



**Removal of One 60-Gallon UST from Area C
Yerba Buena/East Baybridge Center
Oakland, California**

**October 26, 1994
1649.00-039**

**Prepared for
Catellus Development Corporation
201 Mission Street, 30th Floor
San Francisco, California 94105**



LEVINE·FRICKE



LEVINE•FRICKE

ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

October 26, 1994

LF 1649.00-039

Ms. Susan Hugo
Department of Environmental Health
Alameda County Health Care Services
1131 Harbor Bay Parkway Second Floor
Oakland, California 94502

Subject: Removal of One 60-Gallon UST from Area C of the Yerba Buena/East Baybridge Center, Oakland, California

Dear Ms. Hugo:

Enclosed is the subject report, detailing tank removal and disposal, soil sampling procedures, laboratory analysis results, soil excavation, and backfilling activities in Area C of the Yerba Buena/East Baybridge Center in Oakland, California.

If you have any questions or comments, please do not hesitate to call me or Jenifer Beatty.

Sincerely,

Ron Goloubow
Senior Project Geologist

Enclosure

cc: Mr. Sumadhu Arigala, RWQCB
Ms. Kimberly Brandt, Catellus Development Corporation

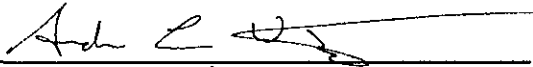
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500
Fax (510) 652-2246

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CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations have been prepared under the supervision of and reviewed by a Levine•Fricke California Registered Geologist.



Andrew L. Wright
Principal Geologist
California Registered Geologist (4592)

10/26/92

Date

October 26, 1994

LF 1649.39

**REMOVAL OF ONE 60-GALLON UST FROM AREA C OF THE
YERBA BUENA/EAST BAYBRIDGE CENTER
OAKLAND, CALIFORNIA**

1.0 INTRODUCTION

This report describes the removal of one 60-gallon underground storage tank (UST) from Area C of the Yerba Buena/East Baybridge Center in Emeryville and Oakland, California ("the Site"; Figure 1). The portion of Area C where the UST was encountered is located within the city limits of Oakland. Levine-Fricke conducted the work on behalf of Catellus Development Corporation, the property owner.

UST removal activities were conducted in accordance with applicable guidelines of the Alameda County Health Care Services Agency (ACHA) and the Oakland Fire Department (OFD). The scope of work for the UST removal was presented in Levine-Fricke's September 22, 1994 "Underground Storage Tank Closure Plan," which was approved by the ACHA on September 23, 1994.

2.0 BACKGROUND

During installation of a sewer pipe trench at the Site on August 8, 1994, Raisch Gradeway Construction (the on-site grading/construction contractor) encountered a 550-gallon UST along the eastern side of the proposed Kmart building pad (Figure 2). This UST was removed on August 11, 1994 under permit from the ACHA and the OFD as described in Levine-Fricke's October 21, 1994 report "Removal of One 550-Gallon UST from Area C, Yerba Buena/East Baybridge Center, Oakland, California."

Following discovery of the 550-gallon UST, Levine-Fricke retained Norcal Geophysical Consultants (NGC) to conduct a survey of Kmart portion of Area C. NGC conducted the survey on September 2 and 3, 1994, to identify magnetic anomalies in the subsurface that warranted further investigation (i.e., excavation of test pits). NGC's geophysical survey identified 14 anomalies. Those anomalies were further delineated using metal detection equipment operated by downUnder Technologies. Based on the results of downUnder's survey, 15 test pits were excavated to depths ranging from 3 to 6 feet bgs at the Site on September 8 and 9, 1994. During excavation of those test

pits, Levine-Fricke located one small UST along the northeastern side of the proposed parking lot for the Kmart store (Figure 2). Levine-Fricke personnel immediately proceeded to coordinate with Catellus implementation of the UST removal activities.

3.0 UST REMOVAL ACTIVITIES

The UST was encountered on September 8, 1994 during excavation of test pits to investigate magnetic anomalies identified by NGC. The top of the UST was ruptured by a backhoe during excavation of the test pit and approximately 20 gallons of liquid was observed in the UST. A sample of this liquid was collected for analysis of total petroleum hydrocarbons as gasoline (TPHg), TPH as diesel (TPHd), and benzene, toluene, ethylbenzene, and total xylenes (BTEX), and then the liquid was pumped from the UST into a 55-gallon drum for temporary storage. After the liquid had been removed, explosivity oxygen meter readings taken just above the UST indicated the UST was inert.

On September 14, 1994, Trumpp Bros., Inc., of San Jose, California, a licensed general engineering and hazardous waste contractor, excavated the UST under permit from the ACHA and the OFD and under the observation of a Levine-Fricke engineer. The on-site Levine-Fricke field engineer recorded observations of the sediments encountered in the excavation during UST removal. The soil lithology consisted of a tan gravelly silt fill layer from 0 to 4 feet below ground surface (bgs), and a black silty clay from 4 to 5 feet bgs. Soil in the excavation did not appear to be stained and field photoionization detector (PID) measurements indicated that the soil was not affected by volatile petroleum hydrocarbons.

In accordance with state guidelines, one soil sample was collected from beneath the UST at a depth of approximately 5 feet bgs, to assess whether releases from the UST had affected surrounding soils. The soil sample was collected by driving a clean brass tube into native soil. The sample tube was labeled and capped with aluminum foil and a plastic cap and stored in a chilled container for transportation under chain-of-custody protocols to American Environmental Network, Inc. (AEN), of Pleasant Hill, California, a state-certified laboratory. The sample was submitted for analysis of TPHd, TPHg, BTEX, TPH as oil, and semivolatile organic chemicals.

After the tank was removed, it was visually inspected. The tank was constructed of steel and was approximately 2 feet in diameter and 3.5 feet long. The UST was observed to have no holes, other than the large hole caused by the backhoe during test pit excavation. A 2-inch-diameter, 5-foot-long pipe was attached to the UST. It could not be determined if this section of piping had been used as a fill line or a dispensing line.

The UST and associated piping were removed from the Site on October 17, 1994 and transported for processing and disposal to Erickson Environmental in Richmond, California. Before the UST was removed, Ms. Susan Hugo of the ACHA inspected the UST and observed collection of the soil sample from the UST excavation. A copy of the hazardous waste manifest is included in Appendix A.

3.1 Analytical Results

One sample of the UST contents and one soil sample collected from beneath the UST were submitted to AEN for analysis as described above. Results of those analyses are presented in Tables 1 and 2. Laboratory certificates are provided in Appendix B. Following receipt of these results, the UST liquid was treated in the on-site ground-water treatment system located in Area A and discharged to the sanitary sewer. Concentrations reported for the soil sample were below cleanup goals for petroleum hydrocarbons established for the Yerba Buena/East Baybridge Center. The criteria are <1 ppm for combined BTEX, <10 ppm TPHg, <100 ppm TPHd, and <1,000 TPHo. Based on these results, the ACHA authorized backfilling of the excavation on September 19, 1994.

TABLE 1
(concentrations in parts per million [ppm])

Sample ID: SMALL TANK (UST liquid sample)						
Sample Date: Sep-09-94						
Benzene	Toluene	Ethylbenzene	Xylenes	TPHg	TPHd	TPHo
<0.0005	0.0005	<0.0005	<0.002	0.09	2	2

TABLE 2
(concentrations in parts per million)

Sample ID: SMALL TANK (soil sample)						
Sample Date: Sep-14-94						
Benzene	Toluene	Ethylbenzene	Xylenes	TPHg	TPHd	TPHo
<0.005	<0.005	<0.005	<0.005	2	3	20

- Semivolatile organic compounds were not present above analytical detection limits, which ranged from 0.330 ppm to 1.6 ppm.
- Methylene chloride was present at a concentration of 0.02 ppm. This concentration likely is the result of laboratory contamination.

3.2 Backfilling

Approximately 20 cubic yards of soil was excavated during the removal of this UST. Based on visual observations and the confirmation sample, the 20 cubic yards of soil was replaced into the excavation and compacted.

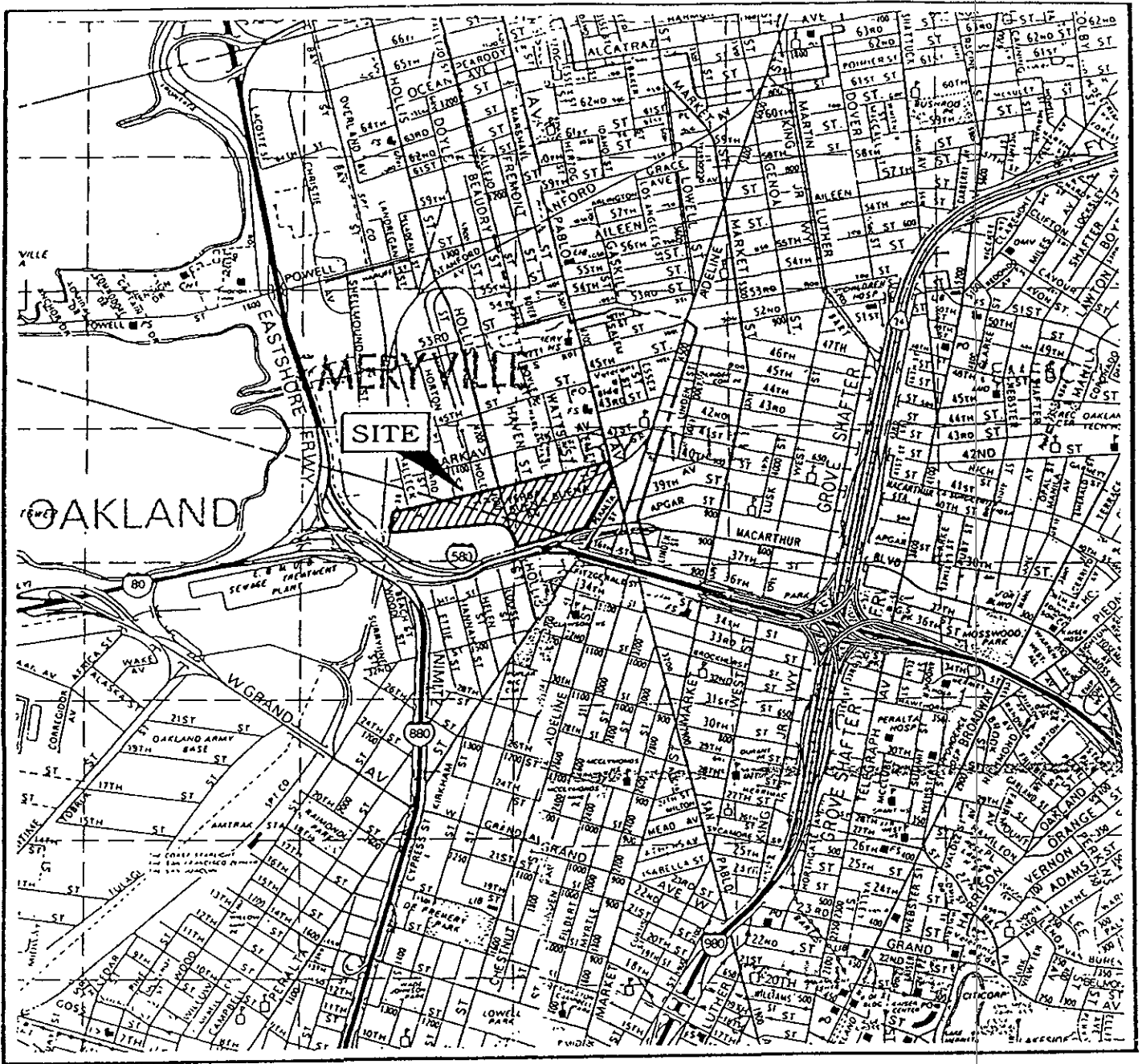
Backfilling and compaction was conducted in October 1994 by St. Francis Electrical, a general contractor. In general, fill material was placed in loose lifts not exceeding 8 to 10 inches and tested to meet 90 percent minimum relative compaction beneath 5 feet bgs and to meet 95 percent minimum relative compaction in the upper 5 feet.

4.0 CONCLUSION

One 60-gallon UST was identified at the Site on September 8, 1994. The approximately 20 gallons of water in the UST was removed, characterized and subsequently treated in the on-site ground-water treatment system located in Area A, and discharged to the sanitary sewer system. The UST and approximately 20 cubic yards of soil were excavated on September 14, 1994. On September 19, 1994, the ACHA approved backfilling of the excavation based on analytical results of a soil sample collected from the bottom of the excavation. The excavation was backfilled in October 1994 by St. Francis Electrical during site development activities.

UST removal and soil sampling were conducted in accordance with guidelines for UST removal sites. Analytical results of soil samples collected beneath the UST did not indicate the presence of BTEX at concentrations above method detection limits. TPHg, TPHd, and TPHo were detected at concentrations

well below cleanup goals established for the Yerba Buena/East Baybridge Center. Therefore, no additional remedial work is recommended, and we request that the ACHA prepare a formal closure letter for this UST site.



MAP SOURCE:
Alameda & Contra Costa Counties,
Thomas Bros. map, 1990 Edition

Figure 1: SITE LOCATION MAP
YERBA BUENA PROJECT SITE

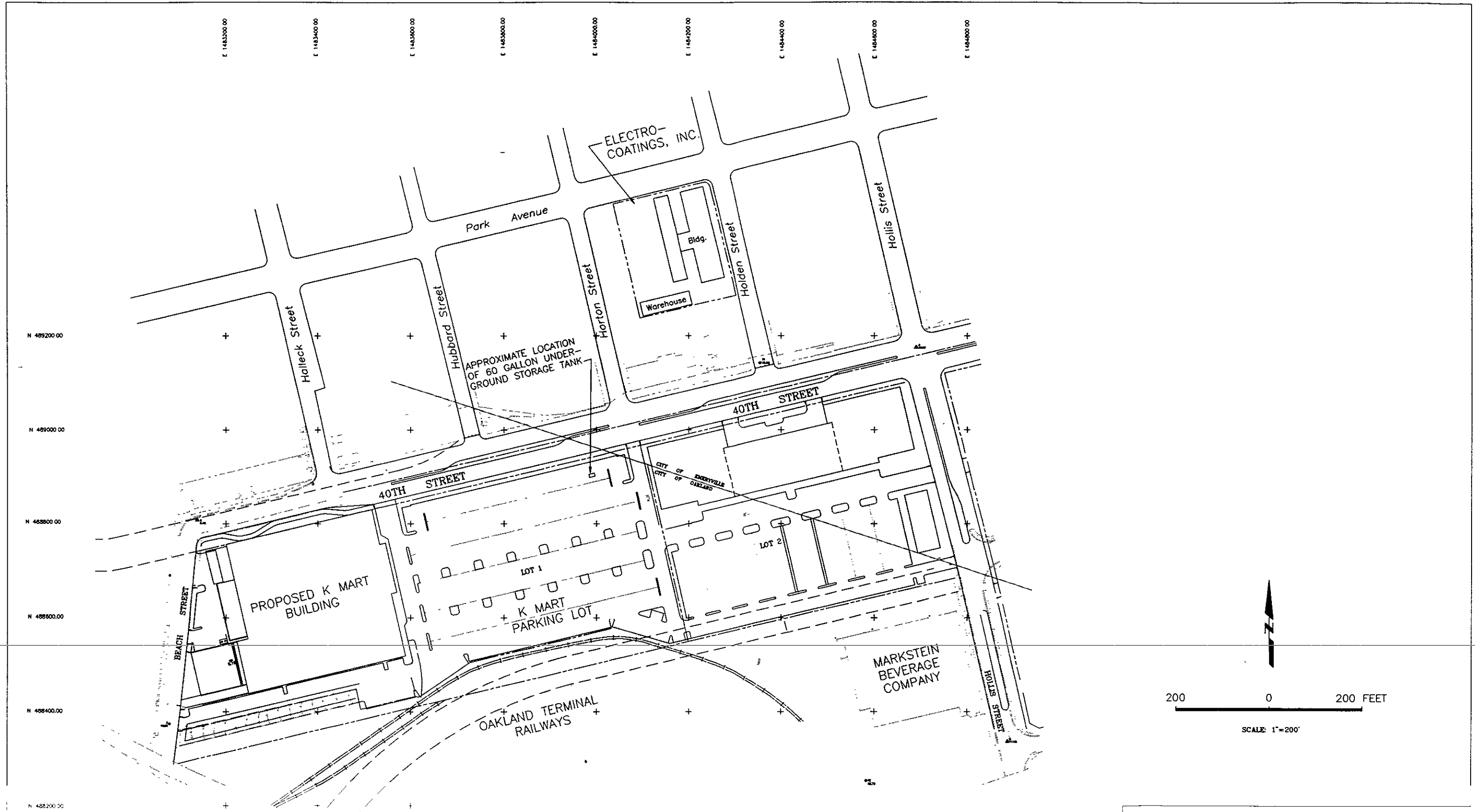


Figure 2:
SITE PLAN SHOWING
AREA "C"

Buildings shown are proposed,
currently the site is vacant

APPENDIX A
HAZARDOUS WASTE MANIFEST

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

REPORT DATE: 09/29/94

DATE(S) SAMPLED: 09/09/94

DATE RECEIVED: 09/09/94

ATTN: RON GOLOUBOW
CLIENT PROJ. ID: 1649.31
CLIENT PROJ. NAME: EAST BAY BRDG.
C.O.C. NUMBER: 12571

AEN WORK ORDER: 9409119


PROJECT SUMMARY:

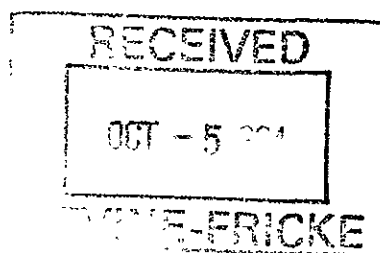
On September 9, 1994, this laboratory received 1 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.


Larry Klein
Laboratory Director



LEVINE-FRICKE

SAMPLE ID: SMALL TANK
 AEN LAB NO: 9409119-01
 AEN WORK ORDER: 9409119
 CLIENT PROJ. ID: 1649.31

DATE SAMPLED: 09/09/94
 DATE RECEIVED: 09/09/94
 REPORT DATE: 09/29/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	09/16/94
Toluene	108-88-3	0.5 *	0.5	ug/L	09/16/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	09/16/94
Xylenes, Total	1330-20-7	ND	2	ug/L	09/16/94
Purgeable HCs as Gasoline	5030/GCFID	0.09 *	0.05	mg/L	09/16/94
#Extraction for TPH	EPA 3510	-		Extrn Date	09/19/94
TPH as Diesel	GC-FID	2 *	0.05	mg/L	09/20/94
TPH as Oil	GC-FID	2 *	0.2	mg/L	09/20/94

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9409119

CLIENT PROJECT ID: 1649.31

Quality Control Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9409119
DATE EXTRACTED: 09/19/94
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary
Method: EPA 3510 GCFID

Date Analyzed	Client Id.	Lab Id.	Percent Recovery
			n-Pentacosane
09/20/94	Small Tank	01	90

Current QC Limits

<u>Surrogate</u>	<u>Percent Recovery</u>
n-Pentacosane	30-120

QUALITY CONTROL DATA

AEN JOB NO: 9409119
 DATE EXTRACTED: 09/16/94
 DATE ANALYZED: 09/19/94
 INSTRUMENT: C
 MATRIX: WATER

Method Spike Recovery Summary
 Method: EPA 3510 GCFID

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Diesel	1.62	80	8	65-103	12

Method Blank Result

Lab Id.	Extractable Hydrocarbons as Diesel (mg/L)
091694-BLANK	ND
Reporting Limit	0.05

QUALITY CONTROL DATA

AEN JOB NO: 9409119
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary
Method: EPA 8020, 5030 GCFID

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
09/16/94	Small Tank	01	97

Current QC Limits

<u>Surrogate</u>	<u>Percent Recovery</u>
Fluorobenzene	86-110

QUALITY CONTROL DATA

AEN JOB NO: 9409119
 DATE ANALYZED: 09/15/94
 SAMPLE SPIKED: 9409113-07
 INSTRUMENT: F
 MATRIX: WATER

Matrix Spike Recovery Summary
 Method: EPA 8020, 5030

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	18	97	6	82-125	15
Toluene	47	99	6	75-126	17
Hydrocarbons as Gasoline	500	98	4	75-132	16

AEN LAB NO: 0916-BLANK
 DATE ANALYZED: 09/16/94

BTEX and Hydrocarbons
 Method: EPA 8020, 5030 GCFID

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
Purgeable Hydrocarbons as: Gasoline		ND mg/L	0.05 mg/L

*** END OF REPORT ***

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9409119

Project No.: 1649.31			Field Logbook No.:			Date: 9-9-94			Serial No.:					
Project Name: EAST BAY BRIDGE			Project Location: Emeryville			No. 12571								
Sampler (Signature) <i>Jay Spuygen</i>			ANALYSES			Samplers: LPC								
SAMPLER						EPA 601			EPA 624			EPA 801S		
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 801S	EPA 801S	EPA 801S	EPA 801S	HOLD	RUSH	REMARKS
SMALL TANK	9-9	1250	OIA-F	5	WATER			X	X	X				NORMAL TURNDOWN
														RESULTS TO Rm 08 LOU BOW
														EPA 801S TPH GASOLINE BTGX
														EPA 801S TPH diesel, TPH oil
RELINQUISHED BY: <i>Jay Spuygen</i>			DATE	TIME	RECEIVED BY: <i>Michael E McMillan</i>			DATE	TIME	RECEIVED BY: <i>Emily Hant</i>			DATE	TIME
RELINQUISHED BY: <i>Michael E McMillan</i>			9-9-94	1320	RECEIVED BY: <i>Emily Hant</i>			9/9/94	15:40	RECEIVED BY: <i>Emily Hant</i>			9/9/94	1740
RELINQUISHED BY: <i>Michael E McMillan</i>			9/9	17:40	RECEIVED BY: <i>Emily Hant</i>			9/9/94	1740	RECEIVED BY: <i>Emily Hant</i>			9/9/94	1740
METHOD OF SHIPMENT: <i>Courier</i>			DATE	TIME	LAB COMMENTS:									
Sample Collector: LEVINE-FRICKE			1900 Powell Street, 12th Floor			Emeryville, California 94608			(510) 652-4500			Analytical Laboratory: <i>AFM</i>		

American Environmental Network

Certificate of Analysis

DOHS Certification 1172

MHA Accreditation 11134

PAGE 1

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RON GOLOUBOW
CLIENT PROJ. ID: 1649.31
CLIENT PROJ. NAME: EAST BAY BRDG.
C.O.C. NUMBER: 12323

REPORT DATE: 09/23/94
DATE(S) SAMPLED: 09/14/94
DATE RECEIVED: 09/14/94
AEN WORK ORDER: 9409170

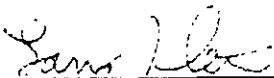
PROJECT SUMMARY:

On September 14, 1994, this laboratory received 1 soil sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.



Larry Klein
Laboratory Director



LEVINE - FRICKE

SAMPLE ID: SMALL TANK
 AEN LAB NO: 9409170-01A
 AEN WORK ORDER: 9409170
 CLIENT PROJ. ID: 1649.31

DATE SAMPLED: 09/14/94
 DATE RECEIVED: 09/14/94
 REPORT DATE: 09/23/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	09/14/94
Toluene	108-88-3	ND	5	ug/kg	09/14/94
Ethylbenzene	100-41-4	ND	5	ug/kg	09/14/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	09/14/94
Purgeable HCs as Gasoline	5030/GCFID	2.0 *	0.2	mg/kg	09/14/94
#Extraction for TPH	EPA 3550	-		Extrn Date	09/14/94
TPH as Diesel	GC-FID	3 *	1	mg/kg	09/15/94
TPH as Oil	GC-FID	20 *	5	mg/kg	09/15/94
#Extraction for BNAs	EPA 3550	-		Extrn Date	09/15/94
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	330	ug/kg	09/15/94
Acenaphthylene	208-96-8	ND	330	ug/kg	09/15/94
Anthracene	120-12-7	ND	330	ug/kg	09/15/94
Benzidine	92-87-5	ND	1600	ug/kg	09/15/94
Benzoic Acid	65-85-0	ND	1600	ug/kg	09/15/94
Benzo(a)anthracene	56-55-3	ND	330	ug/kg	09/15/94
Benzo(b)fluoranthene	205-99-2	ND	330	ug/kg	09/15/94
Benzo(k)fluoranthene	207-08-9	ND	330	ug/kg	09/15/94
Benzo(g,h,i)perylene	191-24-2	ND	330	ug/kg	09/15/94
Benzo(a)pyrene	50-32-8	ND	330	ug/kg	09/15/94
Benzyl Alcohol	100-51-6	ND	660	ug/kg	09/15/94
Bis(2-chloroethoxy)methane	111-91-1	ND	330	ug/kg	09/15/94
Bis(2-chloroethyl) Ether	111-44-4	ND	330	ug/kg	09/15/94
Bis(2-chloroisopropyl) Ether	108-60-1	ND	330	ug/kg	09/15/94
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	330	ug/kg	09/15/94
4-Bromophenyl Phenyl Ether	101-55-3	ND	330	ug/kg	09/15/94
Butylbenzyl Phthalate	85-68-7	ND	330	ug/kg	09/15/94
4-Chloroaniline	106-47-8	ND	660	ug/kg	09/15/94
2-Chloronaphthalene	91-58-7	ND	330	ug/kg	09/15/94
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	330	ug/kg	09/15/94
Chrysene	218-01-9	ND	330	ug/kg	09/15/94
Dibenzo(a,h)anthracene	53-70-3	ND	330	ug/kg	09/15/94
Dibenzofuran	132-64-9	ND	330	ug/kg	09/15/94
Di-n-butyl Phthalate	84-74-2	ND	330	ug/kg	09/15/94
1,2-Dichlorobenzene	95-50-1	ND	330	ug/kg	09/15/94
1,3-Dichlorobenzene	541-73-1	ND	330	ug/kg	09/15/94

LEVINE-FRICKE

SAMPLE ID: SMALL TANK
 AEN LAB NO: 9409170-01A
 AEN WORK ORDER: 9409170
 CLIENT PROJ. ID: 1649.31

DATE SAMPLED: 09/14/94
 DATE RECEIVED: 09/14/94
 REPORT DATE: 09/23/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
1,4-Dichlorobenzene	106-46-7	ND	330	ug/kg	09/15/94
3,3'-Dichlorobenzidine	91-94-1	ND	660	ug/kg	09/15/94
Diethyl Phthalate	84-66-2	ND	330	ug/kg	09/15/94
Dimethyl Phthalate	131-11-3	ND	330	ug/kg	09/15/94
2,4-Dinitrotoluene	121-14-2	ND	330	ug/kg	09/15/94
2,6-Dinitrotoluene	606-20-2	ND	330	ug/kg	09/15/94
Di-n-octyl Phthalate	117-84-0	ND	330	ug/kg	09/15/94
1,2-Diphenylhydrazine	122-66-7	ND	330	ug/kg	09/15/94
Fluoranthene	206-44-0	ND	330	ug/kg	09/15/94
Fluorene	86-73-7	ND	330	ug/kg	09/15/94
Hexachlorobenzene	118-74-1	ND	330	ug/kg	09/15/94
Hexachlorobutadiene	87-68-3	ND	330	ug/kg	09/15/94
Hexachlorocyclopentadiene	77-47-4	ND	330	ug/kg	09/15/94
Hexachloroethane	67-72-1	ND	330	ug/kg	09/15/94
Indeno(1,2,3-cd)pyrene	193-39-5	ND	330	ug/kg	09/15/94
Isophorone	78-59-1	ND	330	ug/kg	09/15/94
2-Methylnaphthalene	91-57-6	ND	330	ug/kg	09/15/94
Naphthalene	91-20-3	ND	330	ug/kg	09/15/94
2-Nitroaniline	88-74-4	ND	1600	ug/kg	09/15/94
3-Nitroaniline	99-09-2	ND	1600	ug/kg	09/15/94
4-Nitroaniline	100-01-6	ND	1600	ug/kg	09/15/94
Nitrobenzene	98-95-3	ND	330	ug/kg	09/15/94
N-Nitrosodimethylamine	62-75-9	ND	330	ug/kg	09/15/94
N-Nitrosodiphenylamine	86-30-6	ND	330	ug/kg	09/15/94
N-Nitrosodi-n-propylamine	621-64-7	ND	330	ug/kg	09/15/94
Phenanthrene	85-01-8	ND	330	ug/kg	09/15/94
Pyrene	129-00-0	ND	330	ug/kg	09/15/94
1,2,4-Trichlorobenzene	120-82-1	ND	330	ug/kg	09/15/94
4-Chloro-3-methylphenol	59-50-7	ND	330	ug/kg	09/15/94
2-Chlorophenol	95-57-8	ND	330	ug/kg	09/15/94
2,4-Dichlorophenol	120-83-2	ND	330	ug/kg	09/15/94
2,4-Dimethylphenol	105-67-9	ND	330	ug/kg	09/15/94
4,6-Dinitro-2-methylphenol	534-52-1	ND	1600	ug/kg	09/15/94
2,4-Dinitrophenol	51-28-5	ND	1600	ug/kg	09/15/94
2-Methylphenol	95-48-7	ND	330	ug/kg	09/15/94
4-Methylphenol	106-44-5	ND	330	ug/kg	09/15/94
2-Nitrophenol	88-75-5	ND	330	ug/kg	09/15/94
4-Nitrophenol	100-02-7	ND	1600	ug/kg	09/15/94
Pentachlorophenol	87-86-5	ND	1600	ug/kg	09/15/94
Phenol	108-95-2	ND	330	ug/kg	09/15/94
2,4,5-Trichlorophenol	95-95-4	ND	330	ug/kg	09/15/94
2,4,6-Trichlorophenol	88-06-2	ND	330	ug/kg	09/15/94

LEVINE - FRICKE

SAMPLE ID: SMALL TANK
 AEN LAB NO: 9409170-01A
 AEN WORK ORDER: 9409170
 CLIENT PROJ. ID: 1649.31

DATE SAMPLED: 09/14/94
 DATE RECEIVED: 09/14/94
 REPORT DATE: 09/23/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	09/15/94
Bromoform	75-25-2	ND	5	ug/kg	09/15/94
Bromomethane	74-83-9	ND	5	ug/kg	09/15/94
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	09/15/94
Chlorobenzene	108-90-7	ND	5	ug/kg	09/15/94
Chloroethane	75-00-3	ND	5	ug/kg	09/15/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	09/15/94
Chloroform	67-66-3	ND	5	ug/kg	09/15/94
Chloromethane	74-87-3	ND	5	ug/kg	09/15/94
Dibromochloromethane	124-48-1	ND	5	ug/kg	09/15/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	09/15/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	09/15/94
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	09/15/94
Dichlorodifluoromethane	75-71-8	ND	5	ug/kg	09/15/94
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	09/15/94
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	09/15/94
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	09/15/94
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	09/15/94
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	09/15/94
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	09/15/94
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	09/15/94
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	09/15/94
Methylene Chloride	75-09-2	20 *	5	ug/kg	09/15/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	09/15/94
Tetrachloroethene	127-18-4	ND	5	ug/kg	09/15/94
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	09/15/94
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	09/15/94
Trichloroethene	79-01-6	ND	5	ug/kg	09/15/94
Trichlorofluoromethane	75-69-4	ND	5	ug/kg	09/15/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	09/15/94
Vinyl Chloride	75-01-4	ND	5	ug/kg	09/15/94

ND = Not detected at or above the reporting limit

* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9409170

CLIENT PROJECT ID: 1649.31

Quality Control Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9409170
DATE EXTRACTED: 09/14/94
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 3550 GCFID

Date Analyzed	Client Id.	Lab Id.	Percent Recovery
			n-Pentacosane
09/15/94	Small Tank	01	83

Current QC Limits

<u>Surrogate</u>	<u>Percent Recovery</u>
n-Pentacosane	45-120

QUALITY CONTROL DATA

AEN JOB NO: 9409170
 DATE EXTRACTED: 09/14/94
 DATE ANALYZED: 09/16/94
 SAMPLE SPIKED: LCS
 INSTRUMENT: C
 MATRIX: SOIL

Laboratory Control Sample
 Method: EPA 3550 GCFID

Analyte	Spike Added (mg/kg)	Percent Recovery	QC Limits
			Percent Recovery
Diesel	32.3	77	53-103

Method Blank Result

Lab Id.	Extractable Hydrocarbons as Diesel (mg/kg)
091494-BLANK	ND
Reporting Limit	1

QUALITY CONTROL DATA

AEN JOB NO: 9409170
INSTRUMENT: E
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 8020, 5030 GCFID

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
09/14/94	Small Tank	01	102

Current QC Limits

<u>Surrogate</u>	<u>Percent Recovery</u>
Fluorobenzene	84-117

QUALITY CONTROL DATA

AEN JOB NO: 9409170
 DATE ANALYZED: 09/14/94
 SAMPLE SPIKED: 9409120-12
 INSTRUMENT: E
 MATRIX: SOIL

Matrix Spike Recovery Summary
 Method: EPA 8020, 5030

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	34.2	107	11	80-130	26
Toluene	93.4	104	7	75-129	27
Hydrocarbons as Gasoline	1000	93	4	66-128	34

AEN LAB NO: 0914-BLANK
 DATE ANALYZED: 09/14/94
 INSTRUMENT: E
 MATRIX: SOIL

BTEX and Hydrocarbons
 Method: EPA 8020, 5030 GCFID

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
Purgeable Hydrocarbons as: Gasoline		ND mg/kg	0.2 mg/kg

QUALITY CONTROL DATA

AEN JOB NO: 9409170
 AEN LAB NO: 0915-BLANK
 DATE ANALYZED: 09/15/94
 INSTRUMENT: G
 MATRIX: SOIL

Halogenated Volatile Organics
 Method: EPA 8010

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethyl Vinyl Ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Methylene Chloride	75-09-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	ND	5
Vinyl Chloride	75-01-4	ND	5

QUALITY CONTROL DATA

AEN JOB NO: 9409170
INSTRUMENT: G
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 8010

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Bromochloro-methane	1-Bromo-3-chloro-propane
09/15/94	Small Tank	01	89	78

Current QC Limits

<u>Surrogate</u>	<u>Percent Recovery</u>
Bromochloromethane	62-137
1-Bromo-3-chloropropane	53-143

QUALITY CONTROL DATA

AEN JOB NO: 9409170
DATE ANALYZED: 09/15/94
SAMPLE SPIKED: LCS
INSTRUMENT: G
MATRIX: SOIL

Laboratory Control Sample
Method: EPA 8010

Analyte	Spike Added (ug/kg)	Percent Recovery	QC Limits
			Percent Recovery
1,1-Dichloroethene	500	81	48-111
Trichloroethene	500	89	63-129
Chlorobenzene	500	77	56-114

QUALITY CONTROL DATA

AEN JOB NO: 9409170
 AEN LAB NO: 0915-BLANK
 DATE EXTRACTED: 09/15/94
 DATE ANALYZED: 09/15/94
 INSTRUMENT: 11
 MATRIX: SOIL

Semi-Volatile Organic Compounds
 GC/MS Extractables
 Method: EPA 8270

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Acenaphthene	83-32-9	ND	330
Acenaphthylene	208-96-8	ND	330
Anthracene	120-12-7	ND	330
Benidine	92-87-5	ND	1600
Benzoic Acid	65-85-0	ND	1600
Benzo(a)anthracene	56-55-3	ND	330
Benzo(b)fluoranthene	205-99-2	ND	330
Benzo(k)fluoranthene	207-08-9	ND	330
Benzo(g,h,i)perylene	191-24-2	ND	330
Benzo(a)pyrene	50-32-8	ND	330
Benzyl Alcohol	100-51-6	ND	660
Bis(2-chloroethoxy) methane	111-91-1	ND	330
Bis(2-chloroethyl)ether	111-44-4	ND	330
Bis(2-chloroisopropyl) ether	108-60-1	ND	330
Bis(2-ethylhexyl) phthalate	117-81-7	ND	330
4-Bromophenyl phenyl ether	101-55-3	ND	330
Butylbenzyl phthalate	85-68-7	ND	330
4-Chloroaniline	106-47-8	ND	660
2-Chloronaphthalene	91-58-7	ND	330
4-Chlorophenyl phenyl ether	7005-72-3	ND	330
Chrysene	218-01-9	ND	330
Dibenzo(a,h)anthracene	53-70-3	ND	330
Dibenzofuran	132-64-9	ND	330
Di-n-butylphthalate	84-74-2	ND	330
1,2-Dichlorobenzene	95-50-1	ND	330

QUALITY CONTROL DATA

AEN JOB NO: 9409170
 AEN LAB NO: 0915-BLANK
 DATE EXTRACTED: 09/15/94
 DATE ANALYZED: 09/15/94
 INSTRUMENT: 11
 MATRIX: SOIL

GC/MS Extractables (Cont.)
 Method: EPA 8270

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
1,3-Dichlorobenzene	541-73-1	ND	330
1,4-Dichlorobenzene	106-46-7	ND	330
3,3'-Dichlorobenzidine	91-94-1	ND	660
Diethylphthalate	84-66-2	ND	330
Dimethylphthalate	131-11-3	ND	330
2,4-Dinitrotoluene	121-14-2	ND	330
2,6-Dinitrotoluene	606-20-2	ND	330
Di-n-octylphthalate	117-84-0	ND	330
1,2-Diphenylhydrazine	122-66-7	ND	330
Fluoranthene	206-44-0	ND	330
Fluorene	86-73-7	ND	330
Hexachlorobenzene	118-74-1	ND	330
Hexachlorobutadiene	87-68-3	ND	330
Hexachlorocyclopentadiene	77-47-4	ND	330
Hexachloroethane	67-72-1	ND	330
Indeno(1,2,3-cd)pyrene	193-39-5	ND	330
Isophorone	78-59-1	ND	330
2-Methylnaphthalene	91-57-6	ND	330
Naphthalene	91-20-3	ND	330
2-Nitroaniline	88-74-4	ND	1600
3-Nitroaniline	99-09-2	ND	1600
4-Nitroaniline	100-01-6	ND	1600
Nitrobenzene	98-95-3	ND	330
N-nitrosodimethylamine	62-75-9	ND	330
N-nitrosodiphenylamine	86-30-6	ND	330
N-nitroso-di-n-propylamine	621-64-7	ND	330
Phenanthrene	85-01-8	ND	330
Pyrene	129-00-0	ND	330
1,2,4-Trichlorobenzene	120-82-1	ND	330

QUALITY CONTROL DATA

AEN JOB NO: 9409170
AEN LAB NO: 0915-BLANK
DATE EXTRACTED: 09/15/94
DATE ANALYZED: 09/15/94
INSTRUMENT: 11
MATRIX: SOIL

GC/MS Extractables (Cont.)
Method: EPA 8270

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
4-Chloro-3-methylphenol	59-50-7	ND	330
2-Chlorophenol	95-57-8	ND	330
2,4-Dichlorophenol	120-83-2	ND	330
2,4-Dimethylphenol	105-67-9	ND	330
4,6-Dinitro-2-methylphenol	534-52-1	ND	1600
2,4-Dinitrophenol	51-28-5	ND	1600
2-Methylphenol	95-48-7	ND	330
4-Methylphenol	106-44-5	ND	330
2-Nitrophenol	88-75-5	ND	330
4-Nitrophenol	100-02-7	ND	1600
Pentachlorophenol	87-86-5	ND	1600
Phenol	108-95-2	ND	330
2,4,5-Trichlorophenol	95-95-4	ND	330
2,4,6-Trichlorophenol	88-06-2	ND	330

QUALITY CONTROL DATA

AEN JOB NO: 9409170
DATE EXTRACTED: 09/15/94
INSTRUMENT: 11
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 8270

Date Analyzed	Client Id.	Lab Id.	Percent Recovery					2,4,6-Tribromophenol
			Nitrobenzene-d ₅	2-Fluorobiphenyl	Terphenyl-d ₁₄	Phenol-d ₅	2-Fluorophenol	
09/15/94	Small Tank	01	71	86	136	87	67	109

Current QC Limits

<u>Surrogate</u>	<u>Percent Recovery</u>
Nitrobenzene-d ₅	23-120
2-Fluorobiphenyl	30-115
Terphenyl-d ₁₄	18-137
Phenol-d ₅	24-113
2-Fluorophenol	25-121
2,4,6-Tribromophenol	19-122

QUALITY CONTROL DATA

AEN JOB NO: 9409170
 DATE EXTRACTED: 09/01/94
 DATE ANALYZED: 09/01/94
 SAMPLE SPIKED: 9408385-24
 INSTRUMENT: 11
 MATRIX: SOIL

Matrix Spike Recovery Summary
 Method: EPA 8270

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Phenol	3330	58	21	35- 81	33
2-Chlorophenol	3330	57	21	28- 88	26
1,4-Dichlorobenzene	3400	35	6	28- 81	9
N-Nitroso-di-n-propylamine	3320	64	14	27- 83	20
1,2,4-Trichlorobenzene	3330	53	21	30- 82	22
4-Chloro-3-methylphenol	3270	78	11	31-104	28
Acenaphthene	3330	76	12	30-101	17
4-Nitrophenol	3300	89	7	7-102	32
2,4-Dinitrotoluene	3330	77	<1	26- 86	24
Pentachlorophenol	3380	83	<1	11- 94	41
Pyrene	3320	100	20	23-128	23

*** END OF REPORT ***

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9409170

Project No.: 1649.31 Field Logbook No.: Date: 9-14-94 Serial No.:

Project Name: EAST BAY BRIDGE Project Location: Emeryville No: 12323

Sampler (Signature): Jay Muzade Samplers: WPL

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	ANALYSES						HOLD	RUSH	REMARKS
						EPA 601	TPH	TPK	EPA 846	EPA 8270				
SMALL JAR	9-14	1411	OIA	1	Soil	X	X	X	X			X		RUSH 24 Hour TAT
SMALL JAR	9-14	1411	↓	1	Soil	X	X	X	X			X		Composite INTO one Sample
														TPH GASOLINE
														BTX
														TPK diesel
														TPH oil
														EPA 8010
														EPA 8270

RELINQUISHED BY: (Signature) Jay Muzade	DATE 9-14-94	TIME 14:30	RECEIVED BY: (Signature) Robert Williams	DATE 9-14-94	TIME 14:40
RELINQUISHED BY: (Signature) Robert Williams	DATE 9-14-94	TIME 15:45	RECEIVED BY: (Signature) Cynthia Gillespie	DATE 9-14-94	TIME 15:45
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME

METHOD OF SHIPMENT: COURIER DATE: TIME: LAB COMMENTS:

Sample Collector: LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500

Analytical Laboratory: AEM

APPENDIX B
LABORATORY CERTIFICATES

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. **CAD1983585746808** Manifest Document No. **717** 2. Page **1** of **1**

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
CATELLUS DEVELOPMENT CORP.
201 MISSION ST.
SAN FRANCISCO, CA 94105
 4. Generator's Phone **(415) 974-4500**

5. Transporter 1 Company Name **ERICKSON INC.** 6. US EPA ID Number **CAD009466392**
 7. Transporter 2 Company Name _____ 8. US EPA ID Number _____

9. Designated Facility Name and Site Address
Erickson, Inc.
255 Parr Blvd.
Richmond, CA. 94801 10. US EPA ID Number **CAD009466392**

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit Wt/Vol	15. Waste Stream
	No.	Type			
a. NON-RCRA Hazardous Waste Solid Waste Empty Storage Tank.	001	T/P	00100	P	
b.					
c.					
d.					

Additional Descriptions for Materials Listed Above: _____
 Handling Codes for Wastes Listed Above: _____

15. Special Handling Instructions and Additional Information
Keep away from sources of ignition. Always wear hardhats when working around U.G.S.T.'s 24 Hr. Contact Name Dennis Wong & Phone (415) 974-4500

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
 If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name **STUART COUNSELL** Signature *Stuart Counsell* Month **11** Day **01** Year **1994**

17. Transporter 1 Acknowledgement of Receipt of Materials
 Printed/Typed Name **Stanley D. Willes** Signature *Stanley D. Willes* Month **10** Day **17** Year **1994**

18. Transporter 2 Acknowledgement of Receipt of Materials
 Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
 Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____

DO NOT WRITE BELOW THIS LINE.

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

GENERATOR

TRANSPORTER

FACILITY