ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction
596 Indian Home Road • Danville, CA 94526 • (510) 820-3224

November 1, 1992

1585

ENVIRONMENTAL REMEDIATION

EXCAVATION
&
DISPOSAL

WORKPLAN

AT
250 8th Street
Oakland, CA 94607

Prepared for:

Alice, Edward, & May Lim
250 8th Street
Oakland, CA 94607

Prepared by:

ALL ENVIRONMENTAL, INC.
596 Indian Home Road
Danville, CA 94526

FAX: (510) 838-2687

November 1, 1992

Alameda County Health Services Department
Attn: Jennifer Eberle
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Eberle:

As you requested, All Environmental, Inc. has prepared the enclosed report in response to the October 21, 1992 letter from you. All Environmental has been contracted by the owners of the property at 250 8th Street in Oakland to overexcavate and dispose of contaminated soil. A work plan describing the scope of work is outlined in the following pages.

The work plan describes activities to be performed as part of the remedial soil excavation at the site, including field methods and regulatory compliance. Based on the analytical results and the final report prepared by the tank removal contractor, we propose that limited excavation be performed to mitigate the presence of hydrocarbon contamination at the site.

This work plan is based upon the requirements found in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites" dated August 10, 1990.

All Environmental, Inc. is honored to be considered for this assignment and confident that our capabilities and experience will meet the needs of this project. This proposal includes permits, the preparation of a work plan, excavation, transportation and disposal of contaminated soils and a final report that includes recommendations for site closure.

Please review our proposal and if you have any questions, please do not hesitate to contact me at (510) 820-3224.

Sincerely yours,
ALL ENVIRONMENTAL, INC.

Craig Hertz

Craig H. Hertz
Vice President

cc: Lim Family

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WORK PLAN FOR SITE REMEDIATION
250 8th Street
Oakland, California

1.0 INTRODUCTION

This work plan describes activities to be performed to mitigate contaminated soil at the 250 8th Street property in Oakland, California (Figure 1). All Environmental Inc. (AEI) has prepared this work plan on behalf of Alice, Edward, & May Lim, in response to the Alameda County Health Services Department (ACHSD) October 21, 1992 letter to the Lim family requesting that site remediation be initiated. The proposed remedial activities include soil excavation, backfilling, profiling the excavated soil for appropriate disposal sites and the installation of one monitoring well.

need 3 mws.

2.0 BACKGROUND

The site background is detailed in the June 1, 1992 report entitled Project Report - Underground Storage Tank Removal and located in Appendix A. A summary of the past tank activities and regulatory oversight is presented below.

Prior to the tank removal, the site was used as a service station. Aqua Science Engineers was the contractor that removed the 10 underground storage tanks from the site in May of 1992. The tanks that were excavated and removed from the site were: (1) 10,000 gallon gasoline tank, (1) 5,000 gallon diesel tank, (3) 2,000 gallon gasoline tanks, (1) 2,000 gallon diesel tank, (3) 500 gallon gasoline tanks, and (1) 250 gallon waste oil tank. Soil sample analysis from the excavation of the 10,000 gallon gasoline tank yielded a maximum gasoline concentration of 110 ppm. The soil samples taken from beneath the (4) 2,000 gallon tanks showed gasoline concentrations up to 10,000 ppm. Two of the three samples taken from the beneath the (3) 500 gallon gasoline tanks yielded high concentrations of gasoline contamination (2,400 ppm & 2,700 ppm). Sample analysis showed detectable concentrations of Nickel and Zinc from the waste oil tank. It is our understanding that no soil overexcavation was performed during or after the time of tank removal.

3.0 PROPOSED REMEDIAL PLAN

The proposed remedial plan involves over-excavation of contaminated soil, transportation and disposal of contaminated soil, backfilling, and the installation of a monitoring well. Unaffected soil and imported backfill material will be used to backfill the excavation. Soil will be disposed of in the least costly manner available, that is acceptable to all regulatory agencies involved. The remedial plan is described in detail below.

3.1 SOIL EXCAVATION

The following sections describe the cleanup objectives, the required permits, the site specific Health & Safety Plan, and the excavation procedure for implementing the remedial plan.

what about benzene?

3.1.1 Excavation Objectives

The general objective of the excavation is to remove most of the affected soil with a concentration of TPH as gasoline greater than 100 mg/kg. Physical obstructions restrict complete excavation of possible affected soil. These obstructions could include public property (8th street or Alice street) and buildings located on site.

3.1.2 Permits

Several permits are required to conduct the activities associated with soil remediation at the site. AEI will secure permits from the appropriate agencies and will notify CAL-OSHA and the Bay Area Air Quality Management District within five days prior to the initiation of any field work.

An encroachment permit, already obtained for the tank removal process, will be extended for three more months. This permit allows further excavation along the sidewalk area.

If encountered, groundwater will be pumped from the excavation and temporarily stored on site for eventual discharge to the storm drain. Approval from the City of Oakland Sewer Department or the Regional Water Quality Control Board will be obtained by All Environmental for a one time discharge of pumped groundwater to the storm drain following chemical analysis.

3.1.3 Health & Safety

A Health & Safety plan will be prepared by All Environmental to safeguard against chemical and physical hazards associated with drilling, excavation, sampling, and any on site soil treatments. AEI personnel working on site will be required to read and adhere to the Health and Safety Plan. A site safety officer will be responsible for implementing the Health and Safety Plan and observing the crew during field activities. Ambient air will be monitored imtermittenly using a photoionization device (PID) while people are on the job site.

Safety meetings will be conducted every morning, on site, prior to the initiation of any field work.

3.1.4 Excavation Design

The maximum depth of the excavation is estimated to be approximately 21 feet below ground surface. Based on OSHA guidelines for cohesive material, the sidewall of the excavation along 8th Street will be braced by cantilever sheet piles. All other sidewalls of the excavation will be sloped at 3/4 to 1 (horizontal to vertical). Conventional earth moving equipment will be used to excavate and stockpile the soil. Excavated soil will be evaluated during the removal for staining and odor, and segregated. The excavated soil will be sampled for chemical analysis to confirm that soil designated for use as backfill material contains no detectable concentrations of hydrocarbon contamination. It is estimated that approximately 600 additional yards of soil will be excavated from the site.

Soil samples will be collected at approximately one sample per 20 lineal feet of the exposed excavation sidewalls and bottom. Each soil sample will be analyzed by a state certified laboratory for TPH-gasoline (EPA 5030/8015), TPH-diesel (EPA 3510/8015), BTEX (EPA 8020) and Lead (AA). Additional soil excavated from the waste oil pit will also be analyzed for Volatile Organics (EPA 624/8240), Base/Neutrals & Acids (EPA 625/8270), Oil & Grease (EPA 5520), and the LUFT Metals-5 (EPA 6010 & 7000).

really semi-volatiles (BNA 25 for water)

E+F soil
E+F water

3.2 EXCAVATION BACKFILL

After the affected soil has been removed, the excavation will be backfilled with compacted soil to existing grade. Imported fill will be used to replace the contaminated soil that was excavated. Imported or native soil containing detectable concentrations of gasoline will not be used as backfill material.

To enable compaction, the sheet piles will remain in the excavation until the backfill is within 5 feet of the surface. The sheet piles then will be removed, and backfilling to grade will be completed. The backfill material will be placed in uniform lifts, not to exceed 12 inches in uncompacted thickness, and compacted to a relative dry density of approximately 90 percent.

3.3 RESURFACING

The site will be resurfaced with asphalt to match existing conditions.

3.4 DISPOSAL OF CONTAMINATED SOIL

The soil will be profiled and transported to a Class III landfill for disposal. If the soil does not qualify for Class III disposal, then on site insitu treatments will be considered to reduce the concentration levels of contamination. Possible on site treatments will include Aeration, Bioremediation, Thermal treatments etc..

3.5 MONITORING WELL INSTALLATION - Need 3 mws!

One groundwater monitoring well will be installed on-site. Based on information from the Fire Station across Alice Street, groundwater is reported to be at 22 feet below the surface and the groundwater flow in the site vicinity is reported to be towards the south.

The monitoring well will be constructed using 2 inch diameter, flush threaded, schedule 40 polyvinyl chloride pipe. The well annulus will be backfilled with sand over the screened interval followed by a bentonite-cement seal to provide protection from surface water runoff. A locking cap and traffic rated cover will be placed over the monitoring well at the ground surface.

After allowing the well seal to set, the monitoring well will be developed to loosen debris, stabilize the sandpack, and remove sediment. Groundwater purged during development will be placed in 55-gallon drums and temporarily stored on site. Groundwater samples will be collected one week later to establish a baseline to evaluate the effectiveness of the soil removal.

4.0 ESTIMATED SCHEDULE

Activities associated with the proposed site remediation will begin following the Alameda County Health Services Department approval of the workplan.

Once excavation begins, it is estimated that excavation, soil sampling, chemical analysis, and backfilling will be completed within a period of 5 weeks.

Well installation, including permitting, developing, and sampling, should be completed within a period approximately 4 weeks following completion of backfilling activities.

The time schedule for performing on site treatment of soils will depend largely on the type of remediation determined.

5.0 FINAL REPORT

A final report of methods and findings, that summarizes the remediation work performed by All Environmental, will be prepared and delivered to the client and a copy will be delivered to the Alameda County Health Services Department.

This plan has the advantage that cleanup is performed at the same time that the extent of the contamination is determined. This approach will also minimize the cost of cleanup and restore the site in the least amount of time.

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HEALTH AND SAFETY PLAN

Prepared for:

LIM FAMILY JOBSITE
250 8TH STREET
OAKLAND, CA 94607

Prepared by:

ALL ENVIRONMENTAL, INC.
596 Indian Home Road
Danville, CA 94526

FAX: (510) 838-2687

A. INTRODUCTION

This Site Specific Health and Safety Plan is written for the remediation project located at the commercial property, owned by Alice, Edward, and May Lim. All job site personnel will follow CAL OSHA safe operating practices as outlined in 29 CFR 1910 and 1926, as well as established guidelines set forth by All Environmental, Inc. or their respective companies.

B. WORK DESCRIPTION

Prepared by: Craig Hertz (Vice President)

Site Manager: Craig Hertz

Start Date: November 16, 1992

Address: 250 8th Street
Oakland, CA 94607

Scope of Work: All Environmental, Inc. (AEI) will overexcavate and dispose of contaminated soil at the commercial property located at the above address.

C. SITE/WASTE CHARACTERISTICS

Hazard Level:	Serious:		Low: XXX	
	Moderate: XXX		Unknown:	
Waste Type:	Solid:	Contaminated Soil		
	Sludge:	None		
	Liquid:	Possible Ground Water		
	Gas:	None		

Hazard Characteristics: Combustible, Toxic

There will be a three feet boundary surrounding the excavation pit and the stockpiled material. The area within this boundary is considered an exclusion zone and only qualified personnel will be allowed to enter. All personnel arriving or departing the site should log in before entering the exclusion zone. All activities on site must be cleared through the Project Manager.

D. HAZARD EVALUATION

Potential chemical hazards include skin and eye contact or inhalation exposure to potentially toxic concentrations of hydrocarbon vapors. The potential toxic compounds that may exist at the site are listed below with descriptions of specific health effects of each. The list includes the primary potential toxic constituents that may be found in gasoline or diesel fuel.

1. Benzene
   a. Colorless to light yellow, flammable liquid with an aromatic odor.
   b. Exposure may irritate eyes, nose and respiratory system and may cause acute restlessness, convulsions, nausea, or depression
   c. Permissible exposure level (PEL) for a time weighted average (TWA) over an eight hour period is 1.0 ppm.

2. Toluene
   a. Colorless liquid with a sweet pungent, benzene like odor.
   b. Exposure may cause fatigue, weakness, confusion, euphoria, dizziness, headaches, dilated pupils, lacrimation, nervousness, insomnia, paresthesia, and dermatitis.
   c. Permissible exposure level for a time weighted average over an ten hour period is 100 ppm.

3. Xylene
   a. Colorless liquid with an aromatic odor.
   b. Exposure may irritate eyes nose and throat and may cause dizziness, excitement, drowsiness, incoordination, corneal vacuolization, anorexia, nausea, vomiting, and dermatitis.
   c. Permissible exposure level for a time weighted average over an ten hour period is 100 ppm.

4. Ethylbenzene
   a. Colorless liquid with an aromatic odor.
   b. Exposure may irritate eyes and mucous membrane and may cause headaches, dermatitis, narcosis and loss of consciousness.
   c. Permissible exposure level for a time weighted average over an ten hour period is 100 ppm.

5. Lead
   a. A heavy ductile soft grey metal.
   b. Exposure may cause weakness, nausea, lassitude, diarrhea, insomnia, anorexia, inflamed mucous membranes and abdominal pains. Lead is carcinogenic.
   c. Permissible exposure level for a time weighted average over an eight hour period is .05 ppb.

Craig Hertz has been designated to coordinate access control and security on site. All work will strictly follow OSHA guidelines. A safe perimeter has been established at a three feet radius surrounding the site. These boundaries are identified by a fence, yellow caution tape and orange safety cones. Personnel shall maintain the maximum distance from the pit while performing their duties. No one shall enter an excavation pit that is greater than five feet in depth and no one shall climb on the stockpiled material. Additional hazards on site include heavy equipment and

overhead lifting equipment. Heavy equipment used for performing the excavation project may include a backhoe, an excavator, or a crane for lifting the heavy objects out of the excavation. Only 40 hour trained personnel will operate equipment or perform any duty associated with this project. A hard hat and steel toed boots are mandatory for all personnel associated with the tank removal. The excavation will be properly sloped for stability, safety, and personnel entry in needed. The site will inspected on a daily basis for safety and potential cave-ins.

A FIRST AID KIT AND AT A 40 POUND BC FIRE EXTINGUISHER WILL BE AVAILABLE ON SITE.

EMERGENCY SERVICES ARE AVAILABLE BY DIALING **911** ON THE TELEPHONE LOCATED IN THE PROJECT MANAGER'S VEHICLE. THIS VEHICLE WILL BE ON SITE AT ALL TIMES.

E. PERSONAL PROTECTIVE CLOTHING

Based on evaluation of potential hazards, level 'D' protective clothing has been designated as the appropriate protection for this project. The level of protective clothing will be upgraded if the organic vapor levels in the operator's breathing zone exceeds 5 ppm above background levels continuously for more then five minutes. If this occurs then level C protection will be used. If the organic concentration in the operator's breathing zone exceed's 200 ppm for 5 minutes and/or the organic vapor concentration two feet above the excavation exceeds 2,000 ppm or 25% of the lower explosive limit, then the equipment will be shut down and the site evacuated. If organic vapor concentrations exceed 200 ppm and work continues then level A or B protection will be required.

"EPA Standard Operating Safety Guidelines" defines the levels of protective clothing as follows:

LEVEL A:
Fully encapsulating suit / SCRA / Hard hat / Steel toe boots / Safety gloves.

LEVEL B:
Splash resistant suit / SCBA / Hard Hat / Steel toe boots / Safety gloves.

LEVEL C:

Half face respirator / Hard hat / Safety glasses / Steel toe boots Coveralls / Gloves.

LEVEL D:
Coveralls / Hard hat / Safety Glasses / Steel toe boots / Gloves.

If air purifying respirators are authorized, Organic vapor/ w- filter is the appropriate canister for use with the involved substances and concentrations. A competent individual has determined that all criteria for using this type of respiratory protection have been met.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER.

F. MONITORING INSTRUMENTS

The following environmental monitoring instruments shall be used on site at specified intervals.

Lower Explosive Limit (LEL) Meter that will also check the excavation atmosphere for toxic levels will be used to check if the work area is safe.

G. EMERGENCY HOSPITAL

The closest hospital with an emergency room is:

HIGHLAND HOSPITAL **(510) 437-4555**

DIRECTIONS FROM THE JOB SITE:

EXIT JOBSITE AND GO:

SOUTH ON ALICE STREET

LEFT ON 7TH STREET

LEFT ON 14TH STREET

LEFT ON EAST 31ST STREET

LEFT INTO HIGHLAND HOSPITAL

H. READ AND SIGN

The work party was briefed on the contents of this plan on November 23, 1992 at 8:00 AM. All site personnel have read the above plan and are familiar with its provisions.

NAME:	SIGNATURE:	COMPANY NAME: