



December 6, 1991

Mr. M. H. Kazemi  
California Regional Water Quality Control Board  
2101 Webster St.  
Oakland, CA

*[Handwritten signature]*

*[Faint handwritten notes]*

Dear Mr. Kazemi:

Technical and Ecological Services - Chemical Analysis Services Unit was requested by PG&E's Northern Pipe Line Operations to investigate possible gasoline contamination at the end of Adams St. in Albany on September 24th, 1991. Contamination was suspected when a gasoline-like odor was encountered by construction workers while installing gas main. Initial investigative samples were analyzed by American Environmental Laboratories of Rancho Cordova. Waste water discharge samples were analyzed by Chromalab Inc., of San Ramon, to allow for faster response.

**Field Sampling**

Samples were placed in clean glass jars and labeled with the date, time, sampler's initial, location, analyses to be done; then logged onto a chain-of-custody, placed on ice and transported to the laboratory. Water samples were taken using a disposable colliwasa sampler. Soil samples were taken with a stainless steel trowel cleaned with detergent and distilled water after each use.

**Instrumentation**

This service was provided using a Total Ionizables Present (TIP) detection system from Photovac Incorporated. The TIP measures any airborne contaminant which is detectable by photoionization. An ultraviolet source is used to ionize the molecules of substance which are in their gaseous or vapor state. These ions are then collected on positive and negative electrodes which results in a flow of current proportional to the amount of chemical present. Ionization is determined by the minimum energy required to produce ions, or the ionization potential, which varies from substance to substance.

A small pump continuously draws sample air into the ionization chamber which is flooded with ultraviolet light. Air gases (hydrogen, helium, nitrogen, etc.) are unaffected as they require an ionization energy higher than that generated by the lamp. Any gases or vapors in the air stream which have ionization energy higher than that generated by the lamp are ionized; this group includes most compounds we describe as pollutants. The signal is amplified and produces a numerical reading in parts per million (ppm). Because it is sensitive to a broad range of compounds, this numerical result cannot be considered quantitative and should only be used as an estimate of contamination present.

*gas detection - indication D*

**Investigation and Sampling - September 24th, 1991**

3 soil samples were taken from the area, as indicated on the map. The samples were analyzed for Total Petroleum Hydrocarbons as Gasoline, Diesel (TPH), Organic Lead, Benzene, Toluene,

Mr. Kazemi  
December 6, 1991  
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Ethylbenzene and Xylene (BTEX). Sample #1 was taken from a bell hole next to the curb at the end of Adams St. Initial readings from the TIP detector were at levels of 1500 to 2000 parts per million. Soil analyses showed 660 ppm of TPH as Gasoline. Sample #2 was taken from a spoils pile (soil from the creek bed). TIP readings were negative and soil analysis showed no compounds above the detection limits. Sample #3 was taken from the creek bank. Again TIP readings were negative and soil analysis showed no compounds above the detection limits.

#### **Investigation and Sampling - September 27th, 1991**

Two water samples were taken from bell holes in Adams St. in an attempt to establish the boundaries of the gasoline contamination. Sample #4 was taken 98 feet south of sample location #1. Results from TIP readings were negative and laboratory analyses showed no compounds above the detection limits. Sample #5 was taken 200 ft. south of sample location #4. Again TIP readings were negative and laboratory analyses showed no compounds above the detection limit of 1ppm. The gasoline contamination was believed to be within a 60 ft. section of trench south of the sidewalk.

#### **Investigation and Sampling - October 3rd, 1991**

One water sample was taken from a bell hole 60 ft. south of sample location #1. Sample #6 showed TIP readings of 20 to 40 ppm and laboratory results of 3.5 ppm of TPH as gasoline. Subsequent TIP readings south of this location were negative. Contaminated water was encountered at a depth of 6 ft. during trenching operations in the area. As a result of this, a letter was sent to the Regional Water Quality Control Board requesting permission to use a Baker Tank system with a charcoal filter to settle any solids and remove the gasoline from the water. Contaminated soil was stockpiled on top of visqueen and covered.

#### **Tank and Filtering System Setup and Sampling - October 7th, 1991**

A Baker Tank system with a charcoal filter was set up to filter contaminated water originating from the area of contamination (approx. 60 feet long) during work in that area. Two Baker tanks were used to settle solids that were stirred up during normal excavation procedures, before discharge to a nearby creek. Sample #7 was taken from the second Baker tank and showed results of 9.0 ppm of TPH as gasoline. Sample #7A was taken after the water was run through the charcoal filter system and showed no compounds that were above the detection limit. Upon verbal approval from the regional board, the water was discharged to the creek (after flowing through both tanks and the filter system).

#### **Sampling - October 8th, 1991**

The tank system and filtering process presented operational problems because the filtration process could not keep up with flow of water into the tank system. The Foreman for ARB, Inc. (contractor to PG&E for this job), discussed this situation with the RWQCB on Oct. 8th, 1991. At this time, the agency indicated that because TPH values were low, discharge would be limited to a single event and that direct discharge of untreated water to the creek would be permitted. Sample #8 was taken from the tank drain hose directly entering the storm sewer. Laboratory results showed 5.3 ppm of TPH as gasoline. After work was completed in the contaminated area, it was backfilled and a slurry plug was installed in the area by the side walk to prevent contaminated water from flowing into the

Mr. Kazemi  
December 6, 1991  
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trench on the north side of the sidewalk. Sample #9 was taken from the trench area on the north side of the sidewalk. Laboratory results showed 510 parts per billion (ppb). Carbon filtration was used to treat this water prior to discharge.

During this period a permit application, along with the appropriate fee, was hand delivered to the State Regional Water Quality Control Board at 2101 Webster St., 5th floor, in Oakland.

**Sampling October - 14th, 1991**

Sample #10 was obtained from the contaminated soil pile after it had been aerated. Laboratory results were below detection limits for TPH as gasoline, the detection limit being 1.0 ppm. The soil was then transported off site.

**Quality Assurance Data**

Attached are the laboratory quality assurance data. Matrix spike samples and duplicates ensure that compounds are being recovered at acceptable levels and with consistency.

Laboratory results and a map detailing sample locations are also attached. If you have any questions, please call me at (510) 866-5477 or Jeri Pollock at (510) 866-5477.

Sincerely,



Bryan C. Nicholson

BCN:jal

pc: TFinger-Encon Gas  
RAMcCurdy  
JCPollock  
JPullens-Encon Gas  
SGSharp

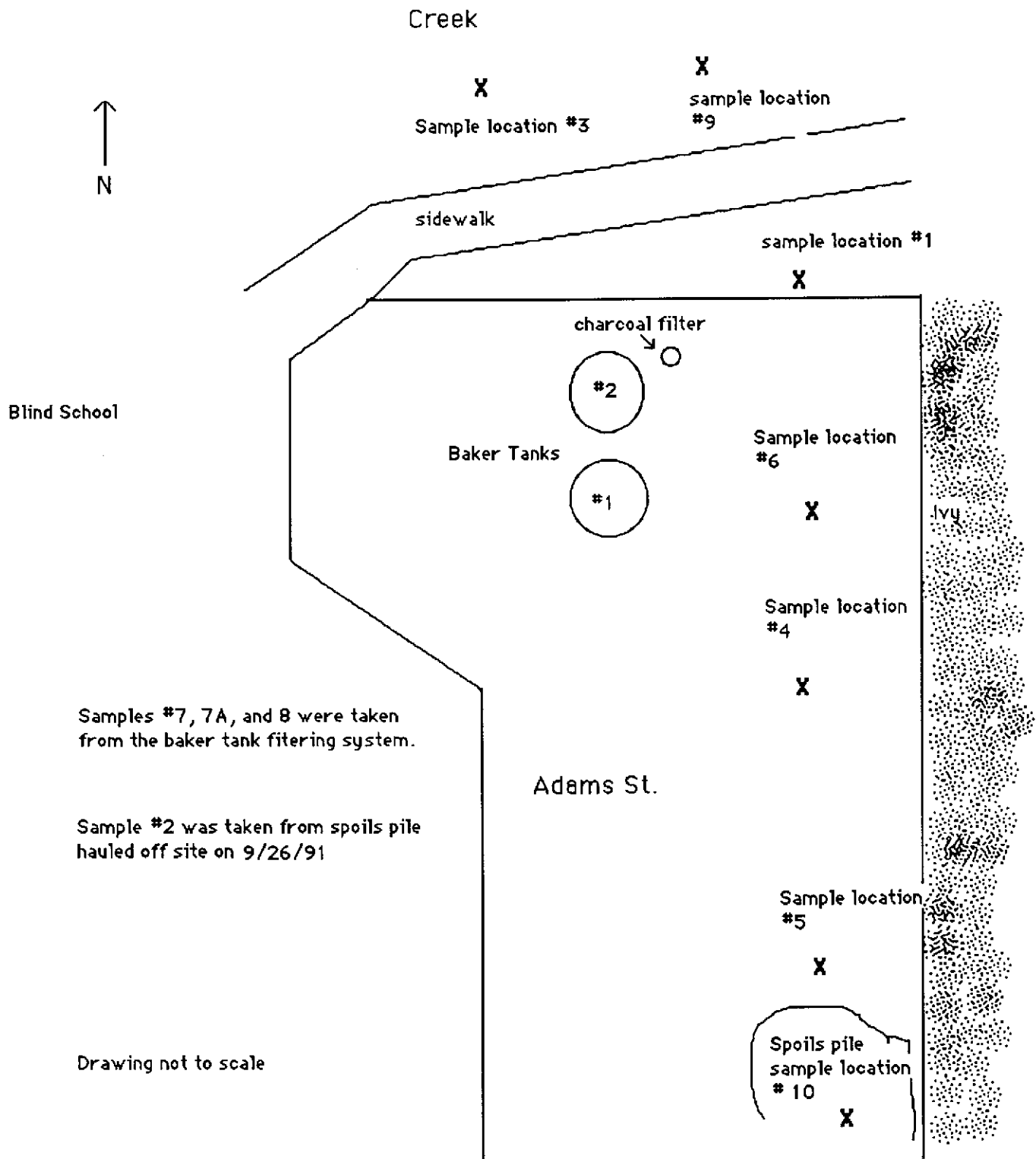


Figure 1. Adams St. Sampling Locations

Table 1. Adams Street Sampling Results

Sample Location & matrix	Date Sampled	TPH as Gasoline	Organic Lead	TPH as Diesel	Fish Bioassay %survival
#1 soil	9/24/91	660	ND	ND	NA
#2 soil	9/24/91	ND	ND	ND	NA
#3 soil	9/24/91	ND	ND	ND	NA
#4 soil	9/27/91	ND	ND	ND	100%
#5 water	9/27/91	ND	ND	ND	100%
#6 water	10/3/91	3.5	ND	ND	100%
#7 water	10/7/91	9	NA	NA	NA
#7A water	10/7/91	ND	NA	NA	NA
#8 water	10/8/91	0.53	NA	NA	NA
#9 water	10/8/91	0.51	NA	NA	NA
#10 soil	10/14/91	ND	NA	NA	NA
Detection Limit		0.05	1	0.2	-

Water results are expressed in Mg/L  
 Soil results are expressed in Mg/Kg

Sample Location	Benzene ug/kg	Toluene ug/kg	Ethyl Benzene ug/kg	Xylene ug/kg
#1 soil	2300	32000	18000	96000
#2 soil	ND	23	16	83
#3 soil	ND	ND	ND	ND
#4 soil	ND	ND	ND	ND
#5 water	ND	ND	ND	ND
#6 water	160	250	72	350
#7 water	NA	NA	NA	NA
#7A water	NA	NA	NA	NA
#8 water	NA	NA	NA	NA
#9 water	NA	NA	NA	NA
#10 soil	NA	NA	NA	NA
Detection Limit	5	5	5	10

ND= at or below detection limit  
 NA= not analyzed

Water results are expressed in Ug/L  
 Soil results are expressed in Ug/Kg

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 53020  
Matrix: SOIL

Date Sampled: 09/24/91  
Date Received: 09/25/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/08/91

### ANALYTE

Client	Sample I.D. AELC	Organic Lead (mg/kg)
#1	1A	ND
#2	2A	ND
#3	3A	ND
Rep. Limit		1.0

ND = Not detected at or above indicated Reporting Limit

NR = Not reportable; see cover letter for explanation

Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

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ENVIRONMENTAL LABORATORIES CORP.

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Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 53020  
Matrix: SOIL

Date Analyzed: 09/27/91

Date Reported: 10/08/91

### METHOD BLANK

Analyte	CAS #	Results (mg/kg)	Rep. Limit (mg/kg)
Organic Lead	N/A	ND	1.0

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ENVIRONMENTAL LABORATORIES CORP.

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Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 53020  
Matrix: SOIL

Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/08/91

### MATRIX SPIKE

Analyte	CAS #	MS Conc. (mg/kg)	MS Recovery (percent)
Organic Lead	N/A	5.0	94

### MATRIX SPIKE DUPLICATE

Analyte	CAS #	MSD Conc. (mg/kg)	MSD Recovery (percent)
Organic Lead	N/A	5.0	108

### RELATIVE % DIFFERENCE

Analyte	CAS #	Relative Percent Difference (percent)
Organic Lead	N/A	14



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Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 53020  
Matrix: SOIL

Date Reported: 10/08/91

### LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Organic Lead	N/A	1.0	96

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8089  
Matrix: SOIL

Date Sampled: 09/24/91  
Date Received: 09/25/91  
Date Extracted: 09/25/91  
Date Analyzed: 09/26/91  
Date Reported: 09/27/91

## ANALYTE

Client	Sample I.D. AELC	TPH as Waste Oil (mg/kg)	TPH as Diesel (mg/kg)
#1	1A	ND (200)	ND (100)
#2	2A	ND	ND
#3	3A	130	ND
Rep. Limit		20	10

ND - Not detected at or above indicated Reporting Limit  
Rep. Limit - Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.  
CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8089  
Matrix: SOIL

Date Analyzed: 09/26/91  
Date Reported: 09/27/91

## METHOD BLANK

Analyte	CAS #	Results (mg/kg)	Rep. Limit (mg/kg)
TPH as Waste Oil	N/A	ND	20
TPH as Diesel	N/A	ND	10

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

Date Extracted: 09/25/91  
Date Analyzed: 09/26/91  
Date Reported: 09/27/91

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8089  
Matrix: SOIL

## MB SPIKE

Analyte	CAS #	MBS Conc. (mg/kg)	MBS Recovery (percent)
Diesel	N/A	100	83

## MB SPIKE DUPLICATE

Analyte	CAS #	MBSD Conc. (mg/kg)	MBSD Recovery (percent)
Diesel	N/A	100	81

## MB SPIKE RPD

Analyte	CAS #	MBS RPD (percent)
Diesel	N/A	2

# AMERICAN

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Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8089  
Matrix: SOIL

Date Reported: 09/27/91

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Diesel	N/A	1000	104

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

Date Sampled: 09/24/91  
Date Received: 09/25/91  
Date Extracted: 09/25/91  
Date Analyzed: 09/25/91  
Date Reported: 10/02/91

## SURROGATE RECOVERY

Client	Sample I.D. AELC	o-Chlorotoluene CAS # 95-49-8 (percent)
#1	1B	NR
#2	2B	102
#3	3B	96
Surr Conc. (ug/kg)		100

## ANALYTE

Client	Sample I.D. AELC	Benzene 71-43-2 (ug/kg)	Toluene 108-88-3 (ug/kg)	Ethylbenzene 100-41-4 (ug/kg)	Xylenes, total 1330-20-7 (ug/kg)
#1	1B	2300	32000	18000	96000
#2	2B	ND	23	16	83
#3	3B	ND	ND	ND	ND
Rep. Limit		5	5	5	10

ND - Not detected at or above indicated Reporting Limit.

Rep. Limit - Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

Date Analyzed: 09/25/91  
Date Reported: 10/01/91

## METHOD BLANK

Analyte	CAS #	Results (mg/kg)	Rep. Limit (mg/kg)
TPH as Gasoline	N/A	ND	1.0

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

Date Sampled: 09/24/91  
Date Received: 09/25/91  
Date Extracted: 09/25/91  
Date Analyzed: 09/25/91  
Date Reported: 10/01/91

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

## ANALYTE

Client	Sample I.D. AELC	TPH as Gasoline (mg/kg)
#1	1B	660
#2	2B	ND
#3	3B	ND
Rep. Limit		1.0

ND - Not detected at or above indicated Reporting Limit.

Rep. Limit - Reporting Limit unless otherwise indicated in parentheses.



# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

Date Analyzed: 09/25/91  
Date Reported: 10/02/91

## MB SURROGATE

Analyte	CAS #	Surr Conc. (ug/kg)	MB Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	100	100

## METHOD BLANK

Analyte	CAS #	Results (ug/kg)	Rep. 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	10

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

Date Analyzed: 09/25/91  
Date Reported: 10/03/91

## MB SPIKE SURROGATE

Analyte	CAS #	MB Surr. Conc. (ug/kg)	Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	100	93

## MB SPIKE

Analyte	CAS #	MBS Conc. (ug/kg)	MBS Recovery (percent)
Benzene	71-43-2	100	86
Toluene	108-88-3	100	86
Ethylbenzene	100-41-4	100	87
Xylenes, total	1330-20-7	300	88

## MB SPIKE DUPLICATE SURR.

Analyte	CAS #	MBSD Surr. Conc. (ug/kg)	MBSD Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	100	98

## MB SPIKE DUPLICATE

Analyte	CAS #	MBSD Conc. (ug/kg)	MBSD Recovery (percent)
Benzene	71-43-2	100	95
Ethylbenzene	100-41-4	100	95
Toluene	108-88-3	100	95
Xylenes, total	1330-20-7	300	99

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

Date Analyzed: 09/25/91  
Date Reported: 10/02/91

## MB SPIKE RPD

Analyte	CAS #	MBS RPD (percent)
Benzene	71-43-2	10
Ethylbenzene	100-41-4	10
Toluene	108-88-3	9
Xylenes, total	1330-20-7	12

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

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Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon CA, 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St.-Gas Main

AELC Contact: Mike Jaeger  
Job No.: 797428  
COC Log No.: NO NUMBER  
AELC ID No.: L7428  
Batch No.: 8091  
Matrix: SOIL

Date Reported: 10/02/91

## LAB CONTROL STANDARD

Analyte	GAS #	LCS Conc. (ug/L)	LCS Recovery (percent)
Benzene	71-43-2	20	129
Toluene	108-88-3	20	117

**AMERICAN**  
ENVIRONMENTAL LABORATORIES CORP.

Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

10/21/91

Attn : Bryan Nicholson

Re: Project : Adam's St.-Main

Project No. :

Chain of Custody number : NO NUMBER

Date Samples Received : 09/26/91

No. Samples Received : 2

Job No. : 797443

AELC Lab No. : L7443

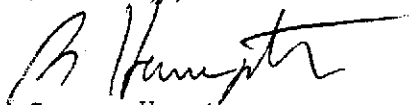
These samples were received by American Environmental Laboratories in a chilled, intact state, and accompanied by valid chain of custody documentation.

The following analyses were performed on the above referenced project:

<u>No. of Samples</u>	<u>Analysis</u>
2	Aquatic Toxicity Test
2	Organic Lead by Method 7420.10
2	TPH Volatiles by DHS Method - EPA M8015
2	TPH as Diesel by DHS Method - M8015
2	BTEX by Modified EPA 8020

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



George Hampton

Laboratory Director

The logo consists of the letters 'ATT' in a large, bold, serif font. The letters are white and set against a dark, textured background that resembles a starburst or a cluster of small dots.

**LETTER OF TRANSMITTAL**

**Date:** October 10, 1991

**To:** Mark Smith  
c/o American Environmental Laboratories, Corp.  
3249 Fitzgerald Rd.  
Rancho Cordova, CA

**From:** William E. Foster, M.S.  
Laboratory Manager

Terrance E. Carter  
Laboratory Director

**Subject:** Aquatic Toxicity Testing Results for Hazardous Waste Testing

Aqua Terra Technologies  
Aquatic Bioassay  
Laboratory

2950 Buskirk Avenue  
Suite 120  
Walnut Creek, CA  
94596  
+15 934-4884  
FAX 934-0418

---

**SAMPLE MATRIX AND I.D:** One Soil Sample #10435 (L-7443-1A) and One Water Sample #10436 (L-7443-2B)

**TREATMENT DILUTIONS (mg/L):** 250, 500, 750 and Control run in soft water of 40-48 mg/L hardness run in duplicate with 10 fish/8 L tank and 20 fish/treatment.

**TESTING PERIOD:** October 2-6, 1991 ; *Received 9/27/91.*

**TOXICITY TEST(S):** Fathead minnow (Pimephales promelas) 96-hour static Hazardous Waste Toxicity.

**METHODS:** ATT's hazardous waste aquatic toxicity test protocol based on "Standard Methods for the Examination of Water and Wastewater", 16th Edition, American Public Health Association, 1986; "Static Acute Bioassay Procedures for Hazardous Waste Samples" (Polisini and Miller, 1988), California Department of Fish and Game; and as certified by the State of California Department of Health Services.

**SUMMARY:**

Fathead minnow 96-hour percent survival was 100% in Controls and 100% in all treatments for soil sample #10435 (L-7443-1A) and water sample #10436 (L-7443-2B).

LC50 > 750 mg/L for Sample #10435 (L-7443-1A).  
LC50 > 750 mg/L for Sample #10436 (L-7443-2B).

The Summary data sheets for these tests are enclosed.

6007/10435-6.T22



Aqua Terra Technologies  
 2950 Buskirk Avenue  
 Walnut Creek, CA 94596  
 (415) 934-4884

STATIC ACUTE BIOASSAY  
 (Hazardous Waste Test)

CLIENT: American Environmental (pg. 1 of 3) ATTENTION: Mark Smith  
 SAMPLE ID#: 10435, 10436 SAMPLE DESCRIPTION: Soil, water TESTING DATES: 10-2-91 to 10-6-91  
 CLIENT ID#: L-7443-1A L-7443-2B

RD 10/2/91 1330 INITIAL							RD 10/3/91 24-HOUR				RD 10/4/91 1300 48-HOUR				10-5-91 PR 1230 72-HOUR				10-6-91 1800 PR 96-HOUR, FINAL			
TEST	Alk	Hard	Live	pH	DO	Temp	Live	pH	DO	Temp	Live	pH	DO	Temp	Live	pH	DO	Temp				
CONC	*	*																				
CTRL	mg/L	mg/L			mg/L	oC			mg/L	oC			mg/L	oC			mg/L	oC				
C-1	32	46	10	7.1	8.3	21	10	7.3	8.4	21	10	7.1	8.6	21	10	7.3	8.7	21				
C-2	32	46	10	7.1	8.3	21	10	7.3	8.3	21	10	7.1	8.6	21	10	7.3	8.8	21				

Test Species: fathead Avg Length 31.8 mm SL Max Length 37 mm SL Min Length 26 mm SL  
 Test Source: Thomas Fish Company Avg Wt 0.53 g Max Wt 6.80 g Min Wt 0.25 g  
 Species Density 10 tank Control & Dilution Water dechlorinated tap Test Soln Vol 8.5 L Depth 6.5 cm Aeration Bubble  
 Acclimation Tank % Dead 0 Accl. Tank Water dechlorinated tap Accl. Period 2.1 Days Accl. Temp. 20+/-2C  
 96-hr. LC50: n.a.  
 95% Confidence Limits: n.a.  
 96-hr. Final Percent Survival in Controls: 100%

Remarks:  
 \* Final Alk, Hard (mg/L): Controls = 70, 48.

Technician: WJ RD, P. Reis Laboratory Manager: Julianne Fogley (Acting Manager)  
 Laboratory Director: WJ/R

Aqua Terra Technologies  
2950 Buskirk Avenue  
Walnut Creek, CA 94596  
(415) 934-4884

STATIC ACUTE BIOASSAY  
(Hazardous Waste Test)

CLIENT: American Environmental (pg. 2 of 3) ATTENTION: Mark Smith  
 SAMPLE ID#: 10435 SAMPLE DESCRIPTION: Soil TESTING DATES: 10-2-91 to 10-6-91  
 CLIENT ID#: L-7443-1A

RD 10/2/91 1330 INITIAL							RD 10/3/91 24-HOUR				RD 10/4/91 1300 48-HOUR				10-5-91 1200 PR 72-HOUR				10-6-91 P.C. 1334 96-HOUR, FINAL			
TEST CONC mg/L	Alk mg/L	Hard mg/L	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC
250 A	/	/	10	7.1	8.2	21	10	7.7	8.4	21	10	7.1	8.6	21	10	7.2	8.8	21	10	7.2	8.9	21
250 B	/	/	10	7.1	8.2	21	10	7.7	8.3	21	10	7.1	8.5	21	10	7.2	8.8	21	10	7.2	8.9	21
500 A	/	/	10	7.1	8.2	21	10	7.7	8.3	21	10	7.2	8.5	21	10	7.3	8.8	21	10	7.2	8.8	21
500 B	/	/	10	7.1	8.1	21	10	7.6	8.3	21	10	7.2	8.6	21	10	7.3	8.8	21	10	7.2	8.9	21
750 A	66	120	10	7.1	8.1	21	10	7.7	8.2	21	10	7.2	8.4	21	10	7.3	8.8	21	10	7.2	8.9	21
750 B	66	120	10	7.2	8.1	21	10	7.6	8.4	21	10	7.2	8.5	21	10	7.3	8.9	21	10	7.2	8.0	21

Test Species: Fathead Avg Length 31.8 mm SL Max Length 37 mm SL Min Length 26 mm SL

Test Source: Thomas Fish Company Avg Wt 0.53 g Max Wt 0.80 g Min Wt 0.25 g

Species Density 10 tank 20/treatment Control & Dilution Water dechlorinated tap Test Soln Vol 8.5 L Depth 6.5 cm Aeration Bubble

Acclimation Tank % Dead 0 Accl. Tank Water dechlorinated tap Accl. Period 21 Days Accl. Temp. 20 +/- 2°C

96-hr. LC50: na. > 750 mg/L all treatments

95% Confidence Limits: na.

96-hr. Final Percent Survival This Page: 100% all treatments

Remarks: \* Final Alk, Hard (mg/L): 750 mg/L = 46, 50.

Technician: W.R. Ogilby

Laboratory Manager: Justine Begley (Acting Manager)

Laboratory Director: W.R. Ogilby



Aqua Terra Technologies  
2950 Buskirk Avenue  
Walnut Creek, CA 94596  
(415) 934-4884

STATIC ACUTE BIOASSAY  
(Hazardous Waste Test)

CLIENT: American Environmental (pg. 3 of 3) ATTENTION: Mark Smith  
 SAMPLE ID#: 10436 SAMPLE DESCRIPTION: Water TESTING DATES: 10-2-91 to 10-6-91  
 CLIENT ID#: L-7443-2B

RD 10/2/91 10/2/91 1330 INITIAL							RD 10/3/91 24-HOUR				RD 10/4/91 300 48-HOUR				PR 1206 10-5-91 72-HOUR				PR 10-6-91 1036 96-HOUR, FINAL			
TEST CONC mg/L	Alk mg/L	Hard mg/L	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC	Live	pH	DO mg/L	Temp oC
250 A	/	/	10	7.1	8.3	20	10	7.6	8.3	21	10	7.1	8.6	21	10	7.1	8.9	21	10	7.2	8.6	21
250 B	/	/	10	7.2	8.3	20	10	7.6	8.3	21	10	7.2	8.6	21	10	7.1	8.9	21	10	7.2	8.6	21
500 A	/	/	10	7.2	8.2	20	10	7.6	8.3	21	10	7.2	8.5	21	10	7.2	8.9	21	10	7.3	8.2	21
500 B	/	/	10	7.2	8.1	20	10	7.6	8.3	21	10	7.1	8.5	21	10	7.2	8.3	21	10	7.3	8.6	21
750 A	74	63	10	7.2	8.1	20	10	7.6	8.2	21	10	7.2	8.4	21	10	7.2	8.9	21	10	7.3	8.8	21
750 B	74	63	10	7.2	8.0	20	10	7.6	8.2	21	10	7.2	8.5	21	10	7.2	8.9	21	10	7.2	8.8	21

Test Species: Fathead Avg Length 31.8 mm SL Max Length 37 mm SL Min Length 26 mm SL  
 Test Source: Thomas Fish Company Avg Wt 0.53 g Max Wt 1.680 g Min Wt 0.25 g

Species Density 10 tank Control & Dilution Water dechlorinated tap Test Soln Vol 8.5 L Depth 6.5 cm Aeration Bubble  
20/treatment

Acclimation Tank % Dead 0 Accl. Tank Water dechlorinated tap Accl. Period 21 Days Accl. Temp. 20 +/- 2C

96-hr. LC50: > 750 mg/L

95% Confidence Limits: na.

96-hr. Final Percent Survival This Page: 100% all treatments

Remarks: \* Final Alk, Hard (mg/L): 750 mg/L = 89, 54.

Technician: WA RD Ayle

Laboratory Manager: Jubaine Stegley (Acting Manager)  
 Laboratory Director: WA

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53020  
Matrix: SOIL

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/07/91

### ANALYTE

Client	Sample I.D. AELC	Organic Lead (mg/kg)
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#4	1A	ND
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Rep. Limit 1.0

ND = Not detected at or above indicated Reporting Limit  
Rep. Limit - Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St. -Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53020  
Matrix: SOIL

Date Analyzed: 09/27/91  
Date Reported: 10/07/91

### METHOD BLANK

Analyte	CAS #	Results (mg/kg)	Rep. Limit (mg/kg)
Organic Lead	N/A	ND	1.0

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53020  
Matrix: SOIL

Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/07/91

### MATRIX SPIKE

Analyte	CAS #	MS Conc. (mg/kg)	MS Recovery (percent)
Organic Lead	N/A	5.0	94

### MATRIX SPIKE DUPLICATE

Analyte	CAS #	MSD Conc. (mg/kg)	MSD Recovery (percent)
Organic Lead	N/A	5.0	108

### RELATIVE % DIFFERENCE

Analyte	CAS #	Relative Percent Difference (percent)
Organic Lead	N/A	14

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co.  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53020  
Matrix: SOIL

Date Reported: 10/07/91

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Organic Lead	N/A	1.0	96

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/07/91  
Client ID No.: #5

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443-2C  
Batch No.: 53019  
Matrix: WATER

### ANALYTE

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)	Method
Organic Lead	N/A	ND	1.0	

ND = Not detected at or above indicated Reporting Limit  
Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53019  
Matrix: WATER

Date Analyzed: 09/27/91  
Date Reported: 10/07/91

### METHOD BLANK

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)	Method
Organic Lead	N/A	ND	1.0	

ND = Not detected at or above indicated Reporting Limit  
Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53019  
Matrix: WATER

Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/07/91

## MATRIX SPIKE

Analyte	CAS #	MS Conc. (mg/L)	MS Recovery (percent)
Organic Lead	N/A	2.5	85

## MATRIX SPIKE DUPLICATE

Analyte	CAS #	MSD Conc. (mg/L)	MSD Recovery (percent)
Organic Lead	N/A	2.5	95

## RELATIVE % DIFFERENCE

Analyte	CAS #	Relative Percent Difference (percent)
Organic Lead	N/A	11



# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, DHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 53019  
Matrix: WATER

Date Reported: 10/07/91

### LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Organic Lead	N/A	1.0	95

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/26/91  
Date Analyzed: 09/26/91  
Date Reported: 10/08/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8095  
Matrix: SOIL

## ANALYTE

Client	Sample I.D. AELC	TPH as Gasoline (mg/kg)
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#4	1A	ND
----	----	----

Rep. Limit 1.0

ND = Not detected at or above indicated Reporting Limit  
NR = Not reportable; see cover letter for explanation  
Rep. Limit = Reporting Limit unless otherwise indicated  
in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Analyzed: 09/26/91  
Date Reported: 10/08/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8095  
Matrix: SOIL

## METHOD BLANK

Analyte	CAS #	Results (mg/kg)	Rep. Limit (mg/kg)
TPH as Gasoline	N/A	ND	1.0

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.  
CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8095  
Matrix: SOIL

Date Extracted: 09/26/91  
Date Analyzed: 09/26/91  
Date Reported: 10/08/91

## MB SPIKE

Analyte	CAS #	MBS Conc. (mg/kg)	MBS Recovery (percent)
Gasoline	N/A	4.0	113

## MB SPIKE DUPLICATE

Analyte	CAS #	MBSD Conc. (mg/kg)	MBSD Recovery (percent)
Gasoline	N/A	4.0	105

## MB SPIKE RPD

Analyte	CAS #	MBS RPD (percent)
Gasoline	N/A	7

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.  
CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8095  
Matrix: SOIL

Date Reported: 10/08/91

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Gasoline	N/A	0.8	108

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/26/91  
Date Analyzed: 09/26/91  
Date Reported: 10/07/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8095  
Matrix: SOIL

## SURROGATE RECOVERY

Client	Sample I.D.	AELC	o-Chlorotoluene CAS # 95-49-8 (percent)
#4		1A	110
			Surr Conc. (ug/kg) 100

## ANALYTE

Client	Sample I.D.	AELC	Benzene 71-43-2 (ug/kg)	Toluene 108-88-3 (ug/kg)	Ethylbenzene 100-41-4 (ug/kg)	Xylenes, total 1330-20-7 (ug/kg)
#4		1A	ND	ND	ND	ND
			Rep. Limit 5	5	5	10

ND = Not detected at or above indicated Reporting Limit  
NR = Not reportable; see cover letter for explanation  
Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Analyzed: 09/26/91  
Date Reported: 10/07/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8095  
Matrix: SOIL

## MB SURROGATE

Analyte	CAS #	Surr Conc. (ug/kg)	MB Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	100	100

## METHOD BLANK

Analyte	CAS #	Results (ug/kg)	Rep. 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	10

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/30/90  
Date Reported: 10/07/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8098  
Matrix: SOIL

## ANALYTE

Client	Sample I.D. AELC	TPH as Diesel (mg/kg)
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#4	1A	ND
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Rep. Limit		10
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ND = Not detected at or above indicated Reporting Limit  
NR = Not reportable; see cover letter for explanation  
Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.



# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8098  
Matrix: SOIL

Date Analyzed: 09/30/90  
Date Reported: 10/07/91

## METHOD BLANK

Analyte	CAS #	Results (mg/kg)	Rep. Limit (mg/kg)
TPH as Diesel	N/A	ND	10

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8098  
Matrix: SOIL

Date Extracted: 09/27/91  
Date Analyzed: 09/30/90  
Date Reported: 10/07/91

## MB SPIKE

Analyte	CAS #	MBS Conc. (mg/kg)	MBS Recovery (percent)
Diesel	N/A	100	88
MB SPIKE DUPLICATE			

Analyte	CAS #	MBSD Conc. (mg/kg)	MBSD Recovery (percent)
Diesel	N/A	100	97
MB SPIKE RPD			

Analyte	CAS #	MBS RPD (percent)
Diesel	N/A	10

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Shaker, DOHS LUFT Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8098  
Matrix: SOIL

Date Reported: 10/07/91

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Diesel	N/A	1000	104

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/08/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8100  
Matrix: WATER

## ANALYTE

Sample I.D.	TPH as Gasoline
Client	AELC (mg/L)

#5	2D	ND
----	----	----

Rep. Limit	0.05
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ND = Not detected at or above indicated Reporting Limit  
NR = Not reportable; see cover letter for explanation  
Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOBS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8100  
Matrix: WATER

Date Analyzed: 09/27/91  
Date Reported: 10/08/91

## METHOD BLANK

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)
TPH as Gasoline	N/A	ND	0.05

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8100  
Matrix: WATER

Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/08/91

## MATRIX SPIKE

Analyte	CAS #	MS Conc. (mg/L)	MS Recovery (percent)
Gasoline	N/A	0.8	105

## MATRIX SPIKE DUPLICATE

Analyte	CAS #	MSD Conc. (mg/L)	MSD Recovery (percent)
Gasoline	N/A	0.8	106

## RELATIVE % DIFFERENCE

Analyte	CAS #	Relative Percent Difference (percent)
Gasoline	N/A	1

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX by EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/09/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8100  
Matrix: WATER

## SURROGATE RECOVERY

Client	Sample I.D.	AELC	o-Chlorotoluene CAS # 95-49-8 (percent)
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#5		2D	115
----	--	----	-----

Surr Conc. (ug/L)			20
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## ANALYTE

Client	Sample I.D.	AELC	Benzene 71-43-2 (ug/L)	Toluene 108-88-3 (ug/L)	Ethylbenzene 100-41-4 (ug/L)	Xylenes, total 1330-20-7 (ug/L)
--------	-------------	------	------------------------------	-------------------------------	------------------------------------	---------------------------------------

#5		2D	ND	ND	ND	ND
----	--	----	----	----	----	----

Rep. Limit			0.5	0.5	0.5	1.0
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ND = Not detected at or above indicated Reporting Limit  
NR = Not reportable; see cover letter for explanation  
Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX by EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

Date Analyzed: 09/27/91  
Date Reported: 10/09/91

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8100  
Matrix: WATER

## MB SURROGATE

Analyte	CAS #	Surr Conc. (ug/L)	MB Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	20	115

## METHOD BLANK

Analyte	CAS #	Results (ug/L)	Rep. 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	1.0



# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8099  
Matrix: WATER

Date Sampled: 09/26/91  
Date Received: 09/26/91  
Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/08/91

## ANALYTE

Client	Sample I.D. AELC	TPH as Waste Oil (mg/L)	TPH as Diesel (mg/L)
#5	2A	1.2	ND
Rep. Limit		0.4	0.2

ND - Not detected at or above indicated Reporting Limit  
NR - Not reportable; see cover letter for explanation  
Rep. Limit = Reporting Limit unless otherwise indicated  
in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8099  
Matrix: WATER

Date Analyzed: 09/27/91  
Date Reported: 10/08/91

## METHOD BLANK

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)
TPH as Waste Oil	N/A	ND	0.4
TPH as Diesel	N/A	ND	0.2

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger  
Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8099  
Matrix: WATER

Date Extracted: 09/27/91  
Date Analyzed: 09/27/91  
Date Reported: 10/08/91

## MB SPIKE

Analyte	CAS #	MBS Conc. (mg/L)	MBS Recovery (percent)
Diesel	N/A	2.0	91

## MB SPIKE DUPLICATE

Analyte	CAS #	MBSD Conc. (mg/L)	MBSD Recovery (percent)
Diesel	N/A	2.0	89

## MB SPIKE RPD

Analyte	CAS #	MBS RPD (percent)
Diesel	N/A	2

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.:  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adam's St.-Main

AELC Contact: Mike Jaeger

Date Reported: 10/08/91

Job No.: 797443  
COC Log No.: NO NUMBER  
AELC ID No.: L7443  
Batch No.: 8099  
Matrix: WATER

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Diesel	N/A	1000	104

**AMERICAN**  
ENVIRONMENTAL LABORATORIES CORP.

Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

10/18/91

Attn : Bryan Nicholson

Re: Project : Adams St. - Main  
Project No. : 0437  
Chain of Custody number : NO NUMBER  
Date Samples Received : 10/02/91  
No. Samples Received : 1

Job No. : 797480  
AELC Lab No. : L7480

These samples were received by American Environmental Laboratories in a chilled, intact state, and accompanied by valid chain of custody documentation.

The following analyses were performed on the above referenced project:

<u>No. of Samples</u>	<u>Analysis</u>
1	Organic Lead by Method 7420.10
1	TPH Volatiles by DHS Method - EPA M8015
1	TPH as Diesel by DHS Method - M8015
1	BTEX by Modified EPA 8020

Method 8020 surrogate standard recovery data could not be generated for sample "#6" due to the presence of gasoline in this sample.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



George Hampton

Laboratory Director

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, CaDOHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 53050  
Matrix: WATER

Date Sampled: 10/02/91  
Date Received: 10/02/91  
Date Extracted: 10/08/91  
Date Analyzed: 10/08/91  
Date Reported: 10/17/91

### ANALYTE

Client	Sample I.D. AELC	Organic Lead (mg/L)
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#6	1C	ND
----	----	----

Rep. Limit 1.0

ND = Not detected at or above indicated Reporting Limit

NR = Not reportable; see cover letter for explanation

Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, CaDOHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger

Date Analyzed: 10/08/91

Job No.: 797480

Date Reported: 10/17/91

COC Log No.: NO NUMBER

AELC ID No.: L7480

Batch No.: 53050

Matrix: WATER

### METHOD BLANK

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)
Organic Lead	N/A	ND	1.0

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

## Analysis Report: Organic Lead, CaDOHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 53050  
Matrix: WATER

Date Extracted: 10/08/91  
Date Analyzed: 10/08/91  
Date Reported: 10/17/91

### MATRIX SPIKE

Analyte	CAS #	MS Conc. (mg/L)	MS Recovery (percent)
Organic Lead	N/A	2.0	83

### MATRIX SPIKE DUPLICATE

Analyte	CAS #	MSD Conc. (mg/L)	MSD Recovery (percent)
Organic Lead	N/A	2.0	108

### RELATIVE % DIFFERENCE

Analyte	CAS #	Relative Percent Difference (percent)
Organic Lead	N/A	26



# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Organic Lead, CaDOHS Method

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger

Date Reported: 10/17/91

Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 53050  
Matrix: WATER

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Organic Lead	N/A	2.0	103

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

Date Sampled: 10/02/91  
Date Received: 10/02/91  
Date Extracted: 10/04/91  
Date Analyzed: 10/04/91  
Date Reported: 10/18/91

## ANALYTE

Sample I.D.	TPH as Gasoline
Client	AELC (mg/L)

#6	1D 3.5
----	--------

Rep. Limit	0.05
------------	------

ND = Not detected at or above indicated Reporting Limit

NR = Not reportable; see cover letter for explanation

Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

Date Analyzed: 10/04/91

Date Reported: 10/18/91

## METHOD BLANK

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)
TPH as Gasoline	N/A	ND	0.05

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

Date Sampled: 10/02/91  
Date Received: 10/02/91  
Date Extracted: 10/04/91  
Date Analyzed: 10/04/91  
Date Reported: 10/09/91

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

## SURROGATE RECOVERY

Sample I.D.	o-Chlorotoluene
Client	CAS # 95-49-8
AELC	(percent)

#6	1D	NR
----	----	----

Surr Conc.	20
(ug/L)	

## ANALYTE

Sample I.D.	Benzene	Toluene	Ethylbenzene	Xylenes, total
Client	71-43-2	108-88-3	100-41-4	1330-20-7
AELC	(ug/L)	(ug/L)	(ug/L)	(ug/L)

#6	1D	160	250	72	350
----	----	-----	-----	----	-----

Rep. Limit	0.5	0.5	0.5	1.0
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ND = Not detected at or above indicated Reporting Limit

NR = Not reportable; see cover letter for explanation

Rep. Limit = Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.  
CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

Date Analyzed: 10/04/91  
Date Reported: 10/09/91

## MB SURROGATE

Analyte	CAS #	Surr Conc. (ug/L)	MB Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	20	100

## METHOD BLANK

Analyte	CAS #	Results (ug/L)	Rep. 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	1.0

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

Date Analyzed: 10/04/91

Date Reported: 10/09/91

## MS SURROGATE

Analyte	CAS #	MS Surr. Conc. (ug/L)	MS Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	20	93

## MATRIX SPIKE

Analyte	CAS #	MS Conc. (ug/L)	MS Recovery (percent)
Benzene	71-43-2	20	85
Toluene	108-88-3	20	85
Ethylbenzene	100-41-4	20	85
Xylenes, total	1330-20-7	60	95

## MSD SURROGATE

Analyte	CAS #	Surr. Conc. (ug/L)	MSD Surrogate Recovery (percent)
o-Chlorotoluene	95-49-8	20	93

## MATRIX SPIKE DUPLICATE

Analyte	CAS #	MSD Conc. (ug/L)	MSD Recovery (percent)
Benzene	71-43-2	20	85
Toluene	108-88-3	20	85
Ethylbenzene	100-41-4	20	85
Xylenes, total	1330-20-7	60	97

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

Date Analyzed: 10/04/91

Date Reported: 10/09/91

## RELATIVE % DIFFERENCE

Analyte	CAS #	Relative Percent Difference (percent)
Benzene	71-43-2	0
Toluene	108-88-3	0
Ethylbenzene	100-41-4	0
Xylenes, total	1330-20-7	2

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: BTEX, EPA Method 8020  
Purge and Trap, EPA Method 5030

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger

Date Reported: 10/09/91

Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8137  
Matrix: WATER

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (ug/L)	LCS Recovery (percent)
Benzene	71-43-2	20	129
Toluene	108-88-3	20	117



# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

Date Sampled: 10/02/91  
Date Received: 10/02/91  
Date Extracted: 10/03/91  
Date Analyzed: 10/03/91  
Date Reported: 10/09/91

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8123  
Matrix: WATER

## ANALYTE

Sample I.D.	AELC	TPH as Diesel (mg/L)
-------------	------	-------------------------

#6	1A	ND
----	----	----

Rep. Limit 0.2

ND - Not detected at or above indicated Reporting Limit

NR - Not reportable; see cover letter for explanation

Rep. Limit - Reporting Limit unless otherwise indicated in parentheses.

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Grow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger

Date Analyzed: 10/03/91

Job No.: 797480

Date Reported: 10/09/91

COC Log No.: NO NUMBER

AELC ID No.: L7480

Batch No.: 8123

Matrix: WATER

## METHOD BLANK

Analyte	CAS #	Results (mg/L)	Rep. Limit (mg/L)
TPH as Diesel	N/A	ND	0.2

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

Analysis Report: Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

Client: Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

Project No.: 0437  
Contact: Bryan Nicholson  
Phone: (415) 866-5575

Project: Adams St. - Main

AELC Contact: Mike Jaeger  
Job No.: 797480  
COC Log No.: NO NUMBER  
AELC ID No.: L7480  
Batch No.: 8123  
Matrix: WATER

Date Extracted: 10/03/91  
Date Analyzed: 10/03/91  
Date Reported: 10/09/91

## MB SPIKE

Analyte	CAS #	MBS Conc. (mg/L)	MBS Recovery (percent)
Diesel	N/A	2.0	115

## MB SPIKE DUPLICATE

Analyte	CAS #	MBSD Conc. (mg/L)	MBSD Recovery (percent)
Diesel	N/A	2.0	115

## MB SPIKE RPD

Analyte	CAS #	MBS RPD (percent)
Diesel	N/A	0

# AMERICAN

ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

**Analysis Report:** Total Petroleum Hydrocarbons, EPA Method 8015  
Separatory Funnel, EPA Method 3510

**Client:** Pacific Gas & Electric Co  
3400 Crow Canyon Road  
San Ramon, CA 94583

**Project No.:** 0437  
**Contact:** Bryan Nicholson  
**Phone:** (415) 866-5575

**Project:** Adams St. - Main

**AELC Contact:** Mike Jaeger  
**Job No.:** 797480  
**COC Log No.:** NO NUMBER  
**AELC ID No.:** L7480  
**Batch No.:** 8123  
**Matrix:** WATER

**Date Reported:** 10/09/91

## LAB CONTROL STANDARD

Analyte	CAS #	LCS Conc. (mg/L)	LCS Recovery (percent)
Diesel	N/A	1000	102



**LETTER OF TRANSMITTAL**

**Date:** October 15, 1991

**To:** Bryan Nicholson  
PG&E  
3400 Crow Canyon Road  
San Ramon, CA 94583

**From:** William E. Foster, M.S.  
Laboratory Manager

Terrance E. Carter  
Laboratory Director

**Subject:** Aquatic Toxicity Testing Results for Hazardous Waste Testing,  
Adams Street Main

---

Aqua Terra Technologies  
Aquatic Bioassay  
Laboratory

2950 Buskirk Avenue  
Suite 120  
Walnut Creek, CA  
94596  
415 934-4884  
FAX 934-0418

**SAMPLE MATRIX AND I.D:** One Liquid Sample, #10446 (#6-0437 Composite)

**TREATMENT DILUTIONS (mg/L):** 250, 500, 750 and Control run in soft water of 40-48 mg/L hardness run in duplicate with 10 fish/5 L tank and 20 fish/treatment.

**TESTING PERIOD:** October 7-11, 1991

**TOXICITY TEST(S):** Fathead minnow (Pimephales promelas) 96-hour static Hazardous Waste Toxicity.

**METHODS:** ATT's hazardous waste aquatic toxicity test protocol based on "Standard Methods for the Examination of Water and Wastewater", 16th Edition, American Public Health Association, 1986; "Static Acute Bioassay Procedures for Hazardous Waste Samples" (Polisini and Miller, 1988), California Department of Fish and Game; and as certified by the State of California Department of Health Services.

**SUMMARY:**

Fathead minnow 96-hour percent survival was 100% in Control, 100% in all treatments of liquid Sample #10446 (6-0437). LC50 > 750 mg/L for Sample #10446 (#6-0437).

The Summary data sheets for these tests are enclosed.



Bioassay Lab/#2/10446.RPT

Agua Terra Technologies  
 2950 Buskirk Avenue  
 Walnut Creek, CA 94596  
 (415) 934-4884

STATIC ACUTE BIOASSAY  
 (Hazardous Waste Test)

CLIENT: PG + E (pg. 1 of 2) ATTENTION: Bryan Nicholson  
 SAMPLE ID#: 10440 SAMPLE DESCRIPTION: Liquid/water TESTING DATES: 10-7-91 to 10-11-91  
 CLIENT ID#: 0437 Composite

RD 10/7/91 1000 INITIAL							RD 10/10/91 1500 24-HOUR				RD 10/10/91 1500 48-HOUR				RD 10/10/91 1600 72-HOUR				PR 10/31 10-11-91 96-HOUR, FINAL			
TEST	AK	Hard	Lve	pH	DO	Temp	Lve	pH	DO	Temp	Lve	pH	DO	Temp	Lve	pH	DO	Temp	Lve	pH	DO	Temp
CONC	*	*			mg/L	oC			mg/L	oC			mg/L	oC			mg/L	oC			mg/L	oC
CTRL	mg/L	mg/L																				
C-1	32	46	10	7.2	8.5	20	10	7.5	8.6	20	10	7.4	8.8	20	10	7.8	8.9	20	10	7.6	8.8	21
C-2	32	46	10	7.2	8.5	20	10	7.5	8.6	20	10	7.5	8.8	20	10	7.8	8.7	20	10	7.6	8.8	21

Test Species: Lefthead Avg Length 22.9 mm SL Max Length 34 mm SL Min Length 2.8 mm SL

Test Source: Thomas Fish Company Avg Wt 0.49 g Max Wt 0.63 g Min Wt 0.19 g

Species Density 10 tank / 20/treatment Control & Dilution Water dechlorinated tap Test Soln Vol 5<sup>ml</sup> / 3 L Depth 6.5 / 17 cm Aeration Bubble

Acclimation Tank % Dead 0 Accl. Tank Water dechlorinated tap Accl. Period Days Accl. Temp. 20 +/- 2C

96-hr. LC50: >100%

95% Confidence Limits: n-a.

96-hr. Final Percent Survival in Controls: 100% all replicates

Remarks: \* Final Alk, Hard (mg/L): Controls = 34, 50.

Technician: [Signature] Laboratory Manager: Julianne Feyly (Acting Manager)  
 Laboratory Director: \_\_\_\_\_

Aqua Terra Technologies  
 2950 Buskirk Avenue  
 Walnut Creek, CA 94596  
 (415) 934-4884

STATIC ACUTE BIOASSAY  
 (Hazardous Waste Test)

CLIENT: PG+E (Pg. 2 of 2) ATTENTION: Bryan Nicholas  
 SAMPLE ID#: 10446 SAMPLE DESCRIPTION: water TESTING DATES: 10-7-91 to 10-11-91  
 CLIENT ID#: 0437

RO 10/7/91 400 INITIAL							RO 10/8/91 1500 24-HOUR				RO 10/9/91 1500 48-HOUR				FO 10/11/91 1600 72-HOUR				PR 1032 10-11-91 96-HOUR, FINAL			
TEST	AK	Hard	Live	pH	DO	Temp	Live	pH	DO	Temp	Live	pH	DO	Temp	Live	pH	DO	Temp				
CONC	*	*																				
mg/L	mg/L	mg/L			mg/L	oC			mg/L	oC			mg/L	oC			mg/L	oC				
250 A	/	/	10	7.2	8.5	20	10	7.5	8.5	20	10	7.6	8.8	20	10	7.5	8.8	20	10	7.5	8.8	21
250 B	/	/	10	7.2	8.5	20	10	7.6	8.6	20	10	7.6	8.7	20	10	7.5	8.8	20	10	7.5	8.9	21
500 A	/	/	10	7.2	8.3	20	10	7.5	8.4	20	10	7.5	8.7	20	10	7.5	8.7	20	10	7.5	8.8	21
500 B	/	/	10	7.2	8.3	20	10	7.5	8.5	20	10	7.5	8.7	20	10	7.5	8.7	20	10	7.5	8.8	21
750 A	30	49	10	7.2	8.4	20	10	7.5	8.5	20	10	7.5	8.8	20	10	7.5	8.5	20	10	7.5	8.6	21
750 B	30	49	10	7.2	8.5	20	10	7.5	8.6	20	10	7.5	8.7	20	10	7.4	8.4	20	10	7.5	8.8	21

Test Species: Fathead Avg Length 22.9 mm SL Max Length 34 mm SL Min Length 28 mm SL  
 Test Source: Thomas Fish Company Avg Wt 0.49 g Max Wt 0.63 g Min Wt 0.19 g

Species Density 10 tank Control & Dilution Water dechlorinated tap Test Soln Vol 5 L Depth PR 6.5 cm Aeration Bubble  
 Acclimation Tank % Dead 0 Accl. Tank Water dechlorinated tap Accl. Period Days Accl. Temp. 20 +/- 2C

96-hr. LC50: > 750 mg/L  
 95% Confidence Limits: n.a.

96-hr. Final Percent Survival This Pgs: 100% all treatments

Remarks: \* Final Alk., Hard (mg/L): 750 mg/L = 31, 52

Technician: ~~RO~~ P.K. Laboratory Manager: Julianne Feagly (Acting Manager)  
 Laboratory Director: \_\_\_\_\_

# CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 7, 1991

ChromaLab File No.: 1091051

PG&E / TES

Attn: Bryan Nicholson

RE: One rush water sample for Gasoline analysis

Project Name: ADAMS ST

Project Number: 0437

Date Sampled: Oct. 7, 1991

Date Submitted: Oct. 7, 1991

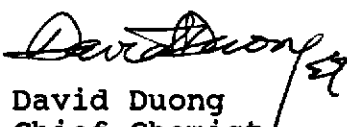
Date Extracted: Oct. 7, 1991

Date Analyzed: Oct. 7, 1991

## RESULTS:

<u>Sample I.D.</u>	<u>Gasoline (<math>\mu\text{g}/\text{l}</math>)</u>
#7	9000
BLANK	N.D.
SPIKED RECOVERY	98.0%
DETECTION LIMIT	50
METHOD OF ANALYSIS	5030/8015

ChromaLab, Inc.

  
David Duong  
Chief Chemist

  
Eric Tam  
Laboratory Director



# CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 8, 1991

ChromaLab File No.: 1091067

P.G. & E./ TES

Attn: Bryan Nicholson

RE: One rush water sample for Gasoline analysis

Project Name: ADAMS ST

Project Number: 0437

Date Sampled: Oct. 8, 1991

Date Submitted: Oct. 8, 1991

Date Extracted: Oct. 8, 1991

Date Analyzed: Oct. 8, 1991

## RESULTS:

<u>Sample I.D.</u>	<u>Gasoline (ug/l)</u>
# 8	5300

BLANK

N.D.

SPIKE RECOVERY

98.0%


DETECTION LIMIT

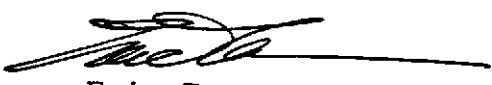
50

METHOD OF ANALYSIS

5030/8015

ChromaLab, Inc.

  
David Duong  
Chief Chemist

  
Eric Tam  
Laboratory Director

# CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991

ChromaLab File No.: 1091081

PG&E / TES

Attn: Bryan Nicholson

RE: One rush water sample for Gasoline analysis

Project Name: ADAMS ST.

Project Number: 0437

Date Sampled: Oct. 9, 1991

Date Submitted: Oct. 9, 1991

Date Extracted: Oct. 9, 1991

Date Analyzed: Oct. 9, 1991

## RESULTS:

<u>Sample I.D.</u>	<u>Gasoline (<math>\mu\text{g}/\text{l}</math>)</u>
#9	510
BLANK	N.D.
SPIKED RECOVERY	101.3%
DETECTION LIMIT	50
METHOD OF ANALYSIS	5030/8015

ChromaLab, Inc.



David Duong  
Chief Chemist

Eric Tam (by DO)

Eric Tam  
Laboratory Director

# CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 14, 1991

ChromaLab File No.: 1091127

PG&E / TES

Attn: Bryan Nicholson

RE: One rush soil sample for Gasoline analysis

Project Name: ADAMS ST. - MAIN

Project Number: 0437

Date Sampled: Oct. 14, 1991

Date Submitted: Oct. 14, 1991

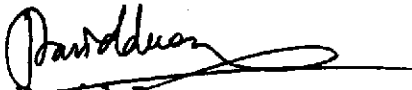
Date Extracted: Oct. 14, 1991

Date Analyzed: Oct. 14, 1991

## RESULTS:

<u>Sample I.D.</u>	<u>Gasoline (mg/kg)</u>
#10	N.D.
BLANK	N.D.
SPIKED RECOVERY	93.0%
DETECTION LIMIT	1.0
METHOD OF ANALYSIS	5030/8015

ChromaLab, Inc.

  
David Duong  
Chief Chemist

  
Eric Tam  
Laboratory Director