

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.



PACIFIC ENERGY

Salinas

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32 92 58

6055
East
Washington
Boulevard,
Commerce,
California
90040

Telephone
(213) 725-1139

Facsimile
(213) 725-8772

Data Real = A

and
FF

Mr. David Craft
Monterey Bay Unified APCD
1164 Monroe Street, Suite 10
Salinas, CA 93906-3596

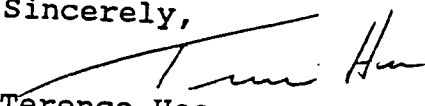
26 October 1990

Dear David:

Enclosed is the AB2588 Emissions Inventory Report for our biogas power plant at Crazy Horse Canyon in Salinas.

As there appeared to be some agreement that "metals in = Metals Out" the metals are reported on the PRO form rather than on the form S-CMB. We find that the analysis for Vinylidene Chloride was left out of the lab report for unknown reasons. A review of the Data Base that we have on source testing at our other plants as well as at other users plants indicate that this compound has not been detected or reported at other plants. In addition the 79016, 106934, and 12784 compounds were also not reported by the lab, but have been estimated from a source test at another plant. In any event, the quantity of Dichloromethane and Formaldehyde emitted will in all probability put this plant into the "High Priority" category so the quantification of the above compounds would appear to be moot. If you do not concur please let me know how we proceed from this point. Would like to mention that the fuel gas condensate is returned to the Landfill via a leachline which is underground; so no condensate into ponds for evaporation, or emissions to the atmosphere. If you have any questions, please call me at (213) 725-1139, Ext 322.

Sincerely,


Terence Hee
Environmental Compliance Manager
Biogas Division

cc: Permit File



PEIRO
CHEM
ENVIRONMENTAL
SERVICES INC.

AB2538 SOURCE TEST REPORT

PACIFIC ENERGY SYSTEMS
5055 E. Washington Blvd.
Commerce, CA 90040

ATTENTION: Mr. Terence Hee

UNIT TESTED

SEALED Gray Horse Landfill
MEP Internal Combustion Engine

DATE TESTED

Monday, August 27, 1990

DATE REPORTED

October 23, 1990

EMISSIONS DETERMINATION OF:

CARB Method 429 PAH
CARB Method 430 Formaldehyde, Acrolein, Acetaldehyde
CARB Method 422 Benzene/Fu/T Scan/H2S
EPAQMD Method 8-16 Phenols
CARB Method 436 As, Be, Cd, Cr, Cu, Pb, Mg, Hg, Ni, P, Se, Zn
CARB Method 424 Cd
CARB Method 425 Total Chrome/Hexavalent Chromium
CARB Method 421 HCL
EPA Method 5-1 Sulfuric
EPA Method 608/8080 PCB

Report # 62-233

Tested by: JEM

J.M. Marchesini

Reviewed by: JMB

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SUMMARY OF RESULTS

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT
FACILITY DESCRIPTION

FORM
FAC

FACILITY DATA

COMPANY NAME

PACIFIC ENERGY

ADDRESS

3501 CRAZY HORSE ROAD

CITY

SALT LAKE CITY

ZIP CODE

93907-1

FOR OFFICE USE ONLY

COUNTY

ID

1

FACILITY ID

1

ACTION CODE

1

DISTRICT

1

AIR BASIN CODE

1

CITY CODE

(OPTIONAL)

1

AQCR

(OPTIONAL)

1

SUBCOUNTY ID

1

FACD1 (OPTIONAL)

1

FACD2 (OPTIONAL)

1

UTM ZONE

1

UTM EAST

1

UTM NORTH

1

CONTACT PERSON

TERENCE HEE

TELEPHONE

2131-7257-11139

FACILITY SIC

49111

NUMBER OF EMPLOYEES:

1

MAILING ADDRESS DATA

COMPANY NAME

PACIFIC ENERGY

ADDRESS

60151 EAST WASHINGTON BLVD.

CITY

COMMERCIAL

STATE

CA

ZIP CODE

9101401-1

ATTENTION

TERENCE HEE

NAME: Terence H. Hee

DATE: 26 OCT 1990

B - 1

ARJ/FAC/080289

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT STACK DATA

FORM
STK

FOR OFFICE USE ONLY

COUNTY ID:

FACILITY ID:

DO NOT DELETE STACK IF IT SERVES OTHER DEVICES. SEE INSTRUCTIONS

DESC
CODE

STACK/VENT CATEGORY

REQUIRED INFORMATION

AMBIENT TEMP & LOW-VELOCITY EXHAUST (T W/IN 25 F OF AMBIENT & V LT 750 FPM)

- | | | |
|---|---|--------------------------------|
| 1 | RELEASE POINT(RP) AT GROUND-LEVEL | STACK ID & CODE ONLY |
| 2 | RELEASE FROM BLDG HVAC ONLY | STACK ID, CODE, & STACK HEIGHT |
| 3 | RP W/IN (2.5 X HB) ABOVE GROUND AND
W/IN (5 X HB) SIDEWAYS TO NEAREST BLDG | STACK ID, CODE & STACK HEIGHT |
| 4 | OTHER STACK/VENT (LOW T,V) | STACK ID, CODE & STACK HEIGHT |

OTHER TEMP & FLOW CONDITIONS

- | | | |
|---|---|-----------------------|
| 5 | RP W/IN (2.5 X HB) ABOVE GROUND AND
W/IN (5 X HB) SIDEWAYS TO NEAREST BLDG | ALL STACK INFORMATION |
| 6 | OTHER STACK/VENT (OTHER T,V) | ALL STACK INFORMATION |

WHERE HB = HEIGHT OF NEAREST BUILDING

AND HVAC = HEATING, VENTILATING AND AIR CONDITIONING

OFC USE

ACTION
CODE

STACK
ID

DESC HEIGHT ABOVE
CODE GROUND(FEET)

DIAMETER
(FEET)

***** EXHAUST *****

GAS
TEMP (F)

GAS FLOW RATE
(CFM)

OFC USE ONLY

UTM EAST
(KILOMETER)

UTM NORTH
(KILOMETER)

GAS VELOCITY
(FPM)

GAS FLOW RATE
(CFM)

GAS VELOCITY
(FPM)

GAS FLOW RATE
(CFM)

GAS VELOCITY
(FPM)

GAS FLOW RATE
(CFM)

GAS VELOCITY
(FPM)

UTM EAST
(KILOMETER)

UTM NORTH
(KILOMETER)

UTM EAST
(KILOMETER)

UTM NORTH
(KILOMETER)

UTM EAST
(KILOMETER)

UTM NORTH
(KILOMETER)

ACTION
CODE

STACK
ID

DESC HEIGHT ABOVE
CODE GROUND(FEET)

DIAMETER
(FEET)

GAS
TEMP (F)

ACTION
CODE

STACK
ID

DESC HEIGHT ABOVE
CODE GROUND(FEET)

DIAMETER
(FEET)

GAS
TEMP (F)

ACTION
CODE

STACK
ID

DESC HEIGHT ABOVE
CODE GROUND(FEET)

DIAMETER
(FEET)

GAS
TEMP (F)

NAME Tina H

DATE 26 OCT 1990

ARB/STK/890323

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT
DEVICE DESCRIPTION AND DEVICE-STACK RELATIONS

FORM
DEV

FOR OFFICE USE ONLY

COUNTY ID:

FACILITY ID:

OFFICE USE

ACTION
CODE

DEVICE
ID

DEVICE NAME

NBR OF DEV.

DEV#1

ICE EXHAUST

1

STACK ID

PERMIT ID (IF AVAILABLE)

SA1-1

31158

ACTION
CODE

DEVICE
ID

DEVICE NAME

NBR OF DEV.

STACK ID

PERMIT ID (IF AVAILABLE)

ACTION
CODE

DEVICE
ID

DEVICE NAME

NBR OF DEV.

STACK ID

PERMIT ID (IF AVAILABLE)

ACTION
CODE

DEVICE
ID

DEVICE NAME

NBR OF DEV.

STACK ID

PERMIT ID (IF AVAILABLE)

ACTION
CODE

DEVICE
ID

DEVICE NAME

NBR OF DEV.

STACK ID

PERMIT ID (IF AVAILABLE)

ACTION
CODE

DEVICE
ID

DEVICE NAME

NBR OF DEV.

STACK ID

PERMIT ID (IF AVAILABLE)

***** OFFICE USE ONLY *****
*** EACH ITEM IS OPTIONAL ***

DEVD1

DEVICE
GROUP

DEVD2

DEVICE
GROUP

DEVD1

DEVD2

DEVICE
GROUP

DEVD1

DEVD2

DEVICE
GROUP

DEVD1

DEVD2

DEVICE
GROUP

DEVD1

DEVD2

DEVICE
GROUP

DEVD1

DEVD2

NAME James H

DATE 26 OCT 1990

ARB/DEV/240389

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
ID

AIR
BASIN

ACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV#1

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-210101 HPR ICE

FUEL TYPE /OTHER PROCESS INFO

LIANDIF144 GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

1121901.18108

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

1101.103510

PROCESS UNITS

PIT10714

HRS/
DAY

24

DAYS/
WEEK

7

WKS/
YEAR

50

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
81.1614	6.1710	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	6.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

ACTION
CODE

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

EMITTENT ID

1111751070

EST
METH

011

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

0.162110127150

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111801.15919

CONTROL EQPT CODES

PRIMARY

SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111111101.12115

EMITTENT ID

111101710128

EST
METH

011

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

01.102488185010

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111181.13199

CONTROL EQPT CODES

PRIMARY

SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111111101.1001

NAME T. H. H.

DATE 26 OCT 1990
B - 4

ARB/PRO.850327
10F10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA (ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO: _____
FACID: _____

DEVICE ID **DEN #1**

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

EMITTENT ID

1111071131

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.1010123917415

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

01.161917119191019136140

CONTROL EQPT CODES

PRIMARY **C**

SECONDARY **C**

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1010101830101010

EMITTENT ID

11117114312

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.25991615100

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111751.151914

CONTROL EQPT CODES

PRIMARY **C**

SECONDARY **C**

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

111111101.009

EMITTENT ID

111191121013

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.101013141317311

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111101.19199

CONTROL EQPT CODES

PRIMARY **C**

SECONDARY **C**

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.10101111910100

EMITTENT ID

11129891618

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.101010181116

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

0.1012360131916193114

CONTROL EQPT CODES

PRIMARY **C**

SECONDARY **C**

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1010100121811010

EMITTENT ID

1118133121219

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.10101015161611

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111101.10116

CONTROL EQPT CODES

PRIMARY **C**

SECONDARY **C**

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

1111111111111111

NAME Tina Hui

DATE 26 OCT 1990

ARB/PROB:2503176

EMISSION
YEAR
1989AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATAFORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
ID:AIR
BASINACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID:

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT
THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV #1

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-1210101 14A IICF 11

FUEL TYPE /OTHER PROCESS INFO

LIANIDIFIILL GIASI

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

11121901.81018

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

11101.103510

PROCESS UNITS

P110174

HRS/
DAY

214

DAYS/
WEEK

7

WKS/
YEAR

50

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
81.166	4.1710	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	4.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

EMITTENT ID

11118617317

EST
METH

011

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

01.10101011018166

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111101.10311

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10001013761010

ACTION
CODE

EMITTENT ID

111181510118

EST
METH

011

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

01.101010141101116

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111101.11119

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10010011420010

NAME

T. H. H.

DATE

26 OCT 1990

ARB/PRO-890327

2 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA (ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

DEVICE ID **DEV#1**

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1111201127	011 ☒	0.101010131172 ☒	11111111101.1009

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	01.1001010111101010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1112061410	011 ☒	0.101001101138 ☒	11111111101.1029

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	0.1000010135100

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11112910100	011 ☒	0.100101121131 ☒	11111111101.1035

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	0.100010142100

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
111516553	011 ☒	0.100010431910 ☒	11111111101.1012

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	0.100101001151200

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11121180119	011 ☒	0.101010109.763 ☒	11111111101.10218

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	0.1001010133800

NAME James H.

DATE 26 OCT 1990

ARB/PROB: E903176

EMISSION
YEAR
1989AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATAFORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
IDAIR
BASINACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT
THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DENT#1

SIC

49111

CONFIDENTIAL (Y/N)
IF Y, CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

11-12010101 HPA TUCI 11

FUEL TYPE /OTHER PROCESS INFO

LANDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

1129101.808

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

11101.0350

PROCESS UNITS

P110174

HRS/
DAY

214

DAYS/
WEEK

7

WKS/
YEAR

510

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
81.166	61.170	8.166	8.166	8.166	8.166	8.166	8.166	8.166	8.166	8.166	61.170

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODEALLOWABLE EMIS
LBS/YR (OPTIONAL)ACTION
CODEALLOWABLE EMIS
LBS/YR (OPTIONAL)

EMITTENT ID

112051992

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.10101017076

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111119.1020

CONTROL EQPT CODES

PRIMARY
11SECONDARY
11OVERALL
CONTROL EFF (%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10101012451010

EMITTENT ID

11207089

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.1010101614710

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111119.1018

CONTROL EQPT CODES

PRIMARY
11SECONDARY
11OVERALL
CONTROL EFF (%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10101012214100

NAME

Tina Hu

DATE 26 OCT 1990

B - 4

ARB/PRO-890327

3 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA (ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

DEVICE ID **DEV#1**

EMITTENT DATA

EMISSIONS

ACTION
CODE
☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)
☐

ACTION
CODE
☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)
☐

ACTION
CODE
☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)
☐

ACTION
CODE
☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)
☐

ACTION
CODE
☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)
☐

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11111912172	011 ☒	01.0000131511 ☒	11111111101.1010

*CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☒	☒	☒	☒	01.10010101121400

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11115131703	011 ☒	01.1010101216105 ☒	11111111101.10017

*CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☒	☒	☒	☒	01.10101010019.01210

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11119112412	011 ☒	01.1000101210162 ☒	11111111101.10015

*CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☒	☒	☒	☒	01.100010101711140

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11119131915	011 ☒	01.1000101210162 ☒	11111111101.10015

*CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☒	☒	☒	☒	01.101010101711140

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
111156121315	011 ☒	01.1010151119130 ☒	11111111101.11511

*CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☒	☒	☒	☒	01.1010101118100100

NAME Tom Han

DATE 26 OCT 1990

ARB/PROB/ES03178

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO.

COUNTY
ID:

AIR
BASE:

ACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID:

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV#1

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

11-120001 HPA ICE

FUEL TYPE /OTHER PROCESS INFO

LANDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

1129101.18108

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

1110.10350

PROCESS UNITS

PIT074

HRS/
DAY

24

DAYS/
WEEK

7

WKS/
YEAR

50

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
81.1616	6.1710	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	6.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

ALLOWABLE EMIS
(LBS/YR) (OPTIONAL)

ACTION
CODE

ALLOWABLE EMIS
(LBS/YR) (OPTIONAL)

EMITTENT ID

1111018191017

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.10041041319

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111111175

CONTROL EQPT CODES

PRIMARY

SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.1010114100010

EMITTENT ID

11116716613

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.10001410141319

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111111117

CONTROL EQPT CODES

PRIMARY

SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.100010114100010

NAME

James H.

DATE

26 OCT 1990

ARB/PRO-850327

4 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA
(ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

DEVICE ID

DEN#1

EMITTENT DATA

EMISSIONS

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11117610612

011

0.1010101917613

111111110.1319

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10100013180000

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111106141617

011

0.1001019182019

1111111110.12815

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10001013400000

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11112319111

011

0.101028881510

1111111110.1839

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.1010011010101010

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111A

011

0.101124178132

11111111131.6218

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.101004320101010

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111101710612

011

0.100103117173

1111111110.101912

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.101003117173150

NAME Tina H

DATE 26 OCT 1990

ARB/PROB:8903178

* SEE WORKSHEET

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA (ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

DEVICE ID **DEN#11**

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
117614701110	011 ☒	4.185261810100 ☒	11111111411111198

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	01.1168100101000

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
117183101614	011 ☒	01.1491101451010 ☒	111111114121.17919

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	01.19117010100000

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11119151718	011 ☒	01.1011214178132 ☒	1111111131.16128

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	01.101014131210010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
111108191512	011 ☒	01.1011215913816 ☒	111111113.16612

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	01.1000141316101010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
111316131613	110 ☒	01.100101012319 ☒	1111111110.1010

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY ☒ SECONDARY ☒	☒	☒	01.1010101010181219

NAME James H.

DATE 26 OCT 1990

ARB/PROB/2503176

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
ID

AIR
BASIN

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID

ACTION
CODE

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV #1

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-120001 HP ICE 11

FUEL TYPE /OTHER PROCESS INFO

LANDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

111219101-18108

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

11101-1013510

PROCESS UNITS

PT10174

HRS/
DAY

214

DAYS/
WEEK

7

WKS/
YEAR

50

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
81.1616	61.1710	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	61.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

EMITTENT ID

111110412812

EST
METH

110

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

01.1010101010239

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111101.101010

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

111111111

CONTROL EQPT CODES
PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.001001010181219

ACTION
CODE

EMITTENT ID

11111411165

EST
METH

110

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

01.1010101010239

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111110.10100

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

111111111

CONTROL EQPT CODES
PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.101010101018129

NAME Tamara

DATE 26 OCT 1990

ARB/PRO.850327

6 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA
(ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

DEVICE ID DIEV#11

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

EMITTENT ID

1513416191211A

EST
METH

11D

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.010101010141310

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111101.101011

CONTROL EQPT CODES

PRIMARY C

SECONDARY C

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1000100101141910

EMITTENT ID

11121617121211B

EST
METH

110

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.010101010121319

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111101.101010

CONTROL EQPT CODES

PRIMARY C

SECONDARY C

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.0001010101081219

EMITTENT ID

111109171611

EST
METH

110

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.1010101010121319

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111101.101010

CONTROL EQPT CODES

PRIMARY C

SECONDARY C

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1001010101081219

EMITTENT ID

1111019168125

EST
METH

110

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.0101010117214

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111101.100105

CONTROL EQPT CODES

PRIMARY C

SECONDARY C

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1001010101015191210

EMITTENT ID

1111010141215

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.01018161615510

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111121.15119

CONTROL EQPT CODES

PRIMARY C

SECONDARY C

OVERALL
CONTROL EFF(%)

C

FULL/
PART

C

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1010101301010101010

NAME James H.

DATE 26 OCT 1990

ARB/PROB/8903176

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO.

COUNTY
ID:

AIR
BASIN

ACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID:

STOP.

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV #11

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

11-1210101 HPI ICE 11

FUEL TYPE /OTHER PROCESS INFO

LANDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

111219101.18198

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

11101.10131510

PROCESS UNITS

P110174

HRS/
DAY

214

DAYS/
WEEK

7

WKS/
YEAR

510

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
8.1616	6.1710	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	6.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
(LBS/YR) (OPTIONAL)

ACTION
CODE

☐

ALLOWABLE EMIS
(LBS/YR) (OPTIONAL)

EMITTENT ID

111108883

EST
METH

01

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.151717701010

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111111111617.19199

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.1020001010000

EMITTENT ID

111171151516

EST
METH

01

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.1016117560

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111141.17103

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.101015161010106

NAME T. H. H.

DATE 26 OCT 1990

ARB/PRO.850327

7 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
ID

AIR
BASE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID

ACTION
CODE

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT
THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV #11

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-1201001 HPA JICE 11

FUEL TYPE /OTHER PROCESS INFO

LANDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

11121910.181018

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

11101.103510

PROCESS UNITS

PIT101714

HRS/
DAY

214

DAYS/
WEEK

7

WKS/
YEAR

519

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
8.1616	6.1710	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	6.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

EMITTENT ID

117441014117

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01101010130132

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111110.1018

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

11111111

CONTROL EQPT CODES

PRIMARY
11

SECONDARY
11

OVERALL
CONTROL EFF (%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.1010101011015010

ACTION
CODE

EMITTENT ID

117441014139

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0110101013161319

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111110.10110

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

11111111

CONTROL EQPT CODES

PRIMARY
11

SECONDARY
11

OVERALL
CONTROL EFF (%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.10101010112161010

NAME

Tom Han

DATE

26 OCT 1990

B - 4

ARB/PRO-850327

8 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA
(ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO: _____
FACID: _____

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

DEVICE ID

DEIV #11

EMITTENT DATA

EMISSIONS

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111815140121919

011 ☐

01.10101218519161 ☐

11111111101.18311

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1010101919100100

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

117414105018

011 ☐

01.10101013141915 ☐

11111111101.101110

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.101010101112111010

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11741319191211

011 ☐

01.1010101810131010 ☐

11111111101.12133

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1010101217181010

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11741319191615

011 ☐

01.1010101115111614 ☐

11111111101.1044

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

☐

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11741319191716

011 ☐

01.10101010191713 ☐

11111111101.101012

CONTROL EQPT CODES
PRIMARY SECONDARY

☐☐

OVERALL
CONTROL EFF(%)

☐

FULL/
PART

☐

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1010101010131710

NAME Sam Hui

DATE 26 OCT 1990

ARB/PROB:8503178

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO.

COUNTY
ID:

AIR
BASIN

ACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID:

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEN #1

SIC

419111

CONFIDENTIAL (Y/N)

IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-12010101 HPI ICE 11

FUEL TYPE /OTHER PROCESS INFO

LAWDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

11121901.8018

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

1110.103510

PROCESS UNITS

P10174

HRS/
DAY

24

DAYS/
WEEK

7

WKS/
YEAR

50

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
8.1616	6.170	8.166	8.166	8.166	8.166	8.166	8.166	8.166	8.166	8.166	6.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

ACTION
CODE

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

EMITTENT ID

1174410020

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.100011118142

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111101.10314

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.101010101411000

EMITTENT ID

177212311410

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.10014516383

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111111.13217

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF(%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

0.1001211581001010

NAME

T. H. H.

DATE

26 OCT 1990

B - 4

ARB/PRO/890327

9 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT PROCESS AND EMITTENTS DATA (ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

DEVICE ID **DEV#11**

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1177812141912	011	01.1010101751916	11111111101.1022

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY: ☐ C SECONDARY: ☐ C	☐ C	☐ C	01.1010101901216131010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11418108161017	011	01.0017110151711	11111111121.101616

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY: ☐ C SECONDARY: ☐ C	☐ C	☐ C	01.1010101214161010010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1111111175	011	01.0016121618104	11111111111.81212

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY: ☐ C SECONDARY: ☐ C	☐ C	☐ C	01.10001211700100

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1111111175	011	01.10016121618104	11111111111.81212

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY: ☐ C SECONDARY: ☐ C	☐ C	☐ C	01.1010101211700100

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11744106166	011	01.101514151912165	111111111151.18175

CONTROL EQPT CODES	OVERALL CONTROL EFF(%)	FULL/ PART	HOURLY MAX EMISSIONS (LBS/HOUR)
PRIMARY: ☐ C SECONDARY: ☐ C	☐ C	☐ C	01.1001181100101010

NAME Tom H

DATE 26 OCT 1990

ARB/PROB:ES03178

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA
(ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO: _____
FACID: _____

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

DEVICE ID

DEV #1

EMITTENT DATA

EMISSIONS

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1354211080

011

0.10112147832

1111111131.16218

CONTROL EQPT CODES
PRIMARY SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111

111

111

111

01.1010143210000

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1110910116

112

0.1714213441510

111111121151.18719

CONTROL EQPT CODES
PRIMARY SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111

111

111

111

01.10251701010000

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111069134

112

0.1005101514187

111111111.141619

CONTROL EQPT CODES
PRIMARY SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111

111

111

111

01.1000117500100

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111271184

112

0.10169131241010

11111112101.11519

CONTROL EQPT CODES
PRIMARY SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111

111

111

111

01.10012141010101010

EMITTENT ID

EST
METH

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

111175354

112

111110.101010

1111111110.1010

CONTROL EQPT CODES
PRIMARY SECONDARY

OVERALL
CONTROL EFF(%)

FULL/
PART

HOURLY MAX EMISSIONS
(LBS/HOUR)

111

111

111

111

1111111110.1000

NAME T. H. H.

DATE 26 OCT 1990

ARB/PROB:8503178

10 OF 10

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
ID

AIR
BASIN

ACTION
CODE

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID

STOP FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEV#11

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-FR1010101 HPA IIC 11

FUEL TYPE /OTHER PROCESS INFO

LANDFILL GAS

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

1129101.18108

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

11101.10350

PROCESS UNITS

PIT 11

HRS/
DAY

1

DAYS/
WEEK

1

WKS/
YEAR

1

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
81.1616	6.170	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	81.1616	61.170

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

EMITTENT ID

1174410473

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

0.100114173113

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111101.14218

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF (%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.10101015110000

EMITTENT ID

1111210832

EST
METH

011

ACTUAL EMISSIONS
FACTOR (LBS/UNIT)

01.11247832

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111131.16218

CONTROL EQPT CODES

PRIMARY

11

SECONDARY

11

OVERALL
CONTROL EFF (%)

111

FULL/
PART

11

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.1001014320000

NAME Tim H

DATE 26 OCT 1990

ARB/PRO-856327

PACIFIC ENERGY
SALINAS BIOGAS PLANT
AB2588 REPORT
26 October 1990

1. Process Rates

A. Source test gas flow rate:

567.00
568.00
573.00
577.00
576.00
577.00
578.00
578.00
584.00
584.00
582.00
580.00

6,924.00

12.00 = 577.00 Average SCFM

B. Process Units to report:

PT074 = 10E+6 Ft3 Fuel Burned

C. Maximum Hourly Process Rate:

584 * 60 = 35,040 = 0.03504

10E+6

D. Total Yearly Process Rate:

10E+6 = 1733.10 Minutes/ 10E+6 Ft3 Fuel Burned

577

(24*7) * 50 = 8400 Hours of Operation Annually

8400 * 60 = 504,000 Minutes/ Year

504,000.00 = 290.808/10E+6 Cu.Ft. Fuel Burned

1,733.10

(Source Test)

FORMULA: (Lbs/ Hr) * (10E+6) = First Result

60

577

First Result * 290.808 = Lbs/Year

CLIENT: PACIFIC ENERGY
UNIT: SALINAS LANDFILL MEP ENGINE
REPORT #:90-233
DATE: 7-31,8-1-90

Summary of Results for PAH Emissions; CARB Method 429

Pollutant -----			gr/DSCF -----	lb/hr -----
Naphthalene	Average		1.92E-06	1.19E-04
Acenaphthylene	Average		4.53E-08	2.81E-06
Acenaphthene	Average		3.17E-08	1.96E-06
Fluorene	Average		6.08E-08	3.76E-06
Phenanthrene	Average		2.28E-07	1.42E-05
Anthracene	Average		1.80E-08	1.10E-06
Fluoranthene	Average		5.66E-08	3.51E-06
Pyrene	Average		6.83E-08	4.20E-06
Benzo(a)anthracene	Average	*	2.46E-08	1.52E-06
Chrysene	Average		5.48E-08	3.38E-06
Benzo(b)fluoranthene	Average	*	3.95E-08	2.45E-06
Benzo(k)fluoranthene	Average	*	3.61E-08	2.24E-06
Benzo(a)pyrene	Average	*	1.99E-08	1.24E-06
Dibenz(a,h)anthracene	Average	*	1.46E-08	9.02E-07
Benzo(g,h,i)perylene	Average	*	1.16E-08	7.14E-07
Indeno(1,2,3-cd)pyrene	Average	*	1.16E-08	7.14E-07

* Values reported are lower detection limit

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233

Method 430
 Formaldehyde Results

Test Run	#1	#2	#3	average
Time	1010	1123	1238	
Formaldehyde ug/l	90625	71875	33333.33	
Sample vol, l	0.032	0.032	0.03	
Formaldehyde, ug	2900	2300	1000	
Vm std DSCF	2.04	2.1	2.13	
Vm std DSCM	0.058	0.059	0.06	
Volume Flow, DSCFM 1/	7315	7315	7315	
Concentrations :				
ug/dscf	1422	1095	469	995
ug/dscm	50000	38983	16667	35217
ppm	37.48	28.88	12.38	26.24
Emissions :				
lb/hr	1.2570	0.9685	0.4151	0.8802

1/ see Method 421 field data

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233

Method 430
 Acrolein Results

Test Run	#1	#2	#3	average
Time	1010	1123	1238	
Acrolein ,ug/l	62.5	187.5	166.67	
Sample vol, l	0.032	0.032	0.03	
Acrolein ,ug	2	6	5	
Vm std DSCF	2.04	2.1	2.13	
Vm std DSCM	0.058	0.059	0.06	
Volume Flow, DSCFM 1/	7315	7315	7315	

Concentrations :

ug/dscf	1	3	2	2
ug/dscm	34	102	83	73
ppm	0.014	0.040	0.033	0.029

Emissions :

lb/hr	0.0005	0.0014	0.0011	0.0010
-------	--------	--------	--------	--------

1/ see Method 421 field data

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233

Method 430
 Acetaldehyde Results

Test Run	#1	#2	#3	average
Time	1010	1123	1238	
Acetaldehyde,ug/l	406.25	2593.75	4333.33	
Sample vol, l	0.032	0.032	0.03	
Acetaldehyde,ug	13	83	130	
Vm std DSCF	2.04	2.1	2.13	
Vm std DSCM	0.058	0.059	0.06	
Volume Flow, DSCFM 1/	7315	7315	7315	

Concentrations :

ug/dscf	6	40	61	36
ug/dscm	224	1407	2167	1266
ppm	0.115	0.710	1.097	0.641

Emissions :

lb/hr	0.0038	0.0238	0.0368	0.0215
-------	--------	--------	--------	--------

1/ see Method 421 field data

PACIFIC ENERGY
SALINAS LANDFILL MEP ENGINE

Date : 3-2-90
Report : 90-233

CARB 422 Summary, ppb
Light Molecular Weight Hydrocarbons, GCMS

Compound	Run #1 ppb	Run #2 ppb	Run #3 ppb	average ppb
Acetone	140.0	58.0	19.0	72.3
Acrylonitrile	1.0 *	1.0 *	1.0 *	1.0
Benzene	120.0	83.0	95.0	99.3
2-Butanone, MEK	13.0	7.5	4.4	8.3
Bromodichloromethane	0.1 *	0.1 *	1.4	0.5
Carbon Disulfide	0.2 *	0.2 *	5.3	1.9
Carbontetrachloride	0.1 *	0.1 *	0.1 *	0.1
Chlorobenzene	1.1	1.0	1.1	1.1
Chloroethane	11.0	7.0	7.6	8.5
Chloroform	0.1 *	0.1 *	0.1 *	0.1
Chloromethane	49.0	31.0	34.0	38.0
Chloropicrin	0.2 *	0.2 *	0.2 *	0.2
Dibromochloromethane	0.1 *	0.1 *	0.1 *	0.1
1,2-Dibromoethane	1.0 *	1.0 *	1.0 *	1.0
1,4-Dichlorobenzene	0.2 *	0.2 *	0.2 *	0.2
1,1-Dichloroethane	59.0	34.0	41.0	44.7
1,2-Dichloroethane	0.1 *	0.1 *	0.1 *	0.1
1,1-Dichloroethene	3.2	1.9	2.1	2.4
Dichloromethane	50000.0	1900.0	1300.0	17733.3
1,2-Dichloropropane	0.1 *	1.5	2.4	1.3
1,4-Dioxane	1.0 *	1.0 *	1.0 *	1.0
Ethylbenzene	20.0	23.0	32.0	25
2-Hexanone	0.1 *	0.1 *	0.1 *	0.1
Hydrogen Sulfide	490.0	510.0	290.0	430.0
4-Methyl-2-Pentanone, MIBK	0.1 *	0.1 *	0.1 *	0.1
Styrene	1.5 *	2.8	4.3	2.9
Tetrachloroethene, PCE	10.0	8.9	12.0	10
Toluene	210.0	160.0	200.0	190
1,1,1-Trichloroethane, TCA	5.0	3.0	2.9	4
1,1,2-Trichloroethane	0.1 *	0.1 *	0.1 *	0.1
Trichloroethene, TCE	0.1 *	0.1 *	12.0	4.1
Trichlorotrifluoroethane,	1.4	0.2 *	0.2 *	0.6
Trichlorofluoromethane	4.4	2.8	3.3	4
Vinyl Chloride	68.0	43.0	47.0	52.7
Xylenes	53.0	80.0	120.0	84.3

*= less than the detection limit

Client : PACIFIC ENERGY
 Site : SALINAS LANDFILL MEP ENGINE
 Date : 8-2-90
 Report : 90-233

CARB 422 Summary, 1b/hr
 Light Molecular Weight Hydrocarbons, GCMS

Compound	Run #1 lb/hr	Run #2 lb/hr	Run #3 lb/hr	average lb/hr
Acetone	9.39E-03	3.89E-03	1.27E-03	4.9E-03
Acrylonitrile	8.33E-05	*8.33E-05	*8.33E-05	* 8.3E-05
Benzene	1.08E-02	7.49E-03	8.57E-03	9.0E-03
2-Butanone, MEK	1.08E-03	6.25E-04	3.66E-04	6.9E-04
Bromodichloromethane	1.88E-05	*1.88E-05	*2.64E-04	1.0E-04
Carbon Disulfide	1.76E-05	*1.76E-05	*4.66E-04	1.7E-04
Carbontetrachloride	1.78E-05	*1.78E-05	*1.78E-05	* 1.8E-05
Chlorobenzene	1.43E-04	1.30E-04	1.43E-04	1.4E-04
Chloroethane	8.21E-04	5.22E-04	5.67E-04	6.4E-04
Chloroform	1.38E-05	*1.38E-05	*1.38E-05	* 1.4E-05
Chloromethane	2.86E-03	1.81E-03	1.99E-03	2.2E-03
Chloropicrin	3.80E-05	*3.80E-05	*3.80E-05	* 3.8E-05
Dibromochloromethane	2.41E-05	*2.41E-05	*2.41E-05	* 2.4E-05
1,2-Dibromoethane	2.01E-04	*2.01E-04	*2.01E-04	* 2.0E-04
1,4-Dichlorobenzene	3.40E-05	*3.40E-05	*3.40E-05	* 3.4E-05
1,1-Dichloroethane	6.76E-03	3.89E-03	4.69E-03	5.1E-03
1,2-Dichloroethane	1.14E-05	*1.14E-05	*1.14E-05	* 1.1E-05
1,1-Dichloroethene	3.59E-04	2.13E-04	2.36E-04	2.7E-04
Dichloromethane	4.92E+00	1.87E-01	1.28E-01	1.7E+00
1,2-Dichloropropane	1.31E-05	*1.96E-04	3.14E-04	1.7E-04
1,4-Dioxane	1.02E-04	*1.02E-04	*1.02E-04	* 1.0E-04
Ethylbenzene	2.45E-03	2.82E-03	3.92E-03	3.1E-03
2-Hexanone	1.16E-05	*1.16E-05	*1.16E-05	* 1.2E-05
Hydrogen Sulfide	1.93E-02	2.01E-02	1.14E-02	1.7E-02
4-Methyl-2-Pentanone, MIBK	1.16E-05	*1.16E-05	*1.16E-05	* 1.2E-05
Styrene	1.58E-04	2.95E-04	4.53E-04	3.0E-04
Tetrachloroethene, PCE	1.92E-03	1.71E-03	2.30E-03	2.0E-03
Toluene	2.23E-02	1.70E-02	2.13E-02	2.0E-02
1,1,1-Trichloroethane, TCA	7.72E-04	4.63E-04	4.48E-04	5.6E-04
1,1,2-Trichloroethane	1.54E-05	*1.54E-05	*1.54E-05	* 1.5E-05
Trichloroethene, TCE	1.52E-05	*1.52E-05	*1.82E-03	6.2E-04
Trichlorotrifluoroethane,	3.04E-04	4.34E-05	*4.34E-05	* 1.3E-04
Trichlorofluoromethane	7.00E-04	4.45E-04	5.25E-04	5.6E-04
Vinyl Chloride	4.92E-03	3.11E-03	3.40E-03	3.8E-03
Xylenes	6.50E-03	9.81E-03	1.47E-02	1.0E-02

*= less than the detection limit

CLIENT: PACIFIC ENERGY
UNIT: SALINAS LANDFILL MEP ENGINE
REPORT #:90-233
DATE: 8-1,2-90

Summary of Results for Phenolic Compounds

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
-----	-----	-----	-----	-----		-----	-----
Phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04
2-Chloro-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04
2-Methel-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04
4-Methyl-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04
2-Nitro-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04
2,4-dicloro phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04
4-Cloro-3-methyl-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
	average				*	6.98E-06	4.32E-04

* Values reported are lower detection limit

CLIENT: PACIFIC ENERGY
UNIT: SALINAS LANDFILL MEP ENGINE
REPORT #:90-233
DATE: 8-1,2-90

Summary of Results for Phenolic Compounds

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
-----	-----	-----	-----	-----		-----	-----
2,4,6-Tri	1	44.29	7209	20	*	6.95E-06	4.30E-04
chlorophenol	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
				average	*	6.98E-06	4.32E-04
2,4,5-Tri	1	44.29	7209	100	*	3.48E-05	2.15E-03
chlorophenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
2,4-Dinitro-	1	44.29	7209	100	*	3.48E-05	2.15E-03
phenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
4-Nitro-	1	44.29	7209	100	*	3.48E-05	2.15E-03
phenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
4,6-Dinitro-	1	44.29	7209	100	*	3.48E-05	2.15E-03
2-methyl-	2	44.53	7256	100	*	3.46E-05	2.15E-03
phenol	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
Pentachloro	1	44.29	7209	100	*	3.48E-05	2.15E-03
phenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
2,4-Dimethyl-	1	44.29	7209	20	*	6.95E-06	4.30E-04
phenol	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
				average	*	6.98E-06	4.32E-04

* Values reported are lower detection limit

CLIENT: SALINAS LANDFILL
 UNIT: MEP ENGINE
 REPORT #: 90-233
 DATE: 8-2-90

Summary of Results for Metal Emissions

CARB Method 435

Pollutant	mg/l	Sample Vol. (ml)	Vm std	DSCFM		gr/DSCF	lb/hr
Arsenic	0.0053	340	49.1	574		5.65E-07	2.78E-06
Beryllium	0.002	340	49.1	574	*	2.13E-07	1.05E-06
Cadmium	0.0024	340	49.1	574		2.56E-07	1.26E-06
Chromium	0.0037	340	49.1	574		3.95E-07	1.94E-06
Copper	0.0023	340	49.1	574		2.45E-07	1.21E-06
Lead	0.053	340	49.1	574		5.65E-06	2.78E-05
Manganese	0.01	340	49.1	574	*	1.07E-06	5.25E-06
Mercury	0.0004	545	49.1	574	*	6.84E-08	3.37E-07
Nickel	0.0078	340	49.1	574		8.32E-07	4.10E-06
Phosphoru	0.3	340	49.1	574	*	3.20E-05	1.58E-04
Selenium	0.005	340	49.1	574	*	5.33E-07	2.63E-06
Zinc	3.6	340	49.1	574		3.84E-04	1.89E-03

Summary of Results for Metal Emissions

CARB Method 424

Cadmium	0.02026	390	48.17	574		2.53E-06	1.24E-05
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* Values reported are lower detection limit

avg Cadmium = 6.83×10^{-6}

COMPANY: PACIFIC ENERGY
DATE: 7-31-90
UNIT: SALINAS LANDFILL MEP ICE
REPORT #:90-233

Method 425 Summary of Results

Concentrations, ug/dscm

	Run #1	Run #2	Run #3	average
P/N total chrome	1.8 *	1.8 *	2.0 *	1.9
P/N chrome IV	3.6 *	3.6 *	3.8 *	3.7
IMP total chrome	5.4 *	5.6 *	5.5 *	5.5
IMP chrome IV	11 *	11 *	11 *	11

* = lower detection limit

COMPANY: PACIFIC ENERGY
DATE: 7-31-90
UNIT: SALINAS LANDFILL MEP ICE
REPORT #:90-233

Method 425 Summary of Results

Emissions, lb/hr

	Run #1	Run #2	Run #3	average
P/N total chrome	4.8E-05 *	4.9E-05 *	5.5E-05 *	5.1E-05
P/N chrome IV	9.6E-05 *	9.8E-05 *	1.0E-04 *	9.9E-05
IMP total chrome	1.4E-04 *	1.5E-04 *	1.5E-04 *	1.5E-04
IMP chrome IV	2.9E-04 *	3.0E-04 *	3.0E-04 *	3.0E-04

* = lower detection limit

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 8-2-90

Summary of Results for Hydrochloric Acid

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
Hydro-chloric Acid	1	45.33	7311	17.6	*	5.98E-06	3.75E-04
	2	44.79	7192	12900		4.44E-03	2.74E-01
	3	48.11	7442	11300		3.62E-03	2.31E-01
				average		2.69E-03	1.68E-01

* Values Reported are lower detection limit

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 7-31,8-1-90

Summary of Results for Quartz, Cristobalite, Tridymite

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
Quartz	1	44.19	7275	14		4.88E-06	3.05E-04
	2	44.69	7297	10	*	3.45E-06	2.16E-04
	3	45.47	7448	10	*	3.39E-06	2.16E-04
				average		3.90E-06	2.46E-04
Cristobalite	1	44.19	7275	10	*	3.48E-06	2.18E-04
	2	44.69	7297	10	*	3.45E-06	2.16E-04
	3	45.47	7448	10	*	3.39E-06	2.16E-04
				average		3.44E-06	2.17E-04
Tridymite	1	44.19	7275	10	*	3.48E-06	2.18E-04
	2	44.69	7297	10	*	3.45E-06	2.16E-04
	3	45.47	7448	10	*	3.39E-06	2.16E-04
				average		3.44E-06	2.17E-04

* Values Reported are lower detection limit

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 8-3-90

Summary of Results for PCB Compounds

Pollutant	Test	Condensate Rate (Gal/Day)	ug/liter		lb/hr
PCB 1016	1	47.71	5	*	8.29E-08
PCB 1221	1	47.71	5	*	8.29E-08
PCB 1232	1	47.71	5	*	8.29E-08
PCB 1242	1	47.71	9		1.49E-07
PCB 1248	1	47.71	5	*	8.29E-08
PCB 1254	1	47.71	5	*	8.29E-08
PCB 1260	1	47.71	36		5.97E-07

* Values reported are lower detection limit

INTRODUCTION

INTRODUCTION

At the request of Pacific Energy Systems, Petro Chem Environmental Services (PCES) performed a series of source tests on one MEP eight cylinder internal combustion engine. The unit is located at the Crazy Horse Landfill in Salinas, California and uses landfill gas as fuel. The purpose of the testing was to document emissions of various pollutants to satisfy the requirements for the State of California AB2588, Air Toxics "Hot Spots" Information and Assessment Act of 1987. The following tests were performed:

<u>Pollutant</u>	<u>Date</u>	<u>Method</u>	<u>No. Runs</u>
PAH	7/31,8/1/90	CARB 429	3 + Blank
Benzene/Full Scan/H2S	8/2/90	CARB 422	3 + Blank
Formaldehyde, Acrolin, Acetaldehyde	8/2/90	CARB 430	3 + Blank
Phenol	8/1,8/2/90	BAAQMD ST-16	3 + Blank
As,Be,Cd,Cr,Cv,Pb,Mn,Hg, Ni,P,Se,Zn	8/2/90	CARB 436	1 + Blank
Cd	8-2-90	CARB 424	1 + Blank
Cr, Cr+6	7/31/90	CARB 425	3 + Blank
HCL	8/2/90	CARB 421	3 + Blank
Silica	7/31,8/1/90	EPA Method 5	3 + Blank
PCB	8-3-90	EPA Method 608/8080	1

The samples were analyzed by the following laboratories:

<u>Test Method</u>	<u>Analytical Laboratory</u>
CARB 429	ENSCO Labs of Sacramento
CARB 422	Coast to Coast Analytical of San Luis Obispo
CARB 430	Coast to Coast Analytical of San Luis Obispo
BAAQMD ST-16	Enesco Labs of Garden Grove
CARB 436	Enesco Labs of Garden Grove
CARB 425	Enesco Labs of Garden Grove
CARB 421	Enesco Labs of Garden Grove
EPA 5	EMS Laboratories of South Pasadena
EPA 608/8080	Coast to Coast Analytical of San Luis Obispo

All sampling was conducted by Mr. Bob Martin and Mr. John Nylin of Petro Chem Environmental Services. Mr. James Marchesini supervised all testing and performed all testing equipment turnaround and method recovery procedures. Mr. Dennis Marsh of Pacific Energy Systems supervised all testing. Onsite for Monterey Bay Unified APCD was Mr. David Craft.

DISCUSSION

DISCUSSION

The testing of Pacific Energy System's MEP engine located at the Salinas Landfill began on July 31, and continued through August 2, 1990. All testing proceeded smoothly without any upsets due to testing equipment or engine operational problems. All testing was conducted upstream of the exhaust outlet. Two sample ports were placed on the same cross sectional plane 90 degrees apart, approximately five diameters downstream and three diameters upstream from disturbance in flow.

Prior to testing a cyclonic flow check was conducted and showed an average angle of deviation of three degrees from sixteen traverse points.

For CARB Method 422 data, selected compounds were not reported. These compounds are:

- 1) Bromomethane
- 2) Bromoform
- 3) 2-Chloroethylvinyl Ether
- 4) c-1, 2-Dichloroethene
- 5) + - 1,2-Dichloroethene
- 6) cis-1,3-Dichloropropene
- 7) trans-1,3-Dichloropropene
- 8) 1,1,2,2-Tetrachloroethane
- 9) Vinyl Acetate

All light hydrocarbons not reported indicated "not found" for the three CARB 422 runs.

For silica testing, teflon filters were sample through and analyzed by 1) Scanning Electron Microscopy (SEM) and Energy Dispersive Spectroscopy (EDS) and 2) x-ray Diffraction (XRD).

Metals emissions were determined by sampling the inlet fuel gas and documentation of fuel flow rates. A cadmium test was also performed on the inlet fuel gas to back up the CARB 436 test.

PCB testing consisted of a fuel condensate sample and subsequent PCB analysis. Emissions were determined based on condensate recovery rates.

All methods consisted of sixteen point traverses from two ports (eight points/port) and sampled for one hour. The exception was for the CARB 429 testing which consisted of three-three hour runs.

SAMPLING METHODS

SAMPLING AND ANALYTIC PROCEDURES

REF: EPA Code of Federal Regulations, Title 40, Part 60,
Appendix A.
Method 1, 2, 3, 4, and 5

Method 5: Sampling Apparatus

The sampling apparatus consisted of a nozzle, heater wrapped probe, and heated filter holder (see data sheets for type of nozzle, probe, and filter holder). The filter was connected to a heated teflon filter-to-impinger line. A series of impingers (see data sheet for type and contents) were connected in tandem and immersed in an ice bath. The absorption train was followed by a gas pump, dry test meter, and a calibrated restriction orifice fitted with a magnehelic differential pressure gauge. A type 'S' pitot tube and temperature probe was positioned along side the probe terminating at the sample nozzle for monitoring duct conditions throughout the test.

EPA Method 1: Sampling and Velocity Traverses for Stationary Sources

Prior to the source test a site accessment was performed in order to locate sample points for obtaining the best representative measurements of pollution concentrations and volumetric flow rates. EPA Method 1 takes into account duct area, straight run and cyclonic or stratified flow patterns.

EPA Method 2: Velocity and Volumetric Flow Rates

A computer was used in selection of suitable sample/traverse points. The calibrated pitot tube was connected to a magnehelic gauge and leak checked. A temperature and delta-P was recorded at each traverse point and a duct static pressure was measured and recorded. A volume flow rate was calculated from the measured required traverse points.

EPA Method 3: % CO₂, % O₂, Dry Molecular Weight

Concurrent with each particulate sampling, an integrated gas sample was withdrawn from the summation of the traverse points through the train and collected at the outlet of the meter into a sample bag. The contents of the sample bladder were analyzed by Orsat for fixed gas composition.

EPA Method 4: Percent Water

Tare weights of the charged individual impingers were recorded. After sampling, the final weights were recorded. Percent water was calculated from the weight of water collected and the dry gas volume sampled.

EPA Method 5: Particulate Emissions

A series of preliminary measurements was made prior to conducting the particulate test. EPA Methods 1, 2, and 3 were performed to determine location and number of traverse points, average gas velocity, and pressure and gas molecular weight. Percent water was determined by a psychrometric chart and from combustion analysis of the fixed gases. The results of these measurements were entered into the field computer and an appropriate nozzle size for isokinetic sampling was determined.

The Method 5 apparatus was prepared on-site in the mobile laboratory. The absorption train was charged with freshly prepared chemicals, weighed on a calibrated digital balance to the nearest 0.1 grams, and assembled. The probe was brushed out and rinsed with distilled water and acetone and the filter holder was charged. The sampling apparatus was sealed and transported to the sampling site where it was assembled and leak tested at 15 inches mercury vacuum.

Probe, filter, and impinger line heaters were set at 250 degrees F and the probe was positioned into the duct at the first traverse point with the nozzle out of the flow.

The nozzle was positioned into the gas flow and the vacuum pump was started immediately and adjusted to obtain an isokinetic sample rate. A complete traverse was performed while sampling at a minimum of two minutes per sample point. Upon completion of the traverse the vacuum pump was turned off and the probe was transferred into the next sample port where an identical sample-traverse was performed. Duct conditions (temperature, delta-P) and sampling conditions (meter temperature, volume and pressure, probe, filter, sample line and impinger temperatures, and absorption train vacuum) were monitored and recorded regularly for each sample point.

Upon completion of sampling, the apparatus was leak tested at a vacuum greater than the highest observed vacuum. The leak was recorded and the apparatus was sealed and transported to the mobile laboratory. The heated filter-to-impinger line was rinsed with a known amount of distilled water into the first impinger.

The filter and any loose particulate was carefully removed from the filter holder with tweezers. It was then placed in a labeled petri dish and transported to the P.C.E.S. laboratory. The nozzle, probe, and filter top housing was rinsed and brushed three times with distilled water and acetone. The sample

fractions were combined, bottled, labeled, and fluid level marked for transportation to the P.C.E.S. laboratory. Aliquots of acetone and distilled water were similarly treated for blank analysis.

The absorption train was inspected for abnormalities and disassembled. The impingers were weighed on a digital balance for a percent moisture determination. The contents of the impingers were quantitatively transferred into separate bottles, sealed, labeled, and fluid level marked for transportation to the P.C.E.S. laboratory of analysis, if required. Aliquots of the reagent grade impinger contents were saved for blank analysis.

The filter was transferred to an oven and heated at 105 degrees C for 2-3 hours and then placed in a desiccator for 24 hours. The filter was then weighed on a Mettler digital balance to the nearest 0.01 mg. Additional six hour desiccations and weighings were performed until the difference between consecutive weighings was less than 0.5 mg or one percent of the total filtrate weight (weighed to a constant weight).

The nozzle/probe/filter top wash was examined for any leakage during transportation and transferred to a tared evaporation dish. The wash was then evaporated at an elevated temperature, below the boiling point of the wash, with occasional swirling. The dish and wash residue were then desiccated and weighed to a constant weight.

If required by the regulatory agency, the contents of the first impinger were recovered and diluted volumetrically to a known volume. An aliquot of this sample was then evaporated, desiccated, and then weighed to a constant weight.

The net weight of particulate was calculated from the two fractions (three fractions including the impinger contents, if required). Concentrations (gr/DSCF) and emissions (lb/hr) or other applicable units were then calculated and reported.

METHOD 2 STACK GAS VELOCITY AND VOLUMETRIC FLOWRATE

Average Stack Gas Velocity

$$P_g = \frac{\text{Static Pressure, "H}_2\text{O}"}{13.6}$$

$$P_s = P_{\text{bar}} + P_g$$

Eq. 2-6

$$V_s = K_p C_p (\sqrt{\Delta p}) \text{ avg } \sqrt{\frac{T_{s(\text{avg})}}{P_s M_s}}$$

Eq. 2-9

Average Stack Gas Dry Volumetric Flow Rate

$$Q_{\text{std}} = 60 (1 - D_{ws}) v_s A \left(\frac{T_{\text{std}}}{T_{s(\text{avg})}} \right) \left(\frac{P_s}{P_{\text{std}}} \right)$$

Eq. 2-10

$$\frac{Q_{\text{std}}}{\text{MF}} = \text{scfm}$$

METHOD 3 DRY MOLECULAR WEIGHT OF STACK GAS

$$M_d = 0.440 (\% \text{CO}_2) + 0.320 (\% \text{O}_2) + 0.280 (\% \text{N}_2 + \% \text{CO})$$

Eq. 3-2

Wet Molecular Weight of Stack Gas

$$M_s = M_d (1 - D_{ws}) + 18 (D_{ws})$$

METHOD 4. DETERMINATION OF MOISTURE CONTENT IN STACK GASES
(Use when a moisture train is run separately from other pollutant measurements.)

Volume of Water Vapor Condensed

$$V_{wc(std)} = \frac{(V_f - V_l) \rho_w R T_{(std)}}{P_{std} M_w} = K_1 (V_f - V_l) \quad \text{Eq. 4-1}$$

Where $K_1 = 0.04646 \text{ ft}^3/\text{ml} @ 520^\circ\text{R}$

Volume of Water Vapor Collected in Silica Gel

$$V_{wsg(std)} = \frac{(Y_f - W_l) R T_{std}}{P_{std} M_w (453.6 \text{ g/lb})} = K_2 (Y_f - W_l) \quad \text{Eq. 4-2}$$

Where $K_2 = 0.04651 \text{ ft}^3/\text{g} @ 520^\circ\text{R}$

Sample Gas Volume

$$V_{m(std)} = V_m Y \frac{(P_m) (T_{std})}{(P_{std}) (T_m)} = K_3 Y \frac{V_m P_m}{T_m} \quad \text{Eq. 4-3}$$

Where $K_3 = 17.38 \text{ }^\circ\text{R}/\ln \text{ Hg} @ 520^\circ\text{R}$

Moisture Content

$$B_{ws} = \frac{V_{wc(std)} + V_{wsg(stg)}}{V_{wc(std)} + V_{wsg(stg)} + V_{m(stg)}} \quad \text{Eq. 4-4}$$

$B_{ws} \times 100 = \% \text{H}_2\text{O in gas stream}$

$MF = 1 - B_{ws}$

METHOD 5 DETERMINATION OF PARTICULATE EMISSIONS FROM
STATIONARY SOURCES (Use in Method 5 and 8 combination
runs.)

Dry Gas Volume

$$V_{m(std)} = V_m Y \left(\frac{T_{std}}{T_m} \right) \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{P_{std}} \right] = K_1 V_m Y \left[\frac{P_{bar} + \left(\frac{\Delta H}{13.6} \right)}{T_m} \right] \quad \text{Eq. 5-1}$$

$$= K_1 = 17.38 \text{ } ^\circ\text{R}/\text{ln-Hg @ } 520^\circ\text{R}$$

*In case of leak rate beyond allowable limits, correct Eq. 5-1 as follows:

case 1. No component changes made during run.

$$V_m = V_m - (L_p - L_a) \Theta$$

case 2. One or more component changes made during run.

$$V_m = [V_m - (L_1 - L_a) \Theta - \sum_{i=2}^n (L_i - L_a) \Theta_i - (L_p - L_a) \Theta_p]$$

Volume of Water Vapor

$$V_{wc(std)} = V_{lc} \left(\frac{\rho_w}{M_w} \right) \left(\frac{RT_{std}}{P_{std}} \right) = K_2 V_{lc} \quad \text{Eq. 5-2}$$

Where $K_2 = 0.04646 \text{ ft}^3/\text{ml @ } 60^\circ\text{F}$

Moisture Content

$$B_{ws} = \frac{V_{wc(std)}}{V_{m(std)} + V_{wc(std)}} \quad \text{Eq. 5-3}$$

METHOD 5 Continued:

Acetone Blank Concentration

$$C_a = \frac{m_a}{V_{ab} f_a} \quad \text{Eq. 5-4}$$

Acetone Wash Blank

$$W_a = C_a V_{aw} f_a \quad \text{Eq. 5-5}$$

Particulate Concentration

$$C_s = (0.001 \text{ g/mg}) \left(\frac{m_n}{V_m(\text{std})} \right) (15.432) = \text{gr/dscf} \quad \text{Eq. 5-6}$$
$$\text{gr/dscf (MF)} = \text{gr/scf}$$

Corrected to 12% CO₂

$$\frac{\text{gr/dscf} \times 12}{\% \text{ CO}_2 (\text{dry})} = \text{gr/dscf @ 12\% CO}_2 = \text{gr/scf @ 12\% CO}_2$$

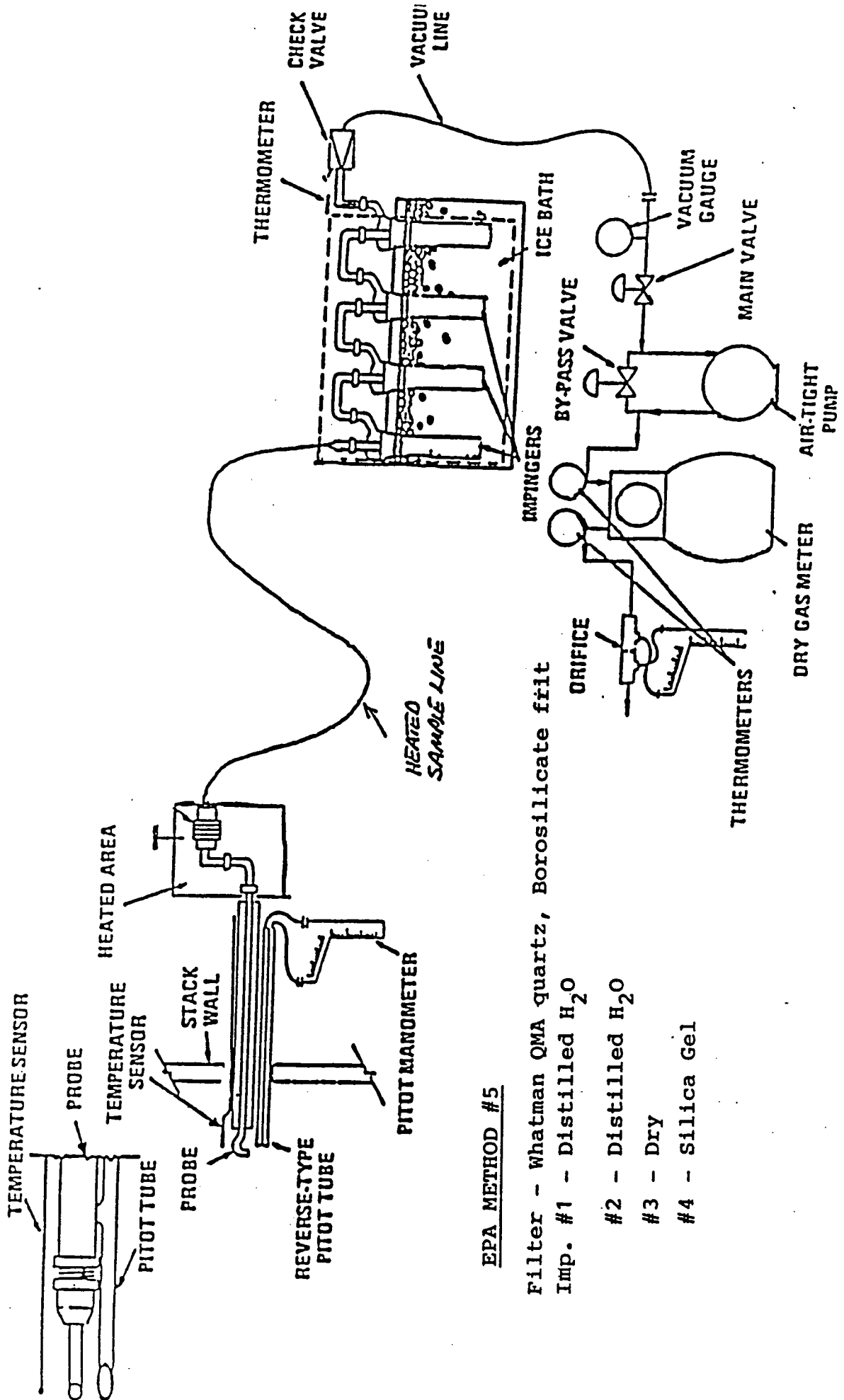
Isokinetic Variation

$$\% I = 100 \times \frac{T_s \left[\frac{V_{lc}}{K_3} + \frac{V_m/T_m}{60 \Theta A_n V_s P_s} \left(P_b + \frac{H}{13.6} \right) \right]}{60 \Theta A_n V_s P_s}$$

$$\text{Where } K_3 = 0.002669$$

Mass Emission Rate

$$\text{gr/dscf} \times \text{dscfm} \times 60\text{m/hr} \times 1 \text{ lb/7000 gr} = \text{lb/hr.}$$



EPA METHOD #5

Filter - Whatman QMA quartz, Borosilicate frit

Imp. #1 - Distilled H₂O

#2 - Distilled H₂O

#3 - Dry

#4 - Silica Gel

METHOD 5 - SAMPLING DIAGRAM

NOMECLATURE

A	=	Cross-sectional area of stack (ft^2)
A_n	=	Cross-sectional area of nozzle, (ft^2)
B_{ws}	=	Proportion of water vapor, by volume, in the gas stream
C_a	=	Acetone blank residue concentration, (mg/g)
C_p	=	Pitot tube coefficient, dimensionless
C_s	=	Concentration of particulate matter in stack gas, dry basis, corrected to standard conditions, (gr/dscf).
C_{SO_2}	=	Concentration of sulfur dioxide, dry basis corrected to standard conditions, (lb/dscf)
$C_{H_2SO_4}$	=	Sulfuric acid (including SO_3) concentration, corrected to standard conditions, (lb/dscf)
ΔH	=	Average pressure differential across the orifice meter, (in H_2O)
K_p	=	Pitot tube constant, $85.49 \frac{\text{ft} [(\text{lb/lb-mole})(\text{in Hg})]^{1/2}}{\text{Sec} [(\text{°R})(\text{in H}_2\text{O})]}$
L_p	=	Leakage rate observed during the post-test leak check, (cfm)
L_a	=	Maximum acceptable leakage rate, (0.02 cfm or 4% of average sampling rate, whichever is less)
L_i	=	Individual leakage rate observed during the leak check conducted prior to the " n_i^{th} " component change, (cfm)
m_a	=	Mass of residue of acetone after evaporation, mg.
M_d	=	Molecular weight of stack gas, dry basis, (lb/lb-mole)
m_n	=	Total weight of particulate matter collected, mg.
M_s	=	Molecular weight of stack gas, wet basis, (lb/lb-mole)
M_w	=	Molecular weight of water, 18 lb/lb-mole
N	=	Normality of barium perchlorate titrant, (milliequivalents/ml)
ΔP	=	Velocity head of stack gas, (in H_2O)
P_{bar}	=	Barometric pressure at measurement site (in Hg)
P_g	=	Stack static pressure, (in Hg)
P_m	=	Absolute pressure at the dry gas meter
P_s	=	Absolute stack gas pressure, (in Hg)
P_{std}	=	Standard absolute pressure, 29.92 in Hg
Q_{std}	=	Dry volumetric stack gas flow rate, standard conditions, (dscfm)
R	=	Ideal gas constant, 21.85 (in Hg) (ft^3)/(lb-mole)(°R)
t_s	=	Stack temperature, (°F)
T_m	=	Absolute temperature at meter, (°R)
T_{std}	=	Standard absolute temperature, (520°R)

T_s	=	Absolute stack temperature, ($460^\circ + t_s$)
V_a	=	Volume of sample aliquot titrated, (ml)
V_{ab}	=	Volume of acetone blank, ml
V_m	=	Dry gas volume measured by dry gas meter, (dcf)
$V_{m(std)}$	=	Dry gas volume measured by dry gas meter, corrected to standard conditions, (dscf)
$V_{wc(std)}$	=	Volume of water vapor condensed corrected to standard conditions, (scf)
$V_{wsg(std)}$	=	Volume of water vapor collected in silica gel corrected to standard conditions (scf)
V_{lc}	=	Volume of water vapor condensed in Impingers and silica gel, (ml)
V_f	=	Final volume of condensed water, ml
V_i	=	Initial volume of condensed water, ml
v_s	=	Average stack gas velocity, (ft/sec)
V_{soln}	=	Total volume of solution in which the sulfur dioxide sample is contained (ml)
V_t	=	Volume of barium perchlorate titrant used for the sample, (ml)
V_{tb}	=	Volume of barium perchlorate titrant used for the blank, (ml)
W_f	=	Final weight of silica gel or silica gel plus Impinger, (g)
W_i	=	Initial weight of silica gel or silica gel plus Impinger, (g)
Y	=	Dry gas meter calibration factor
ρ_w	=	Density of water, (0.002202 lb/ml @ $60^\circ F$)
ρ_a	=	Density of acetone, (g/ml)(see bottle label)
MF	=	Moisture factor
%CO ₂	=	Percent CO ₂ by volume (dry basis)
%O ₂	=	Percent O ₂ by volume (dry basis)
%CO	=	Percent CO by volume (dry basis)
%N ₂	=	Percent N ₂ by volume (dry basis)

0.264	=	Ratio of O_2 to N_2 in air v/v
0.280	=	Molecular weight of N_2 or CO, divided by 100
0.320	=	Molecular weight of O_2 , divided by 100
0.440	=	Molecular weight of CO_2 , divided by 100
60	=	Conversion factor, (sec/min)
18.0	=	Molecular weight of water, (lb/lb-mole)
32.03	=	Equivalent weight of sulfur dioxide
0	=	Total sampling time (min)
O_i	=	Sampling time interval, between two successive component changes, beginning with the interval between the first and second changes, (min)
O_1	=	Sampling time interval, from the run beginning until first component change, (min)
O_p	=	Sampling time interval, from the final (n^{th}) component change until the end of the sampling run, (min)

METHOD 429 PAH

METHOD 429 SAMPLING:

The sampling apparatus is the same as that which is described for EPA Method #5 and consisted of a quartz nozzle, heat traced quartz probe, borosilicate filter holder with a teflon-coated screen filter support, a teflon filter to condenser line, XAD-2 resin trap and four modified Greenburg Smith impingers containing 100 ml DI H₂O, 100 ml DI H₂O dry and silica gel.

Prior to the testing all sampling equipment was cleaned with successive rinses of soapy water, tap water, chromic acid, distilled water, methanol toluene, and methylene chloride. All sample containers were pre-cleaned by rinsing with methanol toluene and methylene chloride. Soapy water, tap, chromic acid, distilled water, methanol, toluene, methylene chloride.

The sample train was charged, a pre-cleaned Whatman QMA Quartz fiber filter was placed into the filter holder and the probe/nozzle/filter was put together and all sampling equipment was sealed with hexane rinsed foil and transported to the stack for assembly.

The sampling equipment was assembled and leak tested at 10 inches Hg vacuum. The probe and filter components were heated to 250 + or - 25 degrees F. The probe was inserted into the stack and isokinetic sampling was initiated as per EPA Method #5.

Triplicate test runs were performed. All lasting 180 minutes.

Upon completion of a test the probe was withdrawn from the stack and leak tested at a vacuum equal to or greater than the maximum vacuum observed during the test. The equipment was then disassembled and the components were then sealed with aluminum hexane rinsed foil and transported to the mobile laboratory for sample recovery.

A field blank was similarly treated: charged, transported to the stack, leak tested, disassembled, and transported to the mobile laboratory for sample recovery. No additional gases were pulled through the field blank train.

METHOD 429 SAMPLE RECOVERY:

The filter and nozzle were separated from the probe. The probe was tilted and brushed three successive times while rinsing with methylene toluene and methylene chloride and rotating. Sterile surgical gloves were used during this process. All rinses were caught in an amber glass sample bottle. The nozzle, and filter top half were then similarly cleaned and the rinsings were combined with the probe wash. The filter was removed from the filter holder with teflon coated forceps, folded and wrapped in hexane rinsed foil, placed into a petri dish and sealed with teflon tape.

The first, second and third impingers were disassembled, weighed, and their contents transferred to an amber sample bottle. The impingers cross overs and filter bottom half were rinsed three times with methanol toluene and methylene chloride, and the rinses were combined with the impingate sample.

Aliquots of the reagents grade chemicals and filters were recovered for analysis as reagent blanks. All samples were sealed, fluid levels marked, labeled and logged on a chain of custody form. Upon completion of the test they were transported to the laboratory for analysis.

CARB METHOD 430: FORMALDEHYDE

The sampling apparatus consisted of a heated stainless steel probe, followed by three midget impingers containing 15 ml of acidified DNPH in the first two and silica gel in the third. The impinger train was connected to a vacuum pump/rotometer/dry gas meter assembly. Prior to the test the impingers were cleaned with chromic acid, distilled water, methylene chloride, methanol, and oven dried. The impinger bottoms were sent to the analytical laboratory for charging. The impinger bottoms were charged, capped and returned to PCES for sampling within a 48 hour period of making the DNPH solution.

CARB METHOD 430: SAMPLING:

The charged impinger bottoms were stored in a friction top can with 1-2 inches of activated charcoal and shipped to the sample location. The impingers were uncapped, the impinger tops added and then the sampling train was assembled. The train was transported to the stack, and leak tested by closing the teflon stopcock at the first impinger while applying the vacuum to the system. The stopcock was then opened and sampling proceeded at a sample rate of 1.01pm. (.035 ft/min). Upon completion of the test the train was leak tested again, and a 5 ml distilled water probe wash was performed and allowed to drain into the first impinger. The train was then disconnected from the probe and lowered down to the mobile laboratory the impinger tops were removed, impingers capped and sealed with teflon tape labeled, and placed back into the friction top can with activated charcoal. The samples were then shipped back to the analytical laboratory for extraction and analysis of formaldehyde by CARB Method 430, HPLC.

A field blank was similarly treated but, instead of sampling stack gas zero grade nitrogen was flushed through the impingers. A 5 ml distilled water aliquot was added to the first impinger to represent a probe wash. A sample spike was performed by the analytical laboratory and that impinger was transported to the sample location where it remained for the duration of a test run. The sample spike was then sent back to the analytical laboratory along with the other samples for analysis.

METHOD 422A: BENZENE

METHOD 422A SAMPLING:

The sampling apparatus consisted of a heat traced stainless steel probe, teflon sample line, midget impinger moisture knockout, twenty liter tedlar bag housed in a rigid air tight container. The container was connected to a vacuum pump/rotometer/dry gas meter assembly.

The sampling apparatus was transported to the sample site and set up and leak tested by observing a zero reading on the rotometer. The sample probe/teflon line was purged with stack gas and the teflon stopcock of the midget impinger was open to initiate sampling. Sampling was conducted over a one hour period, a final leak test was performed and the bag was recovered from the sample container. The contents of the impinger and distilled water rinsings were recovered into a villi vial and the vial was completely filled.

The samples were stored out of sunlight, packaged and sent to the analytical laboratory for analysis of Benzene by EPA Method T014.

A bag blank (zero grade nitrogen) and distilled water were included with each sample set.

A sample spike was included with each sample set.

BAAQMD METHOD ST-16: PHENOLIC COMPOUNDS

METHOD ST-16 SAMPLING:

The sampling apparatus is the same as that which is described for EPA Method #5 and consisted of a quartz nozzle, heat traced quartz probe, borosilicate filter holder with a teflon-coated screen filter support, a teflon filter to impinger line and four modified Greenburg Smith impingers containing 100 ml 0.1N NaOH, 100 ml NaOH, dry and silica gel.

Prior to the testing all sampling equipment was cleaned with successive rinses of soapy water, tap water, 6N HNO₃ soak, distilled H₂O, and 0.1N NaOH. All sample containers were pre-cleaned by rinsing with 6N HNO₃ rinse, distilled H₂O and 0.1N NaOH.

The sample train was charged, a Whatman QMA Quartz fiber filter was placed into the filter holder and the probe/nozzle/filter was put together and all sampling equipment was sealed and transported to the stack for assembly.

The sampling equipment was assembled and leak tested at 10 inches Hg vacuum. The probe and filter components were heated to 250 + or - 25 degrees F. The probe was inserted into the stack and isokinetic sampling was initiated as per EPA Method #5.

Upon completion of a test the probe was withdrawn from the stack and leak tested at a vacuum equal to or greater than the maximum vacuum observed during the test. The equipment was then disassembled the filter to impinger line was rinsed with a known amount of 0.1N NaOH into the first impinger, and the components were then sealed with aluminum foil and transported to the mobile laboratory for sample recovery.

A field blank was similarly treated: charged, transported to the stack, leak tested, disassembled, and transported to the mobile laboratory for sample recovery. No additional gases were pulled through the field blank train.

METHOD ST-16 SAMPLE RECOVERY:

The filter and nozzle were separated from the probe. The probe was tilted and brushed three successive times while rinsing with 0.1N NaOH and rotating. Sterile surgical gloves were used during this process. All rinses were caught in an amber glass sample bottle. The nozzle, and filter top half were then similarly cleaned and the rinsings were combined with the probe wash. The filter was removed from the filter holder with teflon coated forceps, folded and placed into a petri dish.

The first, second and third impingers were disassembled, weighed, and their contents transferred to an amber sample bottle. The impingers cross overs and filter bottom half were rinsed three times with 0.1N NaOH, and the rinses were combined with the impingate sample.

Aliquots of the reagents grade chemicals and filters were recovered for analysis as reagent blanks. All samples were sealed, fluid levels marked, labeled and logged on a chain of custody form. Upon completion of the test they were transported to the laboratory for analysis.

METHOD ST-16 SAMPLE ANALYSIS:

The filter was digested and combined with the probe wash and impingate contents. The sample was then analyzed for phenolic compounds by gas chromatography.

The reagent blanks were similarly analyzed and an in-house spike was performed with a similar sample matrix, percent recoveries are reported.

METHOD 436: MULTIMETALS
Cr, Cd, As, Ni, Mn, Be, Cu, Zn, Pb, Se, P, Ti, Ag, Sb, Ba, Hg

METHOD 436 SAMPLING:

The sampling apparatus is the same as that which is described for EPA Method #5 and consisted of a quartz nozzle, heat traced quartz probe, borosilicate filter holder with a teflon-coated screen filter support, a teflon filter to impinger line and six modified Greenburg Smith impingers containing 100 ml 5% HNO₃, 10% H₂O₂, 100 ml 5% HNO₃, 10% H₂O₂ dry, 100 ml Acidified KMnO₄, 100 ml Acidified KMnO₄ dry and silica gel.

Prior to the testing all sampling equipment was cleaned with successive rinses of soapy water, tap water, 6N HNO₃ soak, and distilled H₂O. All sample containers were pre-cleaned by rinsing with 6N HNO₃ rinse and distilled H₂O.

The sample train was charged, a Whatman QMA Quartz fiber filter was placed into the filter holder and the probe/nozzle/ filter was put together and all sampling equipment was sealed and transported to the stack for assembly.

The sampling equipment was assembled and leak tested at 10 inches Hg vacuum. The probe and filter components were heated to 250 + or - 25 degrees F. The probe was inserted into the stack and isokinetic sampling was initiated as per EPA Method #5.

Upon completion of a test the probe was withdrawn from the stack and leak tested at a vacuum equal to or greater than the maximum vacuum observed during the test. The equipment was then disassembled the filter to impinger line was rinsed with a known amount of 0.1N HNO₃ into the first impinger, and the components were then sealed with aluminum foil and transported to the mobile laboratory for sample recovery.

A field blank was similarly treated: charged, transported to the stack, leak tested, disassembled, and transported to the mobile laboratory for sample recovery. No additional gases were pulled through the field blank train.

METHOD 436 SAMPLE RECOVERY:

The filter and nozzle were separated from the probe. The probe was tilted and brushed three successive times while rinsing with Acetone and rotating. Sterile surgical gloves were used during this process. All rinses were caught in an amber glass sample bottle. The nozzle and filter top half were then similarly cleaned and the rinsings were combined with the probe wash. The afore mentioned procedure was repeated with 0.1N HNO₃ and placed into a second rinse jar. The filter was removed from the filter holder with teflon coated forceps, folded and placed into a petri dish.

The first, second and third impingers were disassembled, weighed, and their contents transferred to an amber sample bottle. The impingers and cross overs were rinsed three times with 0.1N HNO₃, and the rinses were combined with the impingate sample.

The forth and fifth impingers were disassembled, weighted, and their contents transferred to amber sample bottles. The impingers were then rinsed three times with Acidified KMnO₄, 8N HCL, and combined with impingate sample.

Aliquots of the reagents grade chemicals and filters were recovered for analysis as reagent blanks. All samples were sealed, fluid levels marked, labeled and logged on a chain of custody form. Upon completion of the test they were transported to the laboratory for analysis.

METHOD 436 SAMPLE ANALYSIS:

For each test five samples are generated for analysis. Method 436 protocol details the analysis of metals using cold vapor atomic absorption, inductively coupled Argon plasma emission spectroscopy (ICAP), and Graphite furnace atomic absorption (GFAAS).

The reagent blanks were similarly analyzed and an in-house spike was performed with a similar sample matrix, percent recoveries are reported.

METHOD 424: CADMIUM (Cd)

METHOD 424 SAMPLING:

The sampling apparatus is the same as that which is described for EPA Method #5 and consisted of a quartz nozzle, heat traced quartz probe, borosilicate filter holder with a teflon-coated screen filter support, a teflon filter to impinger line and four modified Greenburg Smith impingers containing 100 ml 0.1N HNO₃, 100 ml 0.1N HNO₃ dry and silica gel.

Prior to the testing all sampling equipment was cleaned with successive rinses of soapy water, tap water, 6N HNO₃ soak, and distilled H₂O. All sample containers were pre-cleaned by rinsing with 6N HNO₃ rinse and distilled H₂O.

The sample train was charged, a Whatman QMA Quartz fiber filter was placed into the filter holder and the probe/nozzle/filter was put together and all sampling equipment was sealed and transported to the stack for assembly.

The sampling equipment was assembled and leak tested at 10 inches Hg vacuum. The probe and filter components were heated to 250 + or - 25 degrees F. The probe was inserted into the stack and isokinetic sampling was initiated as per EPA Method #5.

Upon completion of a test the probe was withdrawn from the stack and leak tested at a vacuum equal to or greater than the maximum vacuum observed during the test. The equipment was then disassembled the filter to impinger line was rinsed with a known amount of 0.1N HNO₃ into the first impinger, and the components were then sealed with aluminum foil and transported to the mobile laboratory for sample recovery.

A field blank was similarly treated: charged, transported to the stack, leak tested, disassembled, and transported to the mobile laboratory for sample recovery. No additional gases were pulled through the field blank train.

METHOD 424 SAMPLE RECOVERY:

The filter and nozzle were separated from the probe. The probe was tilted and brushed three successive times while rinsing with 0.1N HNO₃ and rotating. Sterile surgical gloves were used during this process. All rinses were caught in an amber glass sample bottle. The nozzle, and filter top half were then similarly cleaned and the rinsings were combined with the probe wash. The filter was removed from the filter holder with teflon coated forceps, folded and placed into a petri dish.

The first, second and third impingers were disassembled, weighed, and their contents transferred to an amber sample bottle. The impingers cross overs and filter bottom half were rinsed three times with 0.1N HNO₃, and the rinses were combined with the impingate sample.

Aliquots of the reagents grade chemicals and filters were recovered for analysis as reagent blanks. All samples were sealed, fluid levels marked, labeled and logged on a chain of custody form. Upon completion of the test they were transported to the laboratory for analysis.

METHOD 424 SAMPLE ANALYSIS:

The P/N and impingate was combined and analyzed by spectro photometer. The filter was analyzed separately by the afore mentioned method.

The reagent blanks were similarly analyzed and an in-house spike was performed with a similar sample matrix, percent recoveries are reported.

METHOD 425: HEXAVALENT CHROMIUM (Cr+6)
AND TOTAL CHROMIUM (Cr)

METHOD 425 SAMPLING:

The sampling apparatus is the same as that which is described for EPA Method #5 and consisted of a quartz nozzle, heat traced quartz probe, borosilicate filter holder with a teflon-coated screen filter support, a teflon filter to impinger line and four modified Greenburg Smith impingers containing 100 ml DI distilled H₂O, 100 ml DI distilled H₂O, dry and silica gel.

Prior to the testing all sampling equipment was cleaned with successive rinses of soapy water, tap water, 6N HNO₃ soak, and distilled H₂O. All sample containers were pre-cleaned by rinsing with 6N HNO₃ rinse and distilled H₂O.

The sample train was charged, a teflon coated glass fiber filter was placed into the filter holder and the probe/nozzle/filter was put together and all sampling equipment was sealed and transported to the stack for assembly.

The sampling equipment was assembled and leak tested at 10 inches Hg vacuum. The probe and filter components were heated to 250 + or - 25 degrees F. The probe was inserted into the stack and isokinetic sampling was initiated as per EPA Method #5.

Upon completion of a test the probe was withdrawn from the stack and leak tested at a vacuum equal to or greater than the maximum vacuum observed during the test. The equipment was then disassembled the filter to impinger line was rinsed with a known amount of DI Distilled H₂O into the first impinger, and the components were then sealed with aluminum foil and transported to the mobile laboratory for sample recovery.

A field blank was similarly treated: charged, transported to the stack, leak tested, disassembled, and transported to the mobile laboratory for sample recovery. No additional gases were pulled through the field blank train.

METHOD 425 SAMPLE RECOVERY:

The filter and nozzle were separated from the probe. The probe was tilted and brushed three successive times while rinsing with DI Distilled H₂O and rotating. Sterile surgical gloves were used during this process. All rinses were caught in an amber glass sample bottle. The nozzle and filter top half were then similarly cleaned and the rinsings were combined with the probe wash. The filter was removed from the filter holder with teflon coated forceps, folded and placed into a petri dish.

The first, second and third impingers were disassembled, weighed, and their contents transferred to an amber sample bottle. The impingers cross overs and filter bottom half were rinsed three times with DI Distilled H₂O, and the rinses were combined with the impingate sample.

Aliquots of the reagents grade chemicals and filters were recovered for analysis as reagent blanks. All samples were sealed, fluid levels marked, labeled and logged on a chain of custody form. Upon completion of the test they were transported to the laboratory for analysis.

METHOD 425 SAMPLE ANALYSIS:

The probe/nozzle rinse was analyzed separately. The filter was digested and combined with the probe wash and impingate contents. A portion of the sample was analyzed for Hexavalent Chromium by the Diphenylcarbazide calorimetric method. The remainder of the sample was analyzed for total Chromium by atomic absorption.

The reagent blanks were similarly analyzed and an in-house spike was performed with a similar sample matrix, percent recoveries are reported.

METHOD 421: HYDROCHLORIC ACID (HCL)

METHOD 421 SAMPLING:

The sampling apparatus is the same as that which is described for EPA Method #5 and consisted of a quartz nozzle, heat traced quartz probe, borosilicate filter holder with a teflon-coated screen filter support, a teflon filter to impinger line and four modified Greenburg Smith impingers containing 100 ml sodium bicarbonate/sodium carbonate solution, 100 ml sodium bicarbonate/sodium carbonate solution, dry and silica gel.

Prior to the testing all sampling equipment was cleaned with successive rinses of soapy water, tap water, and distilled H₂O. All sample containers were pre-cleaned by rinsing with sodium bicarbonate/sodium carbonate solution rinse and distilled H₂O.

The sample train was charged, a Whatman QMA Quartz fiber filter was placed into the filter holder and the probe/nozzle/filter was put together and all sampling equipment was sealed and transported to the stack for assembly.

The sampling equipment was assembled and leak tested at 10 inches Hg vacuum. The probe and filter components were heated to 250 + or - 25 degrees F. The probe was inserted into the stack and isokinetic sampling was initiated as per EPA Method #5.

Upon completion of a test the probe was withdrawn from the stack and leak tested at a vacuum equal to or greater than the maximum vacuum observed during the test. The equipment was then disassembled the filter to impinger line was rinsed with a known amount of sodium bicarbonate/sodium carbonate solution into the first impinger, and the components were then sealed with aluminum foil and transported to the mobile laboratory for sample recovery.

A field blank was similarly treated: charged, transported to the stack, leak tested, disassembled, and transported to the mobile laboratory for sample recovery. No additional gases were pulled through the field blank train.

METHOD 421 SAMPLE RECOVERY:

The filter and nozzle were separated from the probe. The probe was tilted and brushed three successive times while rinsing with sodium bicarbonate/sodium carbonate solution and rotated. Sterile surgical gloves were used during this process. All rinsings were caught in an amber glass sample bottle. The nozzle and filter half were then similarly cleaned and the rinsings were combined. The probe was then washed. The filter was removed from the filter holder with forceps, folded and placed into a petri dish. The probe was then washed.

The first, second and third impingers were disassembled, weighed, and their contents transferred to an amber sample bottle. The impingers were rinsed with sodium bicarbonate/sodium carbonate solution, and the rinsings were combined with the impingate sample.

Aliquots of the reagents grade chemicals and fluids were recovered for analysis as reagent blanks. All samples were labeled. Upon completion of the test they were transported to the laboratory for analysis.

METHOD 421 SAMPL ANALYSIS:

The filter was dried and combined with the probe wash and impingate contents. The filter was analyzed for Chloride by ion chromatography conductivity det.

The reagent blank similarly analyzed and an in-house spike was performed with a sample matrix, percent recoveries are reported.

METHOD 428 DATA

COMPANY: PACIFIC ENERGY
 DATE: 7-31 & 8-1-90
 UNIT: SALINAS LANDFILL
 REPORT #: 90-233

METHOD 429
 FIELD DATA @ 60'

SITE:

	OUTLET		
DATE:	7-31-90	8-1-90	8-1-90
RUN #:	1	2	3
TIME:	826	753	1250

Vm (dry gas sampled).....	122.5	132.25	132.1
Y (meter calib. factor).....	0.991696	0.991696	0.991696
P bar (Barometric pressure).....	29.8	29.84	29.85
P static (stack pressure, " H2O).....	7.5	7.5	7.5
Delta H (differential meter press, " H2O)....	1.08	1.09	1.09
Tm (meter temperature, R').....	538	539	542
Vol H2O mls	242.8	262.6	252.9
Vm(std),dscf	117.26	126.53	125.73
Vm(std),dscm	3.32	3.58	3.56
Bws-H2O vapor	0.0878	0.0879	0.0855
MF-moisture factor	0.9122	0.9121	0.9145
% CO2	7.1	7.1	7.1
% O2	12.3	12.3	12.3
% N2	80.6	80.6	80.6
Md-MW stk gas,dry	29.63	29.63	29.63
Ms-MW stk gas,wet	28.61	28.61	28.64
Cp-pitot tube	0.84	0.84	0.84
Avg sq rt $\hat{p}$	1.578	1.694	1.691
T stack, R'.....	1119	1115	1126
Stack area,ft2	2.07	2.07	2.07
Vs-fps	128.64	137.76	138.09
Qstd-dscfm	6870	7393	7360
Area noz,ft2	1.97E-04	1.97E-04	1.97E-04
Sample time	180	180	180
% Isokinetic	99.7	100	99.8

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 7-31-90

Summary of Results for PAH Emissions

CARB Method 429; Run-1

Pollutant	ug/train	Vm std	DSCFM	gr/DSCF	lb/hr
Naphthalene					
Total	15	117.26	6870	1.97E-06	1.16E-04
Acenaphthylene					
Total	0.31	117.26	6870	4.07E-08	2.40E-06
Acenaphthene					
Total	0.26	117.26	6870	3.41E-08	2.01E-06
Fluorene					
Total	0.44	117.26	6870	5.78E-08	3.41E-06
Phenanthrene					
Total	1.5	117.26	6870	1.97E-07	1.16E-05
Anthracene					
Total	0.2	117.26	6870	2.63E-08	1.55E-06
Fluoranthene					
Total	0.4	117.26	6870	5.25E-08	3.10E-06
Pyrene					
Total	0.64	117.26	6870	8.41E-08	4.95E-06
Benzo(a)anthracene					
Total	0.2	117.26	6870	2.63E-08	1.55E-06
Chrysene					
Total	0.46	117.26	6870	6.04E-08	3.56E-06
Benzo(b)fluoranthene					
Total	0.26	117.26	6870	3.41E-08	2.01E-06
Benzo(k)fluoranthene					
Total	0.21	117.26	6870	2.76E-08	1.63E-06
Benzo(a)pyrene					
Total	0.12	117.26	6870	1.58E-08	9.29E-07
Dibenz(a,h)anthracene					
Total	0.11	117.26	6870	1.44E-08	8.52E-07
Benzo(g,h,i)perylene					
Total	0.094	117.26	6870	1.23E-08	7.28E-07
Indeno(1,2,3-cd)pyrene					
Total	0.094	117.26	6870	1.23E-08	7.28E-07

* Values reported are lower detection limit

CLIENT: PACIFIC ENERGY
UNIT: SALINAS LANDFILL MEP ENGINE
REPORT #:90-233
DATE: 8-1-90

Summary of Results for PAH Emissions

CARB Method 429; Run-2

Pollutant	ug/train	Va std	DSCFM	gr/DSCF	lb/hr
Naphthalene					
Total	17	126.53	7393	2.07E-06	1.31E-04
Acenaphthylene					
Total	0.49	126.53	7393	5.96E-08	3.78E-06
Acenaphthene					
Total	0.24	126.53	7393	2.92E-08	1.85E-06
Fluorene					
Total	0.54	126.53	7393	6.57E-08	4.17E-06
Phenanthrene					
Total	2.5	126.53	7393	3.04E-07	1.93E-05
Anthracene					
Total	0.17	126.53	7393	2.07E-08	1.31E-06
Fluoranthene					
Total	0.4	126.53	7393	4.87E-08	3.09E-06
Pyrene					
Total	0.53	126.53	7393	6.45E-08	4.09E-06
Benzo(a)anthracene					
Total	0.22	126.53	7393	*	2.68E-08 1.70E-06
Chrysene					
Total	0.32	126.53	7393	*	3.89E-08 2.47E-06
Benzo(b)fluoranthene					
Total	0.32	126.53	7393	*	3.89E-08 2.47E-06
Benzo(k)fluoranthene					
Total	0.31	126.53	7393	*	3.77E-08 2.39E-06
Benzo(a)pyrene					
Total	0.19	126.53	7393	*	2.31E-08 1.47E-06
Dibenz(a,h)anthracene					
Total	0.13	126.53	7393	*	1.58E-08 1.00E-06
Benzo(g,h,i)perylene					
Total	0.093	126.53	7393	*	1.13E-08 7.18E-07
Indeno(1,2,3-cd)pyrene					
Total	0.093	126.53	7393	*	1.13E-08 7.18E-07

* Values reported are lower detection limit

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 8-1-90

Summary of Results for PAH Emissions

CARB Method 429; Run-3

Pollutant -----	ug/train -----	Vm std -----	DSCFM -----	gr/DSCF -----	lb/hr -----
Naphthalene Total	14	125.73	7360	1.71E-06	1.08E-04
Acenaphthylene Total	0.29	125.73	7360	3.55E-08	2.24E-06
Acenaphthene Total	0.26	125.73	7360	3.18E-08	2.01E-06
Fluorene Total	0.48	125.73	7360	5.88E-08	3.71E-06
Phenanthrene Total	1.5	125.73	7360	1.84E-07	1.16E-05
Anthracene Total	0.058	125.73	7360	*	7.10E-09 4.49E-07
Fluoranthene Total	0.56	125.73	7360		6.86E-08 4.33E-06
Pyrene Total	0.46	125.73	7360		5.63E-08 3.56E-06
Benzo(a)anthracene Total	0.17	125.73	7360	*	2.08E-08 1.31E-06
Chrysene Total	0.53	125.73	7360		6.49E-08 4.10E-06
Benzo(b)fluoranthene Total	0.37	125.73	7360	*	4.53E-08 2.86E-06
Benzo(k)fluoranthene Total	0.35	125.73	7360	*	4.29E-08 2.71E-06
Benzo(a)pyrene Total	0.17	125.73	7360	*	2.08E-08 1.31E-06
Dibenz(a,h)anthracene Total	0.11	125.73	7360	*	1.35E-08 8.51E-07
Benzo(g,h,i)perylene Total	0.09	125.73	7360	*	1.10E-08 6.96E-07
Indeno(1,2,3-cd)pyrene Total	0.09	125.73	7360	*	1.10E-08 6.96E-07

* Values reported are lower detection limit

COMPANY: Pacific Energy
 REPORT #:
 UNIT ID: Salinas ICE
 DATE: 7-30-90, et al.

FAH Mc-1. 429

ON-SITE DATA

SITE: Salinas

RUN #:

TIME:

7-31-90	8-1-90	8-1-90
#1	#2	#3
8:26	7:53	12:50

Vm Dry sampled gas volume, dcf
 Y Meter calibration factor (met# 1002).....
 P bar Barometric pressure, in Hg.....
 P static Stack static pressure, in H₂.....
 Delta H Differential meter pressure, in H₂O.....
 Tm Meter temperature, deg F.....

122.5	132.25	132.1
.991696	.991696	.991696
29.80	29.84	29.85
7.5	7.5	7.5
1.08	1.09	1.09
78	79	82

Contents	7-31 Run 1			8-1 Run 2			Run 3		
	final	tare	net	final	tare	net	final	tare	net
H ₂ O	798.2	580.6	217.6	814.7	578.5	236.2	819.0	586.0	233.0
H ₂ O	585.8	585.3	.5	586.6	583.8	2.8	589.6	585.3	4.3
K.O.	488.9	488.7	.2	489.3	488.6	.7	487.7	486.5	1.2
Silica	817.1	792.6	24.5	784.5	761.6	22.9	878.6	864.2	14.4
/ Ic, volume of H ₂ O, grams			242.8				262.6	252.9	

CO₂ % Dry Volume.....
 O₂ % Dry Volume.....
 N₂ % Dry Volume.....
 Cp Pitot tube coefficient (Pit#)
 Delta P Avg Delta-P, in H₂O.....
 Ts Stack temperature, in deg F.....
 As Stack area, sq. ft.....
 Ds Stack Diameter, inches.....
 Dn Nozzle diameter, inches.....
 Dur Sampling time, min.....
 % Iso Mini Iso.....

#1	#2	#3
7.1	7.1	7.1
12.3	12.5	12.3
80.6	80.6	80.6
.84	.84	.84
2.49	2.87	2.86
659	655	666
2.07	2.07	2.07
19.5	19.5	19.5
.190	.190	.190
180	180	180
100.16	99.96	100.17

Filter #.....
 Filter tare weights, grams.....

BLANK

INITIALS**

CONTROL BOX#:

Hi Δ P _____ Lo Δ P _____ Ave Δ P _____
 Diameters before disturb _____ After _____

of Points, total _____

Overall (inches) _____ Coupling _____

P/N	MeOH	TOI	MeCl ₂	SL/CON	TOI	MeCl ₂	Duct Temp.
6A9	21.4, 52.5	20.1, 23.9	43.1, 27.4 + 57				
31.0	22.8, 19.4	17.5, 15.1	28.8, 25.6 + 7.8				
17.6	20.0, 48.4	19.0, 21.9	25.6, 20.0 + 6.2				
6.83167	54.6, 50.3	18.9, 30.5	45.6, 23.5 + 7				
19.3, 23.6	30.1, 40.7	11.1, 26.5	22.1, 22.1 + 4.4				
16.2, 21.6	35.0, 9.1	12.1, 50.6	28.4, 20.7 + 7.7				
MeOH	42.2	47.1	33.2	56.1			
TOI	15.1	23.1	12.0	26.3			
MeCl ₂	32.6	28.7	27.1	23.4			

- 60 -

PA-1-2

FIELD DATA

For. Serv.

Report #:

2	10	2
---	----	---

11

-6-11/T

18

1-1-10

2. 1000-1000

∴ 505

X

Fact

©

1

File No.:

1-

Journal of Management Education

Post Test Leak Chk.

Ambient Temp:

Barometric Pressure: _____

400

Leak Rate: .509 cfm

Static Pressure. (in Ha):

Vacuum: 2,0 (in Hg)

Assumed Moisture %: $\sqrt{0}$

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.-(in):

Diam. (in): 10

Probe Liner Material: *5vac-2*

11005

Filter Number: _____

Filter Number:

Duct Diam. (in): 19.5

19.5

-61-

FIELD DATA

Report #:

Salinas

511/75

File - 1 -

— 3 —

b7, c9

No.: 100

② Con:

No.:

Post Test Leak Chk.

Leak Rate: cfm

Vacuum: _____ (in Ha)

Ambient Temp:

Barometric Pressure: 29.85

Static Pressure, (in Hg): 29.5

Assumed Moisture %: 10

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): .17

Probe Liner Material: 2 ucu 111

Filter Number:

Duct Diam. (in): 1 1/4, 1 1/2

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔP_s) (in)H ₂ O	Pressure Differential across Orifice Meter Δh (in H ₂ O)	Gas Sample Volume (ft³)	Gas Sample Temp. at dry Gas Meter (°F)		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
							inlet	outlet		
6	17:50	7.0	676	3.0	.746	591.22	79	79		43.8
7	13:01.5		674	2.9	.734	555.60	80	78		44.2
6	13:12.5	7.0	673	3.0	.749	563.90	83	78		46.8
5	13:13.5		676	3.0	.750	572.33	84	80		51.4
4	13:35	6.5	656	2.9	.741	580.76	81	79		55.2
3	13:46.5		631	2.8	.735	589.10	80	78		44.6
2	13:53.5	6.5	630	2.7	.723	597.41	81	79		44.2
1	14:08.5		630	2.7	.723	605.52	81	79		45.2
	14:10					613.60				
Total							avg.	avg.		
Average							avg.	avg.		

MAIL 429. 944 FIELD DATA

Client: WAC. P. A. & S. V. Report #: _____

Location: 6100

Operator: 300 / 111

Operator: 11/17/1997
Date: 11-17-97

Bun No: 2000

Exhibit No. 5 (continued)
 Dumps No. 1

Pump No.:	100
Meter Box	100

Motor A-H @: 5.2
 Meter Box No.: 100%
 Factor: ---

Meter ΔH @: 2511

Post Test Leak Chk.

Leak Rate: 0/0 cfm

Vacuum: $\frac{8.0}{100}$ (in Ha)

Ambient Temp:

Barometric Pressure: 29.95

Static Pressure, (in Hg): 30.4

Assumed Moisture %: 12

Nozzle Ident. No.: 1

Aver. Calib. Nozzle: Diam (in): 14

Probe Liner Material: 304 SS

Filter Number:

Duct Diam. (in): 10 c

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (4Ps) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O) ΔH	Gas Sample Volyme (ft ³)	Gas Sample Temp. at dry inlet Gas Meter (°F)	Gas Sample outlet (°F)	Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
8	14:29	7.0	671	3.3	.787	613.60	82	80		51.4
7	14:40.15		682	3.2	.779	622.47	88	85		48.6
6	14:51.50	7.0	676	3.2	.774	631.20	83	80		43.2
5	15:02.75		678	2.9	.738	639.91	84	82		74.2
4	15:14	6.5	676	2.6	.696	648.20	85	80		47.2
3	15:25.25		676	2.6	.702	656.00	86	85		51.8
2	15:36.50	6.5	674	2.5	.688	663.90	84	84		
1	15:47.75		674	2.5	.688	671.62	84	84		
	5:59					679.31				
		$\bar{x} =$	666	2.86				82		
					$\Delta H = 1.09$					
					$ISO = 100.17$					
					$vel = 140.18$					
Total							avg.	avg.		
Average							avg.	avg.		



September 29, 1990
Lab ID: 054326

RECEIVED OCT 4 1990

James Markesini
Petro Chem Environmental Services Inc.
3207 Antonino Ave.
Bakersfield, CA 93388

Dear Mr. Markesini:

Enclosed is the report for the five sample trains for your Pacific Energy Salinas Landfill Ice Project #62-233, which were received at Enseco-Cal Lab on 15 August 1990.

The report consists of the following sections:

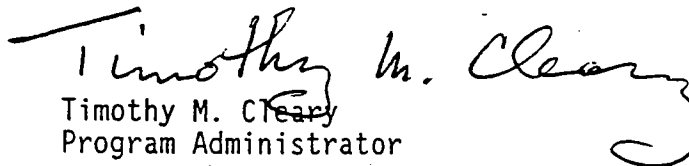
- I Sample Description
- II Analysis Request
- III Quality Control Report
- IV Analysis Results

Samples 54326-1, 2, & 3 required dilutions because of a matrix interference.

Sample 54326-5 was not analyzed per C.O.C. instructions. An additional resin trap (#94) was received but not listed on the C.O.C., no analysis was performed on this trap.

If you have any questions, please feel free to call.

Sincerely,


Timothy M. Cleary
Program Administrator

du

Enseco Incorporated
2544 Industrial Boulevard
West Sacramento, California 95691
916 372-1595 Fax: 916 372-7768

RECEIVED OCT 4 1990

I Sample Description

See the attached Sample Description Information.

The samples were received under chain-of-custody.

RECEIVED OCT 4 1990

II Analysis Request

The following analytical test was requested.

<u>Lab ID</u>	<u>Analysis Description</u>
054326-1 thru 4	Polynuclear Aromatic Hydrocarbons

III Quality Control

- A. Project Specific QC. No project specific QC (i.e., spikes and/or duplicates) was requested.
- B. Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

No target parameters were detected in the method blank associated with your samples at the reporting limit levels noted on the attached Method Blank Report.

IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis; i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheets.

RECEIVED OCT 4 1990

SAMPLE DESCRIPTION INFORMATION
for
Petro Chem Environmental Services Inc.

Lab ID	Client ID	Matrix	Sampled Date . Time	Received Date
054326-0001-SA	35,38,36,90,37	GAS	31 JUL 90	15 AUG 90
054326-0002-SA	39,42,40,91,41	GAS	01 AUG 90	15 AUG 90
054326-0003-SA	45,48,46,92,47	GAS	02 AUG 90	15 AUG 90
054326-0004-SA	49,52,50,93,51	GAS	30 JUL 90	15 AUG 90
054326-0005-SA	55,56,57,58,59	GAS	01 AUG 90	15 AUG 90

Polynuclear Aromatic Hydrocarbons, SIM

EPA 8270/SIM

RECEIVED OCT 4 1990

Client Name: Petro Chem Environmental Services Inc.

Client ID: Method Blank

Lab ID: 054326-MB

Matrix: GAS

Authorized: NA

Enseco ID: NA

Sampled: NA

Prepared: 27 AUG 90

Received: NA

Analyzed: 21 SEP 90

Parameter	Result	Wet wt. Units	Reporting Limit
Naphthalene	0.50	ug/train	--
Acenaphthylene	ND	ug/train	0.0430
Acenaphthene	ND	ug/train	0.0330
Fluorene	ND	ug/train	0.0087
Phenanthrene	0.10	ug/train	--
Anthracene	ND	ug/train	0.0028
Fluoranthene	ND	ug/train	0.0081
Pyrene	ND	ug/train	0.0084
Benzo(a)anthracene	ND	ug/train	0.0022
Chrysene	ND	ug/train	0.0029
Benzo(b)fluoranthene	ND	ug/train	0.0072
Benzo(k)fluoranthene	ND	ug/train	0.0130
Benzo(a)pyrene	ND	ug/train	0.0170
Dibenz(a,h)anthracene	ND	ug/train	0.0050
Benzo(g,h,i)perylene	ND	ug/train	0.0035
Indeno(1,2,3-cd)pyrene	ND	ug/train	0.0035
Naphthalene-d8	ND	%	--
Acenaphthylene-d8	2	%	--
Acenaphthene-d10	2	%	--
Fluorene-d10	11	%	--
Phenanthrene-d10	27	%	--
Anthracene-d10	24	%	--
Fluoranthene	27	%	--
Pyrene-d10	25	%	--
Benzo(a)anthracene-d12	24	%	--
Chrysene-d12	23	%	--
Benzo(b)fluorathene-d12	18	%	--
Benzo(k)fluorathene-d12	18	%	--
Benzo(a)pyrene-d12	17	%	--
Benzo(g,h,i)perylene-d12	27	%	--
Dibenzo(a,h)anthracene-d14	28	%	--

ND=Not Detected

NA=Not Applicable

Reported by: Andre Algazi

Approved by: Steve Rogers

The cover letter is an integral part of this report.

Rev 280987

Polynuclear Aromatic Hydrocarbons, SIM

EPA 8270/SIM

Client Name: Petro Chem Environmental Services Inc.

Client ID: 45,48,46,92,47

Lab ID: 054326-0003-SA

Matrix: GAS

Authorized: 17 AUG 90

Enseco ID: 161559

Sampled: 02 AUG 90

Prepared: 27 AUG 90

RE

Received:
Analyzed:

Parameter	Result	Wet wt. Units	Report Limit
Naphthalene	14	ug/train	--
Acenaphthylene	0.29	ug/train	--
Acenaphthene	0.26	ug/train	--
Fluorene	0.48	ug/train	--
Phenanthrene	1.5	ug/train	--
Anthracene	ND	ug/train	0.
Fluoranthene	0.56	ug/train	--
Pyrene	0.46	ug/train	--
Benzo(a)anthracene	ND	ug/train	0.
Chrysene	0.53	ug/train	--
Benzo(b)fluoranthene	ND	ug/train	0.3
Benzo(k)fluoranthene	ND	ug/train	0.3
Benzo(a)pyrene	ND	ug/train	0.1
Dibenz(a,h)anthracene	ND	ug/train	0.1
Benzo(g,h,i)perylene	ND	ug/train	0.0
Indeno(1,2,3-cd)pyrene	ND	ug/train	0.0
Biphenyl-d10	NA	%	--
Naphthalene-d8	145	%	--
Acenaphthylene-d8	58	%	--
Acenaphthene-d10	60	%	--
Fluorene-d10	49	%	--
Phenanthrene-d10	24	%	--
Anthracene-d10	25	%	--
Fluoranthene-d10	29	%	--
Pyrene-d10	31	%	--
Benzo(a)anthracene-d12	17	%	--
Chrysene-d12	15	%	--
Benzo(b)fluoranthene-d12	16	%	--
Benzo(k)fluoranthene-d12	13	%	--
Benzo(a)pyrene-d12	14	%	--
Benzo(g,h,i)perylene-d12	31	%	--
Dibenzo(a,h)anthracene-d14	32	%	--

ND = Not detected
NA = Not applicable

Reported By: Andre Algazi

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Polynuclear Aromatic Hydrocarbons, SIM



EPA 8270/SIM

RECEIVED OCT 4 1990

Client Name: Petro Chem Environmental Services Inc.

Client ID: 49,52,50,93,51

Lab ID: 054326-0004-SA

Matrix: GAS

Authorized: 17 AUG 90

Enseco ID: 161560

Sampled: 30 JUL 90

Prepared: 27 AUG 90

Received: 15 AUG 90

Analyzed: 21 SEP 90

Parameter	Result	Wet wt. Units	Reporting Limit
Naphthalene	6.7	ug/train	--
Acenaphthylene	ND	ug/train	0.0060
Acenaphthene	0.050	ug/train	--
Fluorene	0.080	ug/train	--
Phenanthrene	0.13	ug/train	--
Anthracene	ND	ug/train	0.0081
Fluoranthene	0.030	ug/train	--
Pyrene	0.030	ug/train	--
Benzo(a)anthracene	ND	ug/train	0.0076
Chrysene	ND	ug/train	0.0084
Benzo(b)fluoranthene	ND	ug/train	0.0066
Benzo(k)fluoranthene	ND	ug/train	0.0064
Benzo(a)pyrene	ND	ug/train	0.0066
Dibenz(a,h)anthracene	ND	ug/train	0.0064
Benzo(g,h,i)perylene	ND	ug/train	0.010
Indeno(1,2,3-cd)pyrene	ND	ug/train	0.0089
Biphenyl-d10	NA	%	--
Naphthalene-d8	24	%	--
Acenaphthylene-d8	21	%	--
Acenaphthene-d10	19	%	--
Fluorene-d10	16	%	--
Phenanthrene-d10	12	%	--
Anthracene-d10	12	%	--
Fluoranthene-d10	18	%	--
Pyrene-d10	17	%	--
Benzo(a)anthracene-d12	13	%	--
Chrysene-d12	12	%	--
Benzo(b)fluoranthene-d12	14	%	--
Benzo(k)fluoranthene-d12	12	%	--
Benzo(a)pyrene-d12	14	%	--
Benzo(g,h,i)perylene-d12	32	%	--
Dibenzo(a,h)anthracene-d14	37	%	--

ND = Not detected

NA = Not applicable

Reported By: Andre Algazi

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787



PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

ME-2420: PAH

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY
SALINAS LANDFILL
IOE

JOB NO.

62-233

SAMPLED BY:

JEM

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS.	ANALYSIS REQUIRED
				liq.	filter	gas		
35	PACIFIC ENERGY SALINAS PAH METHOD 429 P/N-1	7-31-90		✓			1	Composite? analyze for PAH - method 429 Front half & back half
38	FILTER-1				✓		1	
36	SL/CON-1			✓			1	
30	RESIN TRAP-1				✓		1	
37	IMP-1			✓			1	
39	PACIFIC ENERGY SALINAS PAH METHOD 429 P/N-2	8-1-90		✓			1	" "
42	FILTER-2				✓		1	
40	SL/CON-2			✓			1	
11	RESIN TRAP-2				✓		1	
1	IMP-2			✓			1	

REMARKS:

RELINQUISHED BY:

DATE

RECEIVED BY:

DATE

Scott E. [Signature]

8-3-90

[Signature]

8/3/90

RELINQUISHED BY:

DATE

RECEIVED BY:

DATE

[Signature]

7/1/90

[Signature]

RELINQUISHED BY:

DATE

RECEIVED BY:

DATE

[Signature]

DATE

[Signature]

RECEIVED BY:

DATE

8/15/90 11:00



PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY, JOB NO. SAMPLED BY: JEM
SALINAS LANDFILL-ICE 62-233

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS	ANALYSIS REQUIRED
				liq.	filter	gas		
5	PACIFIC ENERGY SALINAS PAH METHOD 429 P/N-3	8-2-90		✓			1	Conduct & analysis for PAH
8	FILTER-3				✓		1	
6	SL/CON-3			✓			1	
12	RESIN TRAP-3				✓		1	
7	IMP-3			✓				
9	PACIFIC ENERGY SALINAS PAH METHOD 429 P/N-4	7-30-90		✓			1	" "
2	FILTER-4				✓		1	
10	SL/CON-4			✓			1	
13	RESIN TRAP-4				✓		1	
1	IMP-4			✓			1	

REMARKS:

INQUIRED BY:	DATE	RECEIVED BY:	DATE
<i>James E. Hartman</i>	8-3-90	<i>Tom L. Smith</i>	8/3/90
INQUIRED BY:	DATE	RECEIVED BY:	DATE
<i>Tom L. Smith</i>	7/13/90		
INQUIRED BY:	DATE	RECEIVED BY:	DATE
		<i>W. Scott Smith</i>	8/15/90
INQUIRED BY:	DATE	RECEIVED BY:	DATE
			11:00



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

PAH
method 429

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY JOB NO.
SALINAS LANDFILL ICE (233)

SAMPLED BY:
Jem, ~~3011~~

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS	ANALYSIS REQUIRED
				liq.	filter	gas		
55	PACIFIC ENERGY SALINAS METH 429 PAH H ₂ O BLANK	8-1-90		✓			2	HOLD DO NOT ANALYZE
56	PACIFIC ENERGY SALINAS METH 429 PAH TOLUENE BLANK	8-1-90		✓			2	
57	PACIFIC ENERGY SALINAS METH 429 PAH. MECL ₂ BLANK	8-1-90		✓			2	
58	PACIFIC ENERGY SALINAS METH 429 PAH MEOH BLANK	8-1-90		✓			2	
59	PACIFIC ENERGY SALINAS METH 429 PAH FILTER BLANK	8-3-90			✓		1	
Received one GRSW trap #94 NOT LISTED ON CCC.								

REMARKS:

RELINQUISHED BY: James E. Markham DATE 8-6-95

FORGOTTEN BY: *Jack B. [illegible]* DATE *8/13/90*
8/14/90

RELINQUISHED BY:	DATE
RELINQUISHED BY:	DATE

RECEIVED BY: Fayth Blyth DATE 8/6/90

RECEIVED BY: _____ DATE _____

RECEIVED BY: _____ DATE _____
[Signature] 8/15/90 11:00
 RECEIVED BY: _____ DATE _____

7/24/90

1 6 1 8 1

Reference No:
P.O. Number:
Customer ID:

817

Petrochem

Order Date: 7.19.90
Due Date: 7.25.90 WED

Type & No. of Traps: 5 XAD PUF VOST Filter

Sample History

XAD Resin Batch No.: T551 from Supelco
PUF Sandwiche with XAD resin: yes / no
PUF Screen Required: yes / no

Fortification: XAD: yes / no PUF: yes / no Spiking Date: _____
Spiking Sln ID: (0) BS4-89-2 1000 µL (D) _____
Nominal Conc.: (0) 50 ng/µL 7/24/90 (D) _____ ng/µL

Nature & Amount of Surrogates:

37C14-2,3,7,8-TCDD _____ ng
13C12-2,3,4,7,8-PeCDF _____ ng
13C12-1,2,3,4,7,8-HxCDF _____ ng
13C12-1,2,3,4,7,8-HxCDD _____ ng
13C12-1,2,3,4,7,8,9-HpCDF _____ ng / µg
Other: _____ ng / µg

JOINT PROJECT
yes / no

OBSERVER: J. R. Spike w/ 50µg terphenyl-d¹⁴

Analysis Requisition

Selections circled by JRM
Date: 8-6-90

MM5 Front Half (separate): yes / no
MM5 Back Half (separate): yes / no
MM5 Front & Back Halves Pooled: yes / no

yes / no
yes / no
yes / no

VOST Tandem: yes / no
VOST Separate: yes / no
PUF & Filter Pooled: y/n

PCDD / PCDF

C1 1 -- C1 8: yes / no
C1 3 -- C1 8: yes / no
C1 4 -- C1 8: yes / no
2378TCDF Conf.: yes / no
TE Factor: yes / no

ORGANICS

HSL: yes / no
PAH: yes / no
PAHH: yes / no
PCB: yes / no
PCBH: yes / no

OTHERS

DO NOT ANALYZE
REAGENT BLANKS
TOLD 55-59 94

Shipping Information

Ph: (805) 327-7300

Fax: _____

Special Requirements: Chain-of-Custody Seal: yes / no
Chain-of-Custody Form: yes / no

Mail to the attention of: Tim Brennan by 7/25/90 (date)

Mailing Address: Petrochem Environmental Services
(street address) 3207 Antero Avenue Bakersfield, CA 93388
Air Bill No.: _____

Special Instructions: Spike w/ 50µg (micrograms) of terphenyl-d¹⁴

Job: Salinas Landfill Test

1 6 2 1 4

TRIANGLE LABORATORIES, INC.
XAD PUF VOST
TRAPS PREPARATION WORK ORDER FORMShipped
7/28/90

Reference No: _____

P.O. Number: _____

Customer ID: _____

817
Petrochem

Order Date: _____

Due Date: _____

7.26.90

7.30.90

Type & No. of Traps: _____ XAD _____ PUF _____ VOST _____ 5 Filters

Sample History

XAD Resin Batch No.: _____ from _____
PUF ► Sandwiche d with XAD resin: yes / no
PUF ► Screen Required: yes / noFortification: XAD: yes / no PUF: yes / no Spiking Date: _____
Spiking Sln ID: (O) _____ μ L (D) _____ μ L
Nominal Conc.: (O) _____ ng/ μ L (D) _____ ng/ μ LNature & Amount of Surrogates: 37C14-2,3,7,8-TCDD _____ ng
13C12-2,3,4,7,8-PeCDF _____ ng
13C12-1,2,3,4,7,8-HxCDF _____ ng
13C12-1,2,3,4,7,8-HxCDD _____ ng
13C12-1,2,3,4,7,8,9-HpCDF _____ ng
Other: _____ ng / μ g
_____ ng / μ g

OBSERVER: _____ Soxhlet filters 16hrs in toluene

Analysis Requisition

Selections circled by _____
Date: 8.R. _____MM5 Front Half (separate): yes / no VOST Tandem: yes / no
MM5 Back Half (separate): yes / no VOST Separate: yes / no
MM5 Front & Back Halves Pooled: yes / no PUF & Filter Pooled: y/n

PCDD / PCDF

ORGANICS

OTHERS

C1 1 -- C1 8: yes / no HSL: yes / no
C1 3 -- C1 8: yes / no PAH: yes / no
C1 4 -- C1 8: yes / no PAHH: yes / no
2378TCDF Conf.: yes / no PCB: yes / no
TE Factor: yes / no PCBH: yes / no

Shipping Information

Ph: _____ Fax: _____

Special Requirements: Chain-of-Custody Seal: yes / no
Chain-of-Custody Form: yes / no

Mail to the attention of: Jim Marchisni by 7/30/90 (date)

Mailing Address: Pacific Energy
(street address) Salinas Facility 250 Crazy Horse Road
Air Bill No.: Salinas, CA 92307

Fed Ex 1250-1749-5

Special Instructions:

Job Salinas Landfill Test
Job = 62-233

PLEASE RETURN THIS FORM WITH THE SAMPLES AFTER THE SAMPLING SECTION

METHOD 430 DATA

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL
 REPORT #:90-233

METHOD 430
 FIELD DATA @ 60'

SITE:

OUTLET

	RUN #:	1	2	3
	TIME:	1010	1123	1238

Vm (dry gas sampled).....		2.11	2.19	2.23
Y (meter calib. factor).....		0.982493	0.982493	0.982493
P bar (Barometric pressure).....		29.83	29.83	29.83
P static (stack pressure, " H2O).....		7.3	7.3	7.3
Delta H (differential meter press, " H2O)....		0	0	0
Tm (meter temperature, R').....		528	530	534

Vm(std),dscf		2.04	2.1	2.13
Vm(std),dscm		0.058	0.059	0.060
Sample time		60	60	60

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233

Method 430
 Formaldehyde Results

Test Run	#1	#2	#3	average
Time	1010	1123	1238	
Formaldehyde ug/l	90625	71875	33333.33	
Sample vol, l	0.032	0.032	0.03	
Formaldehyde, ug	2900	2300	1000	
Vm std DSCF	2.04	2.1	2.13	
Vm std DSCM	0.058	0.059	0.06	
Volume Flow, DSCFM 1/	7315	7315	7315	

Concentrations :

ug/dscf	1422	1095	469	995
ug/dscm	50000	38983	16667	35217
ppm	37.48	28.88	12.38	26.24

Emissions :

lb/hr	1.2570	0.9685	0.4151	0.8802
-------	--------	--------	--------	--------

1/ see Method 421 field data

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233

Method 430
 Acrolein Results

Test Run	#1	#2	#3	average
Time	1010	1123	1238	
Acrolein ,ug/l	62.5	187.5	166.67	
Sample vol, l	0.032	0.032	0.03	
Acrolein ,ug	2	6	5	
Vm std DSCF	2.04	2.1	2.13	
Vm std DSCM	0.058	0.059	0.06	
Volume Flow, DSCFM 1/	7315	7315	7315	

Concentrations :

ug/dscf	1	3	2	2
ug/dscm	34	102	83	73
ppm	0.014	0.040	0.033	0.029

Emissions :

lb/hr	0.0005	0.0014	0.0011	0.0010
-------	--------	--------	--------	--------

1/ see Method 421 field data

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233

Method 430
 Acetaldehyde Results

Test Run	#1	#2	#3	average
Time	1010	1123	1238	
Acetaldehyde,ug/l	406.25	2593.75	4333.33	
Sample vol, l	0.032	0.032	0.03	
Acetaldehyde,ug	13	83	130	
Vm std DSCF	2.04	2.1	2.13	
Vm std DSCM	0.058	0.059	0.06	
Volume Flow, DSCFM 1/	7315	7315	7315	

Concentrations :

ug/dscf	6	40	61	36
ug/dscm	224	1407	2167	1266
ppm	0.115	0.710	1.097	0.641

Emissions :

lb/hr	0.0038	0.0238	0.0368	0.0215
-------	--------	--------	--------	--------

1/ see Method 421 field data

Client: Pharm Education Report #: _____
 Location: Simulas Inc
 Operator: Jim IDN DMD
 Date: 8-2-93
 Rim No: 3
 Pump No.: Pump 1041
 Meter Box No.: Dm-1 Factor: _____
 Meter A H @: _____
 Pilot Tube No.: 31 formal probe

Ambient Temp:

Leak Rate: 2.00 c/m
Vacuum: 5 (in Hg)

POST TEST LEAK CHECK
RATE LOW CPM
Volume 5 TALL

Ambient Temp:

Barometric Pressure

Static Pressure.

Assumed Moisture

Nozzle Ident. N

Aver. Calib. No.

Probe Liner Material: CALID. NO

Filter Number:

Filter Number:
Duct Diam (in)

[illegible]

FIELD DATA

NOT TUBE NO.: turne Page 2.

Vacuum: 3 (in Hg)

DATE _____ Sweet corn

Volume 5 (5N+6)

Order Number: _____

[illegible]

Client: PHILADELPHIA Report #: _____
Location: SALINAS TGS
Operator: Jim, BDM, JIMIN
Date: 8-2-90
Run No: 1
Pump Flo.: 1 - Pump meter
Meter Box Flo.: PM-1 Factor: _____
Meter All @: 0
Pilot Tube No.: 3' - FORMAL PRZE

Leak Rate: 2.02 cfm
Vacuum: 5 (in Hg)

POST OFFICE: US AIR FORCE
Civilian

~.04 cm

Ambient Temp:

Barometric Pressure: 29.83

Static Pressure, (in Hg): $+1.3$

Assumed Moisture %: 10%

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): $\frac{1}{4}$

Probe Liner Material: SS/TFE/UV

Filter Number:

Duct Diam. (in): 19.5

[illegible]

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 08/02/90
Received: 08/06/90
Tested: 08/26-30/90
Collected by: J. Marchesini

Attn: James Marchesini
Petro Chem Environmental
3207 Antonino Ave.
Bakersfield, CA 93308

Sample Description:

Job #233, Pacific Energy, Salinas
Landfill Ice, Impingates as Listed

REPORT

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND		
		ACETALDEHYDE ug	ACROLEIN ug	FORMALDEHYDE ug
METHOD-----		CARB 430	CARB 430	CARB 430
DETECTION LIMIT(PQL)**-----		2.	2.	2.
ANALYST-----		DF	DF	DF
G-2896-1	Samples #1 & 2, Run-1 Volume = 32 ml	13.	<2.	2900.
G-2896-2	Samples #3 & 4, Run-2 Volume = 32 ml	83.	6.	2300.
G-2896-3	Samples #5 & 6, Run-3 Volume = 30 ml	130.	5.	1000.
G-2896-4	Samples #7 & 8, Run-4 Volume = 58 ml	<2.	<2.	<2.
G-2896-6	DNPH Reagent SPIKED AT FOUND W/SPIKE PERCENT RECOVERY	----	----	14. 15. 107.
G-2896-7	Field Blank	<2.	<2.	<2.

**Practical Quantitation Limit

09/05/90
G2896F.WR1/FORM1
MH/ss

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES

Mary Havlicek
Mary Havlicek, Ph.D., President

CHAIN OF CUSTODY RECORD
METHOD 430
FORMALDEHYDE

PROJECT: PACIFIC ENERGY
SALINAS LANDFILL ICE

JOB NO. 233 SAMPLED BY: JEN

SG 2896 10-5

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE	NO. CONTRS.	ANALYSIS REQUIRED
1	PACIFIC ENERGY SALINAS LANDFILL ICE RUN-1	8-2-90		liq. filter gas	1	Composite and Analyze for 1) Formaldehyde
2	RUN-1				1	2) Acetaldehyde
3	RUN-2				1	3) Acrolein BY HPLC
4	RUN-2				1	" "
5	RUN-3				1	" "
6	RUN-3				1	" "
7	RUN-4				1	" "
8	RUN-4				1	" "
9	DNPH BLANK				1	Analyze for ug/liter BY HPLC
10	DNPH BLANK				1	X-TRA DO NOT ANALYZE
11	SPIKE				1	Analyze for total Formaldehyde by HPLC

COMMENTS: #10 sample a back-up for container #9 if Breakage occurs
* #10 sample a back-up for container #9 if Breakage occurs

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
James E. Marchesini	8-3-90	Yasuo Blyth	8/3/90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
		Sealed intact	8/6/90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
			1200
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE

METHOD 422 DATA

COMPANY: PACIFIC ENERGY
DATE: 8-2-90
UNIT: SALINAS LANDFILL
REPORT #:90-233

METHOD 422
FIELD DATA @ 60'

SITE: OUTLET

	RUN #:	1	2	3
	TIME:	1300	1410	1515

Vm (dry gas sampled).....		0.6	0.6	0.6
Y (meter calib. factor).....		1.019675	1.019675	1.019675
P bar (Barometric pressure).....		29.85	29.85	29.85
P static (stack pressure, " H2O).....		0	0	0
Delta H (differential meter press, " H2O)....		0	0	0
Tm (meter temperature, R').....		535	534	535

Vm(std),dscf		0.59	0.59	0.59
Vm(std),dscm		0.017	0.017	0.017
Sample time		60	60	60

Client : PACIFIC ENERGY
 Site : SALINAS LANDFILL MEP ENGINE
 Date : 8-2-90
 Report : 90-233

CARB 422 RUN #1
 Light Molecular Weight Hydrocarbons, GCMS

Compound -----	ppb -----	TOTAL lb/hr *
Acetone	140.0	9.39E-03
Acrylonitrile	1.0	8.33E-05 *
Benzene	120.0	1.08E-02
2-Butanone, MEK	13.0	1.08E-03
Bromodichloromethane	0.1	1.88E-05 *
Carbon Disulfide	0.2	1.76E-05 *
Carbontetrachloride	0.1	1.78E-05 *
Chlorobenzene	1.1	1.43E-04
Chloroethane	11.0	8.21E-04
Chloroform	0.1	1.38E-05 *
Chloromethane	49.0	2.86E-03
Chloropicrin	0.2	3.80E-05 *
Dibromochloromethane	0.1	2.41E-05 *
1,2-Dibromoethane	1.0	2.01E-04 *
1,4-Dichlorobenzene	0.2	3.40E-05 *
1,1-Dichloroethane	59.0	6.76E-03
1,2-Dichloroethane	0.1	1.14E-05 *
1,1-Dichloroethene	3.2	3.59E-04
Dichloromethane	50000.0	4.92E+00
1,2-Dichloropropane	0.1	1.31E-05 *
1,4-Dioxane	1.0	1.02E-04 *
Ethylbenzene	20.0	2.45E-03
2-Hexanone	0.1	1.16E-05 *
Hydrogen Sulfide	490.0	1.93E-02
4-Methyl-2-Pentanone, MIBK	0.1	1.16E-05 *
Styrene	1.5	1.58E-04
Tetrachloroethene, PCE	10.0	1.92E-03
Toluene	210.0	2.23E-02
1,1,1-Trichloroethane, TCA	5.0	7.72E-04
1,1,2-Trichloroethane	0.1	1.54E-05 *
Trichloroethene, TCE	0.1	1.52E-05 *
Trichlorotrifluoroethane,	1.4	3.04E-04
Trichlorofluoromethane	4.4	7.00E-04
Vinyl Chloride	68.0	4.92E-03
Xylenes	53.0	6.50E-03

*= less than the detection limit

DSCFM = 7315 see Method 421 data

Client : PACIFIC ENERGY
 Site : SALINAS LANDFILL MEP ENGINE
 Date : 8-2-90
 Report : 90-233

CARB 422 RUN #2
 Light Molecular Weight Hydrocarbons, GCMS

Compound -----	ppb -----	TOTAL lb/hr * -----
Acetone	58.0	3.89E-03
Acrylonitrile	1.0	8.33E-05 *
Benzene	83.0	7.49E-03
2-Butanone, MEK	7.5	6.25E-04
Bromodichloromethane	0.1	1.88E-05 *
Carbon Disulfide	0.2	1.76E-05 *
Carbontetrachloride	0.1	1.78E-05 *
Chlorobenzene	1.0	1.30E-04
Chloroethane	7.0	5.22E-04
Chloroform	0.1	1.38E-05 *
Chloromethane	31.0	1.81E-03
Chloropicrin	0.2	3.80E-05 *
Dibromochloromethane	0.1	2.41E-05 *
1,2-Dibromoethane	1.0	2.01E-04 *
1,4-Dichlorobenzene	0.2	3.40E-05 *
1,1-Dichloroethane	34.0	3.89E-03
1,2-Dichloroethane	0.1	1.14E-05 *
1,1-Dichloroethene	1.9	2.13E-04
Dichloromethane	1900.0	1.87E-01
1,2-Dichloropropane	1.5	1.96E-04
1,4-Dioxane	1.0	1.02E-04 *
Ethylbenzene	23.0	2.82E-03
2-Hexanone	0.1	1.16E-05 *
Hydrogen Sulfide	510.0	2.01E-02
4-Methyl-2-Pentanone, MIBK	0.1	1.16E-05 *
Styrene	2.8	2.95E-04
Tetrachloroethene, PCE	8.9	1.71E-03
Toluene	160.0	1.70E-02
1,1,1-Trichloroethane, TCA	3.0	4.63E-04
1,1,2-Trichloroethane	0.1	1.54E-05 *
Trichloroethene, TCE	0.1	1.52E-05 *
Trichlorotrifluoroethane,	0.2	4.34E-05 *
Trichlorofluoromethane	2.8	4.45E-04
Vinyl Chloride	43.0	3.11E-03
Xylenes	80.0	9.81E-03

* = less than the detection limit

DSCFM = 7315 see Method 421 data

Client : PACIFIC ENERGY
 Site : SALINAS LANDFILL MEP ENGINE
 Date : 8-2-90
 Report : 90-233

CARB 422 RUN #3
 Light Molecular Weight Hydrocarbons, GCMS

Compound -----	ppb -----	TOTAL lb/hr * -----
Acetone	19.0	1.27E-03
Acrylonitrile	1.0	8.33E-05 *
Benzene	95.0	8.57E-03
2-Butanone, MEK	4.4	3.66E-04
Bromodichloromethane	1.4	2.64E-04
Carbon Disulfide	5.3	4.66E-04
Carbontetrachloride	0.1	1.78E-05 *
Chlorobenzene	1.1	1.43E-04
Chloroethane	7.6	5.67E-04
Chloroform	0.1	1.38E-05 *
Chloromethane	34.0	1.99E-03
Chloropicrin	0.2	3.80E-05 *
Dibromochloromethane	0.1	2.41E-05 *
1,2-Dibromoethane	1.0	2.01E-04 *
1,4-Dichlorobenzene	0.2	3.40E-05 *
1,1-Dichloroethane	41.0	4.69E-03
1,2-Dichloroethane	0.1	1.14E-05 *
1,1-Dichloroethene	2.1	2.36E-04
Dichloromethane	1300.0	1.28E-01
1,2-Dichloropropane	2.4	3.14E-04
1,4-Dioxane	1.0	1.02E-04 *
Ethylbenzene	32.0	3.92E-03
2-Hexanone	0.1	1.16E-05 *
Hydrogen Sulfide	290.0	1.14E-02
4-Methyl-2-Pentanone, MIBK	0.1	1.16E-05 *
Styrene	4.3	4.53E-04
Tetrachloroethene, PCE	12.0	2.30E-03
Toluene	200.0	2.13E-02
1,1,1-Trichloroethane, TCA	2.9	4.48E-04
1,1,2-Trichloroethane	0.1	1.54E-05 *
Trichloroethene, TCE	12.0	1.82E-03
Trichlorotrifluoroethane, f	0.2	4.34E-05 *
Trichlorofluoromethane	3.3	5.25E-04
Vinyl Chloride	47.0	3.40E-03
Xylenes	120.0	1.47E-02

*= less than the detection limit

DSCFM = 7315 see Method 421 data

Report #:

Client: Simon Kvarnby

Post Test Leak Chk.

Ambient Temp:

Barometric Pressure: 79.45

Static Pressure, (in Hg): _____

Assumed Moisture %:

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): $\frac{1}{8}$

Probe Liner Material: SS / HFE-7000

Filter Number: 33/17500

Duct Diam. (in): 195

[illegible]

**Coast-to-Coast
Analytical
Services**

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-1
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA, 93308

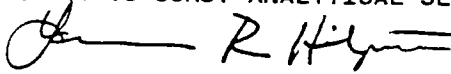
GC/MS AMBIENT AIR ANALYSIS EPA TO-14
Sample Description:
Pacific Energy/Salinas Ice,
Landfill Ice, Bag #1, Air

HAZARDOUS SUBSTANCE LIST

Compound Analyzed	(CAS RN)	Detection Limit		Concentration	
		ppbv	ug/cu M	ppbv	
✓ Acetone	(67641)	1.0	370.	140.	
✓ Benzene	(71432)	0.1	430.	120.	
✓ Bromodichloromethane	(75274)	0.1	not found	not found	
✓ Bromomethane	(74839)	0.2	not found	not found	
✓ Bromoform	(75252)	0.1	not found	not found	
✓ 2-Butanone (MEK)	(78933)	0.1	41.	13.	
✓ Carbon Disulfide	(75150)	0.2	not found	not found	
✓ Carbon Tetrachloride	(56235)	0.1	not found	not found	
✓ Chlorobenzene	(108907)	0.1	5.3	1.1	
✓ Chloroethane	(75003)	0.1	32.	11.	
✓ 2-Chloroethylvinyl Ether	(110758)	1.0	not found	not found	
✓ Chloroform	(67663)	0.1	not found	not found	
✓ Chloromethane	(107302)	0.1	110.	49.	
✓ Dibromochloromethane	(124481)	0.1	not found	not found	
✓ 1,1-Dichloroethane	(75343)	0.1	260.	59.	
✓ 1,2-Dichloroethane	(107062)	0.1	not found	not found	
✓ 1,1-Dichloroethene	(75354)	0.1	14.	3.2	
✓ c-1,2-Dichloroethene	(156605)	0.1	not found	not found	
✓ t-1,2-Dichloroethene	(156605)	0.1	not found	not found	
✓ Dichloromethane	(75092)	1.0	190000.	50000.	
✓ 1,2-Dichloropropane	(78875)	0.1	not found	not found	
✓ cis-1,3-Dichloropropene	(10061015)	0.1	not found	not found	
✓ trans-1,3-Dichloropropene	(10061026)	0.1	not found	not found	
✓ Ethylbenzene	(100414)	0.2	96.	20.	
✓ 2-Hexanone	(591786)	0.1	not found	not found	
✓ 4-Methyl-2-Pentanone (MIBK)	(624839)	0.1	not found	not found	
✓ Styrene	(100425)	0.2	7.1	1.5	
✓ 1,1,2,2-Tetrachloroethane	(79345)	0.2	not found	not found	
✓ Tetrachloroethene (PCE)	(127184)	0.2	74.	10.	
✓ Toluene	(108883)	0.2	850.	210.	
✓ 1,1,1-Trichloroethane (TCA)	(71556)	0.1	30.	5.0	
✓ 1,1,2-Trichloroethane	(79005)	0.1	not found	not found	
✓ Trichloroethene (TCE)	(79016)	0.1	not found	not found	
✓ Trichlorofluoromethane (F11)	(75694)	0.2	27.	4.4	
✓ Trichlorotrifluoroethane	(76131)	0.2	12.	1.4	
✓ Vinyl Acetate	(108054)	1.0	not found	not found	
✓ Vinyl Chloride	(75014)	0.1	190.	68.	
✓ Xylenes	(1330207)	0.2	250.	53.	

Percent Recovery of Sample-Specific Quality Assurance Spike is: 90.

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

MSD#1
08/21/90
G2861-1.wr1/HSL#12
LRH/tz/gd/co

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-2
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA, 93308

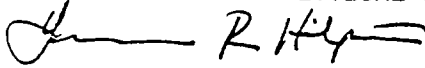
GC/MS AMBIENT AIR ANALYSIS EPA TO-14
Sample Description:
Pacific Energy/Salinas Ice,
Landfill Ice, Bag #2, Air

HAZARDOUS SUBSTANCE LIST

Compound Analyzed	Detection Limit		Concentration	
	(CAS RN)	ppbv	ug/cu M	ppbv
Acetone	(67641)	1.0	150.	58.
Benzene	(71432)	0.1	290.	83.
Bromodichloromethane	(75274)	0.1	not found	not found
Bromomethane	(74839)	0.2	not found	not found
Bromoform	(75252)	0.1	not found	not found
2-Butanone (MEK)	(78933)	0.1	24.	7.5
Carbon Disulfide	(75150)	0.2	not found	not found
Carbon Tetrachloride	(56235)	0.1	not found	not found
Chlorobenzene	(108907)	0.1	5.1	1.0
Chloroethane	(75003)	0.1	20.	7.0
2-Chloroethylvinyl Ether	(110758)	1.0	not found	not found
Chloroform	(67663)	0.1	not found	not found
Chloromethane	(107302)	0.1	70.	31.
Dibromochloromethane	(124481)	0.1	not found	not found
1,1-Dichloroethane	(75343)	0.1	150.	34.
1,2-Dichloroethane	(107062)	0.1	not found	not found
1,1-Dichloroethene	(75354)	0.1	8.1	1.9
c-1,2-Dichloroethene	(156605)	0.1	not found	not found
t-1,2-Dichloroethene	(156605)	0.1	not found	not found
Dichloromethane	(75092)	1.0	7200.	1900.
1,2-Dichloropropane	(78875)	0.1	7.3	1.5
cis-1,3-Dichloropropene	(10061015)	0.1	not found	not found
trans-1,3-Dichloropropene	(10061026)	0.1	not found	not found
Ethylbenzene	(100414)	0.2	110.	23.
2-Hexanone	(591786)	0.1	not found	not found
4-Methyl-2-Pentanone (MIBK)	(624839)	0.1	not found	not found
Styrene	(100425)	0.2	13.	2.8
1,1,2,2-Tetrachloroethane	(79345)	0.2	not found	not found
Tetrachloroethene (PCE)	(127184)	0.2	65.	8.9
Toluene	(108883)	0.2	670.	160.
1,1,1-Trichloroethane (TCA)	(71556)	0.1	18.	3.0
1,1,2-Trichloroethane	(79005)	0.1	not found	not found
Trichloroethene (TCE)	(79016)	0.1	not found	not found
Trichlorofluoromethane (F11)	(75694)	0.2	17.	2.8
Trichlorotrifluoroethane	(76131)	0.2	not found	not found
Vinyl Acetate	(108054)	1.0	not found	not found
Vinyl Chloride	(75014)	0.1	120.	43.
Xylenes	(1330207)	0.2	380.	80.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 92.

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

MSD#1
08/21/90
G2861-2.wr1/HSL#12
LRH/cr/gd/co

**Coast-to-Coast
Analytical
Services**

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-3
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA, 93308

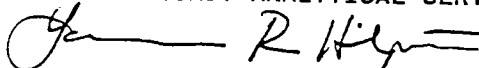
GC/MS AMBIENT AIR ANALYSIS EPA TO-14
Sample Description:
Pacific Energy/Salinas Ice,
Landfill Ice, Bag #3, Air

HAZARDOUS SUBSTANCE LIST Compound Analyzed	Detection Limit		Concentration	
	(CAS RN)	ppbv	ug/cu M	ppbv
Acetone	(67641)	1.0	48.	19.
Benzene	(71432)	0.1	330.	95.
Bromodichloromethane	(75274)	0.1	10.	1.4
Bromomethane	(74839)	0.2	not found	not found
Bromoform	(75252)	0.1	not found	not found
2-Butanone (MEK)	(78933)	0.1	14.	4.4
Carbon Disulfide	(75150)	0.2	18.	5.3
Carbon Tetrachloride	(56235)	0.1	not found	not found
Chlorobenzene	(108907)	0.1	5.4	1.1
Chloroethane	(75003)	0.1	22.	7.6
2-Chloroethylvinyl Ether	(110758)	1.0	not found	not found
Chloroform	(67663)	0.1	not found	not found
Chloromethane	(107302)	0.1	77.	34.
Dibromochloromethane	(124481)	0.1	not found	not found
1,1-Dichloroethane	(75343)	0.1	180.	41.
1,2-Dichloroethane	(107062)	0.1	not found	not found
1,1-Dichloroethene	(75354)	0.1	9.0	2.1
c-1,2-Dichloroethene	(156605)	0.1	not found	not found
t-1,2-Dichloroethene	(156605)	0.1	not found	not found
Dichloromethane	(75092)	1.0	5100.	1300.
1,2-Dichloropropane	(78875)	0.1	12.	2.4
cis-1,3-Dichloropropene	(10061015)	0.1	not found	not found
trans-1,3-Dichloropropene	(10061026)	0.1	not found	not found
Ethylbenzene	(100414)	0.2	150.	32.
2-Hexanone	(591786)	0.1	not found	not found
4-Methyl-2-Pentanone (MIBK)	(624839)	0.1	not found	not found
Styrene	(100425)	0.2	20.	4.3
1,1,2,2-Tetrachloroethane	(79345)	0.2	not found	not found
Tetrachloroethene (PCE)	(127184)	0.2	88.	12.
Toluene	(108883)	0.2	830.	200.
1,1,1-Trichloroethane (TCA)	(71556)	0.1	17.	2.9
1,1,2-Trichloroethane	(79005)	0.1	not found	not found
Trichloroethene (TCE)	(79016)	0.1	71.	12.
Trichlorofluoromethane (F11)	(75694)	0.2	20.	3.3
Trichlorotrifluoroethane	(76131)	0.2	not found	not found
Vinyl Acetate	(108054)	1.0	not found	not found
Vinyl Chloride	(75014)	0.1	130.	47.
Xylenes	(1330207)	0.2	560.	120.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 113.

MSD#1
08/21/90
G2861-3.wr1/HSL#12
LRH/cr/gd/co

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

**Coast-to-Coast
Analytical
Services**

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-4
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA, 93308

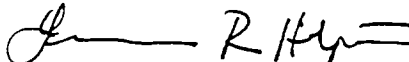
GC/MS AMBIENT AIR ANALYSIS EPA TO-14
Sample Description:
Pacific Energy/Salinas Ice, Landfill
Ice, Bag #4, Blank, Air

HAZARDOUS SUBSTANCE LIST

Compound Analyzed	Detection Limit		Concentration	
	(CAS RN)	ppbv	ug/cu M	ppbv
Acetone	(67641)	1.0	19.	7.3
Benzene	(71432)	0.1	4.1	1.2
Bromodichloromethane	(75274)	0.1	not found	not found
Bromomethane	(74839)	0.2	not found	not found
Bromoform	(75252)	0.1	not found	not found
2-Butanone (MEK)	(78933)	0.1	not found	not found
Carbon Disulfide	(75150)	0.2	4.5	1.3
Carbon Tetrachloride	(56235)	0.1	not found	not found
Chlorobenzene	(108907)	0.1	not found	not found
Chloroethane	(75003)	0.1	not found	not found
2-Chloroethylvinyl Ether	(110758)	1.0	not found	not found
Chloroform	(67663)	0.1	not found	not found
Chloromethane	(107302)	0.1	not found	not found
Dibromochloromethane	(124481)	0.1	not found	not found
1,1-Dichloroethane	(75343)	0.1	not found	not found
1,2-Dichloroethane	(107062)	0.1	not found	not found
1,1-Dichloroethene	(75354)	0.1	not found	not found
c-1,2-Dichloroethene	(156605)	0.1	not found	not found
t-1,2-Dichloroethene	(156605)	0.1	not found	not found
Dichloromethane	(75092)	1.0	230.	61.
1,2-Dichloropropane	(78875)	0.1	not found	not found
cis-1,3-Dichloropropene	(10061015)	0.1	not found	not found
trans-1,3-Dichloropropene	(10061026)	0.1	not found	not found
Ethylbenzene	(100414)	0.2	10.	2.1
2-Hexanone	(591786)	0.1	not found	not found
4-Methyl-2-Pentanone (MIBK)	(624839)	0.1	not found	not found
Styrene	(100425)	0.2	1.1	0.2
1,1,2,2-Tetrachloroethane	(79345)	0.2	not found	not found
Tetrachloroethene (PCE)	(127184)	0.2	not found	not found
Toluene	(108883)	0.2	31.	7.6
1,1,1-Trichloroethane (TCA)	(71556)	0.1	1.0	0.2
1,1,2-Trichloroethane	(79005)	0.1	not found	not found
Trichloroethene (TCE)	(79016)	0.1	not found	not found
Trichlorofluoromethane (F11)	(75694)	0.2	not found	not found
Trichlorotrifluoroethane	(76131)	0.2	not found	not found
Vinyl Acetate	(108054)	1.0	not found	not found
Vinyl Chloride	(75014)	0.1	not found	not found
Xylenes	(1330207)	0.2	88.	19.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 101.

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

MSD#1
08/21/90
G2861-4.wr1/HSL#12
LRH/cr/gd/co

**Coast-to-Coast
Analytical
Services**

**Coast-to-Coast
Analytical Services, Inc.**
141 Suburban Road
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-4dup
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

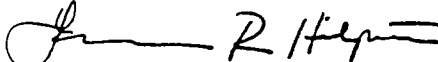
ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA, 93308

GC/MS AMBIENT AIR ANALYSIS EPA TO-14
Sample Description:
Pacific Energy/Salinas Ice, Landfill
Ice, Bag #4, Blank, Air, DUPLICATE

HAZARDOUS SUBSTANCE LIST Compound Analyzed	Detection Limit		Concentration	
	(CAS RN)	ppbv	ug/cu M	ppbv
Acetone	(67641)	1.0	23.	8.9
Benzene	(71432)	0.1	2.8	0.8
Bromodichloromethane	(75274)	0.1	not found	not found
Bromomethane	(74839)	0.2	not found	not found
Bromoform	(75252)	0.1	not found	not found
2-Butanone (MEK)	(78933)	0.1	not found	not found
Carbon Disulfide	(75150)	0.2	5.0	1.5
Carbon Tetrachloride	(56235)	0.1	not found	not found
Chlorobenzene	(108907)	0.1	not found	not found
Chloroethane	(75003)	0.1	not found	not found
2-Chloroethylvinyl Ether	(110758)	1.0	not found	not found
Chloroform	(67663)	0.1	not found	not found
Chloromethane	(107302)	0.1	not found	not found
Dibromochloromethane	(124481)	0.1	not found	not found
1,1-Dichloroethane	(75343)	0.1	not found	not found
1,2-Dichloroethane	(107062)	0.1	not found	not found
1,1-Dichloroethene	(75354)	0.1	not found	not found
c-1,2-Dichloroethene	(156605)	0.1	not found	not found
t-1,2-Dichloroethene	(156605)	0.1	not found	not found
Dichloromethane	(75092)	1.0	230.	61.
1,2-Dichloropropane	(78875)	0.1	not found	not found
cis-1,3-Dichloropropene	(10061015)	0.1	not found	not found
trans-1,3-Dichloropropene	(10061026)	0.1	not found	not found
Ethylbenzene	(100414)	0.2	12.	2.5
2-Hexanone	(591786)	0.1	not found	not found
4-Methyl-2-Pentanone (MIBK)	(624839)	0.1	not found	not found
Styrene	(100425)	0.2	1.2	0.3
1,1,2,2-Tetrachloroethane	(79345)	0.2	not found	not found
Tetrachloroethene (PCE)	(127184)	0.2	not found	not found
Toluene	(108883)	0.2	33.	8.0
1,1,1-Trichloroethane (TCA)	(71556)	0.1	0.8	0.1
1,1,2-Trichloroethane	(79005)	0.1	not found	not found
Trichloroethene (TCE)	(79016)	0.1	not found	not found
Trichlorofluoromethane (F11)	(75694)	0.2	not found	not found
Trichlorotrifluoroethane	(76131)	0.2	not found	not found
Vinyl Acetate	(108054)	1.0	not found	not found
Vinyl Chloride	(75014)	0.1	not found	not found
Xylenes	(1330207)	0.2	100.	21.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 117.

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES



Laurence R. Hilpert, Ph.D.
Vice President

MSD#1
08/21/90
G2861-4d.wr1/HSL#12
LRH/cr/gd/co

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: B-080390-1
Collected:
Received:
Tested: 08/03/90
Collected by:

CCAS

SAMPLE DESCRIPTION:
ZERO AIR BLANK

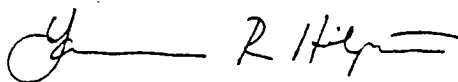
AIR ANALYSIS - EPA TO-14

GAS CHROMATOGRAPHY/MASS SPECTROMETRY ANALYSIS REPORT

Compound Analyzed	Detection Limit ppbv	Concentrations	
		ug/cu M	ppbv
Benzene	0.1	not found	not found
Toluene	0.1	not found	not found
Ethylbenzene	0.1	not found	not found
Xylenes	0.1	not found	not found
	PPMV		
		MG/cu M	PPMV
Total Fuel (as hexane)	0.05	not found	not found
Total Fuel (as carbon)	0.3	not found	not found

Percent recovery of sample-specific quality assurance spike is: 101.

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.



Laurence R. Hilpert, Ph.D.,
Vice President

MSD#1
08/18/90
B08030-1.wr1/FF#5
LRH/jk/gd/co

Coast-to-Coast
Analytical
Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: QS-080390
Collected:
Received:
Tested: 08/03/90
Collected by:

CCAS

REFERENCE STANDARD
Benzene 5.5, Ethylene Dichloride 5.2,
Ethylene Dibromide 6.7 ppbv.

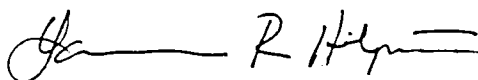
AIR ANALYSIS - EPA TO-14

GAS CHROMATOGRAPHY/MASS SPECTROMETRY ANALYSIS REPORT

Compound Analyzed	Detection Limit ppbv	Concentrations	
		ug/cu M	ppbv
Benzene	0.1	25.	7.2
Toluene	0.1	not found	not found
Ethylbenzene	0.1	not found	not found
Xylenes	0.1	not found	not found
Ethylene Dichloride	0.1	23.	5.2
Ethylene Dibromide	0.1	49.	5.8
=====			
	PPMV	MG/cu M	PPMV
Total Fuel (as hexane)	0.05	N/A	N/A
Total Fuel (as carbon)	0.3	N/A	N/A

Percent recovery of sample-specific quality assurance spike is: 112.

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.



Laurence R. Hilpert, Ph.D.
Vice President

MSD#1
08/18/90
QS080390.wr1/FF#5
LRH/cr/gd/co

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-1
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

SUPPLEMENTARY REPORT FOR GC/MS AMBIENT AIR ANALYSIS EPA TO-14

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

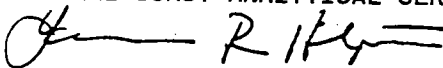
SAMPLE DESCRIPTION:

Pacific Energy/Salinas Ice,
Landfill Ice, Bag #1, Air

CONSTITUENT	DETECTION LIMIT (ppbv)	APPROXIMATE LEVEL (ppbv)
✓ACRYLONITRILE	1.0	NOT FOUND
✓1,4-DIOXANE	1.0	NOT FOUND
✓1,2-DIBROMOETHANE	1.0	NOT FOUND

MSD#1
08/21/90
G2861s1.wr1/SUPS#1
LRH/co

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-2
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

SUPPLEMENTARY REPORT FOR GC/MS AMBIENT AIR ANALYSIS EPA TO-14

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

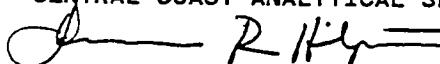
SAMPLE DESCRIPTION:

Pacific Energy/Salinas Ice,
Landfill Ice, Bag #2, Air

CONSTITUENT	DETECTION LIMIT (ppbv)	APPROXIMATE LEVEL (ppbv)
ACRYLONITRILE	1.0	NOT FOUND
1,4-DIOXANE	1.0	NOT FOUND
1,2-DIBROMOETHANE	1.0	NOT FOUND

MSD#1
08/21/90
G2861s2.wr1/SUPS#1
LRH/co

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES



Laurence R. Hilpert, Ph.D.
Vice President

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-3
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

SUPPLEMENTARY REPORT FOR GC/MS AMBIENT AIR ANALYSIS EPA TO-14

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

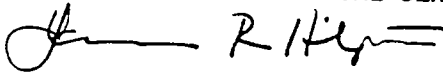
SAMPLE DESCRIPTION:

Pacific Energy/Salinas Ice,
Landfill Ice, Bag #3, Air

CONSTITUENT	DETECTION LIMIT (ppbv)	APPROXIMATE LEVEL (ppbv)
ACRYLONITRILE	1.0	NOT FOUND
1,4-DIOXANE	1.0	NOT FOUND
1,2-DIBROMOETHANE	1.0	NOT FOUND

MSD#1
08/21/90
G2861s3.wr1/SUPS#1
LRH/co

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES



Laurence R. Hilpert, Ph.D.
Vice President

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-4
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

SUPPLEMENTARY REPORT FOR GC/MS AMBIENT AIR ANALYSIS EPA TO-14

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

SAMPLE DESCRIPTION:

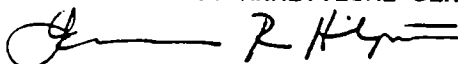
Pacific Energy/Salinas Ice,
Landfill Ice, Bag #4, Blank, Air

CONSTITUENT	DETECTION LIMIT (ppbv)	APPROXIMATE LEVEL (ppbv)
-------------	---------------------------	-----------------------------

ACRYLONITRILE	1.0	NOT FOUND
1,4-DIOXANE	1.0	NOT FOUND
1,2-DIBROMOETHANE	1.0	NOT FOUND

MSD#1
08/21/90
G2861s4.wr1/SUPS#1
LRH/co

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES



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Services

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Analytical Services
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San Luis Obispo, California 93401
(805) 543-2553

Lab Number: G-2861-4dup
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

SUPPLEMENTARY REPORT FOR GC/MS AMBIENT AIR ANALYSIS EPA TO-14

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

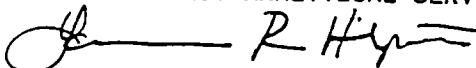
SAMPLE DESCRIPTION:

Pacific Energy/Salinas Ice, Landfill
Ice, Bag #4, Blank, Air, DUPLICATE

CONSTITUENT	DETECTION LIMIT (ppbv)	APPROXIMATE LEVEL (ppbv)
ACRYLONITRILE	1.0	NOT FOUND
1,4-DIOXANE	1.0	NOT FOUND
1,2-DIBROMOETHANE	1.0	NOT FOUND

MSD#1
08/21/90
G2861s4d.wr1/SUPS#1
LRH/co

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES



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Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 08/02/98
Received: 08/02/98
Tested: 08/03/98
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3287 Antonino Avenue
Bakersfield, CA 93308

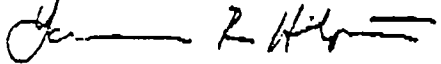
Sample Description:
Pacific Energy/Salinas Ice, Landfill
Ice, Air Samples As Listed

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND CHLOROPICRIN (CAS RN) - (76062) ug/cu m	ppbv
EPA METHOD-----		TO-14	
DETECTION LIMIT(PQL)*-----		0.2 ppbv	
DATE/ANALYST-----		08-30-98/TAZ	

✓ G-2861-1	Bag #1	not found	not found
G-2861-2	Bag #2	not found	not found
G-2861-3	Bag #3	not found	not found
G-2861-4	Bag #4, Blank	not found	not found
G-2861-4dup	Bag #4, Blank DUPLICATE ANALYSIS	not found	not found

*Practical Quantitation Limit

MSD#1
08/20/98
G2861cs.wr1/SUPS#2
LRH/tz/gd/co

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES

Laurence R. Hilpert, Ph.D.
Vice President

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Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 08/02/98
Received: 08/02/98
Tested: 08/03/98
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

Sample Description:

Pacific Energy/Salinas Ice, Landfill
Ice, Air Samples As Listed

LAB NUMBER

SAMPLE DESCRIPTION

LEVEL FOUND

1,4-DICHLOROBENZENE
(CAS RN) - (106467)

ug/cu m

ppbv

EPA METHOD-----
DETECTION LIMIT(PQL)*-----
DATE/ANALYST-----

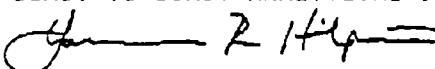
TO-14
0.2 ppbv
08-30-98/TAZ

✓ G-2861-1	Bag #1	not found	not found
G-2861-2	Bag #2	not found	not found
G-2861-3	Bag #3	not found	not found
G-2861-4	Bag #4, Blank	not found	not found
G-2861-4dup	Bag #4, Blank DUPLICATE ANALYSIS	not found	not found

*Practical Quantitation Limit

MSD#
11/28/98
G2861ds.wr1/SUPS#2
LRH/tz/gd/co

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

RECEIVED SEP 24 1990

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Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

Sample Description:

Pacific Energy/Salinas Ice, Landfill
Ice, Air Samples As Listed

LAB NUMBER

SAMPLE DESCRIPTION

LEVEL FOUND
CHLOROPICRIN
(CAS RN) - (76062)
ug/cu m ppbv

EPA METHOD-----
DETECTION LIMIT(PQL)*-----
DATE/ANALYST-----

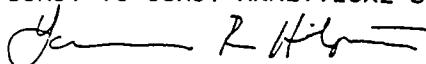
TO-14
0.2 ppbv
08-30-90/TAZ

G-2861-1	Bag #1	not found	not found
G-2861-2	Bag #2	not found	not found
G-2861-3	Bag #3	not found	not found
G-2861-4	Bag #4, Blank	not found	not found
G-2861-4dup	Bag #4, Blank DUPLICATE ANALYSIS	not found	not found

*Practical Quantitation Limit

MSD#1
09/20/90
G2861cs.wr1/SUPS#2
LRH/tz/gd/co

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

RECEIVED SEP 24 1990

Coast-to-Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 08/02/90
Received: 08/02/90
Tested: 08/03/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

Sample Description:

Pacific Energy/Salinas Ice, Landfill
Ice, Air Samples As Listed

LAB NUMBER

SAMPLE DESCRIPTION

LEVEL FOUND

1,4-DICHLOROBENZENE
(CAS RN) - (106467)
ug/cu m ppbv

EPA METHOD-----
DETECTION LIMIT(PQL)*-----
DATE/ANALYST-----

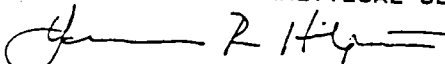
TO-14
0.2 ppbv
08-30-90/TAZ

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND	LEVEL FOUND
G-2861-1	Bag #1	not found	not found
G-2861-2	Bag #2	not found	not found
G-2861-3	Bag #3	not found	not found
G-2861-4	Bag #4, Blank	not found	not found
G-2861-4dup	Bag #4, Blank DUPLICATE ANALYSIS	not found	not found

*Practical Quantitation Limit

MSD#1
09/20/90
G2861ds.wr1/SUPS#2
LRH/tz/gd/co

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES


Laurence R. Hilpert, Ph.D.
Vice President

Coast-to-
Coast
Analytical
Services

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Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 08/02/90
Received: 08/02/90
Tested: 08/02/90
Collected by: J. Marchesini

ATTN: James Marchesini
Petro Chem Environmental
3207 Antonino Avenue
Bakersfield, CA 93308

Sample Description:

Pacific Energy/Salinas Ice,
Air Samples As Listed

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND HYDROGEN SULFIDE (PPBV)
------------	--------------------	---

EPA METHOD-----
DETECTION LIMIT(PQL)*-----
DATE/ANALYST-----

GOLD FILM
0.2
08-02-90/CRR

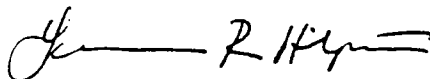
✓ G-2861-1	Landfill Ice, Bag #1	490.
G-2861-2	Landfill Ice, Bag #2	510.
G-2861-3	Landfill Ice, Bag #3	290.
G-2861-4	Landfill Ice, Bag #4, Blank	not found

*Practical Quantitation Limit

Compounds reported as "not found" would have been reported if present at or above the listed practical quantitation limit.

JEROME
08/21/90
G2861m1.wr1/HSL#12
LRH/cr/cr/co

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES



Laurence R. Hilpert, Ph.D., Vice President

Petro Chem
Bakertfield, CA 93308
JOB NO. SAMPLED BY: —

P.O. # 853

JOB NO. SAMPLED BY: TERN

[illegible]

COMMENTS:

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
James E. Marsh	8-2-90	James E. Marsh	8-2-90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
James E. Marsh	8-2-90	Cindy R. Richards	8/2/90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE

BRASLVD METHOD ST-16

DATA

COMPANY: PACIFIC ENERGY
 DATE: 8-1 & 8-2-90
 UNIT: SALINAS LANDFILL
 REPORT #: 90-233

METHOD ST-16
 FIELD DATA @ 60'

SITE:

	DATE:	OUTLET	8-1-90	8-1-90	8-2-90
	RUN #:		1	2	3
	TIME:		1613	1734	900
Vm (dry gas sampled).....			46.62	46.7	45.3
Y (meter calib. factor).....			0.991696	0.991696	0.991696
P bar (Barometric pressure).....			29.85	29.85	29.85
P static (stack pressure, " H2O).....			7.5	7.5	7.5
Delta H (differential meter press, " H2O)....			1.07	1.08	1.04
Tm (meter temperature, R').....			543	541	537
Vol H2O mls			99.9	101.1	92.6
Vm(std),dscf			44.29	44.53	43.51
Vm(std),dscm			1.25	1.26	1.23
Bws-H2O vapor			0.0949	0.0954	0.09
MF-moisture factor			0.9051	0.9046	0.91
% CO2			7	6.8	6.9
% O2			12.4	12.4	12.4
% N2			80.6	80.8	80.7
Md-MW stk gas,dry			29.62	29.58	29.6
Ms-MW stk gas,wet			28.52	28.48	28.56
Cp-pitot tube			0.84	0.84	0.84
Avg sq rt Cp			1.676	1.685	1.661
T stack, R'.....			1134	1132	1136
Stack area,ft2			2.07	2.07	2.07
Vs-fps			137.64	138.36	136.44
Qstd-dscfm			7209	7256	7172
Area noz,ft2			1.97E-04	1.97E-04	1.97E-04
Sample time			64	64	64
% Isokinetic			100.9	100.8	99.7

CLIENT: PACIFIC ENERGY
UNIT: SALINAS LANDFILL MEP ENGINE
REPORT #:90-233
DATE: 8-1,2-90

Summary of Results for Phenolic Compounds

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
-----	-----	-----	-----	-----		-----	-----
Phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04
2-Chloro-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04
2-Methyl-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04
4-Methyl-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04
2-Nitro-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04
2,4-dicloro phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04
4-Chloro-3-methyl-phenol	1	44.29	7209	20	*	6.95E-06	4.30E-04
	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
average					*	6.98E-06	4.32E-04

* Values reported are lower detection limit

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 8-1,2-90

Summary of Results for Phenolic Compounds

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
2,4,6-Tri	1	44.29	7209	20	*	6.95E-06	4.30E-04
chlorophenol	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
				average	*	6.98E-06	4.32E-04
2,4,5-Tri	1	44.29	7209	100	*	3.48E-05	2.15E-03
chlorophenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
2,4-Dinitro-	1	44.29	7209	100	*	3.48E-05	2.15E-03
phenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
4-Nitro-	1	44.29	7209	100	*	3.48E-05	2.15E-03
phenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
4,6-Dinitro-	1	44.29	7209	100	*	3.48E-05	2.15E-03
2-methyl-	2	44.53	7256	100	*	3.46E-05	2.15E-03
phenol	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
Pentachloro	1	44.29	7209	100	*	3.48E-05	2.15E-03
phenol	2	44.53	7256	100	*	3.46E-05	2.15E-03
	3	43.51	7172	100	*	3.54E-05	2.18E-03
				average	*	3.49E-05	2.16E-03
2,4-Dimethyl-	1	44.29	7209	20	*	6.95E-06	4.30E-04
phenol	2	44.53	7256	20	*	6.92E-06	4.31E-04
	3	43.51	7172	20	*	7.08E-06	4.36E-04
				average	*	6.98E-06	4.32E-04

* Values reported are lower detection limit

COMPANY: PACIFIC ENERGY
REPORT #:
UNIT ID: SALINAS ICE
DATE: 8-1-90 & 8-2-90

ON-SITE DATA

SITE: OUTLET

RUN #: 8-1 8-1 8-2
#1 #2 #3
TIME: 1613 1734 9:00

Vm Dry sampled gas volume, dcf
Y Meter calibration factor (met# 1002).....
P bar Barometric pressure, in Hg.....
P static Stack static pressure, in H₂O.....
Delta H Differential meter pressure, in H₂O.....
Tm Meter temperature, deg F.....

46.62	46.72	45.3
.991696	.991696	.991696
29.85	29.85	29.85
7.5	7.5	7.5
1.07	1.08	1.04
83	81	77

Contents	Run 1			Run 2			Run 3		
	final	tare	net	final	tare	net	final	tare	net
1N NaOH	698.0	559.1	138.9	683.3	535.2	148.1	688.8	546.3	142.5
1N NaOH	588.2	577.2	11.0	585.9	574.2	11.7	577.0	566.6	10.4
KO	465.0	463.1	1.9	466.4	464.1	2.3	466.7	464.6	2.1
Silica	921.9	812.6	9.3	852.3	843.6	8.7	852.1	843.3	8.8
LINEWASH			-61.2			-69.7			-71.2
V lc, volume of H ₂ O, grams			99.9			101.1			92.6

CO₂ % Dry Volume.....
O₂ % Dry Volume.....
N₂ % Dry Volume.....
Cp Pitot tube coefficient (Pit#)
Delta P Avg Delta-P, in H₂O.....
Ts Stack temperature, in deg F.....
As Stack area, sq. ft.....
Ds Stack Diameter, inches.....
Dn Nozzle diameter, inches.....
Dur Sampling time, min.....
% Iso Mini Iso.....

#1	#2	#3
7.0	6.8	6.9
12.41	12.41	12.4
80.6	80.8	80.7
.84	.84	.84
2.81	2.84	2.76
674	672	676
2.07	2.07	2.07
19.5	19.5	19.5
.190	.190	.190
64	64	64
100.48	100.31	99.56

Filter #.....
Filter tare weights, grams.....

Filter tare weights, grams..... BLANK
I 536.0 374.0 458.6 225.0
PIN F 460.3 181.6 131.4 95.7

INITIALS**

Imp I 538.1 509.8 503.9 320.0
F 409.0 345.4 325.8 225.0
Duct Temp.

CONTROL BOX#:
Hi Δ P _____ Lo Δ P _____ Ave Δ P _____
Diameters before disturb _____ After _____
of Points, total _____
Overall (inches) _____ Coupling _____

P1110015-3 FIELD DATA

Client: POULIC ENERGY Report #:
 Location: SANJOSE LA BARRERA ICE
 Operator: 30m
 Date: 9-7-96
 Run No: 3
 Pump No.: 605T
 Meter Box No.: 1002 Factor:
 Meter ΔH @: 1.00
 Pitot Tube No.: 39-3

Post, Test Leak Chk.

Leak Rate: .01 cfm
 Vacuum: 5 (in Hg)

Ambient Temp: 69
 Barometric Pressure: 29.83
 Static Pressure, (in Hg): 17.5
 Assumed Moisture %: 10 mw 17.5
 Nozzle Ident. No.:
 Aver. Calib. Nozzle Diam.(in): .19
 Probe Liner Material: GUARTE
 Filter Number:
 Duct Diam. (in): 19.5

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (APs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volyme (ft ³)	Gas Sample Temp. at dry Gas Meter inlet (°F)	Gas Sample outlet (°F)	Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
3	9:34	5	675	2.8	.717	1.05	78	75	244	
7	38	5	676	3.0	.743	1.12	80	75	244	
6	42	5	675	3.0	.744	1.12	81	75	242	
5	46	5	674	2.9	.732	1.09	81	75	247	
4	50	5	674	2.9	.732	1.09	81	75	249	
3	54	5	674	3.0	.746	1.12	82	76	253	
2	58	5	674	3.0	.746	1.12	82	76	254	
1	02	5	674	3.0	.747	1.12	83	76	248	
EOT	10:06					821.6				
						45.3				
		X=	676	2.76				77		
					ISO	99.56				
					$\Delta H = 1.04$					
					velts = 139.18					
Total							avg.	avg.		
Average							avg.	avg.		

3

Post Test Leak Chk.

Ambient Temp: 69

Barometric Pressure:

Leak Rate: 1.015 cfm

Assumed Moisture %: $\frac{1.5 \text{ mg}}{27.5}$

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): .13

Probe Liner Material: Quartz

Duct Diam. (in): 19.5

4 min Per Point

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Phonix ST-16 FIELD DATA

Client: DAVIS ENBAV Report #:
 Location: SALINAS ICE
 Operator: TRW TDN BDN
 Date: 7-1-90
 Run No: 1
 Pump No.: 6455
 Meter Box No.: 102 Factor:
 Meter ΔH @: 0.90
 Pitot Tube No.: 36-3

Post Test Leak Chk.
 Leak Rate: 0.05 cfm
 Vacuum: 5 (in Hg)

Ambient Temp:
 Barometric Pressure: 29.85
 Static Pressure, (in Hg): 27.5
 Assumed Moisture %: 10 MW=27.5
 Nozzle Ident. No.:
 Aver. Calib. Nozzle Diam.(in): 1.19
 Probe Liner Material: QVAT 12
 Filter Number:
 Duct Diam. (in): 19.5

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔPs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volume (ft ³)	Gas Sample Temp. at dry		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Las Impinger (°F)
							Gas Meter inlet (°F)	Gas Meter outlet (°F)		
8	1047	5	676	3.2	.774	703.39	81	83	251	
7	51	5	676	3.2	.774	704.5	81	85		
6	55	5	675	3.2	.776	709.6	81	85		
5	59	5	675	3.2	.778	712.7	81	85	255	
4	1703	5	673	2.4	.674	715.8	81	85		
3	07	5	674	2.2	.645	718.5	81	86	255	
2	11	5	674	2.01	.630	721.1	81	86		
1	15	5	675	2.17	.615	723.6	81	86		
	1719					724.12				
			674	2.81				83		
						46.62				
					Σ Iso	100.48				
					ΔH	1.07				
					VEL FPS =	140.73				
						avg.	avg.	avg.		
Total										
Average										

	FIELD DATA
Phenols ST-16	

Client: Ac. L. n. g. / Report #: _____

Location:

Operator:

Date:

Date: _____
Run No: _____

Pump No.:

Meter Box

Meter ΔH @:

Pitot Tube No. _____

Post Test Leak Chk.

Leak Rate: 2.02 cfm
Vacuum: 10 (in .Hg)

Ambient Temp:

Barometric Pressure: 79.95

Static Pressure, (in Ha): 6.17

Assumed Moisture %: 10

Nozzle Ident. No.:

Nozzle Ident. No.: _____
Aver. Calib. Nozzle Diam (in): 12/

Probe Liner Material: 0.005

Probe Liner Material: QWARTZ

Filter Number: 1
Duct Diam (in): 70

[illegible]

Ambient Temp: _____
Barometric Pressure: 29.85
Static Pressure, (in Hg): 7.5
Assumed Moisture %: 10 MW-27.5
Nozzle Ident. No.: _____
Aver. Calib. Nozzle Diam.(in): .19
Probe Liner Material: Q4072
Filter Number: _____
Duct Diam. (in): 19.5

Leak Rate: .004 cfm
Vacuum: 11 (in Hg)

Client: PALFINGER Report #: _____
Location: SALINAS FLE
Operator: JOHN DON
Date: 8-1-92
Run No: 2
Pump No.: 6858
Meter Box No.: 1007 Factor: _____
Meter Δ H @: .90
Pitot Tube No.: 36-2

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔPs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O) ΔH ΔH	Gas Sample Volume (ft ³)	Gas Sample Temp. at dry Gas Meter		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
							inlet (°F)	outlet (°F)		
8	1734	7	664	3.1	765 1.17	726.90	75	82	250	
7	38	7	670	3.0	750 1.13	729.9	82	80		
6	42	7	670	2.9	735 1.09	732.1	82	80		
5	46	7	671	3.0	753 1.13	735.9	84	81	256	
4	50	7	672	3.0	751 1.13	738.9	83	80		
3	54	7	675	3.0	750 1.13	741.9	83	80	255	
2	58	7	675	2.7	712 1.02	744.1	83	80		
1	1802	7	675	2.8	724 1.06	747.7	83	80		
	1806					750.56				

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-008
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 16-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #75 P/N-1

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-008
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #75 P/N-1

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	NA*	NA	NA	NA	08/14/90	09/24/90	WG

*This sample was lost after analysis.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-008
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
16-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	63	20-120
16-AUG-1990	PHENOL-D6 (EPA 8270-L)	62	20-120
16-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	94	20-123
16-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	84	20-123
16-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	83	20-124
16-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	64	20-126

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-009
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 17-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #76 IMP-1

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-009
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #76 IMP-1

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	410	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-009
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
17-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	64	20-120
17-AUG-1990	PHENOL-D6 (EPA 8270-L)	76	20-120
17-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	100	20-123
17-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	115	20-123
17-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	90	20-124
17-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	92	20-126

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-010
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 16-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #78 P/N-2

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-010
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #78 P/N-2

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	270	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-010
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
17-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	58	20-120
17-AUG-1990	PHENOL-D6 (EPA 8270-L)	59	20-120
17-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	91	20-123
17-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	83	20-123
17-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	80	20-124
17-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	140*	20-126

* Surrogate recovery outside of limits due to sample matrix interference.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-011
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 24-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #79 IMP-2

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-011
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #79 IMP-2

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	511	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-011
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
17-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	59	20-120
17-AUG-1990	PHENOL-D6 (EPA 8270-L)	62	20-120
17-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	88	20-123
17-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	89	20-123
17-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	87	20-124
17-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	53	20-126

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-012
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 24-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #81 P/N-3

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-012
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #81 P/N-3

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	122	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-012
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
17-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	60	20-120
17-AUG-1990	PHENOL-D6 (EPA 8270-L)	60	20-120
17-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	83	20-123
17-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	76	20-123
17-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	75	20-124
17-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	61	20-126

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-013
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 24-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #82 IMP-3

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-013
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #82 IMP-3

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	422	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-013
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
24-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	73	20-120
24-AUG-1990	PHENOL-D6 (EPA 8270-L)	75	20-120
24-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	60	20-123
24-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	53	20-123
24-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	94	20-124
24-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	54	20-126

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-014
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 24-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #84 P/N-4

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-014
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #84 P/N-4

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	80	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-014
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
24-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	49	20-120
24-AUG-1990	PHENOL-D6 (EPA 8270-L)	49	20-120
24-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	75	20-123
24-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	59	20-123
24-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	76	20-124
24-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	92	20-126

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-015
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Date Prepared: 14-AUG-1990
Prep Method: EPA 3510 By: WG
Date Analyzed: 24-AUG-1990 By: MN
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #85 IMP-4

Phenols, Cresols, (T0-8), EPA 8270

Units: ug/sample

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Phenol	ND	10	ND	5
2-Chlorophenol	ND	10	ND	5
2-Methylphenol	ND	10	ND	5
4-Methylphenol	ND	10	ND	5
2-Nitrophenol	ND	10	ND	5
2,4-Dimethylphenol	ND	10	ND	5
2,4-Dichlorophenol	ND	10	ND	5
4-Chloro-3-methylphenol	ND	10	ND	5
2,4,6-Trichlorophenol	ND	10	ND	5
2,4,5-Trichlorophenol	ND	50	ND	25
2,4-Dinitrophenol	ND	50	ND	25
4-Nitrophenol	ND	50	ND	25
4,6-Dinitro-2-methylphenol	ND	50	ND	25
Pentachlorophenol	ND	50	ND	25

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-015
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #85 IMP-4

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Total Impinger Volume (ML)	ml	312	NA	NA	NA	08/14/90	09/24/90	WG

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-015
Date Sampled: 1-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE

Phenols, Cresols, (T0-8), EPA 8270 Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
24-AUG-1990	2-FLUOROPHENOL (EPA 8270-L)	59	20-120
24-AUG-1990	PHENOL-D6 (EPA 8270-L)	65	20-120
24-AUG-1990	NITROBENZENE-D5 (EPA 8270-L)	94	20-123
24-AUG-1990	2-FLUOROBIPHENYL (EPA 8270-L)	79	20-123
24-AUG-1990	2,4,6-TRIBROMOPHENOL (EPA 8270-L)	87	20-124
24-AUG-1990	TERPHENYL-D14 (EPA 8270-L)	115	20-126



PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.

METHOD ST-16 : PHENOLS

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHAIN OF CUSTODY RECORD

OBJECT: PACIFIC ENERGY
SALINAS LANDFILL ICE

JOB NO.
62-233

SAMPLED BY: JEM

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS.	ANALYSIS REQUIRED
				liq.	filter	gas		
15	PACIFIC ENERGY PHENOLS METH. ST-16 P/N-1	8-1-90		✓			1	
17	FILTER-1				✓		✓	
16	IMP-1							
18	P/N-2			✓			1	
10	FILTER-2				✓		1	
19	IMP-2			✓			1	
31	P/N-3			✓				
33	FILTER-3				✓			
2	IMP-3			✓				

REMARKS:

INQUIRED BY:	DATE	RECEIVED BY:	DATE
JAMES W. MORTIMER	8-6-90		
INQUIRED BY:	DATE	RECEIVED BY:	DATE
INQUIRED BY:	DATE	RECEIVED BY:	DATE
INQUIRED BY:	DATE	RECEIVED BY:	DATE



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY
SOLINGOS LANDFILL ICE

JOB NO.
62-233

SAMPLED BY:

[illegible]

MENTS:

INQUIRED BY:	DATE	RECEIVED BY:	DATE
INQUIRED BY:	DATE	RECEIVED BY:	DATE
INQUIRED BY:	DATE	RECEIVED BY:	DATE
INQUIRED BY:	DATE	RECEIVED BY:	DATE

METHOD 436/424 DATA

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL
 REPORT #:90-233

FIELD DATA @ 60'

SITE: OUTLET

	METHOD436	METHOD424
DATE:	8-2-90	8-2-90
RUN #:	1	2
TIME:	1450	1604

Vm (dry gas sampled).....	50.78	49.82
Y (meter calib. factor).....	1.019675	1.019675
P bar (Barometric pressure).....	29.85	29.85
P static (stack pressure, " H2O).....	0	0
Delta H (differential meter press, " H2O)....	0.66	0.7
Tm (meter temperature, R').....	548	548

Vm(std),dscf	49.1	48.17
Vm(std),dscm	1.390	1.364
Sample time	70	73

CLIENT: SALINAS LANDFILL
 UNIT: MEP ENGINE
 REPORT #: 90-233
 DATE: 8-2-90

Summary of Results for Metal Emissions

CARB Method 436

Pollutant	mg/l	Sample Vol. (ml)	Vm std	DSCFM		gr/DSCF	lb/hr
Arsenic	0.0053	340	49.1	574		5.65E-07	2.78E-06
Beryllium	0.002	340	49.1	574	*	2.13E-07	1.05E-06
Cadmium	0.0024	340	49.1	574		2.56E-07	1.26E-06
Chromium	0.0037	340	49.1	574		3.95E-07	1.94E-06
Copper	0.0023	340	49.1	574		2.45E-07	1.21E-06
Lead	0.053	340	49.1	574		5.65E-06	2.78E-05
Manganese	0.01	340	49.1	574	*	1.07E-06	5.25E-06
Mercury	0.0004	545	49.1	574	*	6.84E-08	3.37E-07
Nickel	0.0078	340	49.1	574		8.32E-07	4.10E-06
Phosphorus	0.3	340	49.1	574	*	3.20E-05	1.58E-04
Selenium	0.005	340	49.1	574	*	5.33E-07	2.63E-06
Zinc	3.6	340	49.1	574		3.84E-04	1.89E-03

Summary of Results for Metal Emissions

CARB Method 424

Cadmium	0.002025	390	48.17	574		2.53E-06	1.24E-05
---------	----------	-----	-------	-----	--	----------	----------

* Values reported are lower detection limit

COMPANY: Pac. Energy
REPORT #:
UNIT ID:
DATE: 8-2-90

ON-SITE DATA

SITE: Salinas

RUN #:

#1

#2

#3

TIME:

1450-1600

Vm Dry sampled gas volume, dcf
Y Meter calibration factor (met# 1004)
P bar Barometric pressure, in Hg
P static Stack static pressure, in H₂
Delta H Differential meter pressure, in H₂O
Tm Meter temperature, deg F

50.78
1.019635
29.85
—
.66
88

Contents	Run 1			Run 2			Run 3		
	final	tare	net	final	tare	net	final	tare	net
5% HNO ₃ /10% H ₂ O		587.0		587.9	595.0	-7.1			
5% HNO ₃ /10% H ₂ O		1002.9		619.0	618.3	.7			
K ₂ O		462.5		464.1	463.5	.6			
KMnO ₄		595.4		617.7	616.9	.8			
KMnO ₄		587.0		608.3	608.5	-.2			
Silica		770.9		813.8	798.1	15.7			
V _{lc} , volume of H ₂ O, grams						10.0			

CO₂ % Dry Volume
O₂ % Dry Volume
N₂ % Dry Volume
Cp Pitot tube coefficient (Pit#)
Delta P Avg Delta-P, in H₂O
Ts Stack temperature, in deg F
As Stack area, sq. ft
Ds Stack Diameter, inches
Dn Nozzle diameter, inches
Dur Sampling time, min
% Iso Mini Iso

#1

#2

#3

Filter #
Filter tare weights, grams

INITIALS**

SU HCL IMP I 549.0
F 339.4

10% HNO₃ IMP

I 506.0
F 369.2

CONTROL BOX#:

Hi ΔP _____ Lo ΔP _____ Ave ΔP _____ Duct Temp. _____

Diameters before disturb _____ After _____

of Points, total _____

Overall (inches) _____ Coupling _____

FIELD DATA

Client: DAVID EMMERY Report #: _____

Post Test Leak Chk.

Leak Rate: 4.00 cfm
Vacuum: 12 (in Hg)

Ambient Temp: _____
Barometric Pressure: 29.85
Static Pressure, (in Hg): 2
Assumed Moisture %: _____
Nozzle Ident. No.: _____
Aver. Calib. Nozzle Diam.(in): _____
Probe Liner Material: teflon
Filter Number: _____
Duct Diam. (in): _____

[illegible]

Ud

ON-SITE DATA

TIME: 1604-1277

49.82		
<u>1.019675</u>		
29.93		
<u>—</u>		
1.70		
<u>88</u>		

V_{lc}, volume of H₂O, grams

[illegible]

IMP I 414.4
 F 238.3

- 155 -

Cd. Nabil. 4th FIELD DATA

Client: Polysar F Report #: _____
Location: _____
Operator: Safinas
Date: 7-1-90
Run No: _____
Pump No.: 6087
Meter Box No.: 1004 Factor: _____
Meter AH @: 1.1
Pilot Tube No.: _____

Report #:

Post Test Leak Chk.

Ambient Temp: 70

Leak Rate: .01 cfm

Static Pressure, (in Hg):

Assumed Moisture %: 73

Stuzzle Ident. No.:

Aver. Calib. Nozzle Diam. (in).

Probe Liner Material:

Filter Number:

Duct Diam. (in):

[illegible]

METALS

(Water - Total)

Full G

Client Name: Petro Chem Environmental Services Inc.

Client ID: #8 HNO3 (IMP 1+2)

Lab ID: 054411-0020-SA

Enseco ID: 162524

Matrix: AQUEOUS

Sampled: 02 AUG 90

Received: 10 AUG 90

Authorized: 23 AUG 90

Prepared: See Below

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Arsenic	0.0053	mg/L	0.0050	Method 206.2	29 AUG 90	05 SEP 90
Beryllium	ND	mg/L	0.0020	Method 200.7	NA	30 AUG 90
Cadmium	0.0024	mg/L	0.0010	Method 213.2	29 AUG 90	31 AUG 90 G
Chromium	0.0037	mg/L	0.0010	Method 218.2	29 AUG 90	04 SEP 90
Copper	0.0023	mg/L	0.0010	Method 220.2	29 AUG 90	05 SEP 90
Lead	0.053	mg/L	0.0050	Method 239.2	29 AUG 90	06 SEP 90
Manganese	ND	mg/L	0.010	Method 200.7	NA	30 AUG 90
Mercury	ND	mg/L	0.00040	Method 245.1	30 AUG 90	31 AUG 90 r
Nickel	0.0078	mg/L	0.0050	Method 249.2	29 AUG 90	31 AUG 90
Selenium	ND	mg/L	0.0050	Method 270.2	29 AUG 90	30 AUG 90
Zinc	3.6	mg/L	0.020	Method 200.7	NA	30 AUG 90

Note G : Reporting Limit raised due to matrix interference.

Note r : Reporting limit changed due to sample volume limitations.

ND = Not detected

NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

METALS

(Water - Total)

Client Name: Petro Chem Environmental Services Inc.

Client ID: #8 HNO3 (IMP 1+2)

Lab ID: 054411-0020-SA

Matrix: AQUEOUS

Authorized: 23 AUG 90

Enseco ID: 162524

Sampled: 02 AUG 90

Prepared: See Below

Received: 10 AUG 90

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Phosphorus	ND	mg/L	0.30	Method 200.7	NA	05 SEP 90

ND = Not detected

NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

Method 245.1

Client Name: Petro Chem Environmental Services Inc.
 Matrix: AQUEOUS Received: 10 AUG 90
 Units: mg/L Authorized: 23 AUG 90

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed	
054411-0014-SA	#201 KMNO4-1 202 KMN	ND	0.00040	30 AUG 90	31 AUG 90	r
054411-0015-SA	#206 KMNO4-2 207 KMN	ND	0.00040	30 AUG 90	31 AUG 90	r
054411-0016-SA	#211 KMNO4-3 212 KMN	ND	0.00040	30 AUG 90	31 AUG 90	r
054411-0017-SA	#216 KMNO4-4 217 KMN	ND	0.00040	30 AUG 90	31 AUG 90	r
054411-0018-SA	#500 KMNO4-INLET 501	0.0016	0.00040	30 AUG 90	31 AUG 90	r
054411-0019-SA	#6 KMNO4 IMP WASH #	ND	0.00040	30 AUG 90	31 AUG 90	r

SALINAS

Note r : Reporting limit changed due to sample volume limitations.

ND = Not detected
 NA = Not applicable

Reported By: Deena Gantt

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-003
Date Sampled: 2-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #10 IMP

CARB IMPINGER Prepared by CARB PREP By WG

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Cadmium (CARB 424)	ug	7.9	1.5	ND	1.5	09/20/90	09/21/90	JW
Total Impinger Volume (ML)	ml	390	NA	NA	NA	09/21/90	09/21/90	WG

Note: MSA was done on the above sample.

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY
SALINAS, LANDFILL - ICE

JOB NO.

SAMPLED BY: *Jim Marchese*
JEM, JDR, ~~JD~~

(233)

[illegible]

COMMENTS:

ELINQUISHED BY:

DATE

RECEIVED BY:

DATE

James E. Markham, 8-6-90

Frank B. Blythe

8/10/90

ELINQUISHED BY:

DATE

RECEIVED BY:

DATE

ELINQUISHED BY:

DATE _____

RECEIVED BY:

DATE _____

ELINQUISHED BY:

DATE _____

RECEIVED BY:

DATE _____

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY

JOB NO.

SAMPLED BY: JEM.

SALINAS LANDFILL ICE (233)

[illegible]

MENTS:

INQUIRED BY:

DATE

RECEIVED BY:

DATE

James E. Morahan, 8-6-90

RECEIVED BY:
Margaret Blythe

8/6/90

INQUIRED BY:

DATE

RECEIVED BY:

DATE

INQUIRED BY:

DATE

RECEIVED BY:

DATE _____

INQUIRED BY:

DATE

RECEIVED BY:

DATE _____



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

INETHU0424; CAOMium

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY JOB NO. SAMPLED BY:
SALINAS, LANDFILL ICE: (233) JEM

[illegible]

COMMENTS:

 LINQUISHED BY:

DATE

RECEIVED BY:

DATE _____

INQUIRED BY:

DATE _____

RECEIVED BY:

DATE _____

INQUIRED BY:

DATE

RECEIVED BY:

DATE _____

ACQUIRED BY:

DATE

RECEIVED BY:

2011

										155
800	700	600	500	400	300	200	100	0	Net	
800	700	600	500	400	300	200	100	0	Net	
852	843	835	845	859	856	842	832	1215		
851	843	830	833	857	855	845	829	1232		
856	838	830	839	857	857	847	834	1255		
852	838	828	832	858	851	843	833	1253		
850	834	829	843	853	850	844	832	1248		
856	838	829	841	853	849	842	825	1244		
859	838	830	848	852	849	840	820	1265		
849	834	824	839	849	846	837	821	1257		
856	836	827	845	857	852	842	828	1278		
856	833	824	848	857	847	841	831	1266		
863	841	830	852	861	854	849	829	1288		
859	838	829	844	860	855	845	828	1261		
853	843	828	839	854	858	850	832	1254		
857	846	832	843	850	857	848	826	1259		
857	849	833	839	855	857	843	826	1305		
861	844	829	835	850	854	840	826	1296		
857	846	829	840	850	858	842	836	1280		
861	847	827	838	851	856	843	830	1281		
859	844	828	840	847	855	839	840	1287		
857	841	829	845	850	853	835	834	1263		
854	842	827	841	849	857	839	835	1262		
859	842	832	844	858	858	839	834	1259		
860	832	831	844	856	858	839	836	1280		
861	838	831	844	848	858	837	835	1256		
852	839	834	842	850	855	840	836	1247		
859	842	834	839	855	855	839	836	1236		
860	841	837	833	855	851	847	825	1252		
862	842	839	838	851	853	844	825	1256		
861	839	835	851	853	852	841	825	1262		
859	837	838	855	850	851	840	826	1256		
854	840	832	860	848	852	838	831	1232		
853	834	829	857	850	854	844	832	1277		

METHOD 425 DATA

COMPANY: PACIFIC ENERGY
 DATE: 7-31-90
 UNIT: SALINAS LANDFILL
 REPORT #: 90-233

METHOD 425
 FIELD DATA @ 60'

SITE:

	OUTLET		
DATE:	7-31-90	7-31-90	7-31-90
RUN #:	1	2	3
TIME:	1209	1402	1527

Vm (dry gas sampled).....	34.77	35.35	35.1
Y (meter calib. factor).....	0.991696	0.991696	0.991696
P bar (Barometric pressure).....	29.84	29.84	29.84
P static (stack pressure, " H2O).....	7.5	7.5	7.5
Delta H (differential meter press, " H2O)....	1.04	1.1	1.04
Tm (meter temperature, R').....	540	543	544
Vol H2O mls	74.95	69.37	71.6

Vm(std),dscf	33.2	33.57	33.27
Vm(std),dscm.....	0.94	0.95	0.94

Bws-H2O vapor	0.0949	0.0876	0.0909
MF-moisture factor	0.9051	0.9124	0.9091

% CO2	7.2	7.2	7.2
% O2	12.5	12.5	12.5
% N2	80.3	80.3	80.3

Md-MW stk gas,dry	29.65	29.65	29.65
Ms-MW stk gas,wet	28.54	28.63	28.59

Cp-pitot tube	0.84	0.84	0.84
Avg sq rt ^p	1.652	1.694	1.685
T stack, R'.....	1134	1130	1134
Stack area,ft2	2.07	2.07	2.07

Vs-fps	135.65	138.63	138.24
Qstd-dscfm	7103	7343	7270

Area noz,ft2	1.97E-04	1.97E-04	1.97E-04
Sample time	48	48	48

% Isokinetic	102.4	100.1	100.2
--------------------	-------	-------	-------

COMPANY: PACIFIC ENERGY
 DATE: 7-31-90
 UNIT: SALINAS LANDFILL MEP ICE
 REPORT #:90-233

Method 425 Run #1

	Total ug	ug/dscf	ug/DSCM	lb/hr
P/N total chrome	1.7	0.05	1.8	4.8E-05 *
P/N chrome IV	3.4	0.10	3.6	9.6E-05 *
IMP total chrome	5.1	0.15	5.4	1.4E-04 *
IMP chrome IV	10	0.31	11	2.9E-04 *

Vm (std)= 33.2 dscf
 =0.940243 dscm

DSCFM= 7103

lb/hr=ug/dscf * .0000154 gr/ug * .00858 * dscfm

* = lower detection limit

COMPANY: PACIFIC ENERGY
 DATE: 7-31-90
 UNIT: SALINAS LANDFILL MEP ICE
 REPORT #:90-233

Method 425 Run #2

	Total ug	ug/dscf	ug/DSCM	lb/hr	
	-----	-----	-----	-----	
P/N total chrome	1.7	0.05	1.8	4.9E-05	*
P/N chrome IV	3.4	0.10	3.6	9.8E-05	*
IMP total chrome	5.3	0.16	5.6	1.5E-04	*
IMP chrome IV	10.5	0.31	11.0	3.0E-04	*

Vm (std)= 33.57 dscf
 =0.950722 dscm

DSCFM= 7343

lb/hr=ug/dscf * .0000154 gr/ug * .00858 * dscfm

* = lower detection limit

COMPANY: PACIFIC ENERGY
 DATE: 7-31-90
 UNIT: SALINAS LANDFILL MEP ICE
 REPORT #:90-233

Method 425 Run #3

	Total ug	ug/dscf	ug/DSCM	lb/hr	
	-----	-----	-----	-----	
P/N total chrome	1.9	0.06	2.0	5.5E-05	*
P/N chrome IV	3.6	0.11	3.8	1.0E-04	*
IMP total chrome	5.2	0.16	5.5	1.5E-04	*
IMP chrome IV	10.4	0.31	11	3.0E-04	*

Vm (std)= 33.27 dscf
 =0.942225 dscm

DSCFM= 7270

lb/hr=ug/dscf * .0000154 gr/ug * .00858 * dscfm

* = lower detection limit

COMPANY: Pacific Energy
 REPORT #:
 UNIT ID:
 DATE: 7-31-90

Chrome 2 (chrome XL)
 Mth. 425

ON-SITE DATA

SITE: Salinas ICE

RUN #: #1 #2 #3
 TIME: 1209 1402 1527

Vm Dry sampled gas volume, dcf 34.77 35.35 35.1
 Y Meter calibration factor (met# 1002)991696 .991696 .991696
 P bar Barometric pressure, in Hg. 29.84 29.84 29.84
 P static Stack static pressure, in H₂O. 7.5 7.5 7.5
 Delta H Differential meter pressure, in H₂O. 1.04 1.10 1.04
 Tm Meter temperature, deg F. 80 83 84

Contents	Run 1			Run 2			Run 3		
	final	tare	net	final	tare	net	final	tare	net
H ₂	682.2	561.2	121.0	671.0	557.8	113.2	679.6	560.3	119.3
H ₂	573.9	587.6	6.3	580.7	571.4	9.3	590.2	582.9	7.3
K.O.	465.6	464.3	1.3	465.2	463.5	1.7	466.8	465.4	1.4
S. H ₂ O	782.3	775.6	6.7	793.7	777.3	6.4	820.0	813.8	6.2
line wash, H ₂ O			-60.35			-62.3			-62.6
V _{lc} , volume of H ₂ O, grams			74.95			69.37			71.6

	#1	#2	#3
CO ₂ % Dry Volume.....	7.2	7.2	7.2
O ₂ % Dry Volume.....	12.5	12.5	12.5
N ₂ % Dry Volume.....	80.3	80.3	80.3
Cp Pitot tube coefficient (Pit#).....	.84	.84	.84
Delta P Avg Delta-P, in H ₂ O.....	2.73	2.87	2.84
Ts Stack temperature, in deg F.....	674	670	674
As Stack area, sq. ft.....	2.07	2.07	2.07
Ds Stack Diameter, inches.....	19.5	19.5	19.5
Dn Nozzle diameter, inches.....	.190	.190	.190
Dur Sampling time, min.....	48	48	48
% Iso Mini Iso.....	101.94	100.26	100.13

Filter #.....
 Filter tare weights, grams.....

INITIALS**

CONTROL BOX#:
 Hi ΔP _____ Lo ΔP _____ Ave ΔP _____
 Diameters before disturb _____ After _____
 # of Points, total _____
 Overall (inches) _____ Coupling _____

Method 12.5 Schen FIELD DATA

Client: Yonkers Gas Co. Report #:

Location: 10000 10000

Operator:

Date: 7-31-80

Run No: 6

Pump No.: 6-250

Meter Box No.: 1000 Factor:

Meter ΔH @: 1000

Pitot Tube No.: 36-2

Post Test Leak Chk.

Leak Rate: cfm

Vacuum: (in Hg)

Ambient Temp:

Barometric Pressure:

Static Pressure, (in Hg):

Assumed Moisture %:

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in):

Probe Liner Material:

Filter Number:

Duct Diam. (in):

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔPs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volume (ft ³)	Gas Sample Temp. at dry Gas Meter		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
							inlet (°F)	outlet (°F)		
8	12:47	6	674	2.8	.720	179.94	80	74	244	
7	50	6	674	2.9	.733	182.1	79	78	244	
6	53	6	676	2.9	.733	184.3	80	78	247	
5	56	6	676	2.8	.722	186.5	83	78	248	
4	59	6	678	2.9	.724	188.7	83	78	246	
3	02	6	677	3.0	.747	190.9	83	78	246	
2	05		676	3.0	.749	193.1	84	79	247	
1	08		653	2.5	.690	195.5	84	78	249	
EOT	13:11					197.92				
		$\bar{X} =$	674	2.73		34.77		80		
					$\Delta H = 1.04$					
					$\Sigma 50 =$	101.94				
					$\sqrt{101.94} = 138.14$					
Total							avg.	avg.		
Average							avg.	avg.		

C41RM112-016425 FIELD DATA

Client: PARIS ENERGY Report #: _____
Location: SALINAS CANYON FIRE _____
Operator: EDMUND JON _____
Date: 7-31-90 _____
Run No: 7 _____
Pump No.: 1451 _____
Meter Box No.: 1012 Factor: _____
Meter Δ H @: .90 _____
Pitot Tube No.: 30-3 _____

Ambient Temp: _____
Barometric Pressure: _____
Static Pressure, (in Hg): +2.5
Assumed Moisture %: 100 ft.w. 22.5
Nozzle Ident. No.: _____
Aver. Calib. Nozzle Diam.(in): 19
Probe Liner Material: QJAC12
Filter Number: _____
Duct Diam. (in): 10.5

[illegible]

Client: Woods Foundation Report #:
 Location: San Jose, CA
 Operator: Steve Smith
 Date: 7-21-01
 Run No:
 Pump No.:
 Meter Box No.: 1003 Fact:
 Meter Δ H @: 1.00
 Pitot Tube No.: 32-2

Post) Test Leak Chk.

Ambient Temp: _____
Barometric Pressure: _____
Static Pressure, (in Hg): _____
Assumed Moisture %: _____
Nozzle Ident. No.: _____
Aver. Calib. Nozzle Diam.(in): _____
Probe Liner Material: _____
Filter Number: _____
Duct Diam. (in): _____

Leak Rate: $\frac{\text{cc}}{\text{min}}$ cfm
Vacuum: $\frac{\text{mm Hg}}{\text{min}}$ (in Hg)

764

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔPs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volume (ft.)	Gas Sample Temp. at dry Gas Meter (°F)		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Gas Impinger (°F)
							inlet (°F)	outlet (°F)		
8	233	5	672	3.3	.787	199.11	83	81	279	
7	36	5	674	3.4	.799	219.49	84	81	269	
6	39	5	673	3.4	.800	221.9	85	81	256	
5	42	5	674	3.3	.787	224.3	86	81	258	
4	45	5	675	2.6	.701	226.7	87	82	253	
3	48	5	675	2.3	.659	228.8	87	82	253	
2	51	4	678	2.1	.629	230.7	87	81	257	
1	54	4	675	2.0	.614	232.6	86	82	256	
For	1457		670	2.37	1.10	234.46		83		
					150	35.35			VEL-141.54	
						100.26				
Total							avg.	avg.		
Average							avg.	avg.		

Average

Enseco - CRL

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

August 31, 1990

PETRO CHEM ENVIRONMENTAL SERVICES
3207 ANTONINO AVENUE
BAKERSFIELD, CA 93388
ATTN: MR. TIM BRENNAN

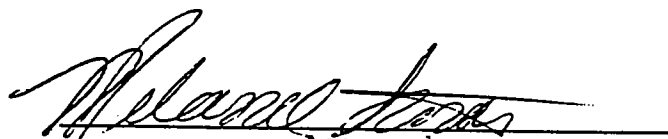
Analysis No: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Project: (62-233) PACIFIC ENERGY SYSTEMS -
SALINAS LANDFILL ICE

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: G-9021916-001/004 shown above.

The samples were received by CRL with the chain-of-custody record attached.

Note that ND() means not detected at the reporting limit expressed within the parentheses. The detection limit is the reporting limit raised to reflect the dilution factor of the sample.


Reviewed


Approved

The Report Cover Letter is an integral part of this report.

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Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Date Analyzed: 23-AUG-1990
10-AUG-1990

Sample Type: LIQUID

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Sample ID	Chromium, Total ug CARB 425	Chromium, Hexavalent ug CARB 425	Total Impinger Volume ml ML
(60) P/N-1	ND(1.7)	ND(3.4)	169
(63) P/N-2	ND(1.7)	ND(3.4)	168
(66) P/N-3	ND(1.9)	ND(3.6)	182
(69) P/N-4	ND(1.5)	ND(3.0)	149
Blank	ND(2.5)	ND(2.5)	NA

NOTE: Blank (RL) numbers are based on an analytical alliquot of 100ml and a 250ml impinger solution volume. Sample detection limit is based on total volume of solution and varies accordingly.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Matrix Spike/Matrix Spike Duplicate Report

Sample Number	Parameter (Method)	Units	Observed Concentration			Amt. Spiked	% Recovery			% RPD
			Sample	MS	MSD		MS	MSD	Avg.	
9021915-001	CHROMIUM, HEXAVALENT (CARB 425)	ug	ND	.041	.042	.04	103	105	104	2

Matrix Spike/Matrix Spike Duplicate Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
9021915-001	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-001 G-9021916-002 G-9021916-003 G-9021916-004

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Laboratory Control Sample Report

QC Batch	Parameter (Method)	Amt. Spiked	Units	Avg. Spike Recov.	Acceptable Range	Rel. Pct. Diff.	Acceptable Range
L90222019	CHROMIUM, HEXAVALENT (CARB 425)	.040	ug	104.	67-129	2.	17
L90241001	CHROMIUM, TOTAL (CARB 425)	1.0	ug	91.	67-129	0.	17

Laboratory Control Sample Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
L90222019	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-001 G-9021916-002 G-9021916-003 G-9021916-004
L90241001	23-AUG-1990	CHROMIUM, TOTAL (CARB 425)	G-9021916-001 G-9021916-002 G-9021916-003 G-9021916-004

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-005/008
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Date Analyzed: 23-AUG-1990
10-AUG-1990

Sample Type: FILTER

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Sample ID	Chromium, Total ug CARB 425	Chromium, Hexavalent ug CARB 425	Total Impinger Volume ml ML
(61 & 62) IMP-1 & FILTER-1 COMPOSITE	ND(5.1)	ND(10.2)	510
(64 & 65) IMP-2 & FILTER-2 COMPOSITE	ND(5.3)	ND(10.5)	524
(67 & 68) IMP-3 & FILTER-3 COMPOSITE	ND(5.2)	ND(10.4)	518
(70 & 71) IMP-4 & FILTER-4 COMPOSITE	ND(3.6)	ND(7.1)	357
Blank	ND(2.5)	ND(2.5)	NA

NOTE: Blank (RL) numbers are based on an analytical alliquot of 100ml and a 250ml impinger solution volume. Sample detection limit is based on total volume of solution and varies accordingly.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN
Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Analysis No.: G-9021916-005/008
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: FILTER

Matrix Spike/Matrix Spike Duplicate Report

Sample Number	Parameter (Method)	Units	Observed Concentration			Amt. Spiked	% Recovery			% RPD
			Sample	MS	MSD		MS	MSD	Avg.	
9021915-001	CHROMIUM, HEXAVALENT (CARB 425)	ug	ND	.041	.042	.04	103	105	104	2

Matrix Spike/Matrix Spike Duplicate Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
9021915-001	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-005 G-9021916-006 G-9021916-007 G-9021916-008

Laboratory Control Sample Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
L90222019	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-005 G-9021916-006 G-9021916-007 G-9021916-008
L90241001	23-AUG-1990	CHROMIUM, TOTAL (CARB 425)	G-9021916-005 G-9021916-006 G-9021916-007 G-9021916-008

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-005/008
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: FILTER

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Laboratory Control Sample Report

QC Batch	Parameter (Method)	Amt. Spiked	Units	Avg. Spike Recov.	Acceptable Range	Rel. Pct. Diff.	Acceptable Range
L90222019	CHROMIUM, HEXVALENT (CARB 425)	.040	ug	104.	67-129	2.	17
L90241001	CHROMIUM, TOTAL (CARB 425)	1.0	ug	91.	67-129	0.	17

Enseco - CRL

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August 31, 1990

PETRO CHEM ENVIRONMENTAL SERVICES
3207 ANTONINO AVENUE
BAKERSFIELD, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Project: (62-233) PACIFIC ENERGY SYSTEMS -
SALINAS LANDFILL ICE

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: G-9021916-001/004 shown above.

The samples were received by CRL with the chain-of-custody record attached.

Note that ND() means not detected at the reporting limit expressed within the parentheses. The detection limit is the reporting limit raised to reflect the dilution factor of the sample.


Reviewed


Approved

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of the Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Date Analyzed: 23-AUG-1990
10-AUG-1990

Sample Type: LIQUID

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Sample ID	Chromium, Total ug CARB 425	Chromium, Hexavalent ug CARB 425	Total Impinger Volume ml ML
(60) P/N-1	ND(1.7)	ND(3.4)	169
(63) P/N-2	ND(1.7)	ND(3.4)	168
(66) P/N-3	ND(1.9)	ND(3.6)	182
(69) P/N-4	ND(1.5)	ND(3.0)	149
Blank	ND(2.5)	ND(2.5)	NA

NOTE: Blank (RL) numbers are based on an analytical alliquot of 100ml and a 250ml impinger solution volume. Sample detection limit is based on total volume of solution and varies accordingly.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-001/004
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Matrix Spike/Matrix Spike Duplicate Report

Sample Number	Parameter (Method)	Units	Observed Concentration			Amt. Spiked	% Recovery			% RPD
			Sample	MS	MSD		MS	MSD	Avg.	
9021915-001	CHROMIUM, HEXAVALENT (CARB 425)	ug	ND	.041	.042	.04	103	105	104	2

Matrix Spike/Matrix Spike Duplicate Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
9021915-001	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-001 G-9021916-002 G-9021916-003 G-9021916-004

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9021916-005/008
Date Sampled: 31-JUL-1990
Date Sample Rec'd: 7-AUG-1990
Date Analyzed: 23-AUG-1990
10-AUG-1990

Sample Type: FILTER

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Sample ID	Chromium, Total ug CARB 425	Chromium, Hexavalent ug CARB 425	Total Impinger Volume ml ML
(61 & 62) IMP-1 & FILTER-1 COMPOSITE	ND(5.1)	ND(10.2)	510
(64 & 65) IMP-2 & FILTER-2 COMPOSITE	ND(5.3)	ND(10.5)	524
(67 & 68) IMP-3 & FILTER-3 COMPOSITE	ND(5.2)	ND(10.4)	518
(70 & 71) IMP-4 & FILTER-4 COMPOSITE	ND(3.6)	ND(7.1)	357
Blank	ND(2.5)	ND(2.5)	NA

NOTE: Blank (RL) numbers are based on an analytical alliquot of 100ml and a 250ml impinger solution volume. Sample detection limit is based on total volume of solution and varies accordingly.

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES

3207 Antonino Avenue

Bakersfield, CA 93388

ATTN: MR. TIM BRENNAN

Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE

Analysis No.: G-9021916-001/004

Date Sampled: 31-JUL-1990

Date Sample Rec'd: 7-AUG-1990

Sample Type: LIQUID

Laboratory Control Sample Report

QC Batch	Parameter (Method)	Amt. Spiked	Units	Avg. Spike Recov.	Acceptable Range	Rel. Pct. Diff.	Acceptable Range
L90222019	CHROMIUM, HEXAVALENT (CARB 425)	.040	ug	104.	67-129	2.	17
L90241001	CHROMIUM, TOTAL (CARB 425)	1.0	ug	91.	67-129	0.	17

Matrix Spike/Matrix Spike Duplicate Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
9021915-001	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-005 G-9021916-006 G-9021916-007 G-9021916-008

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES	Analysis No.: G-9021916-005/008
3207 Antonino Avenue	Date Sampled: 31-JUL-1990
Bakersfield, CA 93388	Date Sample Rec'd: 7-AUG-1990
ATTN: MR. TIM BRENNAN	Sample Type: FILTER
Project: (62-233) PACIFIC ENERGY SYSTEMS - SALINAS LANDFILL ICE	

Laboratory Control Sample Report

QC Batch	Parameter (Method)	Amt. Spiked	Units	Avg. Spike Recov.	Acceptable Range	Rel. Pct. Diff.	Acceptable Range
L90222019	CHROMIUM, HEXAVALENT (CARB 425)	.040	ug	104.	67-129	2.	17
L90241001	CHROMIUM, TOTAL (CARB 425)	1.0	ug	91.	67-129	0.	17

Laboratory Control Sample Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
L90222019	10-AUG-1990	CHROMIUM, HEXAVALENT (CARB 425)	G-9021916-005 G-9021916-006 G-9021916-007 G-9021916-008
L90241001	23-AUG-1990	CHROMIUM, TOTAL (CARB 425)	G-9021916-005 G-9021916-006 G-9021916-007 G-9021916-008



PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHECK ONE 7 CIRCLED
method 425

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY
SALINAS LANDFILL ICE

JOB NO.

622331

SAMPLED BY: *Jim Marchese*
JEM, ~~FOR, 300~~

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS.	ANALYSIS REQUIRED
				liq.	filter	gas		
60	PACIFIC ENERGY SALINAS CHROME (VI) P/N-1	7-31-90		✓			1	Composite and analyze for Chrome IV and chrome Tot or
61	PACIFIC ENERGY SALINAS CHROME (VI) IMP-1	7-31-90		✓			1	
62	PACIFIC ENERGY SALINAS CHROME (VI) FILTER-1	7-31-90			✓		1	
63	PACIFIC ENERGY SALINAS CHROME (VI) P/N-2	7-31-90		✓			1	Impinger samples with Filter samples Run P/N samples "Separately" (Per Telecon with J Marchese)
64	PACIFIC ENERGY SALINAS CHROME (VI) IMP-2	7-31-90		✓			1	
65	PACIFIC ENERGY SALINAS CHROME (VI) FILTER-2	7-31-90		✓	✓		1	
66	PACIFIC ENERGY SALINAS CHROME (VI) P/N-3	7-31-90		✓			1	" "
67	PACIFIC ENERGY SALINAS CHROME (VI) IMP-3	7-31-90		✓			1	
68	PACIFIC ENERGY SALINAS CHROME (VI) FILTER-3	7-31-90			✓		1	

COMMENTS:

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
<i>James E. Marchese</i>	8-6-90	<i>Tyler Blythe</i>	8/7/90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
<i>M. J. Marchese</i>	8/7/90	<i>Marchese</i>	8/7/90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
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CHINESE
method 425

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY,
SALINAS LANDFILL IIE

JOB NO.

SAMPLED BY: JEM

JEM, ~~SECRET~~

COMMENTS:

DISINQUIRED BY:

DATE

RECEIVED BY:

DATE

James E. Marston 8-6-90

Teak Block

8/7/90

INQUIRED BY:

DATE _____

RECEIVED BY:

DATE

MG/Kreber 8/7/40

recd

5/7/50

INQUIRED BY:

DATE _____

RECEIVED BY:

DATE _____

 INQUIRED BY:

DATE _____

RECEIVED BY:

DATE _____



PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHROME + CHROME VI
method 425

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY
SALINAS LANDFILL ICE.

JOB NO.

62-2331

SAMPLED BY: Jim Marchesini
JEM, ~~FOR~~

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS.	ANALYSIS REQUIRED
				liq.	filter	gas		
60	PACIFIC ENERGY SALINAS CHROME CHROME(VI) P/N-1	7-31-90		✓			1	Composite and analyze for VI (Hex- chrome) and chrome Tot on
61	PACIFIC ENERGY SALINAS CHROME CHROME(VI) IMP-1	7-31-90		✓			1	
62	PACIFIC ENERGY SALINAS CHROME CHROME(VI) FILTER #1	7-31-90			✓		1	
63	PACIFIC ENERGY SALINAS CHROME CHROME(VI) P/N-2	7-31-90		✓			1	Impinger samples with Filter samples Run P/N samples "Separately" (Per telecon with J Marchesi)
64	PACIFIC ENERGY SALINAS CHROME CHROME(VI) IMP-2	7-31-90		✓			1	
65	PACIFIC ENERGY SALINAS CHROME CHROME(VI) FILTER #2	7-31-90		✓	✓		1	
66	PACIFIC ENERGY SALINAS CHROME CHROME(VI) P/N-3	7-31-90		✓			1	" "
67	PACIFIC ENERGY SALINAS CHROME CHROME(VI) IMP-3	7-31-90		✓			1	
68	PACIFIC ENERGY SALINAS CHROME CHROME(VI) FILTER #3	7-31-90			✓		1	

COMMENTS:

RELINQUISHED BY:

DATE

James E Marchesini 8-6-90

RECEIVED BY:

DATE

Yagob B. B. 8/7/90

RELINQUISHED BY:

DATE

M. J. March 8/7/90

RECEIVED BY:

DATE

8/7/90

RELINQUISHED BY:

DATE

RECEIVED BY:

DATE

RELINQUISHED BY:

DATE

RECEIVED BY:

DATE

CHROME
method 425

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY
SALINAS LANDFILL IIC

JOB NO.

SAMPLED BY: JEM

232

Gen, ~~XXXXXXXXXXXX~~

[illegible]

COMMENTS:

ELINQUISHED BY:

DATE

RECEIVED BY:

DATE

James E. Marston 8-6-90

Teak Block

8/7/90

EL INQUIRED BY:

DATE

RECEIVED BY:

DATE

mg/koch 8/7/90

such

8/7/90

ELINQUISHED BY:

DATE

RECEIVED BY:

DATE _____

ELINQUISHED BY:

DATE

RECEIVED BY:

DATE _____

METHOD 421 DATA



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY JOB NO. SAMPLED BY:
SOLINAS LANDFILL ICE 62-233 JEM

MENTS:

ACQUAINTED BY:	DATE	RECEIVED BY:	DATE
ACQUAINTED BY:	DATE	RECEIVED BY:	DATE
ACQUAINTED BY:	DATE	RECEIVED BY:	DATE
ACQUAINTED BY:	DATE	RECEIVED BY:	DATE

METHOD 5 DATA

COMPANY: PACIFIC ENERGY
 DATE: 7-31 & 8-1-90
 UNIT: SALINAS LANDFILL
 REPORT #: 90-233

METHOD 5
 FIELD DATA @ 60'

SITE:

OUTLET

DATE:	'7-31-90	'7-31-90	'8-1-90
RUN #:	1	2	3
TIME:	1651	1836	1122

Vm (dry gas sampled).....	46.34	46.7	47.6
Y (meter calib. factor).....	0.991696	0.991696	0.991696
P bar (Barometric pressure).....	29.85	29.85	29.85
P static (stack pressure, " H2O).....	7.5	7.5	7.5
Delta H (differential meter press, " H2O)....	1.08	1.08	1.11
Tm (meter temperature, R').....	541	539	540
Vol H2O mls	95	98.7	93.8

Vm(std),dacf	44.19	44.69	45.47
Vm(std),dscm.....	1.25	1.27	1.29

Bws-H2O vapor	0.0908	0.0931	0.0875
MF-moisture factor	0.9092	0.9069	0.9125

% CO2	7.2	7.3	7.4
% O2	12.47	12.43	12.52
% N2	80.33	80.27	80.08

Md-MW stk gas,dry	29.65	29.67	29.68
Ms-MW stk gas,wet	28.59	28.58	28.66

Cp-pitot tube	0.84	0.84	0.84
Avg sq rt ^p	1.685	1.697	1.72
T stack, R'.....	1133	1137	1132
Stack area,ft2	2.07	2.07	2.07

Vs-fps	138.15	139.4	140.79
Qstd-dscfm	7275	7297	7448

Area noz,ft2	1.97E-04	1.97E-04	1.97E-04
Sample time	64	64	64

% Isokinetic	99.8	100.6	100.3

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 7-31,8-1-90

Summary of Results for Quartz, Cristobalite, Tridymite

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
Quartz	1	44.19	7275	14		4.88E-06	3.05E-04
	2	44.69	7297	10	*	3.45E-06	2.16E-04
	3	45.47	7448	10	*	3.39E-06	2.16E-04
			average			3.90E-06	2.46E-04
Cristobalite	1	44.19	7275	10	*	3.48E-06	2.18E-04
	2	44.69	7297	10	*	3.45E-06	2.16E-04
	3	45.47	7448	10	*	3.39E-06	2.16E-04
			average			3.44E-06	2.17E-04
Tridymite	1	44.19	7275	10	*	3.48E-06	2.18E-04
	2	44.69	7297	10	*	3.45E-06	2.16E-04
	3	45.47	7448	10	*	3.39E-06	2.16E-04
			average			3.44E-06	2.17E-04

* Values Reported are lower detection limit

COMPANY: PACIFIC ENERGY
 DATE: 8-2-90
 UNIT: SALINAS LANDFILL
 REPORT #: 90-233

METHOD 421
 FIELD DATA @ 60'

SITE:

OUTLET

DATA:	8-2-90	8-2-90	8-2-90
RUN #:	1	2	3
TIME:	1058	1235	1415

Vm (dry gas sampled).....	47.57	47.26	48.11
Y (meter calib. factor).....	0.991696	0.991696	0.991696
P bar (Barometric pressure).....	29.83	29.83	29.83
P static (stack pressure, " H2O).....	7.5	7.5	7.5
Delta H (differential meter press, " H2O)....	1.11	1.09	1.13
Tm (meter temperature, R').....	541	544	544
Vol H2O mls	119	122.6	98.4

Vm(std),dscf	45.33	44.79	45.6
Vm(std),dscm	1.28	1.27	1.29

Bws-H2O vapor	0.1087	0.1128	0.0911
MF-moisture factor	0.8913	0.8872	0.9089

% CO2	7	6.9	6.9
% O2	12.4	12.4	12.5
% N2	80.6	80.7	80.6

Md-MW stk gas,dry	29.62	29.6	29.6
Ms-MW stk gas,wet	28.36	28.29	28.54

Cp-pitot tube	0.84	0.84	0.84
Avg sq rt ^p	1.718	1.694	1.718
T stack, R'.....	1129	1127	1126
Stack area,ft2	2.07	2.07	2.07

Vs-fps	141.22	139.3	140.59
Qstd-dscfm	7311	7192	7442

Area noz,ft2	1.97E-04	1.97E-04	1.97E-04
Sample time	64	64	64

% Isokinetic	101.8	102.3	100.7
--------------------	-------	-------	-------

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 8-2-90

Summary of Results for Hydrochloric Acid

Pollutant	Test	Vm std	DSCFM	Total ug		gr/DSCF	lb/hr
-----	-----	-----	-----	-----		-----	-----
Hydro-	1	45.33	7311	17.6	*	5.98E-06	3.75E-04
chloric Acid	2	44.79	7192	12900		4.44E-03	2.74E-01
	3	48.11	7442	11300		3.62E-03	2.31E-01
						-----	-----
				average		2.69E-03	1.68E-01

* Values Reported are lower detection limit

HCl : Meth
421

COMPANY: Pac. Energy
REPORT #:
UNIT ID:
DATE: 9-2-90

ON-SITE DATA

SITE: Salinas

RUN #: #1 #2 #3
TIME: 1058 1235 1415

Vm Dry sampled gas volume, dcf
Y Meter calibration factor (met#)
P bar Barometric pressure, in Hg.....
P static Stack static pressure, in H₂O.....
Delta H Differential meter pressure, in H₂O.....
Tm Meter temperature, deg F.....

47.57	47.26	48.11
.991696	.991696	.991696
29.83	29.83	29.83
7.5	7.5	7.5
1.11	1.09	1.13
81	84	84

Contents	Run 1			Run 2			Run 3		
	final	tare	net	final	tare	net	final	tare	net
CO ₂ / N ₂ H ₂ O	641.9	546.8	95.1	656.7	543.3	113.4	682.2	545.4	136.8
SO ₂ / N ₂ H ₂ O	638.8	561.9	76.9	646.2	566.0	80.2	580.7	567.7	13.0
K ₂ O	470.1	465.6	4.5	465.9	465.3	.6	466.8	464.0	2.8
Silica	800.6	786.5	14.1	784.8	776.4	8.4	821.7	810.4	11.3
Line wash			-71.6			-80.0			-65.5
			119.0			122.6			98.4
V _{lc} , volume of H ₂ O, grams									

CO₂ % Dry Volume.....
O₂ % Dry Volume.....
N₂ % Dry Volume.....
Cp Pitot tube coefficient (Pit#)
Delta P Avg Delta-P, in H₂O.....
Ts Stack temperature, in deg F.....
As Stack area, sq. ft.....
Ds Stack Diameter, inches.....
Dn Nozzle diameter, inches.....
Dur Sampling time, min.....
% Iso Mini Iso.....

#1	#2	#3
7.0	6.9	6.9
12.4	12.4	12.5
.84	.84	.84
2.95	2.87	2.95
669	667	666
2.07	2.07	2.07
19.5	19.5	19.5
.190	.190	.190
64	64	64
100.08	100.27	100.25

Filter #.....
Filter tare weights, grams.....

9	10	207
.8799	.8720	.7523
303.5	400.7	332.5
95.7	212.5	157.5

INITIALS**

CONTROL BOX#:
Hi Δ P _____ Lo Δ P _____ Ave Δ P _____
Diameters before disturb _____ After _____
of Points, total _____
Overall (inches) _____ Coupling _____

IMP 475.0 551.8 474.5
303.5 370.5 335.9

Duct Temp.

FIELD DATA

Post Test Leak Chk.

Post Test Leak Chk.

Leak Rate: .01 cfm
Vacuum: 7 (in Hg)

Ambient Temp: 69

Barometric Pressure: 29.93

Static Pressure, (in Hg): $\frac{29.93}{\pm 7.5}$

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): .125

Tube Filler Material: Quartz
 Filler Number:

Duct Diam. (in): 19.5

[illegible]

HCL

FIELD DATA

Client: Verde Chemical Report #: _____Location: SAVANA, ALABAMA VCEOperator: ADONDate: 2-25-61Run No: 10Pump No.: 622Meter Box No.: 1000 Factor: _____Meter ΔH @: 100Pilot Tube No.: 30-3

(Post-Test Leak Chk.)

Leak Rate: 0.2 cfmVacuum: 7 (in Hg)Ambient Temp: 69Barometric Pressure: 29.93Static Pressure, (in Hg): 17.5Assumed Moisture %: 10 m.w. 21.5

Nozzle Ident. No.: _____

Aver. Calib. Nozzle Diam. (in): 1.13Probe Liner Material: Quartz

Filter Number: _____

Duct Diam. (in): 19.5

Test Point Number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (4Ps) (in) H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volume (ft ³)	Gas Sample Temp. at dry Gas Meter inlet (°F)	Gas Sample outlet (°F)	Filter Holder Temperature: (°F)	Temperature Gas Leak Condenser Impinger
2	11:36	5	674	2.8	.783	337.5	80	79		
7	40	5	671	3.0	.747	864.1	80	78	243	
6	44	5	672	3.0	.750	867.1	83	79	253	
5	48	5	675	2.9	.737	870.1	85	79		
4	52	5	672	2.9	.739	873.1	86	79	252	
3	56	5	673	3.0	.751	876.02	86	79	254	
2	1200		662	3.0	.755	879.0	86	79	253	
1	04		686	3.0	.757	882.0	86	79	253	
End	08					885.07				
			(669)	(2.951)	(1.11)	47.57		(81)		
					150	100.08			143.50	

FIELD DATA

Client: Boeing Galaxy Report #: _____
Location: Southern California _____
Operator: Edgar _____
Date: 9-27-90 _____
Run No: #2 _____
Pump No.: G-057 _____
Meter Box No.: 1007 Factor: _____
Meter ΔH @: 20 _____
Pilot Tube No.: 300-7 _____

Post Test Leak Chk.

Leak Rate: _____ cfm
Vacuum: _____ (in Hg)

Ambient Temp: 73
Barometric Pressure: 29.83
Static Pressure, (in Hg): +7.5
Assumed Moisture %: 10-27.5
Nozzle Ident. No.: _____
Aver. Calib. Nozzle Diam.(in): .1
Probe Liner Material: Quartz
Filter Number: _____
Duct Diam. (in): 19.5

[illegible]

FIELD DATA

15

Post Test Leak Chk.

Leak Rate: .01 cfm
Vacuum: 28 (in Hg)

Ambient Temp: 74

Barometric Pressure: 29.93

Static Pressure, (in Hg): $+7.5$

Muzzle Ident. No.:

Aver. Calib. Nozzle Diam. (in):

Probe Liner Material: 

Duct Diam. (in): 19.5

Temperal
Gas Leav
Condense
Impinger

12H1

FIELD DATA

Client: Atlantic E. Jewelry Report #: _____

Location: SP-1107 SP-1107 SP-1107

Operator: 8000

Date: 8-2-90

Run 10: 36

2001-2002

Water Box Flo.: 10.5

Factor: $\frac{1037}{80}$

... Pilot Tube No.

Pilot Tube No.: 36-7

Post Test Leak Chk.

Leak Rate: cfm

Vacuum: _____ (in Hg)

Ambient Temp: 74

Barometric Pressure: 29.55

Static Pressure, (in Hg): $\frac{47.5}{100}$

Assumed Moisture %: 16.3

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam. (in).

Probe Liner Material: **Chromalox**

Filter Number: 35612

Duct Diam. (in): 14.0

[illegible]

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-004
Date Sampled: 2-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #15 P/N-1 #16 IMP-1 COMPOSITE

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Hydrochloric Acid, as Cl (CARB 421)	ug	17.60	73	ND	25.0	09/04/90	09/04/90	RJ
Total Impinger Volume	mL	730	NA	NA	NA	09/04/90	09/04/90	RJ

10/29/90

45	8	4-METHYLPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
46	75014	VINYL CHLORIDE	0.00380000000000	60	1733.10	0.10976300000000	290.808	31.91995850399999
47	88755	2-NITROPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
48	1210	XYLENES	0.01000000000000	60	1733.10	0.28885000000000	290.808	83.99989080000000
49	7440382	ARSENIC	0.00000278000000	60	1733.10	0.00008030030000	290.808	0.02335196964240
50	7440417	BERYLLIUM	0.00000105000000	60	1733.10	0.00003032925000	290.808	0.00881998853400
51	7440439	CADMIUM	0.00000126000000	60	1733.10	0.00003639510000	290.808	0.01058398624080
52	18540299	CHROMIUM VI	0.00009900000000	60	1733.10	0.00285961500000	290.808	0.83159891892000
53	7440508	COPPER	0.00000121000000	60	1733.10	0.00003495085000	290.808	0.01016398678680
54	7439921	LEAD	0.00002780000000	60	1733.10	0.00080300300000	290.808	0.23351969642400
55	7439965	MANGANESE	0.00000525000000	60	1733.10	0.00015164625000	290.808	0.04409994267000
56	7439976	MERCURY	0.00000033700000	60	1733.10	0.00000973424500	290.808	0.00283079631996
57	7440020	NICKEL	0.00000410000000	60	1733.10	0.00011842850000	290.808	0.03443995522800
58	7723140	PHOSPHOROUS	0.00015800000000	60	1733.10	0.00456383000000	290.808	1.32719827464000
59	7722492	SELENIUM	0.00000263000000	60	1733.10	0.00007596755000	290.808	0.02209197128040
60	14308607	QUARTZ(SILICA)	0.00024600000000	60	1733.10	0.00710571000000	290.808	2.06639731368000
61	1175	CRISTOBALITE(SILICA)	0.00021700000000	60	1733.10	0.00626804500000	290.808	1.82279763036000
62	1175	TRIDYMITE(SILICA)	0.00021700000000	60	1733.10	0.00626804500000	290.808	1.82279763036000
63	7440606	ZINC	0.00189000000000	60	1733.10	0.05459265000000	290.808	15.87597936120000
64	7440473	TOTAL CHROME	0.00005100000000	60	1733.10	0.00147313500000	290.808	0.42839944308000
65	120832	2,4-DICHLOROPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
66	35421880	4,CLORO-3-METHYLPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
67	79016	TRICHLOROETHYLENE	0.00062000000000	60	1733.10	0.01790870000000	290.808	5.20799322960000
68	106934	1,2-DIBROMETHANE	0.00020000000000	60	1733.10	0.00577700000000	290.808	1.67999781600000
69	127184	PERCHLOROETHYLENE	0.00240000000000	60	1733.10	0.06932400000000	290.808	20.15997379200000
70	75354	VINYLDIENE CHLORIDE	0.00510000000000	60	1733.10	0.14731350000000	290.808	42.83994430800000

TOTAL PAH

1	91203	NAPTHALENE	0.00011900000000	60	1733.10	0.00343731500000	290.808	0.99959870052000
2	208968	ACENAPHTHYLENE	0.00000281000000	60	1733.10	0.00008116685000	290.808	0.02360396831480
3	933229	ACENAPTHENE	0.00000196000000	60	1733.10	0.00005661450000	290.808	0.01646397659680
4	86737	FLUORENE	0.00000376000000	60	1733.10	0.00010860760000	290.808	0.03158395894080
5	85018	PHENANTHRENE	0.00001420000000	60	1733.10	0.00041016760000	290.808	0.11927984493600
6	120127	ANTHRACENE	0.00000110000000	60	1733.10	0.00003177350000	290.808	0.00923998798800
7	206440	FLUORANTHENE	0.00000351000000	60	1733.10	0.00010138635000	290.808	0.02946396167080
8	129000	PYRENE	0.00000420000000	60	1733.10	0.00012131700000	290.808	0.03527995413600
9	56583	BENZO(A)ANTHRACENE	0.00000152000000	60	1733.10	0.00004390520000	290.808	0.01276798340160
10	218019	CHRYSENE	0.00000338000000	60	1733.10	0.00009763130000	290.808	0.02839196309040
11	208392	BENZO(B)FLORANTHENE	0.00000245000000	60	1733.10	0.00007076625000	290.808	0.02057997324600
12	207689	BENZO(E)FLORANTHENE	0.00000224000000	60	1733.10	0.00006470240000	290.808	0.01881597552920
13	19272	BENZO(A)PYRENE	0.00000124000000	60	1733.10	0.00003581740000	290.808	0.01041598645920
14	53703	DIBENZ(A,H)ANTHRACENE	0.00000090200000	60	1733.10	0.00002805427000	290.808	0.00757675015016
15	191242	BENZO(G,H,I)PERYLENE	0.00000071400000	60	1733.10	0.00002062389000	290.808	0.00599759220312
16	193195	INDENO(1,2,3-CD)PYRENE	0.00000071400000	60	1733.10	0.00002062389000	290.808	0.00599759220312

TOTALS

0.0001637

0.0047284745

1.375078212396

COMPANY NAME Pacific Energy

DEVICE ID: DEV#11

PLEASE COPY THIS FORM AS MANY TIMES AS NECESSARY FOR YOUR FACILITY.
PLEASE READ THE INSTRUCTIONS BEFORE COMPLETING THIS FORM.

FOR OFFICE USE ONLY

CO: 1 AB: 11

FACID: 11111111

SCC: 11111111

FUEL & FEEDSTOCK COMPOSITION

UNCONVENTIONAL FUELS & FEEDSTOCKS:

INDICATE WITH A CHECKMARK ANY UNCONVENTIONAL FUELS OR FEEDSTOCKS USED IN YOUR FACILITY AT THE DEVICE ID INDICATED ABOVE. DESCRIBE BRIEFLY THE NATURE OF SUCH FUEL OR FEEDSTOCK IN THE SPACE PROVIDED.
ALSO SUMMARIZE THIS FEEDSTOCK INFORMATION IN THE DATA FIELD, "FUEL TYPE/OTHER PROCESS INFO" ON CORE FORM PRO.

☐ MUNICIPAL WASTE

☐ HOSPITAL WASTE

☐ HAZARDOUS WASTE

☐ WASTE OIL

☐ WASTE SOLVENT

☐ AGRICULTURAL DEBRIS

☐ TIRES

☒ OTHER (PLEASE SPECIFY): LANDFILL GAS

REPORT USE OF AUXILIARY FUEL WITH THESE FEEDSTOCKS IN ACCORDANCE WITH THE STATIONARY COMBUSTION REPORTING INSTRUCTIONS FOR THIS FORM, S-CMB.

FUEL & FEEDSTOCK ANALYSIS

COMPLETE THIS PART FOR EACH FUEL AND FEEDSTOCK USED AT THE DEVICE ID INDICATED ABOVE FOR WHICH A FUEL ANALYSIS WAS PERFORMED.

(IN WEIGHT %):

SULFUR: .00415

(IN PARTS-PER-MILLION BY WEIGHT (PPMW) OR MG/KG):

ARSENIC: <u>.000013</u>	CHROMIUM VI: <u>111111</u>	PHOSPHORUS: <u>11111</u>
BERYLLIUM: <u>.000004</u>	COPPER: <u>.0000105</u>	RADIONUCLIDES: <u>1110.10</u>
BROMINE: <u>11110.10</u>	FLUORINE: <u>111111</u>	SELENIUM: <u>.000012</u>
CADMIUM: <u>.000005</u>	LEAD: <u>.0000132</u>	ZINC: <u>.0008950</u>
CHLORINE: <u>111111</u>	MANGANESE: <u>.0000624</u>	
NICKEL: <u>.000019</u>	MERCURY: <u>.0000001</u>	

REPORT EMISSIONS IN SECTION 2 OF CORE FORM PRO

ME: Tamara

DATE: 29 OCT 1990

CLIENT: SALINAS LANDFILL
UNIT: MEP ENGINE
REPORT #: 90-233
DATE: 8-2-90

Summary of Results for Metal Emissions

mgs metal / Kg fuel: Method 436

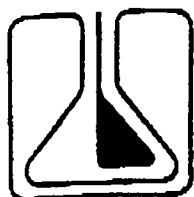
Pollutant	mg/l	Sample vol. (ml)	Total mgs		mgs/Kg Fuel
-----	-----	-----	-----		-----
Arsenic	0.0053	340	1.80E-03		1.32E-06
Beryllium	0.002	340	6.80E-04	*	4.97E-07
Cadmium	0.0024	340	8.16E-04		5.97E-07
Chromium	0.0037	340	1.26E-03		9.20E-07
Copper	0.0023	340	7.82E-04		5.72E-07
Lead	0.053	340	1.80E-02		1.32E-05
Manganese	0.01	340	3.40E-03	*	2.49E-06
Mercury	0.0004	545	2.18E-04	*	1.59E-07
Nickel	0.0078	340	2.65E-03		1.94E-06
Selenium	0.005	340	1.70E-03	*	1.24E-06
Zinc	3.6	340	1.22E+00		8.95E-04

Test Duration	70 minutes
Fuel Rate=	574 scfm
Total fuel Consumption=	40180 scf
Total Kgs Fuel Consumed=	1367.235 Kgs
Fuel Specific Volume=	13.33 cu.ft./lb
U.S. to Metric Weight Conversion=	0.45359 Kgs/lb

* Values reported are lower detection limit

TRANSMITTED FROM E

10.29.90 09:39 P.03 *PETRO CHEM



ZALC

RIES, INC.

page 28 of 41

Analytical & Consulting Services

PETRO-CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93308

Lab. No.: 023801_001
Received: May 31, 1990
Reported: May 31, 1990

Attention: Jim Marchesini

Sample Description: Pacific Eng Systems 90-186 Silinas
Landfill Silinas, 5/30/90
* CHROMATOGRAPHIC ANALYSIS (Z 1610) *

Components	Mole %	Wt %	G.P.M.
Carbon Dioxide	40.088	62.089	
Oxygen	.252	.284	
Nitrogen	9.330	9.198	
Carbon Monoxide	0.000	0.000	
Methane	50.323	28.412	
Ethane	0.000	0.000	
Propane	0.000	0.000	0.000
IsoButane	.004	.008	.001
N-Butane	0.000	0.000	0.000
IsoPentane	0.000	0.000	0.000
N-Pentane	0.000	0.000	0.000
Hexanes+	.003	.009	.001
Totals =	100.000	100.000	.003

SPECIFIC GRAVITY (Air = 1) .9832
 * SPECIFIC VOLUME, cu.ft./lb 13.33
 * GROSS CALORIFIC VALUE, BTU/cu.ft. 502.09
 ** GROSS CALORIFIC VALUE, BTU/cu.ft. 510.77
 ** GROSS CALORIFIC VALUE, BTU/lb 6806.68
 * NET CALORIFIC VALUE, BTU/cu.ft. 452.09
 ** NET CALORIFIC VALUE, BTU/cu.ft. 459.90
 COMPRESSIBILITY FACTOR 'Z' (60 F, 1 ATM) .9976

* Water Saturated

** Dry Gas @ 60 F, 14.73 psia

Total Sulfur -(ASTM D-3246)

As H₂S, ppm

35.8

As Grains S/100 SCF

2.18

Maryann W. Benoit
Organics Supervisor

Richard L. Penner
Laboratory Director

RECEIVED JUN 25 1990

4309 Armour Avenue Bakersfield, California 93308

(805) 395-0539

FAX (805) 395-3069

TRANSMITTED FROM 805 327 3459

10.29.90 09:39 P.04 *PETRO CHEM



**PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.**

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

10-3-90

JEN

PACIFIC ENERGY INLET METALS CALCULATIONS mg METAL / Kg FUEL Consumed

$$\frac{\text{mg}}{\text{Liter}} * \frac{\text{SAMPLE VOLUME (mls)}}{\frac{1000 \text{ ml}}{1 \text{ liter}}} = \text{total mg METAL}$$

$$\text{TEST DURATION 90 MINUTES} * 630 \frac{\text{SCF}}{\text{MINUTE}} = 56,700 \text{ TOTAL FUEL CONSUMED}$$

$$\frac{56,700 \text{ CF}}{13.63 \frac{\text{CU.FT}}{\text{lb}}} = 4,159.94 \text{ lbs of FUEL CONSUMED}$$

$$4,159.94 \text{ lbs FUEL} * .45359 \frac{\text{Kgs}}{\text{lb}} = 1886.91 \text{ Kg FUEL CONSUMED}$$

FOR ARSENIC:

$$\frac{8.40 * 10^{-3} \text{ Arsenic mgs}}{1886.91 \text{ Kgs FUEL}} = \frac{.45 * 10^{-6} \text{ mg Arsenic}}{1 \text{ Kg FUEL}}$$



PETRO
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3207 Antonino Avenue
Bakersfield, California 93388
(805) 327 7300
FAX (805) 327-3459

FUEL SULFUR TO % BY WEIGHT
FOR SACINAS LANDFILL

JEN
10-29-30

$$\frac{\frac{218 \text{ gr Sulfur}}{100 \text{ SCF}}}{100 \text{ SCF}} = \frac{\text{gr Sulfur}}{\text{SCF}}$$

$$\frac{\frac{\text{gr}}{\text{SCF}}}{7000 \frac{\text{gr.}}{\text{lb}}} = \frac{\text{lbs Sulfur}}{\text{SCF}}$$

$$\frac{\text{lbs Sulfur}}{\text{SCF}} * \frac{13.33 \text{ cf}}{\text{lb}} = \frac{\text{lbs Sulfur}}{\text{lbs fuel}}$$

$$\frac{\text{lbs Sulfur}}{\text{lb Fuel}} * 100 = .00415 \% \text{ sulfur by weight}$$

Gas flow rate 577 SCFM

50.323% Methane

$$\therefore .50323 (1012 \text{ Btu/SCF}) = 509.3 \frac{\text{Btu}}{\text{SCF}} \times 577 \frac{\text{SCF}}{\text{min}} = 293866 \frac{\text{Btu}}{\text{min}}$$

$$\text{Fuel rate} = 293866 \frac{\text{Btu}}{\text{min}} \times \frac{60 \text{ min}}{\text{hr}} \times \frac{1 \text{ MMBtu}}{1 \times 10^6 \text{ Btu}} = 17.63 \frac{\text{MMBtu}}{\text{hr}}$$

$$\text{Naphthalene} = 1.19 \times 10^{-4} \text{ lb/hr} / 17.63 \text{ MMBtu/hr} = 6.75 \times 10^{-6} \frac{\text{lb}}{\text{MMBtu}}$$

$$\text{Total PAHS} = 1.54 \times 10^{-4} \text{ lb/hr} / 17.63 = 8.73 \times 10^{-6} \text{ lb/MMBtu}$$

$$\text{Formaldehyde} = 4.99 \times 10^{-2} \text{ lb/MMBtu}$$

$$\text{Acrolein} = 5.67 \times 10^{-5} \text{ lb/MMBtu}$$

$$\text{Acetaldehyde} = 0.0215 / 17.63 = 1.22 \times 10^{-3} \text{ lb/MMBtu}$$

$$\text{Arsenic} = 2.78 \times 10^{-6} / 17.63 = 1.58 \times 10^{-7} \text{ lb/MMBtu}$$

$$\text{Beryllium} = 1.05 \times 10^{-6} / 17.63 = 5.96 \times 10^{-8} \text{ lb/MMBtu}$$

$$\text{Cadmium} = 3.87 \times 10^{-7} \text{ lb/MMBtu}$$

$$\text{Chromium} = 1.10 \times 10^{-7} \text{ lb/MMBtu}$$

$$\text{Copper} = 6.86 \times 10^{-8} \text{ lb/MMBtu}$$

$$\text{Lead} = 1.58 \times 10^{-6} \text{ lb/MMBtu}$$

$$\text{Nickel} = 2.33 \times 10^{-7} \text{ lb/MMBtu}$$

$$\text{Zinc} = 1.07 \times 10^{-4} \text{ lb/MMBtu}$$

$$\text{HCl} = 1.68 \times 10^{-1} / 17.63 = 9.53 \times 10^{-3} \text{ lb/MMBtu}$$

$$\text{PCBS} = 4.23 \times 10^{-8} \text{ lb/MMBtu}$$

$$\text{Quartz (fine mineral fibers)} = 1.74 \times 10^{-4} / 17.63 = 9.85 \times 10^{-6}$$

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[illegible]

PACIFIC ENERGY
SALINAS BIOGAS PLANT
AB2568 REPORT

LINE	EMITTENT ID #	EMITTENT NAME	SOURCE TEST Lbs/Hr	Factor 1	Factor 2	EMITTED Lbs/Unit	Factor 3	EMITTED Lbs/Yr
1	75070	ACETALDEHYDE	0.02156000000000	60	1733.10	0.62102750000000	290.808	180.59976521939990
2	107028	ACROLEIN	0.00106000000000	60	1733.10	0.02888500000000	290.808	8.39998908000000
3	107131	ACRYLONITRILE	0.00008300000000	60	1733.10	0.00239745500000	290.808	0.69719909364000
4	71432	BENZENE	0.00900000000000	60	1733.10	0.25996500000000	290.808	75.59990171999999
5	91203	NAPHTHALENE	0.00011900000000	60	1733.10	0.00343731500000	290.808	0.99559870052000
6	208968	ACENAPHTHYLENE	0.00000261000000	60	1733.10	0.00008116685000	290.808	0.02360396931480
7	833229	ACENAPHTHENE	0.00000196000000	60	1733.10	0.00005661460000	290.808	0.01646397859680
8	86737	FLUORENE	0.00000376000000	60	1733.10	0.00010860760000	290.808	0.03158395894080
9	85018	PHENANTHRENE	0.00001420000000	60	1733.10	0.00041016700000	290.808	0.11927984493600
10	120127	ANTHRACENE	0.00000110000000	60	1733.10	0.00003177350000	290.808	0.00923998798800
11	206440	FLUORANTHENE	0.00000351000000	60	1733.10	0.00010138635000	290.808	0.02948396167080
12	129000	PYRENE	0.00000420000000	60	1733.10	0.00012131700000	290.808	0.03527995413600
13	56553	BENZO(A)ANTHRACENE	0.00000152000000	60	1733.10	0.00004390520000	290.808	0.01276798340160
14	218019	CHRYSENE	0.00000338000000	60	1733.10	0.00009763130000	290.808	0.02339196309040
15	205992	BENZO(B)FLORANTHENE	0.00000245000000	60	1733.10	0.00007076825000	290.808	0.02057997324600
16	207089	BENZO(E)FLORANTHENE	0.00000224000000	60	1733.10	0.00006470240000	290.808	0.01881597553920
17	19272	BENZO(A)PYRENE	0.00000124000000	60	1733.10	0.00003581740000	290.808	0.01041598645920
18	53703	DIBENZ(A,H)ANTHRACENE	0.00000090200000	60	1733.10	0.00002605427000	290.808	0.00757679015016
19	191242	BENZO(G,H,I)PERYLENE	0.00000071400000	60	1733.10	0.00002062389000	290.808	0.00599759220312
20	193395	INDENO(1,2,3-CD)PYRENE	0.00000071400000	60	1733.10	0.00002062389000	290.808	0.00599759220312
21	56235	CARBON TETRACHLORIDE	0.00001800000000	60	1733.10	0.00051993000000	290.808	0.15119980344000
22	108907	CHLOROBENZENE	0.00014000000000	60	1733.10	0.00404390000000	290.808	1.17599847120000
23	67663	CHLOROFORM	0.00001400000000	60	1733.10	0.00040439000000	290.808	0.11759984712000
24	76062	CHLOROPICRIN	0.00003800000000	60	1733.10	0.00109763000000	290.808	0.31919958504000
25	106467	1,4-DICHLOROBENZENE	0.00003400000000	60	1733.10	0.00098209000000	290.808	0.28555962872000
26	123911	1,4-DIOXANE	0.00019000000000	60	1733.10	0.00288850000000	290.808	0.83999890800000
27	A	2-METHYLPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
28	107062	1,2-DICHLOROETHANE	0.00001100000000	60	1733.10	0.00031773500000	290.808	0.09239987988000
29	75092	DICHLOROMETHANE	1.70000000000000	60	1733.10	49.10450000000000	290.808	14279.981436000000
30	56000	FORMALDEHYDE	0.88020000000000	60	1733.10	25.42457700000000	290.808	7393.67038821599900
31	7647010	HYDROGEN CHLORIDE	0.16800000000000	60	1733.10	4.85268000000000	290.808	1411.19816544000000
32	7783064	HYDROGEN SULFIDE	0.01700000000000	60	1733.10	0.49104500000000	290.808	142.79981436000000
33	95578	2-CHLOROPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
34	108952	PHENOL	0.00043200000000	60	1733.10	0.01259386600000	290.808	3.66239523888000
35	1336263	PCB-1016	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
36	11104282	PCB-1221	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
37	11141165	PCB-1232	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
38	53469219	PCB-1242	0.00000014900000	60	1733.10	0.00000430886500	290.808	0.00125159837292
39	12672296	PCB-1248	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
40	11097691	PCB-1254	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
41	11096825	PCB-1260	0.00000005970000	60	1733.10	0.00001724434500	290.808	0.00501479348076
42	100425	STYRENE	0.00030000000000	60	1733.10	0.00866550000000	290.808	2.51996724000000
43	106983	TOULENE	0.02000000000000	60	1733.10	0.57770000000000	290.808	167.99978160000000
44	71556	1,1,1 TRICHLOROETHANE	0.00056000000000	60	1733.10	0.01617560000000	290.808	4.70399388480000

10/26/90

45	B	4-METHYLPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62875528256000
46	75014	VINYL CHLORIDE	0.00380000000000	60	1733.10	0.10976300000000	290.808	31.91995650399999
47	88755	2-NITROPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62875528256000
48	1210	XYLENES	0.01000000000000	60	1733.10	0.38885000000000	290.808	83.99989080000000
49	7440382	ARSENIC	0.00000278000000	60	1733.10	0.00008030030000	290.808	0.02335156864240
50	7440417	BERYLLIUM	0.00000105000000	60	1733.10	0.00003032925000	290.808	0.00881998553400
51	7440439	CADMIUM	0.00000120000000	60	1733.10	0.00003839510000	290.808	0.01058398624080
52	18340299	CHROMIUM VI	0.00009900000000	60	1733.10	0.00285961500000	290.808	0.83159891892000
53	7440508	COPPER	0.00000121000000	60	1733.10	0.00002495085000	290.808	0.01016398678680
54	7439921	LEAD	0.00002780000000	60	1733.10	0.00080300300000	290.808	0.23351969642400
55	7439965	MANGANESE	0.00000525000000	60	1733.10	0.00015164625000	290.808	0.04409994267000
56	7439976	MERCURY	0.00000033700000	60	1733.10	0.00000973424500	290.808	0.00283079631996
57	7440020	NICKEL	0.00000410000000	60	1733.10	0.00011842850000	290.808	0.03443995522600
58	7723140	PHOSPHOROUS	0.00015800000000	60	1733.10	0.00456383000000	290.808	1.32719827464000
59	7782492	SELENIUM	0.00000263000000	60	1733.10	0.00007596755000	290.808	0.02209197128040
60	14808607	QUARTZ(SILICA)	0.00024600000000	60	1733.10	0.00710571000000	290.808	2.06639731368000
61	1175	CRISTOBALITE(SILICA)	0.00021700000000	60	1733.10	0.00626804500000	290.808	1.82279763636000
62	1175	TRIDYMIT(SILICA)	0.00021700000000	60	1733.10	0.00626804500000	290.808	1.82279763636000
63	7440666	ZINC	0.00189000000000	60	1733.10	0.05459265000000	290.808	15.87597936120000
64	7440473	TOTAL CHROME	0.00005100000000	60	1733.10	0.00147313500000	290.808	0.42839944366000
65	120832	2,4-DICHLOROPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62875528256000
66	35421080	4,CLORO-3-METHYLPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62875528256000
67	79016	TRICHLOROETHYLENE	0.00015000000000	60	1733.10	0.00433275000000	290.808	1.25999836200000
68	106934	1,2-DIBROMOETHANE	0.00017500000000	60	1733.10	0.00505487500000	290.808	1.46999808900000
69	127184	PERCHLOROETHYLENE	0.00240000000000	60	1733.10	0.06932400000000	290.808	20.15997379200000
70	75354	VINYLDENE CHLORIDE	0.00000000000000	60	1733.10	0.00000000000000	290.808	0.00000000000000

CALIFORNIA AIR RESOURCES BOARD

ARB/SS-87-08

EVALUATION TEST ON A LANDFILL GAS-FIRED
INTERNAL COMBUSTION ENGINE SYSTEM AT
THE CITY OF GLENDALE No. 1 SCHOLL CANYON
POWER PLANT

July 1986

TECHNICAL
REPORT

TABLE S2

DESTRUCTION AND REMOVAL EFFICIENCIES OF SELECTED CHLORINATED AND AROMATIC ORGANIC COMPOUNDS BASED ON SCAQMD BAG SAMPLE ANALYSIS

DATE: 1-28-86

COMPOUND	LB/HR IN	LB/HR OUT	DRE %
Chloroethene (vinyl chloride)	1.3E-02	1.3E-04	99
Benzene	8.5E-03	1.9E-02	**
Toluene	7.4E-02	4.9E-03	93
Chloroform	1.1E-03	< 1.2E-05	> 99
1,1,1-Trichloroethane	5.5E-05	4.4E-05	20
Carbon tetrachloride	4.9E-06	6.3E-07	87
Trichloroethylene	8.3E-03	1.5E-04	98
Perchloroethylene	5.2E-03	2.4E-04	95

** outlet greater than inlet

< = less than

> = greater than

C36-005

TABLE 53

MISS FLUORIDES AND DESTRUCTION AND PERSONAL
EFFICIENCIES (DRE) OF SELECTED CHLORINATED AND AROMATIC
ORGANIC COMPOUNDS BASED ON ANALYSIS OF RESIN SAMPLES

COMPOUND	LD/IR IN	1-29-06 LD/IR OUT	DRE %	LD/IR IN	1-30-06 LD/IR OUT	DRE %	LD/IR IN	1-31-06 LD/IR OUT	DRE %
1. CHLOROBENZENE	---	---	---	---	---	---	---	---	---
2. DIBROMOBENZENE	---	---	---	---	---	---	---	---	---
3. DIBROMODIFLUOROBENZENE	<3.00E-03	<1.39E-06	---	6.59E-04	1.26E-04	76.36	3.11E-04	5.22E-03	113.20
4. DIBROMODIFLUOROBENZENE	<8.06E-04	<3.44E-05	---	<9.20E-04	<4.12E-05	---	<9.44E-04	<4.61E-05	---
5. TRICHLORODIFLUOROBENZENE	7.54E-03	<3.23E-08	99.96 *	<7.59E-07	<3.32E-08	---	<8.06E-07	<3.73E-08	---
6. 1,1-DICHLOROBENZENE	3.07E-04	<6.24E-06	97.97 *	<1.53E-04	<6.11E-06	---	<1.57E-04	<7.66E-06	---
7. TRIMETHYLBENZENE	1.59E-02	4.41E-03	68.22	7.07E-03	2.37E-03	66.41	1.21E-02	3.59E-03	70.47
8. TRICHLOROBENZENE	<1.61E-03	<7.39E-07	---	<1.05E-03	<0.19E-07	---	<1.50E-03	<9.32E-07	---
9. TRICHLOROTRIFLUOROBENZENE	2.01E-04	3.53E-07	99.84	<7.59E-06	<3.32E-07	---	<8.06E-06	<3.73E-07	---
10. 1,2-DICHLOROBENZENE	1.06E-02	7.05E-03	33.62	6.07E-03	1.02E-03	70.02	1.23E-02	7.21E-03	41.40
11. 1,1,1-TRICHLOROBENZENE	<0.04E-06	<3.70E-07	---	6.31E-05	<4.31E-07	99.33 *	2.59E-05	<4.66E-07	90.41 *
12. TETRACHLOROBENZENE	<1.90E-06	2.31E-07	07.02 *	1.28E-05	<0.11E-08	99.31 *	<1.90E-06	1.09E-06	42.20 *
13. BROMODICHLOROBENZENE	---	---	---	---	---	---	---	---	---
14. 1,2-DICHLORODIBROMOBENZENE	---	---	---	---	---	---	---	---	---
15. TRICHLOROBENZENE	1.13E-02	1.49E-04	98.69	9.29E-03	1.21E-04	90.62	1.59E-02	1.18E-04	99.26
16. CHLORODIBROMOBENZENE	---	---	---	---	---	---	---	---	---
17. 1,2-DIBROMOBENZENE	<1.34E-04	2.24E-05	03.32 *	<1.53E-04	1.14E-05	92.57 *	<1.57E-04	1.17E-05	88.13 *
18. TETRACHLOROBENZENE	---	---	---	---	---	---	---	---	---
19. TETRACHLOROBENZENE	1.01E-02	2.13E-04	97.09	1.30E-02	2.33E-04	94.20	2.32E-02	2.07E-04	90.76
20. BENZENE	<2.33E-04	1.79E-02	99.99	<2.60E-04	2.11E-02	99.99	<2.60E-04	1.39E-02	99.99
21. TOLUENE	9.96E-02	8.62E-03	91.35	1.25E-01	1.62E-02	87.04	<3.31E-04	1.01E-02	99.99
22. M & P-XYLENES	9.25E-02	1.50E-03	90.59	9.82E-02	3.10E-03	96.05	1.50E-01	1.55E-03	99.02
23. O-XYLENE	2.46E-02	3.93E-04	90.56	2.65E-02	7.15E-04	92.30	4.44E-02	4.54E-04	98.90
24. 1,1-DICHLOROBENZENE	<3.07E-03	2.96E-04	94.95 *	<3.83E-03	<2.61E-04	95.52	<3.97E-03	<2.91E-04	99.99
25. ETHYL BENZENE	3.85E-02	9.36E-04	97.57	4.16E-02	1.99E-03	96.10	3.70E-02	1.05E-03	97.24
26. CUMENE	8.54E-03	9.84E-05	98.08	9.34E-03	2.90E-04	96.20	2.07E-02	1.47E-04	99.29
27. MESITYLENE	1.49E-02	5.31E-05	99.64	1.62E-02	2.66E-04	98.36	2.07E-02	6.05E-05	99.76

* calculations based on minimum detection limits

** mass collected from stack was greater than mass collected from inlet

C-00-003

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW & UPDATE REPORT
SUPPLEMENTAL PROCESS PARAMETER FORM
STATIONARY COMBUSTION

FORM
S-CMB

COMPANY NAME PACIFIC ENERGY

DEVICE ID: DEV #1

PLEASE COPY THIS FORM AS MANY TIMES AS NECESSARY FOR YOUR FACILITY.
PLEASE READ THE INSTRUCTIONS BEFORE COMPLETING THIS FORM.

FOR OFFICE USE ONLY

CO: 1 AB: 11

FACID: 11111111

SCC: 11111111

FUEL & FEEDSTOCK COMPOSITION

UNCONVENTIONAL FUELS & FEEDSTOCKS:

INDICATE WITH A CHECKMARK ANY UNCONVENTIONAL FUELS OR FEEDSTOCKS USED IN YOUR FACILITY AT THE DEVICE ID INDICATED ABOVE. DESCRIBE BRIEFLY THE NATURE OF SUCH FUEL OR FEEDSTOCK IN THE SPACE PROVIDED. ALSO SUMMARIZE THIS FEEDSTOCK INFORMATION IN THE DATA FIELD, "FUEL TYPE/OTHER PROCESS INFO" ON CORE FORM PRO.

 MUNICIPAL WASTE

 HOSPITAL WASTE

 HAZARDOUS WASTE

 WASTE OIL

 WASTE SOLVENT

 AGRICULTURAL DEBRIS

 TIRES

☒ OTHER (PLEASE SPECIFY): LANDFILL GAS (NOTE: METAL IN = METAL OUT)

REPORT USE OF AUXILIARY FUEL WITH THESE FEEDSTOCKS IN ACCORDANCE WITH THE STATIONARY COMBUSTION REPORTING INSTRUCTIONS FOR THIS FORM, S-CMB.

FUEL & FEEDSTOCK ANALYSIS

COMPLETE THIS PART FOR EACH FUEL AND FEEDSTOCK USED AT THE DEVICE ID INDICATED ABOVE FOR WHICH A FUEL ANALYSIS WAS PERFORMED.

(IN WEIGHT %):

SULFUR: 11111

(IN PARTS-PER-MILLION BY WEIGHT (PPMW) OR MG/KG):

CHROMIUM VI: 1111111

PHOSPHORUS: 11111

ARSENIC: 1111111

COPPER: 1111111

RADIONUCLIDES: 1111111

 0.000

FLUORINE: 1111111

SELENIUM: 1110.000

BROMINE: 1111111

LEAD: 1111111

ZINC: 1111111

CADMIUM: 1111111

MANGANESE: 1110.000

CHLORINE: 1111111

MERCURY: 1110.000

NICKEL: 1111111

REPORT EMISSIONS IN SECTION 2 OF CORE FORM PRO

NAME: T. H. H.

DATE: 26 OCT 1990

AFB/S-CMB.25100



PACIFIC ENERGY

A SUBSIDIARY OF
PACIFIC
ENTERPRISES

6115
East
Washington
Boulevard,
Commerce,
California
90040

Telecopier
(213) 725-6772

Telephone
(213) 725-1139

FACSIMILE TRANSMITTAL

DATE: 29 OCT 1990

TIME: _____

PLEASE DELIVER THE FOLLOWING 12 DOCUMENT(S) INCLUDING
COVER PAGE:

TO: DAVID CRAFT
COMPANY: MBUAPCD

FROM: TERENCE HEE
COMPANY: PACIFIC ENERGY

IF YOU DO NOT RECEIVE THE NUMBER OF DOCUMENTS INDICATED,
PLEASE CALL (213) 725-1139, AS SOON AS POSSIBLE.

CONTACT: T. HEE

NOTE: ALSO MAILED HARD COPY TO HIM 10-30-90 PER HIS REQUEST
VIA TELEPHONE.



PACIFIC ENERGY

A SUBSIDIARY OF
PACIFIC
ENTERPRISES

6055
East
Washington
Boulevard,
Commerce,
California
90040

Facsimile
(213) 725-8772

Telephone
(213) 725-1139

Mr. David Craft
Monterey Bay Unified APCD
1164 Monroe Street, Suite 10
Salinas, CA 93906-3596

29 October 1990

RE: "Crazy Horse" AB2588 Report

Dear David:

A discussion with the testing lab this morning has revealed that three of the compounds that were mentioned in our letter of 26 October as being "not reported", were, in fact reported under their "alternate" names:

CAS#	NAME
75354	Vinylidene Chloride (1,1-Dichloroethene).
106934	1,2-Dibromoethane was listed.
79016	Trichloroethylene (Trichloroethene).
127184	Perchloroethylene (Tetrachloroethylene).

As a result we are faxing to you revised PRO forms that show the laboratory test values and a revised form S-CMB for the fuel gas analysis.
If we can be of any further assistance please contact me at (213)725-1139.

Sincerely,

Terence Hee
Environmental Compliance Manager
Biogas Division

FORM
PRO
SIDE A

ADDENDUM
PAGE 10 OF 10
10-29-90

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA
(ADDITIONAL EMITTENTS)

FORM
PRO
SIDE B

OFFICE USE ONLY

CO. _____
FACID _____

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR (OPTIONAL)

☐

DEVICE ID DEN #1

EMITTENT DATA

EMISSIONS

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
13542110810	011 ☐	0.101247832 ☐	1111111131.1428

CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☐	☐	☐	☐	01.1010141312101010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1117910116	011 ☐	0.101179108710 ☐	1111111151.2107

CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☐	☐	☐	☐	01.10101016210101010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
11110169314	011 ☐	0.1010517771010 ☐	1111111111.679

CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☐	☐	☐	☐	0.1010101210101010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1111271184	112 ☐	0.106913241010 ☐	11111111201.1159

CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☐	☐	☐	☐	01.1001241010101010

EMITTENT ID	EST METH	ACTUAL EMISSIONS FACTOR (LBS/UNIT)	ANNUAL AVERAGE EMISSIONS (LBS/YR)
1117513154	011 ☐	01.114731131510 ☐	11111111421.1839

CONTROL PRIMARY	EQPT CODES SECONDARY	OVERALL CONTROL EFF(%)	FULL/PART	HOURLY MAX EMISSIONS (LBS/HOUR)
☐	☐	☐	☐	01.10101511010101010

NAME Tom Han

DATE 29 OCT 1996

B - 5

ARB/PROB/ED03178
ADDENDUM 10-29-90
(Revision)

EMISSION
YEAR
1989

AIR TOXICS EMISSION DATA SYSTEM REVIEW AND UPDATE REPORT
PROCESS AND EMITTENTS DATA

FORM
PRO
SIDE A

FOR OFFICE USE ONLY

PROCESS DESCRIPTION

SCC NO

COUNTY
ID:

AIR
BASIN

PROD1 (OPTIONAL)

PROD2 (OPTIONAL)

FACILITY ID:

ACTION
CODE

STOP

FILL OUT ANY SUPPLEMENTAL PROCESS FORM(S) FOR THIS PROCESS FIRST. THEN FILL OUT
THIS PAGE, SUBMITTING ONE FOR EACH EMITTING PROCESS IN YOUR FACILITY.

SECTION 1

PROCESS DATA

DEVICE
I.D.

DEN #1

SIC

49111

CONFIDENTIAL (Y/N)
IF Y CHECK SMALL BOXES
AS APPROPRIATE

N

PROCESS EQUIPMENT DESCRIPTION

1-2000 API TCEI 1

FUEL TYPE /OTHER PROCESS INFO

LAINIDIFILIL GASI

NOTE USE 1 SPACE FOR EACH DECIMAL POINT

TOTAL YEARLY
PROCESS RATE (UNITS/YR)

11219101.18018

MAXIMUM HOURLY
PROCESS RATE (UNITS/HR)

1101.103510

PROCESS UNITS

PIT0714

HRS/
DAY

24

DAYS/
WEEK

7

WKS/
YEAR

50

RELATIVE MONTHLY ACTIVITY (%)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
8.1616	4.1710	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	8.1616	4.1710

OFFICE USE ONLY

SECTION 2

EMITTENT DATA

EMISSIONS

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

ACTION
CODE

☐

ALLOWABLE EMIS
LBS/YR(OPTIONAL)

EMITTENT ID

TOTAL PAH

111111150

EST
METH

011

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

01.101047121847

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

1111111.375

CONTROL EQPT CODES
PRIMARY SECONDARY

1111

1111

OVERALL
CONTROL EFF(%)

1111

FULL/
PART

1111

HOURLY MAX EMISSIONS
(LBS/HOUR)

01.10010116370100

EMITTENT ID

11111111

EST
METH

1111

ACTUAL EMISSIONS
FACTOR(LBS/UNIT)

11111111

ANNUAL AVERAGE
EMISSIONS (LBS/YR)

11111111

CONTROL EQPT CODES
PRIMARY SECONDARY

1111

1111

OVERALL
CONTROL EFF(%)

1111

FULL/
PART

1111

HOURLY MAX EMISSIONS
(LBS/HOUR)

11111111

NAME T. H.

DATE 10-29-90

B - 4

ARB/PRO-890227

APPENDUM 10-29-

PAGE 11

10/29/90

PACIFIC ENERGY
SALINAS BIOGAS PLANT
AB3388 REPORT

LINE	EMITTENT ID #	EMITTENT NAME	SOURCE TEST Lbs/Hr	Factor 1	Factor 2	EMITTED Lbs/Unit	Factor 3	EMITTED Lbs/Yr
1	75070	ACETALDEHYDE	0.02150000000000	60	1733.10	0.62102750000000	290.808	180.59976521599990
2	107028	ACROLEIN	0.00160000000000	60	1733.10	0.02888500000000	290.808	8.39998908000000
3	107131	ACRYLONITRILE	0.00008300000000	60	1733.10	0.00239745500000	290.808	0.69719909364000
4	71432	BENZENE	0.00960000000000	60	1733.10	0.25996500000000	290.808	75.59990171999999
5	91263	NAPHTHALENE	0.00011900000000	60	1733.10	0.00343731500000	290.808	0.99959870052000
6	208968	ACENAPHTHYLENE	0.00000196000000	60	1733.10	0.00008116685000	290.808	0.02360396931480
7	833229	ACENAPHTHENE	0.00000196000000	60	1733.10	0.00005661460000	290.808	0.01646397859660
8	86737	FLUORENE	0.00000376000000	60	1733.10	0.00010860760000	290.808	0.03158395894080
9	85018	PHENANTHRENE	0.00001420000000	60	1733.10	0.00041016700000	290.808	0.11927984493500
10	120127	ANTHRACENE	0.00000110000000	60	1733.10	0.00003177350000	290.808	0.00923998798800
11	206440	FLUORANTHENE	0.00000351000000	60	1733.10	0.00010138635000	290.808	0.02948396167080
12	129000	PYRENE	0.00000420000000	60	1733.10	0.00012131700000	290.808	0.03527995413600
13	56553	BENZO(A)ANTHRACENE	0.00000152000000	60	1733.10	0.00004390520000	290.808	0.01276798340160
14	218019	CHRYSENE	0.00000338000000	60	1733.10	0.00009763130000	290.808	0.02839196309040
15	205992	BENZO(B)FLORANTHENE	0.00000245000000	60	1733.10	0.00007076825000	290.808	0.02057997324600
16	207069	BENZO(E)FLORANTHENE	0.00000224000000	60	1733.10	0.00006470240000	290.808	0.01881597553920
17	19272	BENZO(A)PYRENE	0.00000124000000	60	1733.10	0.00003581740000	290.808	0.01041598645920
18	53703	DIBENZ(A,H)ANTHRACENE	0.00000090200000	60	1733.10	0.00002605427000	290.808	0.00757679015016
19	191242	BENZO(G,H,I)PERYLENE	0.00000071400000	60	1733.10	0.00002062389000	290.808	0.00599759220312
20	193395	INDENO(1,2,3-CD)PYRENE	0.00000071400000	60	1733.10	0.00002062389000	290.808	0.00599759220312
21	56235	CARBON TETRACHLORIDE	0.00001800000000	60	1733.10	0.00051993000000	290.808	0.15119980344000
22	108907	CHLOROBENZENE	0.00014000000000	60	1733.10	0.00404390000000	290.808	1.17599847120000
23	67663	CHLOROFORM	0.00001400000000	60	1733.10	0.00040439000000	290.808	0.11759984712000
24	76062	CHLOROPICRIN	0.00003800000000	60	1733.10	0.00109763000000	290.808	0.31919958504000
25	106467	1,4-DICHLOROBENZENE	0.00003400000000	60	1733.10	0.00098209000000	290.808	0.28559962872000
26	123911	1,4-DIOXANE	0.00010000000000	60	1733.10	0.00288850000000	290.808	0.83999890800000
27 A		2-METHYLPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
28	107062	1,2-DICHLOROETHANE	0.00001100000000	60	1733.10	0.00031773500000	290.808	0.09239987988000
29	75092	DICHLOROMETHANE	1.70000000000000	60	1733.10	49.10450000000000	290.808	14279.981436000000
30	50000	FORMALDEHYDE	0.88020000000000	60	1733.10	25.42457700000000	290.808	7393.67038821599900
31	7647010	HYDROGEN CHLORIDE	0.16800000000000	50	1733.10	4.85268000000000	290.808	1411.19816544000000
32	7783064	HYDROGEN SULFIDE	0.01700000000000	60	1733.10	0.49164500000000	290.808	142.79981436000000
33	95578	2-CHLOROPHENOL	0.00043200000000	60	1733.10	0.01247832000000	290.808	3.62879528256000
34	108952	PHENOL	0.00043600000000	60	1733.10	0.01259386000000	290.808	3.66239523888000
35	1336363	PCB-1016	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
36	11104282	PCB-1221	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
37	11141165	PCB-1232	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
38	52469219	PCB-1242	0.00000014500000	60	1733.10	0.00000430386500	290.808	0.00125159837292
39	12672296	PCB-1248	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
40	11097691	PCB-1254	0.00000008290000	60	1733.10	0.00000239456650	290.808	0.00069635909473
41	11096825	PCB-1260	0.00000059700000	60	1733.10	0.00001724434500	290.808	0.00501479348076
42	100425	STYRENE	0.00030000000000	60	1733.10	0.00866550000000	290.808	2.51999672400000
43	108883	TOULENE	0.02900000000000	60	1733.10	0.57770000000000	290.808	167.93978160000000
44	71556	1,1,1 TRICHLOROETHANE	0.00016000000000	60	1733.10	0.01617560000000	290.808	4.70399368480000

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-005
Date Sampled: 2-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #18 P/N-2 #19 IMP-2 COMPOSITE

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Hydrochloric Acid, as Cl (CARB 421)	ug	12,900	68	ND	25.0	09/04/90	09/04/90	RJ
Total Impinger Volume	mL	680	NA	NA	NA	09/04/90	09/04/90	RJ

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-006
Date Sampled: 2-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #21 P/N-3 #22 IMP-3 COMPOSITE

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Hydrochloric Acid, as Cl (CARB 421)	ug	11,300	69	ND	25.0	09/04/90	09/04/90	RJ
Total Impinger Volume	mL	690	NA	NA	NA	09/04/90	09/04/90	RJ

Laboratory Report

PETRO CHEM ENVIRONMENTAL SERVICES
3207 Antonino Avenue
Bakersfield, CA 93388
ATTN: MR. TIM BRENNAN

Analysis No.: G-9022114-007
Date Sampled: 2-AUG-1990
Date Sample Rec'd: 7-AUG-1990
Sample Type: LIQUID

Project: 233 PACIFIC ENERGY/SALINAS LANDFILL ICE
Sample ID: #24 P/N-4 #25 IMP-4 COMPOSITE

Parameter	Units	Sample Result	Sample RL	Blank Result	Blank RL	Date Prepared	Date Analyzed	By
Hydrochloric Acid, as Cl (CARB 421)	ug	113	44	ND	25.0	08/31/90	08/31/90	RJ
Total Impinger Volume	mL	445	NA	NA	NA	09/04/90	09/04/90	RJ



PETRO
CHEM
ENVIRONMENTAL
SERVICES, INC.

METHOD 421: HCL

3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

CHAIN OF CUSTODY RECORD

PROJECT: PACIFIC ENERGY JOB NO. SAMPLED BY: JEM
SALINAS LANDFILL ICE 62-233

SAMPLE NO.	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. CONTRS.	ANALYSIS REQUIRED
15	PACIFIC ENERGY. HCL METHOD 421 P/N-1	8-2-90		✓			1	
17	FILTER-1				✓		1	
16	IMP-1			✓			1	
18	P/N-2	✓		✓			1	
20	FILTER-2				✓		1	
19	IMP-2			✓			1	
21	P/N-3			✓			1	
23	FILTER-3				✓		1	
22	IMP-3			✓			1	

REMARKS:

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE

COMPANY: Pac Energy
 REPORT #:
 UNIT ID:
 DATE: 7-31-90 7:51:00

(Meth. 5)

ON-SITE DATA

SITE: Solon ICE

RUN #:

7/31 7/31 8/1
 #1 #2 #3

TIME:

1651 1836 1122

Vm Dry sampled gas volume, dcf
 Y Meter calibration factor (met# 1002).....
 P bar Barometric pressure, in Hg.....
 P static Stack static pressure, in H₂.....
 Delta H Differential meter pressure, in H₂O.....
 Tm Meter temperature, deg F.....

46.34 46.7 47.6
 .9916965 .9916965 .9916965
 29.85 29.85 29.85
 7.5 7.5 7.5
 1.08 1.08 1.11
 81 79 80

Contents	7-31 Run 1			7-31 Run 2			8/1 Run 3		
	final	tare	net	final	tare	net	final	tare	net
H ₂ O	640.9	568.6	72.3	655.9	573.6	82.3	716.0	640.9	75.1
H ₂ O	585.4	574.1	11.3	595.6	588.0	7.6	595.7	585.4	10.3
K.O.	465.6	463.2	2.4	467.7	466.6	1.1	469.1	467.6	1.5
Silica	806.4	797.4	9.0	823.1	815.4	7.7	813.3	806.4	6.9
V _{lc} , volume of H ₂ O, grams			95.0			98.7			93.8

CO₂ % Dry Volume.....
 O₂ % Dry Volume.....
 N₂ % Dry Volume.....
 Co Pitot tube coefficient (Pit#)
 Delta P Avg Delta-P, in H₂O.....
 Ts Stack temperature, in deg F.....
 As Stack area, sq. ft.....
 Ds Stack Diameter, inches.....
 Dn Nozzle diameter, inches.....
 Dur Sampling time, min.....
 % Iso Mini Iso.....

#1 #2 #3
 6.2 6.2 6.2
 12.5 12.5 12.5
 81.3 81.3 81.3
 .84 .84 .84
 2.84 2.88 2.96
 673 677 672
 2.07 2.07 2.07
 19.5 19.5 19.5
 .19 .19 .19
 64 64 64
 99.63 100.28 100.36

Filter #.....
 Filter tare weights, grams.....

INITIALS**

CONTROL BOX#:
 Hi Δ P _____ Lo Δ P _____ Ave Δ P _____ Duct Temp. _____
 Diameters before disturb _____ After _____
 # of Points, total _____
 Overall (inches) _____ Coupling _____

15

Post Test Leak Chk.

Ambient Temp: 22.9

Barometric Pressure: _____

Leak Rate: .17 cfm

Assumed Moisture %:

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): .14

Probe Liner Material: Quartz

Filter Number: _____

7.3.2

-225-

5/12/21

FIELD DATA

Client: Western University Report #:

Location: Secondary, Parkway, 7000.

Operator: _____

Date: 08/01/2011

Run No: 412

Pump No.: 600

Meter Box No.: 1000 Factor: 1

Meter ΔH @: 100

Pitot Tube No.: 212-3

Post Test Leak Chk.Leak Rate: .03 cfm

Vacuum: 2.2 (in Hg)

Ambient Temp: C_≤,

Barometric Pressure: _____

Static Pressure, (in Hg): 1.75

Assumed Moisture %: 18.0 max 27.5

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): .63

Probe Liner Material: Aluminum

Filter Number:

Duct Diam. (in): 10.5

Traverse Point number	Time: (e) min A.M.	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔPs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volume (ft ³)	Gas Sample Temp. at dry Gas Meter		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
							inlet (°F)	outlet (°F)		
8	1734	6	674	3.4	.795 1.26	294.8	80	80	237	
7	38	5	674	3.0	.747 1.12	297.9	81	79	254	
6	42	5	676	2.9	.735 1.09	300.9	82	79	251	
5	46	5	679	2.9	.734 1.09	303.9	83	79	251	
4	50	5	680	3.0	.747 1.12	306.8	83	79	255	
3	54	5	677	3.1	.760 1.16	309.8	84	78	251	
2	58	5	675	2.8	.723 1.06	312.9	84	78	251	
1	02	5	664	2.7	.713 1.03	315.7	84	78	253	
GOT	18.06					318.34				
			673	2.84	1.08	46.34		81		
					ISO	99.63			✓ 140.95	

FIELD DATA

Client: Vireo - Country Report #:

Location: 62-10500 100-10500 100-10500

Operator: _____

Date: _____

Run No: 2

Pump No.: _____

Factor: _____

Meter ΔH @: _____

Pitot Tube No: 2000

Post Test Leak Chk.

Leak Rate: 0.00 cfm

Vacuum: $\frac{100}{100}$ (in Hg)

Ambient Temp: 65°F

Barometric Pressure: _____

Static Pressure, (in Hg):

Assumed Moisture %: 1

Nozzle Ident. No.:

Aver. Calib. Nozzle Dia.

Probe Liner Material:

Filter Number:

Duct Diam. (in): 1.00

$\frac{1}{2}, \frac{1}{3}, \frac{1}{6}$

1
2
3
4
5

[illegible]

Client: W. W. Jones Report #: _____
Location: 1000 N. Main St.
Operator: A. C. Smith
Date: 7-1-68
Run No: 5
Pump No.: C-257
Meter Box No.: 1007 Factor: _____
Meter ΔH @: 1.5 G
Pitot Tube No.: _____

Post) Test Leak Chk.

Leak Rate: 0.01 cfm
Vacuum: 24 (in Hg)

[illegible]

51109-3

FIELD DATA

Page 1001

Report #:

Post Test Leak Chk.

Ambient Temp:

Barometric Pressure: 760.0
 Static Pressure, (in Hg): -4.5
 Assumed Moisture %: 10

Leak Rate: 0.14 cfm
Vacuum: 2.0 (in Hg)

Nozzle Ident. No.:

Aver. Calib. Nozzle Diam.(in): 1.2

Probe Liner Material: -

Filter Number: _____

Duct Diam. (in): 17 1/2

Traverse Point number	Time: (e) min	Vacuum in Hg	Stack Temper. (Ts) °F	Velocity Head (ΔPs) (in)H ₂ O	Pressure Differential across Orifice Meter ΔH (in H ₂ O)	Gas Sample Volume (ft ³)	Gas Sample Temp. at dry Gas Meter		Filter Holder Temperature: (°F)	Temperature of Gas Leaving Condenser or Last Impinger (°F)
							inlet (°F)	outlet (°F)		
6	11:57	6.0	672	3.35	.790 1.24	523.15	81	78		
7	12:01		674	3.30	.783 1.22	526.31	82	77		
6	1:05	6.0	675	3.30	.784 1.22	529.44	83	78		
5	1:09		674	3.25	.779 1.21	532.56	84	77		
4	1:13	5.5	676	2.8	.772 1.05	535.71	83	78		
3	1:17		678	2.7	.709 1.02	538.62	84	79		
2	1:21	5.5	677	2.6	.696 .99	541.45	82	79		
1	1:25		677	2.6	.696 .99	544.22	82	79		
	1:29					547.01				
		X =	672	2.96				80		
					TSD = 100.36					
					Vollum = 143.93					
Total					ΔH = 1.11		avg.	avg.		
Average							avg.			

1911-12

Post Test Leak Chk.

22

30-1-00

1907

No.: 1065 Factor:

@ .G.G.

No.: _____

Barometric Pressure:

1

_____ (in):

1000

-230-

DATE: August 28, 1990
CLIENT: Petro Chem Environmental Services, Inc.
3207 Antonino Avenue
Bakersfield, CA 93388
ATTENTION: Jim Maichesini
REFERENCE: P.O. #865, Job #62-233
REPORT NO: 18872
DATE RECEIVED: August 18, 1990
SUBJECT: SEM-EDS AND XRD ANALYSIS



EMS LABORATORIES —

Four teflon filters were submitted for an estimation of the amount of silica particles present in them by (a) scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS), and (b) X-ray diffraction (XRD).

As per the client's request, the following analyses were performed.

The samples were first examined in the SEM. Photomicrographs of samples #30 and #33 (blank) at a magnification of 1000x can be seen in Figs. 1 and 3 respectively. The particles were then analyzed by SEM-EDS and the following types of particles were identified. The numbers reported below are the approximate atom ratios of the elements identified (for elements with atomic no. ≥ 11).

507 Mission Street

South Pasadena, CA

(a)	Si	0.28	(b)	Si	1.0	(c)	Si	1.0
	S	0.76		Ca	0.68		Ca	0.06
	Ca	1.0						

91030-3035

(d) Overall composition (includes filter)

Al	0.08	K	0.09
Si	1.0	Ca	0.1
S	0.06	Ba	0.02
Cl	0.04	Zn	0.03

818-441-2393

The above particles were identified in sample #30.

The particles identified in samples #31 and #32 were very similar to the ones in sample #30. Most of the particles identified were of types (a) and (b). It is being assumed here that particles of type (c) are silica particles. The small amount of calcium in these particles probably comes from the matrix or particle surface contamination. Very few silica particles were observed in the samples. These silica particles appeared to be irregular in shape in contrast to the ones of types (a) and (b) which were mainly spherical.

Cont...

Of all the particles observed by SEM-EDS, the fraction of silica particles in the samples are as follows:

<u>Sample</u>	<u>% Silica Particles</u>
30	4
31	2
32	2
33 (blank)	None detected

The teflon filters were ultra sonicated in IPA for 15 minutes and the IPA was then filtered through silver filters. The silver filters were then analyzed by X-ray diffraction for their silica (quartz, cristobalite and tridymite) content. The results are as follows:

Sample	Quartz (μ g)	Cristobalite (μ g)	Tridymite (μ g)
30	14	N.D.	N.D.
31	N.D.*	N.D.	N.D.
32	N.D.	N.D.	N.D.
33	N.D.	N.D.	N.D.

*None detected. The lower detection limit for each of the silica polymorphs is about 10 micrograms.

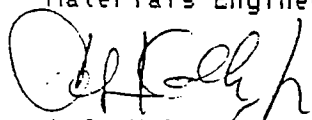
The teflon filters were examined in the SEM after sonication. A photomicrograph of such a sample can be seen in Fig. 2. No silica particles were identified in these filters after the sonication treatment.

The silver filters that were analyzed by XRD were examined in the SEM. Photomicrographs of such samples can be seen in Figs. 4 and 5. It can be seen in the photographs that the amount of particles on the filters is a small fraction of the total deposit. The large amount of fibers on these silver filters certainly reduced the sensitivity of the silica analysis.

Respectfully submitted,



Dipankar Sarkar
Materials Engineer



A.J. Kolk, Jr.
Technical Director

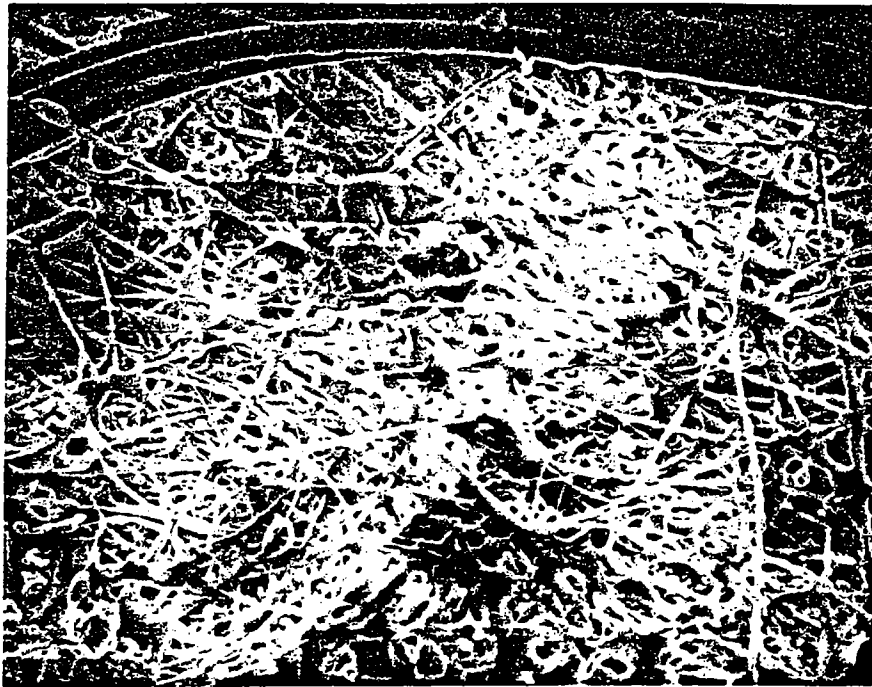


Fig. 1: Sample #30 before ultrasonic treatment.
Mag. 1000X.

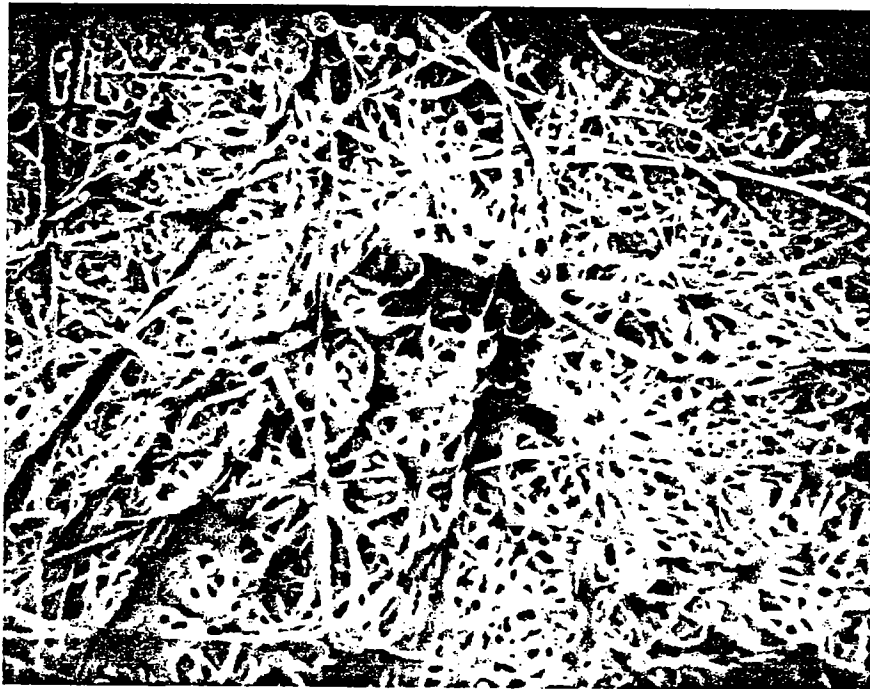


Fig. 2: Sample #30 after ultrasonic treatment.
Mag. 1000X.

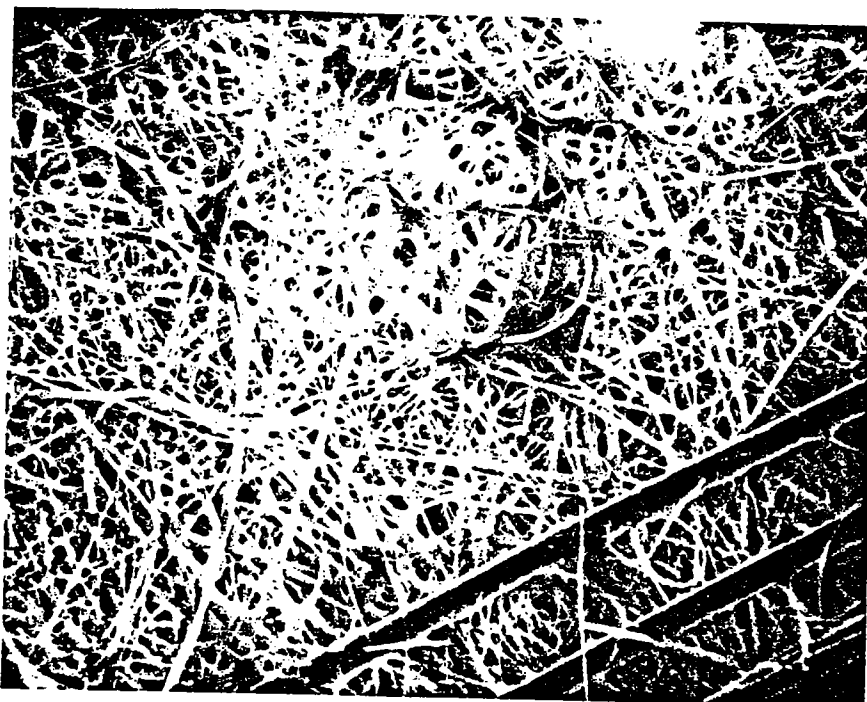


Fig. 3: Sample #33 (Blank) before ultrasonic treatment.
Mag. 1000X.

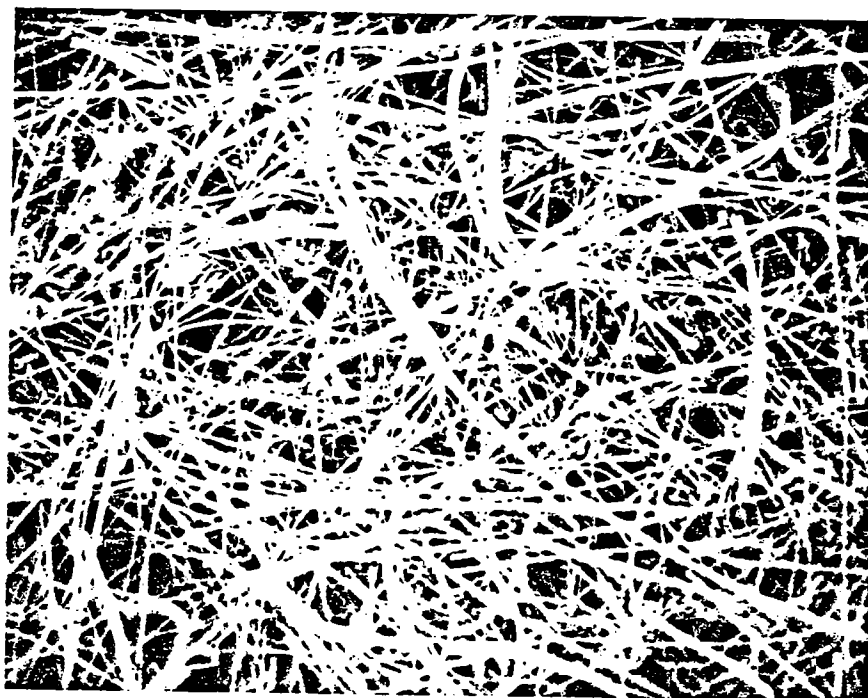


Fig. 4: Sample #30 on silver filter.
Mag. 1000X.

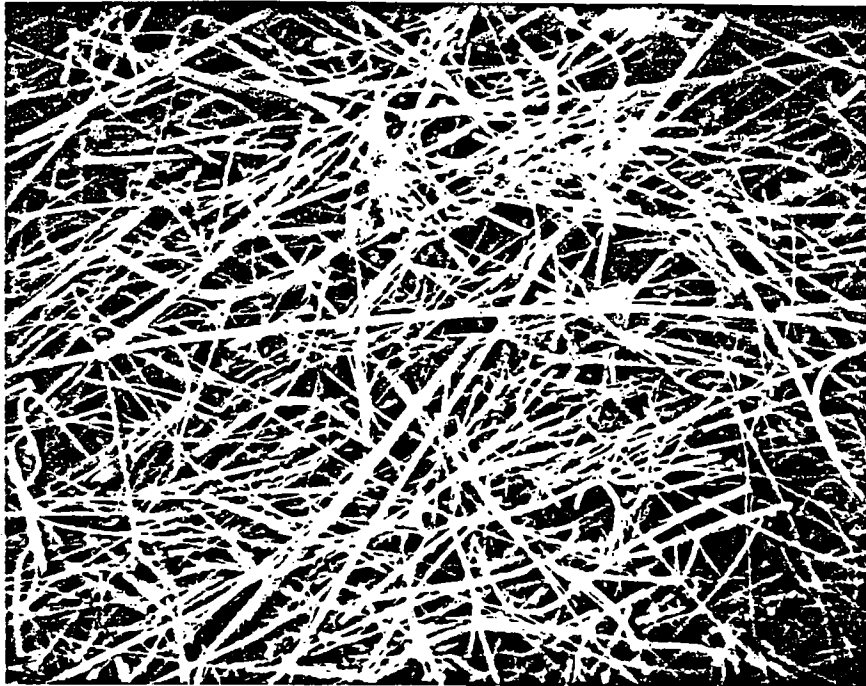


Fig. 5: Sample #33 (Blank) on silver filter.
Mag. 1000X.



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

Method 5-Silica

CHAIN OF CUSTODY RECORD

P.O. #865

PROJECT: PACIFIC ENERGY.

JOB NO.

SAMPLED BY: *Jim Marchese*

SALINAS LANDFILL ICE 62-233

5th, ~~4th~~ 50.

[illegible]

MENTS:

INQUIRED BY:

DATE

RECEIVED BY:

DATE _____

Jane & Martina

8-6-50

PAID BY: Paul Blythe

8/6/90

INQUIRED BY:

DATE

RECEIVED BY:

DATE _____

Frank Blythe

8/7/90

ENCLOSURE

DATE

RECEIVED BY:

DATE _____

INQUIRED BY:

DATE

RECEIVED BY:

28-111

SILICA ANALYSIS PROCEDURE

EM

1) SAMPLING TO BE THRU TEFLON FILTER 7-31-90

2) 1st ELECTRON MICROSCOPIC INSPECTION OF FILTER

→ DETERMINE RELATIVE AMOUNT OF
SILICA PARTICLES

3) 2nd ULTRA SONIC REMOVAL OF SILICA PARTICLES FROM FILTER
INTO IPA AND SUBSEQUENT ANALYSIS
BY X-RAY DIFFRACTION.

4) 3rd ELECTRON MICROSCOPIC INSPECTION OF FILTER

→ DETERMINE RELATIVE AMOUNT OF
SILICA PARTICLES ON FILTER
TO EVALUATE % REMOVAL OF
SILICA PARTICLES.

AS PT DISCUSS WITH
TONY FOLK

METHOD 808/8080 DATA

CLIENT: PACIFIC ENERGY
 UNIT: SALINAS LANDFILL MEP ENGINE
 REPORT #:90-233
 DATE: 8-3-90

Summary of Results for PCB Compounds

Pollutant	Test	Condensate Rate (Gal/Day)	ug/liter		lb/hr
PCB 1016	1	47.71	5	*	8.29E-08
PCB 1221	1	47.71	5	*	8.29E-08
PCB 1232	1	47.71	5	*	8.29E-08
PCB 1242	1	47.71	9		1.49E-07
PCB 1248	1	47.71	5	*	8.29E-08
PCB 1254	1	47.71	5	*	8.29E-08
PCB 1260	1	47.71	36		5.97E-07

* Values reported are lower detection limit

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road , Suite C-4
San Luis Obispo, California 93401
(805) 543-2553
EPA METHOD 608/8080 - PCB'S

Lab Number: QS-08270-2
Collected: 08/27/90
Received: 08/27/90
Tested: 08/31/90
Collected by:

CCAS

SAMPLE DESCRIPTION:
Deionized Water Spiked With
Aroclor 1248 to 20 ug/L

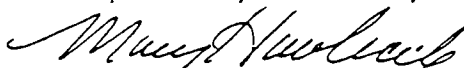
Compound Analyzed	Detection Limit (Practical Quantitation) micrograms/L	Concentration micrograms/L
PCB 1016	0.2	not found
PCB 1221	0.2	not found
PCB 1232	0.2	not found
PCB 1242	0.2	not found
PCB 1248	0.2	12.*
PCB 1254	0.2	not found
PCB 1260	0.2	not found

* Percent Recovery of Aroclor 1248: 60.

Compounds listed as "not found" would have been reported if present at or above the listed detection limits. Sample was extracted 08/27/90 by EPA Method 3510.

ECD#1
09/06/90
QS0827p2.wr1/PCB17
MH/ss/gf/ss

Respectfully submitted,


Mary Havlicek, Ph.D.
President

Coast-to-
Coast
Analytical
Services

Coast-to-Coast
Analytical Services
141 Suburban Road , Suite C-4
San Luis Obispo, California 93401
(805) 543-2553
EPA METHOD 505/608/8080 - PCB'S

Lab Number: B-08310
Collected:
Received:
Tested: 08/31/90
Collected by:

CCAS

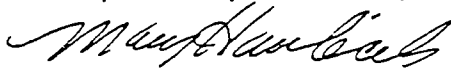
SAMPLE DESCRIPTION:
Instrument Blank

Compound Analyzed	Detection Limit (Practical Quantitation) micrograms/L	Concentration micrograms/L
PCB 1016	0.2	not found
PCB 1221	0.2	not found
PCB 1232	0.2	not found
PCB 1242	0.2	not found
PCB 1248	0.2	not found
PCB 1254	0.2	not found
PCB 1260	0.2	not found

Compounds listed as "not found" would have been reported if present
at or above the listed detection limits.

ECD#1
09/06/90
B08310pc.wr1/PCB17
MH/ss/gf/ss

Respectfully submitted,


Mary Havlicek, Ph.D.
President



3207 Antonino Avenue
Bakersfield, California 93388
(805) 327-7300
FAX (805) 327-3459

REPORT ATTN. TO: Jim Marchesini

COMMENTS:

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
James E. H. H. H.	8-13-90	James E. H. H.	8/14/90
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE

PACIFIC ENERGY CONDENSATE PRODUCTION LOG

MONTH: July 1990

PLANT: Salinas

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
METER					13300	13223	173315			13484	13538	13586	13653	13716		
TOTAL						63	52			149	54	57	67	64		

FLOW IN
GALLONS

DATE	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
METER	13816	13941	14006	14077	14128			14223	14331	14378	14445	14510		14581	14642
TOTAL	160	65	65	71	51			135	68	48	66	65		76	56

WEEK	1ST	2ND	3RD	4TH	5TH
CONDUCT.					
Ph					

QUARTER	1ST	2ND	3RD	4TH
COO				
VOC				

(EPA 601 & 602)

11/07/90

PACIFIC ENERGY
CONDENSATE PRODUCTION LOG

PLANT: Salinas MONTH: Aug 1990

24
23
22

14642	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
METER		14702	14760	14810	14861		14912	15031	15077		15174	15228			15333		15426
TOTAL		60	58	50	61	—	103	62	43	—	97	54			105		198

FLOW IN
GALLONS

DATE	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
METER		15538		15641	15710	15772	15742		15749	15804	15760	15804	15843	15901	15913
TOTAL		112		103	69	32			1	100	17	44	39	58	42

WEEK	1ST	2ND	3RD	4TH	5TH
CONDUCT.					
Ph					

QUARTER	1ST	2ND	3RD	4TH
COO				
YOC				

(EPA 601 & 602)

EQUIPMENT CALIBRATIONS

PETRO-CHEM ENVIRONMENTAL
 DRY GAS METER CALIBRATION

DATE:7-7-90
 OPERATOR:DSG
 METER ID PUMPMETER

AMBIENT TEMP. 85
 BAROMETRIC Pbar .29.94
 TEST METER ID# SSM104564
 TEST METER Mcf: 1.031

APPROXIMATE				
CFM		.02	.04	.1
STD TEST METER	INT.	0.00	0.00	0.00
VOLUME CF	FINAL	5.004	5.084	5.087
	TOTAL	5.004	5.08	5.09
FIELD GAS METER	INT.	840.30	845.90	851.60
VOLUME CF	FINAL	845.60	851.20	856.90
	TOTAL	5.30	5.30	5.30
STD TEST METER				
TEMP F'		85	87	87
FIELD GAS METER				
TEMP F'				
IN		85	87	87
OUT		82	86	86
AVERAGE		83.5	86.5	86.5
STD TEST METER				
PRES.(in H2O)		0.00	0.00	0.00
FIELD GAS METER				
PRES.(in H2O)		0	0	0
FIELD GAS METER				
Mcf		.9707405	.9880779	.9886609
FIELD AVERAGE Mcf:		.9824931		

PETRO-CHEM ENVIRONMENTAL
 DRY GAS METER CALIBRATION

DATE:7-3-90
 OPERATOR:BDM
 METER ID 1002

AMBIENT TEMP. 84.75
 BAROMETRIC Pbar 29.33
 TEST METER ID#: S5M104564
 TEST METER Mcf: 1.031

APROXIMATE		1	.75	.5	.3
STD TEST METER	INT.	0.00	0.00	0.00	0.00
VOLUME CF	FINAL	12.566	7.104	10.038	10.012
	TOTAL	12.566	7.10	10.04	10.01
FIELD GAS METER	INT.	577.20	631.20	592.10	606.30
VOLUME CF	FINAL	589.70	638.68	602.77	617.20
	TOTAL	12.50	7.48	10.67	10.90
STD TEST METER	TEMP F'	79.5	87.5	82	86
FIELD GAS METER	TEMP F'				
	IN	87.5	102	89	94
	OUT	81	94	84	88
	AVERAGE	84.25	98	86.5	91
STD TEST METER	PRES.(in H2O)	-1.30	-0.60	-0.30	-0.15
FIELD GAS METER	PRES.(in H2O)	2.225	1.18	.49	.19
FIELD GAS METER	Mcf	1.039768	.9950091	.9767852	.9552238
FIELD AVERAGE Mcf:		.9916965			

RUN TIME:
10.0 min
RATE
.750 cfm

PETRO-CHEM ENVIRONMENTAL
 DRY GAS METER CALIBRATION

DATE:8-3-90
 OPERATOR:DSG
 METER ID 1004

AMBIENT TEMP. 90.25
 BAROMETRIC Pbar 29.97
 TEST METER ID#: S5M104564
 TEST METER Mcf: 1.031

APROXIMATE CFM		1	.75	.5	.3
STD TEST METER VOLUME CF	INT.	0.00	0.00	0.00	0.00
	FINAL	10.46	7.318	13.884	10.067
	TOTAL	10.46	7.32	13.88	10.07
FIELD GAS METER VOLUME CF	INT.	630.80	680.40	643.50	658.90
	FINAL	641.30	687.92	657.90	669.50
	TOTAL	10.50	7.52	14.40	10.60
STD TEST METER TEMP F'		87	92.5	88	90
FIELD GAS METER TEMP F'					
IN		107	111	105	104
OUT		91.5	97	93	94.5
AVERAGE		99.25	104	99	99.25
STD TEST METER PRES.(in H2O)		-1.30	-0.60	-0.30	-0.15
FIELD GAS METER PRES.(in H2O)		1.21	.7	.32	.09
FIELD GAS METER Mcf		1.046965	1.023113	1.013214	.9954061
FIELD AVERAGE Mcf:		1.019675			

