

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.

APPENDIX K

APPLICATION NUMBER 1409000018

FACILITY NAME Southern Ohio Asphalt

SOURCE DESCRIPTION (OR SCC CODE) 400 TPH Asphalt Plant

CONTROL EQUIPMENT Baghouse

DATE(S) OF TEST 3/25/93

FINAL TEST REPORT RECEIVED ON 4/25/93

POLLUTANTS TESTED Particulate Emissions (all size fractions)

TEST METHOD U.S. EPA Reference Methods 1-5

TEST FIRM Shelly Co.

EMISSION RATES*:

ACTUAL 1.48 lbs/hr ALLOWABLE** .04 gr/dscf(8.6#/hr)

OPERATING RATES*

DURING TEST** 299 TPH MAXIMUM** 400 TPH

EMISSION FACTOR***

COMMENTS:

I HEREBY VERIFY THAT THE INFORMATION CONTAINED WITHIN THE STACK TEST REPORT HAS BEEN REVIEWED AND IT HAS BEEN DETERMINED THAT THE TEST PROCEDURES, ANALYSES AND CALCULATIONS ARE:

[X] AN ACCEPTABLE DEMONSTRATION OF CONFORMANCE WITH THE APPROVED TESTING METHODOLOGY.

[] AN UNACCEPTABLE DEMONSTRATION OF CONFORMANCE WITH THE APPROVED TESTING METHODOLOGY.

DATE OF REVIEW 8/12/93

Alan C. Harrington, AQT/P
PREPARED BY

LeRoy R. Gruber, AQE
REVIEWED BY

- * BASED ON - RUN AVERAGE
- ** SPECIFY APPLICATION UNITS
- *** SPECIFY IN UNITS OF MASS/INPUT



HAMILTON COUNTY
INTERDEPARTMENTAL CORRESPONDENCE

To: Brad M. Miller
From: Alan C. Harrington, AQT/P
Observer: Alan C. Harrington, AQT/P
Date: 7/23/93
Subject: Testing Conducted at S.O. Asphalt #42 Facility

I. Recommendations (To maintain an emission rate at or lower than measured during testing)

A. Frequency of Retesting:

- | | |
|----------|---|
| _____ | 1. Retest ASAP - NO _x , Particulate |
| _____ | 2. Annual Testing |
| <u>X</u> | 3. Test for Permit Renewal |
| <u>X</u> | 4. Other: <u>For higher production rate; when it occurs</u> |

Basis: _____ Measured Emission Rate vs Allowable (OEPA Engineering Guide)
_____ Variability of Process
_____ Run to Run Variability
_____ Other: _____

B. Continuous Emission Monitor (s)

1. Stack Monitor for Pollutant _____
2. Process Monitor _____

_____ Certified _____ Quality Assured _____ Recorded _____ Logged

Basis: _____

C. Fuel Monitoring

1. Limits on Ash _____ % BTU _____ Sulfur _____ %
2. Thruput Monitor _____ Flowrate _____

Basis: _____

D. Other Recommendations/Reason: 300 TPH Permit limit due to 300 TPH operation during testing.

OBSERVERS REPORT

Southern Ohio Asphalt Plant #42

COMPLIANCE TEST FOR

Particulate Matter (All Size Fractions)

Conducted on: March 25, 1993

Source: P901, Asphaltic Concrete Batch Plant

Premise Number: 1409000018

Test Firm: The Shelley Company

Prepared by: Alan C. Harrington, AQT/P

Date Prepared: July 14, 1993

DEPARTMENT OF ENVIRONMENTAL SERVICES - AIR QUALITY PROGRAMS

(D.O.E.S. - A.Q.P.)

Southern Ohio Asphalt Plant
PN: 1409000018

Testing for particulate emissions was conducted on March 25, 1993, at the Southern Ohio Asphalt Plant, #42 (P901) located in Fairfield, Ohio. This source (re-constructed in 1992) produces batches of asphalt in an oil heated drum mixer whose emissions are controlled by a baghouse. Since the source has been recently reconstructed, NSPS regulations apply to this source.

New Source Performance Standards (NSPS) contained in 40 CFR, Part 60, Subpart I, limit particulate emissions to 0.04 gr/dscf. Ohio EPA Regulation 3745-31-05; application of best available technology, limits visible emissions to 10% as a six minute average.

Methods of sampling were performed in accord with 40 CFR, Part 60, July, 1989 for testing. Ohio type 403 asphalt was produced for Ohio Dept. of Transportation. Particulate Emissions, collected through a 0.306 diameter nozzle, for three one hour runs averaged 0.0068 grams/dry standard cubic foot and 1.48 lbs/hour. The material throughput was an average 298.78 tons/hr which is 74.69% of the rated maximum of 400 tons/hr. However, the facility never intends to exceed 300 tph as a maximum.

The average stack volumetric flow was 25,000 dscfm at 29.16% moisture and a stack temperature of 668° rankine; while, stack static pressure averaged -0.26 " H₂O. Fyrites or oxygen and carbon dioxide were found to average 12.83% and 4.33%.

Visible emissions conducted throughout testing were documented as 0% through all there test runs. Some fugitive emissions were occasionally seen from truck loading.

Quality assurance measures included leak checks, before and after each run,, zeroing of instruments, proper probe orientation, neat and thorough probe washing, cyclonic flow checks, and appropriate date documentation, among other things. Calculations were checked and found to be accurate. Isokinetic flow was also within acceptable range.

In conclusion, the data contained within this report is of sufficient accuracy to determine compliance with existing Federal and Ohio EPA regulations.

ACH/mss/SouthOH.tst

OEPA STACK TEST REVIEW SUMMARY FORM

APPLICATION NUMBER 1409000018 P901

FACILITY NAME Southern Ohio Asphalt

SOURCE DESCRIPTION (OR SCC CODE) 400TPH Asphalt Plant

CONTROL EQUIPMENT Baghouse

DATE(S) OF TEST 3/25/93

FINAL TEST REPORT RECEIVED ON 4/25/93

POLLUTANT(S) TESTED Particulate

TEST METHOD USEPA Ref Methods 1-5

TEST FIRM Shelly Co.

EMISSION RATES*:

ACTUAL (lb(s)/hr) 1.48 ALLOWABLE** .04 gr/dscf (8.6#/HR)

OPERATING RATES*:

DURING TEST** 299TPH MAXIMUM** 400TPH

EMISSION FACTOR***

COMMENTS:

I HEREBY VERIFY THAT THE INFORMATION CONTAINED WITHIN THE STACK TEST REPORT HAS BEEN REVIEWED AND IT HAS BEEN DETERMINED THAT THE TEST PROCEDURES, ANALYSES AND CALCULATIONS ARE;

☒ AN ACCEPTABLE DEMONSTRATION OF CONFORMANCE WITH THE APPROVED TESTING METHODOLOGY.

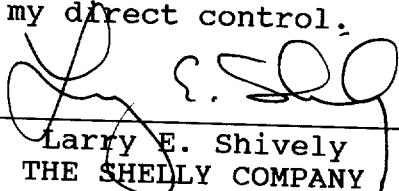
☐ AN UNACCEPTABLE DEMONSTRATION OF CONFORMANCE WITH THE APPROVED TESTING METHODOLOGY.

DATE OF REVIEW 8/2/93 REVIEWED BY ACH

* BASED ON 7 RUN AVERAGE
** SPECIFY APPLICABLE UNITS
*** SPECIFY IN UNITS OF MASS/INPUT

ASPHALT PLANT BAGHOUSE OUTLET
COMPLIANCE EMISSION EVALUATION
FOR
SOUTHERN OHIO ASPHALT
PLANT #42 FAIRFIELD, OHIO

I, Larry E. Shively certify that to best of my knowledge all applicable State and Federal test procedures were followed. All filters and data remained under my direct control.



Larry E. Shively
THE SHELLEY COMPANY
AIR QUALITY CONTROL MANAGER

TABLE OF CONTENTS

- 1. INTRODUCTION**
- 2. THE SOURCE**
- 3. TEST PROCEDURES**
- 4. FIELD DATA SHEETS**
- 5. TEST SUMMARY**

**Asphalt Cement Plant Baghouse Outlet Compliance
Emission Evaluation for the
Southern Ohio Asphalt
Plant #42**

1.0 INTRODUCTION

The Shelly Company of Thornville, Ohio, conducted a compliance emission test on the baghouse outlet stack of Southern Ohio Asphalt #42 located at Fairfield, Ohio. The test was conducted on May 25, 1993.

The tests were conducted in order to determine compliance with current Ohio EPA and U.S. EPA particulate emission regulations. All tests were performed in accordance with procedures and requirements established by U.S. EPA and the Ohio EPA.

The emissions for three test runs at the outlet stack averaged .0068 grains per dry standard cubic foot and 1.48 pounds per hour.

2.0 THE SOURCE

The following is information concerning THE SOURCE:

- A. SOURCE IDENTIFICATION: PLANT #42**
- B. LOCATION: FAIRFIELD, OHIO**
- C. PLANT DESCRIPTION: DRUM MIXER**
- D. TYPE OF FUEL: FUEL OIL**
- E. TYPE OF MIX: ODOT 404**
- F. TYPE OF EMISSION CONTROL EQUIPMENT: BAGHOUSE**
- G. STACK DIMENSIONS: 54" DIAMETER**
- H. TEST LOCATION (See next page for locations):**
- I. TEST TIME: 60 minutes**
- J. TEST DATE: 05-25-93**
- K. TESTING COMPANY: THE SHELLY COMPANY**
- L. SAMPLING TEAM: TED GREEN, GARRY MILLER**
- M. EPA REPRESENTATIVE: ALAN HARRINGTON**
- N. REMARKS:**

* TRAVERSE POSITIONS IN ROUND STACK *

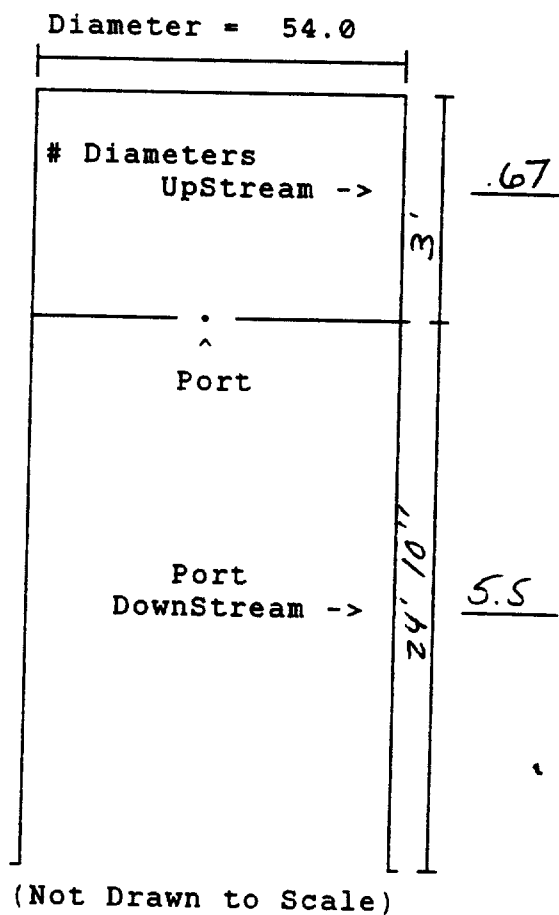
Plant :

Inside of Near Wall to
outside of Nipple : 3.0 inches

Number of Points : 12

Area of Round Stack : 15.90 sq. ft.

Point	Distance	Nipple	Total Dist
1	1.1	3.00	4.1
2	3.6	3.00	6.6
3	6.4	3.00	9.4
4	9.6	3.00	12.6
5	13.5	3.00	16.5
6	19.2	3.00	22.2
7	34.8	3.00	37.8
8	40.5	3.00	43.5
9	44.4	3.00	47.4
10	47.6	3.00	50.6
11	50.4	3.00	53.4
12	52.9	3.00	55.9



3.0 TEST PROCEDURE SUMMARY

3.1 SCOPE AND OBJECTIVES

Testing was conducted to determine the following:

- A. Gas Volume - ACFM and SCFM
- B. Gas Temperature - F
- C. Moisture - % by volume
- D. Flue Gas Molecular Weight - % by volume O_2 , CO_2 and $(N_2 \text{ \& } CO)$ by difference.
- E. Stack Gas Velocity - feet per second
- F. Particulate Emissions - grains/DSCF, lbs./hr.

3.2. METHODS OF SAMPLING

- A. Sampling and traverse locations were determined as per Method One of the 40 CFR PART 60, JULY 1989.
- B. Gas Flow, gas temperature, and static pressure measurements were made as per Method Two of the 40 CFR PART 60, JULY 1989.
- C. Excess air and molecular weight determinations were made as per Method Three of 40 CFR PART 60, JULY 1989.
- D. Moisture content sampling was conducted as per Method Four of 40 CFR PART 60, JULY 1989.
- E. Particulate sampling was conducted as per Method Five of 40 CFR PART 60, JULY 1989.

3.3. SAMPLING PROCEDURES

A. Test Station and Traverse Locations

The location of the sampling station and traverse points are critical to the performance of the project. The location of test points can be found at the beginning of Section 4.

B. Equipment

The equipment used in the test was manufactured by Anderson Samplers, Inc. in Atlanta, Ga. The control boxes are the Universal Stack Sampler. (See figure 1 for outline of equipment)

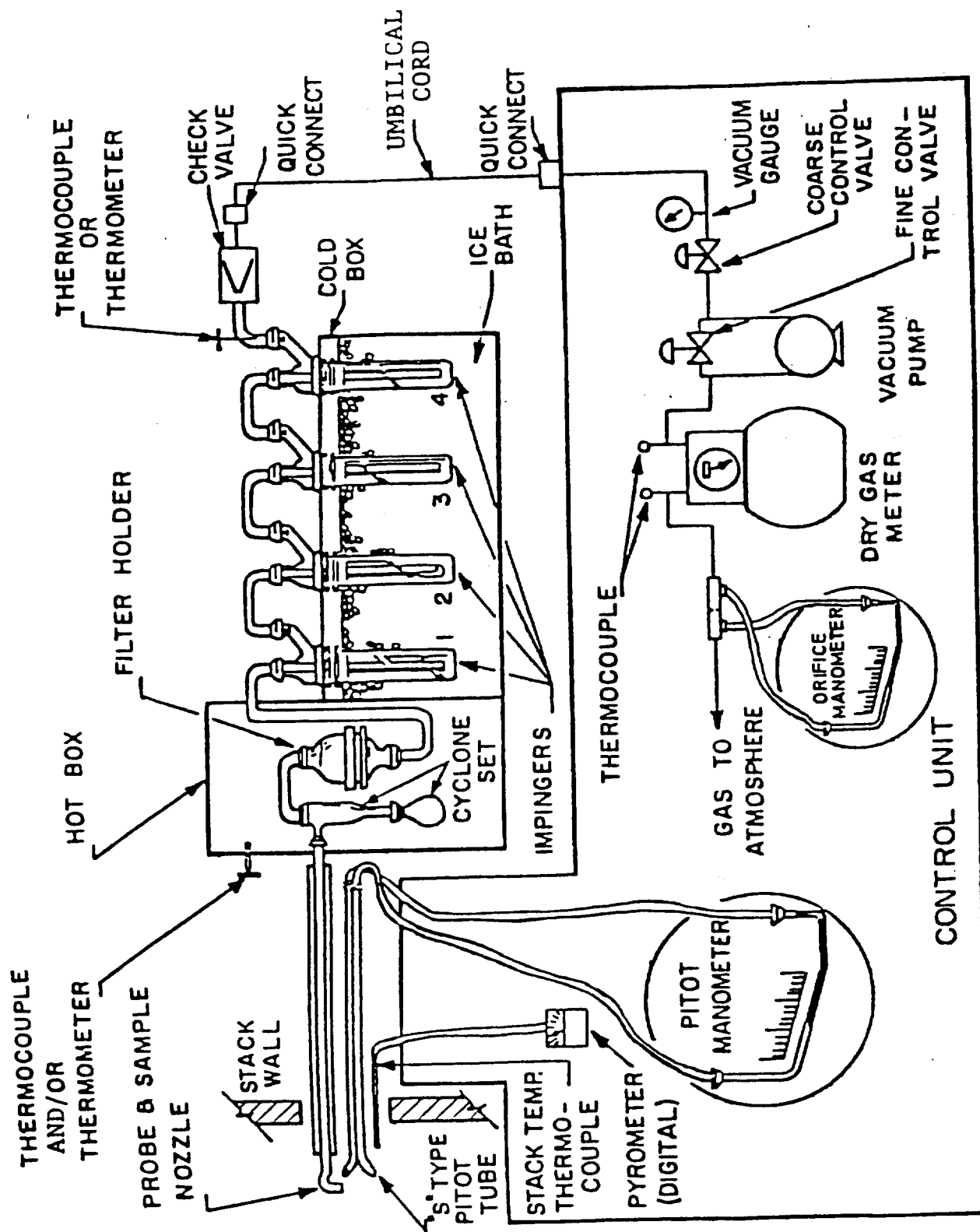


FIGURE 1: SAMPLING TRAIN SCHEMATIC

the nozzle and the probe. All washings were stored in sealed glass sample bottles for transfer to the laboratory. The silica gel used in the fourth impinger was removed and stored in a sealed sample bottle. The contents of the first second, and third impingers were combined and measured volumetrically.

3.4 ANALYTICAL METHODS

A. Laboratory Analysis

All samples generated during the test program were analyzed by The Shelly Company at The Shelly Company Laboratory in Thornville, Ohio. All samples are under the direct control of the sampling team. The following discussions describe the analytical methods employed.

B. Particulate samples

All glass fiber filters used in the sampling program had been tare weighed following twenty-four (24) hour desiccation period prior to their use in the field. Upon their return to the laboratory, they were desiccated and reweighed. The weight difference was the amount of sample collected.

Nozzle, probe, and filter holder washings were evaporated to dryness in tared beakers. The residue was desiccated and the beakers were reweighed to a constant weight. The weight difference was the amount of particulate matter collected at these locations in the sampling train.

An acetone blank was evaporated to dryness in a tared beaker, desiccated and reweighed. Any residue which remained was a contaminant in the reagent and was considered a blank weight which was used as a correction factor in subsequent calculations.

C. Gas Flow and Gas Temperature Determinations

The gas flow rate and temperature profile were measured by conducting a simultaneous velocity and temperature traverse. Gas velocity heads were measured with a calibrated "S" type Pitot tube which was connected to an inclined manometer. A Chromel-Alumel Thermocouple connected to a potentiometer was used to determine the gas temperature.

D. Excess Air and Molecular Weight Determinations

Fyrite gas analyzer was used to determine the weight of the flue gas. The following parameters were measured in order to calculate molecular weight: volume percent carbon dioxide (CO_2), volume percent oxygen (O_2), the volume percentage of nitrogen plus carbon monoxide (N_2 & CO) was determined by difference. These parameters were measured using the principle of gas absorption in specific absorbing solutions. A controlled flue gas sample was drawn through the plastic manifold to the sample chamber by the use of a hand pump following purging in the sample line. The system was then closed by adjusting the valve at the inlet to the manifold. The sample was bubbled through each absorbing solution which selectively collects a different gaseous component of the stack gas. The volume of a specific gaseous component collected in an individual absorbing solution was determined by the change in volume of the absorbent in the sample chamber after the bubbling process through that solution was complete. Since the original

absorbant volume was adjusted to 0 ml any change in volume was also the percentage of the specific gaseous component found in the stack gas stream. Fyrite analyses performed in triplicate for each particulate run.

E. Moisture Content

Sampling was conducted employing the principles presented in E.P.A. Method Four and concurrently with particulate sampling. Parameters evaluated in order to determine the gas streams moisture content were: sample gas volume, sample gas temperature, sample gas pressure, impinger moisture gain, and silica gel moisture gain. Some minor modifications were made to the Method Four train to allow concurrent particulate and moisture content sampling; these modifications involved no deviations from sampling principles. Such modifications as the substitution of a glass fiber filter for Pyrex wool as a filtering medium, and the substitution of calibrated orifice for a rotameter as a flow metering device were incorporated.

Silica gel had been tare-weighed prior to its use in the field. Upon completion of a test run, the silica gel was reweighed. Weight gain was considered to be all to water vapor. The total volume of the impinger solutions minus the original volume of water in the impingers plus the volume of moisture and/or vapors collected by the silica gel equalled the total moisture gain of the sampling train. This volume was used as a basis for the percent moisture by volume.

F. Particulate Sampling

All sampling procedures and sampling equipment employed were those outlined in Method Five of the 40 CFR PART 60, JULY 1989.

The size of the nozzle required to maintain isokinetic sampling was calculated from the results of the previously completed velocity and temperature traverses. The sampling train utilized a stainless steel probe, which was heated to 248 F. by an internal heating element. A nozzle of the calculated size was attached to the end of probe which was inserted into the stack. A calibrated "S" type pitot tube and a Chromel-Alumel thermocouple were clamped to the probe and were used to monitor the velocity head and the temperature at the traverse points during the sampling period. Sampled gas passed through the nozzle and the probe to a glass fiber filter for the removal of the suspended particulates. The filter was housed in a heated chamber whose temperature was maintained at above 250 F. The in-stack filter holder was not heated. From the filter the stack gas passed to the impinger train. The first two impinger each contained 150 ml. of deionized water. The third impinger contained no reagents and was a knockout impinger. The fourth impinger contained approximately 200 grams of coarse silica gel which collected any moisture and /or vapors which had not been captured in preceding impingers.

The second impinger was a 500 ml. Greenburg-Smith impinger, while the first, third, and fourth were 500 ml.

impingers of the Greenburg-Smith design, modified by replacing the tip with a 1/2 inch ID glass tube. It should be noted that the impinger train was immersed in an ice bath for the entire test period in order that the exit gas temperature would not exceed 70 F.

From the impinger train the gas was conducted through an umbilical cord to the control console, an Anderson Universal Stack Sampler which contained the following pieces of equipment (listed in the order in which sampled gas passed through them): a main valve, a by-pass valve for flow adjustment, an airtight vacuum pump, a dry gas meter, and a calibrated orifice. The orifice was equipped with pressure taps which were connected across the inclined manometer used to insure that isokinetic conditions were being maintained.

The sampling train was subject to a leak check prior to and after each sample was run. The inlet of the nozzle was plugged and the pump vacuum was held at the highest vacuum attained during that period of testing. In all cases the leakage rate was minimal and did not exceed the maximum allowable leakage rate of 0.02 cfm.

Upon completion of a test, the soiled glass fiber filter was removed from it's filter holder and placed in a petri dish which was subsequently sealed. The probe and nozzle were washed internally with acetone; the particulate matter remaining in the probe was removed with a nylon brush attached to a polyethylene line. The front half of the glass filter holder was also rinsed with acetone and the washings obtained were added to those collected from

The same procedure was used for the back half analysis.

4.0. FIELD DATA SHEETS

The flue gas velocity head, the flue gas temperature, the inlet and outlet dry gas meter temperatures, the orifice pressure differential, the sample volume, the sampling time, the pump vacuum, the filter temperature, and the impinger train outlet gas temperature were recorded during the sampling program. The field data sheets generated during the test are contained in the next section.

Cyclonic

EPA Method 5

Run No. 1

File Name: "PLANT_42"

Plant No. 42

Sample Location

Sample Type

Operator

Ambient Temp.

Baro. Pressure

Static Pres, (Ps)

Filter No. (S)

Pitot Tube No. & Cp.

EPA Representative

Date 05/25/93

: FAIRFIELD, OH

: 1-5

: Green Miller: 60: 30.09: -1.26: 609

: .84

: Alan HarringtonProbe Length and Type : 5' SSNozzle I.D. : .306Assumed Moisture % 30Sample Box Number : 1Meter H @ K Factor 4.82Pre-Test Leak Check Rate 0 CPM @ 9Post Test Leak Check Rate 0 CPM @ 8Production Rate 298.78 TPHFyrite: O₂ 13 CO₂ 5

Schematic of Traverse Point Layout
Read and Record all data every 2.5 minutes

Note: dPs=Delta Ps, dH = Delta H

Note: dPs=Delta Ps, dh = Delta H

TRAV. Point No.	Elapsed TIME (minutes)	Clock Time 24 hr	GAS Meter Reading	VELOC HEAD dPs in H ₂ O		ORIFICE Prs dH in H ₂ O		STK Temp °F	PROB Temp °F	DRY GAS MTR Inlet Outlet		BOX Temp °F	IMPNGR Temp °F	PUMP VAC. Hg
					√dP	Desir	Act.			Inlet	Outlet			
A-01	0.0- 2.5	8:00	608.024	0.56	0.75	2.70	2.70	183	250	64	62	247	46	5
A-02	2.5- 5.0	8:03	610.200	0.65	0.81	3.13	3.13	192	252	46	62	243	43	5
A-03	5.0- 7.5	8:05	612.200	0.60	0.77	2.89	2.89	197	252	85	62	245	42	5
A-04	7.5-10.0	8:08	614.400	0.50	0.71	2.41	2.41	200	248	88	63	246	44	5
A-05	10.0-12.5	8:10	616.400	0.48	0.69	2.31	2.31	205	247	93	64	246	47	5
A-06	12.5-15.0	8:13	618.300	0.50	0.71	2.41	2.41	211	245	94	66	240	48	5
A-07	15.0-17.5	8:15	620.300	0.55	0.74	2.65	2.65	216	243	98	67	244	50	5
A-08	17.5-20.0	8:18	622.400	0.48	0.69	2.31	2.31	217	240	101	68	245	52	5
A-09	20.0-22.5	8:20	624.400	0.46	0.68	2.22	2.22	217	238	101	70	244	53	5
A-10	22.5-25.0	8:23	626.400	0.38	0.62	1.83	1.83	215	234	102	71	243	53	4
A-11	25.0-27.5	8:25	628.100	0.35	0.59	1.69	1.69	212	236	103	72	244	53	4
A-12	27.5-30.0	8:28	629.800	0.40	0.63	1.93	1.93	212	236	103	74	243	52	4
B-01	30.0-32.5	8:35	631.600	0.52	0.72	2.51	2.51	213	246	85	76	225	48	5
B-02	32.5-35.0	8:38	633.600	0.67	0.82	3.23	3.23	212	243	102	76	234	45	6
B-03	35.0-37.5	8:40	636.000	0.72	0.85	3.47	3.47	211	247	107	76	240	46	6
B-04	37.5-40.0	8:42	638.300	0.75	0.87	3.62	3.62	210	248	110	77	239	47	6

Run No. 1

File Name: "PLANT_42"

Schematic of Traverse Point Layout
Read and Record all data every 2.5 minutes

Note: dPs=Delta Ps, dH = Delta H

TRAV. Point No.	Elapsed TIME (minutes)	Clock Time 24 hr	GAS Meter Reading	VELOC HEAD dPs in H ² O		ORIFICE Prs dH in H ² O		STK Temp °F	PROB Temp °F	DRY GAS MTR Inlet Outlet		BOX Temp °F	IMPNGR Temp °F	PUMP VAC. Hg
					√dP	Desir	Act.			Inlet	Outlet			
B-05	40.0-42.5	8:45	640.700	0.75	0.87	3.62	3.62	210	249	120	79	250	50	7
B-06	42.5-45.0	8:47	643.100	0.75	0.87	3.62	3.62	211	248	113	80	250	51	7
B-07	45.0-47.5	8:50	645.500	0.58	0.76	2.80	2.80	211	246	112	80	250	54	6
B-08	47.5-50.0	8:52	647.800	0.45	0.67	2.17	2.17	210	241	113	82	248	55	5
B-09	50.0-52.5	8:55	649.800	0.53	0.73	2.55	2.55	212	237	112	82	251	56	5
B-10	52.5-55.0	8:58	651.800	0.42	0.65	2.02	2.02	212	236	112	84	254	57	5
B-11	55.0-57.5	9:00	653.800	0.34	0.58	1.64	1.64	210	235	110	84	251	57	4
B-12	57.5-60.0	9:03	655.500	0.20	0.45	0.96	0.96	210	234	109	84	257	58	3

Final Gas: 656.881

Vol. Vm Gas Mtr	Ave dp	Ave √P
48.857	0.52	0.72

Ave Act.	Ave Stk
2.53	209
	+460
	669

Ave Inlet	Ave Outlet
99	73
	Ave+ 460
	546

EPA Method 5

Run No. 2

File Name: "PLANT_42"

Plant No. 42
 Sample Location : FAIRFIELD, OH
 Sample Type : 1-5
 Operator : Green Miller
 Ambient Temp. : 65
 Baro. Pressure : 30.09
 Static Pres, (Ps) : -26
 Filter No. (S) : 610
 Pitot Tube No. & Cp. : .84
 EPA Representative : Alan Harrington

Probe Length and Type : 5' SS
 Nozzle I.D. : .306
 Assumed Moisture % : 30
 Sample Box Number : 2
 Meter : H @
 K Factor : 4.88
 Pre-Test Leak Check Rate : 0 CPM @ 8
 Post Test Leak Check Rate : 607 CPM @ 8
 Production Rate : 301.23 TPH
 Fyrite: O₂ 13 CO₂ 4

Schematic of Traverse Point Layout
 Read and Record all data every 2.5 minutes

Note: dPs=Delta Ps, dH = Delta H

TRAV. Point No.	Elapsed TIME (minutes)	Clock Time 24 hr	GAS Meter Reading	VELOC HEAD dPs in H ² O		ORIFICE Prs dH in H ² O		STK Temp °F	PROB Temp °F	DRY GAS MTR Inlet Outlet		BOX Temp °F	IMPNGR Temp °F	PUMP VAC. Hg
					√dP	Desir	Act.			Inlet	Outlet			
A-01	0.0- 2.5	9:43	657.003	0.40	0.63	1.94	1.94	201	232	77	75	251	50	3
A-02	2.5- 5.0	9:45	658.700	0.47	0.69	2.28	2.28	203	229	88	76	268	47	4
A-03	5.0- 7.5	9:47	660.600	0.68	0.82	3.30	3.30	205	236	95	75	265	45	6
A-04	7.5-10.0	9:50	662.900	0.70	0.84	3.40	3.40	206	240	100	75	256	48	7
A-05	10.0-12.5	9:52	665.200	0.62	0.79	3.01	3.01	206	240	106	78	252	54	7
A-06	12.5-15.0	9:55	667.500	0.60	0.77	2.92	2.92	206	238	108	79	249	67	7
A-07	15.0-17.5	9:57	669.800	0.55	0.74	2.67	2.67	207	236	107	79	248	68	5
A-08	17.5-20.0	10:00	672.000	0.53	0.73	2.58	2.58	208	235	107	80	249	64	5
A-09	20.0-22.5	10:02	674.100	0.42	0.65	2.04	2.04	209	232	107	82	251	61	4
A-10	22.5-25.0	10:05	676.000	0.38	0.62	1.85	1.85	209	238	107	82	252	57	4
A-11	25.0-27.5	10:07	677.800	0.35	0.59	1.70	1.70	209	241	110	84	253	58	4
A-12	27.5-30.0	10:10	679.600	0.35	0.59	1.70	1.70	208	241	107	83	255	54	4
B-01	30.0-32.5	10:16	681.300	0.60	0.77	2.92	2.92	213	255	94	84	250	53	5
B-02	32.5-35.0	10:19	683.500	0.60	0.77	2.92	2.92	214	247	107	86	248	49	5
B-03	35.0-37.5	10:22	685.800	0.69	0.83	3.35	3.35	215	250	112	85	253	50	6
B-04	37.5-40.0	10:30	688.200	0.58	0.76	2.82	2.82	202	251	100	86	242	47	5

Run No. 2

File Name: "PLANT_42"

Schematic of Traverse Point Layout
Read and Record all data every 2.5 minutes

Note: dPs=Delta Ps, dH = Delta H

TRAV. Point No.	Elapsed TIME (minutes)	Clock Time 24 hr	GAS Meter Reading	VELOC HEAD dPs in H ² O		ORIFICE Prs dH in H ² O		STK Temp °F	PROB Temp °F	DRY GAS MTR Inlet Outlet		BOX Temp °F	IMPNGR Temp °F	PUMP VAC. Hg
					√dP	Desir	Act.			Inlet	Outlet			
B-05	40.0-42.5	10:33	690.400	0.52	0.72	2.53	2.53	205	243	107	86	239	48	5
B-06	42.5-45.0	10:36	692.600	0.70	0.84	3.40	3.40	217	241	107	84	249	50	7
B-07	45.0-47.5	10:38	694.800	0.53	0.73	2.58	2.58	221	237	111	85	249	53	6
B-08	47.5-50.0	10:41	696.900	0.32	0.57	1.56	1.56	219	231	112	87	240	56	4
B-09	50.0-52.5	10:44	698.700	0.40	0.63	1.94	1.94	218	227	114	88	246	58	5
B-10	52.5-55.0	10:46	700.500	0.30	0.55	1.46	1.46	215	226	113	88	260	60	4
B-11	55.0-57.5	10:48	702.200	0.32	0.57	1.56	1.56	214	233	112	89	256	62	4
B-12	57.5-60.0	10:50	703.800	0.34	0.58	1.65	1.65	213	235	112	89	250	65	4

Final Gas: 705.524

Vol. Vm Gas Mtr	Ave dp	Ave √P
48.521	0.50	0.70

Ave Act.	Ave Stk
2.42	210
	+460
	670

Ave Inlet	Ave Outlet
105	83
	Ave+ 460
	554

EPA Method 5

Run No. 3

File Name: "PLANT_42"

Plant No. 42
 Sample Location : FAIRFIELD, OH
 Sample Type : 1-5
 Operator : Green / Miller
 Ambient Temp. : 70
 Baro. Pressure : 30.09
 Static Pres, (Ps) : -26
 Filter No. (S) : 611
 Pitot Tube No. & Cp. : .84
 EPA Representative : Alan Harrington

Probe Length and Type : 5'51
 Nozzle I.D. : .306
 Assumed Moisture % : 29
 Sample Box Number : 3
 Meter : _____ H @ _____
 K Factor : 4.98
 Pre-Test Leak Check Rate : 0 CPM @ 8
 Post Test Leak Check Rate : 0 CPM @ 11.5
 Production Rate : 303.37 TPH
 Fyrite: O₂ : 12.5 CO₂ : 4

Schematic of Traverse Point Layout
 Read and Record all data every 2.5 minutes

Note: dPs=Delta Ps, dH = Delta H

TRAV. Point No.	Elapsed TIME (minutes)	Clock Time 24 hr	GAS Meter Reading	VELOC HEAD dPs in H ² O		ORIFICE Prs dH in H ² O		STK Temp °F	PROB Temp °F	DRY GAS MTR Inlet Outlet		BOX Temp °F	IMPNGR Temp °F	PUMP VAC. Hg
					√dP	Desir	Act.			Inlet	Outlet			
A-01	0.0- 2.5	11:33	705.673	0.30	0.55	1.49	1.49	182	243	79	79	251	52	5
A-02	2.5- 5.0	11:36	707.200	0.38	0.62	1.89	1.89	191	244	90	80	266	46	5
A-03	5.0- 7.5	11:38	709.000	0.40	0.63	1.99	1.99	197	246	98	80	266	44	5
A-04	7.5-10.0	11:41	711.000	0.52	0.72	2.59	2.59	204	246	102	81	260	44	5
A-05	10.0-12.5	11:44	712.600	0.79	0.89	3.93	3.93	209	248	107	81	254	43	10
A-06	12.5-15.0	11:46	715.100	0.75	0.87	3.74	3.74	209	248	112	82	255	44	10
A-07	15.0-17.5	11:48	717.700	0.60	0.77	2.99	2.99	211	246	114	84	251	47	8
A-08	17.5-20.0	11:50	720.000	0.48	0.69	2.39	2.39	212	246	114	85	250	48	6
A-09	20.0-22.5	11:53	722.000	0.39	0.62	1.94	1.94	212	245	112	86	249	50	6
A-10	22.5-25.0	11:56	724.000	0.35	0.59	1.74	1.74	211	245	111	87	248	50	5
A-11	25.0-27.5	11:58	725.700	0.36	0.60	1.79	1.79	211	237	111	87	251	50	5
A-12	27.5-30.0	12:00	727.500	0.35	0.59	1.74	1.74	211	235	111	88	250	50	5
B-01	30.0-32.5	12:07	729.300	0.62	0.79	3.09	3.09	214	248	97	88	240	51	8
B-02	32.5-35.0	12:09	731.500	0.64	0.80	3.19	3.19	214	242	108	88	236	48	8
B-03	35.0-37.5	12:12	733.800	0.66	0.81	3.29	3.29	215	242	114	89	239	50	8
B-04	37.5-40.0	12:15	736.200	0.70	0.84	3.49	3.49	215	250	116	89	242	52	10

Run No. 3

File Name: "PLANT_42"

Schematic of Traverse Point Layout
Read and Record all data every 2.5 minutes

Note: dPs=Delta Ps, dH = Delta H

TRAV. Point No.	Elapsed TIME (minutes)	Clock Time 24 hr	GAS Meter Reading	VELOC HEAD dPs in H ² O		ORIFICE Prs dH in H ² O		STK Temp °F	PROB Temp °F	DRY GAS MTR Inlet Outlet		BOX Temp °F	IMPNGR Temp °F	PUMP VAC. Hg
					√dP	Desir	Act.			Inlet	Outlet			
B-05	40.0-42.5	12:17	738.800	0.69	0.83	3.44	3.44	213	250	118	90	243	55	10
B-06	42.5-45.0	12:19	741.100	0.67	0.82	3.34	3.34	212	248	120	91	242	56	9
B-07	45.0-47.5	12:22	743.500	0.50	0.71	2.49	2.49	211	248	120	92	242	56	7
B-08	47.5-50.0	12:24	745.700	0.39	0.62	1.94	1.94	210	249	118	92	241	55	6
B-09	50.0-52.5	12:27	747.600	0.37	0.61	1.84	1.84	207	249	116	93	257	54	6
B-10	52.5-55.0	12:29	749.500	0.35	0.59	1.74	1.74	210	247	115	93	244	53	5
B-11	55.0-57.5	12:32	751.300	0.28	0.53	1.39	1.39	210	242	114	93	239	53	5
B-12	57.5-60.0	12:34	753.000	0.25	0.50	1.25	1.25	209	241	113	94	235	52	5

Final Gas: 754.498

Vol. Vm Gas Mtr	Ave dp	Ave √P
48.825	0.49	0.69

Ave Act.	Ave Stk
2.45	208
	+460
	668

Ave Inlet	Ave Outlet
110	87
	Ave+ 460
	558

PLANT # 42

MOISTURE DETERMINATION
LOCATION FAIRFIELD, OHIO

DATE 05-25-93

TECHNICIAN TED GREEN GARRY MILLER

	RUN #1			
IMPINGER #	1	2	3	4
TYPE	MODIFIED	STANDARD	MODIFIED	MODIFIED
AMOUNT(ml/gms)	150(H2O)	150(H2O)	0	200(H2O)
FINAL WT. (VOL)-	870.9	859.2	550.8	709.0
INITIAL WT (VOL)	666.4	689.4	524.0	689.6
NET WT. (VOL)---	204.5	169.8	26.8	19.4
	TOTAL-----=			420.5

	RUN #2			
IMPINGER #	1	2	3	4
TYPE	MODIFIED	STANDARD	MODIFIED	MODIFIED
AMOUNT(ml/gms)	150(H2O)	150(H2O)	0	200(H2O)
FINAL WT. (VOL)-	886.3	838.8	536.3	707.0
INITIAL WT (VOL)	680.3	673.9	518.7	686.0
NET WT. (VOL)---	206.0	164.9	17.6	21.0
	TOTAL-----=			409.5

	RUN #3			
IMPINGER #	1	2	3	4
TYPE	MODIFIED	STANDARD	MODIFIED	MODIFIED
AMOUNT(ml/gms)	150(H2O)	150(H2O)	0	200(H2O)
FINAL WT. (VOL)-	870.0	777.1	580.7	743.9
INITIAL WT (VOL)	674.2	642.0	520.4	729.3
NET WT. (VOL)---	195.8	135.1	60.3	14.6
	TOTAL-----=			405.8

PLANT #42

PARTICULATE CALCULATIONS
LOCATION FAIRFIELD, OHIO

DATE 05-25-93

RUN # 1	# ml-----=	115	X .000003 gm/ml RESIDUE d)=-	.0003
	BEAKER#___ 3A	BEAKER#_____	BEAKER#_____	
FINAL-----=	95.6340	0.0000	0.0000	
INITIAL-----=	95.6139	0.0000	0.0000	
NET-----a)=	.0201	b)= 0.0000	c)= 0.0000	
TOTAL(a+b+c)=	.0201	FINAL-----=	.6112	FILTER#=609
RESIDUE---d)=	.0003	INITIAL---=	.6056	
NET BACK 1/2=	.0198	FILTER NET	.0056	TOTAL-----= .0254
TOTAL*1000-----=		25.4 mg OF PARTICULATE		

RUN #2	# ml-----=	115	X .000003 gm/ml RESIDUE d)=-	.0003
	BEAKER#___ 3B	BEAKER#_____	BEAKER#_____	
FINAL-----=	64.4968	0.0000	0.0000	
INITIAL-----=	64.4871	0.0000	0.0000	
NET-----a)=	.0097	b)= 0.0000	c)= 0.0000	
TOTAL(a+b+c)=	.0097	FINAL-----=	.6081	FILTER#=610
RESIDUE---d)=	.0003	INITIAL---=	.6020	
NET BACK 1/2=	.0094	FILTER NET	.0061	TOTAL-----= .0155
TOTAL*1000-----=		15.5 mg OF PARTICULATE		

RUN #3	# ml-----=	100	X .000003 gm/ml RESIDUE d)=-	.0003
	BEAKER#___ 13A	BEAKER#_____	BEAKER#_____	
FINAL-----=	96.6688	0.0000	0.0000	
INITIAL-----=	96.6536	0.0000	0.0000	
NET-----a)=	.0152	b)= 0.0000	c)= 0.0000	
TOTAL(a+b+c)=	.0152	FINAL-----=	.6056	FILTER # = 611
RESIDUE---d)=	.0003	INITIAL---=	.5985	
NET BACK 1/2=	.0149	FILTER NET	.0071	TOTAL-----= .0220
TOTAL*1000-----=		22.0 mg OF PARTICULATE		

5.0 TEST SUMMARY

5.1 CALCULATIONS

Particulate, moisture content, gas flow and molecular weight calculations were accomplished using the formulas found on the page following the test results. These formulas appear in Methods Two, Three, Four, and Five, of the CFR 40 PART 60, JULY 1989.

5.2 TEST RESULTS

On the following pages appear the test results for all three runs.

5.3 EQUIPMENT CALIBRATION

A. Flow Measurement Equipment

All flow measurement equipment was inspected and a calibration factor of .84 was assumed as per instructions in Method 2 of 40 CFR PART 60, JULY 1989.

B. Nozzle Diameter

Probe nozzles were field calibrated with NBS traceable micrometers as per instructions in Method 5 of 40 CFR PART 60, JULY 1989.

C. Metering System

The metering system was calibrated before field use and a post-test calibration was performed after the test program in accordance with Method 5 of 40 CFR PART 60, JULY 1989.

	RUN #1	RUN #2	RUN #3	AVERAGE
DRY GAS METER CALIBRATION FACTOR---Y=	1.00	1.00	1.00	
VOLUME OF GAS METER CONDITIONS----Vm=	48.857	48.521	48.825	
AVE SQ ROOT DELTA P-----p=	.720	.700	.690	
AVE DELTA H PRESS ACROSS ORIFICE--^H=	2.53	2.42	2.45	
AVE STACK TEMPERATURE DEGREES R---Ts	669.00	670.00	668.00	
AVE METER TEMPERATURE DEGREES R---Tm=	546.00	554.00	558.00	
TOTAL WATER COLLECTED-----Vlc=	420.50	409.50	405.80	
TONS PER HOUR PRODUCTION-----tph=	298.78	301.23	303.37	
TOTAL PARTICULATE IN mg-----Pmg=	25.40	15.50	22.00	
FYRITE FOR OXYGEN-----=	13.00	13.00	12.50	12.83
FYRITE FOR CARBON DIOXIDE-----=	5.00	4.00	4.00	4.33
BAROMETRIC PRESSURE-----Pb=	30.09	30.09	30.09	30.09
STACK STATIC PRESSURE (-+)------=	-.26	-.26	-.26	-.26
ABSOLUTE PRESSURE IN STACK-----Ps=	30.07	30.07	30.07	30.07
SAMPLING TIME IN MINUTES-----O=	60.00	60.00	60.00	
DIAMETER OF NOZZLE-----dn=	.306	.306	.306	
AREA OF STACK (SQ. FEET)-----As=	15.90	15.90	15.90	
1. VOL OF GAS AT STD COND----Vm(std)=	47.79	46.76	46.72	
2. VOL OF WATER STD COND----Vwc(std)=	19.79	19.28	19.10	
3. MOLE FRAC OF WATER VAPOR-----Bws=	.2929	.2919	.2902	
4. % MOISTURE-----=	29.29	29.19	29.02	29.16
5. MOLECULAR Wt OF STACK GAS-----Ms=	26.00	25.90	26.00	25.97
6. STACK VELOCITY (fps)-----Vs=	47.82	46.62	45.80	46.75
7. VOL FLOW RATE (dscf/hr)-----Qsd=	1.54e+06	1.50e+06	1.48e+06	1.50e+06
8. ACTUAL FLOW RATE (acf/hr)-----Acf=	2.17e+06	2.11e+06	2.08e+06	2.12e+06
9. AREA OF NOZZLE-----A=	5.11e-04	5.11e-04	5.11e-04	
10. % ISOKINETIC-----I=	96.98	97.35	98.49	97.61
11. CONCENTRATION GRAINS/DSCF-----=	8.185e-03	5.104e-03	7.251e-03	6.847e-03
12. POUNDS/DSCF-----=	1.17e-06	7.31e-07	1.04e-06	9.80e-07
13. POUNDS/HOUR EMISSION-----=	1.80	1.09	1.53	1.48
14. POUNDS/TON ASPHALT-----=	6.02e-03	3.63e-03	5.06e-03	4.90e-03

FORMULA TABLE

Δ =DELTA Y=COEFFICIENT

$$V_m(\text{std}) = \frac{Y(17.64)(V_m)(P_{\text{bar}} + \Delta H/13.6)}{(T_m)}$$

$$V_{wc}(\text{std}) = (.04707)(V_{lc})$$

Ps= BAROMETRIC PRESSURE +- STATIC PRESSURE OF STACK

$$B_{ws} = \frac{V_{wc}(\text{std})}{V_m(\text{std}) + V_{wc}(\text{std})}$$

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

$$V_s = 85.49(C_p)(T_s/P_s M_s)^{.5} \text{ (AVE SQ. ROOT DELTA P) } \quad ^{.5} = \text{ SQUARE ROOT}$$

$$Q_{sd} = 3600(1 - B_{ws}) * V_s * A * (528/T_s) * (P_s/29.92)$$

$$M_d = .44(CO_2) + .32(O_2) + .28(100 - (CO_2 + O_2))$$

$$I = \frac{1.667 * (T_s) (.00267(V_l) + (V_m/T_m)(P_{\text{bar}} + (\Delta H/13.6)))}{O * V_s * P_s * A'}$$

Vm=VOLUME OF METER AT METER CONDITIONS

Tm=TEMPERATURE OF METER

Vlc=VOLUME OF WATER COLLECTED

O=TIME OF TEST

A'=AREA OF NOZZLE

A=AREA OF STACK

Ts=TEMPERATURE OF STACK

DATE 05-27-93 PRETESY- ^H@=	TEST #1	TEST #2	TEST #3
MINIMUM VOL OF GAS -----	4.000	10.000	10.000
ORIFICE MANOMETER SETTING-----^H	.500	2.000	6.000
WET TEST METER INITIAL READING----Vwi	16.360	20.830	31.679
WET TEST METER FINAL READING-----Vwf	20.637	31.236	41.815
WET TEST METER AVERAGE TEMP-----F	84.000	83.000	82.600
DRY TEST METER INITIAL READING----Vdi	912.110	916.664	927.712
DRY TEST METER FINAL READING-----Vdf	916.464	927.264	938.033
DRY TEST METER AVERAGE TEMP-----F	99.600	109.300	114.300
TOTAL TEST TIME MINUTES-----O	11.000	14.000	8.000
BAROMETRIC PRESSURE INCHES Hg-----Pb	30.130	30.130	30.130
VOLUME OF WET TEST METER-----Vw	4.277	10.406	10.136
VOLUME OF DRY TEST METER-----Vd	4.354	10.600	10.321
AVE WET TEST TEMPERATURE-----Rw	544.000	543.000	542.600
AVE DRY TEST TEMPERTURE-----Rd	559.600	569.300	574.300
$(Vw * Pb * Rd) / (Vd * (Pb + ^H / 13.6) * Rw)$ -----Y	1.009	1.024	1.024
$((.0317 * ^H) / (Pb * Rd)) * ((Rw * O) / Vw)^2 - ^H@$	1.840	1.973	2.016
AVERAGE Y FOR 3 TESTS-----	1.019	LIMITS= .98-1.02	
AVERAGER ^H@ FOR 3 TESTS-----	1.943	LIMITS= +-0.2 OF AVE ^H	
DIFF BETWEEN AVE=	.103	-.030	-.073

NOTE ^H=DELTA H and Y=GAMMA

DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.3% 5.71% 89% 0%
 TPH .0 273.3 16.54 251.7 .0
 TONS 1389.66 5329.82 439.74 5327.94 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 367.04, TPH= 16.4, ACT %= 5.65
 MIX TONS = 7074.44
 SILO INVENTORIES= 13.58 .00 1.53

AC TEMP=314.3F
 SILO #= 3

07:59 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=280.6 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.2% 5.81% 97% 0%
 TPH .0 264.3 16.29 273.6 .0
 TONS 1389.66 5339.89 441.11 5337.80 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.15% VIRGIN AC TONS= 368.42, TPH= 16.3, ACT %= 5.80
 MIX TONS = 7085.09
 SILO INVENTORIES= 13.58 .00 12.65

AC TEMP=314.7F
 SILO #= 3

08:04 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=282.8 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.1% 5.90% 102% 0%
 TPH .0 266.1 16.69 290.3 .0
 TONS 1389.66 5362.77 442.51 5360.69 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.15% VIRGIN AC TONS= 369.81, TPH= 16.5, ACT %= 5.83
 MIX TONS = 7109.16
 SILO INVENTORIES= .00 .00 20.16

AC TEMP=314.9F
 SILO #= 3

08:09 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=319.0 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.3% 5.71% 105% 0%
 TPH .0 300.8 18.22 296.9 .0
 TONS 1389.66 5387.20 443.94 5385.12 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 371.24, TPH= 18.4, ACT %= 5.76
 MIX TONS = 7133.99
 SILO INVENTORIES= .00 .00 28.94

AC TEMP=314.3F
 SILO #= 3

08:14 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=299.1 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%

TPH .0 281.4 17.67 284.3 .0
 TONS 1389.66 5411.04 445.45 5408.96 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 372.75, TPH= 17.4, ACT %= 5.81
 MIX TONS = 7159.96
 SILO INVENTORIES= .00 .00 38.54
 AC TEMP=314.8F
 SILO # = 3

08:19 05/25/93
 JMF # = 0 MIX # = 21 MIX TPH=299.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.1% 5.87% 100% 0%
 TPH .0 281.8 17.56 282.5 .0
 TONS 1389.66 5434.64 446.90 5432.56 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 374.21, TPH= 17.3, ACT %= 5.78
 MIX TONS = 7185.03
 SILO INVENTORIES= .00 .00 63.61
 AC TEMP=314.1F
 SILO # = 3

08:24 05/25/93
 JMF # = 0 MIX # = 21 MIX TPH=302.6 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.3% 5.71% 100% 0%
 TPH .0 285.4 17.28 283.4 .0
 TONS 1389.66 5458.26 448.35 5456.18 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 375.66, TPH= 17.4, ACT %= 5.75
 MIX TONS = 7210.06
 SILO INVENTORIES= .00 .00 39.69
 AC TEMP=313.9F
 SILO # = 3

08:29 05/25/93
 JMF # = 0 MIX # = 21 MIX TPH=297.1 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.1% 5.88% 99% 0%
 TPH .0 279.7 17.46 281.3 .0
 TONS 1389.66 5481.78 449.81 5479.70 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 377.11, TPH= 17.4, ACT %= 5.85
 MIX TONS = 7235.13
 SILO INVENTORIES= .00 .00 32.98
 AC TEMP=313.2F
 SILO # = 3

08:34 05/25/93
 JMF # = 0 MIX # = 21 MIX TPH=296.7 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.2% 5.78% 99% 0%
 TPH .0 279.6 17.14 281.7 .0

TONS 1387.88 5503.27 451.25 5503.17 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 378.56, TPH= 17.4, ACT %= 5.86
 MIX TONS = 7260.07
 SILO INVENTORIES= .00 .00 43.11

AC TEMP=312.8F
 SILO #= 3

08:39 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.2% 5.76% 102% 0%
 TPH .0 285.5 17.45 289.6 .0
 TONS 1389.66 5529.05 452.71 5526.97 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 380.01, TPH= 17.7, ACT %= 5.84
 MIX TONS = 7285.15
 SILO INVENTORIES= .00 .00 68.20

AC TEMP=312.3F
 SILO #= 3

08:44 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=310.2 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.4% 5.58% 100% 0%
 TPH .0 292.9 17.30 284.2 .0
 TONS 1389.66 5552.74 454.17 5550.66 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.14% VIRGIN AC TONS= 381.47, TPH= 17.7, ACT %= 5.70
 MIX TONS = 7310.33
 SILO INVENTORIES= .00 .00 93.37

AC TEMP=312.0F
 SILO #= 3

08:49 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=301.5 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.1% 5.95% 99% 0%
 TPH .0 283.6 17.94 280.7 .0
 TONS 1389.66 5576.37 455.63 5574.29 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.13% VIRGIN AC TONS= 382.94, TPH= 17.6, ACT %= 5.83
 MIX TONS = 7335.51
 SILO INVENTORIES= .00 .00 118.55

AC TEMP=312.1F
 SILO #= 3

08:54 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=297.7 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.1% 5.92% 99% 0%
 TPH .0 280.1 17.63 281.9 .0
 TONS 1389.66 5599.97 457.08 5597.89 1460.81
 MOIS% 5.0% 5.0% 5.0%

AC ACCUM. PERCENT= 6.13% VIRGIN AC TONS= 384.39, TPH= 17.4, ACT %= 5.84
MIX TONS = 7360.51
SILO INVENTORIES= .00 .00 143.55

AC TEMP=312.0F
SILO #= 3

08:59 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	298.6	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.3%	5.71%	100%	0%				
TPH	.0	281.5	17.06	282.5	.0				
TONS	1389.66	5623.42	458.53	5621.34	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=	6.13%	VIRGIN AC TONS=	385.84,	TPH=	17.4,	ACT %=	5.82		
MIX TONS =	7385.51								
SILO INVENTORIES=	.00	.00	168.55						

AC TEMP=312.1F
SILO #= 3

09:04 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	294.8	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.1%	5.89%	98%	0%				
TPH	.0	277.5	17.37	277.3	.0				
TONS	1389.66	5646.78	459.97	5644.70	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=	6.13%	VIRGIN AC TONS=	387.28,	TPH=	17.0,	ACT %=	5.76		
MIX TONS =	7410.37								
SILO INVENTORIES=	.00	.00	177.42						

AC TEMP=312.2F
SILO #= 3

09:09 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.5	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.2%	5.77%	96%	0%				
TPH	.0	280.3	17.18	271.5	.0				
TONS	1389.66	5649.34	461.40	5647.49	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=	6.15%	VIRGIN AC TONS=	388.71,	TPH=	17.3,	ACT %=	5.81		
MIX TONS =	7413.07								
SILO INVENTORIES=	.00	.00	179.63						

AC TEMP=312.3F
SILO #= 3

09:14 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.5	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.2%	5.77%	96%	0%				
TPH	.0	280.3	17.18	271.5	.0				
TONS	1389.66	5649.34	462.83	5647.49	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=	6.16%	VIRGIN AC TONS=	390.13,	TPH=	17.3,	ACT %=	5.81		
MIX TONS =	7413.07								

SILO INVENTORIES= .00 .00 162.54

AC TEMP=312.4F

SILO #= 3

09:19 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.5	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.2%	5.77%	95%	0%				
TPH	.0	280.3	17.18	270.6	.0				
TONS	1389.66	5649.34	464.26	5647.49	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.18%		VIRGIN AC TONS=	391.56,	TPH=	17.1,	ACT %=	5.74
MIX TONS =	7413.07								
SILO INVENTORIES=		.00	.00	130.18					

AC TEMP=312.4F

SILO #= 3

09:24 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.5	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.2%	5.77%	95%	0%				
TPH	.0	280.3	17.18	270.6	.0				
TONS	1389.66	5649.34	465.69	5647.49	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.20%		VIRGIN AC TONS=	392.99,	TPH=	17.4,	ACT %=	5.84
MIX TONS =	7413.07								
SILO INVENTORIES=		.00	.00	97.51					

AC TEMP=312.3F

SILO #= 3

09:29 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.5	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.2%	5.77%	96%	0%				
TPH	.0	280.3	17.18	272.0	.0				
TONS	1389.66	5649.34	467.11	5647.49	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.22%		VIRGIN AC TONS=	394.42,	TPH=	17.1,	ACT %=	5.74
MIX TONS =	7413.07								
SILO INVENTORIES=		.00	.00	97.51					

AC TEMP=312.3F

SILO #= 3

09:34 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.5	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.2%	5.77%	96%	0%				
TPH	.0	280.3	17.18	270.7	.0				
TONS	1389.66	5649.34	468.54	5647.49	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.24%		VIRGIN AC TONS=	395.84,	TPH=	17.3,	ACT %=	5.81
MIX TONS =	7413.07								
SILO INVENTORIES=		.00	.00	64.72					

AC TEMP=312.2F
SILO # = 3

09:39 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=293.6 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.3% 5.71% 100% 0%
TPH .0 276.9 16.75 282.4 .0
TONS 1389.66 5649.80 469.96 5647.72 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.25% VIRGIN AC TONS= 397.27, TPH= 17.4, ACT %= 5.92
MIX TONS = 7413.56
SILO INVENTORIES= .00 .00 49.65

AC TEMP=311.8F
SILO # = 3

09:44 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=298.2 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.3% 5.74% 98% 0%
TPH .0 281.1 17.10 277.1 .0
TONS 1389.66 5673.19 471.41 5671.11 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.25% VIRGIN AC TONS= 398.71, TPH= 17.3, ACT %= 5.80
MIX TONS = 7438.41
SILO INVENTORIES= .00 .00 74.49

AC TEMP=311.8F
SILO # = 3

09:49 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=298.6 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.1% 5.90% 98% 0%
TPH .0 281.0 17.62 278.1 .0
TONS 1389.66 5696.62 472.85 5694.54 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.25% VIRGIN AC TONS= 400.15, TPH= 17.3, ACT %= 5.79
MIX TONS = 7463.23
SILO INVENTORIES= .00 .00 99.32

AC TEMP=311.6F
SILO # = 3

09:54 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=295.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.2% 5.75% 100% 0%
TPH .0 278.3 16.98 283.3 .0
TONS 1389.66 5719.95 474.29 5717.88 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.25% VIRGIN AC TONS= 401.59, TPH= 17.1, ACT %= 5.79
MIX TONS = 7488.04
SILO INVENTORIES= .00 .00 124.13

AC TEMP=311.7F
SILO # = 3

09:59 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	299.1	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.3%	5.72%	98%	0%				
TPH	.0	282.0	17.10	277.1	.0				
TONS	1389.66	5743.20	475.72	5741.13	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.25%	VIRGIN AC TONS=	403.02,	TPH=	16.9,	ACT %=	5.65	
MIX TONS =	7512.74								
SILO INVENTORIES=	.00	.00	148.83						

AC TEMP=311.7F

SILO #= 3

10:04 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	295.0	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.0%	6.00%	99%	0%				
TPH	.0	277.3	17.70	280.1	.0				
TONS	1389.66	5766.45	477.15	5764.38	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.25%	VIRGIN AC TONS=	404.45,	TPH=	17.5,	ACT %=	5.93	
MIX TONS =	7537.45								
SILO INVENTORIES=	.00	.00	173.53						

AC TEMP=311.8F

SILO #= 3

10:09 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	297.2	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.0%	5.96%	99%	0%				
TPH	.0	279.5	17.73	280.2	.0				
TONS	1389.66	5790.04	478.59	5787.96	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.24%	VIRGIN AC TONS=	405.89,	TPH=	16.9,	ACT %=	5.68	
MIX TONS =	7562.21								
SILO INVENTORIES=	.00	.00	167.61						

AC TEMP=311.9F

SILO #= 3

10:14 05/25/93

JMF #=	0	MIX #=	21	MIX TPH=	299.2	AC SP. GR.=	1.025	AC IN RECYCLE=	.0
	RCY	AGG	AC	AG1	RC1				
DES %	.0%	94.2%	5.8%	100%	0%				
ACT %	.0%	94.3%	5.74%	103%	0%				
TPH	.0	282.1	17.18	291.0	.0				
TONS	1389.66	5813.69	480.05	5811.62	1460.81				
MOIS%		5.0%		5.0%	5.0%				
AC ACCUM. PERCENT=		6.24%	VIRGIN AC TONS=	407.35,	TPH=	17.5,	ACT %=	5.84	
MIX TONS =	7587.37								
SILO INVENTORIES=	.00	.00	192.78						

AC TEMP=312.1F

SILO #= 3

10:19 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=304.5 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.3% 5.68% 98% 0%
 TPH .0 287.2 17.30 278.7 .0
 TONS 1389.66 5837.40 481.50 5835.33 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.24% VIRGIN AC TONS= 408.81, TPH= 17.4, ACT %= 5.71
 MIX TONS = 7612.53
 SILO INVENTORIES= .00 .00 201.95

AC TEMP=312.4F
 SILO # = 3

10:24 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=301.5 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.3% 5.75% 45% 0%
 TPH .0 284.1 17.34 128.2 .0
 TONS 1389.66 5845.06 482.95 5843.10 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.25% VIRGIN AC TONS= 410.25, TPH= 16.8, ACT %= 5.57
 MIX TONS = 7624.85
 SILO INVENTORIES= .00 .00 196.85

AC TEMP=313.1F
 SILO # = 3

10:29 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=215.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 93.9% 6.14% 104% 0%
 TPH .0 202.6 13.25 293.8 .0
 TONS 1389.66 5849.62 484.34 5847.55 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.27% VIRGIN AC TONS= 411.65, TPH= 16.8, ACT %= 6.02
 MIX TONS = 7629.50
 SILO INVENTORIES= .00 .00 185.65

*We did not
 run stack test
 during this time
 This is when he shot
 down Doe for problem
 with Sand Bin*

AC TEMP=313.2F
 SILO # = 3

10:34 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=307.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.2% 5.79% 99% 0%
 TPH .0 290.1 17.81 281.7 .0
 TONS 1389.66 5873.52 485.56 5871.46 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.26% VIRGIN AC TONS= 412.87, TPH= 18.0, ACT %= 5.84
 MIX TONS = 7650.78
 SILO INVENTORIES= .00 .00 174.84

AC TEMP=313.2F
 SILO # = 3

JMF # = 0 MIX # = 21 MIX TPH=306.9 AC SP. GR.=1.025 AC IN RECYCLE= .0

	RCY	AGG	AC	AG1	RC1
DES %	.0%	94.2%	5.8%	100%	0%
ACT %	.0%	94.1%	5.89%	101%	0%
TPH	.0	288.8	18.07	285.4	.0
TONS	1389.66	5897.59	487.04	5895.53	1460.81
MOIS%		5.0%		5.0%	5.0%
AC ACCUM. PERCENT=		6.26%		VIRGIN AC TONS=	414.34, TPH= 17.9, ACT %= 5.83
MIX TONS =	7676.17				
SILO INVENTORIES=	.00	.00	183.84		

AC TEMP=313.3F
SILO # = 3

10:44 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=300.7 AC SP. GR.=1.025 AC IN RECYCLE= .0

	RCY	AGG	AC	AG1	RC1
DES %	.0%	94.2%	5.8%	100%	0%
ACT %	.0%	94.1%	5.94%	101%	0%
TPH	.0	282.8	17.87	285.0	.0
TONS	1389.66	5921.56	488.52	5919.49	1460.81
MOIS%		5.0%		5.0%	5.0%
AC ACCUM. PERCENT=		6.26%		VIRGIN AC TONS=	415.83, TPH= 17.7, ACT %= 5.88
MIX TONS =	7701.77				
SILO INVENTORIES=	.00	.00	183.84		

AC TEMP=313.3F
SILO # = 3

10:49 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=307.8 AC SP. GR.=1.025 AC IN RECYCLE= .0

	RCY	AGG	AC	AG1	RC1
DES %	.0%	94.2%	5.8%	100%	0%
ACT %	.0%	94.3%	5.72%	101%	0%
TPH	.0	290.2	17.60	286.4	.0
TONS	1389.66	5945.54	490.00	5943.47	1460.81
MOIS%		5.0%		5.0%	5.0%
AC ACCUM. PERCENT=		6.26%		VIRGIN AC TONS=	417.30, TPH= 17.7, ACT %= 5.75
MIX TONS =	7727.15				
SILO INVENTORIES=	.00	18.54	173.75		

AC TEMP=313.6F
SILO # = 2

10:54 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=305.3 AC SP. GR.=1.025 AC IN RECYCLE= .0

	RCY	AGG	AC	AG1	RC1
DES %	.0%	94.2%	5.8%	100%	0%
ACT %	.0%	94.2%	5.79%	101%	0%
TPH	.0	287.6	17.68	285.4	.0
TONS	1389.66	5969.42	491.47	5967.35	1460.81
MOIS%		5.0%		5.0%	5.0%
AC ACCUM. PERCENT=		6.26%		VIRGIN AC TONS=	418.77, TPH= 17.6, ACT %= 5.76
MIX TONS =	7752.55				
SILO INVENTORIES=	.00	43.95	156.67		

AC TEMP=314.2F
SILO # = 2

10:59 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0

	RCY	AGG	AC	AG1	RC1
DES %	.0%	94.2%	5.8%	100%	0%
ACT %	.0%	94.2%	5.79%	101%	0%
TPH	.0	287.6	17.68	285.4	.0
TONS	1389.66	5969.42	491.47	5967.35	1460.81
MOIS%		5.0%		5.0%	5.0%
AC ACCUM. PERCENT=		6.26%		VIRGIN AC TONS=	418.77, TPH= 17.6, ACT %= 5.76
MIX TONS =	7752.55				
SILO INVENTORIES=	.00	43.95	156.67		

DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.0% 5.99% 96% 0%
 TPH .0 284.2 18.12 270.7 .0
 TONS 1389.66 5985.16 492.95 5983.33 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.26% VIRGIN AC TONS= 420.25, TPH= 17.6, ACT %= 5.82
 MIX TONS = 7769.31
 SILO INVENTORIES= .00 60.20 156.67

AC TEMP=313.6F
 SILO #= 2

11:04 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.0% 5.99% 96% 0%
 TPH .0 284.2 18.12 271.1 .0
 TONS 1389.66 5985.16 494.44 5983.33 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.28% VIRGIN AC TONS= 421.74, TPH= 17.7, ACT %= 5.85
 MIX TONS = 7769.31
 SILO INVENTORIES= .00 60.20 140.44

AC TEMP=313.4F
 SILO #= 2

11:09 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.0% 5.99% 95% 0%
 TPH .0 284.2 18.12 270.1 .0
 TONS 1389.66 5985.16 495.92 5983.33 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.30% VIRGIN AC TONS= 423.23, TPH= 18.0, ACT %= 5.95
 MIX TONS = 7769.31
 SILO INVENTORIES= .00 60.20 124.75

AC TEMP=313.2F
 SILO #= 2

11:14 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%
 ACT % .0% 94.0% 5.99% 95% 0%
 TPH .0 284.2 18.12 268.9 .0
 TONS 1389.66 5985.16 497.41 5983.33 1460.81
 MOIS% 5.0% 5.0% 5.0%
 AC ACCUM. PERCENT= 6.31% VIRGIN AC TONS= 424.72, TPH= 18.1, ACT %= 5.98
 MIX TONS = 7769.31
 SILO INVENTORIES= .00 60.20 124.75

AC TEMP=313.0F
 SILO #= 2

11:19 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
 RCY AGG AC AG1 RC1
 DES % .0% 94.2% 5.8% 100% 0%

TPH .0 284.2 18.12 270.2 .0
TONS 1389.66 5985.16 498.90 5983.33 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.33% VIRGIN AC TONS= 426.21, TPH= 17.7, ACT %= 5.85
MIX TONS = 7769.31
SILO INVENTORIES= .00 60.20 124.75

AC TEMP=312.7F
SILO #= 2

11:24 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.0% 5.99% 95% 0%
TPH .0 284.2 18.12 269.7 .0
TONS 1389.66 5985.16 500.39 5983.33 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.35% VIRGIN AC TONS= 427.69, TPH= 17.7, ACT %= 5.85
MIX TONS = 7769.31
SILO INVENTORIES= .00 60.20 124.75

AC TEMP=312.7F
SILO #= 2

11:29 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.0% 5.99% 95% 0%
TPH .0 284.2 18.12 269.7 .0
TONS 1389.66 5985.16 501.88 5983.33 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.37% VIRGIN AC TONS= 429.18, TPH= 18.0, ACT %= 5.95
MIX TONS = 7769.31
SILO INVENTORIES= .00 60.20 124.75

AC TEMP=312.9F
SILO #= 2

11:34 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=304.5 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.0% 5.96% 100% 0%
TPH .0 286.4 18.16 283.1 .0
TONS 1389.66 5998.97 503.35 5996.92 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.37% VIRGIN AC TONS= 430.66, TPH= 17.9, ACT %= 5.87
MIX TONS = 7784.01
SILO INVENTORIES= .00 75.40 124.75

AC TEMP=312.9F
SILO #= 2

11:39 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=299.8 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.2% 5.76% 103% 0%
TPH .0 282.5 17.25 291.2 .0

TONS 1387.66 6022.78 504.32 6020.75 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.37% VIRGIN AC TONS= 432.13, TPH= 17.4, ACT %= 5.80
MIX TONS = 7809.25
SILO INVENTORIES= .00 100.65 124.75

AC TEMP=312.8F
SILO #= 2

11:44 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=305.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.3% 5.72% 101% 0%
TPH .0 288.4 17.50 287.4 .0
TONS 1389.66 6046.58 506.28 6044.52 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.37% VIRGIN AC TONS= 433.59, TPH= 17.3, ACT %= 5.65
MIX TONS = 7834.50
SILO INVENTORIES= .00 125.89 124.75

AC TEMP=312.7F
SILO #= 2

11:48 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=308.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.2% 5.8% 100% 0%
ACT % .0% 94.3% 5.69% 100% 0%
TPH .0 290.7 17.52 282.3 .0
TONS 1389.66 6067.78 507.59 6065.73 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.37% VIRGIN AC TONS= 434.89, TPH= 17.8, ACT %= 5.77
MIX TONS = 7857.00
SILO INVENTORIES= .00 148.39 124.75

AC TEMP=312.6F
SILO #= 2

11:53 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.3 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.3% 5.73% 101% 0%
TPH .0 284.9 17.33 285.7 .0
TONS 1389.66 6091.63 509.05 6089.58 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.37% VIRGIN AC TONS= 436.35, TPH= 17.5, ACT %= 5.78
MIX TONS = 7882.32
SILO INVENTORIES= .00 173.71 91.91

AC TEMP=312.6F
SILO #= 2

11:58 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.4 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.2% 5.83% 101% 0%
TPH .0 284.8 17.64 285.7 .0
TONS 1389.66 6115.59 510.49 6113.53 1460.81
MOIS% 5.0% 5.0% 5.0%

AC ACCUM. PERCENT= 6.36% VIRGIN AC TONS= 437.79, TPH= 17.2, ACT %= 5.68
MIX TONS = 7907.65
SILO INVENTORIES= .00 178.75 96.40

AC TEMP=312.5F
SILO #= 3

12:03 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=303.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.3% 5.68% 103% 0%
TPH .0 286.7 17.25 291.5 .0
TONS 1389.66 6139.54 511.94 6137.48 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.36% VIRGIN AC TONS= 439.24, TPH= 17.3, ACT %= 5.69
MIX TONS = 7933.04
SILO INVENTORIES= .00 178.75 105.81

AC TEMP=312.5F
SILO #= 3

12:08 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=304.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.4% 5.56% 100% 0%
TPH .0 288.0 16.94 283.5 .0
TONS 1389.66 6163.41 513.39 6161.36 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.36% VIRGIN AC TONS= 440.69, TPH= 17.4, ACT %= 5.70
MIX TONS = 7958.43
SILO INVENTORIES= .00 178.75 115.56

AC TEMP=312.6F
SILO #= 3

12:13 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=301.6 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.3% 5.74% 100% 0%
TPH .0 284.3 17.30 282.3 .0
TONS 1389.66 6187.26 514.83 6185.21 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.36% VIRGIN AC TONS= 442.13, TPH= 17.3, ACT %= 5.73
MIX TONS = 7983.71
SILO INVENTORIES= .00 178.75 108.10

AC TEMP=312.8F
SILO #= 3

12:18 05/25/93

JMF #= 0 MIX #= 21 MIX TPH=302.7 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.1% 5.89% 101% 0%
TPH .0 284.9 17.82 287.3 .0
TONS 1389.66 6211.13 516.27 6209.07 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.36% VIRGIN AC TONS= 443.57, TPH= 16.9, ACT %= 5.58

SILO INVENTORIES= .00 178.75 118.95
AC TEMP=312.7F
SILO # = 3

12:23 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=306.9 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.5% 5.55% 101% 0%
TPH .0 289.9 17.02 287.4 .0
TONS 1389.66 6234.95 517.71 6232.90 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.35% VIRGIN AC TONS= 445.01, TPH= 17.3, ACT %= 5.63
MIX TONS = 8034.28
SILO INVENTORIES= .00 178.75 125.51

AC TEMP=312.1F
SILO # = 3

12:28 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=301.7 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.3% 5.71% 100% 0%
TPH .0 284.5 17.22 284.3 .0
TONS 1389.66 6258.76 519.15 6256.70 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.35% VIRGIN AC TONS= 446.46, TPH= 17.1, ACT %= 5.66
MIX TONS = 8059.58
SILO INVENTORIES= .00 178.75 119.62

AC TEMP=312.0F
SILO # = 3

12:33 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=303.1 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.1% 5.94% 100% 0%
TPH .0 285.2 17.99 283.8 .0
TONS 1389.66 6282.62 520.59 6280.56 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.35% VIRGIN AC TONS= 447.90, TPH= 17.2, ACT %= 5.67
MIX TONS = 8084.86
SILO INVENTORIES= .00 178.75 144.91

AC TEMP=312.5F
SILO # = 3

12:38 05/25/93

JMF # = 0 MIX # = 21 MIX TPH=299.2 AC SP. GR.=1.025 AC IN RECYCLE= .0
RCY AGG AC AG1 RC1
DES % .0% 94.3% 5.7% 100% 0%
ACT % .0% 94.3% 5.68% 101% 0%
TPH .0 282.3 16.98 285.5 .0
TONS 1389.66 6306.40 522.03 6304.35 1460.81
MOIS% 5.0% 5.0% 5.0%
AC ACCUM. PERCENT= 6.35% VIRGIN AC TONS= 449.33, TPH= 17.1, ACT %= 5.71
MIX TONS = 8110.05
SILO INVENTORIES= .00 178.75 170.10