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TRANSMITTAL SHEET

Date: 10/2/96

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Description: 1101 28th St. Oakland, CA. Workplan. Complete copy being sent via U.S. Mail.

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Tom

Number of pages (including cover page): 11

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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:

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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

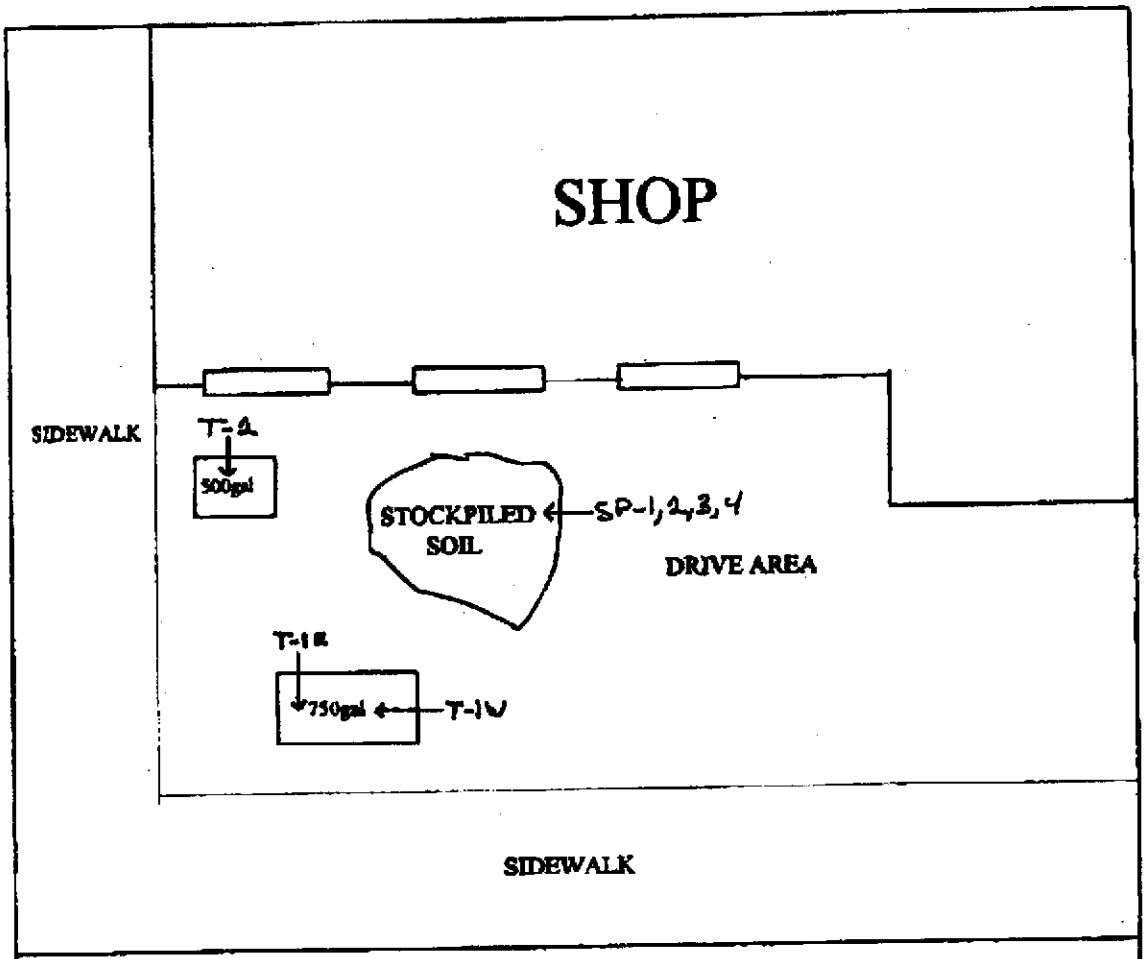
- When the samples arrive at the laboratory, the receiver will sign the chain of custody forms and enter a laboratory identification number onto the sample label and chain of custody form. The identification number will be used by the laboratory in its internal tracking system, thus the status of a particular 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

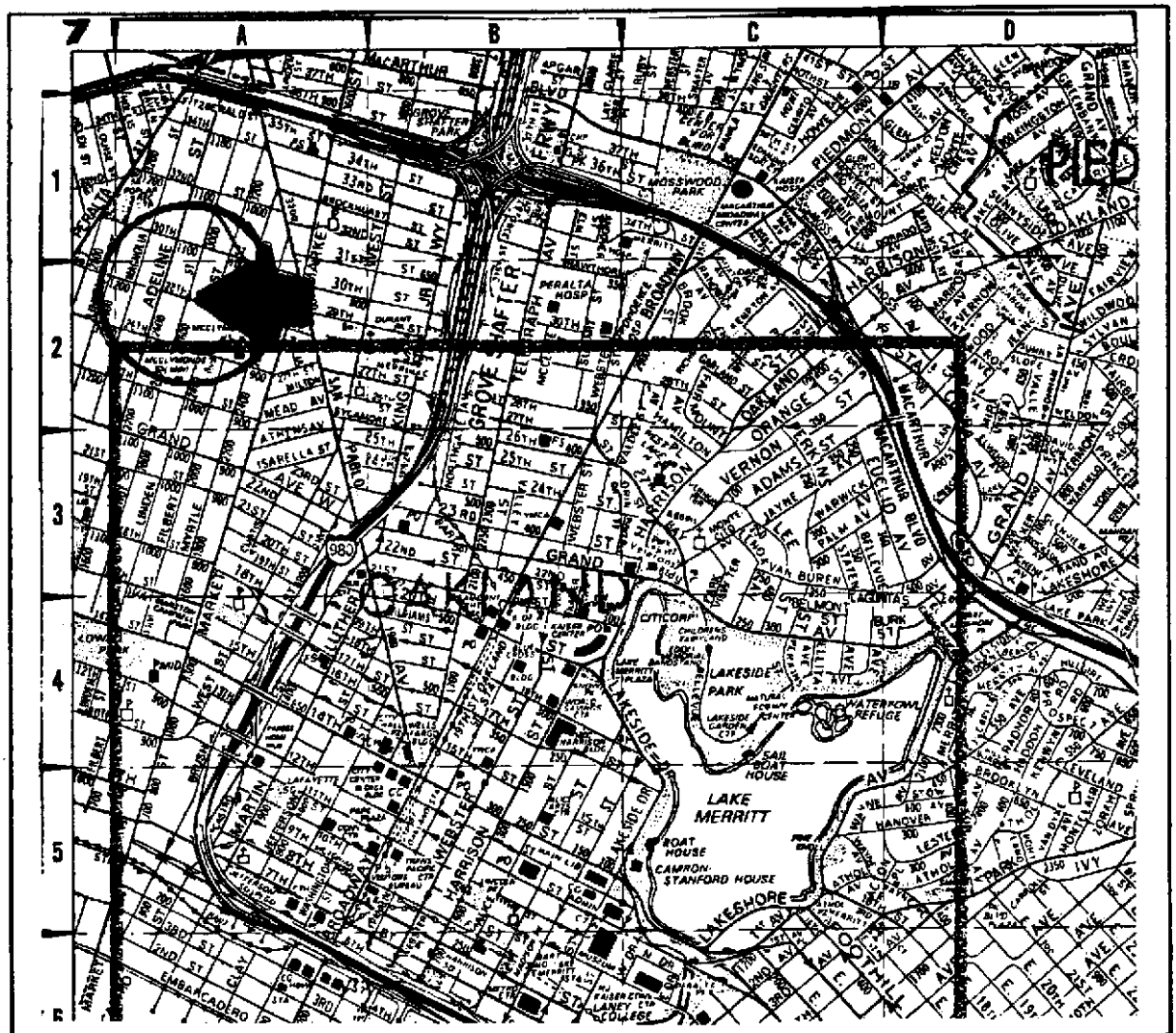
- All equipment that will come in contact with potentially contaminated soil or water will be decontaminated prior to and after each use. Decontamination will consist of high pressure hot water rinsing, or phosphate free detergent washing followed by deionized, reverse osmosis or distilled water rinse.

- 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



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



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**