

WORK PLAN:
SOIL AERATION

LEWIS' BAY STREET AUTO
1127 LINCOLN AVENUE
ALAMEDA, CALIFORNIA

PREPARED FOR MR. LEO PAGANO
FEBRUARY 1, 1990

ENVIRONMENTAL BIO-SYSTEMS, INC.



**WORK PLAN FOR SITE INVESTIGATION
AND REMEDIATION AT
1127 LINCOLN AVENUE
ALAMEDA, CALIFORNIA**

INTRODUCTION

The following section contains the purpose and scope of this work plan, a brief site history, and a summary of previous investigations.

Purpose and Scope

This work plan presents the scope of services to be performed in the remediation of contaminated soils related to the underground storage tanks (UST's) formerly located at 1127 Lincoln Avenue, Alameda.

This plan has been prepared in accordance with Alameda County's guidelines for the preparation of site work plans.

Site History

The former underground storage tank site is located at 1127 Lincoln Avenue, Alameda, California. A site location map is included as Figure 1 (Appendix A) placing both soil storage and treatment areas. Currently no UST's are in use at the site.

Known uses of the site include the existence of a auto fueling & repair station from approximately 1930 to September, 1985. Prior to 1930 the site is thought to have been used as a auto repair station. Use of the underground fuel tanks was discontinued as of September, 1985. Use as a auto repair station has continued through the present.

Prior to September 18, 1986, 5 UST's were located at the site. The volumes and contents of the tanks were as follows: one 4,000 gallon tank containing gasoline, one 4,000 gallon tank containing gasoline, one 1,000 gallon tank containing gasoline, one 1,000 gallon tank containing gasoline, and one 500 gallon tank containing waste oil.

Based on a previous site investigation by Environmental Bio-Systems, Inc. (Appendix B), during which the tanks were removed and soil interface samples were analyzed, it appears that petroleum hydrocarbons are present in soils and possibly groundwater at the site. The possible sources of these constituents are the former tanks, product lines, and dispensers servicing the tanks. Petroleum hydrocarbons related to gasoline are the suspected contaminants from these potential sources. Several holes were noted on tanks removed from this location and were documented on the aforementioned EBS report.

Previous Investigations

The responsible party, Mr. Leo Pagano, retained the Zaccor Corporation to remove the UST's on September 18, 1989. Environmental Bio-Systems, Inc. was retained by Zaccor Corporation to perform sampling and preliminary assessment during this phase of the operation.

PROPOSED REMEDIAL WORK

Remedial actions currently warranted include the aeration of hydrocarbon contaminated soil which has been stockpiled since the the removal of the UST's, disposal at a class III landfill of all soil once it is treated to concentrations below 100 ppm TPH as gasoline, and remediation of contaminated material which has been left in place below the property to levels below 100 ppm. This document addresses only the aeration and disposal of soil now in storage above ground. Further remedial actions addressing both soil and water contamination at the site (if any) will be proposed following receipt of the results of the analyses put forth in this work plan.

Preliminary Measures

Prior to commencement of work, the appropriate state, local, and private entities will be contacted and all permission and permits necessary for the performance of work described in this plan will be applied for and obtained. A locating service will be contacted to map out all existing utilities on or near the proposed area of work at least 48 hours in advance of any underground activity.

Soil Storage

All soils stored on site, with the exception of the exempted amount being actively aerated, shall be covered with a plastic liner and weighted down to prevent both uncontrolled aeration and the intrusion of rainwater.

Soil Aeration

Approximately 200 cubic yards of soil are now being stored at the site. Composite soil analysis performed at the time of removal (Appendix B) revealed an average gasoline hydrocarbon concentration of 1000 parts per million (ppm).

Aeration of these soils will be undertaken in compliance with the Bay Area Air Quality Management District (BAAQMD) guidelines for the uncontrolled aeration of contaminated soils. Although the content and average contaminant concentration in the soil does not require the acquisition of a permit under the BAAQMD's Regulation 8, Rule 40, the lack of surface area available will require a treatment duration in excess of 12 weeks, thereby necessitating a permit for uncontrolled aeration as mandated in Regulation 2, Rule 1, Section 128.15.

As of February 1, 1989, the permit application was verbally approved by Mr. Barry Young of the BAAQMD and the written permit should be attained pending completion of the filing process.

According to the table outlined in the BAAQMD's Regulation 8, Rule 40, no more than 30 cubic yards of soil may be aerated per day at the demonstrated average contaminant concentration of 1000 ppm TPH as gasoline. In keeping within these limitations, a volume of up to approximately 30 cubic yards will be passively aerated at any one time as allowed by the strict space limitations present at the site.

The aeration will take place atop a hydrocarbon resistant liner of 6 mil thickness. The soil will be moved from the stockpile to the treatment area using a small garden type tractor. Aeration will be allowed to continue until organoleptic or OVA analysis estimates the probability of completion. When such condition has been met, a composite soil analysis will be performed consisting of four (4) brass sample tubes combined at the laboratory into one (1) soil sample per fifty (50) cubic yards of soil involved. The collected sample will be analyzed at a certified hazardous materials testing laboratory for TPH as gasoline and BTEX using EPA method 8015/8020, and both total and soluble lead using EPA method 6010/7000 and Waste Extraction Test as per CAC Title 22, Section 66700 (as mandated by the proposed accepting class III landfill).

Soil Disposal

Following confirmation of the reduction of TPH as gasoline in treated soils to an average concentration of less than 100 ppm, the soils from that treated batch will be considered to have been successfully treated. At such time, disposal of the soils will be arranged at an accepted class III landfill. All weight slips will be retained as proof of legal disposal and will be included in the final report as an appendix.

TIME SCHEDULE

Initiation of Aeration	12/90
Approximated BAAQMD Permit Acquisition	2/10/90
Anticipated soil treatment conclusion	5/01/90
Disposal of soil	As Analysis Confirms

Project Reportage

Environmental Bio-Systems, Inc., will prepare a report describing field and laboratory procedures, and laboratory results. Our interpretations of the site conditions and results of analyses will be provided. Documentation will include copies of the chain of custody forms and laboratory reports, tabulated data, and interpretative figures as needed. The information obtained during this work will remain confidential and will be released only with the authorization of the responsible party, Mr. Leo Pagano.

APPENDIX A
LOCATION MAP & DIAGRAMS

COMMERCIAL

PROPERTY LINE

LINCOLN AVENUE

Building

Stockpile

Carport over dispenser locations	BLDG.
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Aeration Area

PROPERTY LINE

RESIDENTIAL

COMMERCIAL

BAY STREET

COMMERCIAL

LEWIS' BAY STREET
AUTO SERVICE

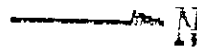
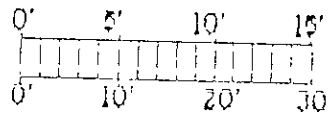


FIGURE 1

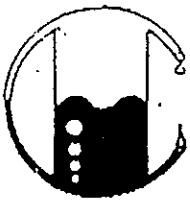
2/1/90

LEO PAGANO
LEWIS' BAY STREET AUTO
ALAMEDA, CA

7

APPENDIX B
PREVIOUS ANALYTICAL FINDINGS

ENVIRONMENTAL BIO-SYSTEMS, INC.



MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Environmental Bio-Systems
30028 Industrial Pkwy. S.W.
Hayward, CA 94544-8904
Attn: Timothy Babcock
Environmental Scientist

Date Sampled: 09-11-88
Date Received: 09-11-88
Date Reported: 09-18-88

Sample Number

089072

Sample Description

Job #003-068-254 - Alameda
1127 Lincoln Ave.
15 A-D SOIL

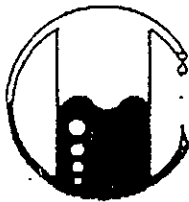
ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	780
Benzene	0.1	18
Toluene	0.1	64
Xylenes	0.1	120
Ethylbenzene	0.1	27

Note: Analysis was performed using EPA methods 5030 and TPH LUFT
with method 8020 used for BTX distinction.

MOBILE CHEM LABS

Ronald G. Evans
Lab Director



MOBILE CHEM LABS INC.

1678 Relliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Environmental Bio-Systems
30028 Industrial Pkwy. S.W.
Hayward, CA 94544-6904
Attn: Timothy Babcock
Environmental Scientist

Date Sampled: 09-11-89
Date Received: 09-11-89
Date Reported: 09-19-89

Sample Number

089073

Sample Description


Job #003-068-254 - Alameda
1127 Lincoln Ave.
16 A-D SOIL

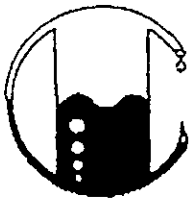
ANALYSIS

	PPM	PPM
Total Petroleum Hydrocarbons as Gasoline	1.0	1,400
Benzene	0.1	0.9
Toluene	0.1	44
Xylenes	0.1	220
Ethylbenzene	0.1	36

Note: Analysis was performed using EPA methods 5030 and TPH LUFT
with method 8020 used for BTX distinction.

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Environmental Bio-Systems
30028 Industrial Pkwy. S.W.
Hayward, CA 94544-6904
Attn: Timothy Babcock
Environmental Scientist

Date Sampled: 09-11-89
Date Received: 09-11-89
Date Reported: 09-19-89

Sample Number

099071

Sample Description

Job #003-086-254 - Alameda
1127 Lincoln Ave.
14 A-D SOIL

ANALYSIS

	<u>Detection Limit</u>	<u>Sample Results</u>
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	820
Benzene	0.1	6.1
Toluene	0.1	26
Xylenes	0.1	110
Ethylbenzene	0.1	31

Note: Analysis was performed using EPA methods 5030 and TPH LUFT
with method 8020 used for BTX distinction.

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

APPENDIX C
SAMPLING PROTOCOL

SAMPLING METHODOLOGY

Composite soil samples will be composed of four clean brass tubes (1.96" x 6"), marked A-D, collected at a frequency of one composite sample per 50 cubic yards of soil. The samples will be taken at random locations within a designated area after removing at least the first foot of soil. The brass tubes will be immediately driven into the exposed layer. Soil will be packed into the tubes to exclude the existence of headspace. Thus prepared, the ends of the tubes will be wrapped with aluminum foil and sealed with plastic caps. After removing excess foil, electrical tape will be applied to the seams between cap and tube in an effort to reduce the evaporative loss of volatile constituents.

Samples will be documented on a chain of custody and stored on ice for transportation to Anametrix, Inc., a certified hazardous waste analytical laboratory (HMTL # 151), for subsequent analysis.