



Transmittal Sheet

Documents

- BAAQMD Permit Application: FORMER BAY STREET
TEXACO STATION, 1127 LINCOLN AVE., ALAMEDA,
CALIFORNIA

Can Wash (?) →

- BAAQMD Permit Application: FORMER TEXACO SERVICE
STATION, 2375 SHORELINE DR., ALAMEDA, CALIFORNIA

Part of Service Shopping
South of the
main

Original Sent To

Mr. Robert E. Cave
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Copies Sent To

- Mr. Robert Robles, Texaco Environmental Services
- California Regional Water Quality Control Board - San
Francisco Bay Region
- Alameda County Health Care Services Agency - Hazardous
Materials Division

Format (Final/Draft)

Final

From

Michael Hodges/CEECON

TES Project Number

TRR222

CEECON Project Number

115-1006

Via

U.S. Priority Mail

Date

January 11, 1993



January 11, 1993

Mr. Robert E. Cave
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Subject: Application for an Authority to Construct/Permit to Operate An Interim Soil and Groundwater Remediation System at the Former Texaco Service Station, 2375 Shoreline Drive, Alameda, California. *Part of South Shore Shopping Center*

Mr. Cave:

California Environmental Engineers & Contractors (CEECON) has prepared this permit application for an Authority to Construct/Permit to Operate on behalf of Texaco Environmental Services (TES). Prior sub-surface environmental investigations indicate that soil underlying this site contains residual gasoline hydrocarbons, and that dissolved hydrocarbons are present in ground water. An interim soil and groundwater remediation system will be installed at this site. This permit application has been prepared in accordance the Bay Area Air Quality Management District (BAAQMD) Soil Vapor Extraction guidelines; appropriate BAAQMD Data Forms are attached. The location of the site is shown on the attached Vicinity Map. A layout of the area surrounding this site is shown on AM-1.

SYSTEM DESIGN

CEECON will be utilizing a modular approach to remediation at this site. A trailer-mounted groundwater treatment system, including water filters, an aeration system, a water hardness chemical injector, and activated carbon polishing is proposed for this site. Instrumentation and controls on this system include water level indicators, transfer pumps, flow indicator, flow totalizer, and sample ports. The system is trailer-mounted and is provided with double-containment for all water and chemical storage drums. An approximate layout of this trailer-mounted system is shown on the attached GTS-1. A process flow diagram of this system, along with the compressor and groundwater extraction pump, is shown on the attached GTS-2.

Hydrocarbon concentrations in extracted vapor at this site are expected to decrease substantially in the first few months of operation. CEECON will use a six-cylinder internal combustion (I.C.) engine for the first several days of system operation. The layout of this trailer mounted I.C. engine is shown on the attached VET-1. A process flow diagram of this I.C. engine is shown on the attached VET-2.

The groundwater remediation trailer and the I.C. engine will both be located in a remediation compound about the size of one parking space at this site. An approximate system layout is shown on RCL-1. The vapor-abatement portion of the remediation system will be converted to use activated carbon after the I.C. engine is removed from the site. The remediation compound layout with this configuration is shown on RCL-2.

EXTRACTION RATES

CEECON will assume a 100 percent removal rate of hydrocarbons removed from extracted groundwater at the GTS for the most conservative estimate of hydrocarbon concentrations influent to the abatement equipment. The maximum groundwater extraction rate is expected to be 1.0 gallon per minute. These removal rates are calculated as follows:

TPHg-Removal Rates

The maximum initial TPHg concentration is 540 parts per billion (ppb). The approximate initial TPHg mass removal rate from the GTS is as follows:

$$\frac{.540 \text{ g (TPHg)}}{1,000,000 \text{ g (water)}} \times \frac{1.0 \text{ g}}{\text{min}} \times \frac{1,440 \text{ min}}{\text{day}} \times \frac{7.6 \text{ lbs}}{1 \text{ g}}$$
$$= \frac{0.006 \text{ lbs TPHg}}{\text{day}}$$

Benzene-Removal Rates

The maximum initial benzene concentration is 58 ppb. The approximate initial benzene mass removal rate from the GTS is as follows:

$$\frac{.058 \text{ g (benzene)}}{1,000,000 \text{ g (water)}} \times \frac{1.0 \text{ g}}{\text{min}} \times \frac{1440 \text{ min}}{\text{day}} \times \frac{7.6 \text{ lbs}}{1 \text{ g}}$$
$$= \frac{0.0006 \text{ lbs benzene}}{\text{day}}$$

Field monitoring of extracted hydrocarbon-bearing vapor show the highest concentrations at less than 100 parts per million by volume (ppmv). The *initial* mass extraction rate for TPHg is calculated as follows:

$$\frac{100 \text{ l (TPHg)}}{1,000,000 \text{ (l air)}} \times \frac{150 \text{ ft}^3}{\text{min}} \times \frac{1,440 \text{ min}}{\text{day}} \times \frac{28.32 \text{ l (air)}}{1 \text{ ft}^3} \times \frac{1 \text{ mole (gas)}}{22.414 \text{ l (vapor)}} \times \frac{67 \text{ grams}}{1 \text{ mole (gas)}} \times \frac{1 \text{ lb}}{454 \text{ grams}}$$

$$= \frac{4 \text{ lbs TPHg}}{\text{day}}$$

The *initial* mass extraction rate for benzene is calculated as follows:

$$\frac{11 \text{ l (benzene)}}{1,000,000 \text{ (l air)}} \times \frac{150 \text{ ft}^3}{\text{min}} \times \frac{1,440 \text{ min}}{\text{day}} \times \frac{28.32 \text{ l (air)}}{1 \text{ ft}^3} \times \frac{1 \text{ mole (benzene)}}{22.414 \text{ l (vapor)}} \times \frac{78 \text{ grams}}{1 \text{ mole (benzene)}} \times \frac{1 \text{ lb}}{454 \text{ grams}}$$

$$= \frac{0.5 \text{ lbs benzene}}{\text{day}}$$

It is anticipated that substantial reductions in inlet concentrations will be seen after a few days of system operation. The I.C. engine will be used as a short-term abatement device only. Recent analysis of effluent samples from this I.C. engine indicate a benzene and TPHg destruction efficiency of over 99 percent. Recent Source Test Data from another site using this same internal combustion engine is attached. As the rate of hydrocarbon flow in the vapor from the GTS is very small in comparison to the extracted soil vapor, only the soil vapor removal rate will be used for performing emission calculations. As a further conservative estimate, a 98 percent destruction efficiency will be used for emission calculations.

EMISSION RATES

The maximum TPHg emission rate is calculated as follows:

$$4 \text{ lbs TPHg/day} \times 0.02 \% = 0.08 \text{ lbs TPHg/day}$$

The maximum benzene emission rate is calculated as follows:

$$0.5 \text{ lbs benzene/day} \times 0.02 \% = 0.0103 \text{ lbs/day}$$

Please note that these are the maximum expected emission rates for the interim soil and groundwater remediation equipment to be operated at this site. Substantial reductions from initial concentrations are typically seen in the first several weeks of system operation.

Permit fees have been calculated as follows:

Filing Fee (S-1)	\$165.00
Initial Fee (S-1)	115.00
TAC Surcharge (S-1)	115.00
Filing Fee (S-2)	165.00
Initial Fee (S-2)	115.00
TAC Surcharge (S-2)	<u>115.00</u>
 Total Fee	 \$790.00

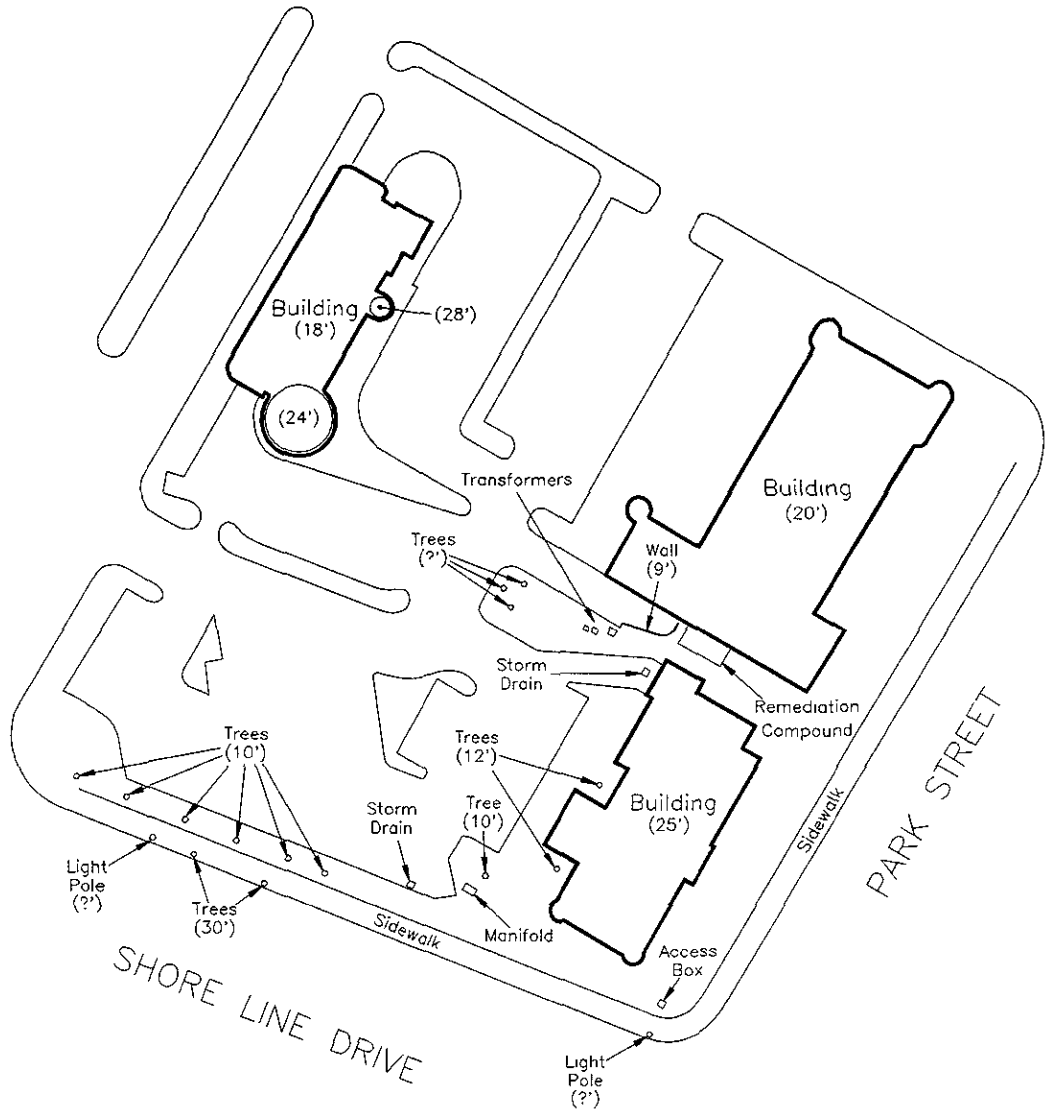
Please call if you have any questions regarding this permit application.

Sincerely,
CEECON

Michael Hodges
President/ Engineering Manager

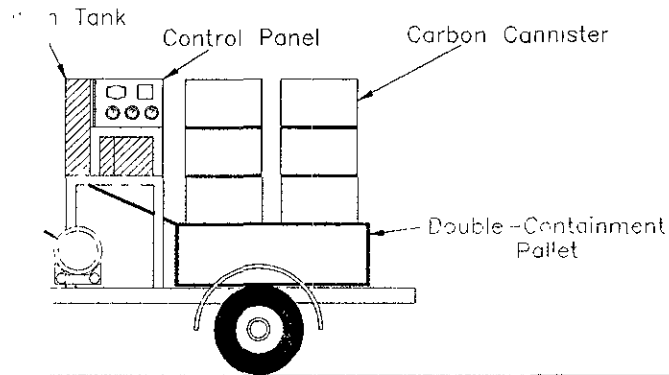
Attachment: Vicinity Map
AM-1, Area Map
GTS-1, Trailer Mounted Groundwater Treatment System "S-1"
GTS-2, Groundwater Extraction and Treatment System Process Diagram, "S-2"
VET-1, Vapor-Extraction Internal Combustion Engine, "A-1"
VET-2, Internal Combustion Engine Process Diagram, "A-2"
RCL-1, Initial Remediation Compound Layout
RCL-2, Long-Term Remediation Compound Layout
DATA FORM G for C-1,000, "S-2"
DATA FORM G for GTS-10, "S-1"
DATA FORM A for C-1,000, "A-1"
DATA FORM C for C-1,000, "S-2"
DATA FORM A for Vapor-Phase Activated Carbon, "A-2"
DATA FORM P for C-1,000, "P-1"
DATA FORM P for Vapor-Phase Activated Carbon, "P-2"
FORM P-101B
Risk Screening Analysis Data Forms (4 pages)
Chain of Custody and Results of Laboratory Analysis of Vapor Samples

cc: Mr. Robert Robles, Texaco Environmental Services
California Regional Water Quality Control Board, San Francisco Bay Region
Alameda Health Care Services Agency, Hazardous Materials Division

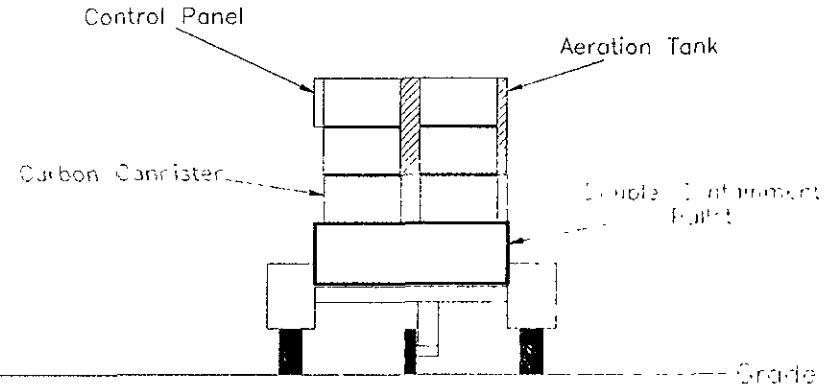


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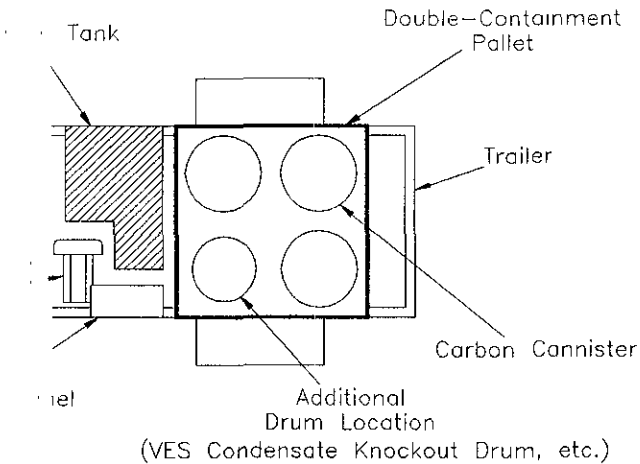
SIDE VIEW



REAR VIEW



PLAN VIEW



Instrumentation Readouts

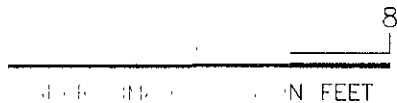
- Flow Meter
- Flow Totalizer
- Inlet High Pressure Switch
- Inlet High-High Pressure Switch
- Aeration Tank High-High Level Switch
- Activated Carbon High Pressure Switch

Sample Ports

- Influent (Between Aeration Tank And First Carbon Cannister)
- Effluent (Between Carbon Cannisters)
- Easy Disconnects At Carbon Cannisters

Remote Signal Capabilities

- Water Flow
- Total Water Flow
- On/Off Status



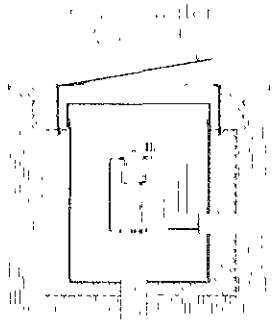
CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Trailer-Mounted
Groundwater Treatment
System

Drawing: GTS-1

Date: 5/1/92

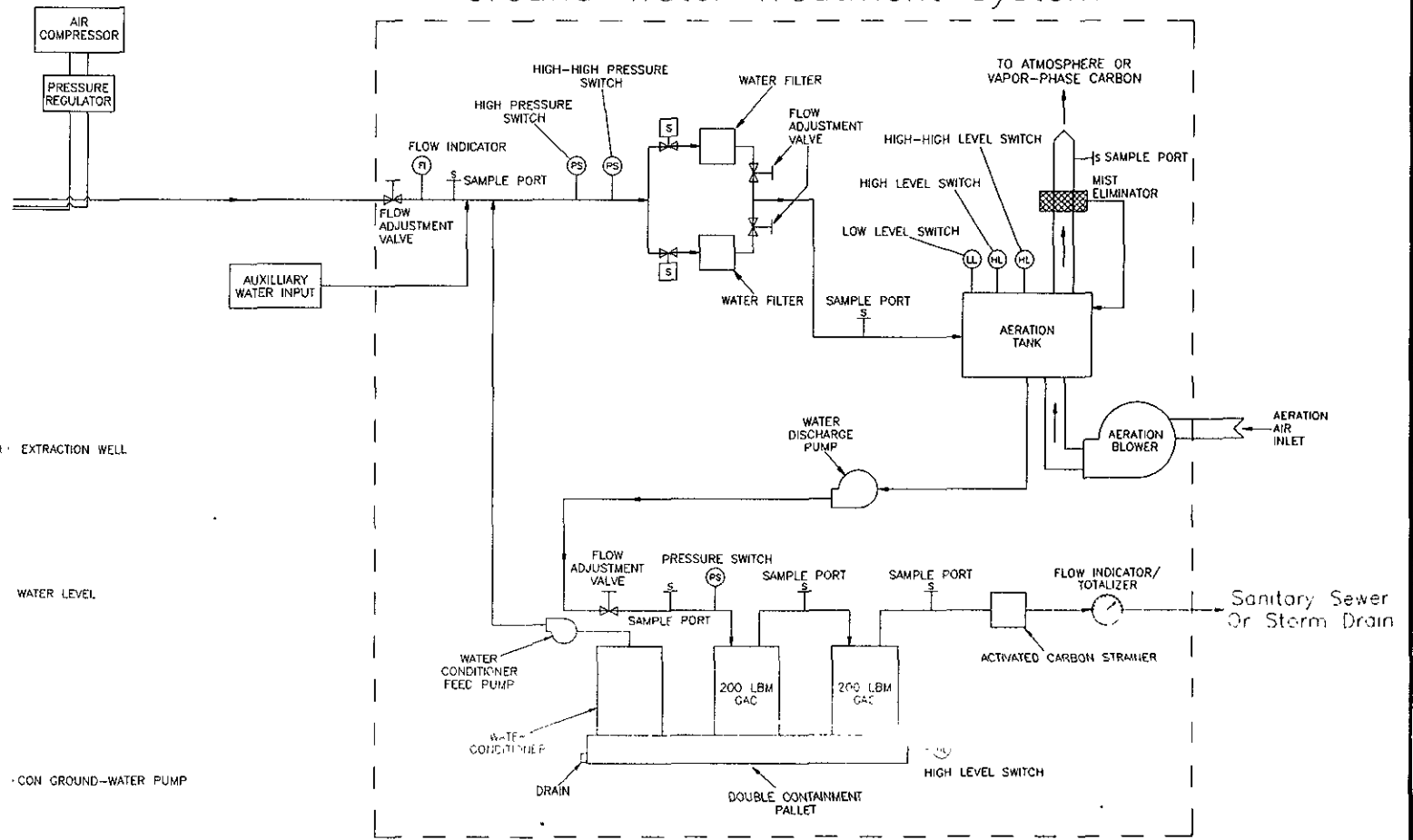
CEECON Skid-Mounted or Trailer-Mounted Ground-Water Treatment System



EXTRACTION WELL

WATER LEVEL

GROUND-WATER PUMP



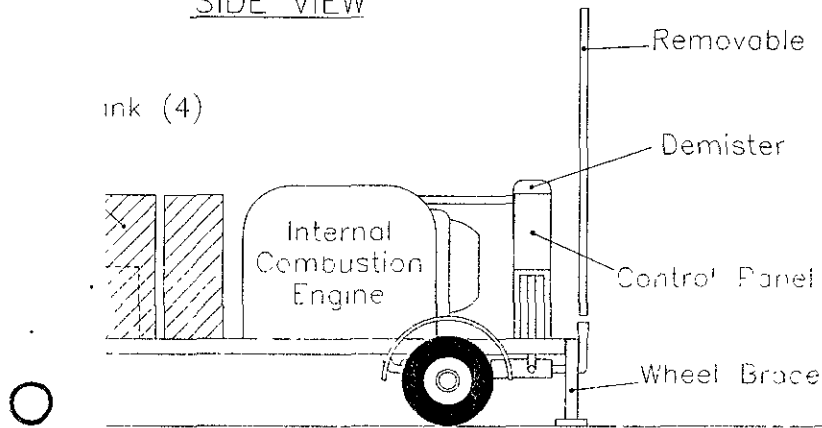
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Drawing: GTS-2

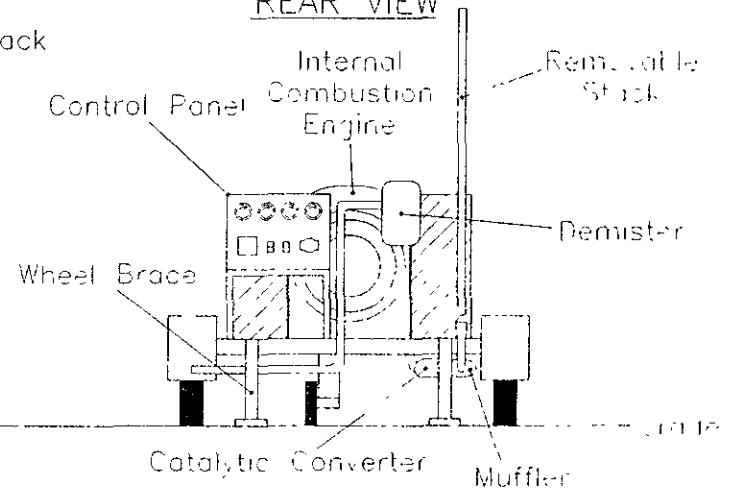
Date: 5/1/92

Flow 100

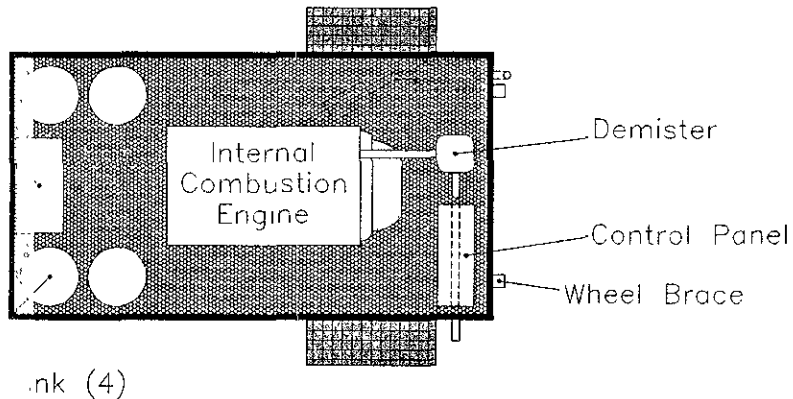
SIDE VIEW



REAR VIEW



PLAN VIEW



Instrumentation Readouts

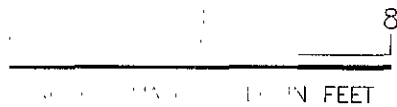
- Engine Flow Meter
- Engine R.P.M.
- Engine Temperature In Degrees Fahrenheit
- Engine Intake Vacuum In Inches Of Mercury
- Well Vacuum In Inches Of Water Column
- Well Air Flow In Cubic Feet Per Minute
- Well Air Flow Temperature In Degrees Fahrenheit

Sample Ports

- Influent (Engine Intake)
- Effluent (Stack)

Remote Signals

- Propane Level
- Engine ON/OFF Status

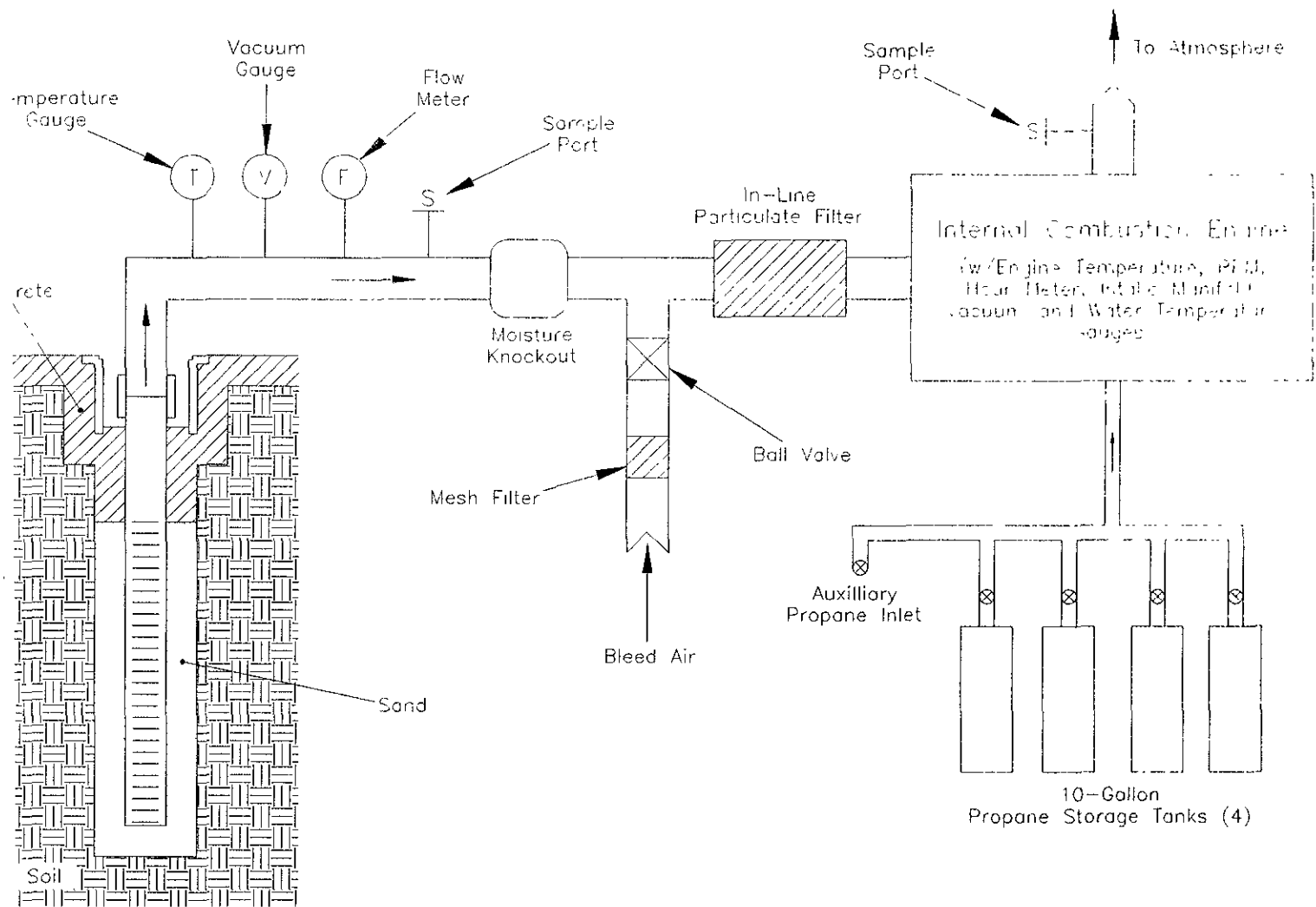


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Vapor-Extraction
Internal Combustion
Engine

Drawing: VET-1

Date: 5/1/92

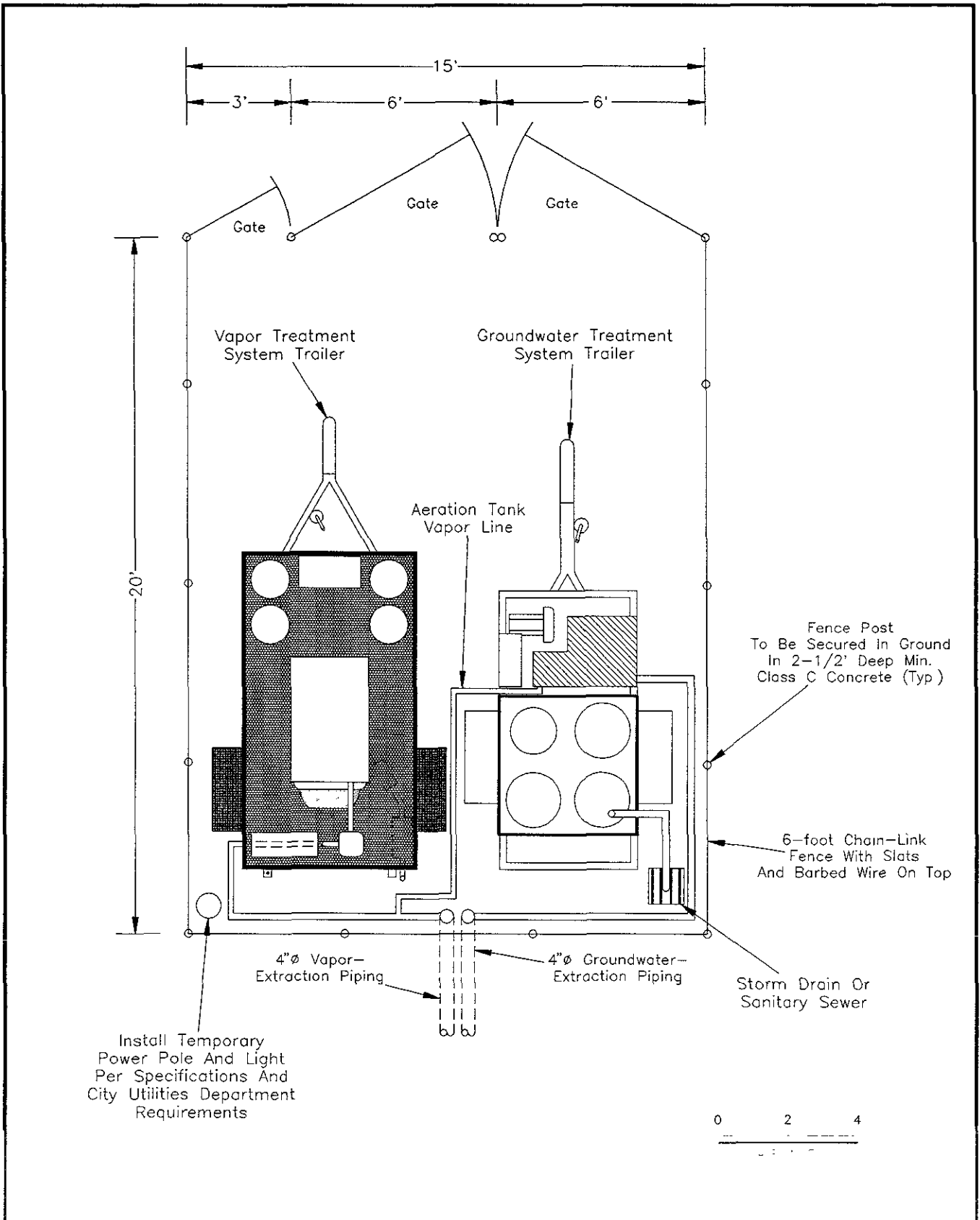


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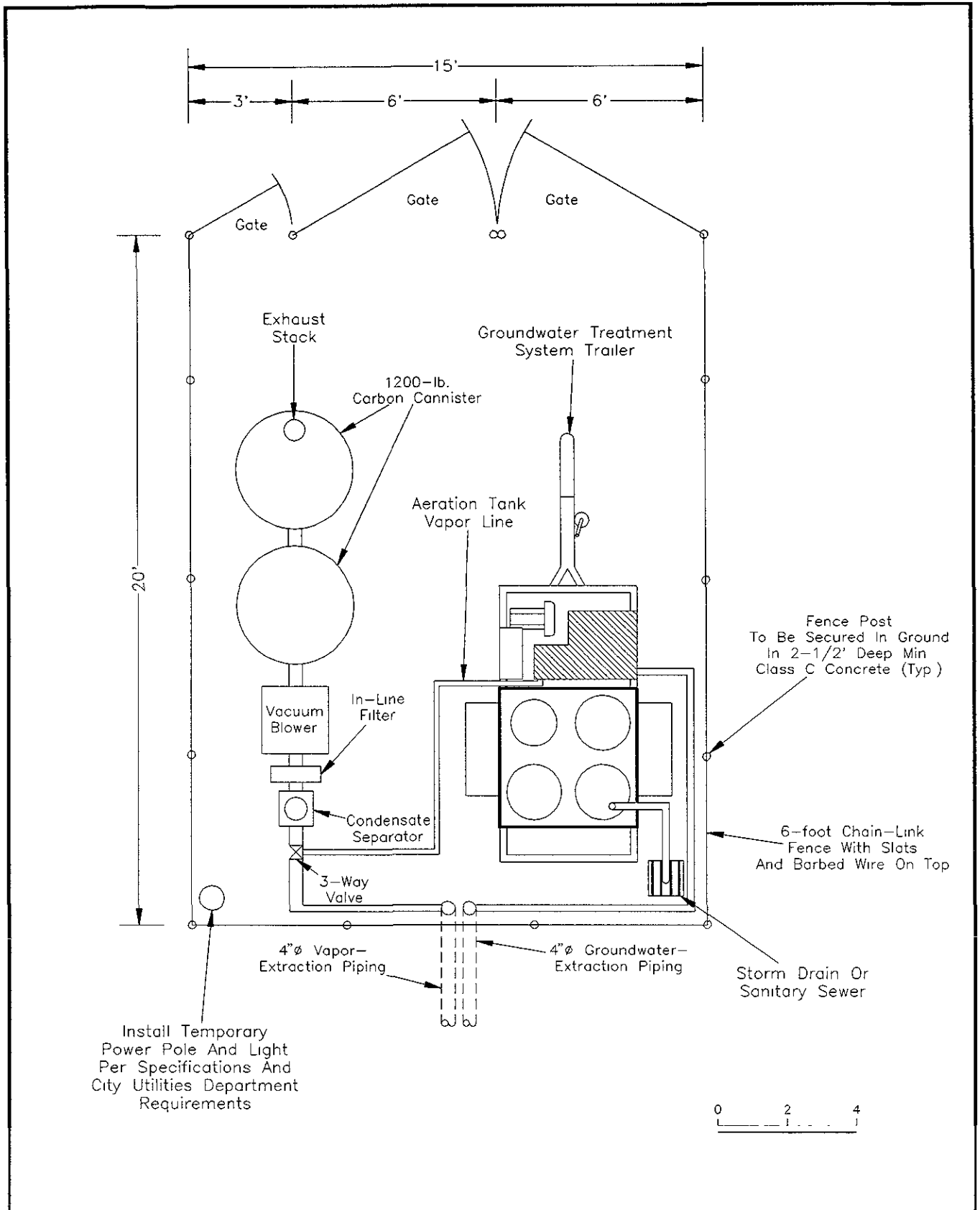
Drawing: VET-2

Date: 5/1/92

Vapor-Extraction Test
 Internal Combustion Engine
 Process Diagram



CEECON



CEECON

BAY AREA
AIR QUALITY MANAGEMENT DISTRICT
 939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM G
General Air Pollution Source

If in addition to the general process described hereon this source burns fuel, then complete Form C also.
 Use specific forms if applicable: Form T (organic tankage, loading), Form S (surface coating, solvent use).

1 Business Name: Former Texaco Service Station Plant No.: _____
 (If unknown, leave blank)

2 SIC Number: _____ Date of Initial Operation: Upon Permit Approval

3 Name or Description: Soil & Groundwater Remediation System Source No.: S-1

4 Make, Model, and Rated Capacity of Equipment: CEECON 10 GPM GTS Water Aeration System; 125 cfm

5 Process Code* (Column A): 7098 Materials Code* (Column B): 504 Usage Unit* (Column C): cf

6 Total throughput, last 12 months: N/A Usage Units* Max operating rate: 7,500 Usage Units*/hr

7 Typical % of total throughput: Dec-Feb 25 % Mar-May 25 % Jun-Aug 25 % Sep-Nov 25 %

8 Typical operating times: 24 hrs/day 7 days/week 52 weeks/year

9 For batch or cyclic processes: N/A min/cycle N/A min. between cycles

10 Exhaust gases from source: Wet gas flow rate 125 cfm at 70 °F
 (at max. operation) Approximate water vapor content 1.8 vol %

EMISSION FACTORS (at maximum operating rate)

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Source is already in operation, completion of table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

Check box if factors apply to emissions after Abatement Device(s).

EMISSION FACTORS lbs/Usage Unit*	Basis Code (see reverse)
Particulate	
Organics	3.33 x 10 ⁻⁸ 4
Nitrogen Oxides (as NO ₂)	
Sulfur Dioxide	
Carbon Monoxide	
Other: _____	
Other: _____	

18 *For each of the air pollution flow from this unit, what is the flow rate, location of the flow, and the emission point, and the abatement device used?

A-1 A-2 A P P P P P

Michael Hodges

3/11/93

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AIR QUALITY MANAGEMENT DISTRICT
 939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM 6
General Air Pollution Source

If in addition to the general process described hereon this source burns fuel, then complete Form C also.
 Use specific forms if applicable: Form T (organic tankage, loading), Form S (surface coating, solvent use).



1 Business Name: Former Texaco Service Station Plant No: _____

2 SIC Number: _____ Date of Initial Operation: Upon Permit Approval (If unknown, leave blank)

3 Name or Description: Soil & Groundwater Remediation System Source No.: S -2

4 Make, Model, and Rated Capacity of Equipment: CEECON C-1000 Internal Combustion Engine 150 cfm

5 Process Code* (Column A): 7098 Materials Code* (Column B): 504 Usage Unit* (Column C): cf

6 Total throughput, last 12 months: N/A Usage Units* Max operating rate: 9,000 Usage Units*/hr

7 Typical % of total throughput: Dec-Feb 0 % Mar-May 100 % Jun-Aug 0 % Sep-Nov 0 %

8 Typical operating times: 24 hrs/day 7 days/week 2 weeks/year

9 For batch or cyclic processes: N/A min/cycle N/A min. between cycles

10 Exhaust gases from source: Wet gas flow rate 150 cfm at 70 °F
 (at max. operation) Approximate water vapor content 1.8 vol %

EMISSION FACTORS (at maximum operating rate)

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Source is already in operation, completion of table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

[] Check box if factors apply to emissions after Abatement Device(s).

		EMISSION FACTORS lbs/Usage Unit*	Basis Code (see reverse)
11	Particulate		
12	Organics	1.9×10^{-5}	4
13	Nitrogen Oxides (as NO ₂) . .		
14	Sulfur Dioxide		
15	Carbon Monoxide		
16	Other: _____		
	Other: _____		

18 With regard to air pollutant flow from this source, what do you estimate
 for the following emission points? (S = Significant, P = Potential, N = Negligible)

A A A P-1 P P P P

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AIR QUALITY MANAGEMENT DISTRICT**
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

**DATA FORM A
ABATEMENT DEVICE**

Abatement Device: Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Former Texaco Service Station Plant No.: _____
(If unknown, leave blank)
2. Name or Description: Soil & Groundwater Remediation System Abatement Device No.: A-1
3. Make, Model and Rated Capacity: CEECON C-1000 Internal Combustion Engine 150 cfm
4. Abatement Device Code (Table on reverse side): 6 Date of Initial Operation: Upon Permit Approval
5. With regard to air pollutant flow into this abatement device, what source(s) and/or abatement device(s) are immediately upstream?
- | | | | | | | | |
|----------|----------|----------|----------|----------|------------|------------|----------|
| <u>S</u> | <u>S</u> | <u>S</u> | <u>A</u> | <u>A</u> | <u>S-1</u> | <u>S-2</u> | <u>S</u> |
| <u>S</u> | <u>S</u> | <u>S</u> | <u>A</u> | <u>A</u> | <u>A</u> | <u>A</u> | <u>A</u> |
6. Typical Gas Stream Temperature at Inlet: 70 °F

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Abatement Device is already in operation, completion of table is requested but not required.

POLLUTANT	WEIGHT PERCENT REDUCTION (at typical operation)	BASIS CODE (Codes on reverse side)
7. Particulate	%	
8. Organics	98 %	1
9. Nitrogen Oxides (as NO ₂)	%	
10. Sulfur Dioxide	%	
11. Carbon Monoxide	%	
12. Other: _____	%	
13. Other: _____	%	

14. Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-16 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.

15. With regard to air pollutant flow from this abatement device, what source(s), abatement device(s) and/or emission point(s) are immediately down stream?

S A A P-3 P P P P

Michael Hodges

1/11/93

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AIR QUALITY MANAGEMENT DISTRICT

939 Ellis Street, San Francisco, CA (415) 771-6000 94109

DATA FORM C FUEL COMBUSTION SOURCE

Table with 2 columns: District Use Only (New, Modified, Retro) and checkboxes.

Form C is for all operations which burn fuel. If the operation also involves evaporation of any organic solvent, complete Form S and attach to this form. If the operation involves a process which generates any other air pollutants, complete Form G and attach to this form.

[X] Check box if this source has a secondary function as an abatement device for some other source(s); complete Lines 1, 2, & 7-13 on Form A (using the source number below for the Abatement Device No.) and attach to this form.

- 1. Company Name Former Texaco Service Station No. Source No. S-2
2. Equipment Name and Number, or Description C-1000 Internal Combustion Engine
3. Make, Model CEECON C-1000 Maximum Firing Rate 170,000 BTU/Hr
4. Date of Modification or Initial Operation Upon Permit Approval
5. Primary Use (Check One): [X] Abatement Device
6. SIC Number (If Unknown, Leave Blank)

7. Equipment Type (Check One):

- Internal Combustion: [X] Otto Cycle Engine Displacement 300 cubic inches
Incinerator: [] Salvage Operation, [] Liquid Waste, [] Pathological Waste, [] Other
Others: [] Boiler, [] Afterburner, [] Flare, [] Open Burning, [] Other
[] Dryer, [] Oven, [] Furnace, [] Kiln Material dried, baked, or heated

- 8. [] Yes [] No Overfire Air? If Yes, what percent (%)
9. [] Yes [] No Flue Gas Recirculation? If Yes, what percent (%)
10. [] Yes [] No Air Preheat? Temperature °F
11. [] Yes [] No Low NOx Burners? Make, Model
12. Maximum Flame Temperature 1,700 °F

13. Combustion Products: Wet Gas Flow Rate 150 acfm at 70 °F
Typical Oxygen Content dry volume % or wet volume %
or % excess air

14. Typical Use: Hours/Day 24 Days/Week 7 Weeks/Year 2
15. Typical % of Annual Total Dec-Feb 0 Mar-May 100 Jun-Aug 0 Sep-Nov 0

16. With regard to air pollutant flow, what source(s), or abatement device(s) are immediately upstream?
S-1 S S S S S S A A A

17. With regard to air pollutant flow, what source(s), abatement device(s), and/or emission points are immediately downstream?
S S A-1 A P-1 P

FUELS

INSTRUCTIONS: Complete one line in Section A for each fuel. Section B is OPTIONAL. Please use the units at the bottom of each table. N/A means "Not Applicable".

SECTION A: Fuel Data

	Fuel Name	Fuel Code **	Total Annual Usage ***	Maximum Possible Fuel Use Rate	Typical Heat Content	Sulfur Content	Nitrogen Content (OPTIONAL)	Ash Content (OPTIONAL)
1.	Propane		0.7	2.1×10^{-3}	92×10^6			
2.								
3.								
4.								
5.								

Use the appropriate units for each fuel

Natural Gas	Therms*	BTU/Hr	N/A	N/A	N/A	N/A
Other Gas	MSCF*	MSCF/Hr	BTU/MSCF	ppm	N/A	N/A
Liquid	MGAL*	MGAL/Hr	BTU/MGAL	wt %	wt %	wt %
Solid	TONS	Ton/Hr	BTU/Ton	wt %	wt %	wt %

SECTION B: Emission Factors (OPTIONAL)

	Fuel Name	Particulates		NOx		CO		Other _____		Other _____	
		Emission Factor	**Basis	Emission Factor	**Basis	Emission Factor	**Basis	Emission Factor	**Basis	Emission Factor	**Basis
1.											
2.											
3.											
4.											
5.											

Use the appropriate units for each fuel

Natural Gas	lb/Therm
Other Gas	lb/MSCF
Liquid	lb/MGAL
Solid	lb/Ton

NOTES:

* MSCF = thousand standard cubic feet

* MGAL = thousand gallons

* Therm = 100,000 BTU

** See tables below for Fuel and Basis Codes

*** Total Annual Usage is: Projected usage over next 12 months if equipment is new or modified.

: Actual usage for last 12 months if equipment is existing and unchanged.

FUEL CODES

CODE	FUEL	CODE	FUEL
25	Anthracite Coal	189	Natural Gas
33	Bagasse	234	Process Gas - Blast Furnace
35	Bark	235	Process Gas - CO
43	Bituminous Coal	236	Process Gas - Coke Oven Gas
47	Brown Coal	238	Process Gas - RMG
242	Bunker C Fuel Oil	237	Process Gas - Other
80	Coke	242	Residual Oil
89	Crude Oil	495	RDF
98	Diesel Oil	495	Sludge Gas
493	Digester Gas	256	Solid Propellant
100	Distillate Oil	257	Solid Waste
128	Gasoline	304	Wood - Pugged
158	Jet Fuel	305	Wood - Other
160	LPG	198	Other - Gaseous Fuels
165	Lignite	200	Other - Liquid Fuels
167	Liquid Waste	203	Other - Solid Fuels
494	Municipal Solid Waste		

BASIS CODES

CODE	METHOD
0	Not applicable for this pollutant
1	Source testing or other measurement by plant (attach copy)
2	Source testing or other measurement by BAAQMD (give date)
3	Specifications from vendor (attach copy)
4	Material balance by plant using engineering expertise and knowledge of process
5	Material balance by BAAQMD
6	Taken from AP-42 (Compilation of Air Pollutant Emission Factors, EPA)
7	Taken from literature, other than AP-42 (attach copy)
8	Guess

**BAY AREA
AIR QUALITY MANAGEMENT DISTRICT**
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

**DATA FORM A
ABATEMENT DEVICE**



Abatement Device: Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Former Texaco Service Station Plant No.: _____
(If unknown, leave blank)
2. Name or Description: Soil & Groundwater Remediation System Abatement Device No.: A-2
3. Make, Model and Rated Capacity: Vapor-phase granular activated carbon 150 cfm
4. Abatement Device Code (Table on reverse side): 56 Date of Initial Operation: Upon Permit Approval
5. With regard to air pollutant flow into this abatement device, what source(s) and/or abatement device(s) are immediately upstream?
- | | | | | | | | |
|----------|----------|----------|----------|----------|------------|------------|----------|
| <u>S</u> | <u>S</u> | <u>S</u> | <u>A</u> | <u>A</u> | <u>S-1</u> | <u>S-2</u> | <u>S</u> |
| <u>S</u> | <u>S</u> | <u>S</u> | <u>A</u> | <u>A</u> | <u>A</u> | <u>A</u> | <u>A</u> |
6. Typical Gas Stream Temperature at Inlet: 70 °F

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Abatement Device is already in operation, completion of table is requested but not required.

	POLLUTANT	WEIGHT PERCENT REDUCTION (at typical operation)	BASIS CODE (Codes on reverse side)
7.	Particulate	%	
8.	Organics	98 %	1
9.	Nitrogen Oxides (as NO ₂)	%	
10.	Sulfur Dioxide	%	
11.	Carbon Monoxide	%	
12.	Other: _____	%	
13.	Other: _____	%	

Check box if this Abatement Device burns fuel, complete lines 1, 2 and 14-16 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.

With regard to air pollutant flow from this abatement device, what number(s) abatement device(s) and/or emission point(s) are immediately downstream?

S A A P-2 P P P P

Michael Hodges

1/11/93

BAY AREA
 AIR QUALITY MANAGEMENT DISTRICT
 939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM P
 Emission Point



Form P is for well-defined emission points such as stacks or chimneys only; do not use for windows, room vents, etc.

Business Name: Former Texaco Service Station Plant No.: _____

Emission Point No.: p-1

With regard to air pollutant flow into this emission point, what source(s) and/or abatement device(s) are immediately upstream?

S - 1 S - 2 S
S S S A - 1 A A A

Exit Cross-section Area: 0.0218 Square feet Height above grade: 15 Feet

Effluent Flow from Stack:

	Typical Operating Condition		Maximum Operating Condition	
Actual Wet Gas Flow Rate	100	cfm	150	cfm
Percent Water Vapor	1.8	Vol %	1.8	Vol %
Temperature	700	°F	800	°F

If this stack is equipped to measure (monitor) the emission of any air pollutants,

-is monitoring continuous? NO

-what pollutants are monitored? Total Petroleum Hydrocarbons reported as Gasoline Benzene, Toluene, Ethylbenzene, total xylenes

Person Completing this Form Michael Hodges Date 1/11/93

BAY AREA
 AIR QUALITY MANAGEMENT DISTRICT
 939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM P
 Emission Point



Form P is for well-defined emission points such as stacks or chimneys only; do not use for windows, room vents, etc.

Business Name: Former Texaco Service Station Plant No.: _____

Emission Point No.: P-2

With regard to air pollutant flow into this emission point, what source(s) and/or abatement device(s) are immediately upstream?

S S S A S-1 S-2 S
A A A A

Exit Cross-section Area: 0.0218 Square feet Height above grade: 15 Feet

Effluent Flow from Stack:

	Typical Operating Condition		Maximum Operating Condition	
Actual Wet Gas Flow Rate	100	cfm	125	cfm
Percent Water Vapor	1.8	Vol %	1.8	Vol %
Temperature	70	°F	100	°F

If this stack is equipped to measure (monitor) the emission of any air pollutants,

-is monitoring continuous? NO

-what pollutants are monitored? Total Petroleum Hydrocarbons reported as Gasoline Benzene, Toluene, Ethylbenzene, total xylenes

Person Completing this Form Michael Hodges Date 1/11/93

BAAQMD PLANT # _____ APPLICATION # _____
[LEAVE BLANK IF UNKNOWN] [FOR BAAQMD USE]

APPLICATION FOR AUTHORITY TO CONSTRUCT, PERMIT TO OPERATE, OR BANKING

BUSINESS NAME (Operator) Texaco Environmental Services
OTHER BUSINESS NAME California Environmental Engineers & Contractors PARENT COMPANY
MAILING ADDRESS 1517 Palmetto Avenue, Suite 4, Pacifica, CA 94044
Street City State Zip Code
PLANT ADDRESS 2375 Shoreline Drive, Alameda, California
Street City State Zip Code
MAILING TELEPHONE # (415) 738-1115 PLANT TELEPHONE # None
NAME OF CONTACT Michael Hodges TITLE Engineering Manager
EQUIPMENT DESCRIPTION Soil and Groundwater Remediation Equipment
NUMBER OF SOURCES Two (2)

SKIP IF PLANT # IS ALREADY ASSIGNED. DISTRICT HAS CURRENT INFORMATION

PLANT AREA (Acres) less than 1 OWNERSHIP
 PRIVATE
 UTILITY
NUMBER OF EMPLOYEES No direct employees LOCAL GOVERNMENT
 STATE GOVERNMENT
PRINCIPAL PRODUCT Former Petroleum Retailer FEDERAL GOVERNMENT

**PLEASE SUBMIT A NAME AND ADDRESS TO WHOM
ALL CORRESPONDENCE REGARDING AIR POLLUTION
CONTROL SHOULD BE SENT.**

Michael Hodges @ CEECON
Contact Name
1517 Palmetto Avenue, Suite 4, Pacifica, CA 94044
Street City State Zip Code
(415) 738-1115
Telephone Number

CHECK ALL THAT APPLY

NEW CONSTRUCTION [] MODIFICATION [X] REPLACEMENT [] BANKING []

CHANGE OF CONDITIONS [] EXISTING UNPERMITTED * []
*Date Installed _____

HAS AN ENVIRONMENTAL IMPACT REPORT OR OTHER CALIFORNIA ENVIRONMENTAL QUALITY ACT DOCUMENT BEEN PREPARED FOR THIS PROJECT? YES _____ NO X _____

IF YES, BY WHOM? _____ ID # _____

IS THIS APPLICATION A RESULT OF A VIOLATION NOTICE(S)? YES _____ NO X _____

IF YES, GIVE THE VIOLATION NOTICE(S) _____

IN ORDER TO EXPEDITE YOUR APPLICATION THE FOLLOWING ITEMS SHOULD BE ENCLOSED: (A) STREET MAP MARKING THE LOCATION OF THIS FACILITY; (B) PROJECT DESCRIPTION AND PROCESS FLOW DIAGRAM [IF APPLICABLE]; (C) A DESCRIPTION OR MANUFACTURER'S CATALOGUE OF EQUIPMENT AND AIR POLLUTION ABATEMENT EQUIPMENT; (D) EMISSION QUANTIFICATION; (E) SOURCE OF OFFSETS; (F) PSD INFORMATION [MAJOR PROJECTS ONLY]. [SEE AB884 - LIST AND CRITERIA FOR FURTHER DETAILS.]

IMPORTANT: ALL INFORMATION THAT YOU SUBMIT WILL BE CONSIDERED PUBLIC INFORMATION UNLESS YOU INDICATE THAT IT IS CONSIDERED TRADE SECRET.

[MH] ACKNOWLEDGEMENT (Please Initial)

PURSUANT TO SECTION 25532 AND 44321 OF THE HEALTH AND SAFETY CODE, I HEREBY CERTIFY THAT THE SOURCES IN THIS PERMIT APPLICATION (Initial Appropriate Box):

[] ARE WITHIN 1,000 FEET OF THE OUTER BOUNDARY OF A SCHOOL.

[MH] ARE NOT WITHIN 1,000 FEET OF THE OUTER BOUNDARY OF A SCHOOL.

SIGNATURE _____

TITLE Engineering Manager

NAME (Printed) Michael Hodges

DATE 1/11/93

NOTE: PERMITS FOR YOUR PROJECT MAY ALSO BE REQUIRED FROM OTHER AGENCIES. FOR FURTHER INFORMATION, YOU SHOULD CONTACT THE LOCAL CITY OR COUNTY OFFICE OF PERMIT ASSISTANCE WITHIN THE OFFICE OF PLANNING AND RESEARCH IN SACRAMENTO. THE ADDRESS IS AS FOLLOWS:

Office Planning And Research
1400 Tenth Street
Sacramento, California 95814
[916] 322-4245

**REQUEST FOR INFORMATION;
RISK SCREENING ANALYSIS**

NOTE: You must fill out one of these forms for each source in the permit application that requires a risk screen, unless all sources exhaust through a single stack. These may be discrete sources such as stacks or area sources such as surface area fugitive emissions.

Plant name Former Texaco Service Station

Source description Soil and Groundwater Remediation System

Source # _____ Emission point _____
(if known) (if known)

SECTION A

1. Is the source a clearly defined emission point, i.e., a stack or ventilation duct?
YES ~~NO~~ (If NO, go on to section B)
2. Does the stack stand alone or is it located on the roof of a building?
ALONE ~~ON ROOF~~
3. What is the stack height? 15 ~~meters~~ ~~or~~ ~~feet~~
(Note: stack height only, whether free-standing or on rooftop)
4. What is the combined stack height and building height (if applicable)? 15 ~~meters~~ ~~or~~ ~~feet~~
5. What is the stack diameter? 0.0218 ~~meters~~ ~~or~~ ~~feet~~
6. What is the stack gas flowrate? 150 ~~cfm~~ ~~or~~ ~~m³/sec~~
7. What is the stack gas exit temperature? 700 ~~degrees~~
Fahrenheit ~~or~~ ~~Centigrade~~
8. If the stack is located on a rooftop, what are the dimensions of the building?
height = _____ meters or feet
width = _____ meters or feet
length = _____ meters or feet

9. Are there any buildings, walls or other structures located near this source ?

YES

~~NO~~

Please See Attached Area Map, A

If YES, what are their dimensions?

height = _____ meters or feet

width = _____ meters or feet

length = _____ meters or feet

distance from source _____ meters or feet

(GO ON TO SECTION C)

SECTION B

1. Is the source located within a building? YES NO

(If NO, please provide a description of the source. For example, fugitive emissions that must be evaluated as an area source. If an area source, provide the dimensions of the area in question. Then go on to section C.)

(If YES, proceed to #2, below)

2. Does the building have a ventilation system that is vented to the outside?

YES

NO

a. If NO, are the building's doors and windows kept open during hours of operation?

YES

NO

3. Please provide the building dimensions:

height = _____ meters or feet

width = _____ meters or feet

Length = _____ meters or feet

4. Are there any buildings, walls or other structures located near this source ?

YES NO

If YES, what are their dimensions?

height = _____ meters or feet

width = _____ meters or feet

length = _____ meters or feet

distance from source _____ meters or feet

(GO ON TO SECTION C)

SECTION C

1. Describe the area where the source is located (select one):

~~xxxx~~ zoned for commercial use

~~xxxx~~ zoned for residential use

c) zoned for mixed commercial and residential use

2. Distance from source (stack or building) to property line =

_____ 15 _____ ~~xxxxxx~~ feet

(continued on p. 4)

3. Distance from source to nearest receptor** =

15 ~~meters~~ or feet

IMPORTANT:

You must provide a plot plan or a map, drawn to scale, which clearly demonstrates the location of your site, the property lines and any surrounding residences and/or businesses. The plot plan or map should also show the location of the source(s) at the site and their relationship to the property line.

** Receptors are defined as individual dwellings where persons are assumed to be in continuous residence. *Please note that this does not refer to places of business.*

Authority To Construct Permit Application
Soil and Groundwater Remediation System

January 11, 1993
CEECON

**CHAIN OF CUSTODY
AND
RESULTS OF LABORATORY ANALYSIS OF VAPOR SAMPLES**

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: **Michael Hodges** Phone #: **415 738 1015**

ANALYSIS REQUEST

TAT

Company/Address: **1517 PALMETTO AVE Suite 4 Pacifica CA 94044** FAX #: **415 738 1117**

Project Number: **115-100103** P.O # **TEXALO/ILE** Project Name:

Project Location: **SHEA Florida Rd SACTO** Sampler Signature: *[Signature]*

Sample ID	Sampling		Container			Method Preserved				Matrix				
	DATE	TIME	VOA	SLEEVE	1L GLASS	1L PLASTIC	1L MYLAR	HCl	HNO3	ICE	NONE	WATER	SOIL	VARIOUS
V-1220-V UNF	29 Dec 92	1115					✓				✓			✓
V-1220-V GDF	29 Dec 92	1125					✓				✓			✓

STEX (602/8020)	
BTEX/TPH as Gasoline (602/8020/8015)	
TPH as Diesel/Oil (8015)	
Total Oil & Grease (5520 B/E/F)	
Total Oil & Grease IR (5520 B/E/F/C)	
96 - Hour Fish Bioassay	
EPA 601/8010	
EPA 602/8020	
EPA 615/8150	
EPA 608/8080 - Pesticides	
EPA 608/8080-PCBs	
EPA 624/8240	
EPA 625/8270	
ORGANIC LEAD	
Reactivity, Corrosivity, Ignitibility	
CAM - 17 Metals	
EPA - Priority Pollutant Metals	
LEAD (7420/7421/289.2)	
Cd, Cr, Pb, Zn, Ni	
W.E.T. (✓)	
TOTAL (✓)	
RUSH SERVICE (12 hr) or (24 hr)	
EXPEDITED SERVICE (48 hr) or (1 wk)	
STANDARD SERVICE (2wk)	

Relinquished by: *[Signature]* Date Time: **29 Dec 92 1325** Received by:

Relinquished by: _____ Date Time: _____ Received by: _____

Relinquished by: _____ Date Time: _____ Received by Laboratory: **John Jones 12/29/92 1325**

Remarks:

Bill To: **CECON 1517 Palmetto Ave Pacifica CA 94044**

Excelchem
Environmental Labs
 8112 Patton Avenue
 Citrus Heights, CA 95610
 (916) 729-5313



ANALYSIS REPORT

Attention: Mr. Mike Hodges	Date Sampled :	12-29-92
CEECON	Date Received:	12-29-92
1517 Palmetto Ave., Suite 4	BTEX Analyzed:	12-31-92
Pacifica, Ca. 94044	TPHg Analyzed:	12-31-92
	Matrix:	Air
Project: Texaco-Florin		

	Benzene mg/M ³	Toluene mg/M ³	Ethyl- benzene mg/M ³	Total Xylenes mg/M ³	TPHg mg/M ³
Reporting Limit:	1.0	1.0	1.0	1.0	100

SAMPLE
Laboratory Identification

V-1229-VIINF	33	15	1.1	250	3100
A1292331					

mg/M³ = milligrams per cubic meter.
 ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.
 NR = Analysis not requested.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

[Signature]
 Laboratory Representative

1-1-93
 Date Reported

Excelchem
Environmental Labs
 8112 Patton Avenue
 Citrus Heights, CA 95610
 (916) 729-5313



ANALYSIS REPORT

Attention: Mr. Mike Hodges
 CEECON
 1517 Palmetto Ave., Suite 4
 Pacifica, Ca. 94044

Date Sampled : 12-29-92
 Date Received: 12-29-92
 BTEX Analyzed: 12-31-92
 TPHg Analyzed: 12-31-92
 Matrix: Air

Project: Texaco-Florin

	Benzene mg/M ³	Toluene mg/M ³	Ethyl- benzene mg/M ³	Total Xylenes mg/M ³	TPHg mg/M ³
Reporting Limit:	0.1	0.1	0.1	0.1	5

SAMPLE
Laboratory Identification

V-1229-V1EFF A1292332	0.4	1.2	0.3	1.4	13
--------------------------	-----	-----	-----	-----	----

mg/M³ = milligrams per cubic meter.

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

NR = Analysis not requested.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.


 Laboratory Representative

1-1-93
 Date Reported