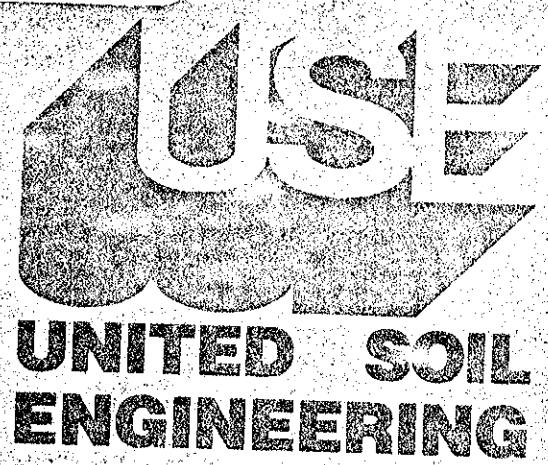


1990

57

CONTAMINATION INVESTIGATION
for
2951 HIGH STREET, ARCO STATION
OAKLAND, CALIFORNIA



CONSULTING ENGINEERS AND GEOLOGISTS

REPORT

to

MR. MOHAMMAD MASHHOON

OAKLAND, CALIFORNIA

on

CONTAMINATION INVESTIGATION

for

2951 HIGH STREET, ARCO STATION

OAKLAND, CALIFORNIA

by

UNITED SOIL ENGINEERING, INC.

3476 EDWARD AVENUE

SANTA CLARA, CALIFORNIA

APRIL 12, 1990



UNITED SOIL ENGINEERING, INC.

Soil, Foundation and Geological Engineers

3476 EDWARD AVENUE, SANTA CLARA, CALIFORNIA 95054 (408) 988-2990

File No. 90-3842-SE

April 12, 1990

Mr. Mohammad A. Mashhoon
5 Admiral Drive, #301
Emeryville, CA 94608

Attention: Mr. Mohammad Mashhoon
Arco Gas Station
2951 High Street
Oakland, CA
CONTAMINATION INVESTIGATION

Dear Mr. Mashhoon

Pursuant to your authorization, we are pleased to present herewith our site assessment report for the above subject property. ~~The report will detail our~~ investigation, for the existing Arco Gas Station located at 2951 High Street in Oakland, California.

The report presents a description of work performed by us. The results of the laboratory analysis of soil samples for the subject property, and our conclusions.

The results of our studies and the laboratory tests show the existence of organic compounds in the soil samples, in quantities that exceed Department of Health Services Adopted Applied Action Levels (AALS).

If you have any questions or require additional information, please feel free to contact our office at your convenience.

Very truly yours,

UNITED SOIL ENGINEERING, INC.

Jolanta Uchman
Project Geologist

Ahmad Badie, Ph.D., P.E.

use-1902/Copies: 3 to Mr. Mohammad Mashhoon

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LIMITATIONS OF STUDY

This contamination investigation is a limited service and the range of services is limited to pre-arranged budgets and time restraints under the agreement with Mr. Mohammad Mashhoon. All reasonable care and scrutiny may still fail to identify hazardous substances introduced into the soils and ground water under the subject property. This also includes the incorrect determination of concentrations of hazardous substances which may be present.

United Soil Engineering, Inc. cannot assume responsibility for conditions which were not brought forth to our attention or for conditions that are found to be environmentally hazardous after the date in which this report was prepared.

This was a limited investigation, by virtue of only two borings. The results are quantitative and only generalized assumptions which can be made based on the limited information.

The information included herein, was prepared solely for the use of the owner of the property. We highly recommend that the owner report the results of this study to the concerned regulatory agencies, local or state.

SITE DESCRIPTION

The project site is situated on the northwest corner of the High Street and Penniman Avenue in Oakland, California. The parcel borders residential buildings to the north and west and faces High Street to the south.

Presently, there is an existing Arco Gas Station with one-story building. In front of the building along the High Street there is a gas line. A parking lot is situated west of the building and a fenced storage area in the back.

The whole parking area was paved. During our inspection, signs of oil spillage on the part of the property facing Penniman Avenue was visible. Figure 1 is the vicinity map and Figure 2 shows the location of the property (see Appendix "A").

FIELD INVESTIGATION

After reviewing the available data on the area and discussion with the client's representative, a field investigation was conducted at the project site. It included a surface site reconnaissance to detect any unusual surface features and the drilling of two exploratory borings on March 23, 1990. The drilling included the near-surface sampling of the soils at an approximated depths of 12 to 14 feet. The approximate boring locations are shown in Figure 2. The ground water was not encountered.

The soil samples were taken by a 2.5-inch split-tube sampler with modified California brass liner tubes. Upon recovery of the samples, each sample was inspected, logged, sealed with an end caps and plastic teflon tape and placed in a cooler with ice. Soil samples were obtained following standard sampling and equipment decontamination procedures. All equipment which may come in contact with the native soils or ground water was thoroughly cleaned by high pressure steam cleaners and/or washed with tri-sodium phosphate detergent to insure accurate results.

All soil samples retained for analytical analysis, were properly labeled and stored in a cooler while at the project site. At the completion of the project, the samples were delivered to a state-certified analytical laboratory. Chain-of-Custody records were kept to document the handling and transfers of the samples to the analytical laboratory, see Appendix "C".

SITE VICINITY ENVIRONMENTAL CASES

Local and state regulatory agencies were consulted pertaining to known fuel and toxic waste sites in close proximity to the project site.

South Bay Toxic cases list, providing revised fuel leak data for the cases reported as of May 1, 1989 prepared by Regional

Water Quality Control Board, identified the following active solvent cases, near the project site. The following sites were investigated within 1-mile radius of the project site.

Reported Solvent Releases (RQWCB)

Facilities Relative to the Project Site

<u>Facility Name</u>	<u>Address</u>	<u>Approx. Distance</u>
Chevron	4300 MacArthur Blvd.	0.4 NE
Mobil	3315 High Street	0.9 NE

SOIL CONDITIONS

In the borings B-1 and B-2 the initial 10 inches of asphalt and baserock were underlain by a fill material to the approximate depth of 6 feet.

The encountered soil, to a depth of approximately 3 feet in the borings B-1 and B-2, was found to be greenish-brown silty, sandy, gravelly clay with gasoline odor. Below this material, a brown gray silty, very gravelly moist clay was found. This horizon extended approximately to the depth of 9 feet below the existing ground surface. At this depth, a light brown silty, sandy, plastic, moist clay with gravel was encountered and continued to the bottom of the borings. A detailed description of the soil encountered can be found in Appendix "B", Figures 3 through 5.

ANALYTICAL TESTING

Two soil samples from the boring B-1 and two soil samples from boring B-2 were taken for analytical testing. The samples were delivered to Sequoia Laboratory, located in Redwood City on March 23, 1990. The following is a list of analytical tests performed on four selected soil samples to indicate the possible presence of contaminants.

File No. 90-3842-SE

Chemical Analysis

Soils

Total Petroleum Fuel Hydrocarbons
with BTEX Distinction
(Low Boiling Point)

EPA 5030/8015/8020

Total Petroleum Fuel Hydrocarbons
(High Boiling Point)

EPA 3550/8015

Total Recoverable Petroleum Oil

SM 503 D&E (Gravimetric)

ANALYSIS OF SAMPLES

The laboratory testing results are shown in Appendix "C". The results of the analytical tests of soil samples taken from the borings B-1 and B-2 are detailed as follows. The soil samples taken from the borings show elevated levels of hydrocarbons. The detected chemicals in the soil samples are:

	Low/Med. Hydro- carbons ppm	High Hydro- carbons ppm	Benzene ppm	Toluene ppm	Ethyl Benzene ppm	Xylene ppm
5' 1-1	620	120	1.9	13	10	66
12' 1-2	N.D.	N.D.	N.D.	0.0058	0.01	0.28
5' 2-1	59	19	59	0.12	0.91	4.8
12' 2-2	N.D.	N.D.	N.D.	0.005	N.D.	N.D.

No detection of oil and grease was found in the soil samples.

CONCLUSION

The analysis of the soil samples did identify the existence of organic compounds in quantities that exceed Department of Health Services Adopted Applied Action Levels (AALS). Two borings with four soil samples were tested. Research of documented toxic release sites on file at the California Regional Water Quality Control Board, has brought forth that a minimum of two solvent releases have occurred in this area, both with contamination, and within a one mile radius.

The source of contamination in the above area is unknown to us; therefore, we highly recommend that an additional investigation be performed for the entire site.

The choice of analytical testing was solely based on information submitted to our office by the client and study of the vicinity.

We suggest that the owner of the property send a copy of this report to the local or state regulatory agency for their review.

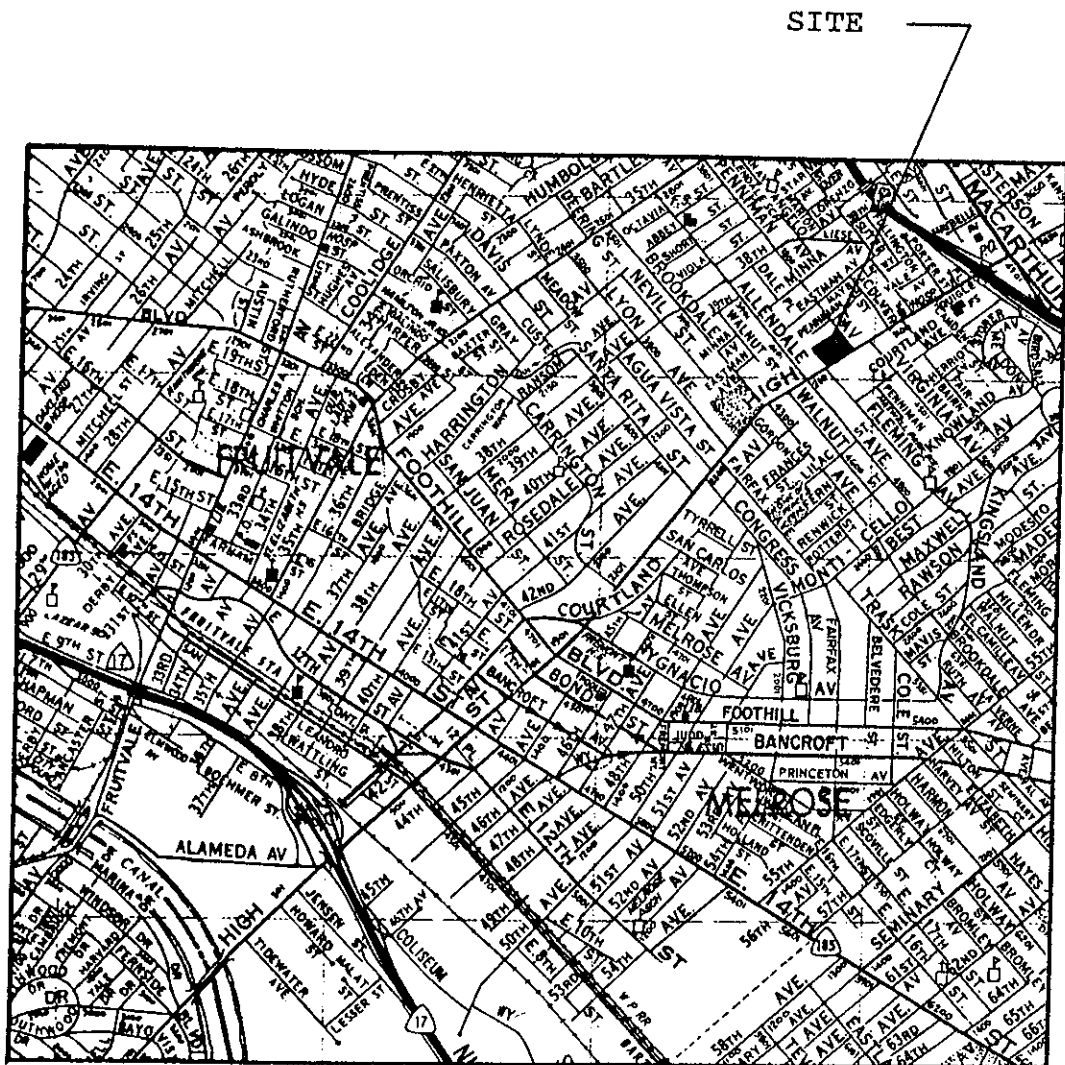
File No. 90-3842-SE

APPENDIX "A"

PHYSIOGRAPHY

FIGURE 1 - VICINITY MAP

FIGURE 2 - APPROXIMATE LOCATION OF BOREHOLES



THOMAS BROTHERS MAP
 ALAMEDA COUNTY
 PAGE 12, SQUARES C,D - 10

Vicinity Map
 ARCO Service Station



UNITED SOIL ENGINEERING, INC.
 Soil, Foundation and Geological Engineers
 3476 EDWARD AVE., SANTA CLARA, CA 95050
 (408) 988-2990

Date:	3-16-90
Drawn by:	C.A.
Scale:	NONE
Job No.:	90-3842-SE

Figure 1 - Vicinity Map

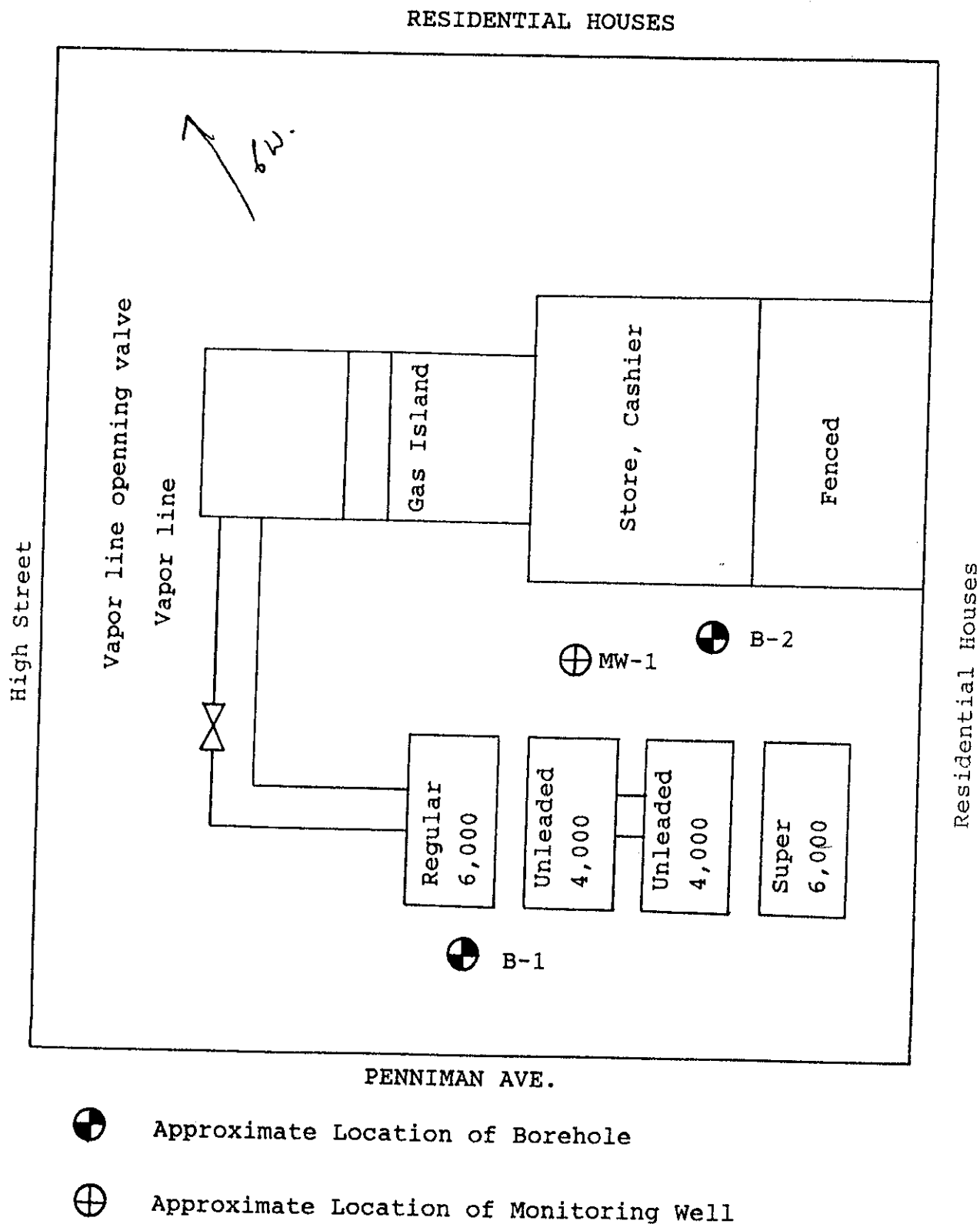


Figure 2

File No. 90-3842-SE

APPENDIX "B"

EXPLANATION OF BORING LOG SYMBOLS
FIGURES 3 THROUGH 4 - LOGS OF TEST BORINGS

Logged By: _____

EXPLORATORY BORING LOG

Hole No. _____

Date Drilled: _____

Dry Density p.c.f.	Moisture Content %	Penet. Resist. Blows/ft.	Unconf. Comp. Strength, k.s.f.	Direct Shear Test		Sample Number	Depth in Feet	Boring Log	Job No.
				"10" k.s.f.	"10" Degree				Ground Water First Noted Static Ground Water
DESCRIPTION									
									CLAY
									SILT
									SAND
									GRAVEL
									clayey
									silty
									sandy
									gravelly
						1-1			Sample Taken with sample number and lab results given
		**							Sample Attempt-Unsuccessful no sample number No Recovery-blow counts Refusal-noted in remarks

Remarks:

Logged By: J.U.		EXPLORATORY BORING LOG					Hole No.			
Date Drilled: 3-23-90									B-1	
Dry Density p.c.f.	Moisture Content %	Penet. Resist. Blows/ft.	Unconf. Comp. Strength, k.s.f.	Direct Shear Test		Sample Number	Depth in Feet	Boring Log	Job No. 90-3842-SE	
				"C" k.s.f.	"G" Degree				DESCRIPTION	
		52				1-1	5		Asphalt 4", baserock 6"	
									Greenish silty sandy CLAY plastic, medium stiff, *	
									Brown greenish silty CLAY plastic, medium stiff, *	
									Greenish gray silty sandy gravelly CLAY, stiff, gasoline odor	
									Increase in gravel	
		50				1-2	10		Light brown, silty sandy gravelly CLAY, stiff and moist, gasoline odor	
									TERMINATED AT 12'	

Remarks: * slightly moist, fill material
 ** slightly moist, fill material

Figure 3 - Log of Boring

Logged By: J. U.		EXPLORATORY BORING LOG					Hole No.		
Date Drilled: 3-23-90							B-2		
Dry Density p.c.f.	Moisture Content %	Penet. Resist. Blows/ft.	Unconf. Comp. Strength, k.s.f.	Direct Shear Test		Sample Number	Depth in Feet	Boring Log	Job No. 90-3842-SE
				"c" k.s.f.	"g" Degree				DESCRIPTION
		49				2-1	5	Asphalt 4", Baserock 6" Greenish sandy silty CLAY plastic, slightly moist, gasoline odor	
							10	Greenish gray, very gravelly sandy, silty CLAY, slightly moist, medium stiff, pieces of rocks, bricks, gasoline odor	
		68				2-2		Light brown sandy silty gravelly CLAY, moist, stiff gasoline odor.	
								Increase in sand and silt material gasoline odor	
								TERMINATED AT 14'	
Remarks:									

Figure 4 - Log of Test Boring 12

File No. 90-3842-SE

APPENDIX "C"
CHAIN OF CUSTODY RECORDS
LABORATORY TESTS - SEQUOIA ANALYTICAL

CHAIN OF CUSTODY RECORD

UNITED SOIL ENGINEERING, INC.

3476 Edwards Avenue

Santa Clara, CA 95050

(408)-988-2990

ATTN: J. UCHMAN

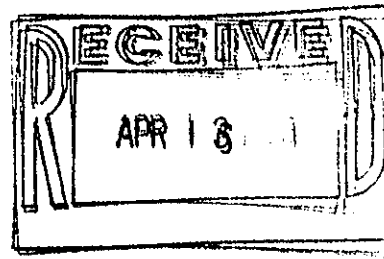
Project #	Project Name: <i>90-3842-SE CONTAMINATION STUDY</i>		Number of Samples	8015 / 8020 8015 503 DE										Remarks	
<i>3842</i>	<i>ARCO GAS STATION OAKLAND</i>														
Well or Boring #	Date	Location													
<i>B-1</i>	<i>3-23-80</i>	<i>2971 HIGH STREET OAKLAND</i>	<i>1-1 SOIL</i>	<i>x</i>	<i>x</i>	<i>x</i>									
<i>B-1</i>	<i>3-23</i>	<i>— " —</i>	<i>1-2 SOIL</i>	<i>x</i>	<i>x</i>	<i>x</i>									
<i>B-2</i>	<i>3-23</i>	<i>— " —</i>	<i>2-1 SOIL</i>	<i>x</i>	<i>x</i>	<i>x</i>									
<i>B-2</i>	<i>3-23</i>	<i>— " —</i>	<i>2-2 SOIL</i>	<i>x</i>	<i>x</i>	<i>x</i>									

Relinquished by: (Signature) <i>J. Uchman</i>	Date <i>3-23</i>	Time <i>4:00pm</i>	Received by: (Signature) <i>Paul Brown</i>	Date	Time	Remarks
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Remarks



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233



United Soil Engineering, Inc.
3476 Edward Avenue
Santa Clara, CA 95050
Attention: J. Uchman

Client Project ID: #90-3842-SE, Contamination Study
Matrix Descript: Soil
Analysis Method: EPA 5030/8015/8020
First Sample #: 003-3583

Sampled: Mar 23, 1990
Received: Mar 23, 1990
Analyzed: Apr 6, 1990
Reported: Apr 11, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
003-3583	B-1, 1-1	620	1.9	13	10	66
003-3584	B-1, 1-2	N.D.	N.D.	0.0058	0.010	0.026
003-3585	B-2, 2-1	59	0.12	N.D.	0.91	4.8
003-3586	B-2, 2-2	N.D.	0.0050	N.D.	N.D.	N.D.

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
--------------------------	-----	--------	--------	--------	--------

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maile A. McBirney
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

United Soil Engineering, Inc.
3476 Edward Avenue
Santa Clara, CA 95050
Attention: J. Uchman

Client Project ID: #90-3842-SE, Contamination Study
Matrix Descript: Soil
Analysis Method: EPA 3550/8015
First Sample #: 003-3583

Sampled: Mar 23, 1990
Received: Mar 23, 1990
Extracted: Apr 4, 1990
Analyzed: Apr 10, 1990
Reported: Apr 11, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)


Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
003-3583	B-1, 1-1	120
003-3584	B-1, 1-2	N.D.
003-3585	B-2, 2-1	19
003-3586	B-2, 2-2	N.D.

Detection Limits:

1.0

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Maile A. McBirney
Project Manager

33583.USE <2>



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

United Soil Engineering, Inc.
3476 Edward Avenue
Santa Clara, CA 95050
Attention: J. Uchman

Client Project ID: #90-3842-SE, Contamination Study
Matrix Descript: Soil
Analysis Method: SM 503 D&E (Gravimetric)
First Sample #: 003-3583

Sampled: Mar 23, 1990
Received: Mar 23, 1990
Extracted: Apr 6, 1990
Analyzed: Apr 10, 1990
Reported: Apr 11, 1990

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
003-3583	B-1, 1-1	N.D.
003-3584	B-1, 1-2	N.D.
003-3585	B-2, 2-1	1,100
003-3586	B-2, 2-2	N.D.

Detection Limits:

30

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Malle A. McBirney
Project Manager

33583.USE <3>

ALAMEDA
DE

ALAMEDA COUNTY DEPARTMENT OF
ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621 430-4530

S AGENCY
ALTH
ON

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

1. Business Name High Street ARCO
Business Owner Zima Center Inc.
2. Site Address # 2951 High Street
City Oakland Zip 94619 Phone (415) 261-1111
3. Mailing Address Zima Center Inc., 5 Admiral Dr. Suite 301
City Emeryville, Ca. Zip 94608 Phone (415) 420-8444
4. Land Owner Zima Center Inc.
Address Same above City, State _____ Zip _____
5. EPA I.D. No. _____
6. Contractor WATSON ENGINEERING
Address 837 RISKE LN
City WEST SAC CA 95691 Phone 916 372 1888
License Type B (C-61) ID# 527361
7. Other (Specify) N/A
Address _____
City _____ Phone _____

8. Contact Person for Investigation

Name RANDY ROGERS Title PROJECT MANAGER
Phone 916 372 1888

9. Total No. of Tanks at facility 4

10. Have permit applications for all tanks been submitted to this office?
Yes No

11. State Registered Hazardous Waste Transporters/Facilities

a) Product/Waste Transporter

Name N/A EPA I.D. No. _____
Address _____
City _____ State _____ Zip _____

b) Rinsate Transporter

Name N/A EPA I.D. No. _____
Address _____
City _____ State _____ Zip _____

c) Tank Transporter

Name N/A EPA I.D. No. _____
Address _____
City _____ State _____ Zip _____

d) Contaminated Soil Transporter

Name N/A EPA I.D. No. _____
Address _____
City _____ State _____ Zip _____

12. Sample Collector

Name N/A
Company _____
Address _____
City _____ State _____ Zip _____ Phone _____

13. Sampling Information for each tank or area

Tank or Area		Material sampled	Location & Depth
Capacity	Historic Contents (past 5 years)		

14. Have tanks or pipes leaked in the past? Yes [] No
 If yes, describe. _____

15. NFPA methods used for rendering tank inert? Yes [] No []
 If yes, describe. N/A

16. Laboratories
 Name N/A
 Address _____
 City _____ State _____ Zip _____
 State Certification No. _____

17. Chemical Methods to be used for Analyzing Samples

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Number

18. Site Safety Plan submitted? Yes [] No []

19. Workman's Compensation: Yes [] No []

 Copy of Certificate enclosed? Yes [] No []

 Name of Insurer _____

20. Plot Plan submitted? Yes No []

21. Deposit enclosed? Yes No []

22. Please forward to this office the following information within 60 days after receipt of sample results.

- a) Chain of Custody Sheets
- b) Original Signed Laboratory Reports
- c) TSD to Generator copies of wastes shipped and received
- d) Attachment A summarizing laboratory results

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true. I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I will notify the Department of Environmental Health at least two (2) working days (48 hours) in advance to schedule any required inspections. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Signature of Contractor

Name (please type) RANDY ROGERS
Signature Randy Rogers
Date 9-27-88

Signature of Site Owner or Operator

Name (please type) M. Muskhoun
Signature [Signature]
Date 9/30/88

NOTES:

1. Any changes in this document must be approved by this Department.
2. Any leaks discovered must be submitted to this office on an underground storage tank unauthorized leak/contamination site report form within 5 days of its discovery.
3. Three (3) copies of this plan must be submitted to this Department. One copy must be at the construction site at all times.
4. A copy of your approved plan must be sent to the landowner.

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

ATTACHMENT A
SAMPLING RESULTS

Tank or Area	Contaminant	Location & Depth	Results (specify units)

INSTRUCTIONS

2. SITE ADDRESS

Address at which closure or modification is taking place.

5. EPA I.D. NO.

This number may be obtained from the State Department of Health Services, 916/324-1781.

6. CONTRACTOR

Prime contractor for the project.

7. OTHER

List professional consultants here.

12. SAMPLE COLLECTOR

Persons who are collecting samples.

13. SAMPLING INFORMATION

Historic contents - the principal product(s) used in the last 5 years.

Material sampled - i.e., water, oil, sludge, soil, etc.

16. LABORATORIES

Laboratories used for chemical and geotechnical analyses.

17. CHEMICAL METHODS:

All sample collection methods and analyses should conform to EPA or DHS methods.

Contaminant - Specify the chemical to be analyzed.

Sample Preparation Method Number - The means used to prepare the sample prior to analyses - i.e., digestion techniques, solvent extraction, etc. Specify number of method and reference if not an EPA or DHS method.

Analysis Method Number - The means used to analyze the sample - i.e., GC, GC-MS, AA, etc. Specify number of method and reference if not a DHS or EPA method.

NOTE:

Method Numbers are available from certified laboratories.

18. SITE SAFETY PLAN

A plan outlining protective equipment and additional specialized personnel in the event that significant amount of hazardous materials are found. The plan should consider the availability of respirators, respirator cartridges, self-contained breathing apparatus (SCBA) and industrial hygienists.

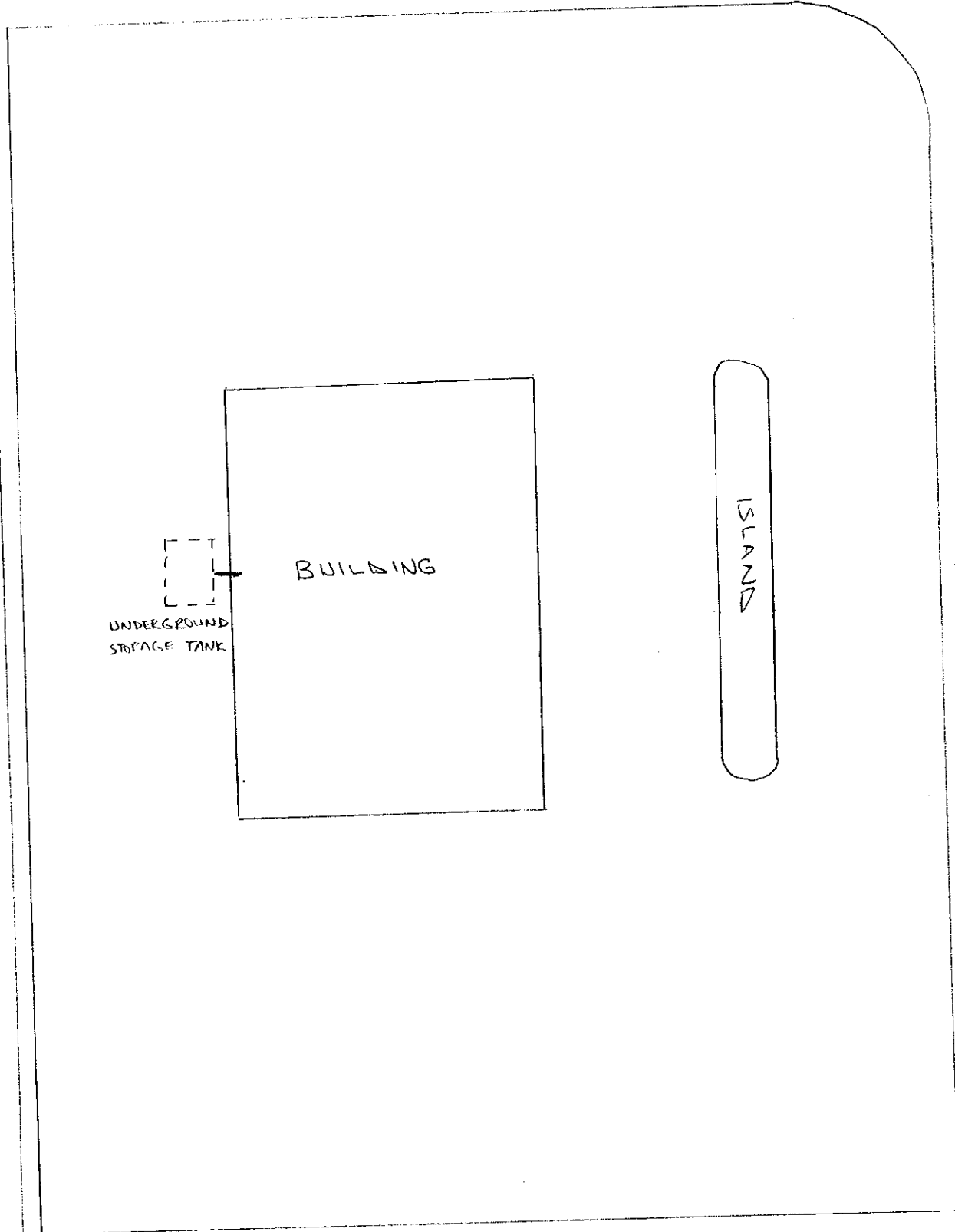
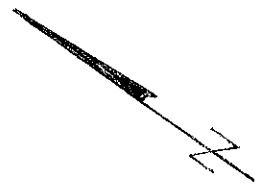
19. ATTACH COPY OF WORKMAN'S COMPENSATION

20. PLOT PLAN

The plan should consists of a scaled view of the facility at which the tank(s) are located and should include the following information:

- a) Scale
- b) North Arrow
- c) Property Line
- d) Location of all Structures
- e) Location of all relevant existing equipment including tanks and piping to be removed
- f) Streets
- g) Underground conduits, sewers, water lines, utilities
- h) Existing wells (drinking, monitoring, etc.)
- i) Depth to ground water
- j) All existing tanks in addition to the ones being pulled

PENNIMAN AV.



UNDERGROUND
STORAGE TANK

BUILDING

ISLAND

HIGH ST.

NOT SCALED