

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.

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
 APPLICATION FOR CERTIFICATE TO OPERATE CONTROL APPARATUS OR EQUIPMENT

TO: New Jersey State Department of Environmental Protection
 Bureau of Air Pollution Control
 P. O. Box 2807
 Trenton, New Jersey 08625

Date December 10, 1975

Use Instructions, Air-D-14

Sec. A	1. Reference Permit No. _____ SIC No. _____
	2. Full Business Name <u>Pequannock, Lincoln Park and Fairfield Sewerage Authority</u>
	3. Address of equipment and/or control apparatus: <u>Lincoln Blvd.</u> <u>Lincoln Park</u> <u>Morris</u> No. Street Municipality County
	4. Location on premises (Bldg., Dept., area, etc.) <u>Solids Disposal Building</u>
Sec. B	1. Identify process equipment <u>Dorr-Oliver Fluosolids Combustion System</u>
	2. List air pollution control apparatus <u>High energy Venturi-scrubber followed with cooling tower comprising three impingement trays and mist eliminator.</u>
	3. Date equipment to be put in use <u>10/78</u>
Sec. C	Plant Contact: <u>Mr. Charles G. Burns</u> Name (Print or Type) <u>Chairman, Pequannock, Lincoln Park and Fairfield Sewerage Authority</u> Title
	<u>261-227-0580</u> <u>201-227-2226</u> Telephone No.
	<u>Telephone Extension</u>

This application is submitted in accordance with the provisions of N.J.S.A. 26:2C-9.2, and to the best of my knowledge and belief is true and correct.

The Pequannock, Lincoln Park &
 Fairfield Sewerage Authority
 230 Fairfield Road

Fairfield, N.J. 07006

Mailing Address, Zip

Charles G. Burns
 Signature - all copies
 Charles G. Burns

Chairman
 Name (Print or Type)
 Chairman

Title

DO NOT WRITE BELOW

CERTIFICATE TO OPERATE CONTROL APPARATUS OR EQUIPMENT	
TEMPORARY DURATION CT 32806 Certificate No. <u>MAY 3 1976</u> Date Approved <u>AUG 1 1976</u> Expiration date Approved by <u>[Signature]</u> Supervisor, Permits & Certificates	5 YEAR DURATION Certificate No. _____ Date Approved _____ Expiration date _____ Approved by _____ Supervisor, Permits & Certificates

Submit original and seven (7) copies

M6042

APPLICATION FOR PERMIT TO CONSTRUCT, INSTALL OR ALTER CONTROL APPARATUS OR EQUIPMENT

TO: New Jersey State Department of Environmental Protection
Bureau of Air Pollution Control
P. O. Box 2807
Trenton, New Jersey 08625

DATE: APRIL 21, 1976
Date

Use instructions, Air-D13

Sec. A	1. Full Business Name	The Pequannock, Lincoln Park & Fairfield Sewerage Authority	
	2. Address of equipment and/or control apparatus:	Lincoln Blvd.	Lincoln Park Morris County
	No.	Street	Municipality
	3. Location on premises (Bldg., Dept., area etc.)	Solids Disposal Building	
Sec. B	4. Nature of Business	Sewerage Treatment Plant	SIC No.
	1. ☒ New process equipment and new air pollution control apparatus		
	☐ New air pollution control apparatus on existing process equipment		
Sec. C	2. Prior permit numbers covering this installation. Specify.	10/78	
	3. Estimated starting date	1/76	Estimated completion
	1. Description of operation	Sewage sludge is incinerated in a fluid bed type incinerator.	
	2. Identify process equipment	Dorr-Oliver Fluosolids Combustion System	
	3. Raw materials (names)	Sewage sludge which consist of a vacuum filter cake from a mixture of chemically conditioned thickened waste activated sludge.	
Sec. D	Total pounds per hour	5,740 total dry solids	Total pounds per batch
	4. Operating procedure:	(3,560 dry combustible solids)	
	☒ Continuous: 8 hrs. per day	5 days per	☒ week ☐ month
	☐ Batch: _____ hrs. per batch	Batches per	☐ day ☐ week
	Physical and chemical nature of air contaminants which must evolve from operation and be emitted into the open air:		
	AMOUNTS OF CONTAMINANTS		
	AIR CONTAMINANTS	With Control Apparatus	Without Control Apparatus
	Particulates	<0.1 GR/SCF (12% CO ₂)	>0.1 GR/SCF (12% CO ₂)
	Smoke	<No. 1 Ringelmann	>No. 1 Ringelmann
	Unburned waste or ash	Not visible	Visible
Odors	None	Noticeable	

(Continue on reverse side)

Sec. E

1. Describe air pollution control apparatus High energy Venturi
operate with pressure drop range of 25 to 28 in. water,
with cooling tower comprising three impingement trays and mist
eliminator with pressure drop of 10 in. water. Refer to supplemental
data sheet dated 3/11/76.
2. Efficiency of control apparatus: 99.9 %
3. Height of discharge above ground 41 ft.
4. Distance from discharge to nearest property line 380 ft.
5. Volume of gas discharged into open air 16,500 cu. ft. per min. at stack conditions
6. Exit linear velocity at point of discharge 2,600 ft. per minute at stack conditions
7. Temperature at point of discharge 120 °F
8. Will emissions comply with existing local requirements? Yes
9. Initial cost of control apparatus \$ 151,000
10. Estimated annual operating cost \$ 15,900

This application is submitted in accordance with the provisions of N.J.S.A. 26:2C-9.2, and to the best of my knowledge and belief is true and correct.

The Pequannock, Lincoln Park &
Fairfield Sewerage Authority
P.O. BOX 188
230 Fairfield Road
Mailing Address LINCOLN PARK, N.J.
Fairfield, NJ 07006 07035
Zip Code

Charles G. Burns
Signature - all copies

CHARLES G. BURNS
Name (Print or type)

CHAIRMAN
Title

201-227-0580
Telephone No.

DO NOT WRITE BELOW

FIELD OFFICE NO.
201-696-4494

PERMIT TO CONSTRUCT, INSTALL OR ALTER CONTROL APPARATUS OR EQUIPMENT

Application for permission to construct, install or alter the equipment and/or control apparatus as set forth above is APPROVED.

Date MAY 3 1976

PERMIT NO. P 22806

Approved by: [Signature]

Supervisor, Permits & Certificates

Submit original and three (3) copies

APPLICATION FOR PERMIT TO CONSTRUCT
SUPPLEMENTAL DATA SHEET

THE PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY

a) MANUFACTURER OF SCRUBBER SYSTEM

POLYCON CORP.,
RAMSEY, N.J.

MODEL NO. - NONE -

b) TYPE OF SCRUBBER SYSTEM

VENTURI - SCRUBBER

c) WATER FLOW RATES IN COMPONENT PARTS
OF SCRUBBER SYSTEM

FLOW TO VENTURI 250 GPM
FLOW TO SCRUBBER 750 GPM

d) TOTAL WATER FLOW RATE 1000 GPM

e) LIQUID USED IN SCRUBBER SYSTEM - PLANT EFFLUENT
WATER

f) DISPOSITION OF SCRUBBER EFFLUENT -

SCRUBBER OUTFLOW RETURNED TO WASTE
TREATMENT PLANT FOR REPROCESSING
VENTURI OUTFLOW TO LAGOON WITH EFFLUENT
OVERFLOW RETURNED TO WASTE TREATMENT
PLANT FOR REPROCESSING.

g) CHEMICAL ADDITIVES IN WATER: NONE

h) IS THE LIQUID RECIRCULATED: NO

i) PRESSURE DROP THROUGH SYSTEM - VENTURI 25" H₂O
SCRUBBER 10" H₂O

j) TEMPERATURE OF GAS ENTERING VENTURI 1040°F;
SCRUBBER 175°F

k) LINEAR GAS FLOW RATE THROUGH SCRUBBER: 51800 ACFM
ENTERING VENTURI @ 1040°F

BY RCP DATE 3-11-76

MALCOLM PIRNIE, INC.
2 CORPORATE PARK DRIVE
WHITE PLAINS, N.Y. 10602

SHEET NO. APC 1 OF

JOB NO. 220-04-4

CHKD. BY DATE

SUBJECT THE PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY

DEPARTMENT



OF ENVIRONMENTAL PROTECTION

DIVISION OF ENVIRONMENTAL QUALITY
BUREAU OF AIR POLLUTION CONTROL

PERMIT TO CONSTRUCT, INSTALL OR ALTER CONTROL APPARATUS OR EQUIPMENT
AND
CERTIFICATE TO OPERATE CONTROL APPARATUS OR EQUIPMENT (90 DAY)

Permit and Certificate Number 0 2 2 8 0 6
(Mailing Address)

DEP Plant ID 2 5 0 7 6
(Plant Location)

Pequannock, Lincoln Park & Fairfield
Sewerage Authority
230 Fairfield Road
Fairfield, NJ 07006

Lincoln Blvd.
Lincoln Park
Morris County

Applicant's Designation of Equipment sewage sludge incinerator

N.J. Stack No. 0 0 1

No. of Stacks 0 1

No. of Sources 0 0 1

Approval 5 3 76
Mo. Day Year

Start Up
Mo. Day Year

Expiration 1 5 80
Mo. Day Year

THIS PERMIT AND TEMPORARY CERTIFICATE IS BEING ISSUED UNDER THE AUTHORITY OF CHAPTER 106, P.L. 1967 (N.J.S.A. 26:2C - 9.2). THE TEMPORARY CERTIFICATE WILL ALLOW FOR INSPECTION AND EVALUATION TO ASSURE CONFORMANCE WITH YOUR PERMIT AND WITH ALL OTHER PROVISIONS OF TITLE 7, CHAPTER 27, OF THE NEW JERSEY ADMINISTRATIVE CODE. BASED ON THIS EVALUATION STACK TESTS MAY BE REQUIRED IN ACCORDANCE WITH N.J.A.C. 7:27 - 8.4 (c).

IF WE DO NOT INSPECT THIS EQUIPMENT DURING THIS 90 DAY PERIOD, THIS TEMPORARY CERTIFICATE WILL BE EXTENDED. YOU NEED NOT APPLY FOR SUCH AN EXTENSION.

QUESTIONS ABOUT THIS DOCUMENT SHOULD BE DIRECTED TO THE PERMITS AND CERTIFICATES SECTION AT 609 - 292 - 6716 OR THE ADDRESS BELOW.

201-696-4494

NOTE: This document must be readily available for inspection at the source location.

Approved by: Ernest A. Mancini

Supervisor
Permits & Certificates Section

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:1 (LEAD)		TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.214	1.01	88	86.2	
AVGS.=	0.214	1.01	88	86.2	

METER VOL= 38.260 (DACF) Pb= 29.83 (IN. Hg) ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00 Pst= -0.09 (IN. H2O) O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES) Cp= .8265 CO= 0.00 %
H2O(COLLECTED)= 18.9 (mls) TEST TIME= 72 (MIN.) N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg) Pm= 29.90 (IN. Hg) MOISTURE= 2.35 %
METER VOL= 37.106 (DSCF) Ms= 29.14 Us= 18.74 (FT/SEC)
Gd= 1.01 ISOKINETICS= 98.51 %

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,946.9
WSCFM= 7,661.1
DSCFM= 7,480.9

SAMPLE WT= 1.2E-04 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0001
GRAMS/WSCM= 0.0001

PARTICULATE EMISSION RATE= 0.0032 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:1 (LEAD)

NO ADDITIONAL TESTS WERE CONDUCTED

per mikolajczyk 01/13/87
wet sludge feed rates (lb/hr) - assume 20 % solids

	4600	4900	5000	ave
part.	4600	4900	5000	
metals	5800	5700	5500	5667
Tot HC	5500	5500	5500	
SOx	5500	4900	6100	5500
HCl	5000	5150	4850	5000

per feed rates (dry) for particulates: 980, 897, 1005
21.3% 18.3 20.1

	lb/hr	6/25	6/26
NOx	0	0.29	.05
feed rate	5000	4600	4900
CO	2.02	2.03	2.14
	5000	4600	4900
		3.9	3.37

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:1 (NICKEL)	TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.214	1.01	88	86.2
AVGS.=	0.214	1.01	88	86.2

METER VOL= 38.260 (DA CF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 18.9 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.35 %
METER VOL= 37.106 (DSCF)	Ms= 29.14	Us= 18.74 (FT/SEC)
Gd= 1.01	ISOKINETICS= 98.51 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,946.9
WSCFM= 7,661.1
DSCFM= 7,480.9

SAMPLE WT= 3.7E-05 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0010 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:1 (NICKEL)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:1 (CADMIUM)		TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.214	1.01	88	86.2	
AVGS.=	0.214	1.01	88	86.2	

METER VOL= 38.260 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 18.9 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.35 %
METER VOL= 37.106 (DSCF)	Ms= 29.14	Us= 18.74 (FT/SEC)
Gd= 1.01	ISOKINETICS= 98.51 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,946.9
WSCFM= 7,661.1
DSCFM= 7,480.9

SAMPLE WT= 2.15E-04 (GRAMS)
GRAINS/DSCF= 0.0001
GRAINS/WSCF= 0.0001

GRAMS/DSCM= 0.0002
GRAMS/WSCM= 0.0002

PARTICULATE EMISSION RATE= 0.0057 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:1 (CADMIUM)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:1 (CHROMIUM) TEST DATE: 06-25-84

POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.214	1.01	88	86.2
AVGS.=	0.214	1.01	88	86.2

METER VOL= 38.260 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 18.9 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.35 %
METER VOL= 37.106 (DSCF)	Ms= 29.14	Us= 18.74 (FT/SEC)
Gd= 1.01	ISOKINETICS= 98.51 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,946.9
WSCFM= 7,661.1
DSCFM= 7,480.9

SAMPLE WT= 9E-06 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0002 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:1 (CHROMIUM)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

MERCURY		RUN NO:1	TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.214	1.01	88	86.2
AVGS.=	0.214	1.01	88	86.2

METER VOL= 38.260 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 18.9 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.35 %
METER VOL= 37.106 (DSCF)	Ms= 29.14	Us= 18.74 (FT/SEC)
Gd= 1.01	ISOKINETICS= 98.51 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,946.9
WSCFM= 7,661.1
DSCFM= 7,480.9

MICROGRAMS OF MERCURY= 12
EMISSION RATE- MERCURY= 0.000320 (LB/HR)
EMISSION RATE- MERCURY= 3.4838 (GRAMS/DAY)

ADDITIONAL TESTS USING FLOW DATA FROM MERCURY RUN:1

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:2 (LEAD)	TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.211	0.99	89	87.9
AVGS.=	0.211	0.99	89	87.9

METER VOL= 38.223 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 23.6 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.93 %
METER VOL= 36.953 (DSCF)	Ms= 29.07	Us= 18.64 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.37 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,907.2
WSCFM= 7,608.9
DSCFM= 7,385.8

SAMPLE WT= 1.6E-05 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0004 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:2 (LEAD)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:2 (CADMIUM)	TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.211	0.99	89	87.9
AVGS.=	0.211	0.99	89	87.9

METER VOL= 38.223 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 23.6 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.93 %
METER VOL= 36.953 (DSCF)	Ms= 29.07	Us= 18.64 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.37 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,907.2
WSCFM= 7,608.9
DSCFM= 7,385.8

SAMPLE WT= 1.21E-04 (GRAMS)
GRAINS/DSCF= 0.0001
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0001
GRAMS/WSCM= 0.0001

PARTICULATE EMISSION RATE= 0.0032 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:2 (CADMIUM)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:2 (NICKEL)		TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
	-----	-----	-----	-----	
A- 1	0.211	0.99	89	87.9	
AVGS.=	0.211	0.99	89	87.9	

METER VOL= 38.223 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 23.6 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.93 %
METER VOL= 36.953 (DSCF)	Ms= 29.07	Us= 18.64 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.37 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,907.2
WSCFM= 7,608.9
DSCFM= 7,385.8

SAMPLE WT= 2.3E-05 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0006 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:2 (NICKEL)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:2 (CHROMIUM) TEST DATE: 06-25-84

POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.211	0.99	89	87.9
AVGS.=	0.211	0.99	89	87.9

METER VOL= 38.223 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 23.6 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.93 %
METER VOL= 36.953 (DSCF)	Ms= 29.07	Us= 18.64 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.37 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,907.2
WSCFM= 7,608.9
DSCFM= 7,385.8

SAMPLE WT= 9E-06 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0002 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:2 (CHROMIUM)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

MERCURY		RUN NO:2	TEST DATE: 06-25-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.211	0.99	89	87.9
AVGS.=	0.211	0.99	89	87.9

METER VOL= 38.223 (DACF)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.00 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 23.6 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.82 (IN. Hg)	Pm= 29.90 (IN. Hg)	MOISTURE= 2.93 %
METER VOL= 36.953 (DSCF)	Ms= 29.07	Us= 18.64 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.37 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7231
ACFM= 7,907.2
WSCFM= 7,608.9
DSCFM= 7,385.8

MICROGRAMS OF MERCURY= 10
EMISSION RATE- MERCURY= 0.000264 (LB/HR)
EMISSION RATE- MERCURY= 2.8781 (GRAMS/DAY)

ADDITIONAL TESTS USING FLOW DATA FROM MERCURY RUN:2

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:3 (LEAD)	TEST DATE: 06-26-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
	-----	-----	-----	-----
A- 1	0.210	0.98	86	80.6
AVGS.=	0.210	0.98	86	80.6

METER VOL= 38.031 (DA CF)	Pb= 29.84 (IN. Hg)	ORSAT-CO2= 4.80 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.20 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 21.5 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.83 (IN. Hg)	Pm= 29.91 (IN. Hg)	MOISTURE= 2.66 %
METER VOL= 37.275 (DSCF)	Ms= 29.08	Us= 17.71 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.91 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6907
ACFM= 7,512.0
WSCFM= 7,270.8
DSCFM= 7,077.7

SAMPLE WT= 5.9E-05 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0001
GRAMS/WSCM= 0.0001

PARTICULATE EMISSION RATE= 0.0015 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:3 (LEAD)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:3 (CADMIUM)

TEST DATE: 06-26-84

POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.210	0.98	86	80.6
AVGS.=	0.210	0.98	86	80.6

METER VOL= 38.031 (DACF)
Y-FACTOR= 1.00
NOZZLE DIAM.= .256 (INCHES)
H2O(COLLECTED)= 21.5 (mls)

Pb= 29.84 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
TEST TIME= 72 (MIN.)

ORSAT-CO2= 4.80 %
O2= 15.20 %
CO= 0.00 %
N2= 80.00 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 29.83 (IN. Hg)
METER VOL= 37.275 (DSCF)
Gd= 1.00

Pm= 29.91 (IN. Hg)
Ms= 29.08
ISOKINETICS= 99.91 %

MOISTURE= 2.66 %
Us= 17.71 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6907
ACFM= 7,512.0
WSCFM= 7,270.8
DSCFM= 7,077.7

SAMPLE WT= 1.07E-04 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0001
GRAMS/WSCM= 0.0001

PARTICULATE EMISSION RATE= 0.0027 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:3 (CADMIUM)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:3 (NICKEL)

TEST DATE: 06-26-84

POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.210	0.98	86	80.6
AVGS.=	0.210	0.98	86	80.6

METER VOL= 38.031 (DACF)
Y-FACTOR= 1.00
NOZZLE DIAM.= .256 (INCHES)
H2O(COLLECTED)= 21.5 (mls)

Pb= 29.84 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
TEST TIME= 72 (MIN.)

ORSAT-CO2= 4.80 %
O2= 15.20 %
CO= 0.00 %
N2= 80.00 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 29.83 (IN. Hg)
METER VOL= 37.275 (DSCF)
Gd= 1.00

Pm= 29.91 (IN. Hg)
Ms= 29.08
ISOKINETICS= 99.91 %

MOISTURE= 2.66 %
Us= 17.71 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6907
ACFM= 7,512.0
WSCFM= 7,270.8
DSCFM= 7,077.7

SAMPLE WT= 2.9E-05 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0007 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:3 (NICKEL)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:3 (CHROMIUM) TEST DATE: 06-26-84		
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.210	0.98	86	80.6
AVGS.=	0.210	0.98	86	80.6

METER VOL= 38.031 (DA CF)	Pb= 29.84 (IN. Hg)	ORSAT-CO2= 4.80 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.20 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 21.5 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.83 (IN. Hg)	Pm= 29.91 (IN. Hg)	MOISTURE= 2.66 %
METER VOL= 37.275 (DSCF)	Ms= 29.08	Us= 17.71 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.91 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6907
ACFM= 7,512.0
WSCFM= 7,270.8
DSCFM= 7,077.7

SAMPLE WT= 4E-06 (GRAMS)
GRAINS/DSCF= 0.0000
GRAINS/WSCF= 0.0000

GRAMS/DSCM= 0.0000
GRAMS/WSCM= 0.0000

PARTICULATE EMISSION RATE= 0.0001 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:3 (CHROMIUM)

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

MERCURY		RUN NO:3	TEST DATE: 06-26-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.210	0.98	86	80.6
AVGS.=	0.210	0.98	86	80.6

METER VOL= 38.031 (DACF)	Pb= 29.84 (IN. Hg)	ORSAT-CO2= 4.80 %
Y-FACTOR= 1.00	Pst= -0.09 (IN. H2O)	O2= 15.20 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 21.5 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 29.83 (IN. Hg)	Pm= 29.91 (IN. Hg)	MOISTURE= 2.66 %
METER VOL= 37.275 (DSCF)	Ms= 29.08	Us= 17.71 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.91 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6907
ACFM= 7,512.0
WSCFM= 7,270.8
DSCFM= 7,077.7

MICROGRAMS OF MERCURY= 9
EMISSION RATE- MERCURY= 0.000226 (LB/HR)
EMISSION RATE- MERCURY= 2.4608 (GRAMS/DAY)

ADDITIONAL TESTS USING FLOW DATA FROM MERCURY RUN:3

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:1	TEST DATE: 06-21-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.150	0.70	80	85.0
A- 2	0.180	0.84	90	85.0
A- 3	0.190	0.89	90	85.0
A- 4	0.200	0.93	88	84.0
A- 5	0.200	0.93	88	83.0
A- 6	0.170	0.79	88	83.5
A- 7	0.130	0.61	89	83.5
A- 8	0.250	1.17	90	84.0
A- 9	0.240	1.12	90	87.0
A-10	0.240	1.12	90	89.0
A-11	0.230	1.07	93	89.0
A-12	0.220	1.03	91	87.0
B- 1	0.150	0.70	101	84.5
B- 2	0.170	0.79	109	85.0
B- 3	0.200	0.93	104	85.5
B- 4	0.200	0.93	104	87.0
B- 5	0.220	1.03	102	87.0
B- 6	0.140	0.65	106	88.0
B- 7	0.180	0.84	109	88.0
B- 8	0.230	1.07	106	88.0
B- 9	0.240	1.12	110	88.0
B-10	0.240	1.12	109	87.0
B-11	0.210	0.98	109	87.0
B-12	0.230	1.07	110	88.0
AVGS.=	0.199	0.93	98	86.2

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:1

TEST DATE: 06-21-84

METER VOL= 37.389 (DA CF) Pb= 30.12 (IN. Hg) ORSAT-CO2= 4.20 %
Y-FACTOR= 0.99 Pst= -0.09 (IN. H2O) O2= 16.20 %
NOZZLE DIAM.= .256 (INCHES) Cp= .8265 CO= 0.00 %
H2O(COLLECTED)= 23.4 (mls) TEST TIME= 72 (MIN.) N2= 79.60 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 30.11 (IN. Hg) Pm= 30.19 (IN. Hg) MOISTURE= 2.93 %
METER VOL= 36.608 (DSCF) Ms= 29.00 Us= 18.52 (FT/SEC)
Gd= 1.00 ISOKINETICS= 101.59 %

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7367
ACFM= 7,854.9
WSCFM= 7,512.3
DSCFM= 7,291.9

SAMPLE WT= .0271 (GRAMS)
GRAINS/DSCF= 0.0114
GRAINS/WSCF= 0.0111
GRAINS/DSCF @ 12% CO2(MINUS AUX FUEL)= 0.0633
GRAMS/DSCM @ 12% CO2(MINUS AUX FUEL)= 0.1449

GRAMS/DSCM= 0.0261
GRAMS/WSCM= 0.0254

PARTICULATE EMISSION RATE= 0.7139 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:1

CONCENTRATION- CO= 64 (PPM-DRY)
EMISSION RATE- CO= 2.03 (LB/HR)

$$\text{front half } \frac{0.0113}{0.0271} \times 0.7139 = 0.2977 \text{ lb/hr}$$

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

PARTICULATE		RUN NO:2	TEST DATE: 06-22-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.180	0.84	80	81.0
A- 2	0.200	0.93	81	86.0
A- 3	0.220	1.03	81	87.0
A- 4	0.230	1.07	81	89.0
A- 5	0.230	1.07	85	90.0
A- 6	0.140	0.65	85	90.0
A- 7	0.170	0.79	85	90.0
A- 8	0.250	1.17	85	90.0
A- 9	0.260	1.21	85	90.0
A-10	0.260	1.21	85	90.0
A-11	0.250	1.17	85	91.0
A-12	0.250	1.17	85	91.0
B- 1	0.180	0.84	81	91.0
B- 2	0.200	0.93	80	91.0
B- 3	0.210	0.98	80	91.5
B- 4	0.230	1.07	80	92.0
B- 5	0.230	1.07	80	92.0
B- 6	0.150	0.70	80	92.0
B- 7	0.190	0.89	82	93.0
B- 8	0.250	1.16	90	96.0
B- 9	0.250	1.16	90	98.0
B-10	0.260	1.21	85	98.0
B-11	0.250	1.16	82	98.0
B-12	0.250	1.16	82	98.0
AVGS. =	0.219	1.03	83	91.5

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE RUN NO:2 TEST DATE: 06-22-84

METER VOL= 39.848 (DA CF) Pb= 30.04 (IN. Hg) ORSAT-CO2= 4.60 %
Y-FACTOR= 0.99 Pst= -0.09 (IN. H2O) O2= 15.60 %
NOZZLE DIAM.= .256 (INCHES) Cp= .8265 CO= 0.00 %
H2O(COLLECTED)= 23.1 (mls) TEST TIME= 72 (MIN.) N2= 79.80 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 30.03 (IN. Hg) Pm= 30.12 (IN. Hg) MOISTURE= 2.76 %
METER VOL= 38.544 (DSCF) Ms= 29.06 Us= 18.21 (FT/SEC)
Gd= 1.00 ISOKINETICS= 100.65 %

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6995

ACFM= 7,724.0

WSCFM= 7,565.9

DSCFM= 7,357.3

front half $\frac{0.0202}{0.0267} \times 0.6741 = 0.510$

SAMPLE WT= .0267 (GRAMS)

GRAINS/DSCF= 0.0107

GRAINS/WSCF= 0.0104

GRAINS/DSCF @ 12% CO2(MINUS AUX FUEL)= 0.0593

GRAMS/DSCM @ 12% CO2(MINUS AUX FUEL)= 0.1358

GRAMS/DSCM= 0.0245

GRAMS/WSCM= 0.0238

PARTICULATE EMISSION RATE= 0.6741 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:2

CONCENTRATION- CO= 67 (PPM-DRY)

EMISSION RATE- CO= 2.14 (LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE RUN NO:3 TEST DATE: 06-22-84

METER VOL= 38.811 (DACF)	Pb= 30.04 (IN. Hg)	ORSAT-CO2= 4.60 %
Y-FACTOR= 0.99	Pst= -0.09 (IN. H2O)	O2= 15.40 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 28.1 (mls)	TEST TIME= 72 (MIN.)	N2= 80.00 %
STACK DIAM= 36.0 (INCHES)	STACK AREA= 7.07 (SQ. FT.)	
Ps= 30.03 (IN. Hg)	Pm= 30.11 (IN. Hg)	MOISTURE= 3.46 %
METER VOL= 37.059 (DSCF)	Ms= 28.97	Us= 17.91 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.48 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6995
ACFM= 7,594.0
WSCFM= 7,414.1
DSCFM= 7,157.4

front half = $\frac{0.0166}{0.0246} \times 0.6284 = 0.4240$

SAMPLE WT= .0246 (GRAMS)
GRAINS/DSCF= 0.0102
GRAINS/WSCF= 0.0099
GRAINS/DSCF @ 12% CO2(MINUS AUX FUEL)= 0.0504
GRAMS/DSCM @ 12% CO2(MINUS AUX FUEL)= 0.1153

GRAMS/DSCM= 0.0234
GRAMS/WSCM= 0.0226

PARTICULATE EMISSION RATE= 0.6284 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:3

CONCENTRATION- CO= 65 (PPM-DRY)
EMISSION RATE- CO= 2.02 (LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

PARTICULATE		RUN NO:3		TEST DATE: 06-22-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.180	0.84	90	100.0	
A- 2	0.200	0.93	85	100.0	
A- 3	0.210	0.98	85	100.0	
A- 4	0.230	1.07	85	101.0	
A- 5	0.220	1.03	85	101.0	
A- 6	0.140	0.65	85	101.0	
A- 7	0.170	0.79	89	101.0	
A- 8	0.220	1.03	85	101.0	
A- 9	0.240	1.12	95	101.0	
A-10	0.230	1.07	95	101.0	
A-11	0.240	1.12	95	101.0	
A-12	0.230	1.07	91	102.0	
B- 1	0.180	0.84	82	94.0	
B- 2	0.180	0.84	82	96.0	
B- 3	0.200	0.93	82	97.0	
B- 4	0.220	1.03	81	95.0	
B- 5	0.220	1.03	81	96.0	
B- 6	0.170	0.79	81	96.0	
B- 7	0.190	0.89	81	95.0	
B- 8	0.240	1.12	80	96.0	
B- 9	0.250	1.17	80	97.0	
B-10	0.240	1.12	81	97.0	
B-11	0.240	1.12	81	99.0	
B-12	0.230	1.07	81	99.0	
AVGS. =	0.210	0.99	85	98.6	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

SULFUR OXIDES

RUN NO:1

TEST DATE: 06-27-84

POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.170	0.79	85	91.0
A- 2	0.180	0.84	85	91.0
A- 3	0.190	0.89	85	93.0
A- 4	0.200	0.93	87	95.0
A- 5	0.210	0.98	87	94.0
A- 6	0.110	0.51	85	93.5
A- 7	0.190	0.89	85	92.0
A- 8	0.260	1.21	86	93.5
A- 9	0.240	1.12	88	94.0
A-10	0.240	1.12	88	94.0
A-11	0.230	1.07	86	94.0
A-12	0.190	0.89	89	93.5
B- 1	0.180	0.84	85	91.0
B- 2	0.180	0.84	90	92.0
B- 3	0.190	0.89	90	93.0
B- 4	0.210	0.98	90	94.0
B- 5	0.220	1.03	90	94.0
B- 6	0.110	0.51	87	94.0
B- 7	0.180	0.84	90	94.0
B- 8	0.230	1.07	90	94.0
B- 9	0.230	1.07	90	95.5
B-10	0.220	1.03	90	95.0
B-11	0.220	1.03	90	96.5
B-12	0.210	0.98	90	96.5
AVGS. =	0.198	0.93	88	93.7

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

SULFUR OXIDES

RUN NO:1

TEST DATE: 06-27-84

METER VOL= 37.430 (DA CF)

Pb= 29.85 (IN. Hg)

ORSAT-CO2= 5.20 %

Y-FACTOR= 0.99

Pst= -0.09 (IN. H2O)

O2= 15.00 %

NOZZLE DIAM.= .256 (INCHES)

Cp= .8265

CO= 0.00 %

H2O(COLLECTED)= 2.5 (mls)

TEST TIME= 72 (MIN.)

N2= 79.80 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 29.84 (IN. Hg)

Pm= 29.92 (IN. Hg)

MOISTURE= 0.33 %

METER VOL= 35.826 (DSCF)

Ms= 29.40

Us= 18.55 (FT/SEC)

Gd= 1.02

ISOKINETICS= 97.28 %

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7478

ACFM= 7,867.2

WSCFM= 7,589.3

DSCFM= 7,564.3

CONCENTRATION- SO2= 19.29 (PPM-DRY)

EMISSION RATE- SO2= 1.45 (LB/HR)

CONCENTRATION- SO3= 1.37 (PPM-DRY)

EMISSION RATE- SO3 = 0.13 (LB/HR)

EMISSION RATE- SO3 AS H2SO4= 0.16 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM SULFUR OXIDES RUN:1

CONCENTRATION-HYDROCARBONS AS METHANE= 46.801 (PPM-DRY)

EMISSION RATE-HYDROCARBONS AS METHANE= 0.8814 (LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR STACK N.J. STACK NO: 001

SULFUR OXIDES		RUN NO:2	TEST DATE: 06-28-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.150	0.70		
A- 2	0.190	0.89	88	89.0
A- 3	0.220	1.03	85	90.0
A- 4	0.230	1.07	85	90.0
A- 5	0.230	1.07	85	91.0
A- 6	0.140	0.65	88	92.0
A- 7	0.180	0.84	88	94.0
A- 8	0.250	1.16	90	93.0
A- 9	0.260	1.21	90	93.5
A-10	0.260	1.21	90	94.0
A-11	0.250	1.16	90	93.0
A-12	0.240	1.12	90	93.5
			90	94.0
B- 1	0.180	0.84		
B- 2	0.210	0.98	92	93.0
B- 3	0.210	0.98	92	92.5
B- 4	0.230	1.07	92	92.5
B- 5	0.230	1.07	92	92.0
B- 6	0.130	0.61	92	92.0
B- 7	0.200	0.93	92	92.0
B- 8	0.260	1.21	93	92.0
B- 9	0.250	1.16	90	91.0
B-10	0.260	1.21	88	93.0
B-11	0.250	1.16	88	93.0
B-12	0.250	1.16	88	93.5
			88	94.0
AVGS. =	0.217	1.02	89	92.4

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR STACK N.J. STACK NO: 001

SULFUR OXIDES

RUN NO:2

TEST DATE: 06-28-84

METER VOL= 38.622 (DA CF)
Y-FACTOR= 0.99
NOZZLE DIAM.= .256 (INCHES)
H2O(COLLECTED)= 10.9 (mls)

Pb= 29.87 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
TEST TIME= 72 (MIN.)

ORSAT-CO2= 3.60 %
O2= 17.20 %
CO= 0.00 %
N2= 79.20 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 29.86 (IN. Hg)
METER VOL= 37.087 (DSCF)
Gd= 1.01

Pm= 29.95 (IN. Hg)
Ms= 29.12
ISOKINETICS= 96.79 %

MOISTURE= 1.37 %
Us= 19.34 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7406
ACFM= 8,201.2
WSCFM= 7,902.4
DSCFM= 7,794.1

CONCENTRATION- SO2= 7.88 (PPM-DRY)
EMISSION RATE- SO2= 0.61 (LB/HR)
CONCENTRATION- SO3= 1.09 (PPM-DRY)
EMISSION RATE- SO3 = 0.11 (LB/HR)
EMISSION RATE- SO3 AS H2SO4= 0.13 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM SULFUR OXIDES RUN:2

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

SULFUR OXIDES		RUN NO:4	TEST DATE: 07-03-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)
A- 1	0.170	0.79	90	77.5
A- 2	0.200	0.93	90	77.0
A- 3	0.210	0.98	90	77.0
A- 4	0.230	1.07	90	77.5
A- 5	0.200	0.93	90	78.5
A- 6	0.100	0.47	90	79.0
A- 7	0.160	0.75	90	80.0
A- 8	0.230	1.07	90	80.0
A- 9	0.230	1.07	90	80.0
A-10	0.240	1.12	90	81.0
A-11	0.230	1.07	90	81.0
A-12	0.210	0.98	90	82.0
B- 1	0.210	0.79	88	83.0
B- 2	0.190	0.89	90	85.0
B- 3	0.210	0.98	90	85.0
B- 4	0.220	1.03	90	86.0
B- 5	0.220	1.03	90	86.0
B- 6	0.120	0.56	90	86.0
B- 7	0.150	0.70	90	86.0
B- 8	0.230	1.07	90	86.0
B- 9	0.250	1.17	90	85.5
B-10	0.230	1.07	90	86.0
B-11	0.230	1.07	90	87.0
B-12	0.210	0.98	90	88.0
AVGS.=	0.201	0.94	90	82.6

PEQUANNOCK, LINCOLN PARK & SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

SULFUR OXIDES

RUN NO:4

TEST DATE: 07-03-84

METER VOL= 37.259 (DACF)

Y-FACTOR= 0.99

NOZZLE DIAM.= .256 (INCHES)

H2O(COLLECTED)= 5.3 (mls)

Pb= 29.98 (IN. Hg)

Pst= -0.09 (IN. H2O)

Cp= .8265

TEST TIME= 72 (MIN.)

ORSAT-CO2= 4.60 %

O2= 15.80 %

CO= 0.00 %

N2= 79.60 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 29.97 (IN. Hg)

METER VOL= 36.483 (DSCF)

Gd= 1.01

Pm= 30.05 (IN. Hg)

Ms= 29.30

ISOKINETICS= 98.46 %

MOISTURE= 0.68 %

Us= 16.47 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6579

ACFM= 6,983.5

WSCFM= 6,741.6

DSCFM= 6,695.6

CONCENTRATION- SO2= 7.97 (PPM-DRY)

EMISSION RATE- SO2= 0.53 (LB/HR)

CONCENTRATION- SO3= 1.29 (PPM-DRY)

EMISSION RATE- SO3 = 0.11 (LB/HR)

EMISSION RATE- SO3 AS H2SO4= 0.13 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM SULFUR OXIDES RUN:4

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

HCL		RUN NO:1		TEST DATE: 07-02-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.170	0.79	90	90.0	
A- 2	0.200	0.93	90	91.0	
A- 3	0.220	1.03	85	92.0	
A- 4	0.220	1.03	85	93.5	
A- 5	0.200	0.93	85	93.5	
A- 6	0.150	0.71	85	93.0	
A- 7	0.180	0.84	85	93.0	
A- 8	0.230	1.07	85	93.0	
A- 9	0.250	1.17	85	94.0	
A-10	0.250	1.17	90	95.5	
A-11	0.240	1.12	90	95.0	
A-12	0.240	1.12	90	95.0	
B- 1	0.170	0.79	90	95.0	
B- 2	0.190	0.89	88	96.5	
B- 3	0.210	0.98	90	96.0	
B- 4	0.220	1.03	90	94.5	
B- 5	0.230	1.07	85	94.0	
B- 6	0.130	0.61	90	94.0	
B- 7	0.160	0.75	90	94.0	
B- 8	0.240	1.12	90	96.0	
B- 9	0.250	1.17	90	97.0	
B-10	0.230	1.07	90	97.0	
B-11	0.240	1.12	90	97.0	
B-12	0.220	1.03	90	96.5	
AVGS.=	0.209	0.98	88	94.4	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

HCL

RUN NO:1

TEST DATE: 07-02-84

METER VOL= 38.250 (DAF)	Pb= 30.01 (IN. Hg)	ORSAT-CO2= 4.40 %
Y-FACTOR= 0.99	Pst= -0.09 (IN. H2O)	O2= 15.80 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 29.2 (mls)	TEST TIME= 72 (MIN.)	N2= 79.80 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 30.00 (IN. Hg)	Pm= 30.08 (IN. Hg)	MOISTURE= 3.62 %
METER VOL= 36.763 (DSCF)	Ms= 28.93	Us= 18.25 (FT/SEC)
Gd= 1.00	ISOKINETICS= 99.54 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7129

ACFM= 7,740.2

WSCFM= 7,503.4

DSCFM= 7,231.7

CONCENTRATION- HCL= 1.27 (PPM-DRY)

EMISSION RATE- HCL= 0.05 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM HCL RUN:1

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

HCL		RUN NO:2		TEST DATE: 07-02-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.170	0.79	90	90.0	
A- 2	0.180	0.84	90	93.0	
A- 3	0.190	0.89	90	93.0	
A- 4	0.200	0.93	90	95.0	
A- 5	0.200	0.93	90	95.0	
A- 6	0.110	0.51	90	95.0	
A- 7	0.180	0.84	90	95.0	
A- 8	0.230	1.07	90	96.0	
A- 9	0.230	1.07	90	95.0	
A-10	0.220	1.03	90	96.0	
A-11	0.210	0.98	90	98.0	
A-12	0.200	0.93	90	98.0	
B- 1	0.140	0.65	88	95.0	
B- 2	0.170	0.79	88	97.0	
B- 3	0.190	0.89	90	98.0	
B- 4	0.200	0.93	90	98.0	
B- 5	0.190	0.89	88	100.0	
B- 6	0.100	0.47	90	101.0	
B- 7	0.170	0.79	90	101.0	
B- 8	0.230	1.07	90	99.0	
B- 9	0.240	1.12	90	99.0	
B-10	0.220	1.03	90	99.0	
B-11	0.230	1.07	90	99.0	
B-12	0.200	0.93	90	99.0	
AVGS. =	0.190	0.89	90	96.8	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

HCL

RUN NO:2

TEST DATE: 07-02-84

METER VOL= 36.354 (DA CF)	Pb= 30.01 (IN. Hg)	ORSAT-CO2= 4.20 %
Y-FACTOR= 0.99	Pst= -0.09 (IN. H2O)	O2= 15.60 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 26.8 (mls)	TEST TIME= 72 (MIN.)	N2= 80.20 %
STACK DIAM= 36.0 (INCHES)	STACK AREA= 7.07 (SQ. FT.)	
Ps= 30.00 (IN. Hg)	Pm= 30.08 (IN. Hg)	MOISTURE= 3.52 %
METER VOL= 34.782 (DSCF)	Ms= 28.91	Us= 17.44 (FT/SEC)
Gd= 1.00	ISOKINETICS= 98.70 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7129

ACFM= 7,397.7

WSCFM= 7,151.8

DSCFM= 6,900.4

CONCENTRATION- HCL= .69 (PPM-DRY)

EMISSION RATE- HCL= 0.03 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM HCL RUN:2

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

HCL		RUN NO:3		TEST DATE: 07-03-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.180	0.84	90	84.0	
A- 2	0.180	0.84	90	86.0	
A- 3	0.200	0.93	90	87.0	
A- 4	0.220	1.03	90	89.0	
A- 5	0.210	0.98	88	91.0	
A- 6	0.120	0.56	90	92.0	
A- 7	0.170	0.79	95	92.0	
A- 8	0.240	1.12	95	93.0	
A- 9	0.240	1.12	95	95.0	
A-10	0.230	1.07	90	96.0	
A-11	0.240	1.12	95	96.0	
A-12	0.220	1.03	95	97.0	
B- 1	0.160	0.75	90	94.0	
B- 2	0.180	0.84	90	94.0	
B- 3	0.200	0.93	90	96.0	
B- 4	0.210	0.98	90	94.0	
B- 5	0.200	0.93	90	93.0	
B- 6	0.140	0.65	90	93.0	
B- 7	0.160	0.75	90	92.0	
B- 8	0.220	1.03	95	94.0	
B- 9	0.240	1.12	95	95.0	
B-10	0.230	1.07	90	95.0	
B-11	0.240	1.12	90	95.0	
B-12	0.210	0.98	90	95.0	
AVGS. =	0.200	0.94	91	92.8	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

HCL

RUN NO:3

TEST DATE: 07-03-84

METER VOL= 37.350 (DA CF)
Y-FACTOR= 0.99
NOZZLE DIAM.= .256 (INCHES)
H2O(COLLECTED)= 18.2 (mls)

Pb= 29.98 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
TEST TIME= 72 (MIN.)

ORSAT-CO2= 4.40 %
O2= 16.00 %
CO= 0.00 %
N2= 79.60 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 29.97 (IN. Hg)
METER VOL= 35.962 (DSCF)
Gd= 1.00

Pm= 30.05 (IN. Hg)
Ms= 29.09
ISOKINETICS= 98.67 %

MOISTURE= 2.34 %
Us= 16.51 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6579
ACFM= 7,003.3
WSCFM= 6,743.8
DSCFM= 6,586.1

CONCENTRATION- HCL= 1.19 (PPM-DRY)
EMISSION RATE- HCL= 0.04 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM HCL RUN:3

NO ADDITIONAL TESTS WERE CONDUCTED

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRAVERSE

RUN NO: 1

TEST DATE: 06-25-84

TRAVERSE 1

POINT	DELTA-P (IN H2O)	STACK TEMP (DEGREES F)
A- 1	0.170	83
A- 2	0.190	83
A- 3	0.210	83
A- 4	0.220	90
A- 5	0.220	90
A- 6	0.150	85
A- 7	0.150	88
A- 8	0.250	88
A- 9	0.250	90
A-10	0.250	89
A-11	0.250	89
A-12	0.250	89
B- 1	0.170	88
B- 2	0.180	88
B- 3	0.210	88
B- 4	0.220	88
B- 5	0.230	89
B- 6	0.180	88
B- 7	0.200	88
B- 8	0.250	88
B- 9	0.260	88
B-10	0.250	88
B-11	0.240	88
B-12	0.210	88
AVGS=	0.214	88

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRAVERSE

RUN NO: 1

TEST DATE: 06-25-84

AVG. DELTA-P= 0.214

AVG. STACK TEMP= 88

METER TEMP= 86.2 (DEG-F)

Pb= 29.83 (IN. Hg)

ORSAT-CO2= 5.00 %

DELTA-H= 1.01 (IN. H2O)

Pst= -0.09 (IN. H2O)

O2= 15.00 %

METER VOL= 38.260 (DACF)

Cp= .8265

CO= 0.00 %

Y-FACTOR= 0.99

H2O= 18.9 (mls COLLECTED)

N2= 80.00 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

METER VOL= 37.106 (DSCF)

Ps= 29.82 (IN. Hg)

Ms= 29.14

MOISTURE= 2.35 %

Pm= 29.90 (IN. Hg)

Gd= 1.01

Us= 18.71 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION.

AVERAGE COSINE= .7231

ACFM= 7,937.1

WSCFM= 7,656.3

DSCFM= 7,476.2

EMISSION TESTS USING FLOW DATA FROM CONDENSATE/TRAVERSE RUN:1

CONCENTRATION-CO= 120 (PPM-DRY)

EMISSION RATE-CO= 3.90(LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRVERSE

RUN NO: 2

TEST DATE: 06/25/84

TRAVERSE 1

POINT	DELTA-P (IN H2O)	STACK TEMP (DEGREES F)
A- 1	0.180	90
A- 2	0.180	90
A- 3	0.210	90
A- 4	0.210	90
A- 5	0.220	90
A- 6	0.150	90
A- 7	0.170	90
A- 8	0.190	90
A- 9	0.240	90
A-10	0.250	90
A-11	0.250	88
A-12	0.240	88
B- 1	0.170	85
B- 2	0.190	88
B- 3	0.210	88
B- 4	0.220	88
B- 5	0.230	85
B- 6	0.190	90
B- 7	0.180	90
B- 8	0.260	90
B- 9	0.250	90
B-10	0.250	85
B-11	0.230	90
B-12	0.230	85
AVGS=	0.211	89

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRAVERSE

RUN NO: 2

TEST DATE: 06/25/84

AVG. DELTA-P= 0.211

AVG. STACK TEMP= 89

METER TEMP= 87.9 (DEG-F)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
DELTA-H= 0.99 (IN. H2O)	Pst= -0.09 (IN. H2O)	O2= 15.00 %
METER VOL= 38.223 (DA CF)	Cp= .8265	CO= 0.00 %
Y-FACTOR= 0.99	H2O= 23.6 (mls COLLECTED)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

METER VOL= 36.953 (DSCF)	Ps= 29.82 (IN. Hg)	Ms= 29.07
MOISTURE= 2.93 %	Pm= 29.90 (IN. Hg)	Gd= 1.00
Us= 18.66 (FT/SEC)		

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION.

AVERAGE COSINE= .7231

ACFM= 7,912.1

WSCFM= 7,617.1

DSCFM= 7,393.7

EMISSION TESTS USING FLOW DATA FROM CONDENSATE/TRAVERSE RUN:2

CONCENTRATION-CO= 105 (PPM-DRY)
EMISSION RATE-CO= 3.37(LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRVERSE

RUN NO: 3

TEST DATE: 06-26-84

POINT	TRAVERSE 1	
	DELTA-P (IN H2O)	STACK TEMP (DEGREES F)
A- 1	0.170	85
A- 2	0.180	85
A- 3	0.210	85
A- 4	0.210	85
A- 5	0.230	85
A- 6	0.150	85
A- 7	0.180	85
A- 8	0.240	85
A- 9	0.250	85
A-10	0.260	85
A-11	0.240	85
A-12	0.230	85
B- 1	0.160	85
B- 2	0.190	85
B- 3	0.200	85
B- 4	0.210	85
B- 5	0.220	90
B- 6	0.170	88
B- 7	0.190	88
B- 8	0.240	90
B- 9	0.240	85
B-10	0.230	90
B-11	0.230	90
B-12	0.230	90
AVGS=	0.210	86

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRVERSE

RUN NO: 3

TEST DATE: 06-26-84

AVG. DELTA-P= 0.210

AVG. STACK TEMP= 86

METER TEMP= 80.6 (DEG-F)
DELTA-H= 0.98 (IN. H2O)
METER VOL= 38.031 (DACF)
Y-FACTOR= 0.99

Pb= 29.84 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
H2O= 21.5 (mls COLLECTED)

ORSAT-CO2= 4.80 %
O2= 15.20 %
CO= 0.00 %
N2= 80.00 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

METER VOL= 37.275 (DSCF)
MOISTURE= 2.66 %
Us= 17.70 (FT/SEC)

Ps= 29.83 (IN. Hg)
Pm= 29.91 (IN. Hg)

Ms= 29.08
Gd= 1.00

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION.

AVERAGE COSINE= .6907

ACFM= 7,508.9

WSCFM= 7,263.9

DSCFM= 7,071.0

EMISSION TESTS USING FLOW DATA FROM CONDENSATE/TRVERSE RUN:3

CONCENTRATION-HYDROCARBONS AS METHANE= 26.3885 (PPM-DRY)
EMISSION RATE-HYDROCARBONS AS METHANE= 0.4646(LB/HR)

CONCENTRATION-CO= 85 (PPM-DRY)
EMISSION RATE-CO= 2.61(LB/HR)

6/21/84 - SET UP, RUN # 1 PART, CO, NO_x
 6/22/84 - RUN # 2+3 PART, CO, + NO_x
 6/25/84 - RUN # 1+2 HEAVY METALS, #4+5 CO + NO_x
 6/26/84 - RUN # 3 H.M.'s, #1 H.C., #6 CO, NO_x
 6/27/84 - RUN # 1 SO_x, #7 CO + NO_x, #2 H.C.
 6/28/84 - RUN # 2+3 SO_x, #3 H.C. VOID
 7/2/84 - RUN # 1+2 HCL
 7/3/84 - RUN # 4 SO_x, RUN # 3 HCL

PART ✓

CO ✓

NO_x ✓

H.C. ✓

H.M. ✓

SO_x ✓

HCL ✓

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO: 3

TEST DATE: 06-22-84

METER VOL= 38.811 (DA CF) Pb= 30.04 (IN. Hg) ORSAT-CO2= 4.60 %
Y-FACTOR= 0.99 Pst= -0.09 (IN. H2O) O2= 15.40 %
NOZZLE DIAM.= .256 (INCHES) Cp= .8265 CO= 0.00 %
H2O(COLLECTED)= 28.1 (mls) TEST TIME= 72 (MIN.) N2= 80.00 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 30.03 (IN. Hg) Pm= 30.11 (IN. Hg) MOISTURE= 3.46 %
METER VOL= 37.059 (DSCF) Ms= 28.97 Us= 17.91 (FT/SEC)
Gd= 1.00 ISOKINETICS= 99.48 %

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6995

ACFM= 7,594.0

WSCFM= 7,414.1

DSCFM= 7,157.4

SAMPLE WT= .0246 (GRAMS)

GRAINS/DSCF= 0.0102

GRAINS/WSCF= 0.0099

GRAINS/DSCF @ 12% CO2(MINUS AUX FUEL)= 0.0504

GRAMS/DSCM @ 12% CO2(MINUS AUX FUEL)= 0.1153

GRAMS/DSCM= 0.0234

GRAMS/WSCM= 0.0226

PARTICULATE EMISSION RATE= 0.6284 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:3

CONCENTRATION- CO= 65 (PPM-DRY)

EMISSION RATE- CO= 2.02 (LB/HR)

CONCENTRATION- NOx-FROM BAG= 0 (PPM-DRY)

EMISSION RATE- NOx-FROM BAG= 0.00 (LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST

N.J. STACK NO: 001

PARTICULATE		RUN NO:1		TEST DATE: 06-21-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.150	0.70	80	85.0	
A- 2	0.180	0.84	90	85.0	
A- 3	0.190	0.89	90	85.0	
A- 4	0.200	0.93	88	84.0	
A- 5	0.200	0.93	88	83.0	
A- 6	0.170	0.79	88	83.5	
A- 7	0.130	0.61	89	83.5	
A- 8	0.250	1.17	90	84.0	
A- 9	0.240	1.12	90	87.0	
A-10	0.240	1.12	90	89.0	
A-11	0.230	1.07	93	89.0	
A-12	0.220	1.03	91	87.0	
B- 1	0.150	0.70	101	84.5	
B- 2	0.170	0.79	109	85.0	
B- 3	0.200	0.93	104	85.5	
B- 4	0.200	0.93	104	87.0	
B- 5	0.220	1.03	102	87.0	
B- 6	0.140	0.65	106	88.0	
B- 7	0.180	0.84	109	88.0	
B- 8	0.230	1.07	106	88.0	
B- 9	0.240	1.12	110	88.0	
B-10	0.240	1.12	109	87.0	
B-11	0.210	0.98	109	87.0	
B-12	0.230	1.07	110	88.0	
AVGS. =	0.199	0.93	98	86.2	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:1

TEST DATE: 06-21-84

METER VOL= 37.389 (DA CF)
Y-FACTOR= 0.99
NOZZLE DIAM.= .256 (INCHES)
H2O(COLLECTED)= 23.4 (mls)

Pb= 30.12 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
TEST TIME= 72 (MIN.)

ORSAT-CO2= 4.20 %
O2= 16.20 %
CO= 0.00 %
N2= 79.60 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

Ps= 30.11 (IN. Hg)
METER VOL= 36.608 (DSCF)
Gd= 1.00

Pm= 30.19 (IN. Hg)
Ms= 29.00
ISOKINETICS= 101.59 %

MOISTURE= 2.93 %
Us= 18.52 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .7367

ACFM= 7,854.9

WSCFM= 7,512.3

DSCFM= 7,291.9

SAMPLE WT= .0271 (GRAMS)

GRAINS/DSCF= 0.0114

GRAINS/WSCF= 0.0111

GRAINS/DSCF @ 12% CO2(MINUS AUX FUEL)= 0.0633

GRAMS/DSCM @ 12% CO2(MINUS AUX FUEL)= 0.1449

GRAMS/DSCM= 0.0261

GRAMS/WSCM= 0.0254

PARTICULATE EMISSION RATE= 0.7139 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:1

CONCENTRATION- CO= 64 (PPM-DRY)

EMISSION RATE- CO= 2.03 (LB/HR)

CONCENTRATION- NOx-FROM BAG= 5.5 (PPM-DRY)

EMISSION RATE- NOx-FROM BAG= 0.29 (LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:2		TEST DATE: 06-22-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.180	0.84	80	81.0	
A- 2	0.200	0.93	81	86.0	
A- 3	0.220	1.03	81	87.0	
A- 4	0.230	1.07	81	89.0	
A- 5	0.230	1.07	85	90.0	
A- 6	0.140	0.65	85	90.0	
A- 7	0.170	0.79	85	90.0	
A- 8	0.250	1.17	85	90.0	
A- 9	0.260	1.21	85	90.0	
A-10	0.260	1.21	85	90.0	
A-11	0.250	1.17	85	91.0	
A-12	0.250	1.17	85	91.0	
B- 1	0.180	0.84	81	91.0	
B- 2	0.200	0.93	80	91.0	
B- 3	0.210	0.98	80	91.5	
B- 4	0.230	1.07	80	92.0	
B- 5	0.230	1.07	80	92.0	
B- 6	0.150	0.70	80	92.0	
B- 7	0.190	0.89	82	93.0	
B- 8	0.250	1.16	90	96.0	
B- 9	0.250	1.16	90	98.0	
B-10	0.260	1.21	85	98.0	
B-11	0.250	1.16	82	98.0	
B-12	0.250	1.16	82	98.0	
AVGS. =	0.219	1.03	83	91.5	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE

RUN NO:2

TEST DATE: 06-22-84

METER VOL= 39.848 (DACF)	Pb= 30.04 (IN. Hg)	ORSAT-CO2= 4.60 %
Y-FACTOR= 0.99	Pst= -0.09 (IN. H2O)	O2= 15.60 %
NOZZLE DIAM.= .256 (INCHES)	Cp= .8265	CO= 0.00 %
H2O(COLLECTED)= 23.1 (mls)	TEST TIME= 72 (MIN.)	N2= 79.80 %

STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)

Ps= 30.03 (IN. Hg)	Pm= 30.12 (IN. Hg)	MOISTURE= 2.76 %
METER VOL= 38.544 (DSCF)	Ms= 29.06	Us= 18.21 (FT/SEC)
Gd= 1.00	ISOKINETICS= 100.65 %	

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION

AVERAGE COSINE= .6995

ACFM= 7,724.0

WSCFM= 7,565.9

DSCFM= 7,357.3

SAMPLE WT= .0267 (GRAMS)

GRAINS/DSCF= 0.0107

GRAINS/WSCF= 0.0104

GRAINS/DSCF @ 12% CO2(MINUS AUX FUEL)= 0.0593

GRAMS/DSCM @ 12% CO2(MINUS AUX FUEL)= 0.1358

GRAMS/DSCM= 0.0245

GRAMS/WSCM= 0.0238

PARTICULATE EMISSION RATE= 0.6741 (LB/HR)

ADDITIONAL TESTS USING FLOW DATA FROM PARTICULATE RUN:2

CONCENTRATION- CO= 67 (PPM-DRY)

EMISSION RATE- CO= 2.14 (LB/HR)

CONCENTRATION- NOx-FROM BAG= 1 (PPM-DRY)

EMISSION RATE- NOx-FROM BAG= 0.05 (LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

PARTICULATE		RUN NO:3		TEST DATE: 06-22-84	
POINT	DELTA P (IN H2O)	DELTA H (IN H2O)	STACK TEMP (DEGREES F)	METER TEMP (DEGREES F)	
A- 1	0.180	0.84	90	100.0	
A- 2	0.200	0.93	85	100.0	
A- 3	0.210	0.98	85	100.0	
A- 4	0.230	1.07	85	101.0	
A- 5	0.220	1.03	85	101.0	
A- 6	0.140	0.65	85	101.0	
A- 7	0.170	0.79	89	101.0	
A- 8	0.220	1.03	85	101.0	
A- 9	0.240	1.12	95	101.0	
A-10	0.230	1.07	95	101.0	
A-11	0.240	1.12	95	101.0	
A-12	0.230	1.07	91	102.0	
B- 1	0.180	0.84	82	94.0	
B- 2	0.180	0.84	82	96.0	
B- 3	0.200	0.93	82	97.0	
B- 4	0.220	1.03	81	95.0	
B- 5	0.220	1.03	81	96.0	
B- 6	0.170	0.79	81	96.0	
B- 7	0.190	0.89	81	95.0	
B- 8	0.240	1.12	80	96.0	
B- 9	0.250	1.17	80	97.0	
B-10	0.240	1.12	81	97.0	
B-11	0.240	1.12	81	99.0	
B-12	0.230	1.07	81	99.0	
AVGS. =	0.210	0.99	85	98.6	

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRAVERSE

RUN NO: 1

TEST DATE: 06-25-84

TRAVERSE 1

POINT	DELTA-P (IN H2O)	STACK TEMP (DEGREES F)
A- 1	0.214	88
AVGS=	0.214	88

AVG. DELTA-P= 0.214

AVG. STACK TEMP= 88

METER TEMP= 86.2 (DEG-F)	Pb= 29.83 (IN. Hg)	ORSAT-CO2= 5.00 %
DELTA-H= 1.01 (IN. H2O)	Pst= -0.09 (IN. H2O)	O2= 15.00 %
METER VOL= 38.260 (DACF)	Cp= .8265	CO= 0.00 %
Y-FACTOR= 1.00	H2O= 18.9 (mls COLLECTED)	N2= 80.00 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

METER VOL= 37.106 (DSCF)	Ps= 29.82 (IN. Hg)	Ms= 29.14
MOISTURE= 2.35 %	Pm= 29.90 (IN. Hg)	Gd= 1.01
Us= 18.74 (FT/SEC)		

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION.

AVERAGE COSINE= .7231

ACFM= 7,946.9

WSCFM= 7,661.1

DSCFM= 7,480.9

EMISSION TESTS USING FLOW DATA FROM CONDENSATE/TRAVERSE RUN:1

CONCENTRATION-CO= 120 (PPM-DRY)
EMISSION RATE-CO= 3.90(LB/HR)

CONCENTRATION-NOx(BAG)= 3 (PPM-DRY)
EMISSION RATE-NOx(BAG)= 0.16(LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRAVERSE

RUN NO: 2

TEST DATE: 06/25/84

POINT	TRAVERSE 1	
	DELTA-P (IN H2O)	STACK TEMP (DEGREES F)
A- 1	0.180	90
A- 2	0.180	90
A- 3	0.210	90
A- 4	0.210	90
A- 5	0.220	90
A- 6	0.150	90
A- 7	0.170	90
A- 8	0.190	90
A- 9	0.240	90
A-10	0.250	90
A-11	0.250	88
A-12	0.240	88
B- 1	0.170	85
B- 2	0.190	88
B- 3	0.210	88
B- 4	0.220	88
B- 5	0.230	85
B- 6	0.190	90
B- 7	0.180	90
B- 8	0.260	90
B- 9	0.250	90
B-10	0.250	85
B-11	0.230	90
B-12	0.230	85
AVGS=	0.211	89

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRVERSE

RUN NO: 2

TEST DATE: 06/25/84

AVG. DELTA-P= 0.211

AVG. STACK TEMP= 89

METER TEMP= 87.9 (DEG-F)
DELTA-H= 0.99 (IN. H2O)
METER VOL= 38.223 (DA CF)
Y-FACTOR= 0.99

Pb= 29.83 (IN. Hg)
Pst= -0.09 (IN. H2O)
Cp= .8265
H2O= 23.6 (mls COLLECTED)

ORSAT-CO2= 5.00 %
O2= 15.00 %
CO= 0.00 %
N2= 80.00 %

STACK DIAM= 36.0 (INCHES)

STACK AREA= 7.07 (SQ. FT.)

METER VOL= 36.953 (DSCF)
MOISTURE= 2.93 %
Us= 18.66 (FT/SEC)

Ps= 29.82 (IN. Hg)
Pm= 29.90 (IN. Hg)

Ms= 29.07
Gd= 1.00

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION.

AVERAGE COSINE= .7231

ACFM= 7,912.1

WSCFM= 7,617.1

DSCFM= 7,393.7

EMISSION TESTS USING FLOW DATA FROM CONDENSATE/TRVERSE RUN:2

CONCENTRATION-CO= 105 (PPM-DRY)

EMISSION RATE-CO= 3.37(LB/HR)

CONCENTRATION-NOx(BAG)= 9 (PPM-DRY)

EMISSION RATE-NOx(BAG)= 0.47(LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRVERSE RUN NO: 3 TEST DATE: 06-26-84
AVG. DELTA-P= 0.210 AVG. STACK TEMP= 86
METER TEMP= 80.6 (DEG-F) Pb= 29.84 (IN. Hg) ORSAT-CO2= 4.80 %
DELTA-H= 0.98 (IN. H2O) Pst= -0.09 (IN. H2O) O2= 15.20 %
METER VOL= 38.031 (DA CF) Cp= .8265 CO= 0.00 %
Y-FACTOR= 0.99 H2O= 21.5 (mls COLLECTED) N2= 80.00 %
STACK DIAM= 36.0 (INCHES) STACK AREA= 7.07 (SQ. FT.)
METER VOL= 37.275 (DSCF) Ps= 29.83 (IN. Hg) Ms= 29.08
MOISTURE= 2.66 % Pm= 29.91 (IN. Hg) Gd= 1.00
Us= 17.70 (FT/SEC)

THE GAS FLOW RATES USED TO CALCULATE THE EMISSION RATE WAS CORRECTED
TO A LINEAR FLOW DIRECTION DUE TO CYCLONIC CONDITIONS AT THE SAMPLING LOCATION.

AVERAGE COSINE= .6907
ACFM= 7,508.9
WSCFM= 7,263.9
DSCFM= 7,071.0

EMISSION TESTS USING FLOW DATA FROM CONDENSATE/TRVERSE RUN:3

CONCENTRATION-HYDROCARBONS AS METHANE= 26.3885 (PPM-DRY)
EMISSION RATE-HYDROCARBONS AS METHANE= 0.4646(LB/HR)

CONCENTRATION-CO= 85 (PPM-DRY)
EMISSION RATE-CO= 2.61(LB/HR)

CONCENTRATION-NOx(BAG)= 8 (PPM-DRY)
EMISSION RATE-NOx(BAG)= 0.40(LB/HR)

PEQUANNOCK, LINCOLN PARK & FAIRFIELD SEWERAGE AUTHORITY
SEWERAGE SLUDGE INCINERATOR EXHAUST N.J. STACK NO: 001

CONDENSATE/TRVERSE

RUN NO: 3

TEST DATE: 06-26-84

POINT	TRAVERSE 1	
	DELTA-P (IN H2O)	STACK TEMP (DEGREES F)
A- 1	0.170	85
A- 2	0.180	85
A- 3	0.210	85
A- 4	0.210	85
A- 5	0.230	85
A- 6	0.150	85
A- 7	0.180	85
A- 8	0.240	85
A- 9	0.250	85
A-10	0.260	85
A-11	0.240	85
A-12	0.230	85
B- 1	0.160	85
B- 2	0.190	85
B- 3	0.200	85
B- 4	0.210	85
B- 5	0.220	90
B- 6	0.170	88
B- 7	0.190	88
B- 8	0.240	90
B- 9	0.240	85
B-10	0.230	90
B-11	0.230	90
B-12	0.230	90
AVGS=	0.210	86