ANR FREIGHT SYSTEM, INC.
a subsidiary of The Coastal Corporation

91 JUN 10 PM 1:29

June 7, 1991

Mr. Dennis Byrne
Alameda County
Hazardous Materials Division
Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, California 94619

SUBJECT: TANK REMOVAL/CLOSURE REPORT
2225 7TH STREET, OAKLAND, CALIFORNIA

Dear Mr. Byrne:

Enclosed for your information and use is the Underground Storage Tank Closure Report for the above referenced facility. Should you have any questions, I can be reached at 303-273-4521.

Sincerely,

Deborah Moore

Deborah Moore
Environmental Compliance Specialist

Enclosure

cc: D. Klimut
R. Stiffler

no tabular results

NATIONAL
ENVIRONMENTAL
SERVICE COMPANY

NESCO

Your Environmental Partner

TANK REMOVAL CLOSURE REPORT

ANR FREIGHT SYSTEM
2225 SEVENTH STREET
OAKLAND, CALIFORNIA

Date Submitted: May 31, 1991

1-800-328-8335

TABLE OF CONTENTS

INTRODUCTION

This report outlines the procedures followed and presents the results of a site investigation conducted at the subject location.

Additionally, this report outlines and describes the procedures followed during the closure of one (1) underground storage tank at the subject location.

BACKGROUND

American Natural Resources (ANR) Freight System leases and operates the facility located 2225 Seventh Street, Oakland, California (See Figure 1). The facility serves as a freight terminal and refueling center.

Prior to the removal of the subject tank there were nine (9) underground storage tanks located on the site as shown on Figure 2. One (1) 2,000 gallon used oil tank lies east of the shop building (Tank No. 8). The remaining tanks are located south of the shop building and lay in a north-south direction. There are five (5) 20,000 gallon diesel tanks (Tank No. 2 through 6), one (1) 6,000 new oil tank (Tank No. 1), and one (1) 8,000 gallon gasoline tank (Tank No. 0). The tank removed was formerly a 10,000 gallon diesel tank (Tank No. 7).

INVESTIGATION

An initial site investigation was conducted in July, 1989. Four (4) soil bore holes were made and are shown on Figure 3.

The borings were drilled with truck mounted drilling equipment utilizing continuous flight solid core augers in conformance with ASTM D1452. All drilling and sampling equipment was cleaned with high pressure washing techniques prior to mobilization at the site and after each boring to minimize the potential of interface or cross contamination between borings.

Bore hole no. 1 was made adjacent to the north-east corner of tank no. 6. Bore hole no. 2 was made between tank no. 2 and tank no. 3. Bore hole no. 3 was made adjacent to the south-east corner of tank no. 1. Bore hole no. 4 was made approximately eight feet (8') south of tank no. 4. All bore holes penetrated to a depth of ten feet (10'), with the exception of bore hole no. 3, which penetrated to thirteen feet (13') in depth.

Soil samples were taken from each bore hole. From bore hole no. 1 a soil sample was taken from ten feet (10') and a water sample was taken from nine and one half feet (9.5'). From bore hole no. 2 a soil sample was taken from ten feet (10'). From bore hole no. 3 a soil sample was taken at ten feet (10') and a water sample taken at thirteen feet (13').

From bore hole no. 4 a soil sample was taken at four feet (4′) and at ten feet (10′), and a water sample was taken at nine feet (9′).

Soil and water samples were placed into laboratory supplied containers, sealed, labeled and placed in an insulated ice chest and artificially refrigerated to be shipped to Metlab Testing Services in Tulsa, Oklahoma for chemical analysis. The samples were analyzed for Benzene, Toluene, Ethyl Benzene, Xylene (BTEX) and Total Petroleum Hydrocarbons (TPH). All samples exceeded the California action level of ten (10) parts per million (ppm) TPH, with the exception of the soil sample taken at ten feet (10′) from bore hole no. 4. Laboratory results are summarized in Appendix A.

Also at this time, the tanks were tested for tank system tightness in accordance with the National Fire Prevention Association (NFPA) 329 Standard criteria. **Tank no. 7 (the subject tank) failed to meet NFPA 329 standard for a tight tank system, and was taken out of service.** The remaining eight (8) tanks passed the NFPA 329 standard.

In September, 1989, further investigation of the site included an additional four (4) soil bore holes, referred to as bore holes no. 5 through no. 8 (locations are shown in Figure 4). Bore hole no. 5 was made twelve feet (12′) east of the north-east corner of tank no. 0. Bore hole no. 6 was made twelve feet (12′) east and eight feet (8′) south of the

south end of tank no. 0. Bore hole no. 7 was made eight feet (8') south of tank no. 3. Bore hole no. 8 was made approximately fifteen feet (15') north of tank no. 2. Soil samples were taken from five feet (5') and ten feet (10') within each bore hole, using a split spoon sampler. Results indicated all samples to be below the California action level of ten (10) ppm Total Petroleum Hydrocarbons. The laboratory report is shown in Appendix B.

Following ANR's notification of the findings from the site investigation and the tank tightness test results, tank no. 7 was scheduled for closure by removal.

CLOSURE

After proper permits had been obtained, removal of the tank began on March 16, 1990. Closure procedures followed the American Petroleum Institute Recommended Practice of Underground Storage Tank Removal.

Initial inspection and evaluation of the site is customarily conducted by the local implementing agency, which is the Alameda County Department of Environmental Health. The agency was represented by Dennis Byrne, who was present to observe the tank removal and sampling of soil.

The tank was removed from the excavation and steam cleaned, cut up for scrap and properly disposed of by Verl's Construction. The method of destruction fully complied with

all applicable regulations. Approximately 150 yards of soil were excavated from the cavity and stockpiled on site. Excavation was discontinued at that time to maintain the integrity of the surrounding structures.

SCS Engineers, a state approved contractor, collected two (2) soil samples (labeled S1 and S2) from the east end of the excavation following the tank pull (See Figure 5). The soil samples were taken in clean brass sleeves; sealed with aluminum foil, plastic end caps and tape; labeled; and placed in a cooler with ice. The samples were shipped to a state-certified laboratory under chain-of-custody documentation.

As water was observed in the bottom of the excavation, a sample of this water was also required. The sample was obtained using a clean plastic bailer. The water sample was sealed, labeled and placed in a cooler for transport to the laboratory.

The soil samples were analyzed by EPA Method 8015 for diesel and Method 8020 for BTEX. The water sample was analyzed by EPA Method 8015 for diesel and Method 602 for BTEX.

Following sample collection, the cavity created by the tank removal was backfilled with clean material and compacted.

Soil analytical results showed a maximum diesel concentration of 5100 ppm. Benzene was not detected in the soil. Concentrations of other members of the BTEX group

ranged from 0.39 to 2.83 ppm in the two (2) samples.

The analytical result of the water sample taken from the bottom of the excavation contained a diesel concentration of 1300 ppm and benzene was detected at a level 3.18 ppm. Values for the concentration of the other members of the BTEX group in the water ranged from 0.27 to 1.13 ppm. Copies of the laboratory reports and chain-of-custody documents are included in Appendix C.

To obtain a representative sample of the stockpiled soil, on March 23, 1990, the soil was arbitrarily divided into six (6) sections. The sampling methodology for each section was as follows: Four (4) samples were taken from different areas in each section. The sample was obtained by scraping the top six (6") to twelve inches (12") from the surface and pulling several scoops of soil from beneath the surface. The four (4) samples obtained from each section were mixed together in a plastic bucket, and a sample of the composite soil was taken in a clean brass sleeve following the protocol described above. In this manner, six (6) composite samples, labeled C1 through C6 were obtained from the stockpiled soil. The samples were analyzed for diesel. Analytical results are given in Appendix D. The excavated soil contained from 3900 to 13,000 ppm diesel and 5280 ppm TPH.

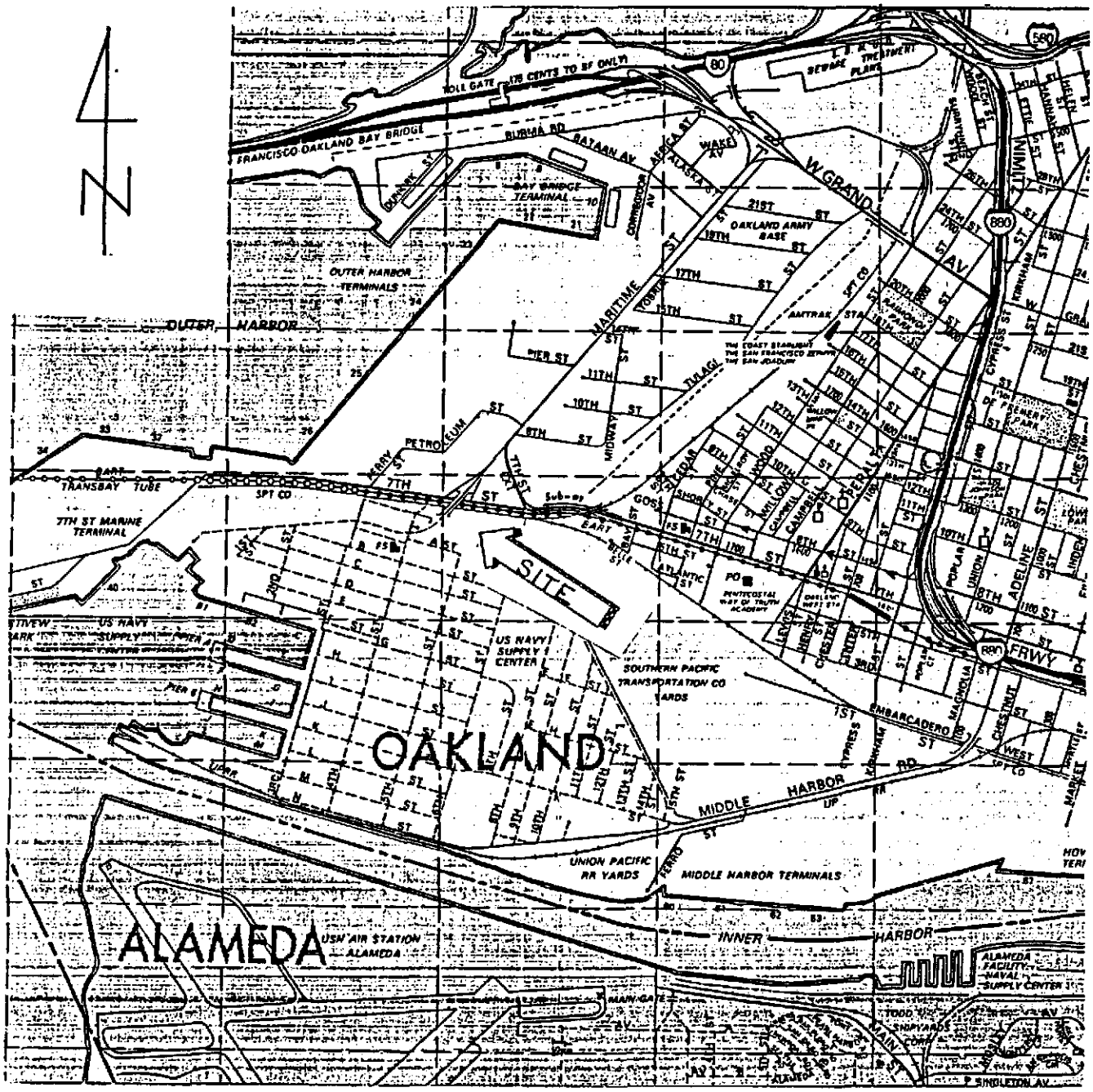
An application was submitted to Forward, Inc. Landfill to dispose of the soil at their facility. NESCO was instructed

to take an additional sample from the stockpiled soil to determine the soil to be non-toxic.

On April 20, 1990, the additional sample was taken from the stockpiled soil. The sample was taken exactly as the previous samples were. The sample was split and sent to two (2) different laboratories for analysis. One part of the sample was sent to Sequoia Analytical in Redwood City, California for analysis using Title 22 Hazardous Waste Bioassay, 96 hour LC 50. Four (4) simultaneous replicates of the analysis were performed and designated by lab numbers 42962 A, B, C and D. The fish bioassay performed on the composite stockpiled soil sample determined, due to the fact that no fish died in water containing 1000 ppm of the hydrocarbons found in the soil, that the LC 50 for the soil was greater than 1000 ppm. The test was performed simultaneously on four (4) separate minnow populations. Copies of the laboratory reports are shown in Appendix E. The other part of the sample was sent to SCS Laboratory in Long Beach, California, and analyzed using EPA Method 418.1 for TPH, EPA Method 8020 for BTEX, Method 376.2 for sulfides, and Method 1010 for flashpoint. The results of the analyses are also given in Appendix E.

The soil was determined to be non-hazardous, but Forward, Inc. was unable to accept the soil due to internal administrative delays. Application was then made to Zanker Resources in San Jose, California and 140 yards of impacted soil was transported to their facility for proper

disposition on September 28, 1990. Landfill receipts are shown in Appendix F.



MAP SOURCE: THOMAS GUIDE, 1989

SCALE IN MILES

0 ½ 1

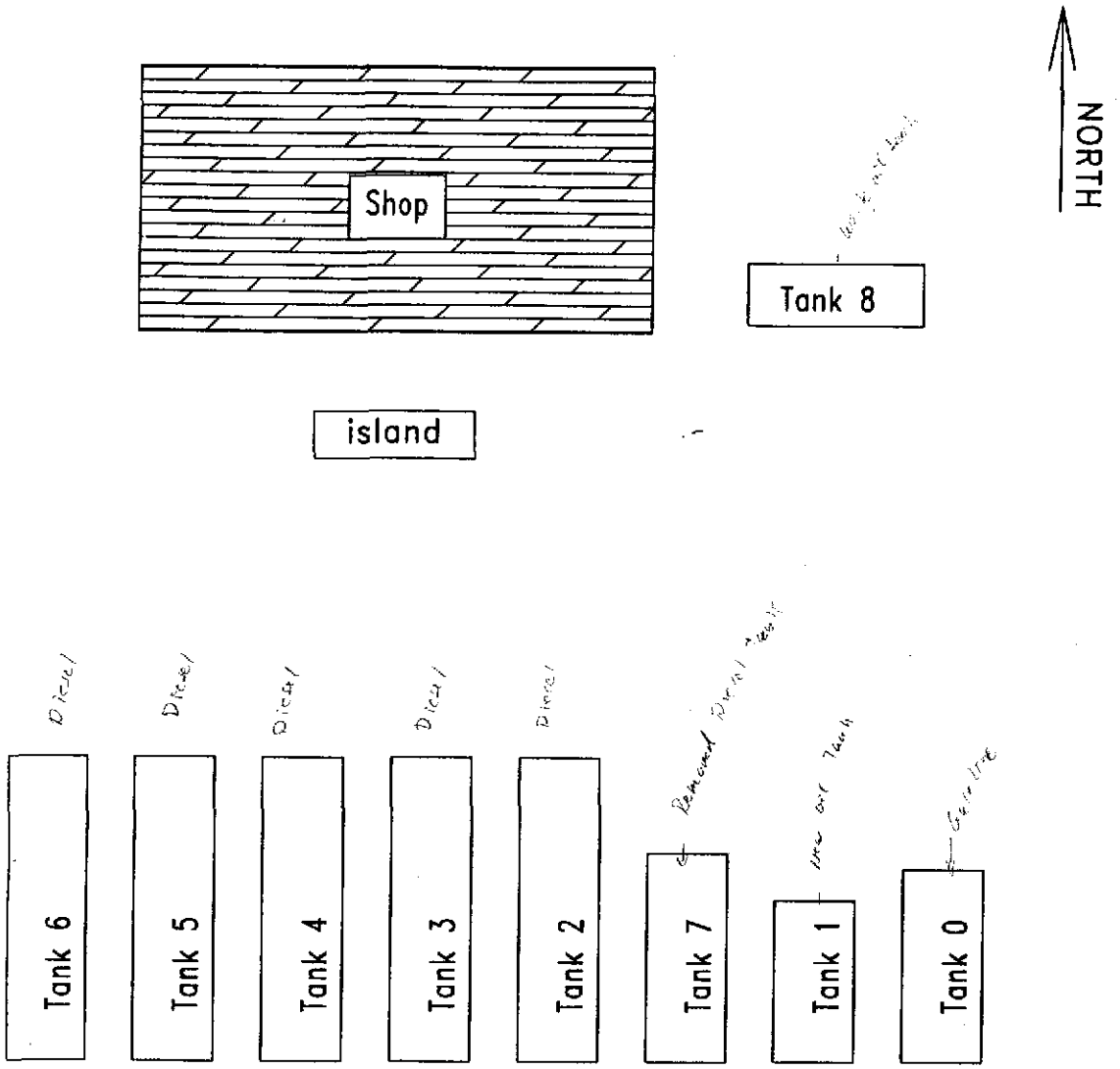
Figure 1

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.

6761-D SIERRA COURT
DUBLIN, CA 94568

VICINITY MAP, ANR TRUCKING
2225 7th Street
OAKLAND, CALIFORNIA

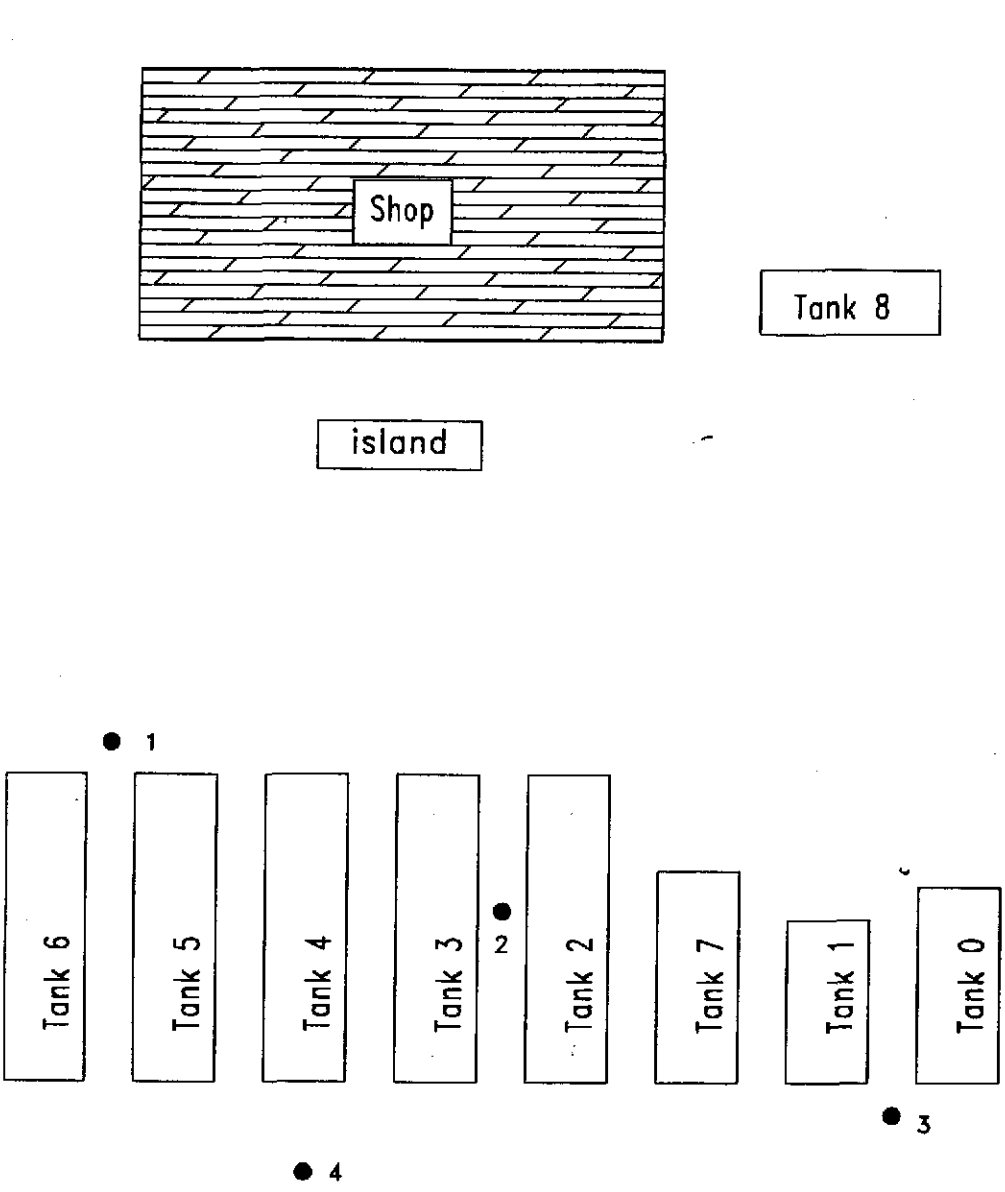
Project No. 0389079.00 Date: 4-5-90



Site Plan
Tank Location

ANR Freight Terminal
2225 Seventh Street
Oakland, California

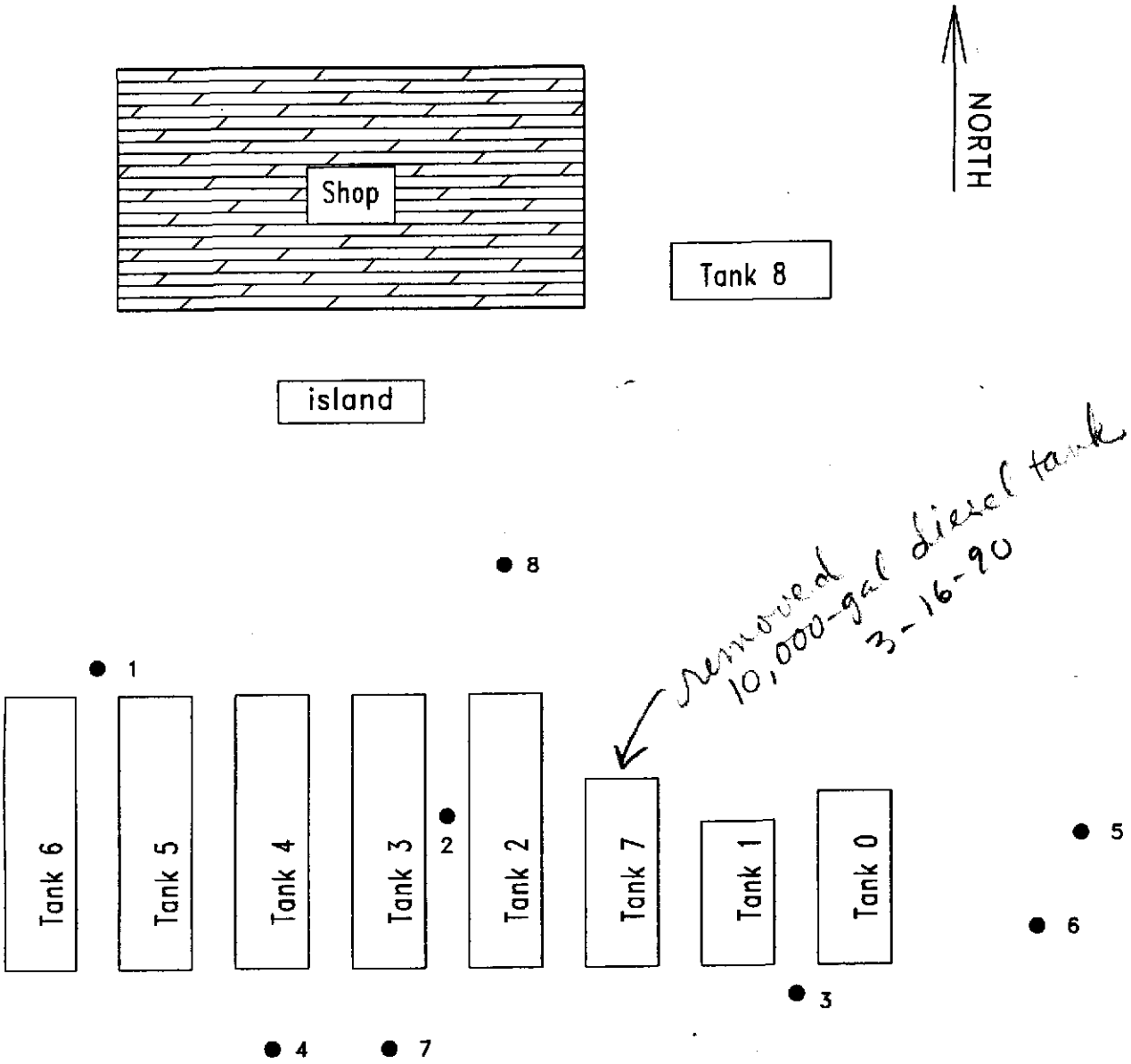
Figure 2



Site Plan
Site Investigation
July, 1989

ANR Freight Terminal
2225 Seventh Street
Oakland, California

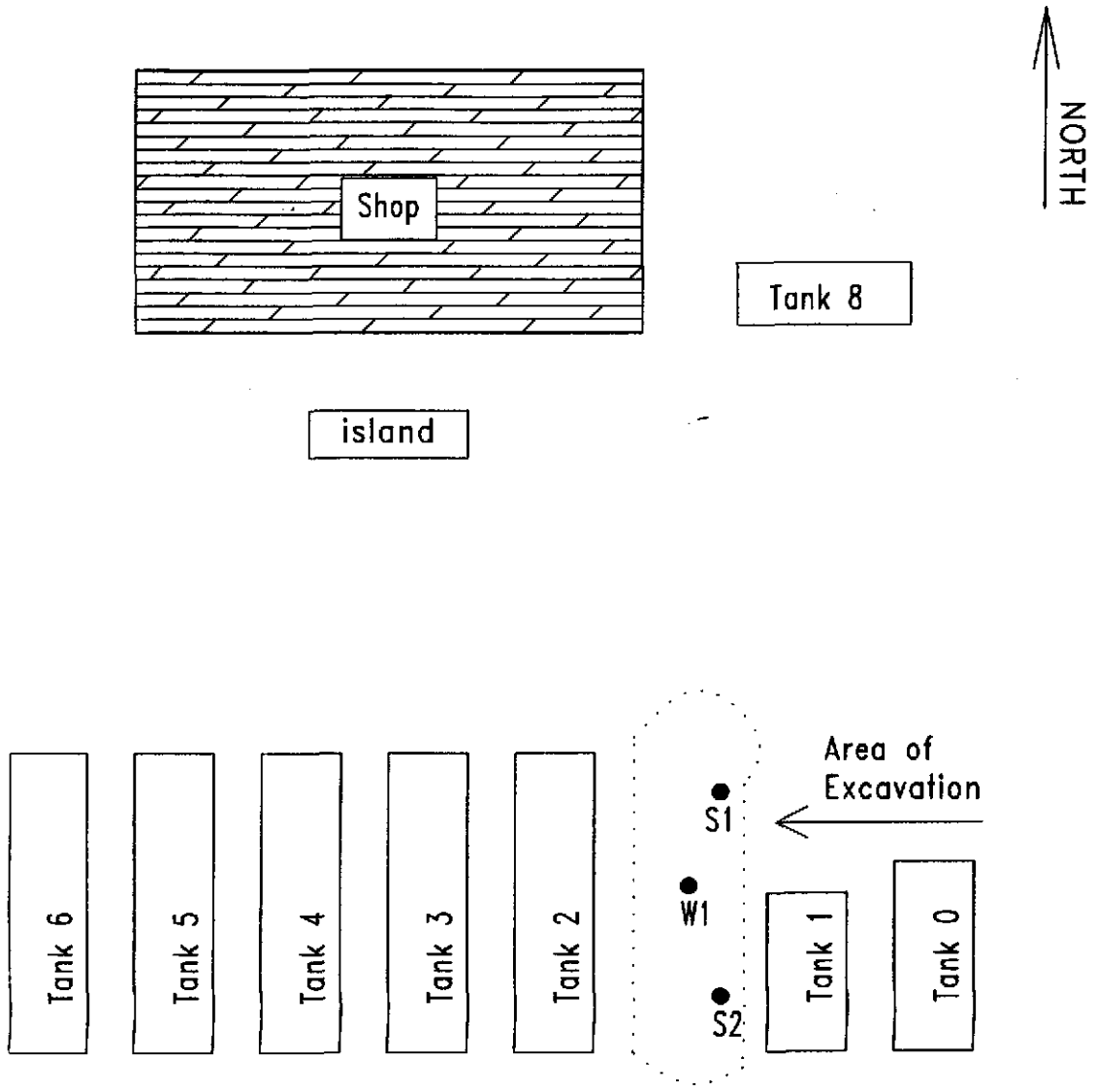
Figure 3



Site Plan
Site Investigation
September, 1989

ANR Freight Terminal
2225 Seventh Street
Oakland, California

Figure 4



Site Plan
Area of Excavation
Sample Locations

ANR Freight Terminal
2225 Seventh Street
Oakland, California

Figure 5

METLAB

BTEX and TPH

Client: NESCO Metlab No: 89-3887

Analyst: Ken Hess KH Date received: 7/7/89

Matrix: soil/water Amount used: 4g/10ml

Detection Limits are expressed in ug/L ug/Kg mg/L (mg/Kg)

Sample ID	Benzene	Toluene	Ethyl Benzene	Xylenes	TPH
104 Hole #1 10'	0.002	0.035	0.038	0.260	10.453
105 Hole #2 10'	0.048	0.376	0.477	0.570	14.233
106 Hole #3 10'	0.637	0.420	0.243	1.303	13.982
107 Hole #4 4'	<0.001	0.030	0.061	0.300	11.400
108 Hole #4 10'	<0.001	0.002	0.003	0.007	0.176
W17 Hole #1 9.5'	0.025	0.175	0.367	0.542	13.115
W18 Hole #3 13'	1.357	0.470	0.053	1.134	16.113
W19 Hole 34 9'	<0.001	0.198	0.259	0.458	13.418

Comments: ANR Freight - Oakland, CA
Results are parts per million

CHAIN OF CUSTODY

No formal chain of custody available.

METLAB Testing Services, Inc.

6825 East 38th Street Tulsa, Oklahoma 74145
(918) 664-7767

BTEX and TPH

Client: NESCO Metlab No.: 89-5485

Analyst: D. Devasher Date received: 9/29/89

Matrix: Soil Amount used: 4g

Detection Limits are expressed in ug/l ug/kg mg/l mg/kg

Bore holes 5 through 8

Sample I.D.	Benzene	Toluene	Ethyl_Benzene	Xylene	TPH
1-1-16' - No. 5	0.115	0.118	0.624	0.244	3.449
2-1-15' - No. 5	0.020	0.036	0.212	0.074	3.030
1-2-5' - No. 6	<0.001	0.015	0.024	0.161	3.237
2-2-15' - No. 6	0.059	0.090	0.024	0.636	4.397
1-3-5' - No. 7	<0.001	<0.001	<0.001	<0.001	1.291
2-3-15' - No. 7	0.031	0.037	0.039	0.148	0.634
1-4-5' - No. 8	<0.001	0.013	<0.001	0.019	0.068
2-4-15' - No. 8	<0.001	0.024	0.024	0.103	0.252

Comments: Location: Oakland, CA #1188

Results reported in parts per million. Testing run by GC/PID

Approved By: Kenneth Hess

Kenneth Hess, Supervisor
Organic Environmental Dept.

CHAIN OF CUSTODY

No formal chain of custody available.

SAMPLE SUMMARY

March 16, 1990

Sample I.D.	EPA Method	Compound	Amount Detected (in ppm)
S1 (soil)	8015	diesel	5,100
	8020	benzene	ND
		toluene	1.37
		ethylbenzene	1.22
		xylenes	2.83
	LUFT	organic lead	ND
S2 (soil)	8015	diesel	2,900
	8020	benzene	ND
		ethylbenzene	0.616
		toluene	0.392
		xylenes	1.83
	LUFT	organic lead	ND
W (water)	8015	diesel	1300
	8020	benzene	3.18
		toluene	1.06
		ethylbenzene	0.269
		xylenes	1.13

ND = not detected

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

MEMO

To: John Cummings

From: Curtis B. Jenkins

March 19, 1990

Job No.: 0389079

LABORATORY REPORT

Samples: Two (2) soil samples from Verl's - 7th Street, Oakland, CA received 3/17/90, analyzed 3/19/90. (SUPER RUSH)

Sample ID	EPA 8015-D ---mg/kg---
S1	5,100 (D)
S2	2,900 (D)
Detection Limit	10

EPA 8020 - see attached sheets.

David Mikesell
Chemist

Curtis B. Jenkins
Vice President, Analytical Srv.

verl8.rep

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: S1
Date Received: 3/16/90
Date Analyzed: 3/19/90
Matrix: Soil
Project #: 389079
File #: Ver18.rep

Compound	Result	D.L.
	ug/kg (ppb)	
Benzene	ND	500
Chlorobenzene	ND	500
Ethylbenzene	1,220	500
Toluene	1,370	500
Xylenes	2,830	500
1,2-Dichlorobenzene	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500

D.L. = Detection Limit
ND = Not Detected

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: S2
Date Received: 3/16/90
Date Analyzed: 3/19/90
Matrix: Soil
Project #: 389079
File #: Ver18.rep

Compound	Result	D.L.
	ug/kg (ppb)	
Benzene	ND	200
Chlorobenzene	ND	200
Ethylbenzene	616	200
Toluene	392	200
Xylenes	1,830	200
1,2-Dichlorobenzene	ND	200
1,3-Dichlorobenzene	ND	200
1,4-Dichlorobenzene	ND	200

D.L. = Detection Limit
ND = Not Detected

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

MEMO

To: John Cummings

From: Curtis B. Jenkins — March 30, 1990

Job No.: 0389079 —

LABORATORY REPORT

Samples: Three (3) water samples from Verl's 7th St. Oakland, CA received 3/16/90, analyzed 3/24/90.

Sample ID	EPA 8015-D ---mg/L---
W	1,300 (D)
Detection Limit	10

D - Diesel

Sample ID	Organic Lead (LUFT) ---mg/kg---
S1	ND
S2	ND
Detection Limit	.5

EPA 602 - see attached sheets

David Mikesell
Chemist

Curtis B. Jenkins
Vice President, Analytical Srv.

verl11.rep

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: W
Date Received: 3/16/90
Date Analyzed: 3/24/90
Matrix: Water
Project #: 389079
File #: verl11.rep

Compound	Result ----ug/L (ppb)----	D.L. ----
Benzene	3,180	0.7
Chlorobenzene	ND	1
Ethylbenzene	269	1
Toluene	1,060	1
Xylenes	1,130	1
1,2-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

D.L. = Detection Limit
ND = Not Detected

CHAIN OF CUSTODY RECORD

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
Fax (213) 595-6709

PERSONNEL

Name (signature) Don McClenagan
Name (print) Don McClenagan
Company ~~SCS~~ SCS Engineers
Address 6761 Sierra Court, Suite D
City, State, Zip Dublin, CA 94568
Telephone (415) 829-0661

SITE INFORMATION

Job Name _____
Job Number 03890XX
Sample Location ~~2005~~ 7th St. Oakland
_____
_____
P.O. Number _____

Relinquished by (Signature)	Received by (Signature)	Date	Time
Don McClenagan 3-16			
Relinquished by (Signature)	Received by (Signature)	Date	Time

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
S1	soil	1	7th Oakland	3/16/90	~~8015~~ 8015 Mod	
S2	soil	1		3/16/90	~~8015~~ 9	
W	water	3			8020	

24 hr Turnaround on Soil

Regular Turnaround on Water

Remarks: PLEASE return coolers and ice —

SAMPLE SUMMARY

March 23, 1990

Sample I.D.	EPA Method	Compound	Amount Detected (in ppm)
C1 (soil)	8015	diesel	9,200
C2 (soil)	"	"	13,000
C3 (soil)	"	"	9,000
C4 (soil)	"	"	8,100
C5 (soil)	"	"	2,400
C6 (soil)	"	"	3,900

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CHAIN OF CUSTODY RECORD

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324

PERSONNEL

Sampler (Signature) Don McClenagan
Phone 415-829-0661
Field Crew Supervisor Don Mc
Field Company
Project Geologist/Engineer John P. Cummings

SITE INFORMATION

Job Name Veik/ANR-Oakland
Job Number 0389079.00
Sample Location 7th St. 6 Compos. Soils
P.O. Number

Relinquished by (Signature)		Received by (Signature)	Date	Time
Don McClenagan	3-23			
Relinquished by (Signature)		Received by (Signature)	Date	Time

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
C-1	Soil	1	7th St. -Oakland	3-23-90	8015-D	
C-2	↓	↓	↓	↓	↓	
C-3						
C-4						
C-5						
C-6						

NOTE !!! 3 (Three) Day Turn Around !!!

Remarks: Please either return ice chest, blue ice, COC copy A.S.A.P. or sell them all to help buy a dart board for use in spare time. Thank you,

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

MEMO

To: Don McClenagan

From: Curtis B. Jenkins

March 29, 1990

Job No.: 0389079

LABORATORY REPORT

Samples: Six (6) soil samples from Verl's - 7th Street, Oakland, CA received 3/21/90, analyzed 3/26/90. (RUSH)

Sample ID	EPA 8015-D ---mg/kg---
C1	9,200 (D)
C2	13,000 (D)
C3	9,000 (D)
C4	8,100 (D)
C5	2,400 (D)
C6	3,900 (D)

Detection Limit 10

D - Diesel

David Mikesell DCS
David Mikesell
Chemist

Curtis B. Jenkins
Curtis B. Jenkins
Vice President, Analytical Srv.

verl9.rep

SAMPLE SUMMARY

April 20, 1990

Sample I.D.	Method	Results
SC10 (soil)	Title 22, 96 hr LC 50 - fish bioassay	LC50: >1,000 ppm. Non-hazardous
"	EPA 418.1, TPH	5,280 ppm detected
"	376.2, sulfides	none detected
"	1010, flashpoint	>140° F.
"	EPA 8020, BTEX	benzene = none detected toluene = none detected ethylbenzene = 0.042 ppm xylenes = 0.080 ppm

ppm = parts per million

SEQUOIA ANALYTICAL

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

SCS Engineers	Client Project ID:	Sampled:	4/20/90
6761 Sierra Court, #D	Sample Descript: Soil	Received:	4/20/90
Dublin, CA 94568	Analysis Method: See below		
Attention: Don McClenagan	Lab Number: 42962 A	Reported:	4/25/90

STATIC ACUTE HAZARDOUS WASTE BIOASSAY

Static [X]
Cont. Flow [ ]

Screening [ ]
Definitive [X]

Species: Pimephales Promelas
Common Name: Fathead Minnow
Mean length: 50 mm
Mean weight: 0.76 g
Supplier: Sticklebacks Unlimited
Acclimation Temp.: 17 degrees C

Organisms/Tank: 10
Replicates: 2
Organisms/Conc.: 20
Tank Depth: 13 cm
Tank Volume: 10 L

Dilution Water: Synthetic Freshwater, Soft

	Alkalinity, mg/L	Hardness, mg/L
Control	70.2	183.6
1000 ppm	60.2	142.8
320 ppm		
100 ppm		

	Initial	24 Hr	48 Hr	72 Hr	96 Hr
DATE	4/20/90	4/21/90	4/22/90	4/23/90	4/24/90

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	9.1	15	7.6	9.2	15	7.6	0	9.3	15	7.6	0	9.4	15	7.6	0	9.8	15	7.2	0	0
100 ppm	10.0	15	7.8	10.0	15	7.7	0	10.1	15	7.7	0	10.1	16	7.7	0	10.0	15	7.3	0	0
180 ppm	10.2	15	7.7	10.1	15	7.7	0	10.1	15	7.7	0	10.1	15	7.7	0	10.3	15	7.4	0	0
320 ppm	10.1	15	7.9	10.0	15	7.7	0	9.8	15	7.6	0	9.9	15	7.6	0	9.7	15	7.3	0	0
560 ppm	10.3	15	7.7	10.4	14	7.7	0	10.3	15	7.7	0	10.3	15	7.7	0	10.6	14	7.4	0	0
1000 ppm	10.3	14	7.7	10.4	14	7.7	0	10.3	14	7.7	0	10.3	14	7.7	0	10.1	14	7.3	0	0

LC-50: >1000 ppm

LC-50 Calculation Method: Non-linear interpolation

Remarks:

Analyst: M. Trujillo

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, September 1987, California Department of Fish and Game WPCL.

SEQUOIA ANALYTICAL

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

SCS Engineers	Client Project ID:	Sampled:	4/20/90
6761 Sierra Court, #D	Sample Descript: Soil	Received:	4/20/90
Dublin, CA 94568	Analysis Method: See below		
Attention: Don McClenagan	Lab Number: 42962 D	Reported:	4/25/90

STATIC ACUTE HAZARDOUS WASTE BIOASSAY

Static [X]
Cont. Flow [ ]

Screening [ ]
Definitive [X]

Species: Pimephales Promelas
Common Name: Fathead Minnow
Mean length: 50 mm
Mean weight: 0.76 g
Supplier: Sticklebacks Unlimited
Acclimation Temp.: 17 degrees C

Organisms/Tank: 10
Replicates: 2
Organisms/Conc.: 20
Tank Depth: 13 cm
Tank Volume: 10 L

Dilution Water: Synthetic Freshwater, Soft

	Alkalinity, mg/L	Hardness, mg/L
Control	70.2	183.6
1000 ppm	60.2	142.8
320 ppm		
100 ppm		

DATE	Initial	24 Hr	48 Hr	72 Hr	96 Hr
	4/20/90	4/21/90	4/22/90	4/23/90	4/24/90

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	9.1	15	7.6	9.2	15	7.6	0	9.3	15	7.6	0	9.4	15	7.6	0	9.8	15	7.2	0	0
100 ppm	10.0	15	7.7	10.3	15	7.6	0	10.2	15	7.6	0	10.2	15	7.6	0	9.8	15	7.3	0	0
180 ppm	10.1	15	7.8	9.5	15	7.6	0	9.4	15	7.6	0	9.4	15	7.6	0	9.8	15	7.3	0	0
320 ppm	10.0	15	7.9	10.0	15	7.6	0	9.8	15	7.6	0	9.9	15	7.6	0	9.6	14	7.3	0	0
560 ppm	10.2	15	7.8	9.8	15	7.6	0	10.0	15	7.6	0	10.0	15	7.6	0	10.2	14	7.3	0	0
1000 ppm	10.3	16	7.7	10.2	16	7.6	0	10.1	15	7.6	0	10.0	15	7.6	0	7.9	15	7.1	0	0

LC-50: >1000 ppm

LC-50 Calculation Method: Non-linear interpolation

Remarks:

Analyst: M. Trujillo

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, September 1987, California Department of Fish and Game WPCL.

SEQUOIA ANALYTICAL

Maria Lee
Project Manager

CHAIN OF CUSTODY RECORD (393)

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324

PERSONNEL

Sampler (Signature) Don McClenagan
Phone (415) 829-0661
Field Crew Supervisor ~~Don McClenagan~~
Field Company
Project Geologist/Engineer John Cummings

SITE INFORMATION

Job Name NESCO
Job Number 0390011.00
Sample Location ~~An~~ EXCAVATED SOIL
ANR TRUCKING
Oakland
P.O. Number

Relinquished by (Signature)	Received by (Signature)	Date	Time
Don McClenagan 4-20-90	V.A. Herrera	4/20	11:25
Relinquished by (Signature)	Received by (Signature)	Date	Time

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
SC 10	Soil	3	ANR-Oakland	4-20-90	LC 50 Fish Bio Assay	

5 day Turnaround

Remarks: 5 Day Turnaround. Attention Maria Lee

APR 0 0 1990

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

MEMO

TO: John Cummings

From: Curtis B. Jenkins — April 26, 1990

Job No.: 0390011 — Page 1 of 2

LABORATORY REPORT

Samples: One (1) soil sample from Nesco, ANR Trucking, Oakland, CA. received 4/23/90 analyzed 4/24/90. (RUSH ANALYSIS)

Sample ID	EPA 418.1	$S^{=}$ (376.2)	Flashpoint (1010)
	mg/kg		
SC 10	5,280	ND	>140° F
Detection Limit	10	.5	

EPA 8020 - see attached sheet

David Sincerbeaux
Chemist

Curtis B. Jenkins
Vice President
Analytical Services

nesco1.rep

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: SC 10
Date Received: 4/23/90
Date Analyzed: 4/24/90
Matrix: Soil
Project #: 390011
File #: nesco1.rep

Compound	Result	D.L.
	-------ug/kg	(ppb)-------
Benzene	ND	30
Chlorobenzene	ND	30
Ethylbenzene	42	30
Toluene	ND	30
Xylenes	80	30
1,2-Dichlorobenzene	ND	30
1,3-Dichlorobenzene	ND	30
1,4-Dichlorobenzene	ND	30

D.L. = Detection Limit
ND = Not Detected

CHAIN OF CUSTODY RECORD

(314)

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324

PERSONNEL

Sampler (Signature) Don McClenagan
Phone (415) 829 0661
Field Crew Supervisor Don McClenagan
Field Company
Project Geologist/Engineer John Cummings

SITE INFORMATION

Job Name Nesco
Job Number 0390011.00
Sample Location Excavated Soil Pile
A&R Trucking
Oakland
P.O. Number

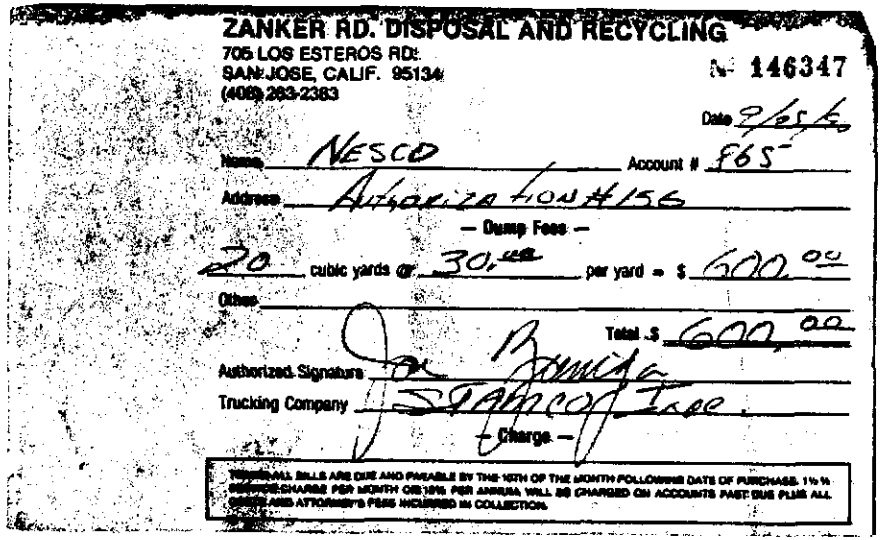
Relinquished by (Signature)	Received by (Signature)	Date	Time
Don McClenagan 4-20-90			
Relinquished by (Signature)	Received by (Signature)	Date	Time

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
SC10	Soil	2	ANR	4-20-90	TPH-418	
					8020	
					Sulfides	
					Ignitability	

Note: Please 3-Day RUSH

Remarks: Please Return ice chest & ice, and the COC Copy
3 Day Rush!!!!! Faster, faster...



ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No. 146347

Date 9/25/6

Name NESCO Account # 865

Address Authorization #156

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

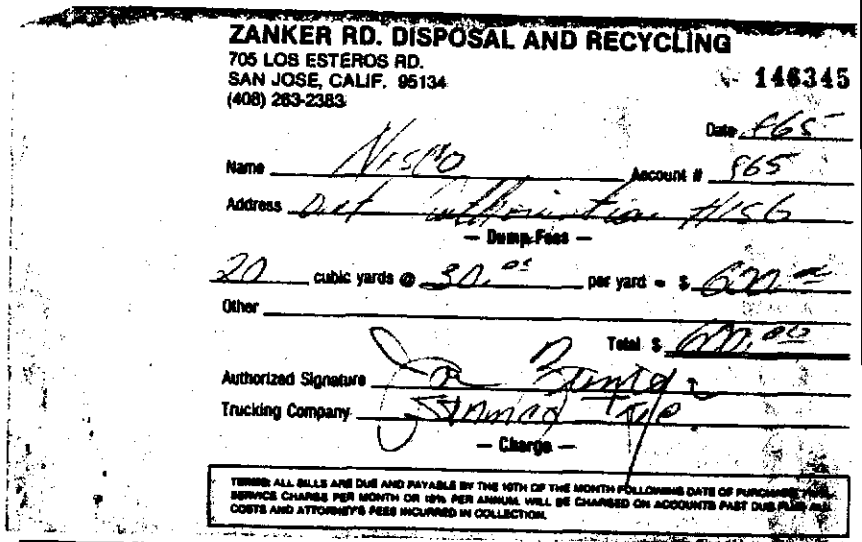
Total $ 600.00

Authorized Signature [signature]

Trucking Company Stanco Tree

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.



ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No. 146345

Date 9/25/6

Name NESCO Account # 865

Address Authorization #156

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

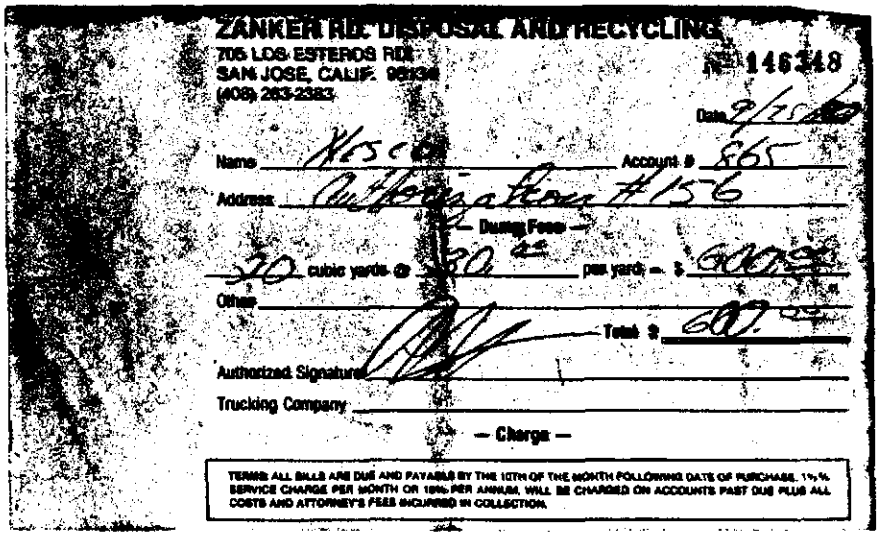
Total $ 600.00

Authorized Signature [signature]

Trucking Company Stanco Tree

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.



ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No. 146348

Date 9/25/6

Name NESCO Account # 865

Address Authorization #156

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

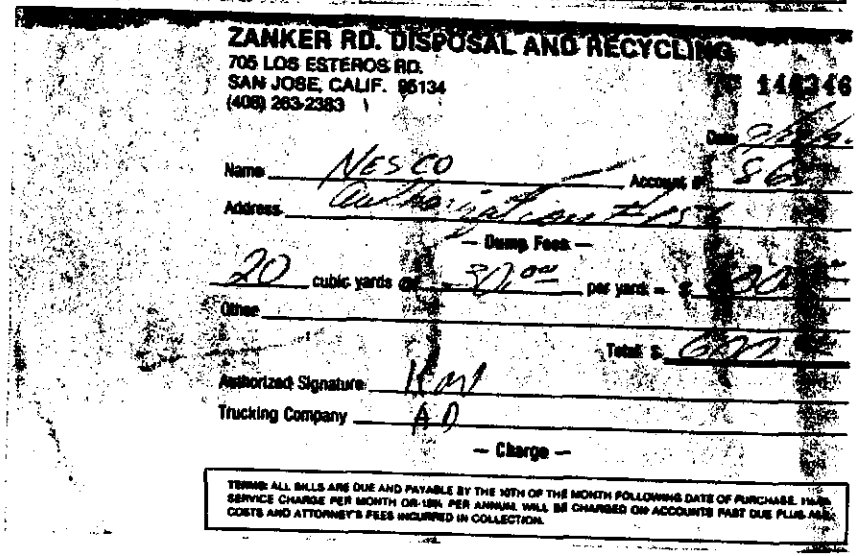
Total $ 600.00

Authorized Signature [signature]

Trucking Company

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.



ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No. 146346

Date 9/25/6

Name NESCO Account # 865

Address Authorization #156

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

Total $ 600.00

Authorized Signature [signature]

Trucking Company AD

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.

ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No 146344

Date 9/25/90

Name NESCO Account # 865

Address Authorization #456

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

Total $ 600.00

Authorized Signature

Trucking Company

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM, WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.

ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No 146349

Date 9/25/90

Name NESCO Account # 865

Address Authorization #456

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

Total $ 600.00

Authorized Signature

Trucking Company

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM, WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.

ZANKER RD. DISPOSAL AND RECYCLING
705 LOS ESTEROS RD.
SAN JOSE, CALIF. 95134
(408) 263-2383

No 146350

Date 9/25/90

Name NESCO Account # 865

Address Authorization #456

— Dump Fees —

20 cubic yards @ 30.00 per yard = $ 600.00

Other

Total $ 600.00

Authorized Signature James Hutchison

Trucking Company STAMCO

— Charge —

TERMS: ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH FOLLOWING DATE OF PURCHASE. 1½% SERVICE CHARGE PER MONTH OR 18% PER ANNUM, WILL BE CHARGED ON ACCOUNTS PAST DUE PLUS ALL COSTS AND ATTORNEY'S FEES INCURRED IN COLLECTION.