

Linda Cademartori
Cademartori Trucking
1833 Peralta Street
Oakland CA 94607

ALCO
HAZMAT
94 FEB 23 PM 1:45 10 November 1993

Project No. P15A

Letter Report
Soil Stockpile Sampling and Analysis
Cademartori Trucking
1833 Peralta Street
Oakland CA

Dear Ms. Cademartori:

This letter report summarizes sampling and analysis of the soil stockpile located at 1833 Peralta Street, Oakland CA (Figures 1 and 2). Work was performed pursuant to your verbal authorization given on 19 August 1993.

BACKGROUND

The property is currently operated as a motor-freight facility. Vehicles are no longer fueled at the facility.

Two fuel tanks from a common excavation (10,000-gallon diesel and 1,000-gallon leaded/unleaded gasoline) and one waste oil tank from another excavation (5,000-gallon) were removed on 10 July 1990. During tank removal, petroleum-stained soil was excavated and stockpiled adjacent to each excavation.

Results of soil analyses revealed elevated levels of total petroleum hydrocarbons as diesel (TPH-diesel), benzene, xylenes, and ethylbenzene from the sidewalls of the fuel tanks excavation. Elevated concentrations of oil & grease, TPH-gasoline, TPH-diesel, and toluene, ethylbenzene, and xylenes were detected in soil from the sidewalls of the waste oil tank excavation. Halogenated volatile organic compounds were not detected.

On January 17 1991, an additional 50 cubic yards of soil was overexcavated from the tank excavations and stockpiled onsite. After closure of the excavations, the soil stockpiles were consolidated into a single stockpile and relocated adjacent to the southern property boundary.

STOCKPILE SAMPLING AND ANALYSIS

Stockpile sampling was performed on 23 August 1993. The stockpile consisted of approximately 160 cubic yards of soil located adjacent to the southern fence of the property (Figure 2).

Three composite soil samples were collected in accordance with Standard Operating Procedure 21: Stockpile Sampling (Attachment 1). The stockpile was first divided into three equal portions and then 4 subsamples were collected within each portion. Subsamples were collected at a depth of 1.5- to 2-feet into the stockpile to obtain representative un-aerated samples. Subsamples were composited in a stainless steel bowl and packed into brass liners. The liners were stored in a cooler with ice and transported on the same day to Chromalab, San Ramon CA. The soil sampling form is included in Attachment 2 and the chain of custody form is included in Attachment 3.

in the field or lab?

Each of the 3 composite samples were analyzed for TPH-motor oil, TPH-diesel, TPH-gasoline, and benzene, toluene, ethylbenzene, and xylenes (BTEX). One sample (Stockpile Comp 1) was also analyzed for reactivity, corrosivity, and ignitability (RCI).

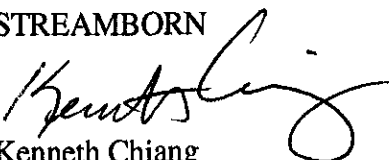
Analytical results are presented in Table 1 and laboratory reports are included in Attachment 4. Analytical results indicate the soil stockpile contains detectable concentrations of TPH-motor oil and TPH-diesel.

The results indicate the soil may be disposed of at Vasco Road Landfill, Livermore CA. Alternatively, the soil may be treated via enhanced bioremediation for reuse as onsite fill.

If you have any questions or comments, or would like to proceed with disposal of the soil at this time, please call.

Sincerely,

STREAMBORN



Kenneth Chiang
Environmental Engineer

Attachments

Table 1
Stockpile Analytical Results

Sample Location	Soil Stockpile - West End	Soil Stockpile - Center	Soil Stockpile - East End
Sample Designation	Stockpile Comp 1	Stockpile Comp 2	Stockpile Comp 3
Sample Date	23 August 1993	23 August 1993	23 August 1993
Approximate Sample Depth (feet)	1.5 - 2.0 (into stockpile)	1.5 - 2.0 (into stockpile)	1.5 - 2.0 (into stockpile)
Sample Type	Composite (4 subsamples)	Composite (4 subsamples)	Composite (4 subsamples)
Soil Type	Silty Sand with gravel, concrete, and debris, grey-brown, dry.	Silty Sand with gravel, concrete, and debris, grey-brown, dry.	Silty Sand with gravel, concrete, and debris, grey-brown, dry.
Odor or Staining	None	None	None
Cavity Screening (ppm v/v)	<5	<5	<5
Reactivity	No	Not Measured	Not Measured
Corrosivity (pH)	6.7	Not Measured	Not Measured
Ignitability	No	Not Measured	Not Measured
Total Petroleum Hydrocarbons as Diesel (mg/kg)	17	13	43
Total Petroleum Hydrocarbons as Motor Oil (mg/kg)	160	120	370
Total Petroleum Hydrocarbons as Gasoline (mg/kg)	<1	<1	<1
Benzene (mg/kg)	<0.005	<0.005	<0.005
Toluene (mg/kg)	<0.005	<0.005	<0.005
Ethylbenzene (mg/kg)	<0.005	<0.005	<0.005
Xylenes (mg/kg)	<0.005	<0.005	<0.005

General Notes

- (a) < denotes parameter below analytical detection limits (nondetect analytical results are shaded).
 (b) Cavity screening performed by inserting the field organic vapor meter into the cavity remaining after liner removal. Field organic vapor meter = Thermo Environmental Instruments Model 580B photoionization device, equipped with 10.0 eV lamp, calibrated with 100 ppm v/v isobutylene.

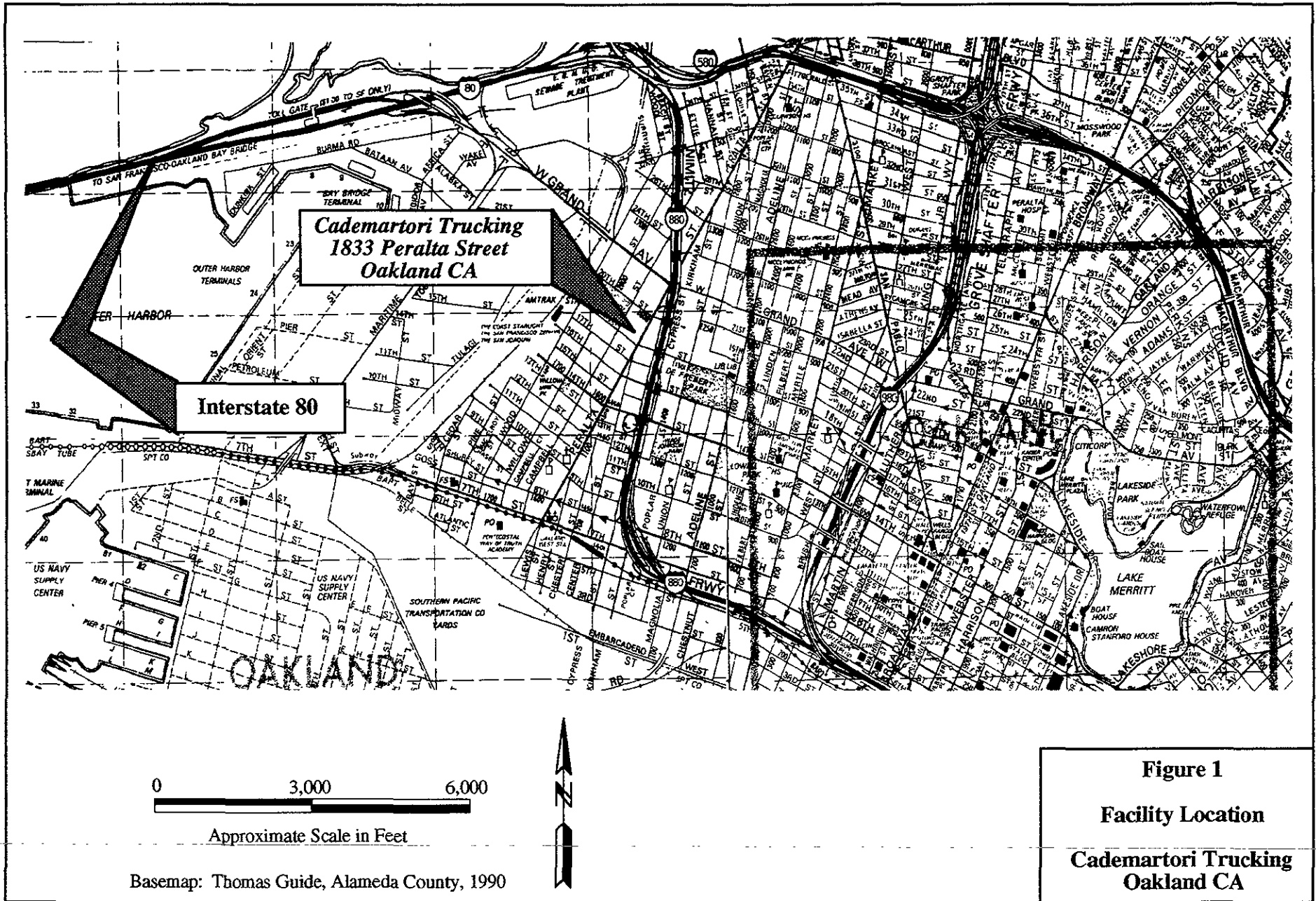


Figure 1
Facility Location
Cademartori Trucking
Oakland CA

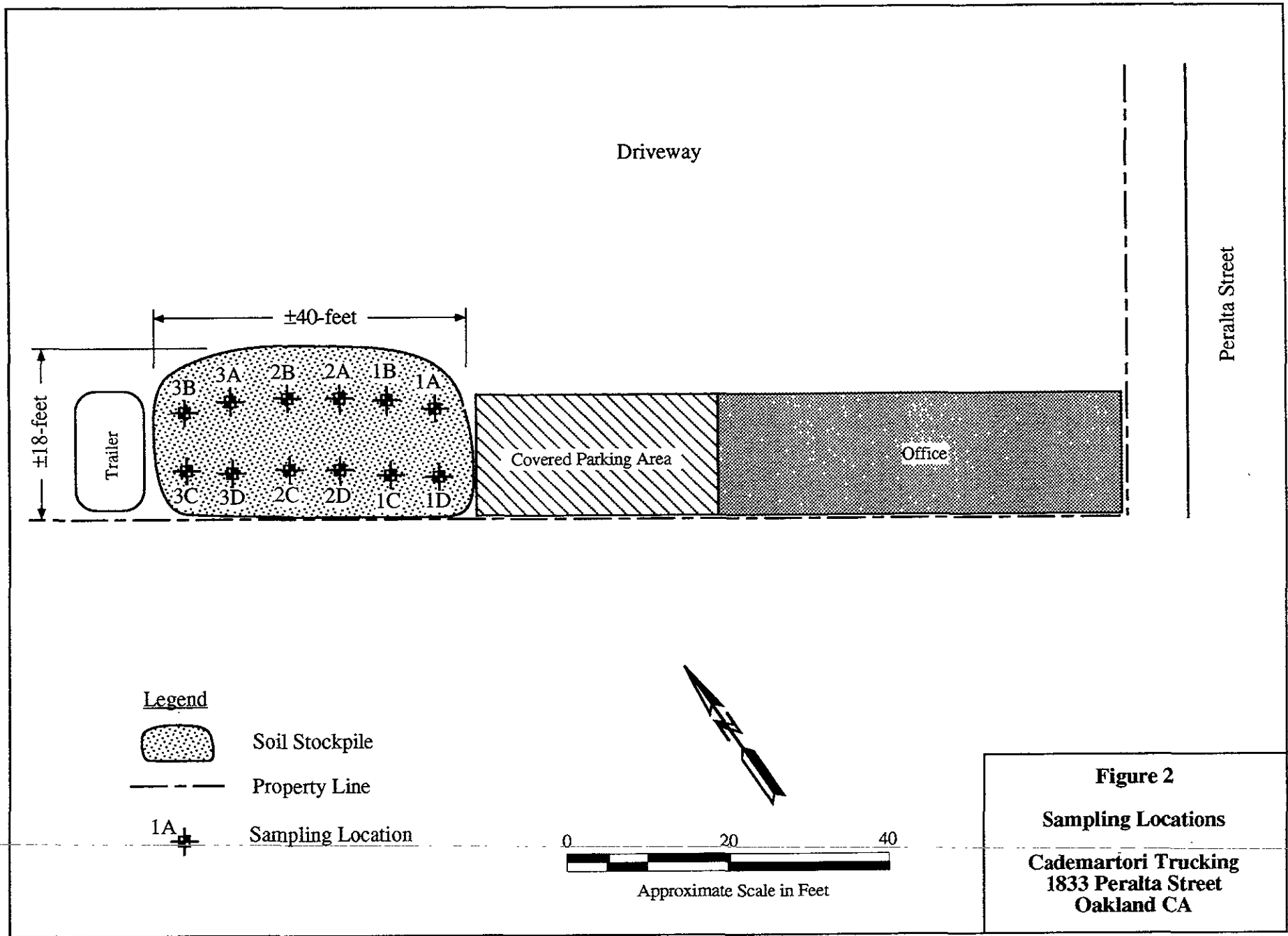


Figure 2
Sampling Locations
 Cademartori Trucking
 1833 Peralta Street
 Oakland CA

ATTACHMENT 1
Standard Operating Procedure

STANDARD OPERATING PROCEDURE (SOP) 21 STOCKPILE SAMPLING

1.0 INTRODUCTION AND SUMMARY

This SOP describes procedures for sampling of stockpiles of soil excavated during underground tank removal and remediation. The sampling protocols described herein are suitable for collecting discreet soil samples for chemical analysis to determine the suitability of soil for onsite disposal or reuse.

2.0 EQUIPMENT AND MATERIALS

- Brass or stainless steel liners, 3- to 6-inch length and 2- or 2.5-inch diameter, fitted with plastic endcaps
- Hammer or other tool to drive liners into soil
- Teflon sheets, approximate 6-mil thickness, approximate 3-inch width
- Kimwipes, clean silica sand, and/or deionized water (for blank sample preparation)
- Duct tape
- Soil sampling form, sample labels, chain-of-custody forms, field notebook, and marking pens
- Field organic vapor monitor: Thermo Environmental Instruments Model 580B photoionization device, equipped with 10.0 eV lamp, calibrated with 100 ppm v/v isobutylene
- Zip-lock plastic bags of size to accommodate sample containers
- Steel shovel and trowel
- Cooler with ice
- Buckets (minimum 2) and brushes (minimum 2) for decontamination
- Low residue, organic free soap such as Liquinox or Alconox
- Distilled or deionized water (minimum 2 gallons)
- Garden hose and confirm availability of onsite tap water
- Paper towels and garbage bag
- Camera and film
- Gloves: work, nitrile, and latex
- First-aid kit
- Measuring tapes and toolbox with standard tools

3.0 TYPICAL PROCEDURES

These sampling procedures are applicable to sampling a grid representing 20-cubic yards (or any known volume) of stockpiled soil. However local regulations should be researched prior to beginning a specific project, as they may require different procedures than described herein.

1. Lay out sampling grid Identify perimeter of grid(s) representing 20-cubic yards of stockpiled soil.
2. Identify the sample location Inspect the grid for evidence of contamination (stained soil, odor, organic vapors, etc.). If evidence of contamination is discovered, select the area which appears to contain the highest concentrations of contamination. If no evidence of contamination is discovered within the grid, randomly select a sampling location.
3. Obtain discreet sample of soil For stockpiles with a thickness greater than 2-feet and greater than 20-cubic yards (requiring collection of more than 1 sample), samples should be collected from the lower half of the stockpile, at 1-foot intervals from the bottom of the stockpile, alternating with each sample. (For example, if the stockpile is 6-feet thick, the first 20-cubic yard sample should be collected 1-foot from the bottom of the stockpile; the second sample should be collected 2-feet from the bottom of the stockpile; the third sample should be collected 3-feet from the bottom of the stockpile; the fourth sample should be collected 1-foot from the bottom of the pile, etc.) When the thickness of the stockpile is approximately 2-feet or less, samples should be collected from the lower half of the stockpile. At the selected sample location, excavate soil to the desired depth using a hand trowel or shovel. Fill a liner by driving it into the soil with a decontaminated hammer or other tool. Remove the liner (excavate with trowel if necessary) and cap each end with pre-cut Teflon sheeting and plastic end cap, seal with Duct tape (do not use electrical tape). Label the liner, enter onto chain-of-custody form, and place in a zip-lock bag on ice in a cooler.
4. Document location Measure horizontal dimensions and depth at each sampling location. The horizontal sample location maybe referenced relative to the perimeter of the grid and stockpile, and/or prominent site features such as buildings, intersections, and fence lines. A sketch showing the site features and sample locations should be prepared in the field.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

Field quality control samples are not normally collected during stockpile sampling.

Optional quality control soil samples may include collection of replicates, at an approximate frequency of 1 replicate for every 10 natural samples. Replicates are collected by driving two liners adjacent to each other. Each sample is labeled according to normal requirements. The replicate samples obtained in such a manner are suitable for assessing the reproducibility of chemical parameters. Interpretation of the reproducibility of data should recognize the potential for significant changes in soil type (and contaminant concentrations) over even a 6-inch interval.

Accordingly, replicates do not supply the same information as normally encountered duplicate or split samples. Duplicate or split samples are better represented by the laboratory performing replicate analyses on adjacent subsamples of soil from the same liner.

Optional quality control samples may be collected to check for cross-contamination using field blanks. Field blanks may be prepared by (1) swipe sampling decontaminated liners with kimwipes, (2) pouring clean silica sand into a decontaminated liner, or (3) pouring deionized water over the decontaminated liner and collecting the water that contacts the sampling implements for aqueous analysis. Field blanks may be prepared at the discretion of the field staff given reasonable doubt regarding the efficacy of the decontamination procedures.

5.0 DOCUMENTATION

Observations, measurements, and other documentation should be recorded on the following:

- Field Notebook
- Sample Label
- Chain-of-Custody Form
- Soil Sampling Form

In addition to the standardized entries, notations of unusual or unexpected conditions as well as deviations from this SOP should be recorded.

6.0 DECONTAMINATION

Prior to sample collection; the liners, trowel, and other equipment or materials that may directly contact the sample should be decontaminated. Decontamination for these items should consist of a soap wash, followed by a tap water rinse, followed by a distilled water rinse.

7.0 WASTE HANDLING AND DISPOSAL

Wastes resulting from the activities of this SOP may include excess soil sample, decontamination wastewaters, and miscellaneous waste (paper, plastic, gloves, jars, aluminum foil, etc.) On most projects (1) excess soil sample may be returned to the soil stockpile, (2) wastewater may be discharged to the sanitary sewer, and (3) miscellaneous waste may be disposed of as municipal waste.

8.0 SAFETY

Special safety precautions are normally not required for stockpile sampling. Normal and special safety precautions (if any) are described in the Site Safety plan, if required.

9.0 REFERENCES

- SFRWQCB, 1990a. *Memorandum, On-site Disposal of Contaminated Soils Excavated During Underground Storage Tank Investigation and Cleanups*. Prepared by San Francisco Bay Regional Water Quality Control Board, Oakland CA. 11 January 1990.
- SFRWQCB, 1990b. *Tri-Regional Board Staff Recommendations For Preliminary Evaluation and Investigation of Underground Tank Sites*. Prepared by San Francisco Bay Regional Water Quality Control Board, Oakland CA. 10 August 1990.
- U.S. Environmental Protection Agency, 1989a. *A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001, OSWER Directive 9355.0-14*. USEPA, Office of Emergency and Remedial Response, Washington, DC. December 1989.
- U.S. Environmental Protection Agency, 1989b. *Soil Sampling Quality Assurance User's Guide - Second Edition*. National Technical Information Service, PB 89-189 864/AS, Springfield, VA. 1989.

ATTACHMENT 2
Soil Sampling Form

SOIL SAMPLING FORM

PROJECT: Cademartori TruckingPROJECT LOCATION: 1833 Peralta Street, Oakland CAPROJECT NUMBER: P15SAMPLER: Ken Chiang, StreambornSAMPLING EQUIPMENT: Hand trowel and malletDATE: 23 August 1993

Sample Designation	Location	Sample Time	Sample Depth (feet)	Sample Type	Cavity Screening (ppm v/v)	Jar Headspace (ppm v/v)	PBSS (ppm v/v)	Hanby (mg/kg)	Odor or Staining	Soil Classification	Comments
Stockpile Comp 1 - 23 August 1993	4 subsamples from stockpile (A, B, C, D)	10:30	1.5 into stockpile	Composite	<5 at each subsample location	NM	NM	NM	None	Silty Sand with gravel, concrete, and debris, grey-brown, dry.	
Stockpile Comp 2 - 23 August 1993	4 subsamples from stockpile (A, B, C, D)	10:45	1.5 into stockpile	Composite	<5 at each subsample location	NM	NM	NM	None	Silty Sand with gravel, concrete, and debris, grey-brown, dry.	
Stockpile Comp 3 - 23 August 1993	4 subsamples from stockpile (A, B, C, D)	11:00	1.5 into stockpile	Composite	<5 at each subsample location	NM	NM	NM	None	Silty Sand with gravel, concrete, and debris, grey-brown, dry.	

Cavity Screening is performed by inserting the organic vapor meter probe into the cavity resulting from sample removal.

Jar Headspace is performed by placing ± 50 grams of soil in a 4-ounce (fluid ounce) glass jar. The sealed jar is allowed to equilibrate for ± 5 minutes while shaking periodically. The headspace is then measured with the organic vapor meter.

PBSS and Hanby methods are described in the Standard Operating Procedures.

Field organic vapor meter = Thermo Environmental Instruments Model 580B, equipped with 10.0 eV photoionization detector, calibrated to 100 ppm v/v isobutylene.

ATTACHMENT 3
Chain-of-Custody Form

STREAMBORN CHAIN-OF-CUSTODY FORM

01/19/96
503/13392-13394

Project Name: Cademartori Trucking	Project Location: 1833 Peralta Street, Oakland CA	Project Number: P15
Sampler: Ken Chiang	Laboratory: Chromalab	Laboratory Number:

Sample Designation	Date	Time	Matrix			Type		Number of Containers	Type of Containers	Preservative	Filtration	Turnaround			TPH-diesel/motor oil	TPH-gasoline/BTEX	RCI			Sampler Comments	Laboratory Comments
			Soil	Water	Vapor	Grab	Composite					48-Hour	5-Working Days	10-Working Days							
Stockpile Comp 1-23 Aug 93	23 August 1993	10:30	X			X	1	Liner					X	X	X	X				Composited in the field from 4 subsamples	
Stockpile Comp 2-23 Aug 93	23 August 1993	10:45	X			X	1	Liner					X	X	X					Composited in the field from 4 subsamples	
Stockpile Comp 3-23 Aug 93	23 August 1993	11:00	X			X	1	Liner					X	X	X					Composited in the field from 4 subsamples	

SUBM #: 9308303
CLIENT: STREAM
DUE: 09/07/93
REF: 12961

Note: Sampler and laboratory to observe preservative, condition, integrity, etc. of samples and record (under "Comments") any exceptions from standard protocols.

Relinquished By: <i>Ken Chiang</i>	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

ATTACHMENT 4
Laboratory Report

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

August 27, 1993

ChromaLab File No.: 9308303

STREAMBORN CONSULTING SERVICES

Attn: Ken Chiang

RE: One soil sample for reactivity, corrosivity, and ignitability (RCI) analyses.

Project Name: CADEMARTORI TRUCKING

Project Number: P15

Date Sampled: August 23, 1993

Date Submitted: August 23, 1993

Date Analyzed: August 26, 1993

RESULTS:

<u>Sample I.D.</u>	<u>Reactivity</u>	<u>Corrosivity</u>	<u>Ignitability</u>
STOCKPILE COMP 1-23	No	pH 6.7	No
BLANK	No	pH 7.0	No
METHOD OF ANALYSIS	CA Title SEC.66261.23(1-4)	CA Title SEC.66261.22	CA Title SEC.66261.21

ChromaLab, Inc.


Carolyn M. House
Analyst


Eric Tam
Laboratory Director

cc

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

September 7, 1993

ChromaLab File No.: 9308303

STREAMBORN CONSULTING SERVICES

Attn: Ken Chiang

RE: Three soil samples for Diesel and Motor Oil analysis

Project Name: CADEMARTORI TRUCKING

Project Number: P15

Date Sampled: August 23, 1993

Date Submitted: August 23, 1993

Date Extracted: Sept. 3, 1993

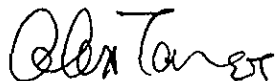
Date Analyzed: Sept. 3, 1993

RESULTS:

<u>Sample</u> <u>I.D.</u>	<u>Diesel</u> <u>(mg/Kg)</u>	<u>Motor Oil*</u> <u>(mg/Kg)</u>
STOCKPILE COMP 1-23	17	160
STOCKPILE COMP 2-23	13	120
STOCKPILE COMP 3-23	43	370
BLANK	N.D.	N.D.
SPIKE RECOVERY	95%	----
DUP SPIKE RECOVERY	91%	----
DETECTION LIMIT	1.0	10.0
METHOD OF ANALYSIS	3550/8015	3550/8015

*Unknown oil that has a lower boiling point than motor oil quantified as motor oil.

ChromaLab, Inc.



Alex Tam
Analytical Chemist



Eric Tam
Laboratory Director

cc

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

September 7, 1993

ChromaLab File No.: 9308303

STREAMBORN CONSULTING SERVICES

Attn: Ken Chiang

RE: Three soil samples for Gasoline and BTEX analysis

Project Name: CADEMARTORI TRUCKING

Project Number: P15

Date Sampled: August 23, 1993

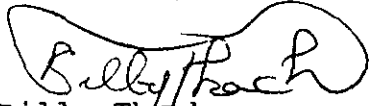
Date Submitted: August 23, 1993

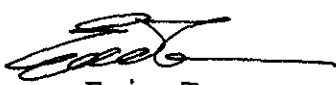
Date Analyzed: September 3, 1993

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
STOCKPILE COMP 1-23	N.D.	N.D.	N.D.	N.D.	N.D.
STOCKPILE COMP 2-23	N.D.	N.D.	N.D.	N.D.	N.D.
STOCKPILE COMP 3-23	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	103%	107%	104%	112%	110%
DUP SPIKE RECOVERY	----	97%	96%	100%	99%
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020

ChromaLab, Inc.


Billy Thach
Analytical Chemist


Eric Tam
Laboratory Director

cc