroso-di-phenylamine		ND		1.0
n-nitrosodi-n-propylamine		ND		1.0
naphthalene		**21**		1.0
2-nitroaniline		ND		1.0
3-nitroaniline		ND		1.0

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 94806	Date Reported:	6-10-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID#:	960531A05
Client I.D.:	TI-W		

COMPOUND		Result		Reporting Limit
4-nitroaniline		ND		1.0
nitrobenzene		ND		1.0
2-nitrophenol		ND		1.0
4-nitrophenol		ND		1.0
pentachlorobenzene		ND		1.0
pentachlorophenol		ND		1.0
phenanthrene		ND		1.0
phenol		ND		2.0
pyrene		ND		1.0
1,2,4-trichlorobenzene		ND		1.0
2,4,5-trichlorophenol		ND		1.0
2,4,6-trichlorophenol		ND		1.0

SURROGATE COMPOUNDS		% Recovery		%Control Limits
Nitrobenzene-D5		61		35-114
2-Fluoro-Biphenyl		100		43-118
Terphenyl-D14		79		33-141
Phenol-D5		67		10-94
2-Fluoro phenol		64		21-100
2,4,6-Tribromo phenol		56		10-123

ND = Not Detected at or below to Reporting Limit

Reviewed By:

Lei Chen, Laboratory Director

GE Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 94806	Date Reported:	6-10-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID#:	960531A06
Client I.D.:	TI-E		

COMPOUND		Result		Reporting Limit
acenaphthylene		ND		1.0
acenaphthene		ND		1.0
aniline		ND		1.0
anthracene		ND		1.0
azobenzene		ND		1.0
benzidine		ND		1.0
benzo (a) anthrancene		ND		1.0
benzo(a)pyrene		ND		1.0
benzo(b)fluoranthene		ND		2.0
benzo(g,h,i) perylene		ND		1.0
benzo(k) fluoranthene		ND		2.0
benzoic acid		ND		1.0
bis(2-chloroehthoxy) methane		ND		1.0
bis(2-chloroethyl) ether		ND		1.0
bis(2-chloroisopropyl) ether		ND		1.0
bis(2-ethylhexyl) phthalate		3.4		1.0
4-bromophenyl phenyl ether		ND		1.0
butyl benzyl phthalate		ND		1.0
4-chloro-3-methylphenol		ND		1.0
4-chloroaniline		ND		1.0
1-chloronaphthalene		ND		1.0
2-chloronaphthalene		ND		1.0
2-chlorophenol		ND		1.0
chrysene		ND		1.0
di-n-butyl phthalate		ND		1.0
dibenzo(a,h)anthracene		ND		1.0
dibenzo(a,j)acridine		ND		1.0
dibenzofuran		ND		1.0

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 94806	Date Reported:	6-10-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID#:	960531A06
Client I.D.:	TI-E		

COMPOUND		Result		Reporting Limit
1,2-dichlorobenzene		ND		1.0
1,3-dichlorobenzene		ND		1.0
1,4-dichlorobenzene		ND		1.0
3,3-dichlorobenzidine		ND		1.0
2,4-dichlorophenol		ND		1.0
diethyl phthalate		ND		1.0
dimethyl phthalate		ND		1.0
2,4-dimethylphenol		ND		1.0
4,6-dinitro-2-methylphenol		ND		1.0
2,4-dinitrophenol		ND		1.0
2,4-dinitrotoluene		ND		1.0
2,6-dinitrotoluene		ND		1.0
fluoranthene		ND		1.0
fluorene		ND		1.0
hexachlorobenzene		ND		1.0
hexachlorobutadiene		ND		1.0
hexachlorocyclopentadiene		ND		1.0
hexachloroethyane		ND		1.0
indeno(1,2,3-cd)pyrene		ND		1.0
isophorone		ND		1.0
2-methyl phenol		ND		1.0
4-methyl phenol		ND		1.0
2-methyl pyridine		ND		1.0
3-methylcholanthrene		ND		1.0
2-methylnaphthalene		**29**		1.0
n-nitroso-di-phenylamine		ND		1.0
n-nitrosodi-n-propylamine		ND		1.0
naphthalene		**25**		1.0
2-nitroaniline		ND		1.0
3-nitroaniline		ND		1.0

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8270 REPORT
(mg/Kg)

Attn.:	Mr. Tom Edwards	Date Sampled:	5-30-96
	Tom Edwards Association	Date Received:	5-31-96
	2243 Delmonte Dr.	Date Analyzed:	6-5-96
	San Pablo, CA 94806	Date Reported:	6-10-96
Project:	1-10296	Lab. Project #:	960531A
Matrix:	Soil	Lab ID#:	960531A06
Client I.D.:	TI-E		

COMPOUND		Result		Reporting Limit
4-nitroaniline		ND		1.0
nitrobenzene		ND		1.0
2-nitrophenol		ND		1.0
4-nitrophenol		ND		1.0
pentachlorobenzene		ND		1.0
pentachlorophenol		ND		1.0
phenanthrene		2.0		1.0
phenol		ND		2.0
pyrene		ND		1.0
1,2,4-trichlorobenzene		ND		1.0
2,4,5-trichlorophenol		ND		1.0
2,4,6-trichlorophenol		ND		1.0

SURROGATE COMPOUNDS		% Recovery		%Control Limits
Nitrobenzene-D5		63		35-114
2-Fluoro-Biphenyl		98		43-118
Terphenyl-D14		82		33-141
Phenol-D5		68		10-94
2-Fluoro phenol		61		21-100
2,4,6-Tribromo phenol		63		10-123

ND = Not Detected at or below to Reporting Limit

Reviewed By:

Lei Chen, Laboratory Director

EPA METHOD TEST QA/QC TABLE

GLOBAL PROJECT #: 960531A

Lab I.D. Number:	960531A-MSP	Analytical Method:	EPA 8270
Client Project:	1-10296	Analysis date:	06-06-96
Ext/Prep. Method:	EPA 3550	Matrix:	Soil
Date:	06-05-96	Unit:	mg/kg

Analyte	Sample Result	Spike Level	MS Result	MS %R	MSD Result	MSD %R	AVE. %R	LCL %R	UCL %R	RPD %	UCL %RPD
Phenol	0	20	10.71	54	9.67	48	51	12	89	10	42
2-Chlorophenol	0	20	11.46	57	12.07	60	59	27	123	5	40
1,4-Dichlorobenzene	0	10	7.19	72	6.94	69	71	36	97	4	28
N-Nitroso-Di-n-Propylamine	0	10	6.22	62	5.74	57	60	41	116	8	38
1,2,4-Trichlorobenzene	0	10	9.33	93	9.9	99	96	39	98	6	28
4-Chloro-3-Methylphenol	0	20	14.97	75	14.75	74	74	23	97	1	42
Acenaphthene	0	10	6.59	66	6.32	63	65	46	118	4	31
4-Nitrophenol	0	20	13.24	66	12.17	61	64	10	80	8	50
2,4-dinitrotoluene	0	10	8.51	85	8.4	84	85	24	96	1	38
Pentachlorophenol	0	20	14.16	71	13.96	70	70	9	103	1	50
Pyrene	0	10	8.32	83	8.1	81	82	26	127	3	31

Notes:
Spike Level- Level of Concentration Added to the Sample
MS Result- Matrix Spike Result
MS %R- Matrix Spike Percent Recovery
MSD Result- Matrix Spike Duplicate Result
MSD %R- Matrix Spike Dublicate Percent Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

GE Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8010 REPORT
(ug/kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: SP-1, -2, -3, -4

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-3-96
Date Reported: 6-10-96
Lab. Project #: 960531A
Lab ID #: 960531A01, -02, -03, -04

Analyte		Result		Reporting Limit
Dichlorofluoromethane		ND		5.0
Chloromethane		ND		5.0
Bromomethane		ND		5.0
Vinyl chloride		ND		5.0
Chloroethane		ND		5.0
Trichlorofluoroethane		ND		5.0
1,1-Dichloroethene		ND		5.0
Methylene Chloride		ND		5.0
Trans-1,2-Dichloroethene		ND		5.0
1,1-Dichloroethane		ND		5.0
Cis-1,2-Dichloroethene		ND		5.0
Chloroform		ND		5.0
1,1,1-Trichloroethane		ND		5.0
Carbon Tetrachloride		ND		5.0
1,2-Dichloroethane		ND		5.0
Trichloroethene		ND		5.0
1,2-Dichloropropene		ND		5.0
Bromodichloromethane		ND		5.0
Trans-1,3-Dichloropropene		ND		5.0
Cis-1,3-Dichloropropene		ND		5.0
1,1,2-Trichloroethane		ND		5.0
Tetrachloroethene		ND		5.0
Dibromochloromethane		ND		5.0
Chlorobenzene		ND		5.0
Bromoform		ND		5.0
1,1,2,2-Tetrachloroethane		ND		5.0
1,3-Dichlorobenzene		ND		5.0
1,4-Dichlorobenzene		ND		5.0
1,2-Dichlorobenzene		ND		5.0

SURROGATE RECOVERY	% Recovery	% Control Limits
4-bromofluorobenzene	103	74-121

ND = Not Detected at Reporting Limit
Reviewed By: ELAP#: I-1080

Lei Chen, Laboratory Director

Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8010 REPORT
(ug/kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: TI-W

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-3-96
Date Reported: 6-10-96
Lab. Project #: 960531A
Lab ID #: 960531A05

Analyte		Result		Reporting Limit
Dichlorofluoromethane		ND		5.0
Chloromethane		ND		5.0
Bromomethane		ND		5.0
Vinyl chloride		ND		5.0
Chloroethane		ND		5.0
Trichlorofluoroethane		ND		5.0
1,1-Dichloroethene		ND		5.0
Methylene Chloride		ND		5.0
Trans-1,2-Dichloroethene		ND		5.0
1,1-Dichloroethane		ND		5.0
Cis-1,2-Dichloroethene		ND		5.0
Chloroform		ND		5.0
1,1,1-Trichloroethane		ND		5.0
Carbon Tetrachloride		ND		5.0
1,2-Dichloroethane		ND		5.0
Trichloroethene		ND		5.0
1,2-Dichloropropene		ND		5.0
Bromodichloromethane		ND		5.0
Trans-1,3-Dichloropropene		ND		5.0
Cis-1,3-Dichloropropene		ND		5.0
1,1,2-Trichloroethane		ND		5.0
Tetrachloroethene		ND		5.0
Dibromochloromethane		ND		5.0
Chlorobenzene		ND		5.0
Bromoform		ND		5.0
1,1,2,2-Tetrachloroethane		ND		5.0
1,3-Dichlorobenzene		ND		5.0
1,4-Dichlorobenzene		ND		5.0
1,2-Dichlorobenzene		ND		5.0

SURROGATE RECOVERY	% Recovery	% Control Limits
4-bromofluorobenzene	109	74-121

ND = Not Detected at Reporting Limit
Reviewed By: ELAP#: I-1080

Lei Chen, Laboratory Director

GE Global Environmental Laboratory, Inc.
4118 CLIPPER COURT, FREMONT, CA 94538 PHONE (510) 498-1991 FAX (510) 498-1994

EPA 8010 REPORT
(ug/kg)

Attn.: Mr. Tom Edwards
Tom Edwards Association
2243 Delmonte Dr.
San Pablo, CA 94806
Project: 1-10296
Matrix: Soil
Client I.D.: TI-E

Date Sampled: 5-30-96
Date Received: 5-31-96
Date Analyzed: 6-3-96
Date Reported: 6-10-96
Lab. Project #: 960531A
Lab ID #: 960531A06

Analyte		Result		Reporting Limit
Dichlorofluoromethane		ND		5.0
Chloromethane		ND		5.0
Bromomethane		ND		5.0
Vinyl chloride		ND		5.0
Chloroethane		ND		5.0
Trichlorofluoroethane		ND		5.0
1,1-Dichloroethene		ND		5.0
Methylene Chloride		ND		5.0
Trans-1,2-Dichloroethene		ND		5.0
1,1-Dichloroethane		ND		5.0
Cis-1,2-Dichloroethene		ND		5.0
Chloroform		ND		5.0
1,1,1-Trichloroethane		ND		5.0
Carbon Tetrachloride		ND		5.0
1,2-Dichloroethane		ND		5.0
Trichloroethene		ND		5.0
1,2-Dichloropropene		ND		5.0
Bromodichloromethane		ND		5.0
Trans-1,3-Dichloropropene		ND		5.0
Cis-1,3-Dichloropropene		ND		5.0
1,1,2-Trichloroethane		ND		5.0
Tetrachloroethene		ND		5.0
Dibromochloromethane		ND		5.0
Chlorobenzene		ND		5.0
Bromoform		ND		5.0
1,1,2,2-Tetrachloroethane		ND		5.0
1,3-Dichlorobenzene		ND		5.0
1,4-Dichlorobenzene		ND		5.0
1,2-Dichlorobenzene		ND		5.0

SURROGATE RECOVERY	% Recovery	% Control Limits
4-bromofluorobenzene	100	74-121

ND = Not Detected at Reporting Limit
Reviewed By:

ELAP#: I-1080

Lei Chen, Laboratory Director

8010 TEST QA/QC TABLE

GLOBAL PROJECT #: **960531A**

Lab I.D. Number: 960531A-MSP
Client Project: 1-10296
Ext/Prep. Method: EPA 5030
Date: 6-4-96

Analytical Method EPA 8010
Analysis date: 6-4-96
Matrix: Soil
Unit: ug/kg

Analyte	Sample Result	Spike Level	MSP Result	MSP %R	MSPD Result	MSPD %R	AVE. %R	LCL %R	UCL %R	RPD %	UCL %RPD
1,1-Dichloroethene	0	125	128.61	103	119.78	96	99	59	172	7	14
Trichloroethene	0	125	113.83	91	112.92	90	91	62	137	1	14
Chlorobenzene	0	125	118.78	95	120.21	96	96	60	133	1	13

Notes:
Sample Result-Concentration of Sample which is to used for Sample Spike & Sample Spike Duplicate
Spike Level- Level of Concentration Added to the Sample
MSP Result- Matrix Spike Result
MSP %R- Matrix Spike Percent Recovery
MSPD Result- Matrix Spike Duplicate Result
MSPD %R- Matrix Spike Dublicate Percent Recovery
AVG. %R - Average Recovery for MSP & MSPD % Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

ADDITIONAL REQUESTS:
Composite SP-1 thru SP-4

CHAIN OF CUSTODY RECORD
ANALYSIS REQUEST FORM
FOR
ENVIRONMENTAL SAMPLING

JOB #	JOB ADDRESS:	SAMPLER:
1-10296	1101 28th St. Oakland, CA	Tom Edwards

LABORATORY NAME: GLOBAL ENVIRON. LABORATORY 4118 Clipper Ct., Fremont, CA 94538

LAB ID NO.	SAMPLE NUMBER	SOIL	WATER	DATE	TIME	TVH-GAS BTEX	TEH-DIESEL	O & G	CAM 17	EPA 8240	EPA 8270	EPA 8010		
	SP-1	X		5/30/96	2:15	X	X	X	X		X	X		
	SP-2	X			2:19	X	X	X	X		X	X		
	SP-3	X			2:25	X	X	X	X		X	X		
	SP-4	X			2:32	X	X	X	X		X	X		
	T1-W	X			2:51	X	X	X	X		X	X		
	T1-E	X			2:53	X	X	X	X		X	X		
	T2	X			2:48	X								

Composite

Relinquished By: **Recieved By:**

(Print Name) Tim Edwards (Signature)	Date: 5/31/96 Time: 13:13	(Print Name) LEI CHEN (Signature)
(Print Name) (Signature)	Date: Time:	(Print Name) (Signature)
(Print Name) (Signature)	Date: Time:	(Print Name) (Signature)

LABORATORY NOTES: 5to7 DAYS TURNAROUND TIME FOR ANALYSIS RESULTS
PLEASE INCLUDE SAMPLE CONDITION REPORT WITH RESULTS

PLEASE FAX A COPY OF THE ANALYTICAL RESULTS TO THE FOLLOWING:

TOM EDWARDS & ASSOCIATES (510) 724-3157