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EMISSIONS TESTING SERVICES

**COMPLIANCE TEST REPORT
FOR
PARTICULATE AND VISIBLE EMISSIONS
AT
JACKSONVILLE ELECTRIC
ST. JOHNS RIVER POWER PARK
UNIT #1
October 17 and 18, 2000**

CT&E Project No. 00-205MO



COMMERCIAL TESTING & ENGINEERING CO.

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Committed To Excellence

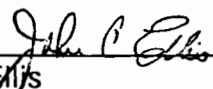
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November 5, 2000

I, Richard Howes, hereby certify the emission tests conducted for Jacksonville Electric Authority at St. Johns River Power Park, Units #1 are in accordance with procedures established by the USEPA. This report accurately and faithfully presents the data obtained from the tests and the results determined from analysis of this data.


Richard Howes
Midwest Region Manager

I, John Ellis, hereby attest that all work on this project was completed under my supervision and this report accurately presents the results of the emissions testing.


John Ellis
Chief Test Engineer



Member of the SGS Group (Société Générale de Surveillance)

WITH LABORATORIES STRATEGICALLY LOCATED IN WELLINGTON, OH, HICKORY, NC, GRAIN VALLEY, MO, TAMPA, FL, AND DEER PARK, TX

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INTRODUCTION

INTRODUCTION

This report presents the results of the Compliance emissions tests performed for Jacksonville Electric at St. Johns River Power Park, Unit #1. The purpose of the tests was to determine the emissions of the unit for compliance. Particulate emissions, EPA Method 5B and Visible Emissions, EPA Method 9 were performed. The results of the tests can be found in the Summary of Test Results section of this report.

Commercial Testing and Engineering, Midwest Division, whose office is located at 599 James Rollo Court, Grain Valley, Missouri 64029 performed the testing. The CT&E test crew consisted of Rick Howes, Steve Hampton, Dan Daniels, John Kehl and Lloyd Lindsey. Mr. Mark Loechelt, St. Johns River Power Park, coordinated the testing.

The tests were performed on October 17 and 18, 2000. The testing was performed in accordance with EPA reference methods 5B and 9, as published in the July 1, 2000 Federal Register, "Standards of Performance for Stationary Sources and subsequent revisions.

The testing equipment and sampling procedures are described in the Sampling and Analytical Procedures section of this report. The raw field data and equations used in determining final results are presented in the Appendix section of this report.

SUMMARY OF TEST RESULTS

SUMMARY OF TEST RESULTS

The following table presents the results of the Compliance emissions tests performed on October 17 and 18, 2000 for Jacksonville Electric at St. Johns River Power Park.

PARTICULATE EMISSIONS

<u>Run #</u>	<u>Test Date</u>	<u>Lbs/dscf</u>	<u>Lb/hr</u>	<u>Lb/mmBtu</u>
1	10-17-00	1.14E-06	103.46	.016
2	10-17-00	1.15E-06	102.33	.016
3	10-17-00	<u>1.14E-06</u>	<u>101.30</u>	<u>.016</u>
Avg.		1.14E-06	102.36	.016

VISSIBLE EMISSIONS

<u>Run #</u>	<u>Location</u>	<u>Test Date</u>	<u>Time</u>	<u>Avg. % Opacity</u>
1	Limestone Loading Pile - Reclaim Pit	10-17-00	08:20-09:20	0.00%
1	Limestone Crusher Baghouse	10-17-00	08:20-09:20	0.00%
1	Stack - Unit #1	10-17-00	11:08-12:00	5.96%
	Unit #1 Fly Ash Silo's			
1	Baghouse "A"	10-18-00	11:05-12:05	0.00%
1	Baghouse "B"	10-18-00	11:05-12:05	0.00%
1	Baghouse "C"	10-18-00	11:05-12:05	0.00%
	Unit #2 Fly Ash Silo's			
1	Baghouse "A"	10-18-00	12:10-13:10	0.00%
1	Baghouse "B"	10-18-00	12:10-13:10	0.00%
1	Baghouse "C"	10-18-00	12:10-13:10	0.00%
1	Fly Ash Silo Complex	10-18-00	13:20-14:20	6.67%

The complete results can be found on the computer printouts following this page.

Total Source Analysis, Inc.
Particulate Test Analysis

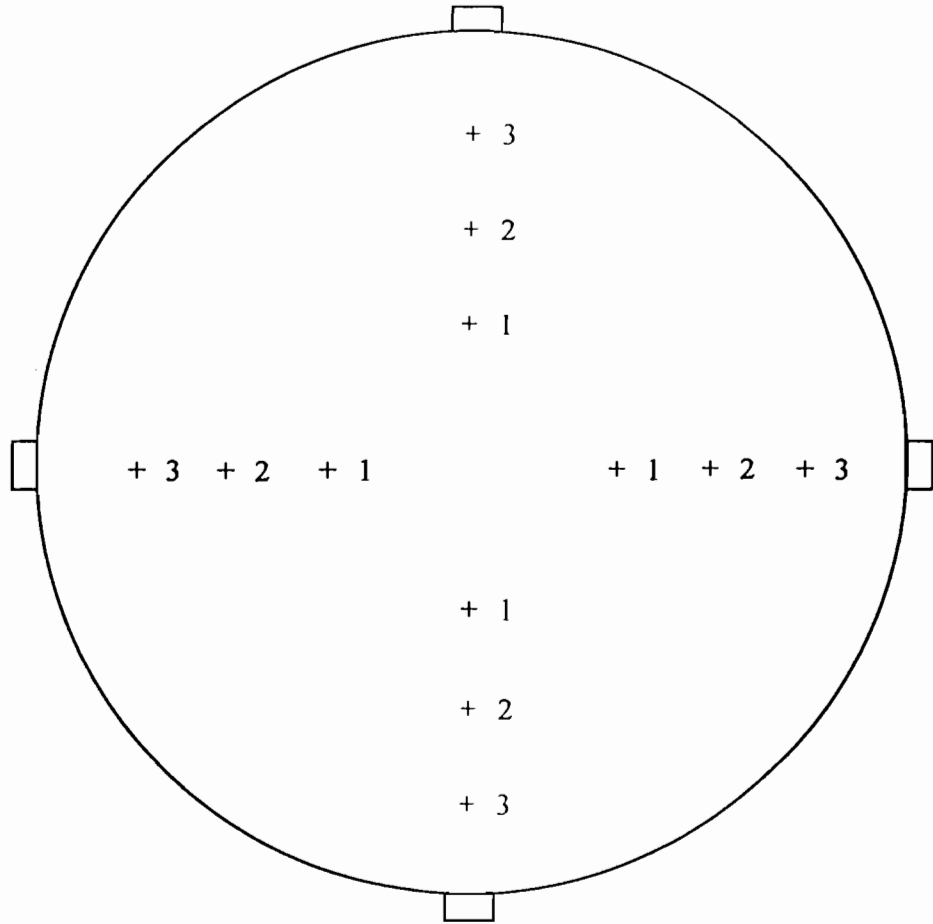
JEA
SJRPP
1
00-205

Run Number	1	2	3
Data set	(01)	(02)	(03)
Date	10-17-00	10-17-00	10-17-00
Location	UNIT 1 STACK	UNIT 1 STACK	UNIT 1 STACK
Start time	08:10	10:55	13:35
End time	10:21	13:03	15:42
Barometric Pressure	In. Hg 29.59	29.59	29.59
Static Pressure	In. H2O -0.52	-0.52	-0.52
Volume of Condensate	Mls 245	252	253
Volume Sampled	DCF 85.352	84.560	84.455
Meter Correction Factor	1.03	1.03	1.03
Square Root of Delta P	1.153	1.148	1.145
Orifice Pressure	In. H2O 1.82	1.78	1.77
Meter Temperature	Deg. F 97	97	97
Flue Temperature	Deg. F 134	144	144
Percent CO2	% 12.50	12.70	12.70
Percent O2	% 6.20	6.50	6.20
Diameter of Nozzle	In 0.200	0.200	0.200
Area of Flue	Sq Ft 471.43	471.43	471.43
Sample Time	Min 120	120	120
Weight Gain	Grams 0.0429	0.0427	0.0424
F Factor	DSCF/MBtu 9780	9780	9780
Absolute Flue Pressure	In. Hg 29.55	29.55	29.55
Corrected Sample Volume	DSCF 82.74	81.85	81.85
Moisture in Flue Gas	% 12.2	12.7	12.7
Molecular Weight	Lb/LbMole 28.75	28.74	28.72
Velocity of Flue Gas	FpS 69.24	69.51	69.37
Volume of Flue Gas	ACFM 1,958,519	1,966,089	1,962,190
Volume of Flue Gas	DSCFM 1,508,303	1,482,806	1,478,015
Dust Concentration	Lb/DSCF 1.14E-06	1.15E-06	1.14E-06
Dust Concentration	Lbs/Hour 103.46	102.33	101.30
Dust Concentration	Grs/ACF 6.22E-03	6.14E-03	6.08E-03
Dust Concentration	Grs/DSCF 8.00E-03	8.05E-03	7.99E-03
Isokinetic Rate	% 98.6	99.3	99.6
Particulate Emissions	Lb/MBtu 0.016	0.016	0.016

Averages:

Stack Temperature	:	140.6	Percent O2	:	6.3
Vol Flue Gas	ACFM	: 1,962,266	DSCFM	:	1,489,708
Part Emis	Lb/DSCF	: 1.14E-06	Lb/Hour	:	102.36
	Grs/ACF	: 6.15E-03	Grs/DSCF	:	8.02E-03
	Lbs/MBtu	: .016			

SAMPLING AND ANALYTICAL PROCEDURES



SAMPLE POINTS DISTANCE FROM INSIDE WALL

- 1) 87.024"
- 2) 42.924"
- 3) 12.936"

STACK DIAMETER = 24.50'

STACK AREA = 471.43 sq. ft.

DRAWING NOT TO SCALE

VP3.PM4



JACKSONVILLE ELECTRIC AUTHORITY
ST. JOHNS RIVER POWER PARK
UNIT #1

TESTING EQUIPMENT - EPA METHOD 5B SAMPLING TRAIN

An Nutech Corporation Stack Sampler was used at the sampling location(s). The particulate sampling train consisted basically of a glass or stainless-steel probe; a variable-heat-controlled filter oven with a calibrated Type K (Chromel/Alumel) thermocouple located at the impinger outlet; a 1/2-hp shaft sealed carbon vane vacuum pump assembly with a vacuum gauge; a control unit with an elapse time indicator, a temperature selector switch, a temperature indicator (potentiometer), temperature controllers, calibrated magnehelic gauges, a calibrated dry gas meter, and a calibrated variable-diameter orifice; and an umbilical and various interconnecting hoses, fitting and valves. An appropriately sized stainless-steel nozzle, a calibrated Type K temperature sensor, a static pressure tube, a calibrated S type pitot tube and a variable-heat-controlled stainless-steel liner with a calibrated Type K (Chromel/Alumel thermocouple are integral parts of the probe assembly.

The vacuum pump was used to control gas sampling rates. The control unit was used to control probe and oven temperatures. The control unit was also used to monitor elapsed sampling times, temperatures, velocities, static pressure, gas sampling rates and sampled gas volume.

Integrated Gas Sampling Train

Flue gas was collected at the sampling location(s) for analysis consisted basically of a Mann-made polystyrene gas filter drying tube; a Thomas 1/20 hp. sealed-head diaphragm vacuum pump, a tygon tubing with various interconnecting fittings and valves.

Analyzer (Orsat)

Flue gas concentrations were determined with a Gas Analyzer (Orsat) which measures the percentage of carbon dioxide, percentage of oxygen and percentage of carbon monoxide to the nearest tenth of a percent.

Programmable Calculator

A Hewlett Packard, Model 32S, programmable calculator was used to determine the isokinetic sampling rate at each sampling point.

Barometer

The barometric pressure (actual station pressure) was determined from a calibrated Aneroid barometer located near the test site which read directly in inches of mercury to the nearest hundredth of an inch.

SAMPLING PROCEDURES - EPA REFERENCE METHOD 5B (PARTICULATE)

Prior to the field testing, the following procedures were performed: All instruments were checked and calibrated. Gelman Spectro Grade, glass-fiber-mat filters with 99.9 percent retention of 0.3-micron particles were individually numbered, placed in similarly numbered glass petri dishes, oven dried at 320 degrees Fahrenheit for two to three hours, cooled in a desiccator and individually weighed on a Sartorius analytical balance to the nearest 0.1-milligram, and weighed a minimum of every six hours until two consecutive weights within +0.5 milligram were obtained. Several 250 milliliter crucibles were desiccated for a minimum of 24 hours and weighed in the same manner as the filters and petri dishes. Also, several 350-gram quantities of Type 6-16 mesh indicating silica gel were weighed on an Ohaus beam balance and placed into separate airtight polypropylene storage bottles.

The number of sampling points and positions of the points in the flue at the sampling location(s), and the sampling time at each point were determined prior to the particulate testing. The sampling procedures were performed in accordance with the Environmental Protection Agency's Reference Method 5B, "Determination of Particulate Emissions from Stationary Sources" in the July 1, 1990 Federal Register, "Standards of Performance for New Stationary Sources" and subsequent revisions.

Before each test run, an HVSS particulate sampling train was prepared in part at the sampling location(s) in the following manner: An appropriately sized sampling nozzle was installed onto the inlet of the sampling probe and capped. The probe was then dimensioned and marked with glass-cloth tape at increments that corresponded with the predetermined sampling positions in the flue. A standard impinger assembly was prepared by adding 200 milliliters of distilled water, to each of the first two glass impingers. The glass third impinger was left dry and the fourth was filled with approximately 350 grams of type 6-16 mesh indicating silica gel. The entire impinger assembly was then placed in an ice bath. A disc filter was removed from its petri dish and placed inside of a filter holder. The filter holder was then placed inside of a filter oven and assembled to the sampling probe outlet and the impinger unit inlet. Next, an umbilical and sampling hoses were connected to the sampling probe, filter oven, impinger unit, a vacuum pump and the control unit, accordingly. The probe and oven were then heated to and held at temperatures between 300 and 340 degrees Fahrenheit. The inclined draft gauges were checked and zeroed.

As soon as the probe and oven temperatures had stabilized the entire sampling train assembly was leak-checked at a minimum of 15 inches of mercury vacuum for one minute and the leakage rate recorded. A leakage rate of less than .02 cfm and no vacuum loss was considered acceptable.

After the particulate sampling train had been assembled, the previously described, the particulate sampling was performed.

Prior to the particulate sampling, a preliminary temperature and velocity traverse, Orsat analysis and calculations were performed to determine a correct nozzle and orifice size, and the factors that would be used in calculating the isokinetic sampling rate for each sampling point. Knowing the actual pressure differential across the pitot tube used, the isokinetic sampling rate was calculated at each sampling point using a Hewlett Packard 32S, Programmable Calculator.

Three test runs were performed at the sampling location(s). The sampling data for each test run was recorded on a field test form during each of the sampling periods.

After the completion of a test run, the following procedures were performed: A final leak-check was performed at a minimum of 15 inches of mercury vacuum for one minute and the leakage rate recorded. The flue gas moisture collected in the first three impingers was measured and recorded. The moisture laden silica gel in the fourth impinger was transferred to an appropriately marked, airtight polypropylene bottle and retained for later weighing. The weight gain of the silica gel moisture collection was added to the measured moisture condensed for that test run. The sample nozzle, probe and filter holder were capped and taken to a clean area for sample recovery. At the recovery area, the disc filter was carefully removed from the filter holder and transferred to its petri dish for later weighing.

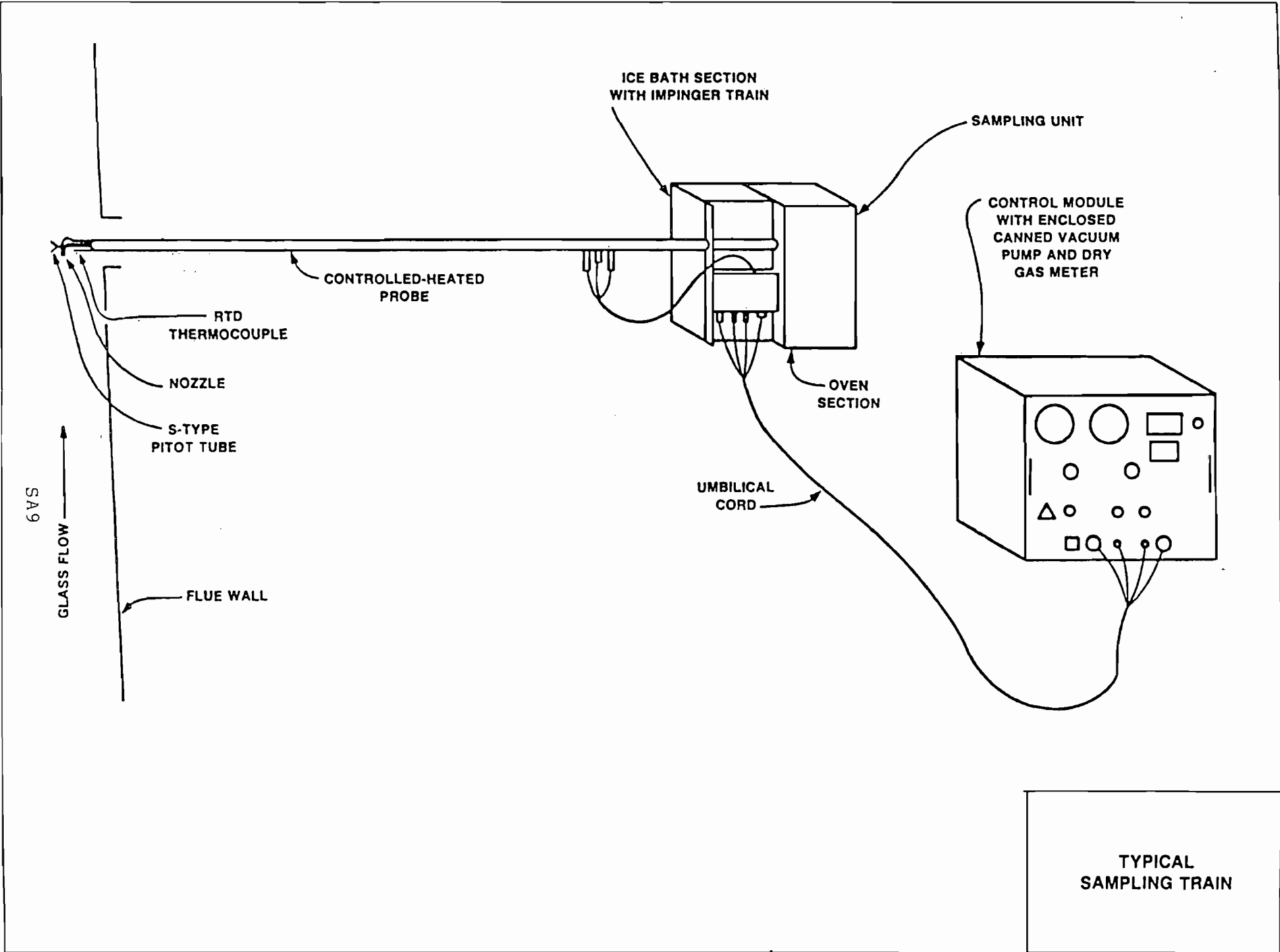
The sampling nozzle, probe and filter holder were washed with nanograde acetone. The acetone washing and acetone blank were collected and labeled polypropylene sample bottles and retained for later evaporation, desiccation and weighing.

Flue gas concentrations (percentage of CO_2 , percentage of O_2 , and percentage of CO) were determined by taking several Orsat samples of the gas collected, simultaneously with the particulate sampling, throughout the test run, by an integrated gas sampling train. The integrated gas sample was collected from the discharge of the particulate control unit. The sampling train was set at a predetermined constant flow rate to obtain an adequate sample. The concentrations for each test run were recorded on a field test form.

ANALYTICAL PROCEDURES - EPA REFERENCE METHOD 5B (PARTICULATE)

After the field testing was completed, the following procedures were performed: Each silica gel moisture collection was weighed in it's storage bottle on an Ohaus beam balance with sensitivity of 0.1-gram. Each disc filter and petri dish was oven dried at 320 degrees Fahrenheit for six hours and cooled in a dessicator for two hours before weighing. Each acetone washing and acetone blank was transferred from its sample bottle to a preweighed crucible for evaporation. When the acetone in a crucible had completely evaporated it was oven dried at 320 degrees Fahrenheit for six hours and transferred to a desiccator for further drying at room temperature. Each acetone blank collected was used to determine the amount of residual weight each crucible retained due to acetone impurities. Each disc filter and petri dish, acetone washing and acetone blank was weighed on a Sartorius analytical balance with a sensitivity of 0.1-milligram.

All test instruments were recalibrated to determine the deviation percentage.



TYPICAL SAMPLING TRAIN

APPENDIX

EPA Formulas

NOMENCLATURE

acf	= actual cubic feet	P_t	= static pressure in flue in inches water, average
acfm	= actual cubic feet per minute	$\sqrt{\Delta P}$	= square root of velocity head in inches water, average
A	= effective area of flue in square feet	%S	= percent sulfur by weight, dry basis
acm	= actual cubic meters	scf	= standard cubic feet
acmm	= actual cubic meters per minute	scm	= standard cubic meters
A_n	= inside area of sampling nozzle in square feet	T_{std}	= absolute temperature of air in degrees Rankin at standard conditions (528 degrees)
B_{ws}	= water vapor in gas stream, proportion by volume	T_s	= absolute temperature of flue gas in degrees Rankin, average
%C	= percent carbon by weight, dry basis	T_m	= absolute temperature at meter in degrees Rankin, average
%CO	= percent carbon monoxide by volume, dry basis	V_s	= velocity of flue gas in feet (meters) per second
%CO ₂	= percent carbon dioxide by volume, dry basis	V_i	= volume of condensate through the impingers in milliliters
C_p	= pitot tube coefficient	V_{lc}	= volume of liquid collected in condenser in milliliters plus weight of liquid absorbed in silica gel in grams indicated as milliliters
D_1	= dust loading per heat input in pounds (grams) per million Btu (calories) per Fr constant	V_m	= volume of metered gas measured at meter conditions in cubic feet (meters)
D_1'	= dust loading per heat input in pounds (grams) per million Btu (calories) per Fr calculated	V_{ms}	= volume of metered gas corrected to dry standard conditions in cubic feet (meters)
dscf	= dry standard cubic feet	V_o	= volume of flue gas at actual conditions in cubic feet (meters) per minute
dscfh	= dry standard cubic feet per hour	Q_{sd}	= volume of flue gas corrected to dry standard conditions in cubic feet (meters) per hour
dscm	= dry standard cubic meters	V_t	= total volume of flue gas sampled at actual conditions in cubic feet (meters)
dscmh	= dry standard cubic meters per hour	V_w	= volume of water vapor in metered gas corrected to standard conditions in cubic feet (meters)
fps	= feet per second	V_{wc}	= volume of water condensed in impingers corrected to standard conditions
F_r	= ration factor of dry flue gas volume to heat value of combusted fuel in dry standard cubic feet (meters) per million Btu (calories)	V_{wsg}	= volume of water collected in silica gel corrected to standard conditions
gms	= grams	W_a	= total weight of dust collected per unit volume in grains (grams) per actual cubic feet (meters)
gm-mole	= gram-mole	W_d	= total weight of dust collected per unit volume in pounds (grams) per dry standard cubic feet (meters)
grs	= grains	W_g	= total weight of dust collected in grams
ΔH	= orifice pressure drop in inches water, average	W_h	= total weight of dust collected per unit volume in pounds (grams) per hour, dry basis
%H	= percent hydrogen by weight, dry basis	W_p	= total weight of dust collected in pounds
H_c	= heat of combustion in Btu per pound, dry basis	W_s	= total weight of dust collected per unit volume in grains (grams) per dry standard cubic feet (meters)
hr	= hour	W_{sg}	= impinger silica gel weight gain in grams
%I	= percent isokinetic	Y	= metered gas volume correction factor
in.Hg	= inches mercury	Θ	= total elapsed sampling time in minutes
lbs	= pounds		
lb-mole	= pound-mole		
%M	= percent moisture by volume		
mmBtu	= million Btu		
mmcal	= million calories		
mm Hg	= millimeters mercury		
mps	= meters per second		
M_s	= molecular weight in pounds (gram) per pound (gram) mole (wet basis)		
%N	= percent nitrogen by weight, dry basis		
%N ₂	= percent nitrogen by difference, dry basis		
%O	= percent oxygen by difference, dry basis		
%O ₂	= percent oxygen by volume, dry basis		
P_b	= barometric pressure in inches mercury		
P_{std}	= standard absolute pressure (29.92 in Hg)		
P_s	= absolute pressure in flue in inches (millimeters) mercury		



Commercial Testing and Engineering

EPA DUST LOADING Formulas

- (1) ABSOLUTE FLUE PRESSURE (in. Hg)

$$P_s = (\pm P_f \div 13.6) + P_b$$

- (2) WATER VAPOR VOLUME IN METERED GAS CORRECTED TO STANDARD CONDITIONS (scf)

$$V_{wc} = 0.04707 \times V_i \quad V_{wsg} = .04715 \times W_{sg}$$

$$V_w = V_{wc} + V_{wsg}$$

- (3) METERED GAS VOLUME CORRECTED TO STANDARD CONDITIONS (scf)

$$V_{ms} = 17.64 \times Y \times V_m \frac{P_b + (\Delta H / 13.6)}{T_m}$$

- (4) PERCENT MOISTURE IN FLUE GAS

$$B_{ws} = \frac{V_w}{(V_{ms} + V_w)} \%M = B_{ws} \times 100$$

- (5) AVERAGE RESULTS OF FLUE GAS ANALYSIS

$$\%N_2 \text{ dry} = 100 - (\%CO_2 + \%O_2 + \%CO)$$

- (6) APPROXIMATE MOLECULAR WEIGHT OF FLUE GAS (WET BASIS) (lb/lb-mole)

$$M_s = (18 \times B_{ws}) + ((.440(\%CO_2) + .320(\%O_2) + .280(\%N_2 + \%CO)) \times (1 - B_{ws}))$$

- (7) GAS VELOCITY IN FLUE (fps)

$$V_s = 85.49 \times C_p \times (\sqrt{\Delta P})_{avg} \cdot \sqrt{\frac{T_s}{P_s \times M_s}}$$

- (8) FLUE GAS VOLUME AT ACTUAL CONDITIONS (acfm)

$$V_o = V_s \times A \times 60$$

- (9) FLUE GAS VOLUME CORRECTED TO DRY STANDARD CONDITIONS (dscfh)

$$Q_{sd} = \frac{T_{std}}{29.92} \times \frac{P_s}{T_s} \times V_o \times (1 - B_{ws}) \times 60$$

- (10) TOTAL FLUE GAS VOLUME SAMPLED AT ACTUAL CONDITIONS (acf)

$$V_t = \left[V_m \times Y \times \frac{T_s}{T_m} \times \left(\frac{P_b + (\Delta H / 13.6)}{P_s} \right) \right] + \left(0.00267 \times V_{lc} \times \frac{T_s}{P_s} \right)$$



EPA DUST LOADING FORMULAS (continued)

(11) DUST CONCENTRATION FOR INDIRECT HEATING UNIT ACTUAL CONDITIONS AND STANDARD CONDITIONS

$$W_g = \text{gms}$$

$$W_p = 0.002205 \times W_g \text{ (lb)}$$

$$W_d = \frac{W_p}{V_{ms}} \quad (\text{lb/dscf})$$

$$W_h = W_d \times Q_{sd} \quad (\text{lb/hr dry})$$

$$W_a = \frac{7000 \times W_p}{V_t} \quad (\text{gr/acf})$$

$$W_s = 7000 \times W_d \quad (\text{gr/dscf})$$

$$D_i = \frac{9780 \times 20.9 \times W_d}{(20.9 - \%O_2)} \quad (\text{lb/mmBtu with constant 9780 Fr})$$

$$Fr = \frac{10^6 \times [(3.64 \times \%H) + (1.53 \times \%C) + (0.57 \times \%S) + (0.14 \times \%N) - (0.46 \times \%O)]}{H_c} \quad (\text{dscf/mmBtu})$$

$$D_i = \frac{20.9 \times W_d \times Fr}{(20.9 - \%O_2)} \quad (\text{lb/mmBtu with calculated Fr})$$

(12) PERCENT OF ISOKINETIC SAMPLING

$$\%I = \frac{1.667 \times T_s \times \left\{ 0.00267 \times V_{lc} + \left[\frac{V_m \times (P_b + \Delta H / 13.6)}{T_m} \right] \right\}}{\Theta \times V_s \times P_s \times A_n}$$



Test Data Sheets

Particulate Field Data Sheet

Client: S.J.R.P Date: 10-17-00 Page 1 Of 2

Project No. <u>00-205-</u>		Operator: <u>Kehl</u>		Orsat Analysis			
Sampling Location <u>UNIT 1 STACK</u>		Run No. <u>1 Rm-5-B</u>					
Filter No. <u>455</u>	Acetone No. <u>A-1</u>	Condensate <u>224 ml</u>	Silica Gel <u>20.7 gr</u>	<u>12.5</u>	<u>18.7</u>	<u>6.2</u>	_____
Barometric Pressure <u>29.59</u>	Static Pressure <u>-.52</u>	Probe No. <u>N-9-1</u>		<u>12.5</u>	<u>18.7</u>	<u>6.2</u>	_____
Ambient Temp. <u>90°</u>	Pitot Coefficient <u>.840</u>	Pitot No. <u>N-7</u>		_____	_____	_____	_____
Nozzle Diameter <u>.200</u>	Nozzle No. <u>INC-#2</u>	Meter No. <u>Apex 10</u>		_____	_____	_____	_____
Meter Corr. Factor <u>1.029</u>	Area of Flue <u>471.43 m²</u>	Meter-Orifice <u>3.573</u>		_____	_____	_____	_____

Sample Pt. Time 10 min/20 Assumed % Moisture 13 % Before @ [mmHG] .006 @ 15" Hg After @ [mmHG] .000 @ 6" Hg

Sample Point	ΔP	√ΔP	ΔH	Temperature F						Vac. Pr (in. HG)	Dry Gas Meter Reading in Cu. Ft.
				Stack	Probe	Imp. Out	Oven	Meter In	Meter Out		
08:10											169.927
C 1	1.5	1.225	2.07	135	323	67	319	96	3.0	177.53	
2	1.4	1.183	1.89	135	327	66	321	95	3.0	184.83	
3	1.1	1.049	1.49	134	323	64	312	95	2.5	191.26	
B 1	1.55	1.245	2.10	134	328	64	325	95	4.0	198.90	
2	1.45	1.204	1.96	134	328	59	330	96	4.0	206.84	
3	1.2	1.095	1.64	133	328	64	328	97	3.0	213.09	
A 1	1.4	1.183	1.91	134	328	62	327	97	4.0	220.42	
2	1.35	1.162	1.84	134	326	53	325	97	3.5	227.54	
3	1.15	1.072	1.57	134	328	54	328	98	3.0	234.18	
D 1	1.4	1.183	1.91	134	327	65	331	97	4.0	241.48	
2	1.3	1.140	1.77	134	327	59	328	98	3.5	248.80	
3	1.2	1.095	1.64	135	320	63	319	98	3.5	255.279	
10:21		1.153	1.916	134.167				96.593		255.352	
				$\bar{T} = 98.6$ $\bar{v}_m = 12.2$ $D_{scFM} = 1,508,303$							

Pitot Tube Leak Check: Before OK After OK
 Integrated Bag Leak Check: Before OK After OK

BEST AVAILABLE COPY

Particulate Field Data Sheet

Client: S.J.R.P				Date: 10-17-00	Page: _____
Project No. 00-205-		Operator: Kehl, Lindsey		Orsat Analysis CO ₂ +O ₂ O ₂ CO	
Sampling Location UNIT 1 STACK		Run No. Z Rm-S-B			
Filter No. 457	Acetone No. A-2	Condensate 230 ml	Silica Gel 22.1 gr		
Barometric Pressure 29.59		Static Pressure -.52	Probe No. N-9-1		
Ambient Temp. 90°		Pitot Coefficient .840	Pitot No. N-7	12.7 19.2 6.5	
Nozzle Diameter .200		Nozzle No. INC #2	Meter No. Apex 10	_____	
Meter Corr. Factor 1.029		Area of Flue 471.43 ft²	Meter-Orifice 3.573	_____	
Sample Pt. Time 10 Min 120		Assumed % Moisture 13 %	Leak Test .004 @ 14" Hg	Before @ (mmHG)	After @ (mmHG)
				.000 @ 16" Hg	

Sample Point	ΔP	√ΔP	ΔH	Temperature F°						Vac. Pr (in. HG)	Meter Reading in Cu. F.
				Stack	Probe	Imp. Out	Oven	Meter In	Meter Out		
10:55											256.998
1	1.4	1.183	1.89	141	328	64	323	96	4.0	264.26	
2	1.3	1.140	1.75	143	326	63	321	96	4.0	271.22	
3	1.2	1.095	1.62	144	325	63	324	96	3.5	277.98	
A 1	1.4	1.183	1.89	143	329	64	325	96	4.5	285.21	
2	1.4	1.183	1.89	144	329	56	327	97	4.5	292.50	
3	1.2	1.095	1.62	144	330	58	323	98	3.5	299.20	
B 1	1.55	1.245	2.09	143	330	62	322	98	5.0	306.88	
2	1.4	1.183	1.89	145	331	56	324	99	4.5	314.17	
3	1.2	1.095	1.62	144	328	54	321	99	3.5	320.86	
C 1	1.45	1.204	1.96	144	330	53	326	98	5.0	328.32	
2	1.3	1.140	1.75	145	326	60	325	98	4.0	335.27	
3	1.05	1.025	1.42	144	319	65	322	97	3.0	341.858	
13:03		1.148	1.783	143.667				97.333		341.560	
% I = 99.3% % M = 12.7 DSCFM = 1,482,806											

OTO Tube Leak Check: Before OK After OK
 Integrated Bag Leak Check: Before OK After OK



T2

(Blow Soot)
This Run

BEST AVAILABLE COPY
Particulate Field Data Sheet

Client: S.J.R.P.				Date: 10-17-60	Page: _____
Project No. 60-205		Operator: Kehl, Lindsey		Orsat Analysis CO ₂ +O ₂ O ₂ CO	
Sampling Location UNIT 1 STACK		Run No. 3 Rm-S-B			
Filter No. 464	Acetone No. A-3	Condensate 232 ml	Silica Gel 21.2 gr	12.7	19.9
Barometric Pressure 29.59		Static Pressure -.52	Probe No. N-9-1	6.2	_____
Ambient Temp. 90°		Pitot Coefficient .840	Pitot No. N-7	_____	_____
Nozzle Diameter 1.200		Nozzle No. INC #2	Meter No. Apex 10	_____	_____
Meter Corr. Factor 1.029		Area of Flue 471.43 ft²	Meter-Orifice 3.573	_____	_____
Sample Pt. Time 10 Min 120		Assumed % Moisture 13 %	Leak Test .003 @ 15" Hg	Before @ (mmHG)	After @ (mmHG)
				.000 @ 6" Hg	

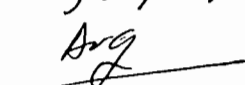
Sample Point	ΔP	√ΔP	ΔH	Temperature F°				Meter In	Meter Out	Vac. Pr (in. HG)	Dry Gas Meter Reading in Cu. F.
				Stack	Probe	Imp. Out	Oven				
3:35											341.721
C 1	1.4	1.183	1.89	143	326	63	319	95	95	4.0	348.96
2	1.35	1.162	1.81	145	331	65	315	95	95	4.0	356.10
3	1.05	1.025	1.41	144	325	63	320	95	95	3.0	362.41
D 1	1.5	1.225	2.01	144	323	64	322	95	95	4.5	369.87
2	1.4	1.183	1.98	144	328	57	324	96	96	4.0	377.13
3	1.1	1.049	1.48	145	331	55	327	97	97	3.0	383.52
E 1	1.5	1.225	2.01	144	329	63	324	97	97	5.0	391.05
2	1.45	1.204	1.95	144	327	61	326	97	97	5.0	398.40
3	1.2	1.095	1.61	144	327	64	320	98	98	3.5	405.14
F 1	1.45	1.204	1.95	144	332	65	315	98	98	5.0	412.49
2	1.3	1.140	1.74	144	330	64	325	98	98	4.0	419.50
3	1.1	1.049	1.49	144	323	65	319	99	99	3.5	426.176
G 5:42		1.145	1.763	144.083				96.667			84.455
$90I = 99.62$ $90M = 12.7$ $DSCFM = 1,478,015$											

Tube Leak Check: Before OK After OK
 Integrated Bag Leak Check: Before OK After OK



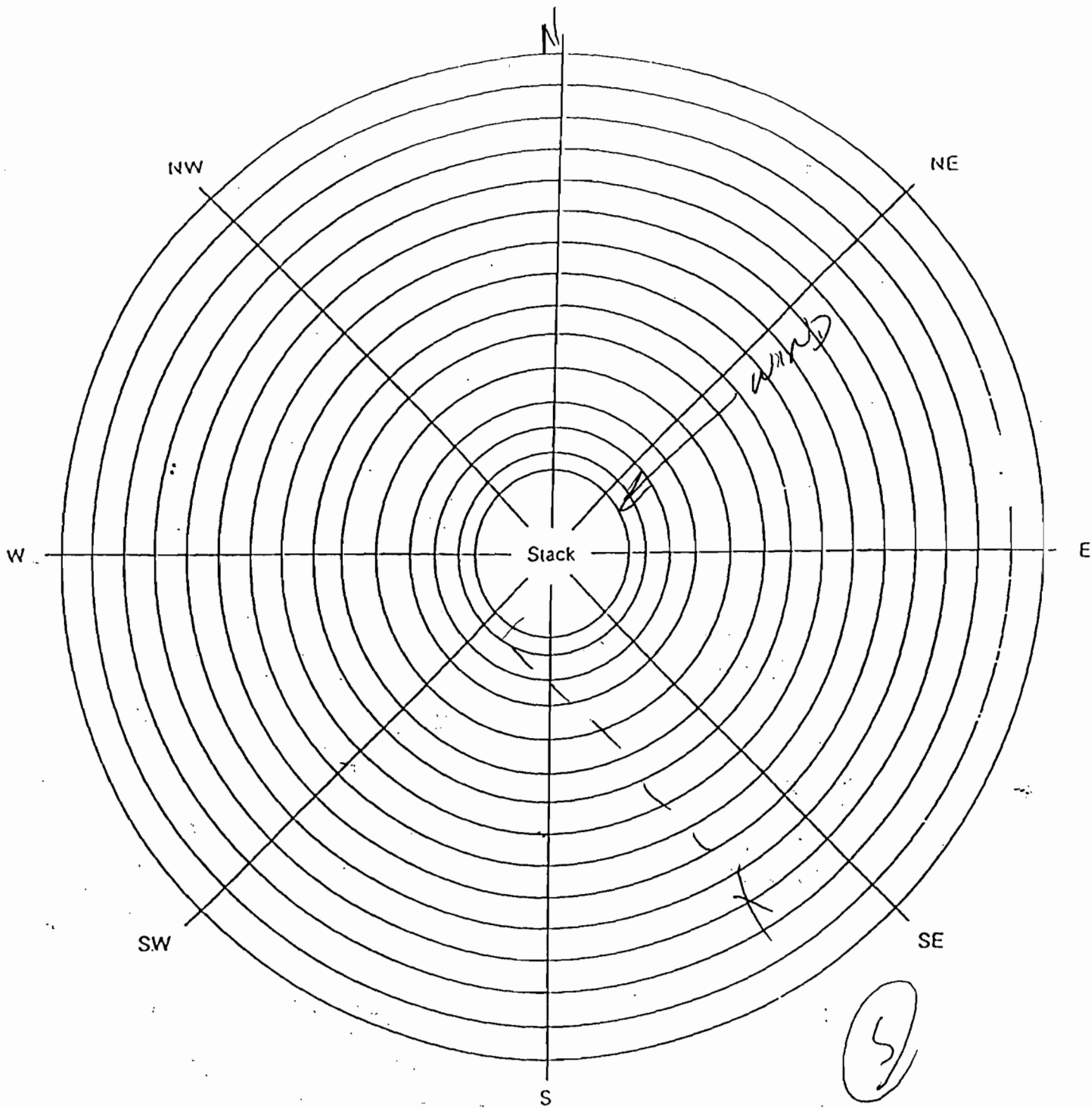
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-17-00
 Plant Name _____ Observation Began 1108
 Location UNIT 1 Ended 1208
 Type of Facility COAL FIRED POWER PLANT

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
<u>STACK</u>	0	10	5	5	10	30	5	5	10	5
	1	5	10	5	5	31	5	5	5	5
	2	5	5	5	5	32	5	5	5	5
	3	5	10	5	5	33	10	5	5	10
	4	10	10	5	5	34	5	5	5	5
	5	5	5	5	10	35	5	5	5	5
Observer Location	6	5	5	5	10	36	5	5	10	5
	7	5	5	5	5	37	5	10	5	10
Distance from Observer to source <u>1000-1500 FT</u>	8	5	10	5	5	38	10	5	10	10
Height of source (above ground) <u>700 FT</u>	9	5	5	10	5	39	5	5	5	10
	10	5	5	5	5	40	5	5	10	10
Weather Conditions	11	5	5	5	5	41	10	10	5	5
Wind Direction <u>NW</u>	12	5	10	5	5	42	5	5	5	5
Wind Speed <u>< 5 MPH</u>	13	5	5	5	5	43	10	10	10	5
Temperature <u>75</u>	14	5	10	5	5	44	5	5	5	5
Position of Sun <u>1100 O'CLOCK</u>	15	5	5	5	5	45	5	10	10	5
Sky Condition <u>CLEAR</u>	16	5	5	10	5	46	5	5	10	5
(clear, overcast % clouds, color of clouds, etc.)	17	10	5	5	5	47	5	5	5	5
	18	5	5	5	5	48	5	10	10	5
	19	5	5	5	5	49	5	5	5	5
	20	5	5	5	10	50	5	5	5	5
	21	5	5	10	5	51	5	5	5	5
Plume Description	22	5	10	5	10	52	5	5	5	10
Color <u>WHITE</u>	23	5	5	5	5	53	5	5	5	5
Background <u>BLUE</u>	24	5	10	5	5	54	5	5	5	5
Type (wet or dry) <u>WET</u> Dist. <u>200'</u>	25	5	5	5	5	55	5	5	10	5
	26	5	5	5	5	56	10	5	5	5
	27	5	5	5	5	57	5	5	5	5
Comments <u>DURING 2ND RUN - SOOT BLOWING</u>	28	5	5	5	5	58	10	10	5	5
	29	5	10	5	5	59	5	5	5	5
Observers Signature <u>Steve Hampton</u>	5.9670 Avg 									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>Y</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings.
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

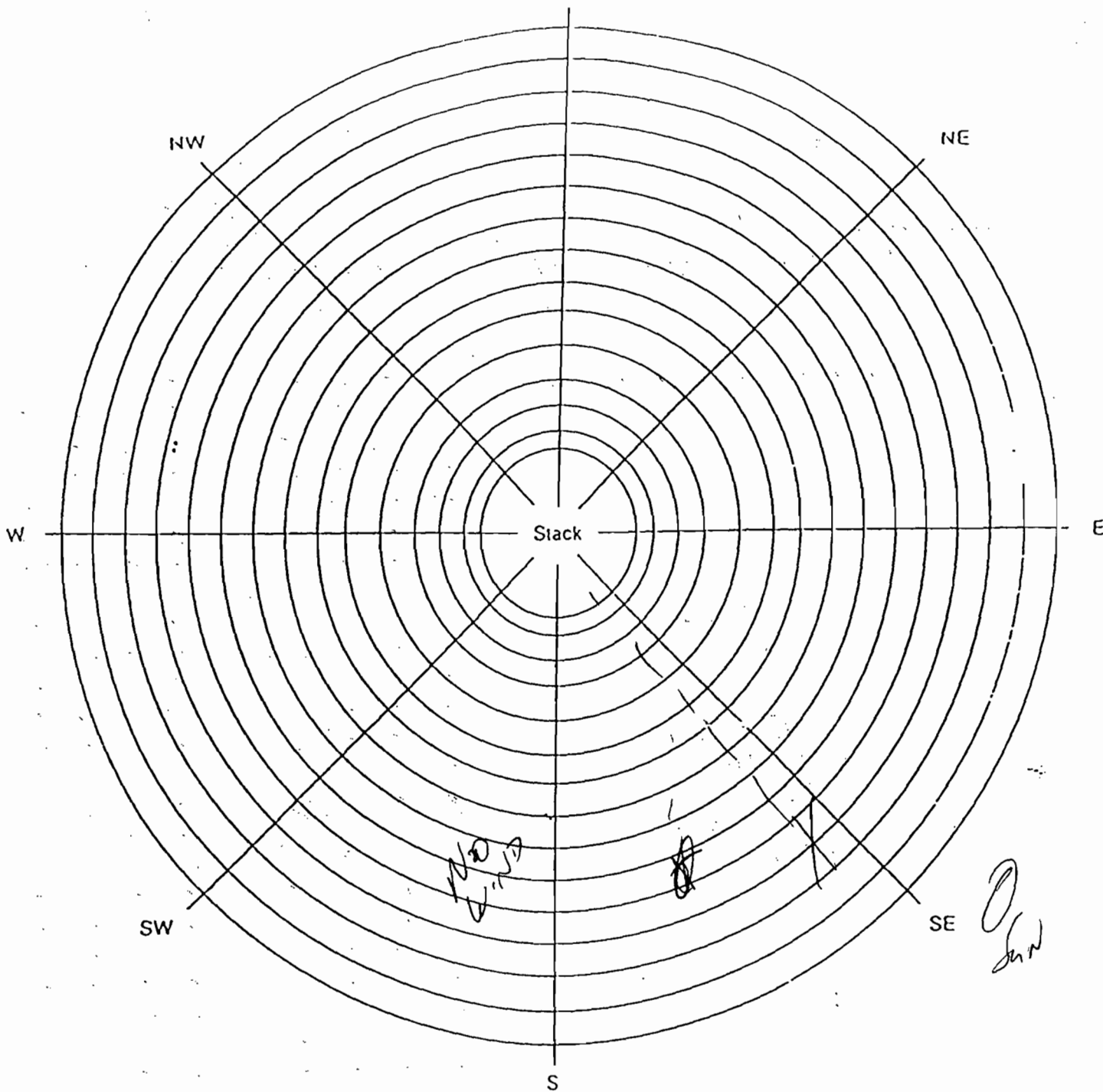
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-17-00
 Plant Name _____ Observation Began 0820
 Location CRUSHING - LIMESTONE Ended 0920
 Type of Facility POWER PLANT - LIMESTONE CRUSHING OPERATION

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
<u>LIMESTONE CRUSHING</u> <u>36 - BAGHOUSE</u>	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
Observer Location	5	0	0	0	0	35	0	0	0	0
	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
	8	0	0	0	0	38	0	0	0	0
	9	0	0	0	0	39	0	0	0	0
Distance from Observer to source <u>100 YDS</u>	10	0	0	0	0	40	0	0	0	0
Height of source (above ground) <u>50'</u>	11	0	0	0	0	41	0	0	0	0
Weather Conditions	12	0	0	0	0	42	0	0	0	0
	13	0	0	0	0	43	0	0	0	0
Wind Direction <u>0 CALM</u>	14	0	0	0	0	44	0	0	0	0
Wind Speed <u>0 WIND</u>	15	0	0	0	0	45	0	0	0	0
Temperature <u>62</u>	16	0	0	0	0	46	0	0	0	0
Position of Sun <u>2 O'CLOCK</u>	17	0	0	0	0	47	0	0	0	0
Sky Condition <u>CLEAR</u> (clear, overcast % clouds, color of clouds, etc.)	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
	22	0	0	0	0	52	0	0	0	0
Plume Description	23	0	0	0	0	53	0	0	0	0
	24	0	0	0	0	54	0	0	0	0
	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
	27	0	0	0	0	57	0	0	0	0
Type (wet or dry) <u>DRY</u> Dist. _____	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0
	Comments <u>78% RELATIVE HUMIDITY</u>	<u>AVG = 0</u>								
Observers Signature <u>Steve Hampton</u>										
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>7</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-18-00
 Plant Name _____ Observation Began 12:10
 Location UNIT 2 FLY ASH SILO BAGHOUSE A Ended 13:10
 Type of Facility POWER PLANT - FLY ASH SILOS

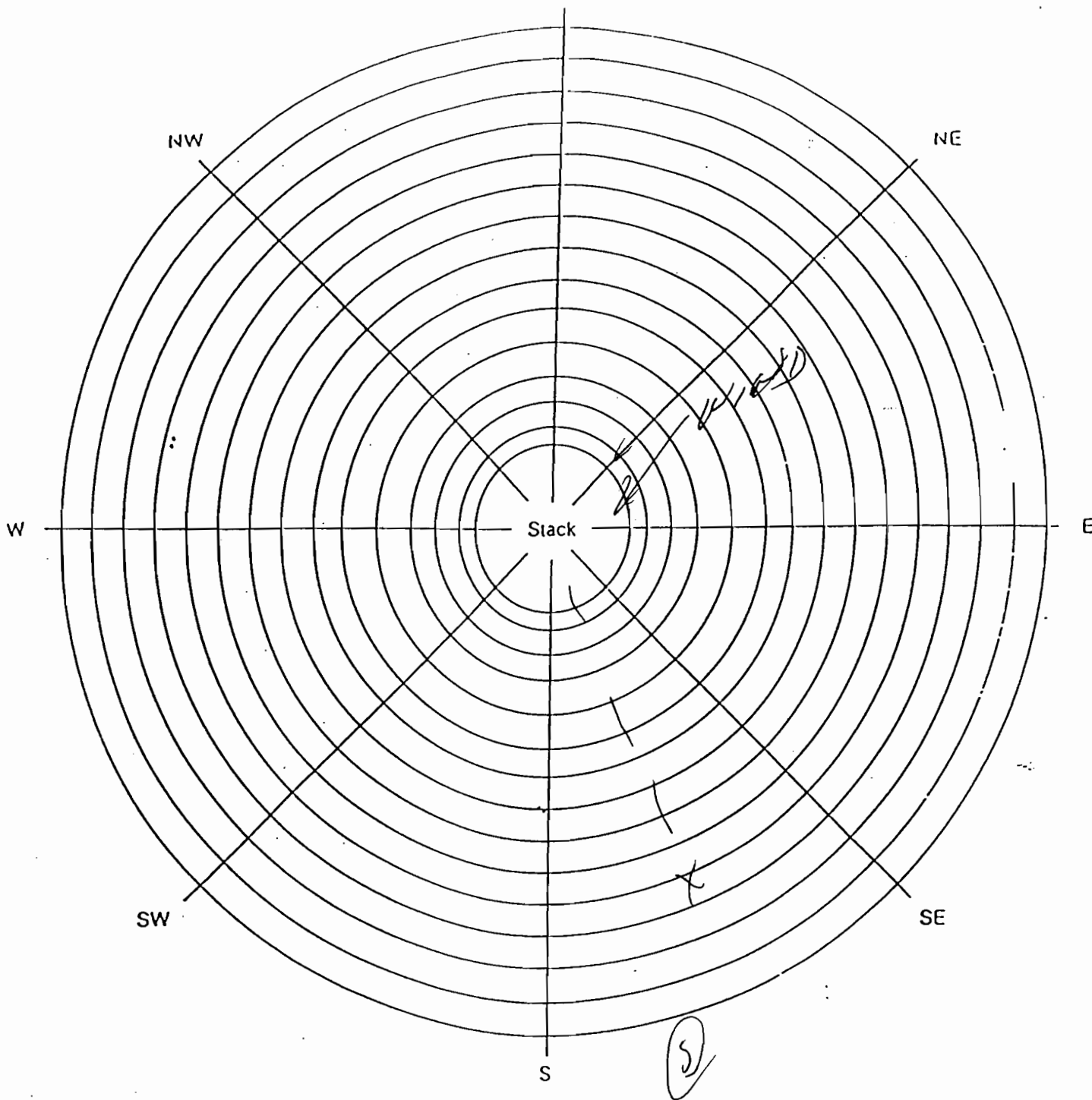
Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
<u>DUCT/OUTLET</u>	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
	5	0	0	0	0	35	0	0	0	0
Observer Location	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
Distance from Observer to source <u>120 YDS</u>	8	0	0	0	0	38	0	0	0	0
Height of source (above ground) <u>50 FT</u>	9	0	0	0	0	39	0	0	0	0
	10	0	0	0	0	40	0	0	0	0
Weather Conditions	11	0	0	0	0	41	0	0	0	0
Wind Direction <u>SW</u>	12	0	0	0	0	42	0	0	0	0
Wind Speed <u>55 MPH</u>	13	0	0	0	0	43	0	0	0	0
Temperature <u>72</u>	14	0	0	0	0	44	0	0	0	0
Position of Sun <u>12 O'CLOCK</u>	15	0	0	0	0	45	0	0	0	0
Sky Condition <u>CLEAR</u>	16	0	0	0	0	46	0	0	0	0
(clear, overcast % clouds, color of clouds, etc.)	17	0	0	0	0	47	0	0	0	0
	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
Plume Description	22	0	0	0	0	52	0	0	0	0
Color	23	0	0	0	0	53	0	0	0	0
Background <u>BLUE</u>	24	0	0	0	0	54	0	0	0	0
Type (wet or dry) _____ Dist. _____	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
	27	0	0	0	0	57	0	0	0	0
Comments	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0

AVG = 0

Observers Signature [Signature]
 Date of Last EPA Method 9 Examination 10-11-00
 Examination Passed in EPA Region 7

* If wet, distance (ft) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

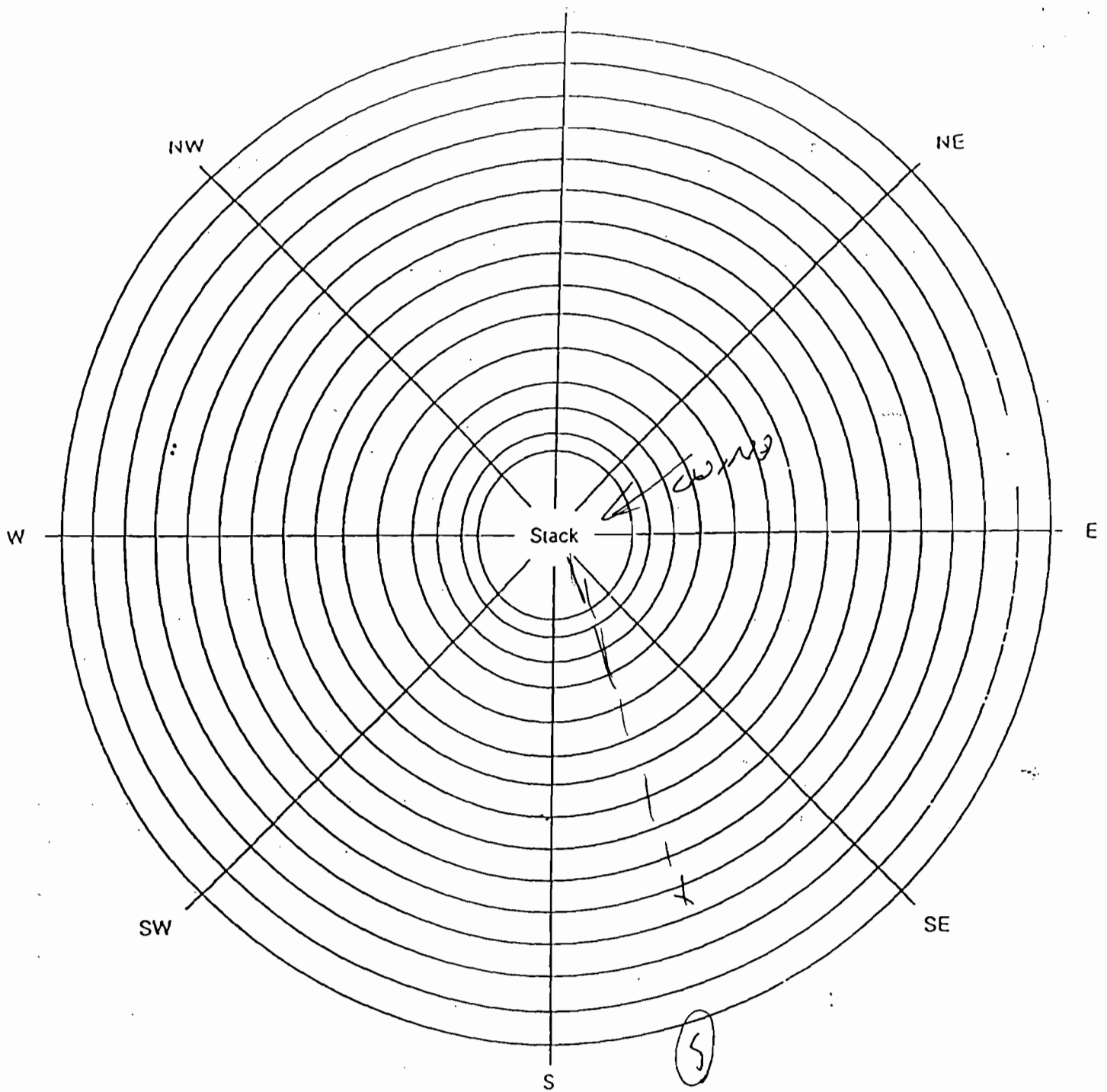
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-18-00
 Plant Name _____ Observation Began 12:10
 Location UNIT 2 FLY ASH SILO BAGHOUSE Ended 13:10
 Type of Facility POWER PLANT - FLY ASH SILO

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
	5	0	0	0	0	35	0	0	0	0
Observer Location	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
Distance from Observer to source <u>120 YDS</u>	8	0	0	0	0	38	0	0	0	0
Height of source (above ground) <u>50 FT</u>	9	0	0	0	0	39	0	0	0	0
	10	0	0	0	0	40	0	0	0	0
Weather Conditions	11	0	0	0	0	41	0	0	0	0
Wind Direction <u>SW</u>	12	0	0	0	0	42	0	0	0	0
Wind Speed <u>25 MPH</u>	13	0	0	0	0	43	0	0	0	0
Temperature <u>72</u>	14	0	0	0	0	44	0	0	0	0
Position of Sun <u>12 O'CLOCK</u>	15	0	0	0	0	45	0	0	0	0
Sky Condition <u>CLEAR</u>	16	0	0	0	0	46	0	0	0	0
(clear, overcast % clouds, color of clouds, etc.)	17	0	0	0	0	47	0	0	0	0
	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
Plume Description	22	0	0	0	0	52	0	0	0	0
Color	23	0	0	0	0	53	0	0	0	0
Background <u>BLUE</u>	24	0	0	0	0	54	0	0	0	0
Type (wet or dry) _____ Dist. _____	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
Comments	27	0	0	0	0	57	0	0	0	0
	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0
Observers Signature <u>[Signature]</u>	Avg = 0									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>7</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

Visible Emissions Evaluation Data Sheet

Client St. Johns River Power

Observer Steve Hampton

Project No. 00-205MO

Date 10-18-00

Plant Name _____

Observation Began 1210

Location UNIT 2 FLY ASH SILO BARRHOUSE

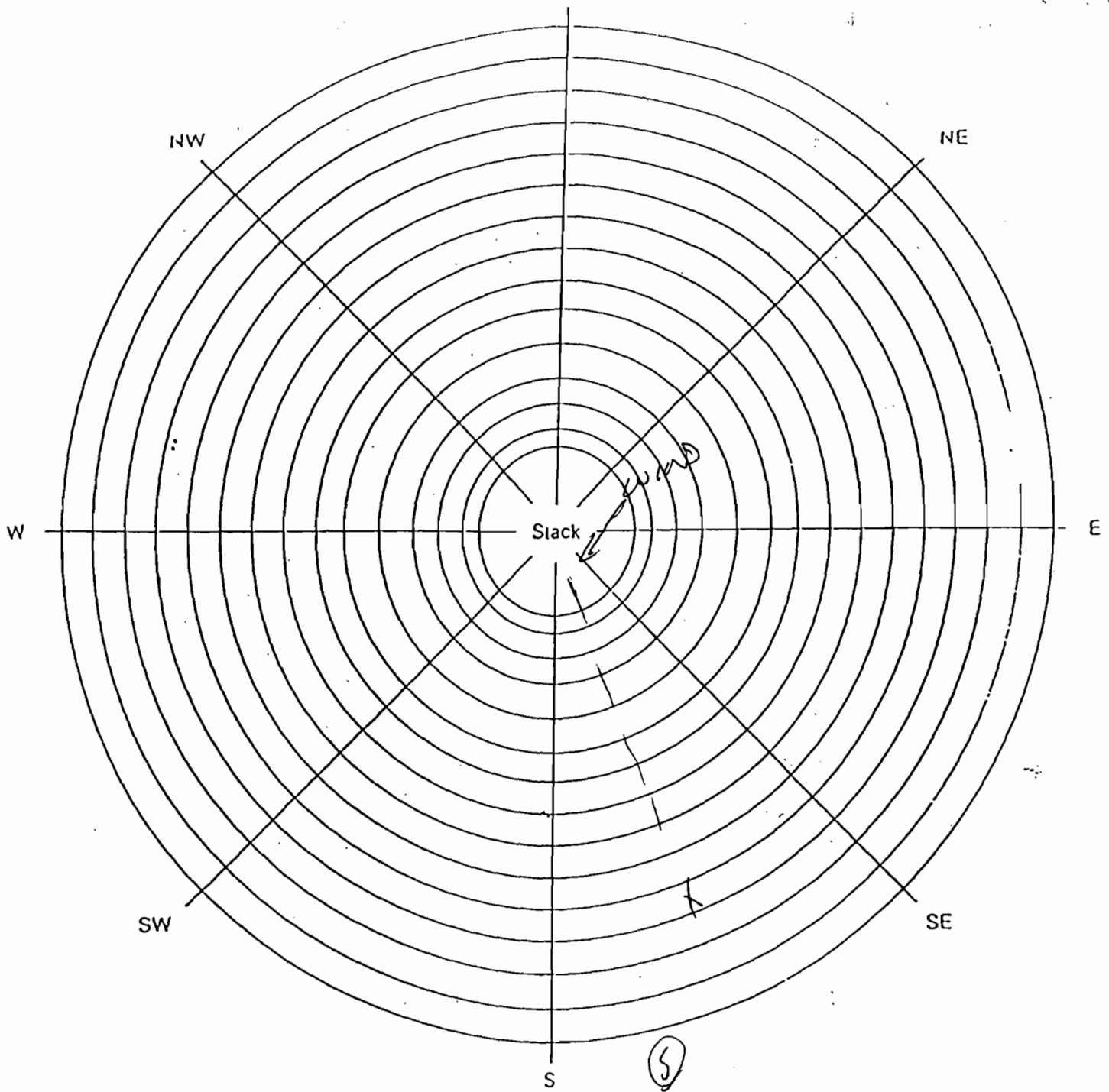
Ended 1310

Type of Facility POWER PLANT FLY ASH SILO

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
	5	0	0	0	0	35	0	0	0	0
Observer Location	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
Distance from Observer to source <u>120 YDS</u>	8	0	0	0	0	38	0	0	0	0
Height of source (above ground) <u>50 FT</u>	9	0	0	0	0	39	0	0	0	0
	10	0	0	0	0	40	0	0	0	0
Weather Conditions	11	0	0	0	0	41	0	0	0	0
Wind Direction <u>SW</u>	12	0	0	0	0	42	0	0	0	0
Wind Speed <u>45 MPH</u>	13	0	0	0	0	43	0	0	0	0
Temperature <u>72</u>	14	0	0	0	0	44	0	0	0	0
Position of Sun <u>12 O'CLOCK</u>	15	0	0	0	0	45	0	0	0	0
Sky Condition <u>CLEAR</u>	16	0	0	0	0	46	0	0	0	0
(clear, overcast % clouds, color of clouds, etc.)	17	0	0	0	0	47	0	0	0	0
	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
Plume Description	22	0	0	0	0	52	0	0	0	0
Color	23	0	0	0	0	53	0	0	0	0
Background <u>BLUE</u>	24	0	0	0	0	54	0	0	0	0
Type (wet or dry) _____ Dist. _____	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
	27	0	0	0	0	57	0	0	0	0
Comments	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0
Observers Signature <u>[Signature]</u>	Avg = 0									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>7</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-18-00
 Plant Name _____ Observation Began 11:05
 Location UNIT 1 FLYASH SILO BACKHOUSE A Ended 12:05
 Type of Facility POWER PLANT - FLYASH SILOS

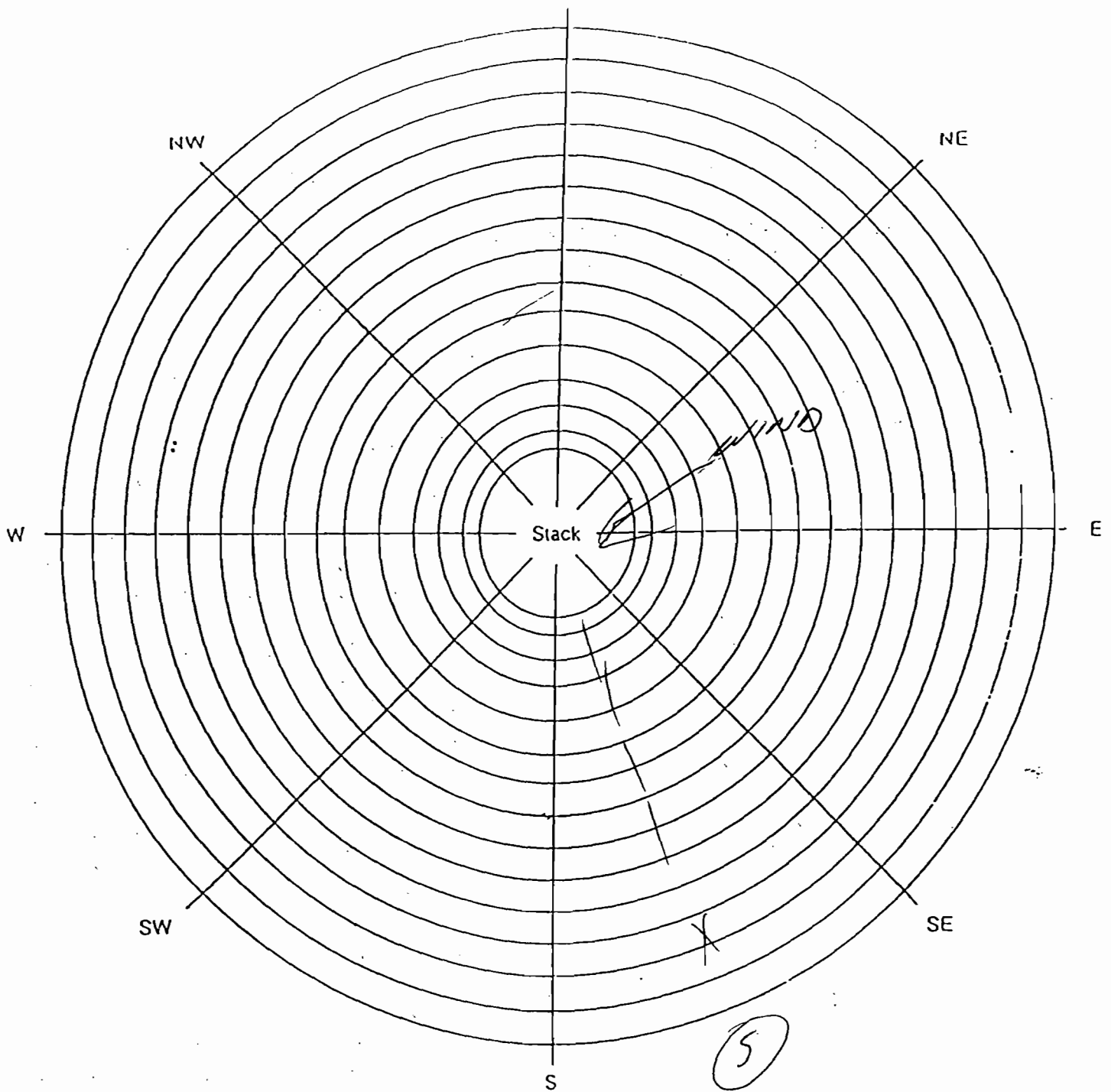
Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
<u>DUCT/OUTLET</u>	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
	5	0	0	0	0	35	0	0	0	0
Observer Location	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
Distance from Observer to source <u>100 YDS</u>	8	0	0	0	0	38	0	0	0	0
Height of source (above ground) <u>50 FT</u>	9	0	0	0	0	39	0	0	0	0
	10	0	0	0	0	40	0	0	0	0
Weather Conditions	11	0	0	0	0	41	0	0	0	0
Wind Direction <u>SW</u>	12	0	0	0	0	42	0	0	0	0
Wind Speed <u>< 5 MPH</u>	13	0	0	0	0	43	0	0	0	0
Temperature <u>70</u>	14	0	0	0	0	44	0	0	0	0
Position of Sun <u>11 O'CLOCK</u>	15	0	0	0	0	45	0	0	0	0
Sky Condition <u>CLEAR</u>	16	0	0	0	0	46	0	0	0	0
(clear, overcast % clouds, color of clouds, etc.)	17	0	0	0	0	47	0	0	0	0
	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
Plume Description	22	0	0	0	0	52	0	0	0	0
Color	23	0	0	0	0	53	0	0	0	0
Background	24	0	0	0	0	54	0	0	0	0
Type (wet or dry) _____ Dist. _____	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
	27	0	0	0	0	57	0	0	0	0
Comments	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0

Avg = 0

Observers Signature [Signature]
 Date of Last EPA Method 9 Examination 10-11-00
 Examination Passed in EPA Region 7

* If wet, distance (ft.) from plume outlet to point in plume where observations made
 COMMERCIAL TESTING & ENGINEERING CO.





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

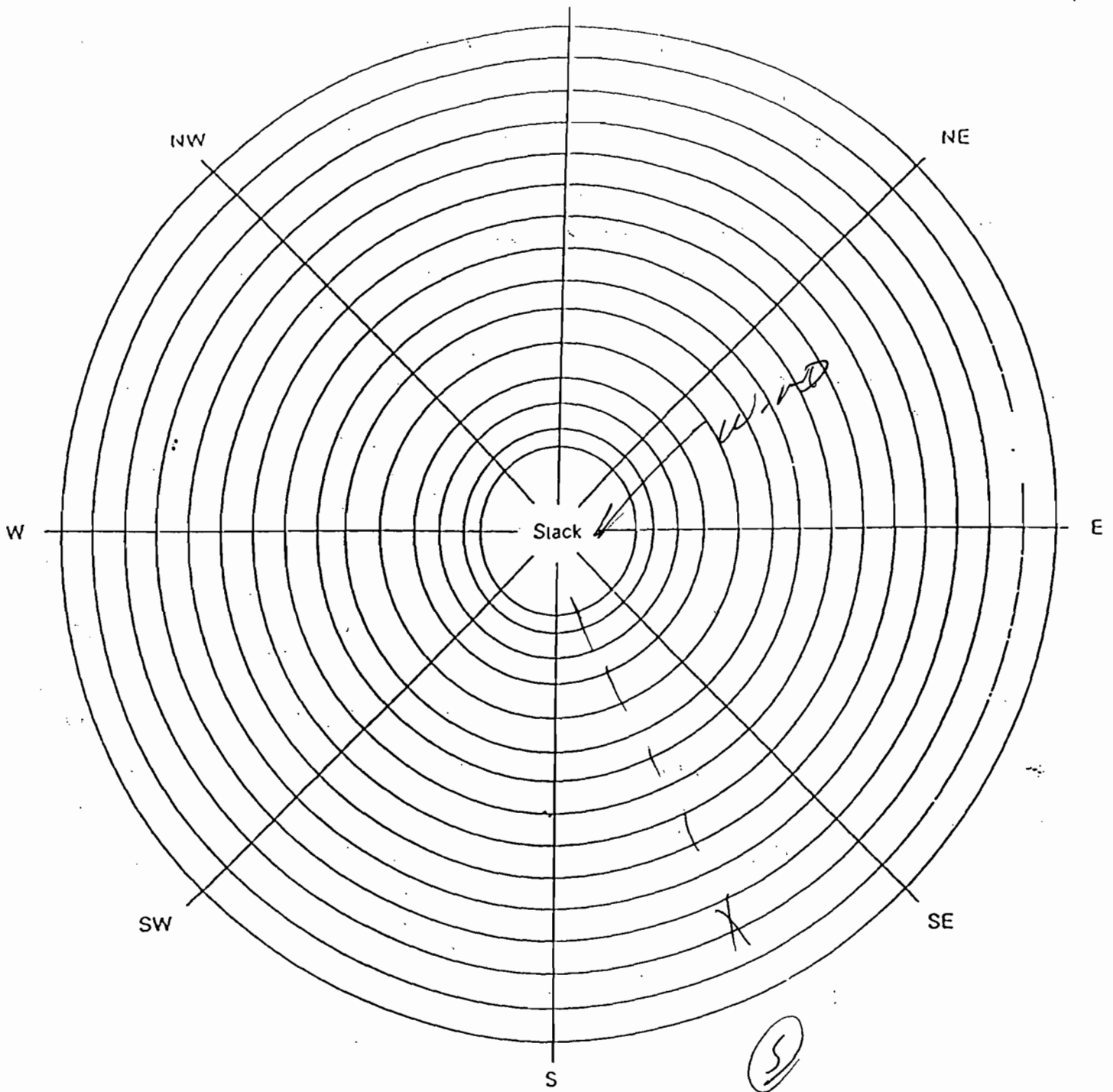
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-18-00
 Plant Name _____ Observation Began 1105
 Location UNIT 1 FLY ASH SILD BACKHOUSE B Ended 1205
 Type of Facility POWER PLANT - FLY ASH HANDLING/SILO'S

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
DUCKET/OUTLET	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
	5	0	0	0	0	35	0	0	0	0
	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
	8	0	0	0	0	38	0	0	0	0
	9	0	0	0	0	39	0	0	0	0
Observer Location	10	0	0	0	40	0	0	0	0	
Distance from Observer to source <u>1004 DS</u>	11	0	0	0	41	0	0	0	0	
Height of source (above ground) <u>50 FT</u>	12	0	0	0	42	0	0	0	0	
Weather Conditions	13	0	0	0	43	0	0	0	0	
Wind Direction <u>SW</u>	14	0	0	0	44	0	0	0	0	
Wind Speed <u>25 MPH</u>	15	0	0	0	45	0	0	0	0	
Temperature <u>70</u>	16	0	0	0	46	0	0	0	0	
Position of Sun <u>11 O'CLOCK</u>	17	0	0	0	47	0	0	0	0	
Sky Condition <u>CLEAR</u>	18	0	0	0	48	0	0	0	0	
(clear, overcast % clouds, color of clouds, etc.)	19	0	0	0	49	0	0	0	0	
	20	0	0	0	50	0	0	0	0	
	21	0	0	0	51	0	0	0	0	
Plume Description	22	0	0	0	52	0	0	0	0	
Color	23	0	0	0	53	0	0	0	0	
Background <u>BLUE</u>	24	0	0	0	54	0	0	0	0	
Type (wet or dry) _____ Dist. _____	25	0	0	0	55	0	0	0	0	
Comments	26	0	0	0	56	0	0	0	0	
	27	0	0	0	57	0	0	0	0	
	28	0	0	0	58	0	0	0	0	
	29	0	0	0	59	0	0	0	0	
Observers Signature <u>Steve Hampton</u>	Avg = 0									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>7</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings.
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

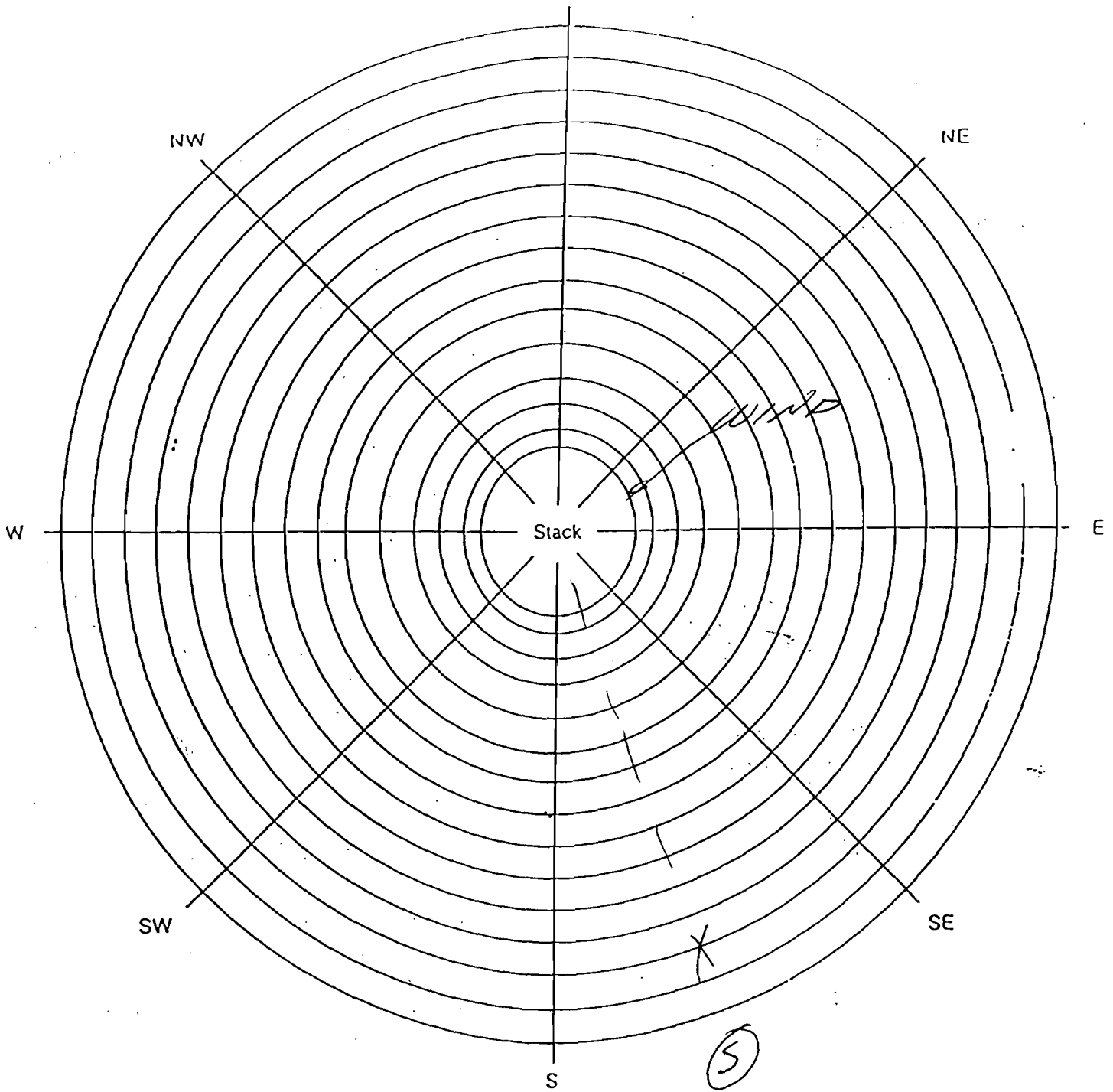
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-18-00
 Plant Name _____ Observation Began 11:05
 Location UNIT 1 FLY ASH SILO BACKHOUSE C Ended 12:05
 Type of Facility POWER PLANT - FLY ASH SILOS

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
<u>DUCT/OUTLET</u>	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
	5	0	0	0	0	35	0	0	0	0
Observer Location	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
Distance from Observer to source <u>100 YDS</u>	8	0	0	0	0	38	0	0	0	0
Height of source (above ground) <u>50 FT</u>	9	0	0	0	0	39	0	0	0	0
	10	0	0	0	0	40	0	0	0	0
Weather Conditions	11	0	0	0	0	41	0	0	0	0
Wind Direction <u><5 MPH SW</u>	12	0	0	0	0	42	0	0	0	0
Wind Speed <u><5 MPH</u>	13	0	0	0	0	43	0	0	0	0
Temperature <u>70</u>	14	0	0	0	0	44	0	0	0	0
Position of Sun <u>11 O'CLOCK</u>	15	0	0	0	0	45	0	0	0	0
Sky Condition <u>CLEAR</u>	16	0	0	0	0	46	0	0	0	0
(clear, overcast % clouds, color of clouds, etc.)	17	0	0	0	0	47	0	0	0	0
	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
Plume Description	22	0	0	0	0	52	0	0	0	0
Color	23	0	0	0	0	53	0	0	0	0
Background	24	0	0	0	0	54	0	0	0	0
Type (wet or dry) _____ Dist. _____	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
	27	0	0	0	0	57	0	0	0	0
Comments	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0
Observers Signature <u>[Signature]</u>	Avg = 0									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>7</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

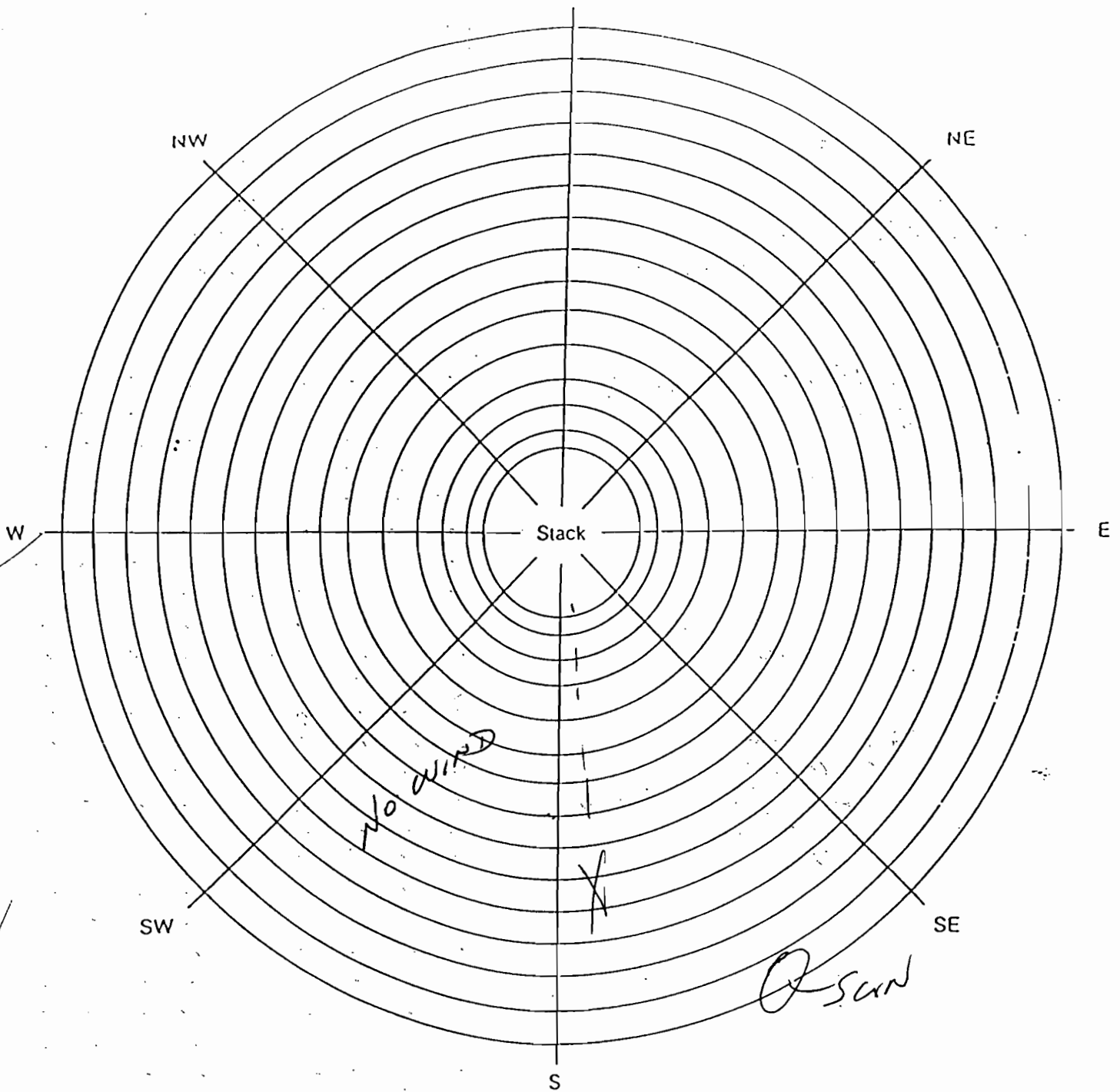
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-17-00
 Plant Name STRPP Observation Began 08120
 Location LOADING - LIMESTONE Ended 0920
 Type of Facility POWER PLANT - LIMESTONE CHALKING OPERATION

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
LIMESTONE LOADING PILE - RECLAIM PIT	0	0	0	0	0	30	0	0	0	0
	1	0	0	0	0	31	0	0	0	0
	2	0	0	0	0	32	0	0	0	0
	3	0	0	0	0	33	0	0	0	0
	4	0	0	0	0	34	0	0	0	0
Observer Location	5	0	0	0	0	35	0	0	0	0
	6	0	0	0	0	36	0	0	0	0
	7	0	0	0	0	37	0	0	0	0
Distance from Observer to source <u>50 YDS</u>	8	0	0	0	0	38	0	0	0	0
Height of source (above ground) <u>GRADE</u>	9	0	0	0	0	39	0	0	0	0
Weather Conditions	10	0	0	0	0	40	0	0	0	0
	11	0	0	0	0	41	0	0	0	0
Wind Direction <u>CALM</u>	12	0	0	0	0	42	0	0	0	0
Wind Speed <u>0 - WIND</u>	13	0	0	0	0	43	0	0	0	0
Temperature <u>67 58/62 W.B/D.B</u>	14	0	0	0	0	44	0	0	0	0
Position of Sun <u>2 O'clock</u>	15	0	0	0	0	45	0	0	0	0
Sky Condition <u>CLEAR</u> (clear, overcast % clouds, color of clouds, etc.)	16	0	0	0	0	46	0	0	0	0
	17	0	0	0	0	47	0	0	0	0
	18	0	0	0	0	48	0	0	0	0
	19	0	0	0	0	49	0	0	0	0
Plume Description Color _____ Background _____ Type (wet or dry) <u>Dry</u> Dist. _____	20	0	0	0	0	50	0	0	0	0
	21	0	0	0	0	51	0	0	0	0
	22	0	0	0	0	52	0	0	0	0
	23	0	0	0	0	53	0	0	0	0
	24	0	0	0	0	54	0	0	0	0
	25	0	0	0	0	55	0	0	0	0
	26	0	0	0	0	56	0	0	0	0
	27	0	0	0	0	57	0	0	0	0
	28	0	0	0	0	58	0	0	0	0
	29	0	0	0	0	59	0	0	0	0
Comments <u>98% RELATIVE HUMIDITY</u>										
Observers Signature <u>Steve Hampton</u>	Avg = 0									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>Y</u>										

* If wet, distance (ft) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings.
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

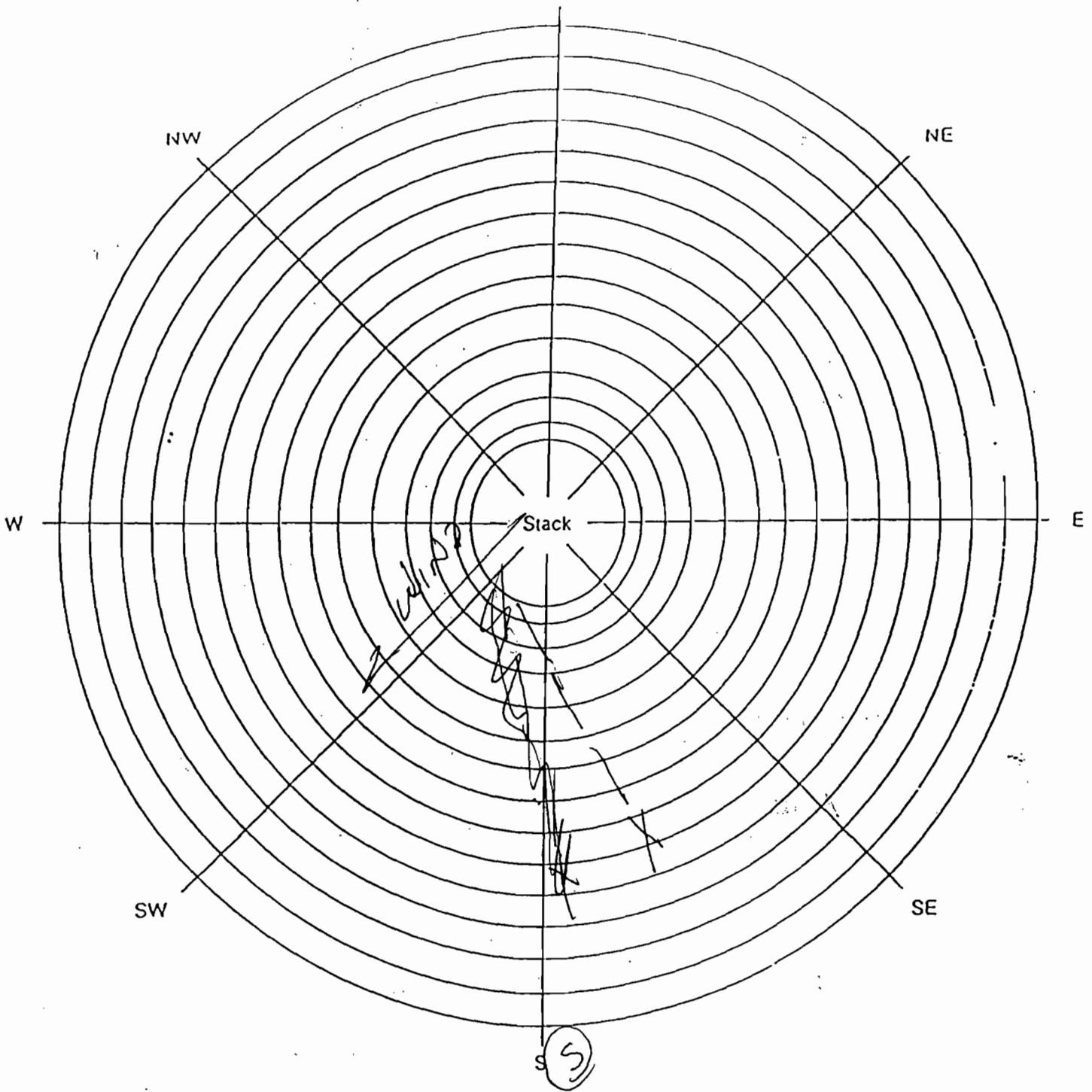
Visible Emissions Evaluation Data Sheet

Client St. Johns River Power Observer Steve Hampton
 Project No. 00-205MO Date 10-18-00
 Plant Name _____ Observation Began 1320
 Location FLY ASH SILO COMPLEX Ended 1420
 Type of Facility _____

Source Identification (Stack, Duct, etc.)	Min	Seconds				Min.	Seconds			
		0	15	30	45		0	15	30	45
<u>VE ON COMPLETE COMPLEX</u>	0	5	5	5	5	30	5	5	10	10
	1	5	5	5	5	31	10	10	10	5
	2	5	5	5	5	32	5	5	10	10
	3	5	5	5	5	33	5	5	5	5
	4	5	5	5	5	34	5	5	5	5
	5	5	5	5	5	35	5	5	5	5
Observer Location	6	5	5	5	5	36	5	5	5	5
	7	5	5	5	5	37	5	5	5	5
Distance from Observer to source <u>100 YDS</u>	8	5	5	5	5	38	5	5	5	5
Height of source (above ground) <u>MAX 50</u>	9	10	10	5	5	39	10	5	10	10
	10	5	5	5	5	40	10	10	10	10
Weather Conditions	11	5	5	5	5	41	5	5	5	5
Wind Direction <u>< 5 MPH SW</u>	12	5	5	5	5	42	10	10	5	5
Wind Speed <u>SW < 5 MPH</u>	13	5	5	5	5	43	5	5	5	5
Temperature <u>78</u>	14	5	5	5	5	44	5	5	5	5
Position of Sun <u>10 O'CLOCK</u>	15	5	5	5	10	45	5	10	10	10
Sky Condition <u>CLEAR</u>	16	10	10	5	5	46	10	10	10	10
(clear, overcast % clouds, color of clouds, etc.)	17	5	5	5	5	47	10	10	10	10
	18	5	5	5	5	48	5	5	5	5
	19	10	10	10	10	49	5	5	10	10
	20	10	10	10	5	50	10	10	10	10
	21	5	10	10	10	51	10	10	10	5
Plume Description	22	5	5	10	10	52	5	5	5	5
Color	23	5	5	5	10	53	5	5	5	5
Background <u>BLUE</u>	24	10	10	10	10	54	5	5	10	10
Type (wet or dry) _____ Dist. _____	25	5	5	5	5	55	10	10	10	10
	26	5	5	10	10	56	10	10	10	10
Comments	27	10	10	5	5	57	10	10	5	5
	28	5	10	10	10	58	10	10	10	5
	29	5	5	5	5	59	5	5	5	5
Observers Signature <u>Steve Hampton</u>	6.67% Avg									
Date of Last EPA Method 9 Examination <u>10-11-00</u>										
Examination Passed in EPA Region <u>7</u>										

* If wet, distance (ft.) from plume outlet to point in plume where observations made





LOCATE THE FOLLOWING ON THE DIAGRAM

1. The stack configuration with the stack under observation in the center
2. Observer's position using X to indicate position.
3. Arrow pointing direction wind is blowing.
4. Dotted line between observer and plume indicating observers line of sight when making readings.
5. Circle with S in center to indicate sun location.
6. Any large structures or significant topographical features.

NOTE: Stack configuration is not proportional to distances in feet from stack in the diagram.

Plant Data Sheets

**ST. JOHNS RIVER POWER PARK
BOILER CONTROL ROOM DATA**

UNIT # ONE

DATE: 10-17-00

PARAMETER	UNITS	Readings (30 minute intervals)					
		J.W	J.W	J.W	J.W	J.W	J.W
Person Recording Data		J.W	J.W	J.W	J.W	J.W	J.W
Time		0800	0830	0900	0930	1000	1030
Steam Flow	Lb/Hr x 10 ⁶	4.6	4.5	4.5	4.5	4.5	4.4
Air Flow	%	76.3	75.4	76.2	76.0	75.5	74.7
Generator Load (Gross)	Megawatts	670	676	667	674	673	663
Boiler Thermal Demand	Megawatts	675	674	670	672	674	663
O2 Flue gas	%	3.0	3.0	2.9	3.0	3.0	3.2
Fuel Flow	%	99.1	98.9	98.9	98.9	98.5	98.5
Coal Totalizer	Tons						
A		44	44	44	44	44	44
B		39	39	39	39	39	39
C		43	43	43	43	43	43
D		-	-	-	-	-	-
E		44	44	44	44	44	44
F		35	35	35	35	35	35
G		44	44	44	44	44	44

*Unit in Manual/TF
No soot blowing*

**ST. JOHNS RIVER POWER PARK
BOILER CONTROL ROOM DATA**

UNIT # ONE

DATE: 10-17-00

PARAMETER	UNITS	Readings (30 minute intervals)					
		J.W	J.W	J.W	J.W	J.W	J.W
Person Recording Data		J.W	J.W	J.W	J.W	J.W	J.W
Time		1100	1130	1200	1230	1300	1330
Steam Flow	Lb/Hr x 10 ⁰	4.5	4.4	4.4	4.4	4.3	4.4
Air Flow	%	76.1	75.4	76.1	75.0	75.8	74.5
Generator Load (Gross)	Megawatts	660	654	649	653	646	647
Boiler Thermal Demand	Megawatts	662	658	654	654	646	650
O2 Flue gas	%	3.1	2.9	2.9	2.9	2.9	2.9
Fuel Flow	%	98.5	98.5	98.5	98.5	98.5	98.5
Coal Totalizer	Tons						
A		44	44	44	44	44	44
B		39	39	39	39	39	39
C		43	43	43	43	43	43
D		-	-	-	-	-	-
E		44	44	44	44	44	44
F		35	35	35	35	35	35
G		44	44	44	44	44	44

Unit in Manual / TF
Blowing soot

stop blowing
soot

**ST. JOHNS RIVER POWER PARK
BOILER CONTROL ROOM DATA**

UNIT # ONE

DATE: 10-17-00

PARAMETER	UNITS	Readings (30 minute intervals)				
		J.W	J.W	J.W	J.W	J.W
Person Recording Data		J.W	J.W	J.W	J.W	J.W
Time		1400	1430	1500	1530	1600
Steam Flow	Lb/Hr x 10 ⁰	4.4	4.4	4.4	4.4	4.4
Air Flow	%	75.0	75.0	75.5	74.9	75.1
Generator Load (Gross)	Megawatts	645	647	651	648	646
Boiler Thermal Demand	Megawatts	648	650	652	650	649
O2 Flue gas	%	2.9	2.8	2.8	2.8	2.9
Fuel Flow	%	98.5	98.5	98.5	98.5	98.5
Coal Totalizer	Tons					
A		44	44	44	44	44
B		39	39	39	39	39
C		43	43	43	43	43
D		-	-	-	-	-
E		44	44	44	44	44
F		35	35	35	35	35
G		44	44	44	44	44

*Unit Manual / TF
not blowing sect.*

**ST. JOHNS RIVER POWER PARK
FLUE GAS DESULFURIZATION
OPERATIONAL PARAMETERS
UNIT # 2**

Date: 10/17/00

Initials: JJS

HOUR	PACKING DIFFERENTIAL PRESSURE (Inches H2O column)		
	A	B	C
0000			
0100			
0200			
0300			
0400			
0500			
0600			
0700			
0800	5.6		5.9
0900	5.6		5.9
1000	5.6		5.8
1100	5.4		5.7
1200	5.3		5.7
1300	5.4		5.8
1400	5.3		5.7
1500	5.3		5.7
1600			
1700			
1800			
1900			
2000			
2100			
2200			
2300			

Daily Water System Use: _____ (Total Gallons) / 1440 (min/day) = _____ GPM

COMMENTS: Silo Start tons 132 rect ended 0920
 (0817 start test) Silo End tons 370 hr
 238 + 20 = 258 TPH
 20 TPH Feed Rate - Ball Mill LIMESTONE
 Well Water start in = 1461 out 1457
 Well Water End in = 1461 out 1487 @ 1520

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 0815
 Date: 10/17/00
 Initials: mm

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp.	Sparks	COMMENTS
11	201	12	42.6	51	0	
12	202	12	42.9	43	0	
13	198	12	40.4	45	0	
14	201	12	41.6	51	0	
15	194	12	40.6	45	0	
16	196	12	41.4	43	0	
21	202	15	40.2	61	0	
22	203	15	40	61	0	
23	208	15	40.3	59	0	
24	215	15	42.5	67	0	
25	190	15	34.2	63	0	
26	019	15				015
31	214	15	43.1	61	0	
32	237	15	47.1	67	0	
33	217	15	43	61	0	
34	194	15	39.4	61	0	
35	182	15	35.8	59	0	
36	245	30	42.5	146	0	
41	197	20	36.2	67	0	
42	193	20	39	77	0	
43	202	20	41.6	83	0	
44	187	20	38.2	75	0	
45	177	20	35.8	83	0	
46	189	20	38.6	77	0	
51	226	30	42.2	130	0	
52	218	30	41.4	130	0	
53	224	30	41.1	130	0	
54	211	30	35.9	114	0	
55	209	30	39.4	130	0	
56	234	30	43.9	134	0	
61	237	35	42.0	162	0	
62	229	35	42.2	156	0	
63	231	35	40.9	162	0	
64	208	35	37.8	156	0	
65	211	35	40.2	154	0	
66	245	35	40	134	0	
71	97	27	22.2	146	9	
72	239	45	39.4	219	3	
73	246	45	42.8	213	0	
74	222	45	37.5	211	0	
75	226	45	35.3	98	0	
76	255	45	44.4	213	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 0815
 Date: 12/12/00
 Initials: mm

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	208	12	43.4	51	0	
12	211	12	45.2	43	0	
13	202	12	41.9	43	0	
14	209	12	44	45	0	
15	202	12	42	45	0	
16	204	12	44.3	43	0	
21						015
22	215	15	42.8	61	0	
23	209	15	41.2	65	0	
24	218	15	43.4	59	0	
25	2					015
26	205	15	34	51	95	
31	197	15	39.8	63	0	
32	208	15	18.1	67	0	
33	208	15	42.4	59	0	
34	209	15	41.7	63	0	
35	215	15	42.1	62	0	
36	204	15	42.1	59	0	
41	199	20	40.6	77	0	
42	207	20	42.8	75	0	
43	204	20	41.9	83	0	
44	199	20	40.5	75	0	
45	201	20	41.2	77	0	
46	209	20	42.7	75	0	
51	218	30	41.2	134	0	
52	201	30	41.4	126	0	
53	228	30	42.4	130	0	
54	224	30	42.6	130	0	
55	227	30	43.4	130	0	
56	237	30	43.7	130	0	
61	224	35	40.5	162	0	
62	215	31	40.6	138	0	
63	226	35	41.4	162	0	
64	249	35	43.7	162	0	
65	241	35	43.8	162	0	
66	248	35	44.6	162	0	
71	237	45	41	209	0	
72	229	45	41.9	203	0	
73	246	45	38.3	185	0	
74	247	45	42.9	209	0	
75	268	45	44.1	213	0	
76	310	45	44.1	225	0	

ST. JOHNS RIVER POWER PARK
PRECIPITATOR ELECTRICAL DATA
HOURLY INTERVALS
UNIT # I

Time: 0915
Date: 10/12/00
Initials: mm

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	200	12	42.5	51	0	
12	201	12	42.9	43	0	
13	197	12	41.1	42	0	
14	200	12	41.6	42	0	
15	194	12	40.9	43	0	
16	197	12	41.2	43	0	
21	204	15	40.4	61	0	
22	204	15	40	61	0	
23	208	15	43.4	59	0	
24	214	15	42.3	59	0	
25	190	15	39.3	61	0	
26						0/5
31	214	15	43.2	63	0	
32	235	15	46.9	63	0	
33	212	15	42.9	59	0	
34	193	15	39.2	61	0	
35	181	15	35.7	59	0	
36	245	30	42.5	146	0	
41	197	20	36.1	67	0	
42	195	20	37.2	83	0	
43	202	20	41.5	83	0	
44	188	20	35.3	79	0	
45	178	20	35.9	83	0	
46	189	20	38.4	77	0	
51	226	30	42.2	130	0	
52	218	30	41.3	130	0	
53	224	30	41	126	0	
54	217	30	39.9	114	0	
55	210	30	39.5	130	0	
56	234	30	43.8	134	0	
61	239	35	42	162	0	
62	229	35	42.2	156	0	
63	231	35	40.9	158	0	
64	208	35	37.8	156	0	
65	211	35	40.2	154	0	
66	245	35	40	138	0	
71	195	45	33.6	233	9	
72	239	45	41.9	213	0	
73	246	45	42.8	213	0	
74	222	45	37.5	209	0	
75	226	45	35.3	98	0	
76	255	45	44.4	212	0	

ST. JOHNS RIVER POWER PARK
PRECIPITATOR ELECTRICAL DATA
HOURLY INTERVALS
UNIT # I

Time: 0915
Date: 10/17/00
Initials: mm

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	208	12	43.2	47	0	
12	208	12	44.7	43	0	
13	204	12	42.5	43	0	
14	207	12	43.4	45	0	
15	202	12	41.9	45	0	
16	201	12	43.9	43	0	
21						015
22	215	15	42.8	63	0	
23	209	15	41.2	61	0	
24	218	15	43.1	59	0	
25						015
26	191	13	37.2	51	40	
31	197	15	39.4	59	0	
32	208	15	18.2	61	0	
33	208	15	42.3	59	0	
34	209	15	41.7	63	0	
35	215	15	42.1	61	0	
36	204	15	41.9	59	0	
41	197	20	40.7	75	0	
42	207	20	42	75	0	
43	203	20	41.9	79	0	
44	197	20	40.3	75	0	
45	202	20	41.3	77	0	
46	208	20	42.5	75	0	
51	219	30	41.2	134	0	
52	221	30	41.4	130	0	
53	228	30	42.4	130	0	
54	222	30	42.5	126	0	
55	225	30	43.2	126	0	
56	237	30	43.8	130	0	
61	222	35	40.5	162	0	
62	213	31	40.3	134	0	
63	225	35	41.1	158	0	
64	247	35	43.6	162	0	
65	241	35	43.7	158	0	
66	248	35	44.6	162	0	
71	237	45	41	209	0	
72	229	45	41.7	203	0	
73	248	45	38.3	181	0	
74	245	45	42.6	209	0	
75	269	45	44.4	213	0	
76	509	45	44.1	225	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 1015
 Date: 10/12/00
 Initials: nan

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	200	12	42.4	51	0	
12	204	12	43.3	43	0	
13	195	12	40.8	45	0	
14	199	12	41.6	47	0	
15	193	12	40.6	43	0	
16	195	12	40.9	43	0	
21	203	15	40.5	63	0	
22	204	15	39.8	61	0	
23	209	15	43.5	59	0	
24	216	15	42.7	61	0	
25	190	15	39.2	63	0	
26						0/5
31	215	15	43.4	61	0	
32	235	15	46.9	63	0	
33	218	15	43	61	0	
34	194	15	39.4	61	0	
35	182	15	35.8	59	0	
36	245	30	42.5	146	0	
41	197	20	36.2	67	0	
42	193	20	39.1	75	0	
43	203	20	41.7	83	0	
44	187	20	38.1	75	0	
45	178	20	35.8	83	0	
46	189	20	38.6	79	0	
51	227	30	42.3	130	0	
52	218	30	41.4	130	0	
53	225	30	41.1	126	0	
54	211	30	35.9	114	0	
55	209	30	39.6	130	0	
56	234	30	43.9	134	0	
61	239	35	42	162	0	
62	229	35	42.2	154	0	
63	231	35	41	162	0	
64	208	35	37.9	158	0	
65	209	35	40.1	154	0	
66	245	35	40.1	138	0	
71	195	49	33.6	233	9	
72	240	45	41.9	213	2	
73	246	45	42.8	213	0	
74	222	45	37.6	211	0	
75	226	45	35.3	98	0	
76	255	45	44.4	217	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 1015
 Date: 10/12/00
 Initials: mm

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	207	12	42.8	47	0	
12	208	12	44.4	43	0	
13	200	12	41.6	43	0	
14	206	12	43.4	45	0	
15	202	12	41.6	45	0	
16	202	12	44.1	43	0	
21						015
22	215	15	42.9	63	0	
23	210	15	41.3	61	0	
24	218	15	43.2	59	0	
25						015
26	176	10	35.3	39	97	
31	198	15	39.8	59	0	
32	208	15	41.2	61	0	
33	209	15	42.5	59	0	
34	210	15	41.8	63	0	
35	216	15	42.3	61	0	
36	204	15	42	59	0	
41	199	20	40.8	75	0	
42	207	20	43.1	75	0	
43	204	20	41.9	79	0	
44	199	20	40.6	77	0	
45	202	20	41.4	79	0	
46	208	20	42.6	75	0	
51	219	30	41.2	134	0	
52	221	30	41.8	126	0	
53	229	30	42.5	130	0	
54	224	30	42.7	130	0	
55	227	30	43.4	130	0	
56	238	30	43.8	130	0	
61	222	35	40.4	162	0	
62	215	31	40.5	138	0	
63	225	35	41.2	156	0	
64	246	35	43.6	162	0	
65	241	35	43.7	160	0	
66	249	35	44.7	162	0	
71	237	45	41	211	0	
72	229	45	41.7	203	0	
73	248	45	38.3	181	0	
74	246	45	41.9	209	7	
75	269	45	44.4	213	0	
76	310	45	44.1	227	0	P10

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # 1

Time: 1115
 Date: 10/12/00
 Initials: mdr

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	202	12	43.1	47	0	
12	204	12	43.1	43	0	
13	198	12	41.3	47	0	
14	200	12	41.6	47	0	
15	192	12	40.3	43	0	
16	195	12	41	43	0	
21	205	15	40.8	63	0	
22	207	15	40.5	61	0	
23	211	15	43.8	59	0	
24	215	15	42.6	67	0	
25	188	15	39.1	61	0	
26						0/5
31	215	15	43.5	61	0	
32	238	15	47.5	63	5	
33	219	15	43.2	61	0	
34	196	15	39.7	61	0	
35	182	15	35.9	59	0	
36						
41	199	20	36.5	67	0	
42	195	20	39.3	79	0	
43	202	20	41.7	83	0	
44	187	20	38.2	75	0	
45	178	20	36	83	0	
46	190	20	38.7	77	0	
51	227	30	42.3	130	0	
52	220	30	41.6	130	0	
53	224	30	41.2	126	0	
54	208	30	35.6	114	0	
55	209	30	39.4	130	0	
56	230	30	43.4	130	0	
61	240	35	42.2	162	0	
62	229	35	42.2	154	0	
63	233	35	41.2	162	0	
64	208	35	37.7	158	0	
65	207	35	40	154	0	
66	243	35	39.8	134	0	
71	195	45	33.6	233	9	
72	241	45	41.9	217	0	
73	246	45	42.8	213	0	
74	221	45	37.5	211	0	
75	227	45	35.3	98	0	
76	253	45	44.3	215	0	P11

ST. JOHNS RIVER POWER PARK
PRECIPITATOR ELECTRICAL DATA
HOURLY INTERVALS
UNIT # F

Time: 1115
Date: 10.17.00
Initials: mm

β (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	208	12	43	51	0	
12	208	12	44.6	43	0	
13	199	12	41.6	45	0	
14	209	12	43.4	45	0	
15	201	12	41.7	45	0	
16	203	12	44.3	43	0	
21						0/5
22	218	15	43.3	61	0	
23	213	15	41.9	61	0	
24	221	15	43.5	59	0	
25						0/5
26	152	10	27.8	43	97	
31	197	15	39.5	63	0	
32	211	15	18.0	61	0	
33	210	15	42.7	59	0	
34	210	15	42	59	0	
35	216	15	42.3	61	0	
36	204	15	42.1	59	0	
41	200	20	40.9	75	0	
42	208	20	43.1	75	0	
43	206	20	42.3	83	0	
44	199	20	40.5	75	0	
45	202	20	41.4	79	0	
46	207	20	42.4	77	0	
51	219	30	41.2	130	0	
52	221	30	41.5	130	0	
53	229	30	42.6	130	0	
54	225	30	42.9	130	0	
55	228	30	43.6	126	0	
56	238	30	44	130	0	
61	224	35	40.5	168	0	
62	214	31	40.5	138	0	
63	225	35	41.1	158	0	
64	249	35	43.8	162	0	
65	242	35	43.9	164	0	
66	248	35	44.8	162	0	
71	230	45	41	211	0	
72	229	45	41.6	203	0	
73	245	45	38.1	181	0	
74	240	43	41.7	201	0	
75	268	45	44.5	213	0	P12
76	309	45	44.1	225	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # F

Time 1210
 Date 10/12/80
 Initials mr

A (AB)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	205	12	43.7	45	0	
12	207	12	44.1	43	0	
13	202	12	42	45	0	
14	204	12	42.6	45	0	
15	198	12	41.7	43	0	
16	200	12	42	43	0	
21	208	15	41.4	63	0	
22	209	15	40.8	61	0	
23	212	15	44.4	59	0	
24	221	15	43.5	61	0	
25	193	15	39.8	61	0	
26						015
31	218	15	49.1	61	0	
32	112	8	27.8	23	6	
33	221	15	43.7	61	0	
34	198	15	40.2	59	0	
35	185	15	36.4	59	0	
36	200 205	30	42.5	146	0	
41	200	20	36.7	67	0	
42	196	20	39.5	79	0	
43	206	20	42.3	83	0	
44	190	20	38.6	83	0	
45	178	20	36.2	83	0	
46	192	20	39.1	83	0	
51	229	30	42.7	130	0	
52	225	30	41.7	130	0	
53	226	30	41.3	126	0	
54	211	30	36	114	0	
55	212	30	39.9	130	0	
56	234	30	44	134	0	
61	241	35	42.3	162	0	
62	231	35	42.4	156	0	
63	234	35	41.4	162	0	
64	208	35	38	158	0	
65	212	35	40.3	156	0	
66	245	35	40.1	138	0	
71	195	49	33.6	233	9	
72	241	45	41.9	217	0	
73	247	45	43	213	0	
74	222	45	37.6	213	0	
75	227	45	35.3	98	0	PI3
76	255	45	44.3	217	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 1210
 Date: 10/12/00
 Initials: mm

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	212	12	43.8	45	0	
12	213	12	45.8	43	0	
13	205	12	42.7	45	0	
14	212	12	47.4	45	0	
15	208	12	43.1	45	0	
16	209	12	45.6	43	0	
21						0/5
22	221	15	43.8	59	0	
23	214	15	42.1	61	0	
24	225	15	47.1	59	0	
25						0/5
26	130	12	25.6	43	97	
31	202	15	40.5	59	0	
32	214	15	18.3	61	0	
33	215	15	43.6	59	0	
34	214	15	42.6	61	0	
35	221	15	43.1	63	0	
36	209	15	43.1	57	0	
41	203	20	41.6	77	0	
42	213	20	44	75	0	
43	209	20	43	83	0	
44	202	20	41.2	75	0	
45	206	20	42.2	79	0	
46	212	20	43.4	77	0	
51	221	30	41.7	130	0	
52	224	30	41.9	126	0	
53	232	30	43	130	0	
54	225	30	43.1	126	0	
55	231	30	44.1	130	0	
56	241	30	47.5	126	0	
61	225	35	40.7	162	0	
62	218	31	40.9	138	0	
63	228	35	41.7	156	0	
64	251	35	44.1	162	0	
65	243	35	44.1	158	0	
66	252	35	45.2	162	0	
71	238	45	41.7	213	0	
72	229	45	41.9	203	0	
73	248	45	38.3	181	0	
74	248	45	43	213	0	
75	292	45	44.7	217	0	P14
76	310	45	44.2	225	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 1305
 Date: 10/12/00
 Initials: mdr

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	209	12	44.6	45	0	
12	211	12	44.5	43	0	
13	205	12	42.1	47	0	
14	205	12	43.1	47	0	
15	201	12	42.3	43	0	
16	202	12	42.6	43	0	
21	209	15	41.8	61	0	
22	211	15	41.2	61	0	
23	214	15	44.8	59	0	
24	221	15	43.7	63	0	
25	195	15	40.3	59	0	
26						0/5
31	220	15	44.4	63	0	
32	253	15	50	61	5	
33	224	15	44.1	63	0	
34	200	15	40.4	63	0	
35	186	15	36.5	59	0	
36	245	30	42.5	146	0	
41	202	20	37.1	67	0	
42	197	20	39.8	79	0	
43	209	20	42.7	83	0	
44	191	20	38.7	79	0	
45	180	20	36.4	79	0	
46	192	20	39.3	83	0	
51	230	30	42.8	130	0	
52	226	30	42	130	0	
53	228	30	41.6	130	0	
54	211	30	36.1	114	0	
55	211	30	39.8	130	0	
56	234	30	44.1	132	0	
61	241	35	42.3	162	0	
62	231	35	42.5	156	0	
63	235	35	41.5	162	0	
64	209	35	38.0	158	0	
65	212	35	40.5	154	0	
66	246	35	40.1	138	0	
71	195	45	33.6	233	9	
72	241	45	41.9	217	0	
73	247	45	43	213	0	
74	222	45	37.6	209	0	
75	228	45	35.5	98	0	
76	255	45	44.4	213	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 1305
 Date: 10,12,00
 Initials: mar

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	212	12	44.1	47	0	
12	215	12	46.6	43	0	
13	208	12	43.3	43	0	
14	214	12	44.8	12	0	
15	209	12	43.3	47	0	
16	209	12	45.5	43	0	
21						0/5
22	223	15	44.1	67	0	
23	217	15	42.6	61	0	
24	223	15	44.2	59	0	
25						0/5
26	167	10	34.3	39	98	
31	204	15	40.8	63	0	
32	215	15	18.5	63	0	
33	217	15	43.8	59	0	
34	217	15	43	63	0	
35	221	15	43.3	61	0	
36	210	15	43.2	57	0	
41	205	20	41.9	75	0	
42	213	20	44.1	75	0	
43	210	20	43.1	83	0	
44	204	20	41.5	79	0	
45	208	20	42.5	83	0	
46	213	20	43.6	75	0	
51	224	30	42	138	0	
52	224	30	42	126	0	
53	232	30	43.1	130	0	
54	226	30	43.3	126	0	
55	231	30	44.2	130	0	
56	241	30	44.7	130	0	
61	227	35	41	166	0	
62	218	31	41.1	138	0	
63	229	35	41.9	156	0	
64	253	35	44.3	162	0	
65	244	35	44.3	158	0	
66	253	35	45.3	162	0	
71	238	45	41.2	213	0	
72	230	45	41.9	205	0	
73	248	45	38.4	181	0	
74	249	45	43.1	213	0	
75	293	45	47.8	213	0	P16
76	312	45	44.4	225	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # I

Time: 1400
 Date: 10/12/00
 Initials: mr

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	208	12	44.5	47	0	
12	212	12	44.5	43	0	
13	206	12	45.9	47	0	
14	208	12	43.5	51	0	
15	203	12	42.6	43	0	
16	204	12	42.8	43	0	
21	209	15	41.7	61	0	
22	212	15	41.3	61	0	
23	215	15	44.7	59	0	
24	221	15	43.6	63	0	
25	195	15	40.5	59	0	
26						015
31	220	15	44.4	67	0	
32	134	4	30.2	19	6	
33	224	15	44.1	63	0	
34	200	15	40.6	63	0	
35	186	15	36.5	59	0	
36						
41	202	20	37.3	67	0	
42	197	20	39.7	79	0	
43	208	20	42.6	83	0	
44	190	20	38.6	83	0	
45	180	20	36.3	83	0	
46	192	20	39.3	83	0	
51	230	30	42.9	130	0	
52	227	30	42.2	130	0	
53	228	30	41.6	130	0	
54	212	30	36.3	114	0	
55	213	30	40.1	130	0	
56	236	30	44.4	134	0	
61	241	35	42.3	162	0	
62	231	35	42.5	154	0	
63	235	35	41.6	162	0	
64	210	35	38.3	162	0	
65	213	35	40.5	154	0	
66	245	35	40.1	134	0	
71	195	49	33.6	233	9	
72	231	49	41.2	225	1	
73	249	45	43.1	217	0	
74	224	45	37.8	213	0	
75	228	45	35.5	98	0	P17
76	255	45	44.4	213	0	

ST. JOHNS RIVER POWER PARK
PRECIPITATOR ELECTRICAL DATA
HOURLY INTERVALS
UNIT # I

Time: 1400
Date: 10/17/00
Initials: mm

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	217	12	44.8	47	1	
12	218	12	46.4	47	0	
13	209	12	43.7	47	0	
14	218	12	45.7	47	0	
15	212	12	43.9	47	0	
16	211	12	45.9	43	0	
21						015
22	222	15	43.9	63	0	
23	217	15	42.3	61	0	
24	224	15	44.2	59	0	
25						015
26	143	9	30.9	37	98	
31	204	15	40.8	59	8	
32	217	15	18.6	63	0	
33	216	15	43.8	59	0	
34	218	15	43.1	61	0	
35	221	15	43.4	59	0	
36	211	15	43.4	61	0	
41	206	20	42.2	77	0	
42	214	20	44.4	75	0	
43	211	20	43.2	79	0	
44	202	20	41.4	75	0	
45	207	20	42.3	79	0	
46	213	20	43.6	77	0	
51	338	50	48.8	249	0	
52	333	50	48.3	241	0	
53	341	50	49.1	245	0	
54	227	30	43.4	130	0	
55	232	30	44.2	130	0	
56	242	30	44.6	126	0	
61	313	50	45.2	256	0	
62	241	43	41.9	260	12	
63	313	50	46.0	245	0	
64	254	35	44.3	166	0	
65	246	35	44.4	162	0	
66	254	35	45.5	162	0	
71	253	50	42.5	241	0	
72	245	50	43.1	233	0	
73	232	50	38.2	263	1	
74	251	45	43.2	213	0	
75	299	45	44.8	217	0	
76	312	45	44.4	229	0	P18

ST. JOHNS RIVER POWER PARK
PRECIPITATOR ELECTRICAL DATA
HOURLY INTERVALS
UNIT # 1

Time: 1500
Date: 10/17/00
Initials: mor

A (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	213	12	45.4	47	0	
12	213	12	45.2	43	0	
13	205	12	44.5	47	0	
14	315	25	48.4	118	0	
15	314	25	49.3	110	0	
16	314	25	49.1	114	0	
21	211	15	42.0	63	0	
22	213	15	41.4	63	0	
23	215	15	45.1	59	0	
24	334	30	51.6	146	0	
25	296	30	46.9	142	0	
26						015
31	222	15	44.5	67	0	
32	138	5	25.1	27	0	
33	224	15	44.1	63	0	
34	319	30	48.7	146	0	
35	293	30	44.3	146	0	
36	245	30	42.5	146	0	
41	202	20	37.3	67	0	
42	199	20	40	29	0	
43	209	20	42.8	86	0	
44	311	40	46.6	185	0	
45	259	40	45	185	0	
46	319	40	47.8	185	0	
51	229	30	42.9	130	0	
52	227	30	42.0	130	0	
53	227	30	41.6	130	0	
54	321	50	42.5	213	0	
55	324	50	47.1	249	0	
56	361	50	52.2	252	0	
61	240	35	42.2	158	0	
62	231	35	42.5	154	0	
63	234	35	41.4	158	0	
64	261	50	43	245	0	
65	260	50	45.2	241	0	
66	343	50	45	213	0	
71	195	49	33.6	233	9	
72	242	45	42	217	0	
73	248	45	43.1	217	0	
74	236	50	39.1	241	0	
75	242	50	36.6	114	0	PI9
76	302	50	45.9	245	0	

ST. JOHNS RIVER POWER PARK
 PRECIPITATOR ELECTRICAL DATA
 HOURLY INTERVALS
 UNIT # F

Time: 1500
 Date: 10/12/00
 Initials: mr

B (A/B)

Rectifier Set	AC Volts	AC Amps	DC Kv	DC Milliamp	Sparks	COMMENTS
11	330	25	50.6	114	0	
12	337	25	53.3	110	0	
13	320	25	49.1	118	0	
14	217	12	45.3	47	0	
15	215	12	44.4	47	0	
16	213	12	46.2	43	1	
21	203	14	43	59	0	0/5
22	341	30	50.9	150	0	
23	324	30	48.7	146	0	
24	226	15	44.7	59	0	
25						0/5
26	164	8	31.5	31	99	
31	307	30	46.8	146	0	
32	330	30	48.2	146	0	
33	331	30	50.9	142	0	
34	217	15	43	63	0	
35	222	15	43.6	222	0	
36	212	15	44	59	0	
41	340	40	50.5	185	0	
42	347	40	52.1	181	0	
43	339	40	50.6	187	0	
44	202	20	41.4	79	0	
45	207	20	42.4	79	0	
46	213	20	43.6	78	0	
51	331	50	48.0	249	0	
52	329	50	47.8	241	0	
53	337	50	48.7	243	0	
54	227	30	43.4	130	0	
55	231	30	44.1	130	0	
56	242	30	44.7	130	0	
61	313	50	45.0	256	0	
62	300	45	45.3	229	2	
63	312	50	45.9	245	0	
64	253	35	44.2	158	0	
65	245	35	44.3	162	0	
66	255	35	45.3	162	0	
71	252	50	42.4	241	0	
72	245	50	43.1	233	0	
73	294	50	39.5	205	1	
74	249	45	43.1	213	0	
75	299	45	44.8	217	0	P20
76	312	45	44.4	225	0	

STACK VE

Enertec NTDAHS®
Average Values Report
10/17/00 14:03

Company: St. Johns River Power Park U#1
Plant: 11201 New Berlin Road
City/St: Jacksonville, FL 32226
Source: Unit 1

Period Start: 10/17/00 11:08
Period End: 10/17/00 12:09
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average Opacity %	Average Unit Load MW
10/17/00 11:08	3.7	657.0
10/17/00 11:09	4.1	650.8
10/17/00 11:10	3.4	647.1
10/17/00 11:11	3.0	648.6
10/17/00 11:12	3.1	639.0
10/17/00 11:13	3.6	638.6
10/17/00 11:14	4.2	647.0
10/17/00 11:15	4.9	650.9
10/17/00 11:16	4.4	648.8
10/17/00 11:17	3.3	643.7
10/17/00 11:18	3.2	637.5
10/17/00 11:19	3.0	642.0
10/17/00 11:20	3.3	651.7
10/17/00 11:21	3.1	653.7
10/17/00 11:22	3.0	652.7
10/17/00 11:23	4.0	650.8
10/17/00 11:24	4.0	646.6
10/17/00 11:25	4.4	643.5
10/17/00 11:26	3.3	644.2
10/17/00 11:27	4.5	651.6
10/17/00 11:28	3.1	655.2
10/17/00 11:29	2.9	654.3
10/17/00 11:30	3.1	650.5
10/17/00 11:31	3.0	646.7
10/17/00 11:32	3.0	647.0
10/17/00 11:33	2.9	650.1
10/17/00 11:34	3.0	651.7
10/17/00 11:35	2.9	643.7
10/17/00 11:36	3.2	640.6
10/17/00 11:37	4.5	640.5
10/17/00 11:38	3.3	646.7
10/17/00 11:39	3.9	650.1
10/17/00 11:40	3.7	648.5
10/17/00 11:41	3.1	646.3
10/17/00 11:42	3.3	644.6
10/17/00 11:43	3.2	643.5
10/17/00 11:44	3.3	645.4
10/17/00 11:45	3.1	648.8
10/17/00 11:46	3.6	647.8
10/17/00 11:47	3.2	645.1
10/17/00 11:48	3.6	642.5
10/17/00 11:49	5.2	644.4
10/17/00 11:50	4.8	646.7
10/17/00 11:51	3.6	644.4
10/17/00 11:52	3.7	640.8
10/17/00 11:53	3.1	642.7
10/17/00 11:54	3.3	646.6

10/17/00 11:55	3.1	647.1
10/17/00 11:56	3.4	648.7
10/17/00 11:57	3.0	651.6
10/17/00 11:58	3.2	651.3
10/17/00 11:59	4.0	649.8
10/17/00 12:00	3.0	648.5
10/17/00 12:01	4.0	645.4
10/17/00 12:02	3.9	646.5
10/17/00 12:03	4.5	647.3
10/17/00 12:04	3.5	646.7
10/17/00 12:05	4.2	647.0
10/17/00 12:06	3.0	646.9
10/17/00 12:07	3.6	642.8
10/17/00 12:08	3.4	641.2
Final Average*	3.5	646.9
Maximum*	5.2	657.0
Minimum*	2.9	637.5

*Does not include Invalid Averaging Periods ("N/A")

**ST. JOHNS RIVER POWER PARK
BOILER CONTROL ROOM DATA**

UNIT # I

DATE: 10-18-00

PARAMETER	UNITS	Readings (30 minute intervals)					
Person Recording Data		DS	DS	DS	DS	DS	DS
Time		0800	0830	0900	0930	1000	1030
Steam Flow	Lb/Hr x 10 ⁰	4.4	4.4	4.6	4.7	4.6	4.6
Air Flow	%	71	72	73	73	73	74
Generator Load (Gross)	Megawatts	649	660	674	673	673	673
Boiler Thermal Demand	Megawatts	652	660	675	676	675	677
O2 Flue gas	%	2.8	2.8	2.7	2.75	2.65	2.7
Fuel Flow	%	103	104	104	104	104	104
Coal Totalizer	Tons						
A		45	45	45	45	45	45
B		42	42	42	42	42	42
C		45	45	45	45	45	45
D		45	-	-	-	-	-
E		47	47	47	47	47	47
F		37	37	37	37	37	37
G		45	47	47	47	47	47

**ST. JOHNS RIVER POWER PARK
BOILER CONTROL ROOM DATA**

UNIT # I

DATE: 10.18.00

PARAMETER	UNITS	Readings (30 minute intervals)					
Person Recording Data		DS	DS	DS	DS	DS	DS
Time		1100	1130	1200	1230	1300	1330
Steam Flow	Lb/Hr x 10 ⁶	4.6	4.6	4.6	4.6	4.6	4.6
Air Flow	%	74	74	74	74	74	75
Generator Load (Gross)	Megawatts	674	672	675	673	671	673
Boiler Thermal Demand	Megawatts	680	680	682	680	678	682
O2 Flue gas	%	2.65	2.68	2.72	2.65	2.5	2.6
Fuel Flow	%	104	104	104	104	104	104
Coal Totalizer	Tons						
A		45	45	45	45	45	45
B		42	42	42	42	42	42
C		45	45	45	45	45	45
D		—	—	—	—	—	—
E		47	47	47	47	47	47
F		37	37	37	37	37	37
G		47	47	47	47	47	47

**ST. JOHNS RIVER POWER PARK
BOILER CONTROL ROOM DATA**

UNIT # I

DATE: 10-18-00

PARAMETER	UNITS	Readings (30 minute intervals)					
Person Recording Data		DS	DS	DS	DS	DS	
Time		1400	1430	1500	1530	1600	1630
Steam Flow	Lb/Hr x 10 ⁶	4.6	4.6	4.6	4.7	4.7	T
Air Flow	%	76	76	76	77	77	E
Generator Load (Gross)	Megawatts	679	678	674	675	680	S T
Boiler Thermal Demand	Megawatts	685	688	681	688	692	i h
O2 Flue gas	%	2.8	2.8	2.9	2.8	2.8	S
Fuel Flow	%	104	104	104	2.8	2.8	
Coal Totalizer	Tons						
A		45	45	45	45	45	C ₆
B		42	42	42	42	42	m
C		45	45	45	45	45	P
D		-	-	-	-	-	I
E		47	47	47	47	47	C
F		37	37	37	37	37	T E
G		47	47	47	47	47	

**ST. JOHNS RIVER POWER PARK
FLUE GAS DESULFURIZATION
OPERATIONAL PARAMETERS
UNIT # 1**

Date: 10 / 18 / 00

Initials: JJA

HOUR	PACKING DIFFERENTIAL PRESSURE (Inches H2O column)		
	A	B	C
0000			
0100			
0200			
0300			
0400			
0500			
0600			
0700			
0800	5.2		5.4
0900	5.1		5.7
1000	5.1		5.6
1100	5.2		5.7
1200	5.1		5.6
1300	5.2		5.6
1400	5.2		5.7
1500	5.3		5.8
1600	5.3		5.8
1700			
1800			
1900			
2000			
2100			
2200			
2300			

7

Daily Water System Use: _____ (Total Gallons) / 1440 (min/day) = _____ GPM

COMMENTS: In = 1463 out 1552 0800
 In = 1463 out 1586 1699

Enertec NTDAHS®
Average Values Report
10/19/00 08:50

Company: St. Johns River Power Park U#1
Plant: 11201 New Berlin Road
City/St: Jacksonville, FL 32226
Source: Unit 1

Period Start: 10/18/00 08:10
Period End: 10/18/00 10:23
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average Opacity %	Average Unit Load MW
10/18/00 08:10	3.2	645.1
10/18/00 08:11	3.9	643.8
10/18/00 08:12	3.1	644.4
10/18/00 08:13	2.7	644.6
10/18/00 08:14	2.6	645.4
10/18/00 08:15	3.0	644.8
10/18/00 08:16	2.5	645.8
10/18/00 08:17	2.6	645.9
10/18/00 08:18	2.6	651.0
10/18/00 08:19	2.6	653.1
10/18/00 08:20	3.2	652.8
10/18/00 08:21	3.4	652.8
10/18/00 08:22	3.1	652.7
10/18/00 08:23	4.1	653.0
10/18/00 08:24	3.1	653.5
10/18/00 08:25	3.4	652.8
10/18/00 08:26	3.2	653.5
10/18/00 08:27	3.3	653.3
10/18/00 08:28	2.6	652.4
10/18/00 08:29	2.6	651.8
10/18/00 08:30	2.5	654.6
10/18/00 08:31	2.8	658.4
10/18/00 08:32	2.9	661.3
10/18/00 08:33	3.0	662.8
10/18/00 08:34	3.3	661.7
10/18/00 08:35	3.7	661.0
10/18/00 08:36	3.5	660.0
10/18/00 08:37	3.2	663.0
10/18/00 08:38	2.9	666.7
10/18/00 08:39	2.7	667.9
10/18/00 08:40	2.7	667.5
10/18/00 08:41	2.7	669.4
10/18/00 08:42	2.8	668.6
10/18/00 08:43	3.0	669.4
10/18/00 08:44	2.7	671.1
10/18/00 08:45	3.3	673.8
10/18/00 08:46	5.1	675.6
10/18/00 08:47	3.9	675.7
10/18/00 08:48	3.7	676.3
10/18/00 08:49	3.2	674.7
10/18/00 08:50	2.8	674.8
10/18/00 08:51	2.8	673.3
10/18/00 08:52	2.7	672.8
10/18/00 08:53	3.1	671.4
10/18/00 08:54	2.7	672.0
10/18/00 08:55	2.8	672.8
10/18/00 08:56	2.7	672.7

10/18/00 08:57	2.8	671.0
10/18/00 08:58	3.3	670.7
10/18/00 08:59	3.8	670.4
10/18/00 09:00	3.5	669.3
10/18/00 09:01	4.4	668.8
10/18/00 09:02	3.6	669.3
10/18/00 09:03	3.6	669.1
10/18/00 09:04	2.9	665.9
10/18/00 09:05	3.1	665.1
10/18/00 09:06	3.0	666.7
10/18/00 09:07	2.6	669.0
10/18/00 09:08	3.2	669.1
10/18/00 09:09	2.8	670.2
10/18/00 09:10	3.0	670.7
10/18/00 09:11	2.8	670.9
10/18/00 09:12	3.6	671.0
10/18/00 09:13	2.9	672.3
10/18/00 09:14	4.4	673.5
10/18/00 09:15	3.2	674.1
10/18/00 09:16	3.0	674.3
10/18/00 09:17	2.7	673.5
10/18/00 09:18	2.8	672.5
10/18/00 09:19	2.6	671.0
10/18/00 09:20	2.9	668.5
10/18/00 09:21	2.8	668.9
10/18/00 09:22	2.9	669.1
10/18/00 09:23	3.3	668.6
10/18/00 09:24	3.3	667.2
10/18/00 09:25	3.6	664.7
10/18/00 09:26	2.9	663.0
10/18/00 09:27	4.1	663.7
10/18/00 09:28	2.7	667.0
10/18/00 09:29	3.3	670.0
10/18/00 09:30	3.5	671.1
10/18/00 09:31	3.1	671.0
10/18/00 09:32	3.2	671.5
10/18/00 09:33	3.6	671.8
10/18/00 09:34	3.5	671.3
10/18/00 09:35	3.0	669.8
10/18/00 09:36	3.2	669.1
10/18/00 09:37	3.8	669.5
10/18/00 09:38	2.9	670.0
10/18/00 09:39	2.8	669.8
10/18/00 09:40	2.8	669.5
10/18/00 09:41	2.7	670.1
10/18/00 09:42	3.1	671.8
10/18/00 09:43	3.2	670.2
10/18/00 09:44	2.7	670.0
10/18/00 09:45	3.3	669.9
10/18/00 09:46	3.0	669.7
10/18/00 09:47	2.6	670.5
10/18/00 09:48	3.0	670.9
10/18/00 09:49	3.7	671.0
10/18/00 09:50	2.9	671.7
10/18/00 09:51	2.7	671.6
10/18/00 09:52	3.1	671.3
10/18/00 09:53	3.1	670.3
10/18/00 09:54	3.0	669.3
10/18/00 09:55	3.3	668.9
10/18/00 09:56	3.7	667.8
10/18/00 09:57	3.5	666.8
10/18/00 09:58	2.8	667.9

10/18/00 09:59	3.0	669.6
10/18/00 10:00	3.3	669.5
10/18/00 10:01	3.9	669.5
10/18/00 10:02	3.9	669.9
10/18/00 10:03	3.3	670.4
10/18/00 10:04	2.9	670.6
10/18/00 10:05	3.4	671.3
10/18/00 10:06	3.3	670.5
10/18/00 10:07	3.1	669.9
10/18/00 10:08	3.5	670.1
10/18/00 10:09	2.9	670.5
10/18/00 10:10	2.6	671.1
10/18/00 10:11	2.7	671.9
10/18/00 10:12	2.8	674.0
10/18/00 10:13	2.7	676.5
10/18/00 10:14	3.4	676.8
10/18/00 10:15	3.7	676.9
10/18/00 10:16	3.2	676.8
10/18/00 10:17	3.1	677.2
10/18/00 10:18	3.3	677.5
10/18/00 10:19	3.8	677.8
10/18/00 10:20	3.7	677.7
10/18/00 10:21	3.2	676.0
10/18/00 10:22	2.8	674.8
Final Average*	3.1	667.1
Maximum*	5.1	677.8
Minimum*	2.5	643.8

*Does not include Invalid Averaging Periods ("N/A")

Enertec NTDAS@
Average Values Report
10/19/00 08:51

Company: St. Johns River Power Park U#1
Plant: 11201 New Berlin Road
City/St: Jacksonville, FL 32226
Source: Unit 1

Period Start: 10/18/00 10:55
Period End: 10/18/00 13:04
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average Opacity %	Average Unit Load MW
10/18/00 10:55	3.1	671.0
10/18/00 10:56	3.7	671.3
10/18/00 10:57	4.1	671.8
10/18/00 10:58	3.4	672.3
10/18/00 10:59	3.3	672.6
10/18/00 11:00	3.9	672.0
10/18/00 11:01	3.7	671.8
10/18/00 11:02	3.5	671.6
10/18/00 11:03	3.1	672.3
10/18/00 11:04	2.9	673.0
10/18/00 11:05	4.3	672.8
10/18/00 11:06	2.8	673.3
10/18/00 11:07	2.9	674.4
10/18/00 11:08	3.2	675.0
10/18/00 11:09	4.5	675.0
10/18/00 11:10	3.6	674.7
10/18/00 11:11	3.2	673.7
10/18/00 11:12	3.1	672.2
10/18/00 11:13	3.1	671.8
10/18/00 11:14	2.8	671.5
10/18/00 11:15	2.8	671.7
10/18/00 11:16	3.1	670.7
10/18/00 11:17	3.0	670.4
10/18/00 11:18	3.2	669.1
10/18/00 11:19	3.2	669.4
10/18/00 11:20	3.2	670.3
10/18/00 11:21	3.2	668.7
10/18/00 11:22	3.7	667.2
10/18/00 11:23	3.6	665.8
10/18/00 11:24	3.0	664.4
10/18/00 11:25	2.8	664.5
10/18/00 11:26	3.0	666.6
10/18/00 11:27	2.9	667.7
10/18/00 11:28	2.8	668.9
10/18/00 11:29	3.3	668.4
10/18/00 11:30	3.1	668.9
10/18/00 11:31	3.2	669.4
10/18/00 11:32	3.2	668.5
10/18/00 11:33	3.3	667.2
10/18/00 11:34	3.8	669.1
10/18/00 11:35	4.0	669.7
10/18/00 11:36	3.0	670.5
10/18/00 11:37	2.7	670.5
10/18/00 11:38	2.9	669.5
10/18/00 11:39	3.0	668.4
10/18/00 11:40	3.1	668.6
10/18/00 11:41	2.9	668.7

10/18/00	11:42	3.4	669.5
10/18/00	11:43	3.3	669.0
10/18/00	11:44	3.1	669.1
10/18/00	11:45	3.4	670.6
10/18/00	11:46	4.1	672.6
10/18/00	11:47	3.6	672.0
10/18/00	11:48	3.2	671.3
10/18/00	11:49	3.3	671.1
10/18/00	11:50	2.8	669.5
10/18/00	11:51	2.9	669.1
10/18/00	11:52	2.9	669.2
10/18/00	11:53	2.8	670.3
10/18/00	11:54	3.7	671.6
10/18/00	11:55	3.3	672.0
10/18/00	11:56	3.4	673.3
10/18/00	11:57	3.6	675.2
10/18/00	11:58	3.8	674.0
10/18/00	11:59	4.4	672.7
10/18/00	12:00	3.5	672.8
10/18/00	12:01	3.2	671.5
10/18/00	12:02	2.7	671.5
10/18/00	12:03	2.8	671.0
10/18/00	12:04	3.0	668.3
10/18/00	12:05	3.2	667.2
10/18/00	12:06	2.9	666.0
10/18/00	12:07	4.7	664.8
10/18/00	12:08	3.3	664.8
10/18/00	12:09	3.1	665.5
10/18/00	12:10	3.0	666.5
10/18/00	12:11	3.7	667.3
10/18/00	12:12	3.8	667.1
10/18/00	12:13	3.7	667.5
10/18/00	12:14	2.9	667.1
10/18/00	12:15	2.9	666.3
10/18/00	12:16	3.2	665.8
10/18/00	12:17	3.3	666.3
10/18/00	12:18	3.0	667.7
10/18/00	12:19	3.6	668.5
10/18/00	12:20	4.3	670.2
10/18/00	12:21	3.0	671.3
10/18/00	12:22	3.3	671.8
10/18/00	12:23	3.5	672.4
10/18/00	12:24	3.5	672.8
10/18/00	12:25	3.2	672.7
10/18/00	12:26	3.5	672.7
10/18/00	12:27	2.7	671.8
10/18/00	12:28	3.1	671.0
10/18/00	12:29	3.2	670.3
10/18/00	12:30	3.8	670.4
10/18/00	12:31	3.3	670.2
10/18/00	12:32	3.5	669.6
10/18/00	12:33	3.5	666.8
10/18/00	12:34	2.9	665.1
10/18/00	12:35	2.9	664.1
10/18/00	12:36	3.3	665.2
10/18/00	12:37	3.3	665.7
10/18/00	12:38	3.3	665.7
10/18/00	12:39	3.3	665.8
10/18/00	12:40	2.8	666.2
10/18/00	12:41	3.0	665.3
10/18/00	12:42	3.9	664.7
10/18/00	12:43	3.1	665.6

10/18/00 12:44	3.1	666.3
10/18/00 12:45	3.3	667.5
10/18/00 12:46	3.0	670.0
10/18/00 12:47	3.0	671.8
10/18/00 12:48	3.2	672.1
10/18/00 12:49	3.0	671.9
10/18/00 12:50	3.8	672.5
10/18/00 12:51	3.3	673.7
10/18/00 12:52	3.4	674.3
10/18/00 12:53	2.9	674.2
10/18/00 12:54	3.6	675.6
10/18/00 12:55	3.0	674.8
10/18/00 12:56	3.1	673.5
10/18/00 12:57	3.2	672.8
10/18/00 12:58	3.4	672.8
10/18/00 12:59	3.5	672.3
10/18/00 13:00	3.5	672.8
10/18/00 13:01	3.1	672.7
10/18/00 13:02	3.2	672.6
10/18/00 13:03	3.5	672.0
Final Average*	3.3	670.0
Maximum*	4.7	675.6
Minimum*	2.7	664.1

*Does not include Invalid Averaging Periods ("N/A")

PARTICULATES run#3

Enertec NTAHS®
 Average Values Report
 10/19/00 08:51

Company: St. Johns River Power Park U#1
 Plant: 11201 New Berlin Road
 City/St: Jacksonville, FL 32226
 Source: Unit 1

Period Start: 10/18/00 13:35
 Period End: 10/18/00 15:43
 Validation Type: 1/1 min
 Averaging Period: 1 min
 Type: Block Avg

Period Start	Average Opacity %	Average Unit Load MW
10/18/00 13:35	3.1	671.5
10/18/00 13:36	3.0	671.9
10/18/00 13:37	3.1	671.7
10/18/00 13:38	3.7	670.9
10/18/00 13:39	3.0	668.8
10/18/00 13:40	3.6	667.6
10/18/00 13:41	3.3	665.3
10/18/00 13:42	4.6	665.3
10/18/00 13:43	3.4	664.2
10/18/00 13:44	3.5	665.7
10/18/00 13:45	3.1	668.5
10/18/00 13:46	3.0	670.0
10/18/00 13:47	3.0	670.2
10/18/00 13:48	3.2	671.4
10/18/00 13:49	3.2	672.2
10/18/00 13:50	3.0	672.5
10/18/00 13:51	3.3	671.8
10/18/00 13:52	3.1	671.9
10/18/00 13:53	3.2	670.0
10/18/00 13:54	4.2	669.0
10/18/00 13:55	3.7	667.5
10/18/00 13:56	3.3	666.7
10/18/00 13:57	3.7	668.5
10/18/00 13:58	3.6	671.0
10/18/00 13:59	3.7	672.8
10/18/00 14:00	3.8	673.0
10/18/00 14:01	3.9	673.3
10/18/00 14:02	3.5	674.0
10/18/00 14:03	3.3	673.9
10/18/00 14:04	3.4	675.3
10/18/00 14:05	3.1	675.5
10/18/00 14:06	4.0	674.6
10/18/00 14:07	3.8	674.8
10/18/00 14:08	3.2	673.1
10/18/00 14:09	3.0	671.4
10/18/00 14:10	3.1	671.0
10/18/00 14:11	3.0	672.2
10/18/00 14:12	3.1	670.6
10/18/00 14:13	3.0	668.8
10/18/00 14:14	3.6	668.5
10/18/00 14:15	3.0	668.8
10/18/00 14:16	3.7	668.0
10/18/00 14:17	3.2	667.1
10/18/00 14:18	3.5	665.5
10/18/00 14:19	3.3	666.1
10/18/00 14:20	3.9	666.3
10/18/00 14:21	3.5	666.3

10/18/00	14:22	3.0	666.9
10/18/00	14:23	3.4	666.6
10/18/00	14:24	3.1	668.5
10/18/00	14:25	3.1	669.1
10/18/00	14:26	3.7	670.3
10/18/00	14:27	3.9	671.5
10/18/00	14:28	3.3	673.6
10/18/00	14:29	3.5	674.7
10/18/00	14:30	3.4	676.6
10/18/00	14:31	3.5	677.2
10/18/00	14:32	4.0	676.4
10/18/00	14:33	3.3	676.8
10/18/00	14:34	3.0	675.3
10/18/00	14:35	3.1	672.2
10/18/00	14:36	3.2	672.7
10/18/00	14:37	3.0	672.1
10/18/00	14:38	3.0	671.3
10/18/00	14:39	3.4	669.5
10/18/00	14:40	3.7	668.4
10/18/00	14:41	3.7	666.6
10/18/00	14:42	3.5	665.4
10/18/00	14:43	3.1	665.2
10/18/00	14:44	3.7	665.4
10/18/00	14:45	3.6	666.1
10/18/00	14:46	4.2	666.7
10/18/00	14:47	3.5	666.1
10/18/00	14:48	3.2	667.4
10/18/00	14:49	3.2	669.3
10/18/00	14:50	3.0	670.0
10/18/00	14:51	3.4	670.7
10/18/00	14:52	3.3	669.4
10/18/00	14:53	3.5	668.2
10/18/00	14:54	4.0	668.7
10/18/00	14:55	3.3	670.5
10/18/00	14:56	4.0	672.6
10/18/00	14:57	3.5	673.6
10/18/00	14:58	3.8	674.0
10/18/00	14:59	3.2	674.4
10/18/00	15:00	3.0	674.5
10/18/00	15:01	3.2	674.8
10/18/00	15:02	2.9	674.0
10/18/00	15:03	3.1	672.3
10/18/00	15:04	3.2	672.1
10/18/00	15:05	3.4	670.0
10/18/00	15:06	3.3	668.8
10/18/00	15:07	3.3	666.8
10/18/00	15:08	3.2	666.1
10/18/00	15:09	3.1	664.3
10/18/00	15:10	3.5	664.0
10/18/00	15:11	3.5	664.2
10/18/00	15:12	3.0	663.4
10/18/00	15:13	3.0	664.1
10/18/00	15:14	3.1	665.3
10/18/00	15:15	3.1	666.8
10/18/00	15:16	3.1	667.2
10/18/00	15:17	3.8	667.4
10/18/00	15:18	3.6	666.7
10/18/00	15:19	3.0	668.5
10/18/00	15:20	3.2	668.8
10/18/00	15:21	3.9	668.8
10/18/00	15:22	3.7	669.5
10/18/00	15:23	3.7	668.8

10/18/00 15:24	4.2	666.8
10/18/00 15:25	3.1	669.2
10/18/00 15:26	3.5	671.5
10/18/00 15:27	3.3	673.8
10/18/00 15:28	3.3	674.5
10/18/00 15:29	3.5	674.7
10/18/00 15:30	3.7	674.0
10/18/00 15:31	3.6	673.0
10/18/00 15:32	3.7	672.0
10/18/00 15:33	3.5	668.4
10/18/00 15:34	4.1	664.5
10/18/00 15:35	3.7	662.7
10/18/00 15:36	3.9	662.6
10/18/00 15:37	3.8	663.7
10/18/00 15:38	3.2	665.3
10/18/00 15:39	3.4	664.9
10/18/00 15:40	3.3	661.7
10/18/00 15:41	3.3	656.7
10/18/00 15:42	4.2	659.8
Final Average*	3.4	669.5
Maximum*	4.6	677.2
Minimum*	2.9	656.7

*Does not include Invalid Averaging Periods ("N/A")

Certification of Test Equipment

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9-26-00

Client Project No Module APEX 10 Orifice 3.573	Run By Date Baro. Press
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Delta H in. H2O	Vw initial	Vw final	Vw cubic ft.	Vd initial	Vd final	Vd cubic ft.	Tw degrees F	Tdi degrees F	Tdo degrees F	Td avg	Time min
0.5	28.498	32.321	3.823	809.255	812.943	3.688	66	66	66	66	10
1.0	32.486	38.077	5.578	813.108	818.491	5.383	68	68	68	68	10
1.5	38.205	44.812	6.603	818.624	825.012	6.392	66	66	66	66	10
2.0	45.158	52.911	7.755	825.940	832.843	7.508	67	67	67	67	10
4.0	53.430	64.228	10.898	833.264	843.862	10.598	69	69	69	69	10

TC1

Delta H in. H2O	$\frac{V_w \cdot P_b(T_d + 460)}{V_d(P_b + \Delta H / 13.6)(T_w + 460)}$	Yi	Delta H@	
			$\frac{0.0317 \cdot \Delta H \left[\frac{(T_w + 460)\Theta}{V_w} \right]^{-2}}{P_b(T_d + 460)}$	Delta Hi
0.5	1.035	0.006	1.931	0.019
1.0	1.034	0.005	1.814	-0.043
1.5	1.029	0.000	1.942	0.024
2.0	1.028	-0.001	1.881	-0.008
4.0	1.018	-0.010	1.912	0.008
Average	1.029	<+-.02	1.896	<+-.20

Orifice Calculation				
Delta H	CFM	CFM^2	H@1cfm	Avg Orifice Setting
0.5	0.369	0.136	3.676	
1.0	0.538	0.290	3.447	3.573
1.5	0.639	0.409	3.616	
2.0	0.751	0.564	3.567	
4.0	1.060	1.123	3.559	

PITOT CALIBRATION FORM

Client:	SJRPP	Run by:	J.Kehl
Project Number:	00-205MO	Date:	8/23/00
Test Location:	Wellington, OH	Pitot Number:	N-7

"A" Side Calibration				
Run No.	dP std [in H2O]	dP (s) [in H2O]	Cp (s)	Deviation Cp(s)- Cp(A)
1	0.49	0.68	0.840	0.000
2	0.49	0.68	0.840	0.000
3	0.49	0.68	0.840	0.000
Average		\bar{C}_p (A)	0.840	0.000

"B" Side Calibration				
Run No.	dP std [in H2O]	dP (s) [in H2O]	Cp (s)	Deviation Cp(s)- \bar{C}_p (A)
1	0.49	0.68	0.840	0.002
2	0.49	0.67	0.847	0.004
3	0.49	0.68	0.840	0.002
Average		\bar{C}_p (B)	0.842	0.003

Calculations:

$$C_p (s) = 0.99 \sqrt{\frac{\Delta P \text{ (standard)}}{\Delta P (s)}}$$

$$\text{Deviation} = C_p(s) = \bar{C}_p \text{ (A or B)}$$

$$\text{Average Deviation} = \frac{\sum_{i=1}^3 |C_p (s) - \bar{C}_p(A \text{ or } B)|}{3}$$

$$|\bar{C}_p \text{ (Side A)} - \bar{C}_p \text{ (Side B)}| = 0.002$$

Nozzle size used for Calibrations (inches): 0.250

Intercomponent Spacings During Calibrations:

Pitot - Nozzle: 1 3/4"

Pitot - Thermocouple: 2"

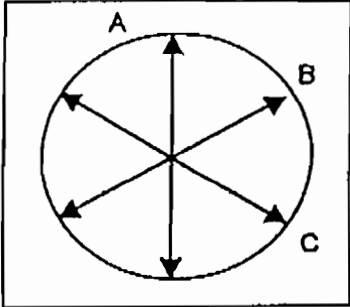
Pitot - Probe Sheath: 3 1/2"

NOZZLE CALIBRATION INCONEL

Sized By D. DANIELS


Date	Nozzle	Dimension			+/- .004 Difference	Avg. Diameter
		A	B	C		
8/5/00						0.000
	Inc. #1	0.130	0.130	0.130	0.000	0.130
	Inc. #2	0.200	0.200	0.200	0.000	0.200
	Inc. #3	0.250	0.250	0.250	0.000	0.250
	Inc. #4	0.320	0.320	0.320	0.000	0.320
	Inc. #5	0.375	0.375	0.375	0.000	0.375
	Inc. #6	0.440	0.440	0.440	0.000	0.440
	Inc. #7	0.495	0.495	0.495	0.000	0.495
						0.000
						0.000
						0.000
						0.000
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All Dimensions are in Inches.



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VISIBLE EMISSION TRAINING

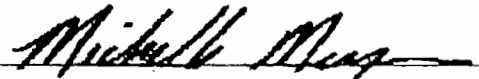


This certifies that

Steve Hampton

has successfully completed the Visible Emission Training held October 11th and 12th, 2000 by the Kansas City, Missouri Health Department, Air Quality Program and is now certified as a Visible Emission Observer.

Approval Date: 10/2000
Expiration Date: 04/2001



Michelle Meyer
Air Quality Program

Laboratory Analysis

Run No. 1 **UNIT 1 STACK**
 Filter No. 00-455
 Acetone No. A-1-A
 Amount of Liquid lost during transport 0
 Acetone blank volume, ml 150mls
 Acetone wash volume, ml 150mls
 Acetone blank conc., mg/mg _____
 Acetone wash blank, mg _____

Run No. 2
 Filter No. 00-457
 Acetone No. A-2-A
 Amount of Liquid lost during transport 0
 Acetone blank volume, ml 150mls
 Acetone wash volume, ml 150mls
 Acetone blank conc., mg/mg _____
 Acetone wash blank, mg _____

Container number	Weight of Particulate Collected		
	g		
	Final weight	Tare weight	Weight gain
Filter	.3625	.3349	0.0276
Acetone	109.7702	109.7546	0.0156
D.I. Water			
Back 1/2			
Less acetone blank.....			.0003
Weight of particulate matter.....			0.0429

Container number	Weight of Particulate Collected		
	g		
	Final weight	Tare weight	Weight gain
Filter	.3683	0.3315	0.0318
Acetone	107.0982	107.0870	0.0112
D.I. Water			
Back 1/2			
Less acetone blank.....			.0003
Weight of particulate matter.....			0.0427

IMPINGER WEIGHTS

Imp.# /Contents	Initial Wgt	Final Wgt	Weight gain
1 -	200	224	24
2 -			
3 -			
Liquid Collected			
4 - Silica Gel	250	270.7	20.7
Total volume Collected			244.7

IMPINGER WEIGHTS

Imp.# /Contents	Initial Wgt	Final Wgt	Weight gain
1 -	200	430	230
2 -			
3 -			
Liquid Collected			
4 - Silica Gel	250	272.1	22.1
Total volume Collected			252.1

Run No. 3
 Filter No. 00-464
 Acetone No. A-3-A
 Amount of Liquid lost during transport 0
 Acetone blank volume, ml 150mls
 Acetone wash volume, ml 150mls
 Acetone blank conc., mg/mg _____
 Acetone wash blank, mg _____

Run No. BLANK
 Filter No. N/A
 Acetone No. BLANK
 Amount of Liquid lost during transport 0
 Acetone blank volume, ml 150mls
 Acetone wash volume, ml 150mls
 Acetone blank conc., mg/mg _____
 Acetone wash blank, mg _____

Container number	Weight of Particulate Collected		
	g		
	Final weight	Tare weight	Weight gain
Filter	.3607	.3306	0.0301
Acetone	103.8887	103.8761	0.0126
D.I. Water			
Back 1/2			
Less acetone blank.....			.0003
Weight of particulate matter.....			0.0424

Container number	Weight of Particulate Collected		
	g		
	Final weight	Tare weight	Weight gain
Filter			
Acetone	104.7188	104.7185	0.0003
D.I. Water			
Back 1/2			
Less acetone blank.....			
Weight of particulate matter.....			.0003

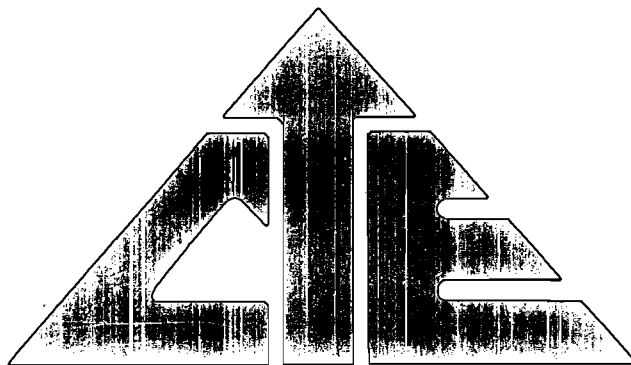
IMPINGER WEIGHTS

Imp.# /Contents	Initial Wgt	Final Wgt	Weight gain
1 -	200	432	232
2 -			
3 -			
Liquid Collected			
4 - Silica Gel	250	271.2	21.2
Total volume Collected			253.2

IMPINGER WEIGHTS

Imp.# /Contents	Initial Wgt	Final Wgt	Weight gain
1 -			
2 -			
3 -			
Liquid Collected			
4 - Silica Gel			
Total volume Collected			

Analyzed By: [Signature]



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