

**First Environmental Group**

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Martinez Industrial Services  
MDW Industrial Services

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Richmond, CA 94806  
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July 29, 1994

Juliet Shin  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway  
Suite 250  
Alameda, CA 94502

Subject: Soil Bioremediation Report  
Z Rental Properties  
711 Cleveland Avenue  
Albany, California

Dear Ms. Shin:

At the request of Subsurface Environmental of San Francisco, California, we have enclosed our report for the bioremediation of petroleum hydrocarbon-impacted soil at the property located at 711 Cleveland Avenue in Albany, California. The bioremedial activities were conducted from May 20, 1994 through July 21, 1994.

This report describes the bioremedial activities, which included:

- bioremedial product application
- verification sample collection

This report also presents the laboratory analytical results of the soil samples collected from the treated soil and our findings and conclusions regarding the bioremedial activities.

If you have any questions or comments concerning this report, please call.

Sincerely,



Dan Etheredge  
-Project Manager

**SOIL BIOREMEDIATION REPORT**

**Z RENTAL PROPERTIES  
711 CLEVELAND AVENUE  
ALBANY, CALIFORNIA**

**JULY 29, 1994**

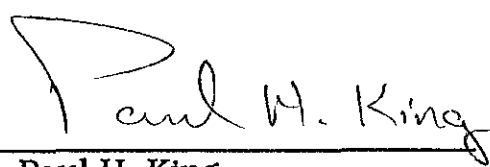
prepared by:

First Environmental Group



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Dan Etheredge  
Project Manager



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Paul H. King  
CA Registered Geologist, #5901  
expires: 12/31/95

Prepared for:

Subsurface Environmental  
1796 18th Street, Suite C  
San Francisco, California

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## **SOIL BIOREMEDIATION REPORT**

**Z RENTAL PROPERTIES  
711 CLEVELAND AVENUE  
ALBANY, CALIFORNIA**

### **1.0 INTRODUCTION**

At the request of Subsurface Environmental, First Environmental Group (FEG) bioremediated petroleum hydrocarbon-impacted soil stockpiled at the Z Rental Properties property at 711 Cleveland Avenue in Albany, California (the Site). A Site Location Map is attached as Figure 1. The remedial activities were conducted from May 20, 1994 through July 21, 1994, in accordance with FEG's Work Plan dated April 25, 1994. Approval of the FEG Work Plan was provided by Juliet Shin of the Alameda County Department of Environmental Health (ACDEH), in a letter dated May 12, 1994.

ACDEH served as the lead regulatory agency, with Juliet Shin as the ACDEH Case Officer.

This report describes bioremedial activities performed at the Site, which included bioremedial product application and subsequent verification sampling activities. The report includes the laboratory analytical results of the soil verification samples collected from the treated soil and our findings and conclusions regarding the remediation activities.

### **2.0 SITE DESCRIPTION**

#### **2.1 Site History**

The Site is located at 711 Cleveland Avenue in Albany, California. It is FEG's understanding that underground storage tanks (USTs) at the Site were used to store diesel fuel and gasoline. It is also FEG's understanding that all USTs were removed under the direction and approval of ACDEH. The results of soil samples collected from the tank pit during the UST removal activities indicated that petroleum hydrocarbon contamination was present in onsite soils.

Soil surrounding the former tank location was reported to have been excavated and stockpiled adjacent to the tank pit. It is FEG's understanding that approximately 750 cubic yards of petroleum hydrocarbon impacted soil was excavated at the Site. Petroleum hydrocarbon contamination, in the form of total petroleum hydrocarbons as

gasoline (TPH-G) and total petroleum hydrocarbons as diesel (TPH-D) was detected in the soil at concentrations up to 220 mg/kg and 2,100 mg/kg, respectively.

It is FEG's understanding that the Site has been sold to Caltrans. Following remedial activities, it is FEG's understanding that a freeway on-ramp will be constructed at the Site.

## **2.2 Physical Description of Site**

The Site is located in the northwest portion of Albany, California. The structures present in the surrounding vicinity of the Site consist of older residential and light industrial zoned buildings. The subject property houses three steel building structures.

The Site topography is relatively flat. The topography immediately surrounding the subject Site slopes upwards to the east, to the El Cerrito Hills and slopes downward to the west to the San Francisco Bay. The Site is approximately 400 feet east of the San Francisco Bay, which is the nearest surface water body.

## **3.0 BIOREMEDIATION PRODUCT APPLICATION**

The soil was bioremediated in two phases. During the first phase, the contaminated soil stockpile was bioremediated by loading the petroleum hydrocarbon-affected soil into a Rotar screening unit. The Rotar unit oxygenated and screened the soil while a treatment enzyme was applied. Following soil oxygenation, screening, and application of the enzyme to the soil, berms were constructed adjacent to the original stockpile location with the newly treated soil. The soil was exposed to the enzyme for a period of 5 weeks prior to the second phase of bioremediation.

A Rotar Screening unit, mounted in place of the loader bucket on a Caterpillar front end loader, was used to apply the bioremediation enzyme product. The Rotar uses a tumbling drum which tills the soil, while oxygenating the soil and screening out larger rocks. The enzyme product, which is stored in portable tanks mounted on the loader, is applied to the soil with the use of a spray bar as the soil spins within the Rotar bucket.

During the second phase of bioremediation, a tractor mounted rototiller was used to till the soil. The enzyme was sprayed directly into the soil with the use of a trailer mounted water tank and pressure spraying unit. The soil was subsequently allowed to bioremediate for a period of two weeks after the second application of the enzyme prior to final verification sampling.



#### 4.0 VERIFICATION SAMPLING AND ANALYSIS

##### 4.1 Sample Collection Activities

After the first treatment phase, the soil was sampled for the purpose of evaluating the effectiveness of the bioremedial activities. On June 8, 1994, one discreet soil sample was collected for every 30 cubic yards of treated soil, as per ACDEH requirements described in a letter dated May 12, 1994. A total of 25 evaluation samples were collected, designated as sample numbers 1 through 25. The sample collection locations for the evaluation samples collected on June 8, 1994, are shown in Figure 2.

After the second treatment phase, the soil was sampled for the purpose of verifying the effectiveness of the bioremedial activities. On July 21, 1994, one discreet sample was collected for every 30 cubic yards of treated soil. A total of 25 verification samples were collected, designated as sample numbers 1 through 25. The sample collection locations for the verification samples collected on July 21, 1994, are shown in Figure 3.

Soil samples were collected by driving precleaned brass tubes into the treated soil. The samples completely filled the tubes to eliminate head space. The ends of the tubes were covered with aluminum foil and plastic end caps. The plastic end caps were taped with duct tape to prevent possible moisture and chemical loss. The samples were then labeled and immediately placed in a chilled cooler containing ice for delivery to the analytical laboratory.

##### 4.2 Analytical Methodology

The soil samples collected on June 8, and July 21, 1994, were submitted to American Environmental Network, Inc., of Pleasant Hill, California, a state-certified laboratory. Chain of custody procedures were observed for all sample handling.

Prior to analysis for the samples collected on June 8, 1994, EPA Method 3611 was used to remove the non-hazardous bio-organic fatty acids that are one of the intermediate products of the bioremediation treatment process.

← activated tri-alumina oxide

The samples collected on June 8, 1994, were analyzed for the following constituents:

- TPH-G using EPA Method 5030 (GCFID); and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) using EPA Method 8020.
- TPH-D using EPA Method 3550 (GCFID).

Prior to analysis for the samples collected on July 21, 1994, Standard Method 5520 F was used to remove the non-hazardous bio-organic fatty acids that are one of the intermediate products of the bioremediation treatment process.

The samples collected on July 21, 1994, were analyzed for the following constituents:

- Total recoverable petroleum hydrocarbons (TRPH) using Standard Method 5520 F

The TRPH analysis includes TPH-D range compounds.

#### **4.3 Analytical Results**

The laboratory analytical results of the evaluation soil samples collected on June 8, 1994, from the treated soil are presented in Table 1. The results show that the TPH-G and BTEX contamination was reduced to levels below their detection limits of 0.3 mg/kg to 0.8 mg/kg and 0.005 mg/kg, respectively. TPH-D was detected at concentrations ranging from 53 to 1,000 mg/kg.

The laboratory analytical results of the verification samples collected on July 21, 1994, from the treated soil are presented in Table 2. The results show that TRPH concentrations were reduced to below the detection limit of 10 mg/kg.

Copies of the laboratory analytical reports and chain of custody documentation for both sampling events are presented in the appendix.

Evaluation of the sample results indicates that the bioremediation activities were successful in reducing the TPH-G and TRPH concentrations in the stockpiled soil to below the approved clean-up level of 10 mg/kg, as specified in the FEG Work Plan dated April 25, 1994.

#### **5.0 CONCLUSIONS**

Based upon the analytical laboratory results of the verification soil samples collected from the soil following bioremediation, the bioremediation activities at the Site were successful in reducing the concentrations of petroleum hydrocarbons to levels below the approved clean-up level of 10 mg/kg, in accordance with the FEG Work Plan, dated April 25, 1994. A total of approximately 750 cubic yards of soil was treated at the Site. The laboratory analytical results indicate that no further remediation of the soil is required.

## **6.0 DISTRIBUTION**

Copies of this report should be sent to Ms. Juliet Shin at the Alameda County Department of Environmental Health and to Mr. Kevin Graves at the Regional Water Quality Control Board, San Francisco Bay Region.

## **7.0 LIMITATIONS**

This report was prepared solely for the use of Subsurface Environmental. The content and conclusions provided by FEG in this report are based on information collected during our Site activities, which may include, but not be limited to, visual site inspections, interviews with the site owner, regulatory agencies and other pertinent individuals, review of available public documents, and our professional judgment based on said information at the time of preparation of this document.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized environmental firms performing services of a similar nature. FEG is not responsible for the accuracy or completeness of information provided by other individuals or entities which are used in this report. This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either expressed or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

TABLE 1

EVALUATION SAMPLE RESULTS  
 Sample Collection of June 8, 1994  
 711 Cleveland Avenue  
 Albany, California

(results expressed in mg/kg)

Sample Number	TPH-G	DL	BTEX	DL	TPH-D	DL
1	ND	0.3	ND	0.005	250	1
2	ND	0.4	ND	0.005	180	1
3	ND	0.3	ND	0.005	130	1
4	ND	0.4	ND	0.005	340	1
5	ND	0.3	ND	0.005	300	1
6	ND	0.5	ND	0.005	180	1
7	ND	0.5	ND	0.005	270	1
8	ND	0.6	ND	0.005	480	1
9	ND	0.6	ND	0.005	220	1
10	ND	0.5	ND	0.005	420	1
11	ND	0.7	ND	0.005	180	1
12	ND	0.8	ND	0.005	310	1
13	ND	0.7	ND	0.005	130	1
14	ND	0.4	ND	0.005	1,000	1
15	ND	0.5	ND	0.005	240	1
16	ND	0.4	ND	0.005	130	1
17	ND	0.5	ND	0.005	200	1
18	ND	0.4	ND	0.005	53	1
19	ND	0.4	ND	0.005	150	1
20	ND	0.4	ND	0.005	170	1
21	ND	0.5	ND	0.005	150	1
22	ND	0.4	ND	0.005	280	1
23	ND	0.3	ND	0.005	770	1
24	ND	0.4	ND	0.005	570	1
25	ND	0.8	ND	0.005	62	1

TPH-G Total petroleum hydrocarbons as gasoline, EPA Method 5030 (GCFID)

BTEX Benzene, toluene, ethylbenzene, xylene, EPA Method 8020

TPH-D Total petroleum hydrocarbons as diesel, EPA Method 3550 (GCFID)

DL Detection Limit

ND Not detected

TABLE 2

VERIFICATION SAMPLE RESULTS  
Sample Collection of July 21, 1994  
711 Cleveland Avenue  
Albany, California

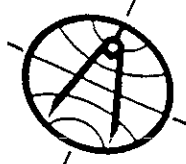
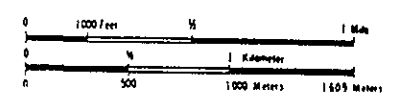
(results expressed in mg/kg)

Sample Number	TRPH	DL
1	ND	10
2	ND	10
3	ND	10
4	ND	10
5	ND	10
6	ND	10
7	ND	10
8	ND	10
9	ND	10
10	ND	10
11	ND	10
12	ND	10
13	ND	10
14	ND	10
15	ND	10
16	ND	10
17	ND	10
18	ND	10
19	ND	10
20	ND	10
21	ND	10
22	ND	10
23	ND	10
24	ND	10
25	ND	10

TRPH Total recoverable petroleum hydrocarbons, Standard Method 5520F  
DL Detection Limit  
ND Not detected



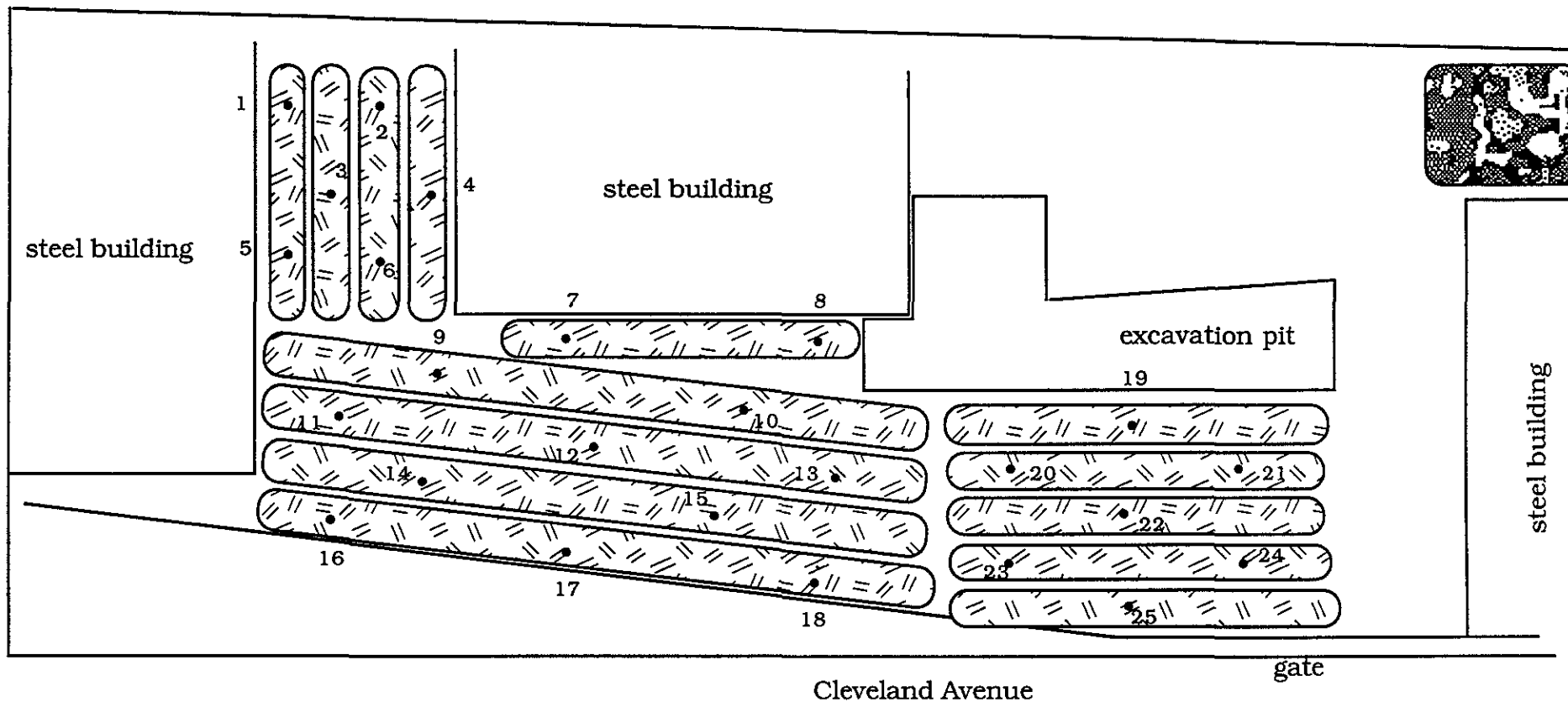
Map Source: California State  
Automobile Association



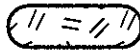


Scale: As Shown  
July, 1994  
First Environmental Group

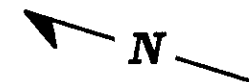
**SITE MAP**  
711 Cleveland Avenue, Albany, California

Figure 1  
project # 41001



Legend

	treated soil berm		sample collection location and sample number
	rock, debris pile		



Scale: not to scale

July, 1994

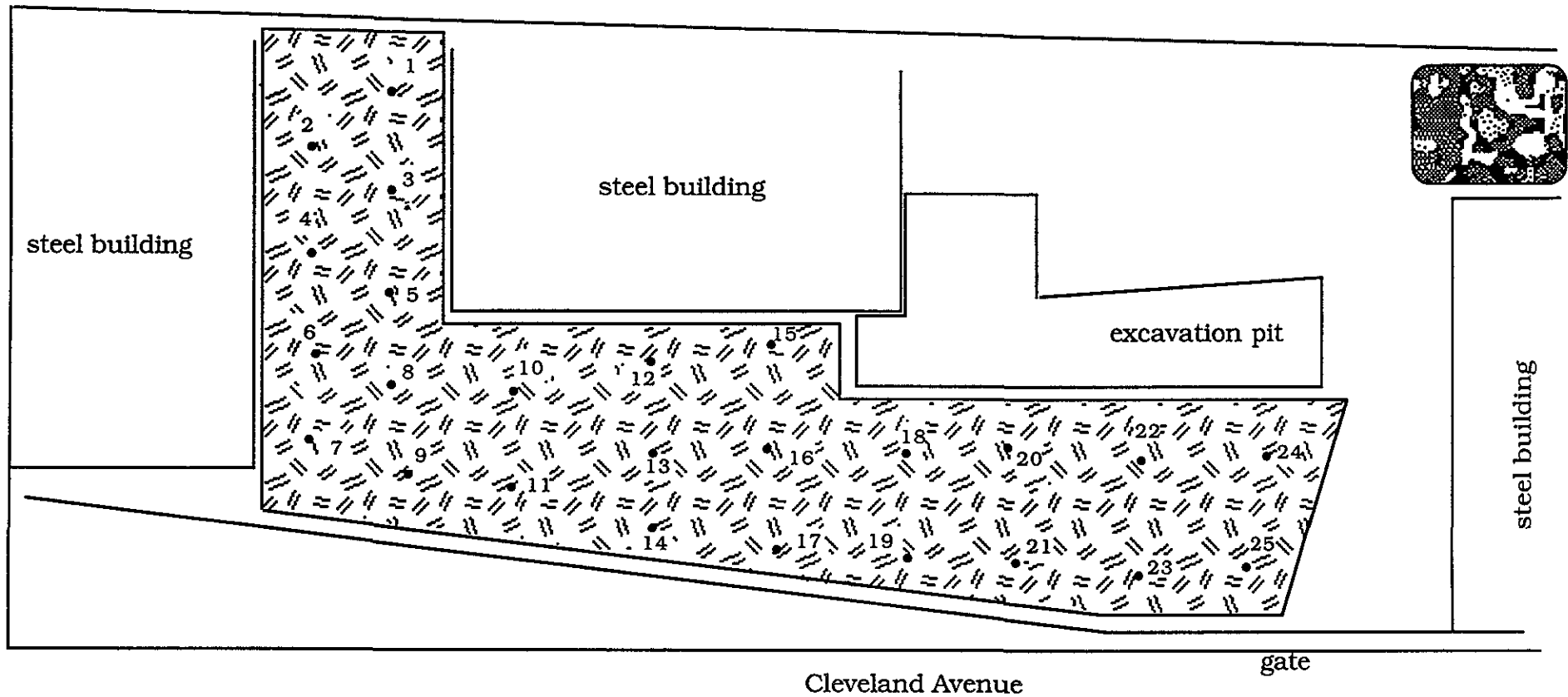
**SITE PLAN SHOWING SAMPLE COLLECTION LOCATIONS, June 8, 1994**

711 Cleveland Avenue, Albany, California




Figure **2**

**First Environmental Group**

project #: 41001



Legend

	treated soil		sample collection location and sample number
	rock, debris pile		

Scale: not to scale

July, 1994

**SITE PLAN SHOWING SAMPLE COLLECTION LOCATIONS, July 21, 1994**  
711 Cleveland Avenue, Albany, California

Figure **3**

**First Environmental Group**

project #: 41001



**Appendix 1**

**Laboratory Analytical Reports and  
Chain of Custody Documentation**

# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

FIRST ENVIRONMENTAL GROUP  
3501 COLLINS AVENUE  
RICHMOND, CA 94806

ATTN: DAN ETHEREDGE  
CLIENT PROJ. ID: ALBANY

REPORT DATE: 07/01/94

DATE(S) SAMPLED: 06/08/94

DATE RECEIVED: 06/09/94

AEN WORK ORDER: 9406101

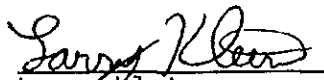
### PROJECT SUMMARY:

On June 9, 1994, this laboratory received 25 soil sample(s).

Client requested samples be analyzed for organic parameters. Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 1  
 AEN LAB NO: 9406101-01  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/15/94
Toluene	108-88-3	ND	5	ug/kg	06/15/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/15/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/15/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.3	mg/kg	06/15/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/14/94
TPH as Diesel	GC-FID	250 *	1	mg/kg	06/18/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

ND = Not detected at or above the reporting limit

\* = Value above reporting limit

FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 2  
 AEN LAB NO: 9406101-02  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/14/94
TPH as Diesel	GC-FID	180 *	1	mg/kg	06/18/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

ND = Not detected at or above the reporting limit

\* = Value above reporting limit

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 3  
 AEN LAB NO: 9406101-03  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/15/94
Toluene	108-88-3	ND	5	ug/kg	06/15/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/15/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/15/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.3	mg/kg	06/15/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/14/94
TPH as Diesel	GC-FID	130 *	1	mg/kg	06/18/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 4  
 AEN LAB NO: 9406101-04  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/15/94
Toluene	108-88-3	ND	5	ug/kg	06/15/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/15/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/15/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/15/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/14/94
TPH as Diesel	GC-FID	340 *	1	mg/kg	06/23/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 5  
 AEN LAB NO: 9406101-05  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/15/94
Toluene	108-88-3	ND	5	ug/kg	06/15/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/15/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/15/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.3	mg/kg	06/15/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/14/94
TPH as Diesel	GC-FID	300 *	1	mg/kg	06/18/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 6  
 AEN LAB NO: 9406101-06  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.5	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	180 *	1	mg/kg	06/20/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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



## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 7  
 AEN LAB NO: 9406101-07  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/15/94
Toluene	108-88-3	ND	5	ug/kg	06/15/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/15/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/15/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.5	mg/kg	06/15/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	270 *	1	mg/kg	06/20/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 8  
 AEN LAB NO: 9406101-08  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.6	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	480 *	1	mg/kg	06/20/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 9  
 AEN LAB NO: 9406101-09  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.6	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	220 *	1	mg/kg	06/18/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 10  
 AEN LAB NO: 9406101-10  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.5	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	420 *	1	mg/kg	06/23/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 11  
 AEN LAB NO: 9406101-11  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.7	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	180 *	1	mg/kg	06/18/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/17/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 12  
 AEN LAB NO: 9406101-12  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.8	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	310 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 13  
 AEN LAB NO: 9406101-13  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.7	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	130 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 14  
 AEN LAB NO: 9406101-14  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/20/94
Toluene	108-88-3	ND	5	ug/kg	06/20/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/20/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/20/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/20/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	1,000 *	1	mg/kg	06/23/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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



## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 15  
 AEN LAB NO: 9406101-15  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.5	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	240 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 16  
 AEN LAB NO: 9406101-16  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	130 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 17  
 AEN LAB NO: 9406101-17  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.5	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	200 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 18  
 AEN LAB NO: 9406101-18  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	53 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 19  
 AEN LAB NO: 9406101-19  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	150 *	1	mg/kg	06/22/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 20  
 AEN LAB NO: 9406101-20  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	170 *	1	mg/kg	06/21/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 21  
 AEN LAB NO: 9406101-21  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/20/94
Toluene	108-88-3	ND	5	ug/kg	06/20/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/20/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/20/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.5	mg/kg	06/20/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	150 *	1	mg/kg	06/22/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 22  
 AEN LAB NO: 9406101-22  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	280 *	1	mg/kg	06/22/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/20/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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



## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 23  
 AEN LAB NO: 9406101-23  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.3	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	770 *	1	mg/kg	06/23/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/21/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 24  
 AEN LAB NO: 9406101-24  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/20/94
Toluene	108-88-3	ND	5	ug/kg	06/20/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/20/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/20/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.4	mg/kg	06/20/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	570 *	1	mg/kg	06/23/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/21/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID: 25  
 AEN LAB NO: 9406101-25  
 AEN WORK ORDER: 9406101  
 CLIENT PROJ. ID: ALBANY

DATE SAMPLED: 06/08/94  
 DATE RECEIVED: 06/09/94  
 REPORT DATE: 07/01/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/16/94
Toluene	108-88-3	ND	5	ug/kg	06/16/94
Ethylbenzene	100-41-4	ND	5	ug/kg	06/16/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/16/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.8	mg/kg	06/16/94
#Extraction for Diesel/Oil	EPA 3550	-		Extrn Date	06/15/94
TPH as Diesel	GC-FID	62 *	1	mg/kg	06/22/94
#Alumina Cleanup	EPA 3611A	-		Cleanup	06/21/94

Reporting limit elevated for gasoline due to hydrocarbon interference.

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

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9406101

CLIENT PROJECT ID: ALBANY

Quality Control Summary

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

Definitions

The following abbreviations are found throughout the QC report:

ND = Not Detected at or above the reporting limit  
RPD = Relative Percent Difference  
< = Less Than

## QUALITY CONTROL DATA

DATE EXTRACTED: 06/15/94  
DATE ANALYZED: 06/16/94  
CLEANUP DATE: 06/17/94  
CLIENT PROJ. ID: ALBANY

AEN JOB NO: 9406101  
SAMPLE SPIKED: SAND  
INSTRUMENT: C

LABORATORY CONTROL SAMPLE  
METHOD: EPA 3550 GCFID  
(SOIL MATRIX)

---

ANALYTE	Spike Added (mg/kg)	Percent Recovery
Diesel	40.8	84

---

## CURRENT QC LIMITS

<u>Analyte</u>	<u>Percent Recovery</u>
Diesel	(44-105)

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

DATE EXTRACTED: 06/08/94  
DATE ANALYZED: 06/17/94  
CLIENT PROJ. ID: ALBANY

AEN JOB NO: 9406101  
SAMPLE SPIKED: 9406037-03  
INSTRUMENT: C

MATRIX SPIKE RECOVERY SUMMARY  
TPH EXTRACTABLE SOIL  
METHOD: EPA 3550 GCFID

---

ANALYTE	Spike Added (mg/kg)	Average Percent Recovery	RPD
Diesel	40.8	102	11

---

## CURRENT QC LIMITS

<u>Analyte</u>	<u>Percent Recovery</u>	<u>RPD</u>
Diesel	(44-105)	18

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

DATE EXTRACTED: 06/08/94  
DATE ANALYZED: 06/17/94  
CLEANUP DATE: 06/16/94  
CLIENT PROJ. ID: ALBANY

AEN JOB NO: 9406101  
SAMPLE SPIKED: 9406037-03  
INSTRUMENT: C

MATRIX SPIKE RECOVERY SUMMARY  
TPH EXTRACTABLE SOIL  
METHOD: EPA 3611A GCFID

---

ANALYTE	Spike Added (mg/kg)	Average Percent Recovery	RPD
Diesel	40.8	26	9

---

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

CLIENT PROJ. ID: ALBANY

AEN JOB NO: 9406101

INSTRUMENT: H

SURROGATE STANDARD RECOVERY SUMMARY  
 METHOD: EPA 8020, 5030 GCFID  
 (SOIL MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Sample Id.	Lab Id.	Fluorobenzene
06/15/94	1	01	104
06/16/94	2	02	113
06/15/94	3	03	107
06/15/94	4	04	112
06/15/94	5	05	104
06/16/94	6	06	106
06/15/94	7	07	106
06/16/94	8	08	109
06/16/94	9	09	106
06/16/94	10	10	109
06/16/94	11	11	108
06/16/94	12	12	110
06/16/94	13	13	111
06/20/94	14	14	101
06/16/94	15	15	105
06/16/94	16	16	107
06/16/94	17	17	110
06/16/94	18	18	109
06/16/94	19	19	106
06/16/94	20	20	108
06/20/94	21	21	108
06/16/94	22	22	106
06/16/94	23	23	104
06/20/94	24	24	104
06/16/94	25	25	106

## CURRENT QC LIMITS

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Fluorobenzene	(78-114)



## QUALITY CONTROL DATA

DATE ANALYZED: 06/15/94  
 SAMPLE SPIKED: 9406104-05  
 CLIENT PROJ. ID: ALBANY

AEN JOB NO: 9406101  
 INSTRUMENT: H

MATRIX SPIKE RECOVERY SUMMARY  
 METHOD: EPA 8020, 5030 GCFID  
 (SOIL MATRIX)

ANALYTE	Spike Added (ug/kg)	Average Percent Recovery	RPD
Benzene	19.6	107	5
Toluene	72.9	106	9
Hydrocarbons as Gasoline	1000	104	11

## CURRENT QC LIMITS

Analyte	Percent Recovery	RPD
Benzene	(81-127)	11
Toluene	(84-121)	14
Gasoline	(66-116)	20

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

DATE ANALYZED: 06/16/94  
 SAMPLE SPIKED: LCS  
 CLIENT PROJ. ID: ALBANY

AEN JOB NO: 9406101  
 INSTRUMENT: H

LABORATORY CONTROL SAMPLE  
 METHOD: EPA 8020, 5030 GCFID  
 (SOIL MATRIX)

ANALYTE	Spike Added (ug/kg)	Percent Recovery
Benzene	19.6	96
Toluene	72.9	98
Hydrocarbons as Gasoline	1000	108

## CURRENT QC LIMITS

Analyte	Percent Recovery
Benzene	(65-122)
Toluene	(67-124)
Gasoline	(60-125)

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

\*\*\* END OF REPORT \*\*\*

Reporting Information:

1. Client: FIRST ENV. GROUP  
 Address: 3501 COLLINS AVE  
RICHMOND 94806  
 Contact: DAN  
 Alt. Contact: \_\_\_\_\_

American Environmental Network

3440 Vincent Road, Pleasant Hill, CA 94523  
 Phone (510) 930-9090  
 FAX (510) 930-0256

**AEN**

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9406101  
 Lab Destination: \_\_\_\_\_  
 Date Samples Shipped: 6/9/94  
 Lab Contact: ROBIN  
 Date Results Required: STANDARD  
 Date Report Required: \_\_\_\_\_  
 Client Phone No.: 510.232.0202  
 Client FAX No.: 510.232.5844

Address Report To:

2. SAME

Send Invoice To:

3. SAME

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: NONE Client Project I.D. No.: ALBANY

Sample Team Member (s) DAN

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS			Comments / Hazards
01A	1		6/8 4	SOIL	4°C	1	GPS	X	X	X	
02A	2										
03A	3										
04A	4										
05A	5										
06A	6										
07A	7										
08A	8										
09A	9										
10A	10										
11A	11										
12A	12										
13A	13										
14A	14										

3611  
 5520 (F 335)  
 5030 (TPK 6)

Relinquished by: (Signature)	DATE <u>6/9/94</u>	TIME <u>10:25</u>	Received by: (Signature)	DATE <u>6/9/94</u>	TIME <u>10:25</u>
Relinquished by: (Signature)	DATE <u>6/9/94</u>	TIME <u>11:45</u>	Received by: (Signature) <u>Emily Harrington</u>	DATE <u>6/9/94</u>	TIME <u>1145</u>
Relinquished by: (Signature) _____	DATE _____	TIME _____	Received by: (Signature) _____	DATE _____	TIME _____
Method of Shipment _____			Lab Comments _____		

\*Sample type (Specity): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter  
 4) PVC filter, diam. \_\_\_\_\_ pore size \_\_\_\_\_ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample  
 10) Other \_\_\_\_\_ 11) Other \_\_\_\_\_

Reporting Information:

1. Client: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Alt. Contact: \_\_\_\_\_

American Environmental Network

3440 Vincent Road, Pleasant Hill, CA 94523  
 Phone (510) 930-9090  
 FAX (510) 930-0256

**AEN**

9406101  
 REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: \_\_\_\_\_  
 Lab Destination: \_\_\_\_\_  
 Date Samples Shipped: \_\_\_\_\_  
 Lab Contact: \_\_\_\_\_  
 Date Results Required: \_\_\_\_\_  
 Date Report Required: \_\_\_\_\_  
 Client Phone No.: \_\_\_\_\_  
 Client FAX No.: \_\_\_\_\_

Address Report To:

2. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Send Invoice To:

3. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: \_\_\_\_\_ Client Project I.D. No.: \_\_\_\_\_

Sample Team Member (s) \_\_\_\_\_

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS			Comments / Hazards
15A	15		6/8 4	SOIL	4°C	1	GRS	X	X	X	
16A	16										
17A	17										
18A	18										
19A	19										
20A	20										
21A	21										
22A	22										
23A	23										
24A	24										
25A	25										

3611  
~~50006-308~~  
 5030 (PH. G)

Relinquished by: (Signature) _____	DATE: 6/9/94	TIME: 10:35	Received by: (Signature) _____	DATE: 6-9-94	TIME: 10:35
Relinquished by: (Signature) _____	DATE: 6/9/94	TIME: 11:45	Received by: (Signature) Emily Harrington	DATE: 6/9/94	TIME: 11:45
Relinquished by: (Signature) _____	DATE: _____	TIME: _____	Received by: (Signature) _____	DATE: _____	TIME: _____
Method of Shipment			Lab Comments		

\*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter  
 4) PVC filter, diam. \_\_\_\_\_ pore size \_\_\_\_\_ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample  
 10) Other \_\_\_\_\_ 11) Other \_\_\_\_\_

# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

FIRST ENVIRONMENTAL GROUP  
3501 COLLINS AVENUE  
RICHMOND, CA 94806

ATTN: DAN ETHEREDGE  
CLIENT PROJ. ID: Z-RENTALS

REPORT DATE: 07/28/94

DATE(S) SAMPLED: 07/21/94

DATE RECEIVED: 07/21/94

AEN WORK ORDER: 9407226

### PROJECT SUMMARY:

On July 21, 1994, this laboratory received 25 soil sample(s).

Client requested samples be analyzed for organic parameters. Sample identification, methodologies, results and dates analyzed are summarized on the following page.

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

REPORT DATE: 07/28/94

Page 2

## FIRST ENVIRONMENTAL GROUP

SAMPLE ID	AEN LAB #	ANALYTE	METHOD	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
1	9407226-01A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
2	9407226-02A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
3	9407226-03A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
4	9407226-04A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
5	9407226-05A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
6	9407226-06A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
7	9407226-07A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
8	9407226-08A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
9	9407226-09A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
10	9407226-10A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
11	9407226-11A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
12	9407226-12A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
13	9407226-13A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
14	9407226-14A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
15	9407226-15A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
16	9407226-16A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
17	9407226-17A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
18	9407226-18A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
19	9407226-19A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
20	9407226-20A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
21	9407226-21A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
22	9407226-22A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
23	9407226-23A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/23/94
24	9407226-24A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/27/94
25	9407226-25A	Hydrocarbons by IR	SM 5520F	ND	10	mg/kg	07/27/94
1	9407226-01A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
2	9407226-02A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
3	9407226-03A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
4	9407226-04A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
5	9407226-05A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
6	9407226-06A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
7	9407226-07A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
8	9407226-08A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
9	9407226-09A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
10	9407226-10A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
11	9407226-11A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
12	9407226-12A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/21/94
13	9407226-13A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
14	9407226-14A *	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
15	9407226-15A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
16	9407226-16A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
17	9407226-17A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
18	9407226-18A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
19	9407226-19A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
20	9407226-20A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
21	9407226-21A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
22	9407226-22A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
23	9407226-23A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/22/94
24	9407226-24A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/23/94
25	9407226-25A	#Soil Extrn for HCs	SM 5520EF	-		Extrn Date	07/23/94

ND = Not detected at or above the reporting limit

\* = Value above reporting limit

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9407226

CLIENT PROJECT ID: Z-RENTALS

Quality Control Summary

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

Definitions

The following abbreviations are found throughout the QC report:

ND = Not Detected at or above the reporting limit  
RPD = Relative Percent Difference  
< = Less Than

## QUALITY CONTROL DATA

DATE EXTRACTED: 07/21/94  
 DATE ANALYZED: 07/23/94  
 CLIENT PROJ. ID: Z-RENTALS

AEN JOB NO: 9407226  
 SAMPLE SPIKED: 9407226-01  
 INSTRUMENT: IR

OIL & GREASE/HYDROCARBONS  
 MATRIX SPIKE RECOVERY SUMMARY  
 (SOIL MATRIX)

ANALYTE	Spike Added (mg/kg)	Average Percent Recovery	RPD
Oil	241	87	2

## CURRENT QC LIMITS

<u>Analyte</u>	<u>Percent Recovery</u>	<u>RPD</u>
Oil	(70-115)	15

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

\*\*\* END OF REPORT \*\*\*



R-4,5-6

Reporting Information:

1. Client: FIRST ENV GROUP  
 Address: 3521 COLLINS  
RICHMOND 94806  
 Contact: DAN  
 Alt. Contact: \_\_\_\_\_

American Environmental Network

3440 Vincent Road, Pleasant Hill, CA 94523  
 Phone (510) 930-9090  
 FAX (510) 930-0256

AEN

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9407226  
 Lab Destination: \_\_\_\_\_  
 Date Samples Shipped: 7/21/94  
 Lab Contact: \_\_\_\_\_  
 Date Results Required: 7/27  
 Date Report Required: \_\_\_\_\_  
 Client Phone No.: 510-232-0202  
 Client FAX No.: 510-232-5844

Address Report To:

2. SAME

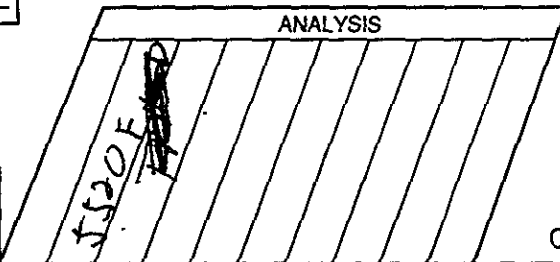
Send Invoice To:

3. SAME

Send Report To: 1 of 2 (Circle one)

Client P.O. No.: DON Client Project I.D. No.: E-RENTALS

Sample Team Member (s) \_\_\_\_\_



1A  
2A

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	Comments / Hazards
1	1		7/21	8	CMD	1	GRS	
2	2							
03A	3							
04A	4							
05A	5							
06A	6							
07A	7							
08A	8							
09A	9							
10A	10							
11A	11							
12A	12							
13A	13							
14A	14							

Relinquished by: (Signature) <u>[Signature]</u>	DATE <u>7/21</u>	TIME <u>4:15</u>	Received by: (Signature) <u>[Signature]</u>	DATE	TIME
Relinquished by: (Signature) _____	DATE	TIME	Received by: (Signature) _____	DATE	TIME
Relinquished by: (Signature) _____	DATE	TIME	Received by: <u>Dennis Harrington</u>	DATE <u>7/21/94</u>	TIME <u>1615</u>
Method of Shipment	Lab Comments				

\*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF, 3) 25mm 0.4 µm polycarb. filter  
 4) PVC filter, diam. \_\_\_\_\_ pore size \_\_\_\_\_ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample  
 10) Other \_\_\_\_\_ 11) Other \_\_\_\_\_

