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EMISSIONS TESTING SERVICES

**RELATIVE ACCURACY TEST AUDIT
TEST REPORT
FOR
JACKSONVILLE ELECTRIC AUTHORITY
AT
ST. JOHNS RIVER POWER PARK
UNIT 1
October 17, 18, and 2000**

CT&E Project No. 00-205MO



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COMMERCIAL TESTING & ENGINEERING CO.

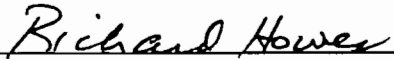
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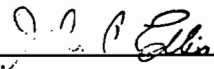
ADDRESS ALL CORRESPONDENCE TO:
CT&E EMISSIONS TESTING SERVICES
599 JAMES ROLLO COURT
GRAIN VALLEY, MO 64029
TEL: (816) 224-6905
FAX: (816) 443-2515

November 5, 2000

I, Richard Howes, hereby certify the emission monitor certification 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 emissions tests performed for Jacksonville Electric Authority at St. Johns River Power Park, Unit #1. The purpose of the tests was to determine the NO_x/SO₂/CO₂/O₂ emissions of the unit. 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, Dan Rigdon, Dan Daniels, John Kehl, Lloyd Lindsey and Russ Arnott. Mr. Mark Loechelt, St. Johns River Power Park, coordinated the testing.

The tests were performed on October 17, 18, and 19, 2000. The testing was performed in accordance with EPA reference methods 1, 2, 3A, 4, 6C and 7E, 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 Relative Accuracy Test Audit tests performed on October 17, 18, and 19, 2000 for Jacksonville Electric Authority at St. Johns River Power Park, Unit #1.

<u>Date</u>	<u>Parameter</u>	<u>% RA</u>	<u>BAF</u>	<u>Pass/ Fail</u>	<u>Allowable</u>	<u>MW</u>
10/17/00 (Part 60)	SO ₂ (Lb/mBtu)	5.34	N/A	Pass	20%	656.156
	CO ₂ (Percent)	8.01	N/A	Pass	20%	656.156
10/18/00 (Part 75)	NO _x (Lb/mBtu)	0.95	N/A	Pass	10%	671.213
	SO ₂ (PPM)	1.45	N/A	Pass	10%	671.213
	SO ₂ (Lb/mBtu)	0.75	N/A	Pass	10%	671.213
	CO ₂ (Percent)	0.89	N/A	Pass	10%	671.213
	Flow (Normal) (KSCFH)(Primary)	6.40	1.058	Pass	15%	671.213
	Flow (Normal) (KSCFH)(WAF)	5.46	1.048	Pass	15%	671.213
10/19/00 (Part 75)	Flow (Normal) (KFCFH)(Primary)	7.22	1.071	Pass	15%	655.167
	Flow (Normal) (KSCFH)(WAF)	6.27	1.060	Pass	15%	655.167

Computer printouts of the final results follow this page. Example calculations for the Bias Adjustment Factor can be found in the Appendix section of this report.

Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 SO2 (LBS./MBTU)PRIMARY
 10/17/00

Use	Run	SO2 (A) Primary		
		RM	CEMS	Difference
Y	1	3.035	2.882	0.153
Y	2	3.059	2.880	0.179
Y	3	2.961	2.806	0.155
Y	4	2.838	2.711	0.127
Y	5	2.761	2.651	0.110
Y	6	2.677	2.561	0.116
Y	7	2.656	2.542	0.114
Y	8	2.612	2.509	0.103
Y	9	2.646	2.541	0.105
N	10			
N	11			
N	12			
Averages		2.805	2.676	0.129

Standard Deviation 0.027
 Confidence Coefficient 0.021
 Relative Accuracy 5.34
 Bias Test Pass/Fail FAIL
 Bias Adjustment Factor 1.048

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE,FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 CO2 Percent (A) Primary
 10/17/00

Use	Run	CO2 (A) Primary		
		RM	CEMS	Difference
Y	1	11.896	12.710	-0.814
Y	2	11.730	12.710	-0.980
Y	3	11.773	12.720	-0.947
Y	4	11.807	12.670	-0.863
Y	5	11.795	12.690	-0.895
Y	6	11.665	12.600	-0.935
Y	7	11.758	12.560	-0.802
Y	8	11.751	12.570	-0.819
Y	9	11.628	12.580	-0.952
N	10			
N	11			
N	12			
Averages		11.756	12.646	-0.890

Standard Deviation 0.068
 Confidence Coefficient 0.052
 Relative Accuracy 8.01

 Bias Test Pass/Fail PASS
 Bias Adjustment Factor 1.000

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 NOx(AA) – NOx (A) Primary and CO2 (A) Primary
 lbs/mmBtu
 10/18/00

Use	Run	NOx(AA) LBS/MBtu		
		RM	CEMS	Difference
N	1	0.452	0.445	0.007
Y	2	0.448	0.443	0.005
N	3	0.467	0.457	0.010
Y	4	0.482	0.478	0.004
Y	5	0.472	0.467	0.005
Y	6	0.468	0.466	0.002
Y	7	0.480	0.476	0.004
N	8	0.511	0.504	0.007
Y	9	0.501	0.498	0.003
Y	10	0.490	0.490	0.000
Y	11	0.487	0.493	-0.006
Y	12	0.482	0.483	-0.001
Averages		0.479	0.477	0.002

Standard Deviation 0.004
 Confidence Coefficient 0.003
 Relative Accuracy 0.95

Bias Test Pass/Fail PASS
 Bias Adjustment Factor 1.000

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 SO2 PPM (A) PRIMARY
 10/18/00

Use	Run	SO2 (A) PRIMARY		
		RM	CEMS	Difference
Y	1	187.095	190.200	-3.105
Y	2	185.552	185.100	0.452
Y	3	187.517	190.500	-2.983
Y	4	192.921	193.700	-0.779
Y	5	186.462	188.100	-1.638
Y	6	178.967	181.200	-2.233
N	7	171.313	175.200	-3.887
Y	8	172.470	174.100	-1.630
Y	9	169.927	171.500	-1.573
Y	10	165.633	168.000	-2.367
N	11			
N	12			
Averages		180.727	182.489	-1.762

Standard Deviation 1.108
 Confidence Coefficient 0.852
 Relative Accuracy 1.45

Bias Test Pass/Fail PASS
 Bias Adjustment Factor 1.000

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 SO2 (LBS./MBTU)
 10/18/00

Use	Run	SO2 (A) Primary		
		RM	CEMS	Difference
N	1	0.457	0.465	-0.008
Y	2	0.452	0.452	0.000
Y	3	0.462	0.465	-0.003
Y	4	0.478	0.477	0.001
Y	5	0.462	0.463	-0.001
Y	6	0.443	0.445	-0.002
Y	7	0.421	0.427	-0.006
Y	8	0.437	0.432	0.005
Y	9	0.429	0.429	0.000
Y	10	0.418	0.421	-0.003
N	11			
N	12			
Averages		0.445	0.446	-0.001

Standard Deviation	0.003
Confidence Coefficient	0.002
Relative Accuracy	0.75
Bias Test Pass/Fail	PASS
Bias Adjustment Factor	1.000

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 CO2 Percent (A) Primary
 10/18/00

Use	Run	CO2 (A) Primary		
		RM	CEMS	Difference
Y	1	12.230	12.230	0.000
Y	2	12.264	12.240	0.024
N	3	12.120	12.250	-0.130
Y	4	12.070	12.130	-0.060
Y	5	12.063	12.140	-0.077
Y	6	12.082	12.160	-0.078
Y	7	12.157	12.250	-0.093
N	8	11.796	12.030	-0.234
Y	9	11.837	11.950	-0.113
Y	10	11.833	11.930	-0.097
N	11	11.807	11.960	-0.153
Y	12	11.856	11.980	-0.124
Averages		12.044	12.112	-0.069

Standard Deviation 0.050
 Confidence Coefficient 0.038
 Relative Accuracy 0.89

Bias Test Pass/Fail PASS
 Bias Adjustment Factor 1.000

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 Normal Flow
 Primary
 10/18/00

Use	Run	Flow SCFH		Difference
		RM	CEMS	
N	1	106957561.120	98222700.000	8734861.120
N	2	107320477.973	97508700.000	9811777.973
N	3	107391472.665	97825100.000	9566372.665
Y	4	104883049.525	99694400.000	5188649.525
Y	5	106060809.729	99162600.000	6898209.729
Y	6	105242872.604	98588200.000	6654672.604
Y	7	106285659.508	98270700.000	8014959.508
Y	8	105036445.627	99013600.000	6022845.627
Y	9	105537329.373	101108200.000	4429129.373
Y	10	105501557.427	101072200.000	4429357.427
Y	11	106149677.867	100233800.000	5915877.867
Y	12	106453857.649	101470900.000	4982957.649
Averages		105683473.257	99846066.667	5837406.590

Standard Deviation	1208941.945
Confidence Coefficient	929273.375
Relative Accuracy	6.40

Bias Test Pass/Fail	FAIL
Bias Adjustment Factor	1.058

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 Normal Flow
 PRIMARY(WITH DEFAULT WAF)=.99
 10/18/00

Use	Run	Flow SCFH		Difference
		RM	CEMS	
N	1	105887985.509	98222700.000	7665285.509
N	2	106247273.193	97508700.000	8738573.193
N	3	106317557.938	97825100.000	8492457.938
Y	4	103834219.030	99694400.000	4139819.030
Y	5	105000201.632	99162600.000	5837601.632
Y	6	104190443.878	98588200.000	5602243.878
Y	7	105222802.913	98270700.000	6952102.913
Y	8	103986081.171	99013600.000	4972481.171
Y	9	104481956.079	101108200.000	3373756.079
Y	10	104446541.853	101072200.000	3374341.853
Y	11	105088181.088	100233800.000	4854381.088
Y	12	105389319.073	101470900.000	3918419.073
Averages		104626638.524	99846066.667	4780571.857

Standard Deviation	1207309.304
Confidence Coefficient	928018.418
Relative Accuracy	5.46
Bias Test Pass/Fail	FAIL
Bias Adjustment Factor	1.048

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE, FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 Normal Flow
 Primary
 10/19/00

Use	Run	Flow SCFH		Difference
		RM	CEMS	
Y	1	108109155.156	100455800.000	7653355.156
Y	2	107735001.300	100013500.000	7721501.300
N	3	108343756.347	99025600.000	9318156.347
N	4	108255666.600	99610500.000	8645166.600
Y	5	107120040.086	99062700.000	8057340.086
Y	6	106540293.195	99257500.000	7282793.195
Y	7	107749510.411	100207600.000	7541910.411
Y	8	105943594.522	99850900.000	6092694.522
N	9	108906873.067	99047500.000	9859373.067
Y	10	105591819.640	99975800.000	5616019.640
Y	11	106782374.232	100428000.000	6354374.232
Y	12	106895892.202	99569500.000	7326392.202
Averages		106940853.416	99869033.333	7071820.083

Standard Deviation 840728.128
 Confidence Coefficient 646239.688
 Relative Accuracy 7.22

Bias Test Pass/Fail FAIL
 Bias Adjustment Factor 1.071

Commercial Testing and Engineering

JEA-SJRPP: JACKSONVILLE,FL. Unit 1
 Relative Accuracy Test Audit
 Relative Accuracy Calculations and Results
 Normal Flow
 PRIMARY(WITH DEFAULT WAF)=.99
 10/19/00

Use	Run	Flow SCFH		Difference
		RM	CEMS	
Y	1	107028063.604	100455800.000	.6572263.604
Y	2	106657651.287	100013500.000	6644151.287
N	3	107260318.784	99025600.000	8234718.784
N	4	107173109.934	99610500.000	7562609.934
Y	5	106048839.685	99062700.000	6986139.685
Y	6	105474890.263	99257500.000	6217390.263
Y	7	106672015.307	100207600.000	6464415.307
Y	8	104884158.577	99850900.000	5033258.577
N	9	107817804.336	99047500.000	8770304.336
Y	10	104535901.444	99975800.000	4560101.444
Y	11	105714550.490	100428000.000	5286550.490
Y	12	105826933.280	99569500.000	6257433.280
Averages		105871444.882	99869033.333	6002411.549

Standard Deviation	833738.170
Confidence Coefficient	640866.740
Relative Accuracy	6.27
 Bias Test Pass/Fail	 FAIL
Bias Adjustment Factor	1.060

INTERMEDIATE CALCULATIONS

Commercial Testing and Engineering

Sampling System Bias Check and Measured Value Correction

**JEA-SJRPP
JACKSONVILLE, FL. - Unit 1
Normal**

Date: 10/17/00
Pollutant: SO2
Monitor Span: 2000

IC1

Run Number	Average Measured Value	Initial Zero Gas Bias	Final Zero Gas Bias	Zero Gas Drift	Initial Upscale Gas Bias	Final Upscale Gas Bias	Upscale Gas Drift	Calibration Gas PPM	Percent Moisture	Corrected Value, Dry Basis	Corrected Value, Wet Basis
1	1312.15	0.00	4.00	0.20	893.00	891.00	-0.10	893.00	8.10	1314.57	1208.12
2	1316.38	4.00	6.10	0.11	891.00	892.00	0.05	893.00	9.09	1321.02	1200.90
3	1283.67	6.10	5.40	-0.04	892.00	892.00	0.00	893.00	9.38	1287.65	1166.82
4	1233.03	5.40	5.00	-0.02	892.00	893.00	0.05	893.00	9.24	1235.72	1121.56
5	1203.00	5.00	5.70	0.04	893.00	893.00	0.00	893.00	9.53	1204.87	1090.07
6	1157.44	5.70	5.90	0.01	893.00	894.00	0.05	893.00	9.80	1158.52	1044.95
7	1148.48	5.90	6.20	0.02	894.00	892.00	-0.10	893.00	9.12	1150.22	1045.35
8	1130.81	6.20	6.30	0.00	892.00	892.00	0.00	893.00	9.39	1133.76	1027.28
9	1142.00	6.30	6.50	0.01	892.00	891.00	-0.05	893.00	10.14	1145.74	1029.52
10											
11											
12											

$$C_{gas} = (C_{avg} - C_o) * C_{ma} / (C_m - C_o) \quad \text{Eq. 6C-1}$$

where:

- C_{gas} = Effluent gas concentration, dry basis, ppm
- C_{avg} = Average gas concentration indicated by gas analyzer, dry basis, ppm
- C_o = Average of initial and final system calibration bias check responses for the zero gas, ppm
- C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
- C_{ma} = Actual concentration of the upscale calibration gas, ppm

Commercial Testing and Engineering

Sampling System Bias Check and Measured Value Correction

JEA-SJRPP
 JACKSONVILLE, FL. - Unit 1
 Normal

Date: 10/17/00
 Pollutant: CO2
 Monitor Span: 20

Run Number	Average Measured Percent	Initial Gas Bias	Zero Gas Bias	Final Zero Gas Bias	Zero Gas Drift	Initial Upscale Gas Bias	Final Upscale Gas Bias	Upscale Gas Drift	Calibration Gas Percent	Percent Moisture	Corrected Percent, Dry Basis	Corrected Percent, Wet Basis
1	13.02	0.01	0.05	0.05	0.20	9.88	9.89	0.05	9.82	8.10	12.94	11.90
2	12.98	0.05	0.05	0.05	0.00	9.89	9.89	0.00	9.82	9.09	12.90	11.73
3	13.07	0.05	0.04	0.04	-0.05	9.89	9.89	0.00	9.82	9.38	12.99	11.77
4	13.09	0.04	0.03	0.03	-0.05	9.89	9.89	0.00	9.82	9.24	13.01	11.81
5	13.12	0.03	0.03	0.03	0.00	9.89	9.89	0.00	9.82	9.53	13.04	11.79
6	13.01	0.03	0.02	0.02	-0.05	9.89	9.88	-0.05	9.82	9.80	12.93	11.66
7	13.01	0.02	0.02	0.02	0.00	9.88	9.88	0.00	9.82	9.12	12.94	11.76
8	13.05	0.02	0.01	0.01	-0.05	9.88	9.89	0.05	9.82	9.39	12.97	11.75
9	13.03	0.01	0.01	0.01	0.00	9.89	9.89	0.00	9.82	10.14	12.94	11.63
10												
11												
12												

IC2

$$C_{gas} = (C_{avg} - C_o) * C_{ma} / (C_m - C_o) \quad \text{Eq. 6C-1}$$

where:

- C_{gas} = Effluent gas concentration, dry basis, ppm
- C_{avg} = Average gas concentration indicated by gas analyzer, dry basis, ppm
- C_o = Average of initial and final system calibration bias check responses for the zero gas, ppm
- C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
- C_{ma} = Actual concentration of the upscale calibration gas, ppm

**Commercial Testing and Engineering
Moisture Calculations (Runs 1 - 6)**

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/17/00
 Unit Number: 1
 Load: Normal

Run:	1	2	3
Volume of Condensate:	25.00	28.00	29.00
Weight of Silica Gel:	5.00	6.00	6.00
Volume Metered:	15.685	15.725	15.744
Meter Temperature:	60.633	62.833	66.467
Delta H:	1.70	1.70	1.70
Barometric Pressure:	29.86	29.86	29.86
Meter Correction Factor:	1.006	1.006	1.006
Volume Measured (DSCF):	16.031	16.004	15.913
Water Volume (SCF):	1.413	1.601	1.648
% Moisture in Flue Gas:	8.0977	9.0933	9.3842
Run:	4	5	6
Volume of Condensate:	30.00	30.00	30.00
Weight of Silica Gel:	4.00	5.00	6.00
Volume Metered:	15.719	15.738	15.744
Meter Temperature:	71.867	75.200	77.167
Delta H:	1.70	1.70	1.70
Barometric Pressure:	29.86	29.86	29.86
Meter Correction Factor:	1.006	1.006	1.006
Volume Measured (DSCF):	15.726	15.647	15.596
Water Volume (SCF):	1.601	1.648	1.695
% Moisture in Flue Gas:	9.2383	9.5279	9.8029

**Commercial Testing and Engineering
Moisture Calculations (Runs 7 - 12)**

Client: JEA-SJRPP
 Site: JACKSONVILLE, FL. - Unit 1
 Date: 10/17/00
 Unit Number: 1
 Load: Normal

Run:	7	8	9
Volume of Condensate:	28.00	29.00	31.00
Weight of Silica Gel:	5.00	5.00	6.00
Volume Metered:	15.709	15.715	15.712
Meter Temperature:	79.733	81.467	81.767
Delta H:	1.70	1.70	1.70
Barometric Pressure:	29.86	29.86	29.86
Meter Correction Factor:	1.006	1.006	1.006
Volume Measured (DSCF):	15.487	15.443	15.432
Water Volume (SCF):	1.554	1.601	1.742
% Moisture in Flue Gas:	9.1176	9.3919	10.1437

Run:	10	11	12
Volume of Condensate:			
Weight of Silica Gel:			
Volume Metered:			
Meter Temperature:			
Delta H:			
Barometric Pressure:			
Meter Correction Factor:			
Volume Measured (DSCF):			
Water Volume (SCF):			
% Moisture in Flue Gas:			

Commercial Testing and Engineering

Sampling System Bias Check and Measured Value Correction

JEA-SJRPP
 JACKSONVILLE, FL. - Unit 1
 Normal

Date: 10/18/00
 Pollutant: NOx
 Monitor Span: 1000

Run Number	Average Measured Value	Initial Zero Gas Bias	Final Zero Gas Bias	Zero Gas Drift	Initial Upscale Gas Bias	Final Upscale Gas Bias	Upscale Gas Drift	Calibration Gas PPM	Percent Moisture	Corrected Value, Dry Basis	Corrected Value, Wet Basis
1	286.35	0.10	0.10	0.00	557.00	558.00	0.10	558.00	10.24	286.56	257.22
2	284.59	0.10	0.30	0.02	558.00	557.00	-0.10	558.00	10.21	284.75	255.66
3	295.54	0.30	0.62	0.03	557.00	555.00	-0.20	558.00	11.23	296.39	263.11
4	304.07	0.62	0.36	-0.03	555.00	559.00	0.40	558.00	11.06	304.39	270.73
5	299.39	0.36	0.48	0.01	559.00	559.00	0.00	558.00	11.24	298.66	265.09
6	296.33	0.48	0.30	-0.02	559.00	557.00	-0.20	558.00	11.21	296.15	262.94
7	308.78	0.30	0.35	0.01	557.00	559.00	0.20	558.00	11.97	308.63	271.68
8	319.73	0.35	0.12	-0.02	559.00	558.00	-0.10	558.00	12.14	319.34	280.57
9	310.33	0.12	0.11	0.00	558.00	556.00	-0.20	558.00	11.27	310.84	275.81
10	303.70	0.11	0.41	0.03	556.00	556.00	0.00	558.00	11.49	304.67	269.65
11	302.39	0.41	0.10	-0.03	556.00	556.00	0.00	558.00	11.76	303.36	267.68
12	299.49	0.10	0.32	0.02	556.00	556.00	0.00	558.00	11.52	300.47	265.84

ICS

$$C_{gas} = (C_{avg} - C_o) * C_{ma} / (C_m - C_o) \quad \text{Eq. 6C-1}$$

where:

- C_{gas} = Effluent gas concentration, dry basis, ppm
- C_{avg} = Average gas concentration indicated by gas analyzer, dry basis, ppm
- C_o = Average of initial and final system calibration bias check responses for the zero gas, ppm
- C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
- C_{ma} = Actual concentration of the upscale calibration gas, ppm

Commercial Testing and Engineering

Sampling System Bias Check and Measured Value Correction

JEA-SJRPP
 JACKSONVILLE, FL. - Unit 1
 Normal

Date: 10/18/00
 Pollutant: SO2
 Monitor Span: 300

Run Number	Average Measured Value	Initial Zero Gas Bias	Final Zero Gas Bias	Zero Gas Drift	Initial Upscale Gas Bias	Final Upscale Gas Bias	Upscale Gas Drift	Calibration Gas PPM	Percent Moisture	Corrected Value, Dry Basis	Corrected Value, Wet Basis
1	208.37	0.00	0.00	0.00	166.10	166.00	-0.03	166.10	10.24	208.43	187.09
2	205.89	0.00	0.20	0.07	166.00	165.00	-0.33	166.10	10.21	206.66	185.55
3	210.40	0.20	0.30	0.03	165.00	166.00	0.33	166.10	11.23	211.23	187.52
4	216.73	0.30	0.00	-0.10	166.00	166.00	0.00	166.10	11.06	216.91	192.92
5	210.54	0.00	0.29	0.10	166.00	167.00	0.33	166.10	11.24	210.07	186.46
6	202.58	0.29	0.47	0.06	167.00	167.00	0.00	166.10	11.21	201.57	178.97
7	194.41	0.47	0.57	0.03	167.00	165.00	-0.67	166.10	11.97	194.62	171.31
8	195.50	0.57	0.50	-0.02	165.00	166.00	0.33	166.10	12.14	196.31	172.47
9	191.33	0.50	0.33	-0.06	166.00	166.00	0.00	166.10	11.27	191.51	169.93
10	187.55	0.33	0.37	0.01	166.00	167.00	0.33	166.10	11.49	187.14	165.63
11											
12											

$$C_{gas} = (C_{avg} - C_o) * C_{ma} / (C_m - C_o) \quad \text{Eq. 6C-1}$$

where:

- C_{gas} = Effluent gas concentration, dry basis, ppm
- C_{avg} = Average gas concentration indicated by gas analyzer, dry basis, ppm
- C_o = Average of initial and final system calibration bias check responses for the zero gas, ppm
- C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
- C_{ma} = Actual concentration of the upscale calibration gas, ppm

IC6

Commercial Testing and Engineering

Sampling System Bias Check and Measured Value Correction

JEA-SJRPP
JACKSONVILLE, FL. - Unit 1
Normal

Date: 10/18/00
Pollutant: CO2
Monitor Span: 20

Run Number	Average Measured Percent	Initial Zero Gas Bias	Final Zero Gas Bias	Zero Gas Drift	Initial Upscale Gas Bias	Final Upscale Gas Bias	Upscale Gas Drift	Calibration Gas Percent	Percent Moisture	Corrected Percent, Dry Basis	Corrected Percent, Wet Basis
1	13.55	0.02	0.05	0.15	11.08	11.07	-0.05	11.13	10.24	13.63	12.23
2	13.58	0.05	0.05	0.00	11.07	11.08	0.05	11.13	10.21	13.66	12.26
3	13.58	0.05	0.05	0.00	11.08	11.08	0.00	11.13	11.23	13.65	12.12
4	13.50	0.05	0.04	-0.05	11.08	11.08	0.00	11.13	11.06	13.57	12.07
5	13.52	0.04	0.04	0.00	11.08	11.08	0.00	11.13	11.24	13.59	12.06
6	13.53	0.04	0.05	0.05	11.08	11.07	-0.05	11.13	11.21	13.61	12.08
7	13.73	0.05	0.05	0.00	11.07	11.08	0.05	11.13	11.97	13.81	12.16
8	13.35	0.05	0.05	0.00	11.08	11.07	-0.05	11.13	12.14	13.43	11.80
9	13.27	0.05	0.06	0.05	11.07	11.09	0.10	11.13	11.27	13.34	11.84
10	13.31	0.06	0.06	0.00	11.09	11.09	0.00	11.13	11.49	13.37	11.83
11	13.32	0.06	0.06	0.00	11.09	11.09	0.00	11.13	11.76	13.38	11.81
12	13.34	0.06	0.06	0.00	11.09	11.09	0.00	11.13	11.52	13.40	11.86

IC7

$$C_{gas} = (C_{avg} - C_o) * C_{ma} / (C_m - C_o) \quad \text{Eq. 6C-1}$$

where:

- C_{gas} = Effluent gas concentration, dry basis, ppm
- C_{avg} = Average gas concentration indicated by gas analyzer, dry basis, ppm
- C_o = Average of initial and final system calibration bias check responses for the zero gas, ppm
- C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
- C_{ma} = Actual concentration of the upscale calibration gas, ppm

Commercial Testing and Engineering

Sampling System Bias Check and Measured Value Correction

JEA-SJRPP
JACKSONVILLE, FL. - Unit 1
Normal

Date: 10/18/00
Pollutant: O2
Monitor Span: 25

Run Number	Average Measured Percent	Initial Zero Gas Bias	Final Zero Gas Bias	Zero Gas Drift	Initial Upscale Gas Bias	Final Upscale Gas Bias	Upscale Gas Drift	Calibration Gas Percent	Percent Moisture	Corrected Percent, Dry Basis	Corrected Percent, Wet Basis
1	5.77	0.01	0.01	0.00	12.00	11.99	-0.04	12.00	10.24	5.77	5.18
2	5.75	0.01	0.01	0.00	11.99	12.00	0.04	12.00	10.21	5.75	5.16
3	5.72	0.01	0.01	0.00	12.00	12.00	0.00	12.00	11.23	5.71	5.07
4	5.85	0.01	0.02	0.04	12.00	12.00	0.00	12.00	11.06	5.84	5.20
5	5.83	0.02	0.01	-0.04	12.00	12.00	0.00	12.00	11.24	5.82	5.17
6	5.80	0.01	0.02	0.04	12.00	12.01	0.04	12.00	11.21	5.79	5.14
7	5.69	0.02	0.02	0.00	12.01	12.00	-0.04	12.00	11.97	5.68	5.00
8	6.04	0.02	0.02	0.00	12.00	12.00	0.00	12.00	12.14	6.03	5.30
9	6.13	0.02	0.02	0.00	12.00	12.00	0.00	12.00	11.27	6.12	5.43
10	6.13	0.02	0.02	0.00	12.00	11.99	-0.04	12.00	11.49	6.12	5.42
11	6.09	0.02	0.02	0.00	11.99	11.99	0.00	12.00	11.76	6.09	5.37
12	6.07	0.02	0.02	0.00	11.99	11.99	0.00	12.00	11.52	6.07	5.37

808

$$C_{gas} = (C_{avg} - C_o) * C_{ma} / (C_m - C_o) \quad \text{Eq. 6C-1}$$

where:

- C_{gas} = Effluent gas concentration, dry basis, ppm
- C_{avg} = Average gas concentration indicated by gas analyzer, dry basis, ppm
- C_o = Average of initial and final system calibration bias check responses for the zero gas, ppm
- C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
- C_{ma} = Actual concentration of the upscale calibration gas, ppm

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/18/00
 Unit Number: 1
 Load: Normal

Run:	1	2	3
Start Time:	08:55	09:30	10:02
End Time:	09:05	09:40	10:12
Pitot Coefficient:	0.822	0.822	0.822
Barometric Pressure: In. Hg.	29.54	29.54	29.54
Static Pressure: In. H2O	-1.20	-1.20	-1.20
Square Root of Delta-P:	1.243	1.249	1.247
Flue Temperature: Deg. F.	144.17	145.75	145.67
Percent CO2: %	13.63	13.66	13.65
Percent O2: %	5.77	5.75	5.71
Percent Moisture: %	10.2373	10.2143	11.2265
Area of Flue: Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure: In. Hg.	29.45	29.45	29.45
Molecular Weight(dry): Lb/Lb Mole	30.41	30.42	30.41
Molecular Weight(wet): Lb/Lb Mole	29.14	29.15	29.02
Velocity of Flue Gas: FPS	73.29	73.73	73.77
Volume of Flue Gas: ACFM	2073044	2085528	2086622
Volume of Flue Gas: DSCFM	1600133	1605974	1588920
Volume of Flue Gas: KSCFM	1782.63	1788.67	1789.86
Volume of Flue Gas: KSCFH	106957.561	107320.478	107391.473

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/18/00
 Unit Number: 1
 Load: Normal

Run:		4	5	6
Start Time:		10:37	11:11	11:45
End Time:		10:47	11:21	11:55
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.54	29.54	29.54
Static Pressure:	In. H2O	-1.20	-1.30	-1.30
Square Root of Delta-P:		1.219	1.233	1.223
Flue Temperature:	Deg. F.	146.50	147.08	146.50
Percent CO2:	%	13.57	13.59	13.61
Percent O2:	%	5.84	5.82	5.79
Percent Moisture:	%	11.0580	11.2391	11.2128
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.45	29.44	29.44
Molecular Weight(dry):	Lb/Lb Mole	30.41	30.41	30.41
Molecular Weight(wet):	Lb/Lb Mole	29.03	29.01	29.02
Velocity of Flue Gas:	FPS	72.14	73.04	72.41
Volume of Flue Gas:	ACFM	2040686	2066101	2048199
Volume of Flue Gas:	DSCFM	1554752	1569009	1557370
Volume of Flue Gas:	KSCFM	1748.05	1767.68	1754.05
Volume of Flue Gas:	KSCFH	104883.050	106060.810	105242.873

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/18/00
 Unit Number: 1
 Load: Normal

Run:		7	8	9
Start Time:		12:47	13:19	13:52
End Time:		12:57	13:29	14:02
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.54	29.54	29.54
Static Pressure:	In. H2O	-1.10	-1.20	-1.20
Square Root of Delta-P:		1.234	1.219	1.227
Flue Temperature:	Deg. F.	147.17	147.83	147.92
Percent CO2:	%	13.81	13.43	13.34
Percent O2:	%	5.68	6.03	6.12
Percent Moisture:	%	11.9742	12.1427	11.2692
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.46	29.45	29.45
Molecular Weight(dry):	Lb/Lb Mole	30.44	30.39	30.38
Molecular Weight(wet):	Lb/Lb Mole	28.95	28.89	28.98
Velocity of Flue Gas:	FPS	73.17	72.41	72.76
Volume of Flue Gas:	ACFM	2069733	2048162	2058214
Volume of Flue Gas:	DSCFM	1559313	1538037	1560736
Volume of Flue Gas:	KSCFM	1771.43	1750.61	1758.96
Volume of Flue Gas:	KSCFH	106285.660	105036.446	105537.329

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/18/00
 Unit Number: 1
 Load: Normal

Run:		10	11	12
Start Time:		14:26	15:00	15:30
End Time:		14:36	15:10	15:40
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.54	29.54	29.54
Static Pressure:	In. H2O	-1.20	-1.20	-1.20
Square Root of Delta-P:		1.226	1.233	1.237
Flue Temperature:	Deg. F.	147.83	148.00	147.80
Percent CO2:	%	13.37	13.38	13.40
Percent O2:	%	6.12	6.09	6.07
Percent Moisture:	%	11.4940	11.7605	11.5245
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.45	29.45	29.45
Molecular Weight(dry):	Lb/Lb Mole	30.38	30.38	30.39
Molecular Weight(wet):	Lb/Lb Mole	28.96	28.93	28.96
Velocity of Flue Gas:	FPS	72.73	73.20	73.38
Volume of Flue Gas:	ACFM	2057232	2070439	2075689
Volume of Flue Gas:	DSCFM	1556254	1561099	1569759
Volume of Flue Gas:	KSCFM	1758.36	1769.16	1774.23
Volume of Flue Gas:	KSCFH	105501.557	106149.678	106453.858

**Commercial Testing and Engineering
Moisture Calculations (Runs 1 - 6)**

Client: JEA-SJRPP
 Site: JACKSONVILLE, FL. - Unit 1
 Date: 10/18/00
 Unit Number: 1
 Load: Normal

Run:	1	2	3
Volume of Condensate:	35.00	30.00	35.00
Weight of Silica Gel:	6.00	6.00	5.00
Volume Metered:	17.758	15.710	15.730
Meter Temperature:	90.667	93.000	94.000
Delta H:	2.10	1.80	1.80
Barometric Pressure:	29.54	29.54	29.54
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	16.926	14.899	14.891
Water Volume (SCF):	1.930	1.695	1.883
% Moisture in Flue Gas:	10.2373	10.2143	11.2265

Run:	4	5	6
Volume of Condensate:	35.00	36.00	35.00
Weight of Silica Gel:	5.00	4.00	5.00
Volume Metered:	16.000	15.700	15.745
Meter Temperature:	94.000	93.667	93.767
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.54	29.54	29.54
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	15.147	14.872	14.912
Water Volume (SCF):	1.883	1.883	1.883
% Moisture in Flue Gas:	11.0580	11.2391	11.2128

**Commercial Testing and Engineering
Moisture Calculations (Runs 7 - 12)**

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/18/00
 Unit Number: 1
 Load: Normal

Run:	7	8	9
Volume of Condensate:	38.00	40.00	35.00
Weight of Silica Gel:	5.00	4.00	5.00
Volume Metered:	15.720	15.860	15.710
Meter Temperature:	94.000	95.000	95.667
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.54	29.54	29.54
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	14.882	14.987	14.828
Water Volume (SCF):	2.024	2.071	1.883
% Moisture in Flue Gas:	11.9742	12.1427	11.2692
Run:	10	11	12
Volume of Condensate:	35.00	34.00	35.00
Weight of Silica Gel:	6.00	8.00	6.00
Volume Metered:	15.720	15.730	15.720
Meter Temperature:	94.67	96.00	96.33
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.54	29.54	29.54
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	14.86	14.84	14.82
Water Volume (SCF):	1.93	1.98	1.93
% Moisture in Flue Gas:	11.4940	11.7605	11.5245

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE, FL. - Unit 1
 Date: 10/19/00
 Unit Number: 1
 Load: Normal

Run:		1	2	3
Start Time:		08:50	09:05	09:20
End Time:		09:00	09:15	09:30
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.48	29.48	29.48
Static Pressure:	In. H2O	-1.10	-1.10	-1.10
Square Root of Delta-P:		1.250	1.243	1.252
Flue Temperature:	Deg. F.	147.17	146.25	146.92
Percent CO2:	%	12.70	12.00	12.50
Percent O2:	%	6.50	7.00	6.70
Percent Moisture:	%	13.3500	13.3500	13.3500
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.40	29.40	29.40
Molecular Weight(dry):	Lb/Lb Mole	30.29	30.20	30.27
Molecular Weight(wet):	Lb/Lb Mole	28.65	28.57	28.63
Velocity of Flue Gas:	FPS	74.58	74.21	74.71
Volume of Flue Gas:	ACFM	2109539	2099064	2113247
Volume of Flue Gas:	DSCFM	1561277	1555874	1564665
Volume of Flue Gas:	KSCFM	1801.82	1795.58	1805.73
Volume of Flue Gas:	KSCFH	108109.155	107735.001	108343.756

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/19/00
 Unit Number: 1
 Load: Normal

Run:		4	5	6
Start Time:		10:26	10:55	11:07
End Time:		10:36	11:05	11:17
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.48	29.48	29.48
Static Pressure:	In. H2O	-1.10	-1.10	-1.10
Square Root of Delta-P:		1.252	1.239	1.233
Flue Temperature:	Deg. F.	149.00	147.58	148.50
Percent CO2:	%	12.00	12.60	12.50
Percent O2:	%	7.00	6.70	6.80
Percent Moisture:	%	13.2889	13.2889	13.2889
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.40	29.40	29.40
Molecular Weight(dry):	Lb/Lb Mole	30.20	30.28	30.27
Molecular Weight(wet):	Lb/Lb Mole	28.58	28.65	28.64
Velocity of Flue Gas:	FPS	74.91	73.95	73.66
Volume of Flue Gas:	ACFM	2118776	2091671	2083490
Volume of Flue Gas:	DSCFM	1564495	1548083	1539705
Volume of Flue Gas:	KSCFM	1804.26	1785.33	1775.67
Volume of Flue Gas:	KSCFH	108255.667	107120.040	106540.293

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/19/00
 Unit Number: 1
 Load: Normal

Run:		7	8	9
Start Time:		11:30	11:45	12:00
End Time:		11:40	11:55	12:10
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.48	29.48	29.48
Static Pressure:	In. H2O	-1.10	-1.10	-1.10
Square Root of Delta-P:		1.249	1.229	1.263
Flue Temperature:	Deg. F.	149.08	149.42	148.83
Percent CO2:	%	12.50	12.80	12.90
Percent O2:	%	6.90	6.50	6.40
Percent Moisture:	%	12.7901	12.7901	12.7901
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.40	29.40	29.40
Molecular Weight(dry):	Lb/Lb Mole	30.28	30.31	30.32
Molecular Weight(wet):	Lb/Lb Mole	28.71	28.73	28.74
Velocity of Flue Gas:	FPS	74.57	73.36	75.34
Volume of Flue Gas:	ACFM	2109156	2074944	2130936
Volume of Flue Gas:	DSCFM	1566138	1539889	1582960
Volume of Flue Gas:	KSCFM	1795.83	1765.73	1815.11
Volume of Flue Gas:	KSCFH	107749.510	105943.595	108906.873

Commercial Testing and Engineering

Velocity Traverse Calculations and Results

Client: JEA-SJRPP
 Site: JACKSONVILLE, FL. - Unit 1
 Date: 10/19/00
 Unit Number: 1
 Load: Normal

Run:		10	11	12
Start Time:		14:26	15:00	15:30
End Time:		14:36	15:10	15:40
Pitot Coefficient:		0.822	0.822	0.822
Barometric Pressure:	In. Hg.	29.48	29.48	29.48
Static Pressure:	In. H2O	-1.10	-1.10	-1.10
Square Root of Delta-P:		1.223	1.237	1.238
Flue Temperature:	Deg. F.	149.33	148.58	149.08
Percent CO2:	%	12.60	13.00	12.70
Percent O2:	%	6.70	6.40	6.50
Percent Moisture:	%	13.3200	13.3200	13.3200
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	29.40	29.40	29.40
Molecular Weight(dry):	Lb/Lb Mole	30.28	30.34	30.29
Molecular Weight(wet):	Lb/Lb Mole	28.65	28.69	28.65
Velocity of Flue Gas:	FPS	73.10	73.84	73.97
Volume of Flue Gas:	ACFM	2067769	2088509	2092447
Volume of Flue Gas:	DSCFM	1525450	1542650	1544290
Volume of Flue Gas:	KSCFM	1759.86	1779.71	1781.60
Volume of Flue Gas:	KSCFH	105591.820	106782.374	106895.892

**Commercial Testing and Engineering
Moisture Calculations (Runs 1 - 6)**

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/19/00
 Unit Number: 1
 Load: Normal

Run:	1	2	3
Volume of Condensate:	85.00	85.00	85.00
Weight of Silica Gel:	9.00	9.00	9.00
Volume Metered:	30.430	30.430	30.430
Meter Temperature:	94.510	94.510	94.510
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.48	29.48	29.48
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	28.723	28.723	28.723
Water Volume (SCF):	4.425	4.425	4.425
% Moisture in Flue Gas:	13.3500	13.3500	13.3500
Run:	4	5	6
Volume of Condensate:	84.00	84.00	84.00
Weight of Silica Gel:	8.00	8.00	8.00
Volume Metered:	29.980	29.980	29.980
Meter Temperature:	95.250	95.250	95.250
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.48	29.48	29.48
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	28.261	28.261	28.261
Water Volume (SCF):	4.331	4.331	4.331
% Moisture in Flue Gas:	13.2889	13.2889	13.2889

**Commercial Testing and Engineering
Moisture Calculations (Runs 7 - 12)**

Client: JEA-SJRPP
 Site: JACKSONVILLE,FL. - Unit 1
 Date: 10/19/00
 Unit Number: 1
 Load: Normal

Run:	7	8	9
Volume of Condensate:	80.00	80.00	80.00
Weight of Silica Gel:	8.00	8.00	8.00
Volume Metered:	29.989	29.989	29.989
Meter Temperature:	95.667	95.667	95.667
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.48	29.48	29.48
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	28.248	28.248	28.248
Water Volume (SCF):	4.143	4.143	4.143
% Moisture in Flue Gas:	12.7901	12.7901	12.7901

Run:	10	11	12
Volume of Condensate:	85.00	85.00	85.00
Weight of Silica Gel:	7.00	7.00	7.00
Volume Metered:	29.993	29.993	29.993
Meter Temperature:	97.00	97.00	97.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	29.48	29.48	29.48
Meter Correction Factor:	1.002	1.002	1.002
Volume Measured (DSCF):	28.18	28.18	28.18
Water Volume (SCF):	4.33	4.33	4.33
% Moisture in Flue Gas:	13.3200	13.3200	13.3200

SAMPLING AND ANALYTICAL PROCEDURES

TESTING EQUIPMENT - EPA METHOD 1&2 SAMPLING TRAIN (Velocity)

A Nutech Corporation Stack Sampler was used at the sampling location(s). The velocity sampling train consisted basically of a stainless steel probe; and an umbilical and various interconnecting hoses, fittings and valves. A calibrated S type pitot tube with a calibrated type K (Chromal/Alumel) thermocouple are integrated parts of the probe assembly, along with an inclined manometer or magnehelic gauges.

The control unit was used to monitor elapse sampling times, temperature, velocity pressures and static pressure.

Analyzer (Orsat)

Flue gas concentrations were determined by utilizing EPA Method 3A Instrumental which measures the percentage of carbon dioxide and percentage of oxygen to the nearest tenth of a percent.

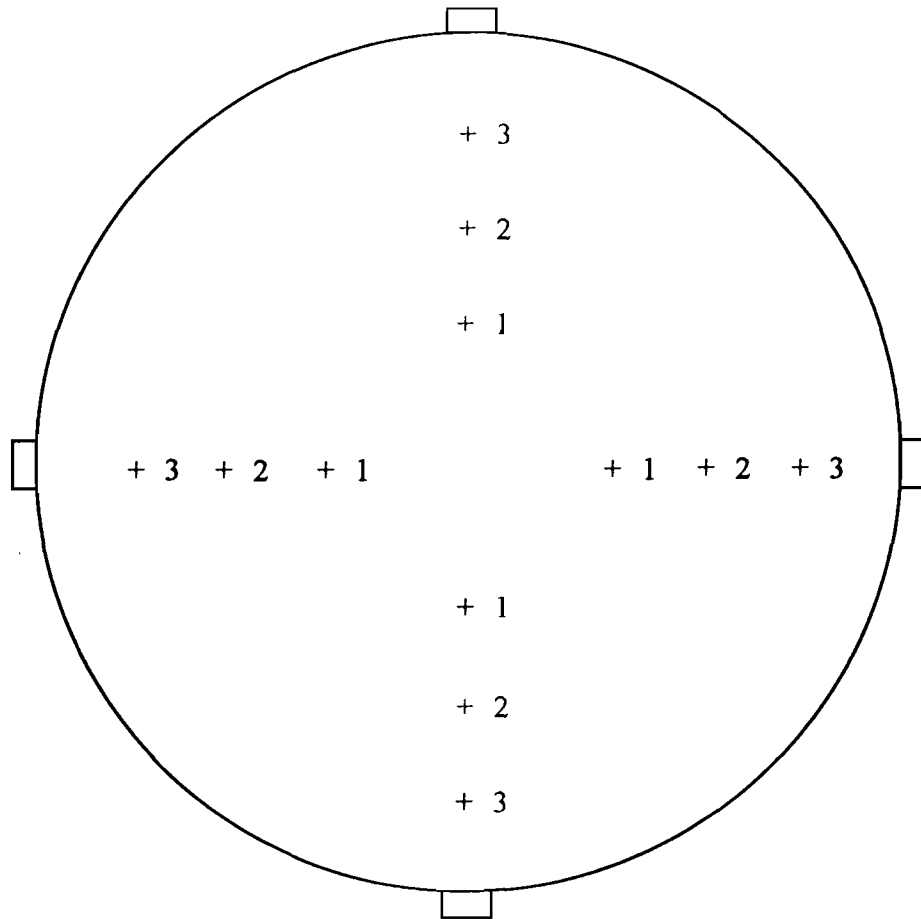
The number of sampling points and positions of the points in the flue at the sampling location(s), and the sampling time at each point were determined prior to the velocity testing. The sampling procedures were performed in accordance with the Environmental Protection Agency's Reference Method 1 and 2, 'Determination of Particulate Emissions from Stationary Sources' in July 1, 1999 Federal Register, 'Standards of Performance for New Stationary Sources' and subsequent revisions.

Before each test run a velocity sampling train was prepared inpart at the sampling location(s) in the following manner: The probe was dimensioned and marked with glass-cloth tape at increments that corresponded with the predetermined sampling positions in the flue. Next an umbilical and sampling hoses were connected to the sampling probe, and the control unit, accordingly.

After the velocity sampling train has been assembled, the pitot tube system leak-checked, the velocity sampling was performed.

A minimum of nine velocity 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.

Flue gas concentrations (percentage of CO₂, percentage of O₂) were determined by utilizing EPA Method 3A of the gas collected, simultaneously with the velocity sampling, throughout the test run.



VELOCITY
 SAMPLE DISTANCE FROM
 POINTS INSIDE WALL

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

STACK DIAMETER = 24.50'

STACK AREA = 471.43 sq. ft.

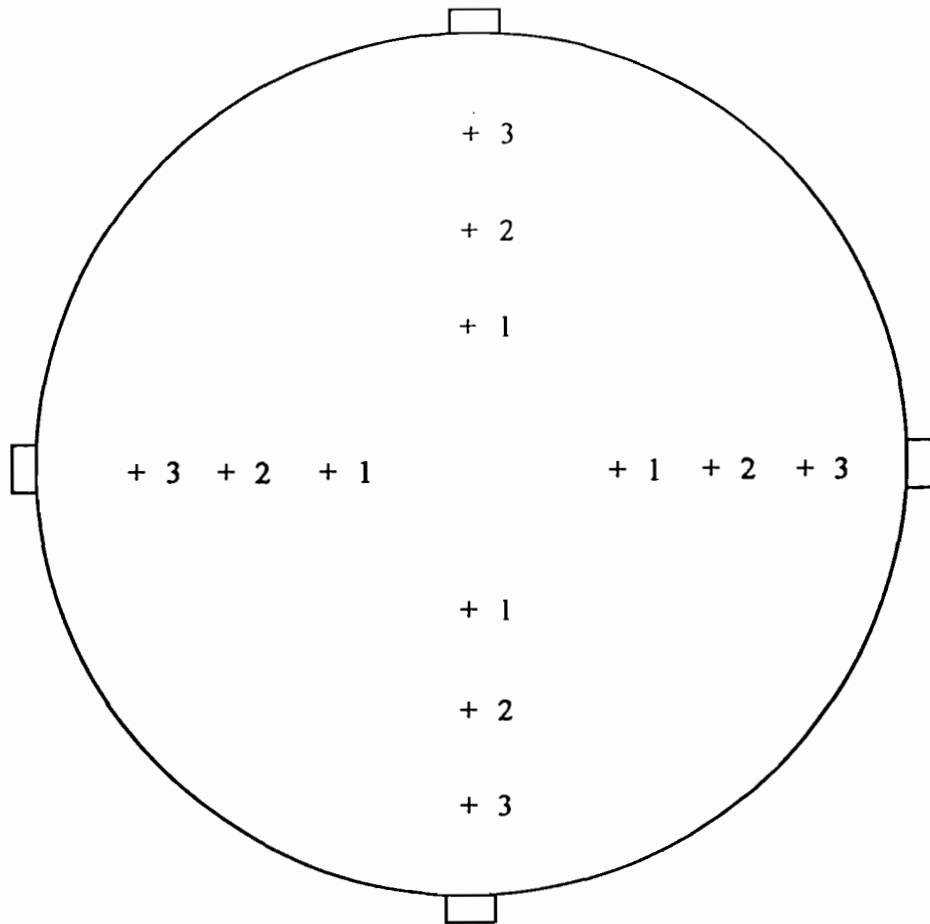
DRAWING NOT TO SCALE



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

VP3.PM4

SA@



RATA &
MOISTURE

<u>SAMPLE POINTS</u>	<u>DISTANCE FROM INSIDE WALL</u>
----------------------	----------------------------------

- | | |
|----|--------|
| 1) | 78.74" |
| 2) | 47.24" |
| 3) | 15.75" |

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 TEST METHOD 3A (O₂, CO₂) (Instrumental Analyzer Procedures)

Principle: A gas sample is continuously extracted from a stack, and a portion of the sample is conveyed to an instrumental analyzer for determination of either O₂ or CO₂, or both which ever is applicable.

1. Sample Train

1. The CO₂ Monitor is a Milton Roy, Model #3300A Infrared analyzer. The O₂ Monitor is a Servomex instrument series 1400 Paramagnetic Sensor Analyzer. Either one of these analyzers or both, whichever is applicable, coupled together with a Strip Chart, or Data Recorder, together with sample probe, teflon sample line, calibration valve assembly, moisture removal system, particulate filter, sample pump, sample flow rate control and sample gas manifold make up the sampling system.

2. Measurement System Performance Specifications

1. Analyzer Calibration Error: Less than +/- 2 percent of the span for zero, mid-range and high-range calibration gases.
2. Sampling System Bias: Less than +/- 5 percent of the span for the zero, and mid or high-range calibration gases.
3. Zero Drift: Less than +/- 3 percent of the span over the period of each run.
4. Calibration Drift: Less than +/- 3 percent of the span over the period of each run.

3. Calibration Gases: The calibration gases for the CO₂ analyzer are CO₂ in nitrogen. The O₂ calibration gases for the O₂ analyzer are O₂ in nitrogen.

1. High-Range Gas: O₂ Monitor - Ambient Air/or 20-25% by volume. CO₂ Monitor - 16-20 percent by volume.
2. Mid-Range Gas: O₂ Monitor - 10-15 percent by volume CO₂ Monitor - 8-12 percent by volume.
3. Zero Gas: O₂ Monitor - any of the CO₂ in nitrogen gases. CO₂ Monitor - Purified Ambient Air/or zero gas.

4. Calibration Gas Concentration Verification:

The calibration gases are analyzed following the Environmental Protection Agency Traceability Protocol Number One. A certification from the gas manufacturer that Protocol Number One was followed are included in the test report and available in the field during the test.

5. Measurement System Preparation

The measurement system was assembled by following the manufacturer's written instructions for preparing and preconditioning the gas analyzer and, as applicable, the other system components. The calibration gases were introduced and all necessary adjustments to calibrate the analyzer and the data recorded were performed.

6. Analyzer Calibration Error:

1. The analyzer calibration error check is conducted by introducing calibration gases to the measurement system at any point upstream of the gas analyzer as follows: After the measurement system is prepared for use, the zero, mid-range and the high-range gases are introduced to the analyzer. During this check, no adjustments to the system are made except those necessary to achieve the correct calibration. Error check is considered invalid if the gas concentration displayed by the analyzer exceeds ± 2 percent of the span for any of the calibration gases.

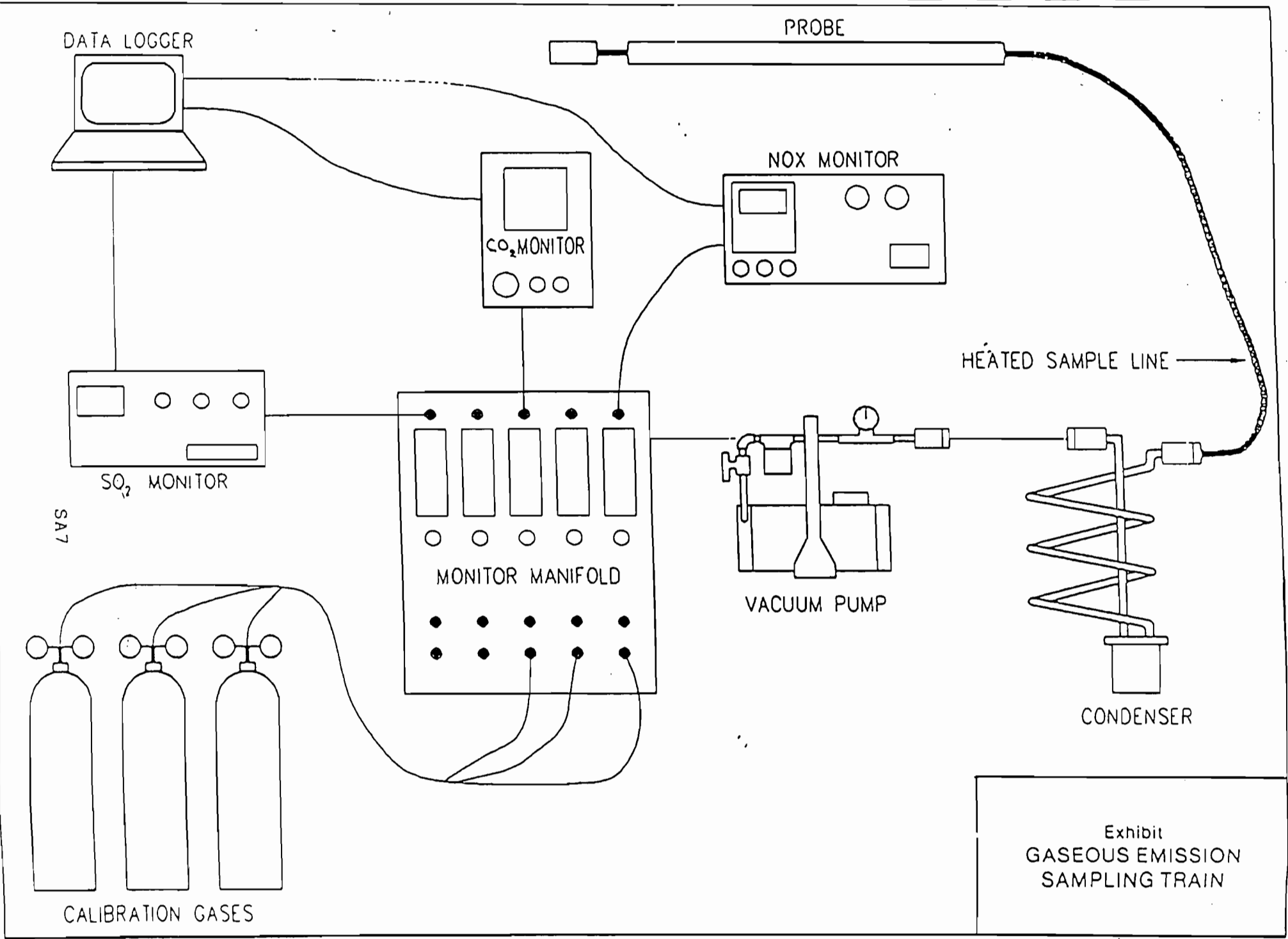
2. Sampling Systems Bias Check:

The sampling system bias check was performed by introducing calibration gases at the calibration valve installed at the outlet of the sampling probe. A zero gas and either the mid-range or high-range gas, whichever most closely approximates the effluent concentration, is used for this check as follows:

The upscale calibration gas is introduced and the gas concentration recorded. The zero gas is introduced and recorded. During the sampling system bias check, the system is operated at the normal sampling rate, no adjustments to the measurement system, other than those necessary to achieve proper calibration gas flow rates at the analyzer, are made. Alternately, introduce the zero and upscale gases until a stable response is achieved. The tester determined the measurement system response time by observing the times required to achieve a stable response for both the zero and upscale gases. Note the longer of the two times as the response time. The sampling system bias check shall be considered invalid if the difference between the gas concentrations displayed by the measurement system for analyzer calibration error check and for the sampling system bias check exceeds ± 5 percent of the span for either the zero or upscale calibration gases.

7. Sample Collection:

1. The sampling probe was positioned at the first measurement point, and the sampling began at the same rate as used during the system calibration drift test. A constant sampling rate was maintained (i.e., +/- 10 percent) during the entire run. Nine to twelve 21 minute sampling periods were performed to complete the Relative Accuracy (RATA) tests. Prior to the start of the test, the complete monitor system was leak checked. The systems response time was measured prior to the start of the test and recorded on a field Test Form. At the conclusion of each run the monitor was checked for calibration drift and the values were recorded on calibration forms included in this report.



TESTING EQUIPMENT - EPA TEST METHOD 4 (% MOISTURE) SAMPLING TRAIN

A Nutech Corporation Stack Sampler was used at the sampling location(s). The moisture sampling train consisted basically of an appropriate length 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, gauges, a calibrated dry gas meter, and an umbilical and various interconnecting hoses, fittings and valves. A calibrated type K stack temperature sensor, a static pressure tube, a calibrated S type pitot tube and a variable-heat-controlled 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 and also monitor elapse sampling times, temperatures, velocities, static pressure, gas sampling rates and sampled gas volume.

Prior to the field testing, the following procedures were performed: All instruments were checked and calibrated. Several 200-gram quantities of Type 6-16 mesh indicating silica gel were weighed on an Ohaus Electric 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 sampling. The sampling procedures were performed in accordance with the Environmental Protection Agency's Reference Methods 1 and 4 in the July 1, 1998 Federal Register, 'Standards of Performance for New Stationary Sources' and subsequent revisions.

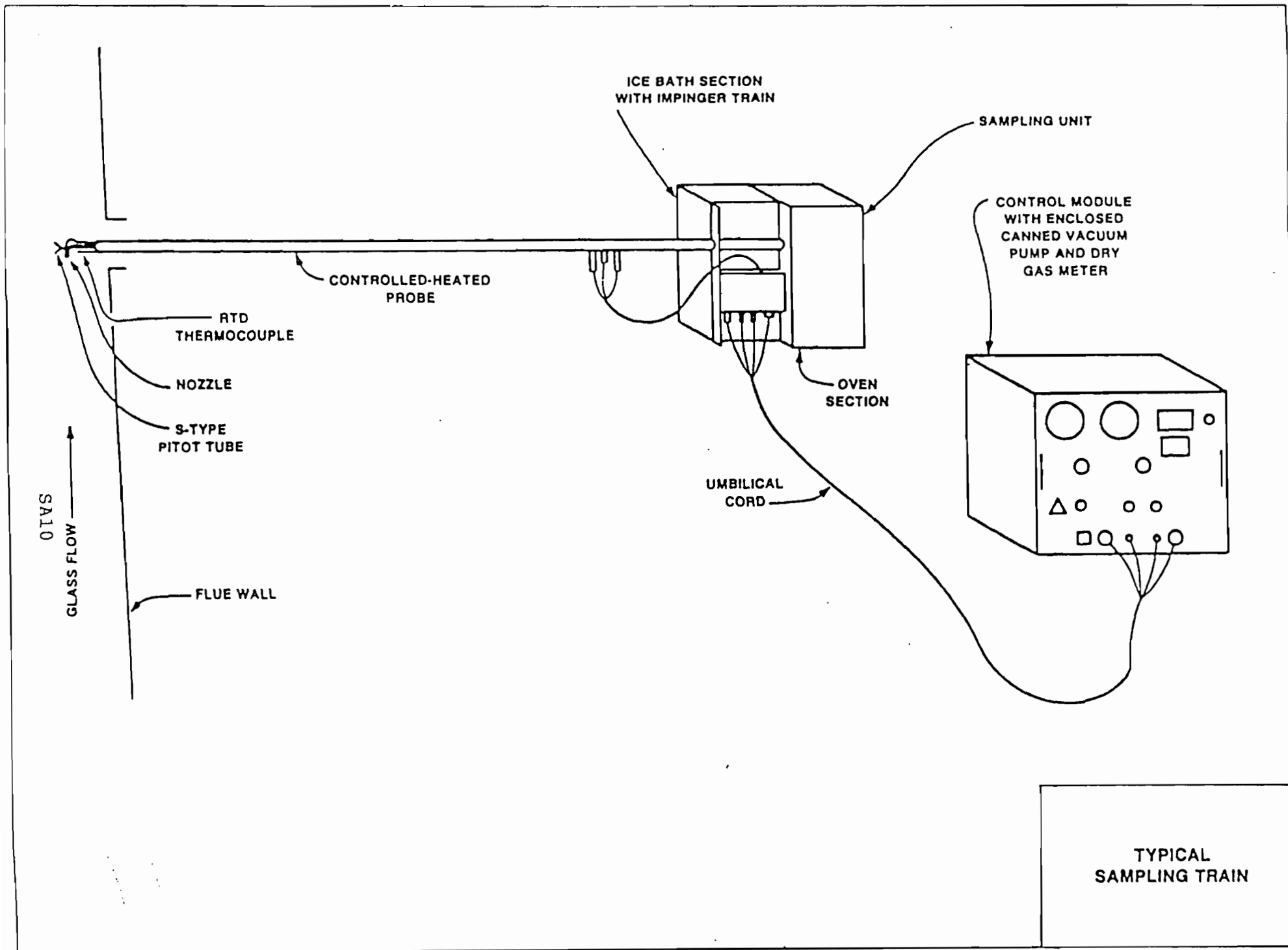
Before each moisture test run a sampling train was prepared in part at the sampling location(s) in the following manner: No sampling nozzle was installed into the inlet of the sampling probe. The probe was dimensioned and marked with glass-cloth tape at increments that corresponded with the predetermined sampling positions in the flue. A standard impinger assembly was prepared by adding 100 milliliters of distilled water to each of the first two impingers. The third impinger was left dry and the fourth was filled with approximately 200 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, vacuum pump and the control unit, accordingly. The probe and oven were then heated to and held at 248 degrees plus or minus 25 degrees.

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 moisture sampling train had been assembled, the probe and oven heated, and the entire system leak-checked, as previously described, the moisture sampling was performed. The sampling rate was set at 0.75 cubic feet per minute (cfm) and was sampled for 30 minutes. The sampling data for each test run was recorded on a field test form during each of the sampling periods.

After the completion of the test run, the following procedures were performed: A final leak-check was performed at maximum vacuum or greater incurred during the test 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 as added to the measured moisture condensed for that test run.



TESTING EQUIPMENT EPA TEST METHOD 6c (SO₂) (Instrumental Analyzer Procedure)

Principle: A gas sample is continuously extracted from a stack, and a portion of the sample is conveyed to an instrumental Infrared analyzer for determination of SO₂ concentration.

1. Sample Train
 1. A Fuji/Milton Roy Model ZRF, Infrared SO₂ gas analyzer together with a Data Logger recorder, together with sample probe, sample line, calibration valve assembly, moisture removal system, particulate filter, sample pump, sample flow rate control and sample gas manifold make up the sampling system.
2. Measurement system Performance Specifications
 1. Analyzer Calibration Error: Less than +/- 2 percent of the span for zero, mid-range and high-range calibration gases.
 2. Sampling System Bias: Less than +/- 5 percent of the span for the zero, and mid or high-range calibration gases.
 3. Zero Drift: Less than +/- 3 percent of the span over the period of each run.
 4. Calibration Drift: Less than +/- 3 percent of the span over the period of each run.
3. Calibration Gases: The calibration gases for the SO₂ analyzer are SO₂ in nitrogen.
 1. High-Range Gas: Concentration equivalent of 80 to 100 percent of the span.
 2. Mid-Range Gas: Concentration equivalent of 40 to 60 percent of the span.
 3. Zero Gas: Concentration of less than 0.25 percent of the span. Purified ambient air issued for the zero gas by passing air through a charcoal filter, or through one or more impingers containing a solution of 3 percent H₂O₂.
4. Calibration Gas Concentration Verification: The calibration gases are analyzed following the Environmental Protection Agency Traceability Protocol Number One. A certification from the gas manufacturer that Protocol Number One was followed are included in the test report and available in the field during the test.

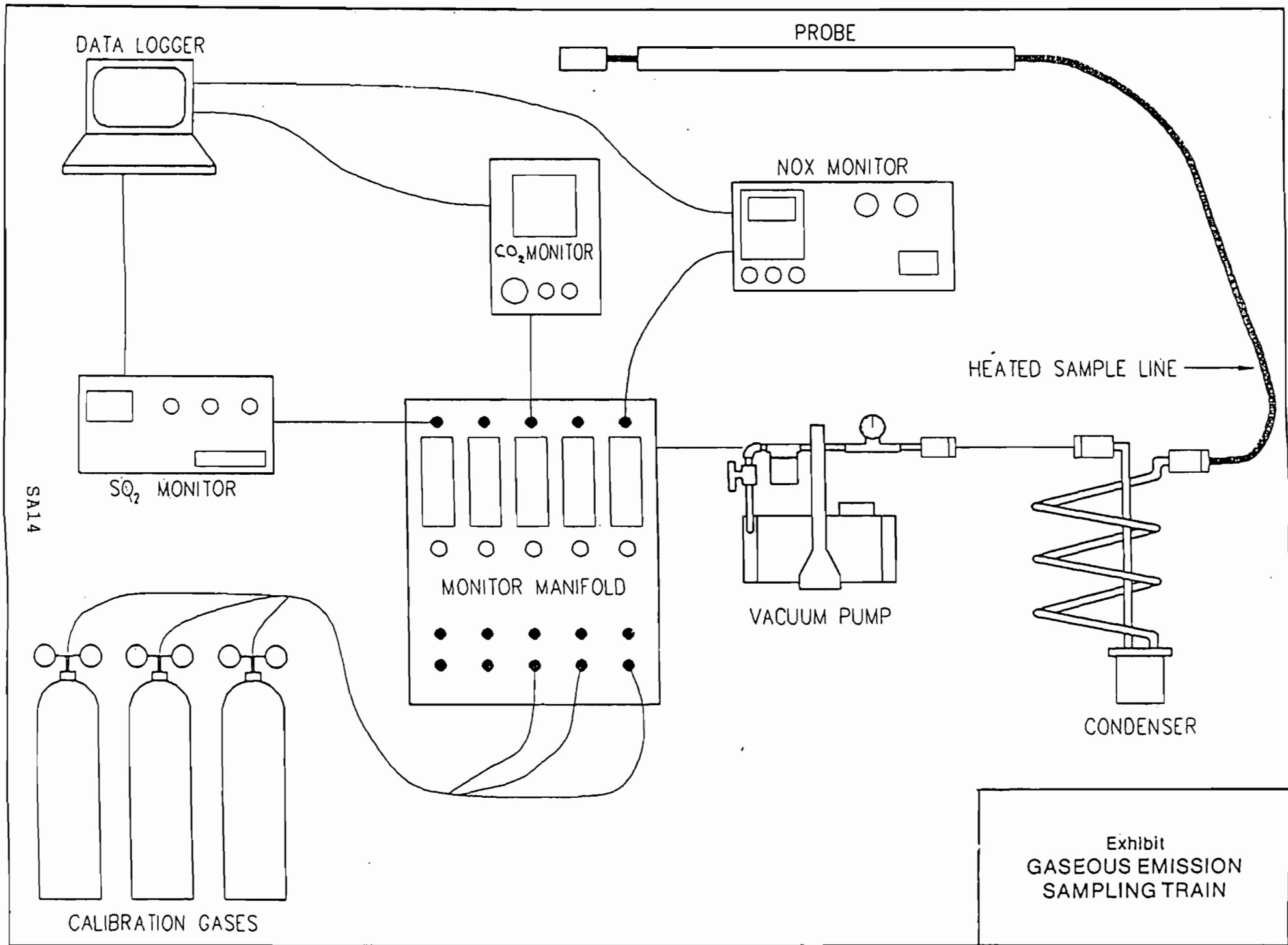
5. Measurement System Preparation

The measurement system was assembled by following the manufacturer's written instructions for preparing and preconditioning the gas analyzer and, as applicable, the other system components. The calibration gases were introduced and all necessary adjustments to calibrate the analyzer and the data recorded were performed.

6. Analyzer Calibration Error:

1. The analyzer calibration error check is conducted by introducing calibration gases to the measurement system at any point upstream of the gas analyzer as follows: After the measurement system is prepared for use, the zero, mid-range and the high-range gases are introduced to the analyzer. During this check, no adjustments to the system are made except those necessary to achieve the correct calibration. Error check is considered invalid if the gas concentration displayed by the analyzer exceeds ± 2 percent of the span for any of the calibration gases.
2. Sampling Systems Bias Check: The sampling system bias check was performed by introducing calibration gases at the calibration valve installed at the outlet of the sampling probe. A zero gas and either the mid-range or high-range gas, whichever most closely approximates the effluent concentration, is used for this check as follows: The upscale calibration gas is introduced and the gas concentration recorded. The zero gas is introduced and recorded. During the sampling system bias check, the system is operated at the normal sampling rate, no adjustments to the measurement system, other than those necessary to achieve proper calibration gas flow rates at the analyzer, are made. Alternately, introduce the zero and upscale gases until a stable response is achieved. The tester determined the measurement system response time by observing the times required to achieve a stable response for both the zero and upscale gases. Note the longer of the two times as the response time. The sampling system bias check shall be considered invalid if the difference between the gas concentrations displayed by the measurement system for analyzer calibration error check and for the sampling system bias check exceeds ± 5 percent of the span for either the zero or upscale calibration gases.

7. **Sample Collection:** The sampling probe was positioned at the first measurement point, and the sampling began at the same rate as used during the system calibration drift test. A constant sampling rate was maintained (i.e., +/- 10 percent) during the entire run. Nine to twelve 21 minute sampling periods were performed to complete the Relative Accuracy (RATA) tests. Prior to the start of the test, the complete monitor system was leak checked. The systems response time was measured prior to the start of the test and recorded on a Field Test Form. At the conclusion of each run the monitor was checked for calibration drift and the values were recorded on calibration forms included in this report.



TESTING EQUIPMENT EPA TEST METHOD 7E (Instrumental Analyzer Procedure)

Principle: A gas sample is continuously extracted from a stack, and a portion of the sample is conveyed to an instrumental Chemiluminescence analyzer for determination of NO_x concentration.

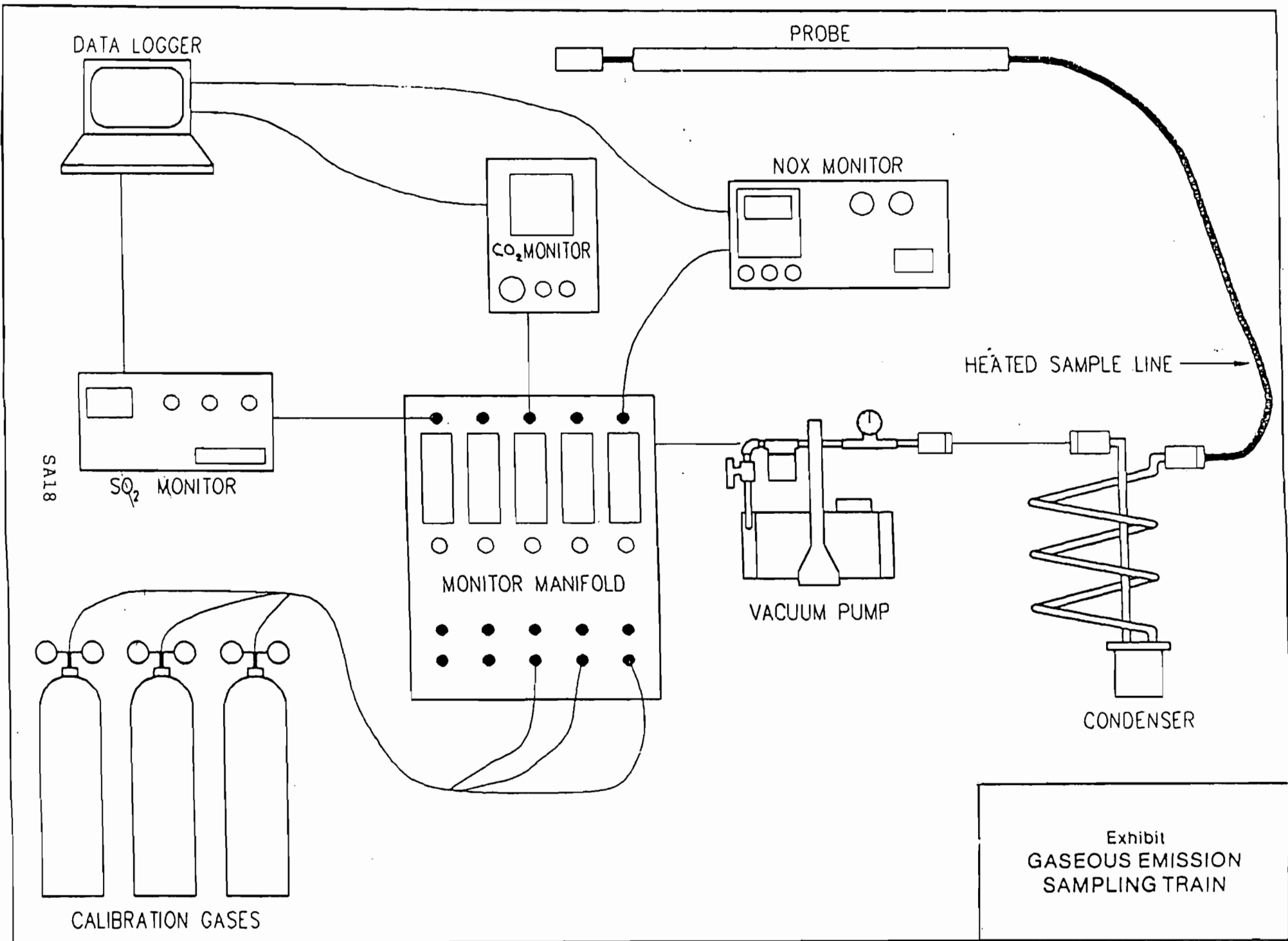
1. Sample Train
 1. A Thermo Electron, Model 10, Chemiluminescence NO-NO_x analyzer along with a Data Logger recorder, together with sample probe, sample line, calibration valve assembly, moisture removal system, particulate filter, sample pump, sample flow rate control and sample gas manifold make up the sampling system.
2. Measurement system Performance Specifications
 1. Analyzer Calibration Error: Less than +/- 2 percent of the span for zero, mid-range and high-range calibration gases.
 2. Sampling System Bias: Less than +/- 5 percent of the span for the zero, and mid or high-range calibration gases.
 3. Zero Drift: Less than +/- 3 percent of the span over the period of each run.
 4. Calibration Drift: Less than +/- 3 percent of the span over the period of each run.
3. Calibration Gases: The calibration gases for the NO_x analyzer will be NO in nitrogen.
 1. High-Range Gas: Concentration equivalent to 80 to 100 percent of the span.
 2. Mid-Range Gas: Concentration equivalent to 40 to 60 percent of the span.
 3. Zero Gas: Concentration of less than 0.25 percent of the span. Purified ambient air will be used for the zero gas by passing air through a charcoal filter, or through one or more impingers containing a solution 3 percent H₂O₂.
4. Calibration Gas Concentration Verification:

The calibration gases are analyzed following the Environmental Protection Agency Traceability Protocol Number One. A certification from the gas manufacturer that Protocol Number One was followed is included in the test report and available in the field during the test.

5. Measurement System Preparation: The measurement system was assembled by following the manufacturer's written instructions for preparing and preconditioning the gas analyzer and, as applicable, the other system components. The calibration gases were introduced and all necessary adjustments to calibrate the analyzer and the data recorded were performed.
6. Analyzer Calibration Error:
 1. The analyzer calibration error check was conducted by introducing calibration gases to the measurement system at any point upstream of the gas analyzer as follows: After the measurement system is prepared for use, the zero, mid-range and the high-range gases are introduced to the analyzer. During this check, no adjustments to the system are made except those necessary to achieve the correct calibration. Error check is considered invalid if the gas concentration displayed by the analyzer exceeds ± 2 percent of the span for any of the calibration gases.
 2. Sampling Systems Bias Check:

The sampling system bias check was performed by introducing calibration gases at the calibration valve installed at the outlet of the sampling probe. A zero gas and either the mid-range or high-range gas, whichever most closely approximates the effluent concentration, is used for this check as follows: The upscale calibration gas is introduced and the gas concentration recorded. The zero gas is introduced and recorded. During the sampling system bias check, the system shall be operated at the normal sampling rate, no adjustments to the measurement system, other than those necessary to achieve proper calibration gas flow rates at the analyzer, is made. Alternately, introduce the zero and upscale gases until a stable response is achieved. The tester determines the measurement system response time by observing the times required to achieve a stable response for both the zero and upscale gases. Note the longer of the two times as the response time. The sampling system bias check is considered invalid if the difference between the gas concentrations displayed by the measurement system for analyzer calibration error check and for the sampling system bias check exceeds ± 5 percent of the span for either the zero or upscale calibration gases.

7. Sample Collection: The sampling probe was positioned at the first measurement point, and the sampling began at the same rate as used during the system calibration drift test. A constant sampling rate was maintained (i.e., +/- 10 percent) during the entire run. Nine to twelve 21 minute sampling periods were performed to complete the Relative Accuracy (RATA) tests. Prior to the start of the test, the complete monitor system was leak checked. The systems response time was measured prior to the start of the test and recorded on a Field Test Form. At the conclusion of each run the monitor was checked for calibration drift and the values were recorded on calibration forms included in this report.



APPENDIX

EPA Formulas

NOMENCLATURE

acf	= actual cubic feet	P_i	= 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_{wsq}	= 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)

$$V_{wc} = 0.04707 \times V_i \quad V_{wsg} = 0.04715 \times W_{sg}$$

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

- (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)

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

- (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)

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



SINCE 1908

Commercial Testing and Engineering

FLOW CALCULATION (SCFM)

$$\text{SCFM} = 17.647 \times \frac{\text{Abs. Flue Pressure}}{\text{Stack Temp.} + 460} \times \text{ACFM}$$

$$\text{SCFH} = \text{SCFM} \times 60$$

BIAS ADJUSTMENT CALCULATIONS

If the mean difference (\bar{d}) is greater than the absolute value of the confidence coefficient (cc), the monitor or monitoring system has failed to meet the bias test requirement.

$$CEM_{i \text{ adjusted}} = CEM_{i \text{ monitor}} \times BAF$$

where, (Eq. A-11)

$CEM_{i \text{ monitor}}$ = Data (measurements) provided by the monitor at time i

$CEM_{i \text{ adjusted}}$ = Data Value, adjusted for bias, at time i

BAF = Bias adjustment factor, defined by

$$BAF = 1 + \frac{|\bar{d}|}{\overline{CEM}}$$

where,

\bar{d} = Arithmetic mean of the difference obtained during the failed bias test using equation A-7.

\overline{CEM} = Mean of the data value provided by the monitor during the failed bias test.

CORRECTED EFFLUENT GAS CONCENTRATION
(Dry Basis)

$$C_{\text{GAS}} = (\bar{C} - C_o) \frac{C_{\text{ma}}}{C_m - C_o}$$

C_{GAS} = Effluent gas concentration, Dry Basis PPM

\bar{C} = Average gas concentration indicated by analyzer, PPM Dry

C_o = Average of initial and final system calibration bias check responses for zero gas, PPM.

C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas, PPM.

C_{ma} = Actual concentration of the upscale gas, PPM.

NO_x CALCULATION
(CO₂ BASED)

$$\text{Lb/dscf} = 1.194 \times 10^{-7} \times \text{ppm}$$

$$\text{Lb/mmBtu} = \text{Lb/dscf} \times \text{F Factor} \times \left(\frac{100}{\% \text{CO}_2} \right)$$

$$\text{Lb/hour} = \text{Lb.dscf} \times \text{dscfm} \times 60 \text{ min./hr.}$$

SO₂ CALCULATION
(CO₂ BASED)

$$\text{Lb/dscf} = 1.660 \times 10^{-7} \times \text{ppm}$$

$$\text{Lb/mmBtu} = \text{Lb/dscf} \times \text{F Factor} \times \left(\frac{100}{\% \text{CO}_2} \right)$$

$$\text{Lb/hour} = \text{Lb.dscf} \times \text{dscfm} \times 60 \text{ min./hr.}$$

EXAMPLE CALCULATIONS

10-18-00

Normal Flow (KFCSH):

$$\text{BAF} = 1 + \frac{5837406.590}{99846066.667} = 1.058$$

Normal Flow (KFCSH)(Wth WAF):

$$\text{BAF} = 1 + \frac{4780571.857}{99846066.667} = 1.048$$

10-19-00

Normal Flow (KFCSH):

$$\text{BAF} = 1 + \frac{7071820.083}{99869033.333} = 1.071$$

Normal Flow (KFCSH)(Wth WAF):

$$\text{BAF} = 1 + \frac{6002411.549}{99869033.333} = 1.060$$

Test Data Sheets

Inlet to
Scrubber

MOLYTECH RATA TIME RECORDS

Client: SEA/SIRPP Project #: 00-205 Date: 10-17-00
Sample Location: Unit I Run #: 1-ALL
Bp (in): 29.86
Initial Leak Check: OK Final Leak Check: OK
Operator: Rick Howes

RUN NUMBER	START TIME	STOP TIME	MOLYTECH FILE #
1	08:15	8:36	A831017-A
2	08:50	9:11	- B
3	09:23	09:44	- C
4	09:56	10:17	D
5	10:25	10:46	E
6	10:55	11:16	F
7	11:25	11:46	G
8	11:55	12:16	H
9	12:25	12:46	I

Inlet
PADA

MONITOR SYSTEM RESPONSE TIME

CLIENT: SEA/SRPP
LOCATION: _____
UNIT: 1

DATE: 10-17-00
BY: R. Howes

ANALYZER TYPE: SO₂ NO_x CO₂ O₂
ANALYZER SPAN: 0-2000 _____ 0-2000 _____

UPSCALE GAS	SPAN GAS CONCENTRATION	95% OF SPAN GAS VALUE	MONITOR SYSTEM RESPONSE	TIME (SECONDS)
SO ₂	<u>893</u>	<u>848.35</u>	<u>955</u>	<u>60sec.</u>
NO _x	_____	_____	_____	_____
CO ₂	<u>9.82</u>	<u>9.329</u>	<u>9.85</u>	<u>30sec.</u>
O ₂	_____	_____	_____	_____

DOWN SCALE GAS	SPAN GAS CONCENTRATION	5% OF SPAN GAS VALUE	MONITOR SYSTEM RESPONSE	TIME (SECONDS)
SO ₂	<u>893</u>	<u>44.65</u>	<u>4.2</u>	<u>60sec.</u>
NO _x	_____	_____	_____	_____
CO ₂	<u>9.82</u>	<u>0.491</u>	<u>.1</u>	<u>30sec.</u>
O ₂	_____	_____	_____	_____

SLOWEST RESPONSE TIME = 60sec.

TWICE SYSTEM RESPONSE TIME = 120sec = 2min



INLET
DATA

ANALYZER CALIBRATION DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-17-00
 SOURCE IDENTIFICATION Unit I OPERATOR Rick Howes

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>SO2</u>					
SPAN: <u>0-2000</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS					
MID-RANGE GAS	<u>569152911</u>	<u>893</u>	<u>893</u>	<u>0</u>	<u>0</u>
HIGH-RANGE GAS	<u>569170506</u>	<u>1730</u>	<u>1739</u>	<u>+9</u>	<u>.45</u>

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>CO2</u>					
SPAN: <u>0-20%</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS					
MID-RANGE GAS	<u>56900075</u>	<u>9.82</u>	<u>9.9</u>	<u>+0.08</u>	<u>+0.4</u>
HIGH-RANGE GAS	<u>569173770</u>	<u>18.1</u>	<u>17.9</u>	<u>-0.2</u>	<u>-1.0</u>

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: _____					
GAS TYPE: _____					
SPAN: _____					
ZERO GAS					
LOW-RANGE GAS					
MID-RANGE GAS					
HIGH-RANGE GAS					

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: _____					
GAS TYPE: _____					
SPAN: _____					
ZERO GAS					
LOW-RANGE GAS					
MID-RANGE GAS					
HIGH-RANGE GAS					

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: _____					
GAS TYPE: _____					
SPAN: _____					
ZERO GAS					
LOW-RANGE GAS					
MID-RANGE GAS					
HIGH-RANGE GAS					

DIFFERENCE = (ABSOLUTE DIFFERENCE / SPAN) X 100

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 1 LOAD High S. Inlet
 Test Date : 10/17/80 Time : 08:15 thru 08:36

	1031	1029
	SO2	CO2
Time	PPM	%
:15:01	1305.57	12.95
:16:01	1297.82	12.96
:17:01	1306.65	12.84
:18:01	1316.39	13.06
:19:01	1310.75	13.12
:20:01	1318.90	13.05
:21:01	1313.31	12.94
:22:01	1310.24	12.94
:23:01	1299.76	13.02
:24:01	1310.01	13.00
:25:01	1324.94	13.07
:26:01	1298.00	12.84
:27:00	1301.81	13.02
:28:00	1313.72	13.04
:29:00	1312.69	13.03
:30:00	1298.40	12.95
:31:00	1308.88	13.18
:32:00	1329.61	13.25
:33:00	1321.75	12.92
:34:00	1309.39	12.98
:35:00	1346.64	13.33
Averages		
for 21		
Points	1312.15	13.02

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 2 LOAD High *S. Inlet*
 Test Date : 10/17/00 Time : 08:50 thru 09:11

Time	1031 SO2 PPM	1029 CO2 %
08:50:00	1297.95	12.90
08:51:00	1295.10	12.85
08:52:00	1305.69	12.99
08:53:00	1304.16	12.90
08:54:00	1307.06	12.94
08:55:00	1312.53	12.95
08:56:00	1322.32	13.02
08:57:00	1330.12	13.14
08:58:00	1332.63	12.96
08:59:00	1333.88	12.90
09:00:00	1327.79	13.11
09:01:00	1320.22	13.13
09:02:00	1337.41	13.10
09:02:59	1341.85	13.09
09:03:59	1321.87	13.01
09:04:59	1304.45	13.00
09:05:59	1314.64	12.92
09:06:59	1329.44	12.95
09:07:59	1304.05	12.94
09:08:59	1306.21	13.10
09:09:59	1312.65	12.95
09:10:59	1298.47	12.91
Averages		
for 22		
Points	1316.38	12.98

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 3 LOAD High
 Test Date : 10/17/00 Time : 09:23 thru 09:44

Time	1031 SO2 PPM	1029 CO2 %
09:23:00	1277.77	13.11
09:24:00	1285.52	13.11
09:25:00	1274.82	12.93
09:26:00	1281.25	13.12
09:27:00	1285.63	13.04
09:28:00	1272.65	12.80
09:29:00	1276.28	13.06
09:30:00	1293.72	13.15
09:31:00	1300.89	13.20
09:32:00	1311.26	13.08
09:33:00	1330.63	13.34
09:34:00	1274.56	13.03
09:35:00	1284.75	13.12
09:35:59	1276.27	12.99
09:36:59	1262.06	12.92
09:37:59	1288.92	13.24
09:38:59	1277.28	13.09
09:39:59	1262.23	12.86
09:40:59	1284.57	13.10
09:41:59	1275.44	13.22
09:42:59	1286.12	13.14
09:43:59	1278.18	12.97
Averages for 22 Points	1283.67	13.07

Client : JEA/SJRPP
Site : JACKSONVILLE, FL.
Unit : 1
Project : 00-205
Comment : RUN 4 LOAD High *Scrubber Filter*
Test Date : 10/17/00 Time : 09:56 thru 10:17

Time	1031 SO2 PPM	1029 CO2 %
09:56:01	1254.67	13.00
09:57:01	1242.62	12.92
09:58:01	1243.65	13.19
09:59:01	1264.06	13.25
10:00:01	1247.63	13.03
10:01:01	1228.72	12.88
10:02:00	1227.23	13.00
10:03:00	1216.65	13.01
10:04:00	1218.77	13.08
10:05:00	1238.79	13.07
10:06:00	1244.72	13.33
10:07:00	1240.76	13.31
10:08:00	1220.05	13.06
10:09:00	1227.79	13.06
10:10:00	1239.11	13.12
10:11:00	1225.63	13.07
10:12:00	1227.75	13.13
10:13:00	1238.51	13.02
10:14:00	1210.70	12.98
10:15:00	1221.82	13.07
10:16:00	1214.02	13.34
Averages		
for 21		
Points	1233.03	13.09

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit. : 1
 Project : 00-205
 Comment : RUN 5 LOAD High *Scrubber Inlet*
 Test Date : 10/17/80 Time : 10:25 thru 10:46

Time	1031 SO2 PPM	1029 CO2 %
10:25:01	1187.51	13.02
10:26:01	1194.40	13.01
10:27:01	1197.89	13.05
10:28:01	1182.34	13.00
10:29:01	1192.86	13.03
10:30:01	1201.59	12.99
10:31:01	1205.36	13.23
10:32:01	1190.39	13.16
10:33:01	1202.45	13.20
10:34:01	1206.22	13.23
10:35:01	1173.12	13.04
10:36:01	1168.35	12.96
10:37:01	1186.07	13.03
10:38:01	1191.31	13.02
10:39:01	1205.43	13.06
10:40:01	1219.52	13.38
10:41:01	1243.68	13.46
10:42:01	1225.65	13.18
10:43:01	1220.10	13.17
10:44:01	1231.07	13.26
10:45:00	1237.79	13.17
Averages for 21 Points	1203.00	13.12

Client : JEA/SJRPP
Site : JACKSONVILLE, FL.
Unit : 1
Project : 00-205
Comment : RUN 6 LOAD High Scrubber Inlet
Test Date : 10/17/00 Time : 10:55 thru 11:16

Time	1031 SO2 PPM	1029 CO2 %
10:55:01	1200.39	12.92
10:56:01	1177.80	12.96
10:57:01	1171.91	13.16
10:58:01	1190.83	13.15
10:59:01	1186.03	13.10
11:00:01	1189.39	13.06
11:01:01	1174.51	13.15
11:02:01	1156.68	12.89
11:03:00	1151.12	12.86
11:04:00	1159.91	13.13
11:05:00	1156.58	12.95
11:06:00	1155.69	13.00
11:07:00	1147.25	13.00
11:08:00	1150.65	12.94
11:09:00	1144.53	13.03
11:10:00	1147.91	13.19
11:11:00	1138.16	13.08
11:12:00	1145.78	12.97
11:13:00	1114.85	12.76
11:14:00	1117.91	12.86
11:15:00	1128.54	13.20
Averages for 21 Points	1157.44	13.01

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 7 LOAD High Scrubber Inlet
 Test Date : 10/17/00 Time : 11:25 thru 11:46

Time	1031 SO2 PPM	1029 CO2 %
11:25:01	1142.23	12.83
11:26:01	1144.24	13.13
11:27:01	1171.59	13.18
11:28:01	1183.38	13.15
11:29:01	1173.62	13.22
11:30:01	1158.22	13.09
11:31:01	1141.15	13.03
11:32:01	1144.53	13.07
11:33:01	1146.12	13.02
11:34:01	1146.49	13.09
11:35:01	1128.32	12.81
11:36:01	1130.89	12.88
11:37:01	1126.94	12.88
11:38:01	1136.74	13.08
11:39:01	1156.61	13.22
11:40:01	1154.48	12.91
11:41:01	1142.30	12.96
11:42:01	1147.00	12.94
11:43:01	1140.95	12.93
11:44:01	1147.13	12.95
11:45:01	1155.29	12.92
Averages for 21 Points	1148.48	13.01

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 8 LOAD High Scrubber Inlet
 Test Date : 10/17/00 Time : 11:55 thru 12:16

Time	1031 SO2 PPM	1029 CO2 %
11:55:01	1117.06	13.00
11:56:01	1133.18	13.04
11:57:01	1138.09	13.18
11:58:01	1153.08	13.04
11:59:01	1134.07	13.18
12:00:01	1129.02	13.18
12:01:01	1134.26	12.99
12:02:01	1126.74	12.96
12:03:01	1126.93	13.03
12:04:01	1140.59	13.18
12:05:01	1142.40	13.15
12:06:01	1144.90	12.99
12:07:01	1111.69	12.96
12:08:01	1108.02	13.02
12:09:01	1116.85	13.04
12:10:01	1123.28	13.02
12:11:01	1120.82	12.94
12:12:01	1141.29	13.22
12:13:01	1117.48	12.97
12:14:01	1147.84	13.20
12:15:01	1139.60	12.95
Averages		
for 21		
Points	1130.81	13.05

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 9 LOAD High Scrubber Inlet
 Test Date : 10/17/03 Time : 12:25 thru 12:46

	1031	1029
	SO2	CO2
Time	PPM	%
12:25:00	1108.04	12.94
12:26:00	1120.62	13.00
12:27:00	1149.34	12.95
12:28:00	1145.56	13.23
12:29:00	1127.36	13.18
12:30:00	1128.15	12.84
12:31:00	1128.95	12.85
12:32:00	1119.83	12.83
12:33:00	1123.07	12.88
12:34:00	1120.12	12.86
12:35:00	1140.34	13.07
12:36:00	1148.78	13.00
12:37:00	1152.87	13.16
12:38:00	1155.23	13.14
12:39:00	1152.14	13.00
12:40:00	1170.80	13.25
12:41:00	1151.97	12.97
12:42:00	1160.97	13.16
12:43:00	1149.27	13.01
12:44:00	1173.57	13.30
12:45:00	1155.16	13.10
Averages		
for 21		
Points	1142.00	13.03

Inlet RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-17-00
 SOURCE IDENTIFICATION UNIT I OPERATOR R. Howes

RUN NO. / GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>4.0</u>	<u>.20</u>	<u>.20</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>893</u>	<u>0</u>	<u>891</u>	<u>-.10</u>	<u>-.10</u>

RUN NO. / GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.01</u>	<u>.05</u>	<u>.05</u>	<u>.25</u>	<u>.20</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.88</u>	<u>-.10</u>	<u>9.89</u>	<u>-.05</u>	<u>.05</u>

RUN NO. <u>2</u> GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>4.0</u>	<u>.20</u>	<u>6.1</u>	<u>.305</u>	<u>.105</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>891</u>	<u>-.10</u>	<u>892</u>	<u>-.05</u>	<u>+0.05</u>

RUN NO. <u>2</u> GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.05</u>	<u>.25</u>	<u>.05</u>	<u>.25</u>	<u>0</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.89</u>	<u>-.05</u>	<u>9.89</u>	<u>-.05</u>	<u>0</u>

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS						
UPSCALE GAS						

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100

Inlet RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-17-00
 SOURCE IDENTIFICATION UNIT I OPERATOR R. Howes

RUN NO. 3 GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>6.1</u>	<u>.305</u>	<u>5.40</u>	<u>.27</u>	<u>-.035</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>892</u>	<u>-.05</u>	<u>892</u>	<u>-.05</u>	<u>0</u>

RUN NO. 3 GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.05</u>	<u>.25</u>	<u>1.04</u>	<u>.20</u>	<u>-.05</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.89</u>	<u>-.05</u>	<u>9.89</u>	<u>-.05</u>	<u>0</u>

RUN NO. 4 GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>5.40</u>	<u>.27</u>	<u>5.0</u>	<u>.25</u>	<u>-.02</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>892</u>	<u>-.05</u>	<u>893</u>	<u>0</u>	<u>+0.05</u>

RUN NO. 4 GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.04</u>	<u>.20</u>	<u>.03</u>	<u>.15</u>	<u>-.05</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.89</u>	<u>-.05</u>	<u>9.89</u>	<u>-.05</u>	<u>0</u>

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS						
UPSCALE GAS						

SYSTEM CALIBRATION BIAS - (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT - (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100



Inlet RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-17-0
 SOURCE IDENTIFICATION unit I OPERATOR B. Howes

RUN NO. <u>5</u> GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>5.0</u>	<u>.25</u>	<u>5.7</u>	<u>.29</u>	<u>.035</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>893</u>	<u>0</u>	<u>893</u>	<u>0</u>	<u>0</u>

RUN NO. <u>5</u> GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.03</u>	<u>.15</u>	<u>.03</u>	<u>.15</u>	<u>0</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.89</u>	<u>-.05</u>	<u>9.89</u>	<u>-.05</u>	<u>0</u>

RUN NO. <u>6</u> GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>5.7</u>	<u>.29</u>	<u>5.9</u>	<u>.295</u>	<u>.01</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>893</u>	<u>0</u>	<u>894</u>	<u>.05</u>	<u>.05</u>

RUN NO. <u>6</u> GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.03</u>	<u>.15</u>	<u>.02</u>	<u>.10</u>	<u>-.05</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.89</u>	<u>-.05</u>	<u>9.88</u>	<u>-.10</u>	<u>-.05</u>

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS						
UPSCALE GAS						

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100

Inlet RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-17-00
 SOURCE IDENTIFICATION UNIT I OPERATOR R. Howes

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
7 SO ₂ 0-2000						
ZERO GAS 0	0	5.9	.295	6.2	.31	.015
UPSCALE GAS 893	893	894	.105	892	-.05	-.10

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
7 CO ₂ 0-20%						
ZERO GAS 0	0	.02	.10	.02	.10	0
UPSCALE GAS 9.82	9.80	9.88	-.10	9.88	-.10	0

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
8 SO ₂ 0-2000						
ZERO GAS 0	0	6.2	.31	6.3	.315	.005
UPSCALE GAS 893	893	892	-.05	892	-.05	0

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
8 CO ₂ 0-20%						
ZERO GAS 0	0	.02	.10	.01	.05	-.05
UPSCALE GAS 9.82	9.90	9.88	-.10	9.89	-.05	.05

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS						
UPSCALE GAS						

SYSTEM CALIBRATION BIAS = (SYSTEM CAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100



Inlet RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-17-00
 SOURCE IDENTIFICATION unit I OPERATOR R. Howes

RUN NO. <u>9</u> GAS TYPE: <u>SO2</u> SPAN: <u>0-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>6.3</u>	<u>.315</u>	<u>6.5</u>	<u>.325</u>	<u>.01</u>
UPSCALE GAS <u>893</u>	<u>893</u>	<u>892</u>	<u>-.05</u>	<u>891</u>	<u>-.10</u>	<u>-.05</u>

RUN NO. <u>9</u> GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.01</u>	<u>.05</u>	<u>.01</u>	<u>.05</u>	<u>0</u>
UPSCALE GAS <u>9.82</u>	<u>9.90</u>	<u>9.89</u>	<u>-.05</u>	<u>9.89</u>	<u>-.05</u>	<u>.05</u>

RUN NO. GAS TYPE: <u>SO2</u> SPAN: <u>6-2000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>						
UPSCALE GAS <u>893</u>						

RUN NO. GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>						
UPSCALE GAS <u>9.82</u>						

RUN NO. GAS TYPE: SPAN:	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS						
UPSCALE GAS						

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100

MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10/17/00
PROJECT NO.: 00-206MO	OPERATOR: PA
SAMPLING LOCATION: Inlet to Scrubber	METER-ORFICE: 3.002 M-3
BAROMETRIC PRESSURE: 29.86	METER CORR. FACTOR: 1.006
SAMPLE PT. TIME: 21 min	UNIT LOAD: Normal PROBE NO:

LEAK CHECK: BEFORE .004 10^{1/2} AFTER .005 10^{1/2}

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)	
								INITIAL READING	FINAL READING
1	1	1.7		60.1		60.5	Ø	339.54	334.90
START TIME	0816								
STOP TIME	0837			58.8		60.7	Ø	345.01	
SILICA GEL	5	3		60		60.7	Ø	350.585	
CONDENSATE	25								
AVG.						60.633	✓	15.685	

LEAK CHECK: BEFORE .003 10^{1/2} AFTER .006 10^{1/2}

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)	
								INITIAL READING	FINAL READING
2	1	1.7		59.4		62.1	Ø	355.87	
START TIME	0850								
STOP TIME	0911			64.5		62.5	Ø	361.08	
SILICA GEL	6	3		66.0		63.9	Ø	366.325	
CONDENSATE	28								
AVG.						62.983	✓	15.225	

LEAK CHECK: BEFORE .007 10^{1/2} AFTER .009 10^{1/2}

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)	
								INITIAL READING	FINAL READING
3	1	1.7		59.6		65.6	Ø	371.78	
START TIME	0922								
STOP TIME	0943			60.1		66.5	Ø	376.97	
SILICA GEL	6	3		59.7		67.3	Ø	392.279	
CONDENSATE	29								
AVG.						66.467	✓	15.744	

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MOISTURE FIELD DATA SHEETS

CLIENT: St Johns River Power	DATE: 10/17/00
PROJECT NO.: 00-206MO	OPERATOR: RA
SAMPLING LOCATION: inlet to scrubber	METER-ORFICE: 3.002 M-3
BAROMETRIC PRESSURE: 29.86	METER CORR. FACTOR: 1.006
SAMPLE PT. TIME: 21 min	UNIT LOAD: Normal PROBE NO:

LEAK CHECK: BEFORE 003 ~~10/16~~ AFTER 007 10/16

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl)
				IMP. OUT	METER IN	METER OUT		
4	1	1.7	7	61.6		70.4	392.325	
START TIME	0955						397.62	
STOP TIME	1016			57.3		72.4	392.87	
SILICA GEL	4	3		56.6		72.8	398.094	
CONDENSATE	30							
AVG.						71.867	15.719	

LEAK CHECK: BEFORE 004 10/16 AFTER 004 10/16

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl)
				IMP. OUT	METER IN	METER OUT		
5		1.7		59.3		74.2	398.153	
START TIME	1024						403.39	
STOP TIME	1045			57.1		75.4	408.64	
SILICA GEL	5			56.8		76.0	413.891	
CONDENSATE	30							
AVG.						75.200	15.735	

LEAK CHECK: BEFORE 008 10/16 AFTER 009 10/16

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl)
				IMP. OUT	METER IN	METER OUT		
6		1.7		61.5		76.6	414.215	
START TIME	1054						419.45	
STOP TIME	1115			58.7		77.1	424.70	
SILICA GEL	6			56.7		77.8	429.959	
CONDENSATE	30							
AVG.						77.167	15.744	

MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10/17/00
PROJECT NO.: 00-206MO	OPERATOR: RA
SAMPLING LOCATION: inlet to scrubber	METER-ORFICE: 3.002 M-3
BAROMETRIC PRESSURE: 29.86	METER CORR. FACTOR: 1.006
SAMPLE PT. TIME: 21 min	UNIT LOAD: Normal PROBE NO:

LEAK CHECK: BEFORE .006 @ 10% AFTER .006 @ 10%

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)
				IMP. OUT	METER IN	METER OUT		INITIAL READING
7	1	1.7		60.7	79.0	Ø	430.282	
START TIME	1124						435.52	
STOP TIME	1145			61	79.7	Ø	440.77	
SILICA GEL	5	3		61.2	80.5	Ø	445.991	
CONDENSATE	28							
AVG.					79.733	✓	15.709	

LEAK CHECK: BEFORE .003 @ 10% AFTER .005 @ 10%

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)
				IMP. OUT	METER IN	METER OUT		INITIAL READING
8	1	1.7		60.1	81.3	Ø	446.383	
START TIME	1154						451.62	
STOP TIME	1215			60.1	81.3	Ø	456.82	
SILICA GEL	5	3		59.8	81.8		462.098	
CONDENSATE	29							
AVG.					81.467	✓	15.715	

LEAK CHECK: BEFORE .005 @ 10% AFTER .007 @ 10%

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)
				IMP. OUT	METER IN	METER OUT		INITIAL READING
9	1	1.7		61.0	81.2	Ø	462.285	
START TIME	1224						467.53	
STOP TIME	1245			61.5	81.4	Ø	472.77	
SILICA GEL	6	3		61.8	82.7	Ø	477.997	
CONDENSATE	31							
AVG.					81.767	✓	15.712	

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T20

STACK
RATA

MOLYTECH RATA TIME RECORDS

Client: JEA/SJRPP Project #: 00-205 Date: 10-18-00
 Sample Location: Unit I Run #: 1-ALL
 Bp (in): _____
 Initial Leak Check: ok Final Leak Check: ok
 Operator: Rick Howes

RUN NUMBER	START TIME	STOP TIME	MOLYTECH FILE #
1	08:55	09:16	AB31018-A
2	09:30	9:51	B
3	10:02	10:23	C
4	10:37	10:58	D
5	11:11	11:32	E
6	11:45	12:06	F
VOID → 7	12:19	12:40	G
7	12:47	13:08	H
8	13:19	13:40	I
9	13:52	14:13	J
10	14:26	14:47	K
11	15:00	15:21	L
12	15:30	15:51	M

lose power to track during run → Transformer got wet from rain on stack

Channels
1, 2, 3, 4, 5

STACK
DATA

ANALYZER CALIBRATION DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-18-00
SOURCE IDENTIFICATION UNIT STACK OPERATOR Rick Howes

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>NOX</u>					
SPAN: <u>0-1000</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS					
MID-RANGE GAS	<u>ALM046485</u>	<u>558</u>	<u>558</u>	<u>0</u>	<u>0</u>
HIGH-RANGE GAS	<u>AAL9543</u>	<u>876</u>	<u>875</u>	<u>-1</u>	<u>-.10</u>

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>SO2</u>					
SPAN: <u>0-300</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS					
MID-RANGE GAS	<u>AAL021741</u>	<u>166.1</u>	<u>166.1</u>	<u>0</u>	<u>0</u>
HIGH-RANGE GAS	<u>SG9114792</u>	<u>247</u>	<u>247</u>	<u>0</u>	<u>0</u>

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>CO2</u>					
SPAN: <u>0-20%</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS					
MID-RANGE GAS	<u>ALM046485</u>	<u>11.13</u>	<u>11.11</u>	<u>-.02</u>	<u>-.10</u>
HIGH-RANGE GAS	<u>AAL9543</u>	<u>18.06</u>	<u>18.12</u>	<u>+0.06</u>	<u>.30</u>

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>O2</u>					
SPAN: <u>0-25%</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS					
MID-RANGE GAS	<u>SG900075</u>	<u>12.0</u>	<u>12.0</u>	<u>0</u>	<u>0</u>
HIGH-RANGE GAS	<u>SG9173770</u>	<u>22.1</u>	<u>22.2</u>	<u>+0.1</u>	<u>+0.40</u>

CALIBRATION DATA FOR	CYLINDER NUMBER	CYLINDER VALUE % OR PPM	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE % OR PPM	DIFFERENCE % OF SPAN
SAMPLING RUNS: <u>1-ALL</u>					
GAS TYPE: <u>CO</u>					
SPAN: <u>0-1000</u>					
ZERO GAS		0	0	0	0
LOW-RANGE GAS	<u>SG916357B</u>	<u>322</u>	<u>322</u>	<u>0</u>	<u>0</u>
MID-RANGE GAS	<u>SG1813NB</u>	<u>608</u>	<u>610</u>	<u>+2</u>	<u>+0.20</u>
HIGH-RANGE GAS					

DIFFERENCE = (ABSOLUTE DIFFERENCE / SPAN) X 100

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T22

STACK
DATA

MONITOR SYSTEM RESPONSE TIME

CLIENT: SEA/SJ&PP
 LOCATION: STACK
 UNIT: 1

DATE: 10-18-00
 BY: R. Howes

ANALYZER TYPE: SO₂ NO_x CO₂ O₂ CO

ANALYZER SPAN: 0-300 0-1000 0-202 0-25% 0-1000

UPSCALE GAS	SPAN GAS CONCENTRATION	95% OF SPAN GAS VALUE	MONITOR SYSTEM RESPONSE	TIME (SECONDS)
SO ₂	<u>166.1</u>	<u>157.795</u>	<u>162</u>	<u>120 sec.</u>
NO _x	<u>558</u>	<u>530.1</u>	<u>555</u>	<u>70 sec.</u>
CO ₂	<u>11.13</u>	<u>10.574</u>	<u>11.0</u>	<u>75 sec.</u>
O ₂	<u>12.0</u>	<u>11.4</u>	<u>11.95</u>	<u>75 sec.</u>
CO	<u>322</u>	<u>305.9</u>	<u>319</u>	<u>70 sec.</u>

DOWN SCALE GAS	SPAN GAS CONCENTRATION	5% OF SPAN GAS VALUE	MONITOR SYSTEM RESPONSE	TIME (SECONDS)
SO ₂	<u>166.1</u>	<u>8.305</u>	<u>4.1</u>	<u>120 sec.</u>
NO _x	<u>558</u>	<u>27.9</u>	<u>1.2</u>	<u>65 sec.</u>
CO ₂	<u>11.13</u>	<u>0.556</u>	<u>.20</u>	<u>60 sec.</u>
O ₂	<u>12.0</u>	<u>0.60</u>	<u>.10</u>	<u>60 sec.</u>
CO	<u>322</u>	<u>16.1</u>	<u>1.0</u>	<u>65 sec.</u>

SLOWEST RESPONSE TIME = 120 sec. = 2 min

TWICE SYSTEM RESPONSE TIME = 4 min

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 1 LOAD High
 Test Date :10/18/80 Time :08:55 thru 09:16

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
08:55:59	289.89	219.26	5.53	13.76	322.58
08:56:59	289.31	213.87	5.57	13.67	255.21
08:57:59	291.19	204.16	5.88	13.47	92.86
08:58:59	287.19	204.39	5.87	13.53	111.89
08:59:59	283.24	207.40	5.79	13.57	113.27
09:00:59	285.21	209.69	5.72	13.56	96.93
09:01:59	286.78	206.42	5.77	13.59	125.13
09:02:59	285.49	209.22	5.65	13.71	236.83
09:03:59	285.80	209.59	5.65	13.63	281.85
09:04:59	286.29	206.34	5.85	13.48	113.66
09:05:59	289.94	204.72	6.00	13.38	135.03
09:06:59	285.13	202.84	5.88	13.49	121.86
09:07:59	278.84	205.19	5.69	13.62	239.46
09:08:59	280.83	205.06	5.85	13.48	159.64
09:09:59	286.10	205.64	5.84	13.50	171.76
09:10:59	287.90	205.15	5.87	13.50	93.62
09:11:59	284.09	209.43	5.76	13.56	167.39
09:12:59	285.62	211.48	5.76	13.54	169.22
09:13:59	289.06	210.62	5.82	13.47	132.87
09:14:59	288.62	212.23	5.84	13.51	89.23
09:15:59	286.86	213.15	5.69	13.64	163.26
Averages for 21 Points	286.35	208.37	5.77	13.55	161.59

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 2 LOAD High
 Test Date : 10/18/00 Time : 09:30 thru 09:51

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
09:30:01	284.51	219.21	5.74	13.54	133.72
09:31:01	286.39	218.81	5.81	14.14	223.76
09:32:01	282.02	209.94	5.62	13.59	297.44
09:33:01	281.10	206.83	5.65	13.60	259.01
09:34:01	280.37	205.58	5.65	13.59	168.84
09:35:01	285.38	204.63	5.73	13.54	179.81
09:36:01	285.25	204.21	5.79	13.50	142.52
09:37:01	290.46	196.92	6.04	13.35	65.36
09:38:01	284.01	198.45	5.84	13.51	96.87
09:39:01	282.34	200.98	5.77	13.56	224.35
09:40:01	281.46	202.53	5.74	13.53	200.52
09:41:01	283.73	204.38	5.88	13.46	88.49
09:42:01	282.12	202.23	5.92	13.45	152.74
09:43:01	283.95	210.73	5.64	13.65	226.19
09:44:01	283.34	212.90	5.63	13.65	195.63
09:45:01	286.47	209.23	5.84	13.55	140.71
09:46:01	287.08	208.31	5.71	13.58	186.21
09:47:01	289.51	203.40	5.77	13.54	150.36
09:48:01	289.57	198.98	5.79	13.55	168.38
09:49:01	283.79	202.65	5.63	13.72	142.02
09:50:01	283.64	202.80	5.72	13.60	111.61
Averages for 21 Points	284.59	205.89	5.75	13.58	169.26

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 3 LOAD High
 Test Date :10/18/03 Time :10:02 thru 10:23

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
10:02:01	282.34	225.72	5.71	13.58	119.82
10:03:01	282.77	220.88	5.66	13.58	208.27
10:04:01	288.71	221.50	5.51	13.73	312.55
10:05:01	287.19	215.24	5.77	13.52	107.96
10:06:01	287.77	214.47	5.59	13.71	176.01
10:07:01	287.38	207.78	5.67	13.58	108.40
10:08:01	293.37	202.20	5.75	13.54	67.45
10:09:01	292.95	199.69	5.83	13.53	69.59
10:10:01	297.30	200.80	5.80	13.55	111.72
10:11:01	298.29	204.91	5.73	13.60	86.38
10:12:01	296.18	209.65	5.69	13.60	103.99
10:13:01	298.40	212.83	5.67	13.66	64.65
10:14:01	294.25	215.45	5.58	13.74	160.08
10:15:01	297.20	217.45	5.52	13.74	161.22
10:16:01	303.01	210.55	5.84	13.49	60.08
10:17:01	304.88	204.09	5.90	13.47	71.09
10:18:01	299.80	201.69	5.86	13.51	192.11
10:19:01	301.78	202.67	5.82	13.55	111.87
10:20:01	304.19	208.32	5.77	13.57	142.67
10:21:01	303.83	210.18	5.82	13.53	64.44
10:22:01	304.85	212.46	5.82	13.54	84.44
Averages for 21 Points	295.54	210.40	5.72	13.58	123.08

Client :JEA/SJRPP
 Site :JACKSONVILLE,FL.
 Unit :1
 Project :00-205
 Comment :RUN 4 LOAD High
 Test Date :10/18/00 Time :10:37 thru 10:58

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
10:37:00	306.90	226.33	5.68	13.62	106.35
10:38:00	306.29	222.78	5.79	13.58	129.99
10:39:00	306.29	226.52	5.68	13.64	107.17
10:40:00	311.21	221.54	5.90	13.46	35.44
10:41:00	308.33	218.35	6.04	13.37	21.36
10:42:00	295.36	219.56	5.90	13.50	68.49
10:43:00	298.39	219.29	6.00	13.41	57.26
10:44:00	306.38	214.43	6.04	13.32	19.06
10:45:00	306.10	214.80	6.11	13.31	19.71
10:46:00	304.19	213.31	6.01	13.39	24.73
10:47:00	304.03	210.14	5.83	13.56	81.45
10:48:00	302.54	211.94	5.65	13.68	175.30
10:49:00	297.07	215.83	5.53	13.70	144.85
10:50:00	305.05	210.96	5.97	13.38	36.18
10:51:00	308.33	210.14	5.93	13.47	50.71
10:52:00	304.14	213.50	5.89	13.51	71.71
10:53:00	307.89	214.36	5.84	13.51	83.22
10:54:00	305.19	217.20	5.83	13.53	59.58
10:55:00	297.37	220.94	5.70	13.55	40.11
10:56:00	302.92	214.88	5.88	13.51	70.39
10:57:00	301.65	214.57	5.74	13.57	57.09
Averages for 21 Points	304.07	216.73	5.85	13.50	69.53

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 5 LOAD High
 Test Date :10/18/00 Time :11:11 thru 11:32

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
11:11:00	299.50	221.49	5.87	13.46	62.67
11:12:00	301.04	219.35	5.83	13.52	57.68
11:13:00	299.16	218.38	5.81	13.54	44.27
11:14:00	301.76	215.61	5.91	13.46	65.14
11:15:00	300.24	218.59	5.73	13.58	60.05
11:16:00	298.53	214.13	5.88	13.52	54.31
11:17:00	300.52	210.82	5.70	13.66	54.52
11:18:00	302.81	206.87	5.78	13.58	57.78
11:19:00	297.45	209.75	5.71	13.60	73.66
11:20:00	300.27	207.22	5.85	13.54	50.19
11:21:00	298.39	211.57	5.80	13.61	79.14
11:22:00	302.12	209.97	5.82	13.50	41.82
11:23:00	297.48	209.77	5.86	13.51	52.06
11:24:00	304.08	211.51	5.95	13.45	46.57
11:25:00	302.23	211.32	5.96	13.46	43.47
11:26:00	298.55	208.23	5.93	13.45	35.15
11:27:00	294.77	209.31	5.71	13.61	120.58
11:28:00	293.56	205.82	5.81	13.53	81.02
11:29:00	302.42	204.24	5.92	13.50	55.16
11:29:59	298.03	207.57	5.65	13.66	89.31
11:30:59	296.79	202.10	5.94	13.38	32.33
11:31:59	297.01	198.36	5.91	13.44	33.31
Averages for 22 Points	299.39	210.54	5.83	13.52	58.64

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 6 LOAD High
 Test Date :10/18/88 Time :11:45 thru 12:06

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
11:45:01	297.21	220.34	5.96	13.41	23.82
11:46:01	300.57	214.66	5.89	13.51	39.86
11:47:01	294.58	206.66	5.68	13.67	48.10
11:48:01	296.82	206.21	5.60	13.66	73.28
11:49:01	300.27	200.29	5.82	13.53	77.24
11:50:01	301.35	197.68	5.92	13.46	25.32
11:51:01	293.06	199.36	5.79	13.56	129.48
11:52:01	292.68	197.79	5.90	13.46	46.12
11:53:01	297.65	200.48	5.89	13.51	55.01
11:54:01	296.88	204.14	5.84	13.53	39.38
11:55:01	296.04	206.12	5.66	13.66	218.60
11:56:01	292.82	206.62	5.66	13.61	94.01
11:57:01	297.49	204.11	5.80	13.49	67.54
11:58:01	297.21	201.66	5.71	13.65	71.82
11:59:01	293.16	203.40	5.67	13.64	86.32
12:00:01	297.32	200.04	5.88	13.44	42.77
12:01:01	299.48	197.95	5.98	13.43	28.55
12:02:01	295.67	196.58	5.91	13.49	26.86
12:03:01	294.42	195.90	5.87	13.51	46.90
12:04:01	289.37	199.40	5.69	13.61	160.98
12:05:01	298.98	194.83	5.88	13.39	44.51
Averages for 21 Points	296.33	202.58	5.80	13.53	68.87

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 7 LOAD High
 Test Date :10/18/03 Time :12:47 thru 13:08

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
12:47:02	292.32	191.41	5.64	13.78	89.93
12:48:02	304.14	194.32	5.51	13.87	129.86
12:49:02	302.26	191.23	5.68	13.73	45.73
12:50:02	312.55	192.48	5.75	13.66	41.75
12:51:02	313.45	190.99	5.90	13.59	35.58
12:52:02	305.43	193.98	5.67	13.77	81.17
12:53:02	306.56	195.98	5.66	13.74	41.05
12:54:02	309.56	196.94	5.76	13.68	45.55
12:55:02	311.68	198.93	5.75	13.75	22.43
12:56:02	307.38	199.78	5.63	13.81	35.48
12:57:02	306.66	196.39	5.76	13.66	62.12
12:58:02	310.91	194.57	5.74	13.71	93.01
12:59:02	312.26	196.37	5.66	13.77	91.52
13:00:02	311.93	196.72	5.56	13.86	137.95
13:01:02	313.23	193.88	5.66	13.72	63.87
13:02:02	311.30	191.81	5.67	13.71	36.71
13:03:02	311.30	192.20	5.72	13.72	51.48
13:04:02	311.71	195.10	5.65	13.77	74.51
13:05:02	313.04	195.62	5.69	14.00	60.97
13:06:02	305.09	193.48	5.78	13.62	21.16
13:07:02	311.77	190.52	5.83	13.57	23.69
Averages for 21 Points	308.78	194.41	5.69	13.73	61.21

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 8 LOAD High
 Test Date :10/18/88 Time :13:19 thru 13:40

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
13:19:02	316.62	203.80	5.93	13.55	54.74
13:20:02	315.77	196.93	5.92	13.44	24.22
13:21:02	313.04	194.72	5.88	13.51	50.49
13:22:02	315.52	194.85	5.79	13.56	36.79
13:23:02	317.84	194.29	5.90	13.47	21.77
13:24:02	316.49	194.45	5.97	13.42	13.40
13:25:02	316.71	193.83	6.04	13.41	35.31
13:26:02	312.85	197.64	5.80	13.57	38.50
13:27:01	309.89	199.45	5.73	13.59	29.59
13:28:01	306.11	197.64	5.85	13.53	23.26
13:29:01	307.02	199.60	5.90	13.45	21.06
13:30:01	319.94	195.54	6.05	13.40	78.23
13:31:01	329.01	195.40	6.13	13.26	29.13
13:32:01	320.16	193.01	6.22	13.20	23.18
13:33:01	330.06	194.02	6.17	13.25	20.88
13:34:01	330.81	193.42	6.22	13.21	37.61
13:35:01	331.50	193.99	6.36	13.08	12.27
13:36:01	327.00	195.42	6.30	13.12	38.43
13:37:01	328.63	192.85	6.30	13.17	20.21
13:38:01	325.98	191.57	6.29	13.17	9.37
13:39:01	323.44	193.17	6.26	13.16	15.15
Averages for 21 Points	319.73	195.50	6.04	13.35	30.17

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 9 LOAD High
 Test Date : 10/18/00 Time : 13:52 thru 14:13

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
13:52:02	319.02	200.75	6.30	13.11	17.73
13:53:02	315.44	196.04	6.26	13.16	19.96
13:54:02	314.72	194.13	6.25	13.20	11.44
13:55:02	305.40	196.45	6.11	13.29	39.39
13:56:02	300.07	193.61	6.05	13.32	24.18
13:57:02	301.37	189.03	6.29	13.14	17.48
13:58:01	304.71	189.94	6.09	13.32	56.33
13:59:01	310.94	190.21	6.14	13.29	16.79
14:00:01	307.91	191.77	6.03	13.34	33.53
14:01:01	311.05	189.86	6.14	13.23	15.53
14:02:01	313.73	187.04	6.33	13.15	11.44
14:03:01	312.76	185.64	6.22	13.22	16.24
14:04:01	307.69	190.32	5.97	13.37	38.63
14:05:01	312.10	189.19	6.14	13.27	23.70
14:06:01	312.57	192.33	5.93	13.41	30.41
14:07:01	317.89	187.31	6.19	13.26	21.00
14:08:01	316.49	186.24	6.19	13.22	20.67
14:09:01	314.14	192.04	6.05	13.31	14.56
14:10:01	298.97	193.60	6.01	13.43	30.66
14:11:01	304.65	191.62	6.10	13.28	39.39
14:12:01	315.49	190.89	6.04	13.37	28.83
Averages for 21 Points	310.33	191.33	6.13	13.27	25.13

Client :JEA/SJRPP
 Site :JACKSONVILLE,FL.
 Unit :1
 Project :00-205
 Comment :RUN 10 LOAD High
 Test Date :10/18/00 Time :14:26 thru 14:47

Time	1032 NOX PPM	1031 SO2 PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
14:26:01	302.09	199.69	6.04	13.28	29.97
14:27:01	301.98	196.73	6.14	13.22	23.63
14:28:01	303.02	191.89	6.17	13.24	13.19
14:29:01	297.83	191.67	6.17	13.23	22.94
14:30:01	310.17	188.70	6.34	13.08	11.30
14:31:01	311.27	183.64	6.39	13.08	7.77
14:32:00	303.38	185.67	6.05	13.39	64.83
14:33:00	313.87	186.81	6.16	13.26	14.81
14:34:00	311.22	184.16	6.26	13.14	14.68
14:35:00	307.85	186.83	6.18	13.27	16.17
14:36:00	299.11	189.70	6.10	13.30	30.15
14:37:00	293.83	187.45	6.01	13.41	40.26
14:38:00	300.65	184.82	6.06	13.34	36.70
14:39:00	302.77	184.20	6.26	13.19	36.97
14:40:00	302.88	185.84	6.07	13.39	23.47
14:41:00	305.73	184.87	6.10	13.32	28.63
14:42:00	304.21	185.97	6.07	14.01	35.49
14:43:00	297.09	184.34	6.10	13.32	15.78
14:44:00	302.53	184.89	6.18	13.30	13.11
14:45:00	302.16	185.43	6.07	13.43	44.22
14:46:00	304.07	185.26	5.98	13.44	34.64
Averages for 21 Points	303.70	187.55	6.13	13.31	26.60

Client : JEA/SJRPP
 Site : JACKSONVILLE, FL.
 Unit : 1
 Project : 00-205
 Comment : RUN 11 LOAD High
 Test Date : 10/18/00 Time : 15:00 thru 15:21

Time	1032 NOX PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
15:00:02	301.50	6.15	13.27	18.62
15:01:02	302.25	6.13	13.33	14.08
15:02:02	300.57	6.05	13.38	23.07
15:03:02	299.91	6.07	13.31	47.13
15:04:02	302.70	6.13	13.24	35.52
15:05:02	305.56	6.22	13.24	13.81
15:06:02	299.33	5.98	13.41	51.60
15:07:01	303.63	6.11	13.27	33.27
15:08:01	299.09	6.09	13.34	32.02
15:09:01	301.12	6.08	13.36	22.55
15:10:01	303.77	6.25	13.24	18.68
15:11:01	305.03	6.20	13.25	14.74
15:12:01	305.75	6.14	13.29	21.90
15:13:01	300.21	6.09	13.36	33.66
15:14:01	303.82	6.05	13.36	52.59
15:15:01	304.59	6.01	13.38	35.24
15:16:01	306.63	6.00	13.39	24.11
15:17:01	300.20	6.04	13.39	41.54
15:18:01	305.70	6.16	13.30	35.43
15:19:01	295.79	5.95	13.50	35.72
15:20:01	303.23	6.19	13.28	22.32
Averages for 21 Points	302.39	6.09	13.32	29.88

Client :JEA/SJRPP
 Site :JACKSONVILLE, FL.
 Unit :1
 Project :00-205
 Comment :RUN 12 LOAD High
 Test Date :10/18/00 Time :15:30 thru 15:51

Time	1032 NOX PPM	1030 O2 %	1029 CO2 %	1028 CO PPM
15:30:01	307.52	6.13	13.31	30.63
15:31:01	304.65	6.13	13.31	25.38
15:32:01	307.41	6.02	13.37	48.19
15:33:01	305.56	6.04	13.40	34.59
15:34:01	291.59	6.01	13.40	17.81
15:35:01	289.13	6.16	13.26	20.26
15:36:01	305.26	6.29	13.16	11.50
15:37:01	305.28	6.25	13.23	18.75
15:38:00	306.44	6.10	13.34	23.10
15:39:00	303.18	6.00	13.43	41.73
15:40:00	305.48	5.97	13.37	30.91
15:41:00	295.32	6.05	13.35	14.67
15:42:00	296.73	6.28	13.22	22.76
15:43:00	302.05	6.20	13.29	33.56
15:44:00	292.53	6.01	13.41	25.63
15:45:00	293.39	5.95	13.43	30.62
15:46:00	291.26	5.87	13.56	74.15
15:47:00	291.78	5.93	13.45	48.19
15:48:00	294.37	6.10	13.28	34.23
15:49:00	305.50	6.13	13.28	16.33
15:50:00	294.92	6.02	13.38	30.30
Averages for 21 Points	299.49	6.07	13.34	30.15

SPACK
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SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-18-00
 SOURCE IDENTIFICATION UNIT I OPERATOR B. Howes

RUN NO. / GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.10	.01	.1	.01	0
UPSCALE GAS 558	558	557	.10	558	0	.10

RUN NO. / GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	0	0	0	0	0
UPSCALE GAS 166.1	166.1	166.1	0	166	.03	.03

RUN NO. / GAS TYPE: CO2 SPAN: 0-20%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.10	.05	.25	.15
UPSCALE GAS 11.13	11.11	11.08	.15	11.07	-.20	-.05

RUN NO. / GAS TYPE: O2 SPAN: 0-25%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.01	.04	.01	.04	0
UPSCALE GAS 12.0	12.0	12.0	0	11.99	-.04	-.04

RUN NO. / GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	0	0	1.0	.10	.10
UPSCALE GAS 322	322	321	.10	322	0	.10

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100



STACK
RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-18-00
 SOURCE IDENTIFICATION UNIT I OPERATOR B. Howes

RUN NO. <u>2</u> GAS TYPE: <u>NOx</u> SPAN: <u>0-1000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.10</u>	<u>.01</u>	<u>.30</u>	<u>.03</u>	<u>.02</u>
UPSCALE GAS <u>558</u>	<u>558</u>	<u>558</u>	<u>0</u>	<u>557</u>	<u>.01</u>	<u>.01</u>

RUN NO. <u>2</u> GAS TYPE: <u>SO2</u> SPAN: <u>0-300</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>.2</u>	<u>.06</u>	<u>.06</u>
UPSCALE GAS <u>166.1</u>	<u>166.1</u>	<u>166</u>	<u>.03</u>	<u>165</u>	<u>-.36</u>	<u>-.33</u>

RUN NO. <u>2</u> GAS TYPE: <u>CO2</u> SPAN: <u>0-20%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.05</u>	<u>.25</u>	<u>.05</u>	<u>.25</u>	<u>0</u>
UPSCALE GAS <u>11.13</u>	<u>11.11</u>	<u>11.07</u>	<u>-.20</u>	<u>11.08</u>	<u>-.15</u>	<u>.05</u>

RUN NO. <u>2</u> GAS TYPE: <u>O2</u> SPAN: <u>0-25%</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>.01</u>	<u>.04</u>	<u>.01</u>	<u>.04</u>	<u>0</u>
UPSCALE GAS <u>12.0</u>	<u>12.0</u>	<u>11.99</u>	<u>-.04</u>	<u>12.0</u>	<u>0</u>	<u>+.04</u>

RUN NO. <u>2</u> GAS TYPE: <u>CO</u> SPAN: <u>0-1000</u>	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS <u>0</u>	<u>0</u>	<u>1.0</u>	<u>.10</u>	<u>.60</u>	<u>.06</u>	<u>-.04</u>
UPSCALE GAS <u>322</u>	<u>322</u>	<u>322</u>	<u>0</u>	<u>323</u>	<u>+.1</u>	<u>+.10</u>

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100

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DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. 3 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.30	.03	.62	.062	.032
UPSCALE GAS 558	558	557	.01	555	-.30	-.20

RUN NO. 3 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.2	.06	.3	.10	.033
UPSCALE GAS 166.1	166.1	165	-.36	166	.033	.333

RUN NO. 3 GAS TYPE: CO2 SPAN: 0-200	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.05	.25	.05	.25	0
UPSCALE GAS 11.13	11.11	11.08	-.15	11.08	-.15	0

RUN NO. 3 GAS TYPE: O2 SPAN: 0-250	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.01	.04	.01	.04	0
UPSCALE GAS 12.0	12.0	12.0	0	12.0	0	0

RUN NO. 3 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.60	.06	.80	.08	.02
UPSCALE GAS 322	322	323	.1	324	.20	.10

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100



STACK
DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. 4 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.62	.062	.36	.036	-.026
UPSCALE GAS 55B	55B	555	-.30	559	.10	.40

RUN NO. 4 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.30	.10	0	0	-.10
UPSCALE GAS 166.1	166.1	166	.033	166	-.033	0

RUN NO. 4 GAS TYPE: CO2 SPAN: 0-200	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.05	.25	.04	.20	-.05
UPSCALE GAS 11.13	11.11	11.08	-.15	11.08	-.15	0

RUN NO. 4 GAS TYPE: O2 SPAN: 0-250	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.01	.04	.02	.08	.04
UPSCALE GAS 12.0	12.0	12.0	0	12.0	0	0

RUN NO. 4 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.80	.08	.79	-.080	-.001
UPSCALE GAS 322	322	324	.20	324	.20	0

SYSTEM CALIBRATION BIAS - (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT - (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100

SPACE
DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/STRPP PROJECT # 00-205 TEST DATE 10-18-00
 SOURCE IDENTIFICATION unit I OPERATOR R. Howes

RUN NO. 5 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.36	.036	.48	.048	.012
UPSCALE GAS 558	558	559	.10	559	.10	0

RUN NO. 5 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	0	0	.29	.096	.096
UPSCALE GAS 166.1	166.1	166	-.023	167	.30	.333

RUN NO. 5 GAS TYPE: CO2 SPAN: 0-202	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.04	.20	.04	.20	0
UPSCALE GAS 11.13	11.11	11.08	-.15	11.08	.215	0

RUN NO. 5 GAS TYPE: O2 SPAN: 0-252	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.04	-.04
UPSCALE GAS 12.0	12.0	12.0	0	12.0	0	0

RUN NO. 5 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.79	-.079	.76	.076	-.003
UPSCALE GAS 322	322	324	.20	323	.10	-.10

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100



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RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. 6 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.48	.048	.30	.03	-.018
UPSCALE GAS 558	558	559	.10	557	-.10	-.20

RUN NO. 6 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.29	.096	.47	.157	.06
UPSCALE GAS 166.1	166.1	167	.30	167	.30	0

RUN NO. 6 GAS TYPE: CO2 SPAN: 0-20%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.04	.20	.05	.25	.05
UPSCALE GAS 11.13	11.11	11.08	.15	11.07	-.20	-.05

RUN NO. 6 GAS TYPE: O2 SPAN: 0-25%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.01	.04	.02	.08	.04
UPSCALE GAS 12.0	12.0	12.0	0	12.01	.04	.04

RUN NO. 6 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.76	.076	.87	.087	.011
UPSCALE GAS 322	322	323	.10	323	.10	0

SYSTEM CALIBRATION BIAS - (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT - (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100

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DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. 7 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.30	.03	.35	.035	.005
UPSCALE GAS 558	558	557	-10	559	.10	.20

RUN NO. 7 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.47	.157	.57	.19	.033
UPSCALE GAS 166.1	166.1	167	.30	165	.317	-.667

RUN NO. 7 GAS TYPE: CO2 SPAN: 0-20%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.05	.25	.05	.25	0
UPSCALE GAS 11.13	11.11	11.07	-.20	11.08	-.15	.05

RUN NO. 7 GAS TYPE: O2 SPAN: 0-25%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.08	0
UPSCALE GAS 12.0	12.0	12.01	.04	12.0	0	-.04

RUN NO. 7 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.87	.087	1.0	.10	.013
UPSCALE GAS 322	322	323	.10	323	.10	0

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100



SPACK
DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. 8 GAS TYPE: NOX SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.35	.035	.12	.012	-.023
UPSCALE GAS 558	558	559	.110	558	0	-.10

RUN NO. 8 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.57	.19	.50	.167	-.023
UPSCALE GAS 166.1	166.1	165	.317	166	-.033	.333

RUN NO. 8 GAS TYPE: CO2 SPAN: 0-200	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.05	.25	.05	.25	0
UPSCALE GAS 11.3	11.11	11.08	-.15	11.07	-.20	-.05

RUN NO. 8 GAS TYPE: O2 SPAN: 0-250	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.08	0
UPSCALE GAS 12.0	12.0	12.0	0	12.0	0	0

RUN NO. 8 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	1.0	.10	.59	.059	-.041
UPSCALE GAS 322	322	323	+.10	322	0	-.10

SYSTEM CALIBRATION BIAS - (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT - (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100

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DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. 9 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.12	.012	.11	.011	-.001
UPSCALE GAS 558	558	558	0	556	-.20	-.20

RUN NO. 9 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.50	.167	.33	.11	.056
UPSCALE GAS 166.1	166.1	166	-.033	166	-.033	0

RUN NO. 9 GAS TYPE: CO2 SPAN: 0-200	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.05	.25	.06	.30	.05
UPSCALE GAS 11.3	11.1	11.07	-.20	11.09	-.10	.10

RUN NO. 9 GAS TYPE: O2 SPAN: 0-250	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.08	0
UPSCALE GAS 12.0	12.0	12.0	0	12.0	0	0

RUN NO. 9 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.59	.059	.68	.068	.069
UPSCALE GAS 322	322	322	0	322	0	0

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100



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RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

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RUN NO. / GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.11	.011	.41	.041	.03
UPSCALE GAS 558	558	556	-.20	556	-.20	0

RUN NO. / GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.33	.11	.37	.123	.013
UPSCALE GAS 166.1	166.1	166	-.033	167	.30	-.333

RUN NO. / GAS TYPE: CO2 SPAN: 0-20%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.06	.30	.06	.30	0
UPSCALE GAS 11.13	11.11	11.09	-.10	11.09	-.10	0

RUN NO. / GAS TYPE: O2 SPAN: 0-25%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.08	0
UPSCALE GAS 12.0	12.0	12.0	0	11.99	-.04	-.04

RUN NO. / GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.68	.068	.56	.056	-.012
UPSCALE GAS 322	322	322	0	323	.10	.10

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100

STACK
DATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT SEA/SRPP PROJECT # 00-205 TEST DATE 10-10-00
 SOURCE IDENTIFICATION UNIT I OPERATOR B. Howes

RUN NO. 11 GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.41	.041	.10	.01	-.031
UPSCALE GAS 558	558	556	-.20	556	-.20	0

STOP
→

RUN NO. 11 GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.37	.123			
UPSCALE GAS 166.1	166.1	167	.30			

RUN NO. 11 GAS TYPE: CO2 SPAN: 0-200	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.06	.30	.06	.30	0
UPSCALE GAS 11.13	11.11	11.09	-.10	11.09	-.10	0

RUN NO. 11 GAS TYPE: O2 SPAN: 0-250	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.08	0
UPSCALE GAS 12.0	12.0	11.99	-.04	11.99	-.04	0

RUN NO. 11 GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.56	.056	.46	.046	-.01
UPSCALE GAS 322	322	323	.10	322	0	-.10

SYSTEM CALIBRATION BIAS = (SYSTEMCAL RESPONSE - ANALYZER CAL. RESPONSE / SPAN) X 100

DRIFT = (FINAL SYSTEM CAL. RESPONSE - INITIAL CAL. RESPONSE / SPAN) X 100



STACK
RATA

SYSTEM CALIBRATION BIAS AND DRIFT DATA

CLIENT DEA/SRPP PROJECT # 00-205 TEST DATE 10-18-00
 SOURCE IDENTIFICATION UNIT I OPERATOR B. Howes

RUN NO. / GAS TYPE: NOx SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.10	.01	.32	.032	.022
UPSCALE GAS 558	558	556	-.20	556	-.20	0

RUN NO. / GAS TYPE: SO2 SPAN: 0-300	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0					
UPSCALE GAS 166.1	166.1					

RUN NO. / GAS TYPE: CO2 SPAN: 0-20%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.06	.30	.06	.30	0
UPSCALE GAS 11.13	11.11	11.09	-.10	11.09	-.10	0

RUN NO. / GAS TYPE: O2 SPAN: 0-25%	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.02	.08	.02	.08	0
UPSCALE GAS 12.0	12.0	11.99	-.04	11.99	-.04	0

RUN NO. / GAS TYPE: CO SPAN: 0-1000	ANALYZER RESPONSE	INITIAL VALUE		FINAL VALUE		DRIFT % OF SPAN
		SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	SYSTEM RESPONSE	SYSTEM CAL BIAS % OF SPAN	
ZERO GAS 0	0	.46	.046	.54	.054	.008
UPSCALE GAS 322	322	322	0	322	0	0

SYSTEM CALIBRATION BIAS - (SYSTEMCAL RESPONSE - ANALYZER CAL RESPONSE / SPAN) X 100

DRIFT - (FINAL SYSTEM CAL RESPONSE - INITIAL CAL RESPONSE / SPAN) X 100

VELOCITY TRAVERSE DATA SHEET

CLIENT: St. Johns River Power	PROJECT N. 00-205MO	DATE: 10-10-00
SAMPLING LOC: Stack Unit #1	OPERATOR: K. G. G.	BAR. PR. 29.64
PITOT NO: M-B	PITOT COEFF. 0.822	PROBE NO:
		UNIT LOAD: Normal

RUN NO: 1				RUN NO: 2				RUN NO: 3			
STATIC P: -1.2				STATIC P: -1.2				STATIC P: -1.2			
START TIME: 0855				START TIME: 0930				START TIME: 1002			
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.
A 1	1.6	1.265	139	D 1	1.7	1.304	147	A 1	1.8	1.342	147
2	1.8	1.342	146	2	1.7	1.304	147	2	1.7	1.304	148
3	1.5	1.225	147	3	1.4	1.183	146	3	1.5	1.225	148
B 1	1.7	1.304	141	B 1	1.6	1.265	144	B 1	1.5	1.225	145
2	1.5	1.225	145	2	1.7	1.304	145	2	1.7	1.304	146
3	1.2	1.095	147	3	1.3	1.140	145	3	1.3	1.140	145
C 1	1.6	1.265	142	C 1	1.7	1.304	145	C 1	1.7	1.304	145
2	1.7	1.304	143	2	1.6	1.265	145	2	1.5	1.225	145
3	1.3	1.140	146	3	1.2	1.095	146	3	1.3	1.140	145
D 1	1.8	1.342	149	A 1	1.7	1.304	146	D 1	1.7	1.304	142
2	1.6	1.265	146	2	1.8	1.342	146	2	1.6	1.265	147
3	1.3	1.140	146	3	1.4	1.183	147	3	1.4	1.183	147
		1.243	144.147			1.249	145.77			1.247	145.140
AVG.				AVG.				AVG.			
STOP TIME: 0905				STOP TIME: 0940				STOP TIME: 1012			
LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>				LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>				LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>			
ORSAT ANALYSIS:				ORSAT ANALYSIS:				ORSAT ANALYSIS:			

CO2 O2 CO2 O2 CO2 O2

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VELOCITY TRAVERSE DATA SHEET

CLIENT: St. Johns River Power	PROJECT N. 00-205MO	DATE: 10-18-00
SAMPLING LOC: Stock Unit #1	OPERATOR: Bigdon	BAR. PR. 29.54
PITOT NO: M-8	PITOT COEFF: 0.822	PROBE NO:
		UNIT LOAD: Normal

RUN NO: 4				RUN NO: 5				RUN NO: 6			
STATIC P: -1.2				STATIC P: -1.3				STATIC P: -1.3			
START TIME: 1037				START TIME: 1111				START TIME: 1145			
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.
D 1	1.6	1.265	147	A 1	1.7	1.304	148	P 1	1.7	1.304	149
2	1.6	1.265	148	2	1.5	1.225	149	2	1.6	1.265	149
3	1.2	1.096	148	3	1.4	1.183	147	3	1.4	1.183	148
C 1	1.7	1.304	148	B 1	1.5	1.225	148	C 1	1.6	1.265	147
2	1.6	1.265	146	2	1.6	1.265	147	2	1.6	1.265	147
3	1.2	1.096	148	3	1.4	1.183	147	3	1.3	1.140	147
B 1	1.6	1.265	145	C 1	1.6	1.265	147	B 1	1.6	1.265	145
2	1.5	1.225	145	2	1.6	1.265	147	2	1.5	1.225	145
3	1.2	1.096	146	3	1.2	1.096	147	3	1.2	1.096	145
A 1	1.7	1.304	144	D 1	1.7	1.304	147	A 1	1.6	1.265	144
2	1.6	1.265	146	2	1.7	1.304	147	2	1.5	1.225	146
3	1.4	1.183	147	3	1.4	1.183	147	3	1.4	1.183	147
		1.215	146.50			1.217	147.003			1.205	146.50
		1.219	✓			1.233	147.003			1.223	✓

AVG.	STOP TIME: 1047	LEAK TEST: BEFORE <i>af</i> AFTER <i>af</i>	ORSAT ANALYSIS:
AVG.	STOP TIME: 1121	LEAK TEST: BEFORE <i>af</i> AFTER <i>af</i>	ORSAT ANALYSIS:
AVG.	STOP TIME: 1155	LEAK TEST: BEFORE <i>af</i> AFTER <i>af</i>	ORSAT ANALYSIS:

VELOCITY TRAVERSE DATA SHEET

CLIENT: St. Johns River Power	PROJECT N 00-205MO	DATE: 10-18-00
SAMPLING LOC: Stack Unit #1	OPERATOR: Radon	BAR. PR. 29.54
PITOT NO: M-8	PITOT COEFF: .822	PROBE NO:
		UNIT LOAD: Normal

RUN NO: 7				RUN NO: 8				RUN NO: 9			
STATIC P: -1.1				STATIC P: -1.2				STATIC P: -1.2			
START TIME: 1247				START TIME: 1319				START TIME: 1352			
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.
A 1	1.7	1.304	149	D 1	1.7	1.304	148	A 1	1.7	1.304	148
2	1.6	1.265	149	2	1.6	1.265	148	2	1.6	1.265	149
3	1.4	1.183	149	3	1.3	1.140	148	3	1.3	1.140	149
B 1	1.6	1.265	145	C 1	1.6	1.265	147	B 1	1.7	1.304	147
2	1.5	1.225	147	2	1.5	1.225	148	2	1.5	1.225	147
3	1.4	1.183	147	3	1.3	1.140	148	3	1.3	1.14	148
C 1	1.6	1.265	145	B 1	1.6	1.265	148	C 1	1.6	1.265	142
2	1.6	1.265	147	2	1.6	1.265	148	2	1.5	1.225	148
3	1.3	1.140	147	3	1.2	1.095	148	3	1.4	1.183	148
D 1	1.7	1.304	147	A 1	1.7	1.304	147	D 1	1.6	1.265	147
2	1.6	1.265	147	2	1.6	1.265	148	2	1.5	1.225	148
3	1.3	1.140	147	3	1.2	1.095	148	3	1.4	1.183	149
			1.234 147.667				1.219 147.830				1.227 147.617
AVG.				AVG.				AVG.			
STOP TIME: 1257				STOP TIME: 1329				STOP TIME: 1402			
LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>				LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>				LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>			
ORSAT ANALYSIS:				ORSAT ANALYSIS:				ORSAT ANALYSIS:			
CO2		O2		CO2		O2		CO2		O2	

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VELOCITY TRAVERSE DATA SHEET

CLIENT: St. Johns River Power	PROJECT N: 00-205MO	DATE: 10-18-00
SAMPLING LOC: Stack Unit #1	OPERATOR: R. Jordan	BAR. PR: 2954
PITOT NO: 1-8	PITOT COEFF: 0.822	PROBE NO:
		UNIT LOAD: Normal

RUN NO: 10				RUN NO: 11				RUN NO: 12			
STATIC P: -1.2				STATIC P: -1.2				STATIC P: -1.2			
START TIME: 1426				START TIME: 1500				START TIME: 1530			
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.
D 1	1.7	1.304	149	A 1	1.7	1.304	149	D 1	1.7	1.304	149
2	1.6	1.265	148	2	1.6	1.265	148	2	1.6	1.265	148
3	1.3	1.140	148	3	1.3	1.140	149	3	1.4	1.183	148
C 1	1.7	1.304	148	B 1	1.6	1.265	147	C 1	1.7	1.304	147
2	1.5	1.225	147	2	1.6	1.265	148	2	1.6	1.265	148
3	1.4	1.183	148	3	1.3	1.140	148	3	1.3	1.140	149
B 1	1.6	1.265	147	C 1	1.7	1.304	147	B 1	1.6	1.265	148
2	1.6	1.265	148	2	1.5	1.225	148	2	1.5	1.225	147
3	1.3	1.140	148	3	1.4	1.183	148	3	1.4	1.183	147
A 1	1.7	1.304	147	D 1	1.7	1.304	147	A 1	1.6	1.265	147
2	1.5	1.225	148	2	1.6	1.265	148	2	1.6	1.265	148
3	1.2	1.095	148	3	1.3	1.140	148	3	1.4	1.183	148
		1.226	147.833			1.233	148.00			1.238	147.75
										1.237	
AVG.				AVG.				AVG.			
STOP TIME: 1436				STOP TIME: 1510				STOP TIME: 1540			
LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>				LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>				LEAK TEST: BEFORE <input checked="" type="checkbox"/> AFTER <input checked="" type="checkbox"/>			
ORSAT ANALYSIS:				ORSAT ANALYSIS:				ORSAT ANALYSIS:			
CO2		O2		CO2		O2		CO2		O2	

MOISTURE FIELD DATA SHEETS

CLIENT: St Johns River Power	DATE: 10-18-00
PROJECT NO.: 00-206MO	OPERATOR: Fiedler
SAMPLING LOCATION: Stack Unit #1	METER-ORFICE: #2 3.454
BAROMETRIC PRESSURE: 29.54	METER CORR. FACTOR: 1.002
SAMPLE PT. TIME: 7 min	UNIT LOAD: Normal PROBE NO:

LEAK CHECK: BEFORE .0008 AFTER .0006

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)
				IMP. OUT	METER IN	INITIAL READING			
1	1	2:00		64		90	0	724.932	
START TIME	0855							730.18	
STOP TIME	0916			62		90	0	735.44	
SILICA GEL	6	3		60		92	0	742.68	
CONDENSATE	35								
				62		90		747.58 dc	
								74.758	
AVG.								17.758	

LEAK CHECK: BEFORE .00105 AFTER .0003

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)
				IMP. OUT	METER IN	INITIAL READING			
2	1	2:00		64		92	0	743.00	
START TIME	0930							748.260	
STOP TIME	0951			57		93	0	753.49	
SILICA GEL	6	3		55		94	0	758.71	
CONDENSATE	30								
						93.50		15.71	
AVG.									

LEAK CHECK: BEFORE .0005 AFTER

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)
				IMP. OUT	METER IN	INITIAL READING			
3	1	2:00		60		93	0	758.85	
START TIME	1002							764.10	
STOP TIME	1023			53		94	0	769.35	
SILICA GEL	5	3		53		95	0	774.58	
CONDENSATE	35								
						94		15.73	
AVG.									

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MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10-18-00
PROJECT NO.: 00-206MO	OPERATOR: K. R. G. [Signature]
SAMPLING LOCATION: Steek V. R. #1	METER ORFICE: M-7-3454
BAROMETRIC PRESSURE: 29.54	METER CORR. FACTOR: 1002
SAMPLE PT. TIME: 7 min	UNIT LOAD: Normal

LEAK CHECK: BEFORE 0005 AFTER 0006

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)
								INITIAL READING
4	1	21		58		93	⊖	780.24
START TIME	1037							785.47
STOP TIME	1058	2		56		94	⊖	791.00
SILICA GEL	5	3		56		95	⊖	
CONDENSATE	35							
						94.00		
								16.00
AVG.								

LEAK CHECK: BEFORE 0007 AFTER 0008

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)
								INITIAL READING
5	1	21		57		93	⊖	796.50
START TIME	1111							801.71
STOP TIME	1132	2		57		94	⊖	806.95
SILICA GEL	4	3		55		94	⊖	
CONDENSATE	36							
						93.667		15.70
AVG.								

LEAK CHECK: BEFORE 0006 AFTER 0006

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Fl.)
								INITIAL READING
6	1	21		57		93	⊖	812.43
START TIME	1145							817.67
STOP TIME	1206	2		55		94	⊖	822.92
SILICA GEL	5	3		54		97	⊖	
CONDENSATE	35							
						93.667		15.745
AVG.								

MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10-18-00
PROJECT NO.: 00-206MO	OPERATOR: <i>Fried</i>
SAMPLING LOCATION: <i>Stack Unit #1</i>	METER-ORFICE: <i>M-2 345E</i>
BAROMETRIC PRESSURE: <i>29.5E</i>	METER CORR. FACTOR: <i>1.00²</i>
SAMPLE PT. TIME: <i>1 min</i>	UNIT LOAD: <i>None</i> PROBE NO:

LEAK CHECK: BEFORE <i>.00 @ 6</i> AFTER <i>.00</i>									
TEMPERATURE DEGREE FAHRENHEIT									DRY GAS VOLUME
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)		(Cu. Ft.)
	<i>7</i>								<i>INITIAL READING 823.15</i>
START TIME	<i>1249</i>	<i>1</i>	<i>25</i>		<i>62</i>		<i>93</i>	<i>⊖</i>	<i>828.40</i>
STOP TIME	<i>1240</i>	<i>2</i>			<i>61</i>		<i>94</i>		<i>833.63</i>
SILICA GEL	<i>5</i>	<i>3</i>			<i>60</i>		<i>95</i>		<i>838.87</i>
CONDENSATE	<i>38</i>						<i>94</i>		
									<i>15.720</i>
									<i>15.000</i>
AVG.									

LEAK CHECK: BEFORE <i>.00 @ 5</i> AFTER <i>.00</i>									
TEMPERATURE DEGREE FAHRENHEIT									DRY GAS VOLUME
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)		(Cu. Ft.)
	<i>8</i>								<i>INITIAL READING 839.10</i>
START TIME	<i>1319</i>	<i>1</i>	<i>21</i>		<i>59</i>		<i>94</i>	<i>⊖</i>	<i>844.34</i>
STOP TIME	<i>1340</i>	<i>2</i>			<i>59</i>		<i>95</i>	<i>⊖</i>	<i>849.57</i>
SILICA GEL	<i>4</i>	<i>3</i>			<i>58</i>		<i>96</i>	<i>⊖</i>	<i>854.96</i>
CONDENSATE	<i>40</i>						<i>95</i>		
									<i>15.86</i>
AVG.									

LEAK CHECK: BEFORE <i>.00 @ 6</i> AFTER <i>.00</i>									
TEMPERATURE DEGREE FAHRENHEIT									DRY GAS VOLUME
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)		(Cu. Ft.)
	<i>9</i>								<i>INITIAL READING 853.20</i>
START TIME	<i>1352</i>	<i>1</i>	<i>21</i>		<i>65</i>		<i>95</i>	<i>⊖</i>	<i>860.43</i>
STOP TIME	<i>1413</i>	<i>2</i>			<i>63</i>		<i>96</i>	<i>⊖</i>	<i>865.67</i>
SILICA GEL	<i>5</i>	<i>3</i>			<i>60</i>		<i>96</i>	<i>⊖</i>	<i>870.91</i>
CONDENSATE	<i>35</i>	<i>4</i>					<i>95.667</i>		
									<i>16.71</i>
									<i>15.71</i>
AVG.									

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MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10-18-00
PROJECT NO.: 00-206MO	OPERATOR: <i>Rigolo</i>
SAMPLING LOCATION: <i>Stack Unit #1</i>	METER-ORFICE: <i>M2 3454</i>
BAROMETRIC PRESSURE: <i>29.64</i>	METER CORR. FACTOR: <i>1.002</i>
SAMPLE PT. TIME: <i>7 min</i>	UNIT LOAD: <i>Normal</i> PROBE NO:

		LEAK CHECK: BEFORE <i>0003</i> AFTER <i>0005</i>							DRY GAS VOLUME	
		TEMPERATURE DEGREE FAHRENHEIT							(Cu. Fl.)	
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING		
10	1	1.8		53		94	⊖	876.15		
START TIME	1426			53		95	⊖	876.38		
STOP TIME	1447			54		95	⊖	881.63		
SILICA GEL	6							886.87		
CONDENSATE	35									
						94.68			15.72	
AVG.										

		LEAK CHECK: BEFORE <i>0005</i> AFTER <i>0006</i>							DRY GAS VOLUME	
		TEMPERATURE DEGREE FAHRENHEIT							(Cu. Fl.)	
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING		
11	1	1.8		62		95	⊖	892.75		
START TIME	1500			59		96	⊖	898.00		
STOP TIME	1521			57		97	⊖	903.23		
SILICA GEL	8									
CONDENSATE	34									
						96			15.73	
AVG.										

		LEAK CHECK: BEFORE <i>0006</i> AFTER <i>0007</i>							DRY GAS VOLUME	
		TEMPERATURE DEGREE FAHRENHEIT							(Cu. Fl.)	
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING		
12	1	1.8		63		96	⊖	908.63		
START TIME	1530			62		96	⊖	913.87		
STOP TIME	1551			60		97	⊖	919.12		
SILICA GEL	6									
CONDENSATE	35									
						96.93			15.72	
AVG.										

VELOCITY TRAVERSE DATA SHEET

CLIENT: St. Johns River Power	PROJECT N 00-205MO	DATE: 10-19-00
SAMPLING LOC: Stack Unit #1	OPERATOR: R. Johnson	BAR. PR. 29.48
PITOT NO: 11-0	PITOT COEFF: 0.822	PROBE NO:
		UNIT LOAD: Normal

RUN NO: 1				RUN NO: 2				RUN NO: 3			
STATIC P: 1.1				STATIC P: 1.1				STATIC P: 1.1			
START TIME: 0850				START TIME: 0905				START TIME: 0920			
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.
A 1	1.8	1.342	149	D 1	1.6	1.265	143	1	1.9	1.378	148
2	1.7	1.304	149	2	1.7	1.304	145	2	1.8	1.342	148
3	1.6	1.265	149	3	1.8	1.183	146	3	1.4	1.183	148
B 1	1.7	1.304	147	C 1	1.7	1.304	146	1	1.7	1.304	146
2	1.6	1.265	148	2	1.5	1.225	147	2	1.6	1.265	147
3	1.3	1.140	147	3	1.3	1.140	147	3	1.2	1.095	147
C 1	1.6	1.265	145	B 1	1.7	1.304	147	1	1.7	1.304	147
2	1.5	1.225	147	2	1.6	1.265	146	2	1.5	1.225	147
3	1.3	1.140	147	3	1.2	1.095	147	3	1.3	1.140	147
D 1	1.7	1.304	146	A 1	1.8	1.342	147	1	1.8	1.342	146
2	1.6	1.265	146	2	1.7	1.304	148	2	1.7	1.304	146
3	1.4	1.183	146	3	1.4	1.183	147	3	1.3	1.14	146
		1.251	147.117			1.243	146.26			1.252	146.917
		1.250	147.107								
AVG.				AVG.				AVG.			
STOP TIME: 0900				STOP TIME: 0915				STOP TIME: 0930			
LEAK TEST: BEFORE <i>of</i> AFTER <i>of</i>				LEAK TEST: BEFORE <i>of</i> AFTER <i>of</i>				LEAK TEST: BEFORE <i>of</i> AFTER <i>of</i>			
ORSAT ANALYSIS: 12.7% CO2 6.5 O2				ORSAT ANALYSIS: 12% CO2 9.0 O2				ORSAT ANALYSIS: 12.5% CO2 6.7 O2			

COMMERCIAL TESTING & ENGINEERING CO.



VELOCITY TRAVERSE DATA SHEET

CLIENT: St. Johns River Power	PROJECT N: 00-205MO	DATE: 10-19-00
SAMPLING LOC: Stack Unit #1	OPERATOR: Rigdon	BAR. PR. 29.54
PITOT NO: M-8	PITOT COEFF: 0.822	PROBE NO:
		UNIT LOAD: Normal

RUN NO: 4				RUN NO: 5				RUN NO: 6			
STATIC P: -1.1				STATIC P: -1.1				STATIC P: -1.1			
START TIME: 1026				START TIME: 1055				START TIME: 1107			
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.
D 1	1.9	1.378	150	A 1	1.8	1.342	150	D 1	1.7	1.304	150
2	1.8	1.342	150	2	1.6	1.265	150	2	1.6	1.265	148
3	1.5	1.225	150	3	1.4	1.183	150	3	1.3	1.14	148
1	1.6	1.265	148	1	1.7	1.304	146	1	1.7	1.304	147
2	1.5	1.225	149	2	1.5	1.225	146	2	1.5	1.225	149
3	1.3	1.140	149	3	1.2	1.095	145	3	1.3	1.14	149
1	1.7	1.304	148	1	1.7	1.304	146	1	1.7	1.304	148
2	1.5	1.225	148	2	1.5	1.225	149	2	1.5	1.225	149
3	1.2	1.095	149	3	1.3	1.140	149	3	1.3	1.14	148
A 1	1.8	1.342	149	D 1	1.7	1.304	147	A 1	1.7	1.304	148
2	1.7	1.304	149	2	1.7	1.304	147	2	1.6	1.265	148
3	1.4	1.183	149	3	1.4	1.183	147	3	1.4	1.183	150
		1.262	149			1.240	147.583			1.233	148.90
						1.239					
AVG.				AVG.				AVG.			
STOP TIME: 1036				STOP TIME: 1055				STOP TIME: 1117			
LEAK TEST: BEFORE		AFTER		LEAK TEST: BEFORE		AFTER		LEAK TEST: BEFORE		AFTER	
ORSAT ANALYSIS: 12.2		7		ORSAT ANALYSIS: 12.1		6.7		ORSAT ANALYSIS: 7.5		6.8	
CO2	O2	CO2	O2	CO2	O2	CO2	O2	CO2	O2	CO2	O2

VELOCITY TRAVERSE DATA SHEET

CLIENT: SL Johns River Power	PROJECT N 00-205MO	DATE: 10/19/00
SAMPLING LOC: #1 Stack	OPERATOR: RA	BAR. PR. 29.54
PITOT NO: M8	PITOT COEFF: .822	PROBE NO: 10-1-V
		UNIT LOAD: Normal

RUN NO: 10				RUN NO: 11				RUN NO: 12				
STATIC P: -1.1				STATIC P: -1.1				STATIC P: -1.1				
START TIME: 1225				START TIME: 1238				START TIME: 1251				
SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	SAMPLE POINT	DELTA P	SQ. ROOT DELTA P	STACK TEMP.	
D 1	1.85	1.360	151	A 1	1.8	1.342	150	D 1	1.85	1.360	150	
2	1.6	1.265	151	2	1.75	1.323	150	2	1.65	1.285	150	
3	1.45	1.204	151	3	1.5	1.225	150	3	1.15	1.072	149	
C 1	1.3	1.140	150	B 1	1.55	1.245	148	C 1	1.55	1.245	149	
2	1.3	1.140	150	2	1.6	1.265	149	2	1.4	1.183	149	
3	.99	.990	150	3	1.25	1.118	149	3	1.4	1.183	150	
B 1	1.65	1.285	146	C 1	1.3	1.140	147	B 1	1.55	1.245	148	
2	1.6	1.265	148	2	1.45	1.204	148	2	1.6	1.265	149	
3	1.25	1.118	149	3	1.2	1.095	148	3	1.55	1.245	149	
A 1	1.85	1.360	148	D 1	1.7	1.304	147	A 1	1.65	1.285	148	
2	1.7	1.304	149	2	1.75	1.323	148	2	1.7	1.304	149	
3	1.55	1.245	149	3	1.6	1.265	149	3	1.4	1.183	149	
			1.223	149.333				1.237	148.583			
AVG.				AVG.				AVG.				
STOP TIME: 1235				STOP TIME: 1248				STOP TIME: 1301				
LEAK TEST: BEFORE OK AFTER OK				LEAK TEST: BEFORE OK AFTER OK				LEAK TEST: BEFORE OK AFTER OK				
ORSAT ANALYSIS: 12.6		6.7		ORSAT ANALYSIS: 13		6.4		ORSAT ANALYSIS: 14.7		6.5		
CO2		O2		CO2		O2		CO2		O2		

MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10-19-00
PROJECT NO.: 00-205MO	OPERATOR: <i>Bigelow</i>
SAMPLING LOCATION: <i>Stack Unit #1</i>	METER-ORFICE: <i>M - M. 9</i>
BAROMETRIC PRESSURE: <i>29.48</i>	METER CORR. FACTOR: <i>1.002</i>
SAMPLE PT. TIME: <i>10</i>	UNIT LOAD: PROBE NO:

		LEAK CHECK: BEFORE <i>.0006</i> AFTER <i>.0005</i>		TEMPERATURE DEGREE FAHRENHEIT					DRY GAS VOLUME (Cu. Fl.)	
RUN NO.	<i>623</i>	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING	
START TIME	<i>0858</i>	<i>1</i>	<i>1.8</i>		<i>56</i>		<i>92</i>	<i>0</i>	<i>919,400</i>	<i>926.85</i>
STOP TIME	<i>0920</i>	<i>2</i>			<i>56</i>		<i>94</i>	<i>0</i>		<i>934.18</i>
SILICA GEL	<i>9</i>	<i>3</i>			<i>58</i>		<i>96</i>	<i>0</i>		<i>941.76</i>
CONDENSATE	<i>85</i>	<i>4</i>					<i>96</i>			<i>949.83</i>
							<i>94.50</i>			<i>30.43</i>
AVG.										

		LEAK CHECK: BEFORE <i>.0006</i> AFTER <i>.0005</i>		TEMPERATURE DEGREE FAHRENHEIT					DRY GAS VOLUME (Cu. Fl.)	
RUN NO.	<i>456</i>	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING	
START TIME	<i>1026</i>	<i>1</i>	<i>1.8</i>		<i>62</i>		<i>94</i>	<i>0</i>	<i>949.95</i>	<i>957.45</i>
STOP TIME	<i>1106</i>	<i>2</i>			<i>62</i>		<i>95</i>	<i>0</i>		<i>964.97</i>
SILICA GEL	<i>8</i>	<i>3</i>			<i>63</i>		<i>96</i>	<i>0</i>		<i>972.47</i>
CONDENSATE	<i>84</i>	<i>4</i>			<i>63</i>		<i>96</i>	<i>0</i>		<i>979.93</i>
							<i>95.25</i>			<i>29.98</i>
AVG.										

		LEAK CHECK: BEFORE <i>.0006</i> AFTER <i>.0005</i>		TEMPERATURE DEGREE FAHRENHEIT					DRY GAS VOLUME (Cu. Fl.)	
RUN NO.	<i>789</i>	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING	
START TIME	<i>1130</i>	<i>1</i>	<i>1.8</i>		<i>57</i>		<i>95</i>	<i>0</i>	<i>980.15</i>	<i>987.648</i>
STOP TIME	<i>1210</i>	<i>2</i>			<i>57</i>		<i>95</i>	<i>0</i>		<i>995.125</i>
SILICA GEL	<i>8</i>	<i>3</i>			<i>59</i>		<i>97</i>	<i>0</i>		<i>1002.595</i>
CONDENSATE	<i>80</i>	<i>4</i>								<i>1010.139</i>
AVG.							<i>95.67</i>			<i>29.987</i>

COMMERCIAL TESTING & ENGINEERING CO.

T60



MOISTURE FIELD DATA SHEETS

CLIENT: St. Johns River Power	DATE: 10/19/00
PROJECT NO.: 00-206MO	OPERATOR: RA
SAMPLING LOCATION: Unit #1 Stack	METER-ORFICE: 3.454 M-3
BAROMETRIC PRESSURE: 29.54	METER CORR. FACTOR: 1.002
SAMPLE PT. TIME: 40 min	UNIT LOAD: No M ₂ / PROBE NO:

LEAK CHECK: BEFORE $\sqrt{0.003}$ @ 1000 AFTER $\sqrt{1.006}$ @ 1000

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	TEMPERATURE DEGREE FAHRENHEIT		DRY GAS VOLUME (Cu. Fl.)
								INITIAL READING	FINAL READING	
	10/1/12									1010.254
START TIME	1225	10	1.8		62	96	Ø			1017.865
STOP TIME	1305	20			63	96	Ø			1025.243
SILICA GEL	7	30			64	98	Ø			1032.727
CONDENSATE	85	40			64	98	Ø			1040.247
AVG.						97.00	✓			29.993

LEAK CHECK: BEFORE AFTER

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	TEMPERATURE DEGREE FAHRENHEIT		DRY GAS VOLUME (Cu. Fl.)
								INITIAL READING	FINAL READING	
START TIME										
STOP TIME										
SILICA GEL										
CONDENSATE										
AVG.										

LEAK CHECK: BEFORE AFTER

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	TEMPERATURE DEGREE FAHRENHEIT		DRY GAS VOLUME (Cu. Fl.)
								INITIAL READING	FINAL READING	
START TIME										
STOP TIME										
SILICA GEL										
CONDENSATE										
AVG.										

COMMERCIAL TESTING & ENGINEERING CO.



Plant Data Sheets

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

Time: 0815
 Date: 10/12/00
 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	39.2	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	79	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	239	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	PI

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

Time: 0815
 Date: 10/12/00
 Initials: mmw

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	62	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	P2
76	310	45	44.1	225	0	

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

Time: 0915
Date: 12/12/00
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	47	0	
14	200	12	41.6	47	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	37.3	61	0	
26						015
31	214	15	43.2	63	0	
32	235	15	46.9	63	0	
33	217	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	36.3	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	218	30	35.9	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	P3
76	255	45	44.4	217	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	43.7	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						013
26	191	13	37.2	51	0	
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	42.7	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	P4
76	509	75	44.1	225	0	

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

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

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	194	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	198	20	35.8	83	0	
46	189	20	38.6	79	0	
51	222	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	45	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	P5
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: nm

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	45.2	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	218	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	204	7	
75	269	45	44.4	213	0	P6
76	310	45	44.1	227	0	

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

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

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	38.2	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	0	
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	P7

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

Time: 1115
 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	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	P8
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: mar

A (A/B)

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	44.1	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	29	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	12.6	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	
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	44.4	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	44.1	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	59	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	44.5	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	41.1	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	P10
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: man

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						015
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	49	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 # F

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	44.8	213	0	
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: mm

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	39.3	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	
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: man

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						0/5
22	222	15	43.9	63	0	
23	217	15	42.3	61	0	
24	224	15	44.2	59	0	
25						0/5
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	46.8	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	

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

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

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	6	
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	79	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	P15
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: mmr

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	0/3
22	341	30	50.9	150	0	
23	324	30	48.7	146	0	
24	226	15	44.7	59	0	
25						0/3
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	P16
76	312	45	44.4	225	0	

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

Date: 10/17/00
Initials: YH

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
 (OBI7 start test) Silo End tons 370 hr
 238 + 20 = 258 TPH
 20 TPH Feed Rate - Ball Mill
 Well Water start in = 1461 out 1457
 Well Water End in = 1461 out 1487 @ 15 20

LIMESTONE

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

UNIT # DNE

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)					
		T.W	T.W	T.W	T.W	T.W	T.W
Person Recording Data							
Time		1100	1130	1200	1230	1300	1330
Steam Flow	Lb/Hr x 10 ⁶	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)				
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 soot.*

**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 ³	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	674
O2 Flue gas	%	2.6	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		⊗	-	-	-	-	-
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 Date		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 ⁰	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		-	-	-	-	-	l
E		47	47	47	47	47	C T
F		37	37	37	37	37	E
G		47	47	47	47	47	

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

Date: 10 / 18 / 00
Initials: YJA

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 1649

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

UNIT # 1

DATE: 10-19-00

PARAMETER	UNITS	Readings (30 minute intervals)					
		E.A	EA	EA	EA	EA	EA
Person Recording Data		E.A	EA	EA	EA	EA	EA
Time		0800	0830	0900	0930	1000	1030
Steam Flow	Lb/Hr x 10 ⁶	4.42	4.49	4.37	4.38	4.42	4.46
Air Flow	%	76.3	76.8	76.3	76.3	76.3	76.5
Generator Load (Gross)	Megawatts	658	663	642	652	655	657
Boiler Thermal Demand	Megawatts	659	665	645	655	659	661
O2 Flue gas	%	3.0	3.0	3.0	3.0	3.0	3.0
Fuel Flow	%	101.3	101.3	101.4	101.4	101.4	101.6
Coal Totalizer	Tons						
A		44	44	44.2	44	44	44
B		44	44	44	44	44	44
C		44	44	44.4	44	44	44.4
D		0/5	0/5	0/5	0/5	0/5	0/5
E		44.5	44.5	44.5	44.5	44.5	45
F		37.5	37.5	37.5	37.5	37.5	37.5
G		44.5	44.5	44.5	44.5	44.5	44.3

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

UNIT # 1

DATE: 10-19-00

PARAMETER	UNITS	Readings (30 minute intervals)					
		ΣA	ΣA	EA	EA	ΣA	EA
Person Recording Data							
Time		1100	1130	1200	1230	1300	1330
Steam Flow	Lb/Hr x 10 ⁶	4.49	4.44	4.43	4.46	4.47	4.53
Air Flow	%	76.2	76.8	75.9	75.4	75.9	76
Generator Load (Gross)	Megawatts	658	654	656	655	662	664
Boiler Thermal Demand	Megawatts	666	659	663	662	670	666
O2 Flue gas	%	2.9	3.0	2.9	3.0	2.8	2.9
Fuel Flow	%	101.4	101.4	101.4	101.2	101.2	101.4
Coal Totalizer	Tons						
A		44	44	44.4	44.2	44	44
B		44	44	44	43	43	43
C		44.5	44.5	44.4	44.2	44	44.2
D		0/5	0/5	0/5	0/5	0/5	0/5
E		44.5	44.3	44.2	44.5	44	45
F		37.5	37.2	37.1	37	37.5	37.5
G		44	44.5	44	44.5	44.4	44

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

UNIT # 1

DATE: 10-19-00

PARAMETER	UNITS	Readings (30 minute intervals)				
		EA	EA	EA	EA	EA
Person Recording Data		EA	EA	EA	EA	EA
Time		1400	1445	1515	1545	1615
Steam Flow	Lb/Hr x 10 ⁰	4.48	4.54	4.53	4.54	4.56
Air Flow	%	76.9	77.1	75.7	76.5	77.2
Generator Load (Gross)	Megawatts	663	659	664	670	662
Boiler Thermal Demand	Megawatts	668	665	670	681	669
O2 Flue gas	%	2.8	3.0	2.9	2.9	2.9
Fuel Flow	%	101.5	101.3	101.4	101	101.2
Coal Totalizer	Tons					
A		44.2	44.4	44.5	44	44
B		42.5	43.5	44.5	44	43.5
C		44.2	44.5	44	44	44.5
D		0/3	0/3	0/3	0/3	0/3
E		44.5	44.5	44.5	44.4	44.4
F		37.5	37.5	37.5	37.5	37.5
G		44.5	44.4	44	44.5	44

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

Date: 10/19/00

Initials: JJA

HOUR	PACKING DIFFERENTIAL PRESSURE (inches H2O column)		
	A	B	C
0000			
0100			
0200			
0300			
0400			
0500			
0600			
0700			
0800	5.2		5.7
0900	5.2		5.6
1000	5.2		5.6
1100	5.1		5.6
1200	5.2		5.7
1300	5.2		5.6
1400	5.3		5.6
1500	5.3		5.8
1600	5.3		5.5
1700			
1800			
1900			
2000			
2100			
2200			
2300			

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

COMMENTS: IN 1463 out 1642 0800 start test
 IN 1464 out 1666 1350 end test
 IN 1464 out 1671 1449 start test
 IN 1464 out 1676 1600 end test

Enertec NTDAS®
 Average Values Report
 10/17/00 09:01

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 08:15
 Period End: 10/17/00 08:37
 Validation Type: 1/1 min
 Averaging Period: 1 min
 Type: Block Avg

Period Start	Average 1inCO2_C %	Average 1inSO2_C ppm	Average 1inSO2_MM #/M	Average 1Unit_Load MW
10/17/00 08:15	12.66	1223	2.888	663.5
10/17/00 08:16	12.62	1219	2.888	662.6
10/17/00 08:17	12.65	1224	2.892	665.7
10/17/00 08:18	12.67	1226	2.891	668.0
10/17/00 08:19	12.70	1229	2.890	667.4
10/17/00 08:20	12.72	1234	2.899	665.6
10/17/00 08:21	12.72	1228	2.885	666.8
10/17/00 08:22	12.69	1228	2.892	666.5
10/17/00 08:23	12.64	1217	2.878	667.1
10/17/00 08:24	12.70	1221	2.873	667.2
10/17/00 08:25	12.72	1224	2.873	666.1
10/17/00 08:26	12.73	1223	2.873	666.1
10/17/00 08:27	12.65	1219	2.880	664.5
10/17/00 08:28	12.71	1222	2.874	666.0
10/17/00 08:29	12.66	1220	2.880	666.4
10/17/00 08:30	12.67	1219	2.875	668.9
10/17/00 08:31	12.69	1218	2.870	672.1
10/17/00 08:32	12.81	1232	2.873	671.6
10/17/00 08:33	12.76	1232	2.885	670.4
10/17/00 08:34	12.69	1221	2.876	673.5
10/17/00 08:35	12.82	1238	2.885	673.1
10/17/00 08:36	12.86	1243	2.888	670.2
Final Average*	12.71	1225	2.882	667.7
Maximum*	12.86	1243	2.899	673.5
Minimum*	12.62	1217	2.870	662.6

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

MW AVG = 656.156

Enertec NTDAHS®
Average Values Report
10/17/00 09:28

Run#2 Inlet

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 08:50
Period End: 10/17/00 09:12
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average 1inCO2_C %	Average 1inSO2_C ppm	Average 1inSO2_MM #/M	Average 1Unit_Load MW
10/17/00 08:50	12.66	1210	2.855	665.1
10/17/00 08:51	12.70	1212	2.854	668.2
10/17/00 08:52	12.71	1214	2.852	667.3
10/17/00 08:53	12.71	1216	2.859	665.1
10/17/00 08:54	12.67	1215	2.864	663.5
10/17/00 08:55	12.71	1222	2.872	663.0
10/17/00 08:56	12.69	1227	2.889	666.7
10/17/00 08:57	12.69	1231	2.898	664.4
10/17/00 08:58	12.73	1234	2.898	664.7
10/17/00 08:59	12.72	1237	2.906	664.9
10/17/00 09:00	12.70	1235	2.906	669.0
10/17/00 09:01	12.70	1232	2.898	672.2
10/17/00 09:02	12.76	1237	2.897	673.7
10/17/00 09:03	12.83	1242	2.893	668.7
10/17/00 09:04	12.83	1242	2.894	663.3
10/17/00 09:05	12.69	1225	2.883	664.7
10/17/00 09:06	12.65	1219	2.879	668.0
10/17/00 09:07	12.67	1221	2.880	669.0
10/17/00 09:08	12.69	1223	2.882	669.2
10/17/00 09:09	12.71	1221	2.871	665.1
10/17/00 09:10	12.72	1220	2.866	666.0
10/17/00 09:11	12.64	1208	2.857	666.1
Final Average*	12.71	1225	2.880	666.7
Maximum*	12.83	1242	2.906	673.7
Minimum*	12.64	1208	2.852	663.0

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

#3 Scrubber Inlet

Enertec NTDHS®
Average Values Report
10/17/00 10:08

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 09:23
Period End: 10/17/00 09:45
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average 1inCO2_C %	Average 1inSO2_C ppm	Average 1inSO2_MM #/M	Average 1Unit_Load MW
10/17/00 09:23	12.81	1189	2.775	667.1
10/17/00 09:24	12.75	1191	2.792	666.4
10/17/00 09:25	12.70	1193	2.806	666.6
10/17/00 09:26	12.67	1192	2.812	666.4
10/17/00 09:27	12.69	1196	2.816	663.5
10/17/00 09:28	12.69	1194	2.811	663.3
10/17/00 09:29	12.64	1191	2.814	667.7
10/17/00 09:30	12.71	1201	2.823	666.0
10/17/00 09:31	12.73	1204	2.827	670.1
10/17/00 09:32	12.76	1212	2.839	672.9
10/17/00 09:33	12.86	1223	2.844	670.8
10/17/00 09:34	12.81	1215	2.836	664.5
10/17/00 09:35	12.67	1196	2.821	662.0
10/17/00 09:36	12.68	1191	2.809	659.8
10/17/00 09:37	12.63	1182	2.797	664.6
10/17/00 09:38	12.67	1185	2.795	661.9
10/17/00 09:39	12.79	1194	2.789	661.5
10/17/00 09:40	12.65	1176	2.778	666.3
10/17/00 09:41	12.67	1179	2.779	666.4
10/17/00 09:42	12.76	1188	2.782	662.6
10/17/00 09:43	12.72	1188	2.792	659.8
10/17/00 09:44	12.67	1186	2.798	661.0
Final Average*	12.72	1194	2.806	665.1
Maximum*	12.86	1223	2.844	672.9
Minimum*	12.63	1176	2.775	659.8

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

#4

Scrubber
Inlet

Enertec NTAHS®
Average Values Report
10/17/00 10:18

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 09:56
Period End: 10/17/00 10:18
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average 1inCO2_C %	Average 1inSO2_C ppm	Average 1inSO2_MM #/M	Average 1Unit_Load MW
10/17/00 09:56	12.70	1172	2.756	657.2
10/17/00 09:57	12.59	1160	2.754	661.4
10/17/00 09:58	12.62	1160	2.746	667.0
10/17/00 09:59	12.81	1173	2.736	663.7
10/17/00 10:00	12.79	1168	2.729	656.6
10/17/00 10:01	12.62	1152	2.727	655.3
10/17/00 10:02	12.57	1145	2.722	654.1
10/17/00 10:03	12.57	1144	2.719	656.6
10/17/00 10:04	12.56	1137	2.705	661.8
10/17/00 10:05	12.68	1146	2.701	668.7
10/17/00 10:06	12.76	1157	2.707	667.5
10/17/00 10:07	12.81	1162	2.710	660.6
10/17/00 10:08	12.72	1149	2.698	659.5
10/17/00 10:09	12.67	1137	2.684	661.5
10/17/00 10:10	12.70	1145	2.694	660.9
10/17/00 10:11	12.73	1150	2.698	658.8
10/17/00 10:12	12.67	1142	2.693	653.1
10/17/00 10:13	12.71	1148	2.700	652.4
10/17/00 10:14	12.61	1138	2.696	658.3
10/17/00 10:15	12.62	1138	2.695	661.8
10/17/00 10:16	12.62	1136	2.693	661.9
10/17/00 10:17	12.65	1134	2.678	661.6
Final Average*	12.67	1149	2.711	660.0
Maximum*	12.81	1173	2.756	668.7
Minimum*	12.56	1134	2.678	652.4

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

Enertec NTDHS®
 Average Values Report
 10/17/00 10:48

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 10:25
 Period End: 10/17/00 10:47
 Validation Type: 1/1 min
 Averaging Period: 1 min
 Type: Block Avg

Period Start	Average 1inCO2_C %	Average 1inSO2_C ppm	Average 1inSO2_MM #/M	Average 1Unit_Load MW
10/17/00 10:25	12.70	1134	2.668	657.8
10/17/00 10:26	12.65	1125	2.658	658.6
10/17/00 10:27	12.73	1127	2.645	656.0
10/17/00 10:28	12.60	1118	2.650	655.9
10/17/00 10:29	12.58	1112	2.641	656.0
10/17/00 10:30	12.62	1116	2.642	659.9
10/17/00 10:31	12.68	1123	2.645	659.4
10/17/00 10:32	12.72	1125	2.643	660.5
10/17/00 10:33	12.71	1119	2.631	659.8
10/17/00 10:34	12.74	1121	2.630	654.5
10/17/00 10:35	12.69	1111	2.620	649.6
10/17/00 10:36	12.59	1098	2.608	649.9
10/17/00 10:37	12.52	1099	2.622	653.9
10/17/00 10:38	12.59	1105	2.623	658.8
10/17/00 10:39	12.66	1120	2.644	661.1
10/17/00 10:40	12.70	1131	2.661	662.2
10/17/00 10:41	12.85	1147	2.667	660.0
10/17/00 10:42	12.82	1147	2.674	661.6
10/17/00 10:43	12.73	1138	2.674	662.2
10/17/00 10:44	12.78	1146	2.679	659.5
10/17/00 10:45	12.76	1150	2.692	655.7
10/17/00 10:46	12.65	1142	2.697	652.9
Final Average*	12.69	1125	2.651	657.5
Maximum*	12.85	1150	2.697	662.2
Minimum*	12.52	1098	2.608	649.6

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

RUN # 6 INLET

Enertec NTDAHS®
Average Values Report
10/17/00 11:28

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 10:55
Period End: 10/17/00 11:17
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average lnCO2_C %	Average lnSO2_C ppm	Average lnSO2_MM #/M	Average lUnit_Load MW
10/17/00 10:55	12.80	1120	2.615	642.4
10/17/00 10:56	12.61	1101	2.609	643.1
10/17/00 10:57	12.57	1092	2.595	653.3
10/17/00 10:58	12.68	1097	2.586	661.0
10/17/00 10:59	12.66	1095	2.584	658.5
10/17/00 11:00	12.74	1104	2.588	647.8
10/17/00 11:01	12.67	1098	2.589	642.2
10/17/00 11:02	12.58	1085	2.576	650.8
10/17/00 11:03	12.48	1071	2.566	658.2
10/17/00 11:04	12.53	1076	2.565	657.9
10/17/00 11:05	12.62	1082	2.562	660.3
10/17/00 11:06	12.56	1077	2.563	659.5
10/17/00 11:07	12.57	1076	2.557	657.0
10/17/00 11:08	12.58	1077	2.557	650.8
10/17/00 11:09	12.57	1070	2.545	647.1
10/17/00 11:10	12.53	1065	2.540	648.6
10/17/00 11:11	12.56	1067	2.542	639.0
10/17/00 11:12	12.66	1073	2.533	638.6
10/17/00 11:13	12.61	1066	2.527	647.0
10/17/00 11:14	12.49	1049	2.510	650.9
10/17/00 11:15	12.55	1056	2.515	648.8
10/17/00 11:16	12.59	1056	2.507	643.7
Final Average*	12.60	1080	2.561	650.3
Maximum*	12.80	1120	2.615	661.0
Minimum*	12.48	1049	2.507	638.6

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

RUN# 7 INLET

Enertec NTDAS®
Average Values Report
10/17/00 11:59

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 11:25
Period End: 10/17/00 11:47
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average linCO2_C %	Average linSO2_C ppm	Average linSO2_MM #/M	Average iUnit_Load MW
10/17/00 11:25	12.47	1057	2.533	644.2
10/17/00 11:26	12.44	1056	2.537	651.6
10/17/00 11:27	12.58	1070	2.543	655.2
10/17/00 11:28	12.70	1086	2.553	654.3
10/17/00 11:29	12.65	1084	2.561	650.5
10/17/00 11:30	12.66	1084	2.560	646.7
10/17/00 11:31	12.60	1075	2.550	647.0
10/17/00 11:32	12.54	1065	2.539	650.1
10/17/00 11:33	12.57	1064	2.530	651.7
10/17/00 11:34	12.57	1063	2.524	643.7
10/17/00 11:35	12.56	1060	2.519	640.6
10/17/00 11:36	12.47	1052	2.521	640.5
10/17/00 11:37	12.47	1050	2.516	646.7
10/17/00 11:38	12.49	1055	2.523	650.1
10/17/00 11:39	12.65	1073	2.537	648.5
10/17/00 11:40	12.66	1077	2.542	646.3
10/17/00 11:41	12.55	1071	2.551	644.6
10/17/00 11:42	12.55	1070	2.548	643.5
10/17/00 11:43	12.50	1071	2.560	645.4
10/17/00 11:44	12.49	1071	2.562	648.8
10/17/00 11:45	12.55	1077	2.564	647.8
10/17/00 11:46	12.58	1075	2.558	645.1
Final Average*	12.56	1068	2.542	647.4
Maximum*	12.70	1086	2.564	655.2
Minimum*	12.44	1050	2.516	640.5

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

Enertec NTAHS®
Average Values Report
10/17/00 13:24

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 11:55
Period End: 10/17/00 12:17
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start	Average 1inCO2_C %	Average 1inSO2_C ppm	Average 1inSO2_MM #/M	Average 1Unit_Load MW
10/17/00 11:55	12.56	1051	2.503	648.7
10/17/00 11:56	12.54	1053	2.509	651.6
10/17/00 11:57	12.59	1058	2.508	651.3
10/17/00 11:58	12.73	1068	2.511	649.8
10/17/00 11:59	12.61	1061	2.515	648.5
10/17/00 12:00	12.59	1056	2.505	645.4
10/17/00 12:01	12.56	1053	2.509	646.5
10/17/00 12:02	12.52	1050	2.505	647.3
10/17/00 12:03	12.54	1054	2.514	646.7
10/17/00 12:04	12.57	1057	2.510	647.0
10/17/00 12:05	12.62	1062	2.515	646.9
10/17/00 12:06	12.63	1066	2.521	642.8
10/17/00 12:07	12.58	1057	2.516	641.2
10/17/00 12:08	12.49	1044	2.497	641.5
10/17/00 12:09	12.50	1042	2.492	644.0
10/17/00 12:10	12.55	1049	2.497	644.3
10/17/00 12:11	12.56	1051	2.500	643.8
10/17/00 12:12	12.59	1058	2.510	643.0
10/17/00 12:13	12.59	1059	2.513	644.0
10/17/00 12:14	12.54	1056	2.516	646.1
10/17/00 12:15	12.65	1062	2.510	643.8
10/17/00 12:16	12.53	1054	2.514	642.7
Final Average*	12.57	1055	2.509	645.8
Maximum*	12.73	1068	2.521	651.6
Minimum*	12.49	1042	2.492	641.2

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

Enertec NTDAS®
 Average Values Report
 10/17/00 13:25

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 12:25
 Period End: 10/17/00 12:47
 Validation Type: 1/1 min
 Averaging Period: 1 min
 Type: Block Avg

Period Start	Average linCO2_C %	Average linSO2_C ppm	Average linSO2_MM #/M	Average 1Unit_Load MW
10/17/00 12:25	12.57	1062	2.525	643.3
10/17/00 12:26	12.54	1062	2.532	645.6
10/17/00 12:27	12.58	1067	2.533	644.4
10/17/00 12:28	12.59	1066	2.528	645.0
10/17/00 12:29	12.56	1060	2.522	642.9
10/17/00 12:30	12.52	1057	2.523	639.5
10/17/00 12:31	12.48	1051	2.516	637.0
10/17/00 12:32	12.44	1051	2.524	639.6
10/17/00 12:33	12.45	1057	2.536	639.8
10/17/00 12:34	12.44	1051	2.523	645.6
10/17/00 12:35	12.45	1054	2.529	649.0
10/17/00 12:36	12.60	1071	2.539	648.3
10/17/00 12:37	12.63	1077	2.548	642.3
10/17/00 12:38	12.66	1086	2.562	643.2
10/17/00 12:39	12.59	1081	2.567	647.8
10/17/00 12:40	12.67	1086	2.561	646.9
10/17/00 12:41	12.63	1086	2.570	647.8
10/17/00 12:42	12.60	1082	2.566	646.4
10/17/00 12:43	12.62	1082	2.562	653.4
10/17/00 12:44	12.63	1080	2.556	652.1
10/17/00 12:45	12.75	1088	2.549	648.1
10/17/00 12:46	12.65	1075	2.538	640.8
Final Average*	12.58	1069	2.541	644.9
Maximum*	12.75	1088	2.570	653.4
Minimum*	12.44	1051	2.516	637.0

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

Enertec NTDHS®
Average Values Report
10/18/00 09:56

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 08:55
Period End: 10/18/00 09:17
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average lStk_kscfh kscfh	Average lUnit_Load MW
10/18/00 08:55	98.5	0.106	12.19	0.452	201.3	0.494	99186.0	672.0
10/18/00 08:56	124.4	0.133	12.23	0.447	198.1	0.484	98976.0	672.8
10/18/00 08:57	161.9	0.170	12.26	0.447	197.0	0.480	98964.0	672.7
10/18/00 08:58	267.9	0.275	12.36	0.444	197.8	0.478	98976.0	671.0
10/18/00 08:59	292.3	0.310	12.36	0.442	193.2	0.467	98088.0	670.7
10/18/00 09:00	138.2	0.148	12.21	0.449	187.9	0.460	97800.0	670.4
10/18/00 09:01	105.3	0.114	12.15	0.451	186.7	0.458	97800.0	669.3
10/18/00 09:02	103.6	0.110	12.21	0.444	189.2	0.463	97758.0	668.8
10/18/00 09:03	110.0	0.118	12.26	0.442	189.1	0.461	97638.0	669.3
10/18/00 09:04	140.9	0.150	12.27	0.444	188.5	0.459	97638.0	669.1
10/18/00 09:05	190.4	0.203	12.29	0.444	189.5	0.461	97626.0	665.9
10/18/00 09:06	205.9	0.220	12.30	0.445	190.0	0.462	97608.0	665.1
10/18/00 09:07	140.7	0.151	12.22	0.447	188.7	0.462	97626.0	666.7
10/18/00 09:08	130.6	0.141	12.15	0.451	187.1	0.460	97650.0	669.0
10/18/00 09:09	123.1	0.132	12.16	0.450	184.9	0.454	97638.0	669.1
10/18/00 09:10	159.8	0.168	12.26	0.441	186.3	0.454	97644.0	670.2
10/18/00 09:11	174.7	0.187	12.24	0.441	186.2	0.455	97656.0	670.7
10/18/00 09:12	162.3	0.175	12.18	0.444	186.2	0.457	97626.0	670.9
10/18/00 09:13	118.5	0.127	12.20	0.444	187.4	0.459	97614.0	671.0
10/18/00 09:14	139.4	0.148	12.20	0.441	188.9	0.463	97770.0	672.3
10/18/00 09:15	157.0	0.168	12.20	0.442	190.4	0.466	97758.0	673.5
10/18/00 09:16	133.1	0.143	12.19	0.445	190.2	0.466	97776.0	674.1
Final Average*	153.6	0.164	12.23	0.445	190.2	0.465	97946.2	670.2
Maximum*	292.3	0.310	12.36	0.452	201.3	0.494	99186.0	674.1
Minimum*	98.5	0.106	12.15	0.441	184.9	0.454	97608.0	665.1

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

MW Avg = 671.213

FLOW RUN # 1

Enertec NTDAHS®
Average Values Report
10/18/00 10:49

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 08:55
Period End: 10/18/00 09:06
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 08:55	99186.0	672.0
10/18/00 08:56	98976.0	672.8
10/18/00 08:57	98964.0	672.7
10/18/00 08:58	98976.0	671.0
10/18/00 08:59	98088.0	670.7
10/18/00 09:00	97800.0	670.4
10/18/00 09:01	97800.0	669.3
10/18/00 09:02	97758.0	668.8
10/18/00 09:03	97638.0	669.3
10/18/00 09:04	97638.0	669.1
10/18/00 09:05	97626.0	665.9
Final Average*	98222.7	670.2
Maximum*	99186.0	672.8
Minimum*	97626.0	665.9

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

PUN #2 OUTLET PACTA.

Enertec NTAHS®
Average Values Report
10/18/00 09:57

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 09:30
Period End: 10/18/00 09:52
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average lStk_kscfh	Average lUnit_Load MW
10/18/00 09:30	159.3	0.171	12.22	0.441	184.0	0.450	96834.0	670.0
10/18/00 09:31	107.8	0.116	12.16	0.446	183.7	0.452	96834.0	671.1
10/18/00 09:32	134.9	0.140	12.26	0.441	186.7	0.455	97278.0	671.0
10/18/00 09:33	225.0	0.239	12.35	0.438	188.1	0.455	97692.0	671.5
10/18/00 09:34	228.6	0.243	12.30	0.438	184.4	0.449	97680.0	671.8
10/18/00 09:35	212.7	0.227	12.24	0.439	183.8	0.449	97680.0	671.3
10/18/00 09:36	189.5	0.201	12.32	0.436	185.2	0.449	97758.0	669.8
10/18/00 09:37	197.8	0.210	12.28	0.443	185.8	0.452	97740.0	669.1
10/18/00 09:38	174.2	0.186	12.22	0.444	184.4	0.451	97788.0	669.5
10/18/00 09:39	88.8	0.096	12.14	0.452	180.1	0.444	97668.0	670.0
10/18/00 09:40	123.9	0.133	12.21	0.444	181.7	0.444	97644.0	669.8
10/18/00 09:41	213.0	0.223	12.27	0.440	183.9	0.448	97626.0	669.5
10/18/00 09:42	210.4	0.225	12.25	0.440	184.1	0.449	97626.0	670.1
10/18/00 09:43	129.3	0.139	12.15	0.446	183.0	0.451	97560.0	671.8
10/18/00 09:44	138.0	0.149	12.12	0.447	183.9	0.453	97584.0	670.2
10/18/00 09:45	189.4	0.199	12.28	0.438	189.8	0.461	97572.0	670.0
10/18/00 09:46	182.4	0.194	12.30	0.439	190.1	0.463	97428.0	669.9
10/18/00 09:47	144.1	0.155	12.20	0.447	189.6	0.464	97386.0	669.7
10/18/00 09:48	174.3	0.187	12.22	0.449	188.2	0.460	97362.0	670.5
10/18/00 09:49	157.8	0.169	12.24	0.447	184.2	0.450	97452.0	670.9
10/18/00 09:50	144.4	0.155	12.21	0.451	182.4	0.447	97518.0	671.0
10/18/00 09:51	133.4	0.141	12.31	0.441	184.0	0.446	97506.0	671.7
Final Average*	166.3	0.177	12.24	0.443	185.1	0.452	97509.8	670.5
Maximum*	228.6	0.243	12.35	0.452	190.1	0.464	97788.0	671.8
Minimum*	88.8	0.096	12.12	0.436	180.1	0.444	96834.0	669.1

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

FLOW RUN #2

Enertec NTDAHS®
Average Values Report
10/18/00 10:50

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 09:30
Period End: 10/18/00 09:41
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 09:30	96834.0	670.0
10/18/00 09:31	96834.0	671.1
10/18/00 09:32	97278.0	671.0
10/18/00 09:33	97692.0	671.5
10/18/00 09:34	97680.0	671.8
10/18/00 09:35	97680.0	671.3
10/18/00 09:36	97758.0	669.8
10/18/00 09:37	97740.0	669.1
10/18/00 09:38	97788.0	669.5
10/18/00 09:39	97668.0	670.0
10/18/00 09:40	97644.0	669.8
Final Average*	97508.7	670.4
Maximum*	97788.0	671.8
Minimum*	96834.0	669.1

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

OUTLET DATA EW#3

Enertec NTDAS®
Average Values Report
10/18/00 10:41

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 10:02
Period End: 10/18/00 10:24
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average 1Stk_kscfh	Average 1Unit_Load MW
10/18/00 10:02	152.2	0.166	12.28	0.440	190.4	0.463	97794.0	669.5
10/18/00 10:03	168.4	0.180	12.27	0.439	189.8	0.462	97872.0	669.9
10/18/00 10:04	137.6	0.147	12.27	0.441	187.9	0.457	97836.0	670.4
10/18/00 10:05	188.3	0.201	12.29	0.440	188.6	0.459	97860.0	670.6
10/18/00 10:06	271.3	0.288	12.31	0.442	190.8	0.463	97836.0	671.3
10/18/00 10:07	154.0	0.165	12.25	0.447	190.3	0.465	97848.0	670.5
10/18/00 10:08	148.8	0.158	12.32	0.447	193.5	0.469	97836.0	669.9
10/18/00 10:09	134.9	0.143	12.31	0.446	189.9	0.463	97860.0	670.1
10/18/00 10:10	86.5	0.093	12.22	0.455	188.0	0.460	97848.0	670.5
10/18/00 10:11	89.3	0.096	12.19	0.456	187.9	0.460	97848.0	671.1
10/18/00 10:12	115.1	0.123	12.19	0.459	189.6	0.465	97638.0	671.9
10/18/00 10:13	91.0	0.098	12.22	0.462	191.9	0.469	97428.0	674.0
10/18/00 10:14	102.7	0.109	12.27	0.458	194.7	0.473	97404.0	676.5
10/18/00 10:15	90.2	0.096	12.30	0.458	196.3	0.477	97176.0	676.8
10/18/00 10:16	115.3	0.123	12.28	0.457	196.8	0.479	96978.0	676.9
10/18/00 10:17	132.3	0.141	12.33	0.458	197.2	0.478	96966.0	676.8
10/18/00 10:18	84.3	0.091	12.19	0.468	191.4	0.469	96978.0	677.2
10/18/00 10:19	88.5	0.095	12.15	0.475	186.2	0.458	97020.0	677.5
10/18/00 10:20	129.4	0.139	12.17	0.473	184.3	0.452	97032.0	677.8
10/18/00 10:21	127.9	0.138	12.19	0.474	185.9	0.456	97032.0	677.7
10/18/00 10:22	131.7	0.140	12.22	0.475	189.0	0.463	98196.0	676.0
10/18/00 10:23	98.1	0.116	12.20	0.476	190.2	0.466	98208.0	674.8
Final Average*	129.0	0.138	12.25	0.457	190.5	0.465	97567.9	673.5
Maximum*	271.3	0.288	12.33	0.476	197.2	0.479	98208.0	677.8
Minimum*	84.3	0.091	12.15	0.439	184.3	0.452	96966.0	669.5

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 10:50

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 10:02
 Period End: 10/18/00 10:13
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 10:02	97794.0	669.5
10/18/00 10:03	97872.0	669.9
10/18/00 10:04	97836.0	670.4
10/18/00 10:05	97860.0	670.6
10/18/00 10:06	97836.0	671.3
10/18/00 10:07	97848.0	670.5
10/18/00 10:08	97836.0	669.9
10/18/00 10:09	97860.0	670.1
10/18/00 10:10	97848.0	670.5
10/18/00 10:11	97848.0	671.1
10/18/00 10:12	97638.0	671.9
Final Average*	97825.1	670.5
Maximum*	97872.0	671.9
Minimum*	97638.0	669.5

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

OUTLET DATA RUN #4

Enertec NTDAHS®
Average Values Report
10/18/00 11:18

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 10:37
Period End: 10/18/00 10:59
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1outCO_C ppm	Average 1outCO_MM #/M	Average 1outCO2_C %	Average 1outNOX_MM #/M	Average 1outSO2_C ppm	Average 1outSO2_MM #/M	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 10:37	66.2	0.071	12.21	0.472	194.0	0.475	99702.0	678.1
10/18/00 10:38	90.2	0.095	12.28	0.477	195.9	0.478	99690.0	679.9
10/18/00 10:39	102.7	0.111	12.19	0.481	193.4	0.474	99690.0	680.9
10/18/00 10:40	110.0	0.123	12.25	0.479	194.9	0.475	99750.0	679.6
10/18/00 10:41	95.2	0.105	12.24	0.477	197.4	0.482	99834.0	678.0
10/18/00 10:42	54.0	0.065	12.08	0.489	195.6	0.484	99846.0	675.8
10/18/00 10:43	42.2	0.045	12.03	0.492	195.9	0.486	99822.0	673.8
10/18/00 10:44	66.9	0.067	12.10	0.475	197.6	0.488	99738.0	672.2
10/18/00 10:45	58.6	0.065	12.02	0.478	197.2	0.490	99660.0	671.2
10/18/00 10:46	39.0	0.043	11.96	0.488	195.5	0.489	99690.0	672.0
10/18/00 10:47	36.9	0.041	11.95	0.490	193.8	0.485	99216.0	673.9
10/18/00 10:48	48.3	0.051	12.03	0.485	191.7	0.477	99078.0	674.4
10/18/00 10:49	107.4	0.116	12.17	0.476	190.3	0.468	99102.0	673.1
10/18/00 10:50	184.2	0.196	12.30	0.467	192.2	0.467	99090.0	671.6
10/18/00 10:51	136.8	0.181	12.25	0.464	192.8	0.468	98880.0	670.6
10/18/00 10:52	56.3	0.062	12.10	0.474	189.8	0.468	98736.0	669.9
10/18/00 10:53	58.0	0.062	12.08	0.481	189.8	0.468	98748.0	670.1
10/18/00 10:54	79.2	0.086	12.08	0.480	191.1	0.473	98340.0	669.9
10/18/00 10:55	82.9	0.090	12.11	0.481	191.9	0.474	98220.0	670.0
10/18/00 10:56	72.5	0.078	12.16	0.473	194.1	0.477	98196.0	671.0
10/18/00 10:57	51.7	0.056	12.15	0.465	194.6	0.479	98208.0	671.3
10/18/00 10:58	66.9	0.069	12.09	0.473	191.4	0.473	98394.0	671.8
Final Average*	77.6	0.085	12.13	0.478	193.7	0.477	99165.0	673.6
Maximum*	184.2	0.196	12.30	0.492	197.6	0.490	99846.0	680.9
Minimum*	36.9	0.041	11.95	0.464	189.8	0.467	98196.0	669.9

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 11:19

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 10:37
 Period End: 10/18/00 10:48
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 10:37	99702.0	678.1
10/18/00 10:38	99690.0	679.9
10/18/00 10:39	99690.0	680.9
10/18/00 10:40	99750.0	679.6
10/18/00 10:41	99834.0	678.0
10/18/00 10:42	99846.0	675.8
10/18/00 10:43	99822.0	673.8
10/18/00 10:44	99738.0	672.2
10/18/00 10:45	99660.0	671.2
10/18/00 10:46	99690.0	672.0
10/18/00 10:47	99216.0	673.9
Final Average*	99694.4	675.9
Maximum*	99846.0	680.9
Minimum*	99216.0	671.2

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

OUTLET DATA RUN#5

Enertec NTDAS®
Average Values Report
10/18/00 11:39

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 11:11
Period End: 10/18/00 11:33
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 11:11	107.3	0.115	12.17	0.460	188.9	0.464	99366.0	674.7
10/18/00 11:12	119.8	0.129	12.15	0.460	189.5	0.466	99300.0	673.7
10/18/00 11:13	83.9	0.091	12.10	0.467	187.8	0.464	99240.0	672.2
10/18/00 11:14	72.3	0.078	12.11	0.466	189.0	0.467	99264.0	671.8
10/18/00 11:15	62.9	0.068	12.12	0.468	190.0	0.469	99228.0	671.5
10/18/00 11:16	65.4	0.072	12.11	0.471	191.1	0.472	99186.0	671.7
10/18/00 11:17	71.8	0.078	12.16	0.469	192.9	0.475	99186.0	670.7
10/18/00 11:18	65.2	0.070	12.18	0.466	190.4	0.467	99162.0	670.4
10/18/00 11:19	61.3	0.066	12.22	0.468	187.7	0.459	99036.0	669.1
10/18/00 11:20	78.3	0.084	12.19	0.471	186.9	0.458	98916.0	669.4
10/18/00 11:21	81.2	0.087	12.19	0.465	187.6	0.460	98904.0	670.3
10/18/00 11:22	70.2	0.076	12.17	0.467	188.4	0.463	98904.0	668.7
10/18/00 11:23	78.5	0.084	12.19	0.467	189.5	0.465	98892.0	667.2
10/18/00 11:24	50.1	0.054	12.14	0.473	188.8	0.465	98880.0	665.8
10/18/00 11:25	67.3	0.070	12.13	0.468	189.4	0.467	98868.0	664.4
10/18/00 11:26	64.4	0.070	12.10	0.471	189.1	0.467	98844.0	664.5
10/18/00 11:27	56.2	0.061	12.04	0.472	188.0	0.467	98826.0	666.6
10/18/00 11:28	57.1	0.062	12.06	0.472	185.4	0.459	98826.0	667.7
10/18/00 11:29	91.4	0.100	12.16	0.460	185.1	0.455	98856.0	668.9
10/18/00 11:30	88.1	0.095	12.14	0.459	184.2	0.454	98196.0	668.4
10/18/00 11:31	88.7	0.096	12.15	0.464	184.2	0.453	98196.0	668.9
10/18/00 11:32	77.4	0.083	12.16	0.461	183.8	0.452	98232.0	669.4
Final Average*	75.4	0.081	12.14	0.467	188.1	0.463	98923.1	669.4
Maximum*	119.8	0.129	12.22	0.473	192.9	0.475	99366.0	674.7
Minimum*	50.1	0.054	12.04	0.459	183.8	0.452	98196.0	664.4

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 11:23

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 11:11
 Period End: 10/18/00 11:22
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 11:11	99366.0	674.7
10/18/00 11:12	99300.0	673.7
10/18/00 11:13	99240.0	672.2
10/18/00 11:14	99264.0	671.8
10/18/00 11:15	99228.0	671.5
10/18/00 11:16	99186.0	671.7
10/18/00 11:17	99186.0	670.7
10/18/00 11:18	99162.0	670.4
10/18/00 11:19	99036.0	669.1
10/18/00 11:20	98916.0	669.4
10/18/00 11:21	98904.0	670.3
Final Average*	99162.6	671.4
Maximum*	99366.0	674.7
Minimum*	98904.0	669.1

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

OUTLET DATA #6

Enertec NTDHS®
Average Values Report
10/18/00 13:05

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 11:45
Period End: 10/18/00 12:07
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1outCO_C ppm	Average 1outCO_MM #/M	Average 1outCO2_C %	Average 1outNOX_MM #/M	Average 1outSO2_C ppm	Average 1outSO2_MM #/M	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 11:45	69.3	0.075	12.10	0.471	185.0	0.457	98376.0	669.1
10/18/00 11:46	56.3	0.061	12.12	0.469	186.4	0.460	98388.0	670.6
10/18/00 11:47	45.0	0.049	12.07	0.469	184.3	0.456	98580.0	672.6
10/18/00 11:48	43.8	0.047	12.14	0.469	183.3	0.451	98550.0	672.0
10/18/00 11:49	66.8	0.072	12.24	0.460	182.8	0.446	98562.0	671.3
10/18/00 11:50	77.9	0.083	12.27	0.461	180.7	0.440	98706.0	671.1
10/18/00 11:51	72.8	0.077	12.18	0.466	179.3	0.440	98736.0	669.5
10/18/00 11:52	50.5	0.055	12.11	0.471	178.6	0.441	98724.0	669.1
10/18/00 11:53	76.3	0.082	12.15	0.466	179.4	0.441	98628.0	669.2
10/18/00 11:54	50.2	0.055	12.10	0.468	178.9	0.442	98616.0	670.3
10/18/00 11:55	50.2	0.055	12.12	0.469	181.6	0.447	98604.0	671.6
10/18/00 11:56	62.1	0.067	12.17	0.468	182.9	0.449	98592.0	672.0
10/18/00 11:57	151.3	0.162	12.26	0.462	185.1	0.451	98538.0	673.3
10/18/00 11:58	128.8	0.138	12.23	0.461	184.2	0.450	98526.0	675.2
10/18/00 11:59	91.2	0.098	12.19	0.464	181.7	0.445	98538.0	674.0
10/18/00 12:00	74.3	0.080	12.22	0.463	181.7	0.444	98658.0	672.7
10/18/00 12:01	86.6	0.093	12.20	0.464	181.5	0.444	98826.0	672.8
10/18/00 12:02	53.8	0.058	12.07	0.471	178.6	0.442	98838.0	671.5
10/18/00 12:03	51.6	0.056	12.08	0.471	177.4	0.439	98826.0	671.5
10/18/00 12:04	52.2	0.056	12.12	0.465	176.5	0.435	98760.0	671.0
10/18/00 12:05	66.3	0.067	12.15	0.464	177.9	0.438	98784.0	668.3
10/18/00 12:06	113.3	0.121	12.20	0.459	178.0	0.436	98772.0	667.2
Final Average*	72.3	0.078	12.16	0.466	181.2	0.445	98642.2	671.2
Maximum*	151.3	0.162	12.27	0.471	186.4	0.460	98838.0	675.2
Minimum*	43.8	0.047	12.07	0.459	176.5	0.435	98376.0	667.2

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 13:15

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 11:45
 Period End: 10/18/00 11:56
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 11:45	98376.0	669.1
10/18/00 11:46	98388.0	670.6
10/18/00 11:47	98580.0	672.6
10/18/00 11:48	98550.0	672.0
10/18/00 11:49	98562.0	671.3
10/18/00 11:50	98706.0	671.1
10/18/00 11:51	98736.0	669.5
10/18/00 11:52	98724.0	669.1
10/18/00 11:53	98628.0	669.2
10/18/00 11:54	98616.0	670.3
10/18/00 11:55	98604.0	671.6
Final Average*	98588.2	670.6
Maximum*	98736.0	672.6
Minimum*	98376.0	669.1

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

OUTLET DATA RUN #7

Enertec NTDHS®
Average Values Report
10/18/00 13:22

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 12:47
Period End: 10/18/00 13:09
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average lStk_kscfh kscfh	Average lUnit_Load MW
10/18/00 12:47	113.5	0.122	12.22	0.454	177.0	0.433	98484.0	670.0
10/18/00 12:48	117.0	0.125	12.25	0.452	175.3	0.428	98460.0	671.8
10/18/00 12:49	82.6	0.088	12.26	0.454	172.9	0.421	98460.0	672.1
10/18/00 12:50	91.9	0.098	12.34	0.464	173.3	0.420	98496.0	671.9
10/18/00 12:51	66.4	0.072	12.28	0.471	172.9	0.421	98190.0	672.5
10/18/00 12:52	55.4	0.059	12.26	0.482	172.6	0.421	98088.0	673.7
10/18/00 12:53	52.7	0.057	12.17	0.486	173.1	0.425	98064.0	674.3
10/18/00 12:54	65.2	0.069	12.22	0.479	174.7	0.427	98166.0	674.2
10/18/00 12:55	52.8	0.057	12.24	0.477	175.8	0.429	98184.0	675.6
10/18/00 12:56	51.3	0.055	12.22	0.481	176.6	0.432	98208.0	674.8
10/18/00 12:57	41.0	0.043	12.22	0.483	178.2	0.436	98178.0	673.5
10/18/00 12:58	39.7	0.042	12.27	0.480	178.9	0.436	98112.0	672.8
10/18/00 12:59	55.9	0.060	12.22	0.480	175.9	0.430	98112.0	672.8
10/18/00 13:00	92.8	0.099	12.22	0.483	175.5	0.429	98112.0	672.3
10/18/00 13:01	120.6	0.129	12.27	0.482	176.6	0.430	98202.0	672.8
10/18/00 13:02	101.7	0.108	12.30	0.482	177.3	0.431	98196.0	672.7
10/18/00 13:03	75.9	0.081	12.24	0.484	174.4	0.426	98196.0	672.6
10/18/00 13:04	61.0	0.067	12.23	0.484	172.9	0.422	98328.0	672.0
10/18/00 13:05	65.5	0.070	12.27	0.478	173.9	0.423	N/A	670.5
10/18/00 13:06	82.3	0.088	12.28	0.480	175.6	0.427	N/A	667.9
10/18/00 13:07	61.2	0.065	12.27	0.483	175.7	0.428	N/A	667.1
10/18/00 13:08	40.1	0.043	12.20	0.480	174.7	0.428	N/A	666.6
Final Average*	72.1	0.077	12.25	0.476	175.2	0.427	98235.3	672.0
Maximum*	120.6	0.129	12.34	0.486	178.9	0.436	98496.0	675.6
Minimum*	39.7	0.042	12.17	0.452	172.6	0.420	98064.0	666.6

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

Enertec NTDAHS®
Average Values Report
10/18/00 13:18

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 12:47
Period End: 10/18/00 12:58
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 12:47	98484.0	670.0
10/18/00 12:48	98460.0	671.8
10/18/00 12:49	98460.0	672.1
10/18/00 12:50	98496.0	671.9
10/18/00 12:51	98190.0	672.5
10/18/00 12:52	98088.0	673.7
10/18/00 12:53	98064.0	674.3
10/18/00 12:54	98166.0	674.2
10/18/00 12:55	98184.0	675.6
10/18/00 12:56	98208.0	674.8
10/18/00 12:57	98178.0	673.5
Final Average*	98270.7	673.1
Maximum*	98496.0	675.6
Minimum*	98064.0	670.0

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

OUTLET DATA RUN #8

Enertec NTDAS®
Average Values Report
10/18/00 13:57

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 13:19
Period End: 10/18/00 13:41
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average lStk_kscfh	Average lUnit_Load MW
10/18/00 13:19	51.7	0.056	12.20	0.478	170.2	0.417	98586.0	672.9
10/18/00 13:20	60.8	0.066	12.15	0.492	168.4	0.414	98550.0	672.4
10/18/00 13:21	62.5	0.067	12.18	0.495	168.5	0.414	98574.0	672.8
10/18/00 13:22	46.3	0.050	12.12	0.496	168.8	0.416	98616.0	674.1
10/18/00 13:23	51.8	0.056	12.11	0.494	169.9	0.419	98784.0	674.0
10/18/00 13:24	52.0	0.056	12.17	0.492	172.3	0.424	98772.0	673.9
10/18/00 13:25	38.9	0.042	12.12	0.495	173.9	0.429	98784.0	673.0
10/18/00 13:26	30.8	0.034	12.09	0.496	174.3	0.431	99462.0	671.3
10/18/00 13:27	40.6	0.044	12.08	0.497	175.3	0.434	99678.0	669.7
10/18/00 13:28	41.8	0.045	12.11	0.493	177.3	0.438	99678.0	669.6
10/18/00 13:29	42.1	0.046	12.16	0.486	178.7	0.439	99666.0	670.1
10/18/00 13:30	38.5	0.041	12.15	0.479	179.0	0.440	99648.0	671.1
10/18/00 13:31	36.0	0.039	12.08	0.485	178.2	0.441	99618.0	669.9
10/18/00 13:32	53.8	0.058	11.99	0.503	176.6	0.440	99630.0	670.6
10/18/00 13:33	47.6	0.052	11.95	0.513	175.2	0.438	100254.0	671.4
10/18/00 13:34	41.5	0.046	11.91	0.512	174.3	0.437	100254.0	671.5
10/18/00 13:35	37.9	0.041	11.91	0.528	175.1	0.439	100230.0	670.8
10/18/00 13:36	37.0	0.041	11.89	0.532	174.9	0.440	100584.0	671.5
10/18/00 13:37	30.5	0.034	11.80	0.536	174.8	0.443	100692.0	671.9
10/18/00 13:38	45.7	0.051	11.83	0.534	175.9	0.444	100716.0	671.7
10/18/00 13:39	37.4	0.041	11.88	0.528	174.5	0.439	100944.0	670.9
10/18/00 13:40	27.9	0.031	11.87	0.525	173.4	0.437	101634.0	668.8
Final Average*	43.3	0.047	12.03	0.504	174.1	0.432	99697.9	671.5
Maximum*	62.5	0.067	12.20	0.536	179.0	0.444	101634.0	674.1
Minimum*	27.9	0.031	11.80	0.478	168.4	0.414	98550.0	668.8

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

Enertec NTDAS®
Average Values Report
10/18/00 13:33

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 13:19
Period End: 10/18/00 13:30
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh	Average 1Unit_Load MW
10/18/00 13:19	98586.0	672.9
10/18/00 13:20	98550.0	672.4
10/18/00 13:21	98574.0	672.8
10/18/00 13:22	98616.0	674.1
10/18/00 13:23	98784.0	674.0
10/18/00 13:24	98772.0	673.9
10/18/00 13:25	98784.0	673.0
10/18/00 13:26	99462.0	671.3
10/18/00 13:27	99678.0	669.7
10/18/00 13:28	99678.0	669.6
10/18/00 13:29	99666.0	670.1
Final Average*	99013.6	672.2
Maximum*	99678.0	674.1
Minimum*	98550.0	669.6

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

OUTLET DATA RUN #9

Enertec NTDHS®
Average Values Report
10/18/00 15:01

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 13:52
Period End: 10/18/00 14:14
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average 1Stk_kscfh	Average 1Unit_Load MW
10/18/00 13:52	64.5	0.070	12.02	0.496	174.9	0.435	101388.0	671.8
10/18/00 13:53	40.2	0.044	11.92	0.503	172.4	0.433	101196.0	671.9
10/18/00 13:54	32.8	0.036	11.83	0.514	171.3	0.433	101010.0	670.0
10/18/00 13:55	31.3	0.035	11.88	0.510	170.5	0.429	100980.0	669.0
10/18/00 13:56	30.7	0.034	11.90	0.508	171.3	0.430	100980.0	667.5
10/18/00 13:57	40.3	0.044	11.92	0.496	172.9	0.433	100998.0	666.7
10/18/00 13:58	35.1	0.039	11.95	0.489	172.8	0.432	100998.0	668.5
10/18/00 13:59	32.2	0.036	11.89	0.489	170.2	0.428	100980.0	671.0
10/18/00 14:00	50.1	0.055	11.95	0.486	170.8	0.427	101220.0	672.8
10/18/00 14:01	42.2	0.046	11.96	0.490	171.8	0.429	101220.0	673.0
10/18/00 14:02	44.6	0.050	12.00	0.491	172.3	0.429	101220.0	673.3
10/18/00 14:03	32.5	0.036	11.91	0.499	170.7	0.428	101220.0	674.0
10/18/00 14:04	27.9	0.031	11.86	0.504	168.1	0.424	101352.0	673.9
10/18/00 14:05	29.9	0.032	11.93	0.500	168.4	0.422	101340.0	675.3
10/18/00 14:06	43.2	0.047	12.00	0.494	171.0	0.426	101340.0	675.5
10/18/00 14:07	48.3	0.053	12.01	0.493	172.4	0.429	101340.0	674.6
10/18/00 14:08	40.5	0.045	12.06	0.496	173.1	0.428	101364.0	674.8
10/18/00 14:09	33.9	0.037	11.95	0.509	170.2	0.425	101352.0	673.1
10/18/00 14:10	35.6	0.039	11.91	0.513	169.9	0.427	101364.0	671.4
10/18/00 14:11	33.6	0.037	12.00	0.503	172.0	0.428	101340.0	671.0
10/18/00 14:12	44.6	0.048	12.02	0.485	173.4	0.431	101430.0	672.2
10/18/00 14:13	45.1	0.049	11.97	0.488	171.5	0.428	101508.0	670.6
Final Average*	39.1	0.043	11.95	0.498	171.5	0.429	101233.6	671.9
Maximum*	64.5	0.070	12.06	0.514	174.9	0.435	101508.0	675.5
Minimum*	27.9	0.031	11.83	0.485	168.1	0.422	100980.0	666.7

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 14:10

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 13:52
 Period End: 10/18/00 14:03
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 13:52	101388.0	671.8
10/18/00 13:53	101196.0	671.9
10/18/00 13:54	101010.0	670.0
10/18/00 13:55	100980.0	669.0
10/18/00 13:56	100980.0	667.5
10/18/00 13:57	100998.0	666.7
10/18/00 13:58	100998.0	668.5
10/18/00 13:59	100980.0	671.0
10/18/00 14:00	101220.0	672.8
10/18/00 14:01	101220.0	673.0
10/18/00 14:02	101220.0	673.3
Final Average*	101108.2	670.5
Maximum*	101388.0	673.3
Minimum*	100980.0	666.7

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

OUTLET DATA RUN#10

Enertec NTDAS®
Average Values Report
10/18/00 15:02

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 14:26
Period End: 10/18/00 14:48
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average 1Stk_kscfh	Average 1Unit_Load MW
10/18/00 14:26	33.9	0.037	11.91	0.484	170.9	0.429	101052.0	669.1
10/18/00 14:27	41.3	0.045	11.93	0.479	170.8	0.428	101100.0	670.3
10/18/00 14:28	41.5	0.046	11.95	0.480	170.6	0.427	101064.0	671.5
10/18/00 14:29	41.7	0.047	11.93	0.484	169.3	0.424	101244.0	673.6
10/18/00 14:30	29.9	0.033	11.89	0.485	168.0	0.422	101406.0	674.7
10/18/00 14:31	29.9	0.033	11.86	0.487	167.9	0.423	101406.0	676.6
10/18/00 14:32	28.1	0.031	11.83	0.500	167.5	0.423	101394.0	677.2
10/18/00 14:33	26.4	0.029	11.83	0.503	166.2	0.420	100902.0	676.4
10/18/00 14:34	48.1	0.053	11.94	0.493	168.0	0.420	100746.0	676.8
10/18/00 14:35	33.5	0.037	11.92	0.496	167.8	0.421	100734.0	675.3
10/18/00 14:36	29.5	0.032	11.86	0.502	166.8	0.420	100746.0	672.2
10/18/00 14:37	29.2	0.032	11.93	0.496	169.3	0.424	100836.0	672.7
10/18/00 14:38	38.1	0.042	11.98	0.480	170.0	0.424	100818.0	672.1
10/18/00 14:39	39.6	0.043	11.97	0.481	167.8	0.419	100824.0	671.3
10/18/00 14:40	47.3	0.052	11.97	0.489	166.9	0.417	100296.0	669.5
10/18/00 14:41	43.4	0.047	11.92	0.492	166.6	0.418	100074.0	668.4
10/18/00 14:42	36.7	0.040	11.98	0.488	167.3	0.417	100110.0	666.6
10/18/00 14:43	37.5	0.041	11.98	0.491	166.4	0.415	100134.0	665.4
10/18/00 14:44	37.3	0.041	11.99	0.493	166.9	0.416	100116.0	665.2
10/18/00 14:45	35.5	0.039	11.98	0.487	167.0	0.417	100098.0	665.4
10/18/00 14:46	28.9	0.032	11.95	0.486	167.1	0.418	100098.0	666.1
10/18/00 14:47	40.8	0.045	11.92	0.496	167.3	0.419	100056.0	666.7
Final Average*	36.3	0.040	11.93	0.490	168.0	0.421	100693.4	671.1
Maximum*	48.1	0.053	11.99	0.503	170.9	0.429	101406.0	677.2
Minimum*	26.4	0.029	11.83	0.479	166.2	0.415	100056.0	665.2

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 15:01

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 14:26
 Period End: 10/18/00 14:37
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 14:26	101052.0	669.1
10/18/00 14:27	101100.0	670.3
10/18/00 14:28	101064.0	671.5
10/18/00 14:29	101244.0	673.6
10/18/00 14:30	101406.0	674.7
10/18/00 14:31	101406.0	676.6
10/18/00 14:32	101394.0	677.2
10/18/00 14:33	100902.0	676.4
10/18/00 14:34	100746.0	676.8
10/18/00 14:35	100734.0	675.3
10/18/00 14:36	100746.0	672.2
Final Average*	101072.2	674.0
Maximum*	101406.0	677.2
Minimum*	100734.0	669.1

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

OUTLET RATA RUN # 17

Enertec NTDAHS®
Average Values Report
10/18/00 15:28

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 15:00
Period End: 10/18/00 15:22
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average loutCO_C ppm	Average loutCO_MM #/M	Average loutCO2_C %	Average loutNOX_MM #/M	Average loutSO2_C ppm	Average loutSO2_MM #/M	Average lStk_kscfh	Average lUnit_Load MW
10/18/00 15:00	49.4	0.054	11.94	0.492	162.2	0.406	100686.0	674.4
10/18/00 15:01	50.9	0.056	11.91	0.492	161.3	0.405	100338.0	674.5
10/18/00 15:02	35.0	0.039	11.90	0.493	162.0	0.407	100242.0	674.8
10/18/00 15:03	28.4	0.031	11.90	0.496	162.2	0.407	100230.0	674.0
10/18/00 15:04	28.4	0.031	11.98	0.495	162.7	0.406	100164.0	672.3
10/18/00 15:05	49.2	0.054	12.01	0.493	163.4	0.407	100146.0	672.1
10/18/00 15:06	55.4	0.063	11.98	0.494	164.1	0.409	100158.0	670.0
10/18/00 15:07	36.1	0.040	11.93	0.498	164.1	0.412	100146.0	668.8
10/18/00 15:08	42.0	0.045	12.03	0.494	165.3	0.411	100158.0	666.8
10/18/00 15:09	50.5	0.055	11.96	0.494	163.5	0.408	100146.0	666.1
10/18/00 15:10	56.6	0.062	12.00	0.488	163.5	0.407	100158.0	664.3
10/18/00 15:11	44.4	0.049	11.99	0.491	164.7	0.411	100158.0	664.0
10/18/00 15:12	32.0	0.035	11.89	0.496	163.4	0.411	100146.0	664.2
10/18/00 15:13	29.5	0.032	11.89	0.500	163.2	0.411	100164.0	663.4
10/18/00 15:14	33.8	0.037	11.93	0.497	164.8	0.413	100242.0	664.1
10/18/00 15:15	35.5	0.039	11.97	0.487	166.4	0.415	100242.0	665.3
10/18/00 15:16	49.2	0.054	11.98	0.492	166.6	0.415	100230.0	666.8
10/18/00 15:17	53.5	0.059	11.98	0.492	167.3	0.418	99792.0	667.2
10/18/00 15:18	55.2	0.060	12.00	0.489	167.9	0.418	99636.0	667.4
10/18/00 15:19	49.7	0.054	12.02	0.488	166.0	0.413	99648.0	666.7
10/18/00 15:20	43.0	0.047	11.96	0.491	163.6	0.409	99636.0	668.5
10/18/00 15:21	43.5	0.047	11.98	0.488	164.3	0.410	99804.0	668.8
Final Average*	43.2	0.047	11.96	0.493	164.2	0.410	100103.2	668.4
Maximum*	56.6	0.063	12.03	0.500	167.9	0.418	100686.0	674.8
Minimum*	28.4	0.031	11.89	0.487	161.3	0.405	99636.0	663.4

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

Enertec NTDAHS®
 Average Values Report
 10/18/00 15:20

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 15:00
 Period End: 10/18/00 15:11
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 15:00	100686.0	674.4
10/18/00 15:01	100338.0	674.5
10/18/00 15:02	100242.0	674.8
10/18/00 15:03	100230.0	674.0
10/18/00 15:04	100164.0	672.3
10/18/00 15:05	100146.0	672.1
10/18/00 15:06	100158.0	670.0
10/18/00 15:07	100146.0	668.8
10/18/00 15:08	100158.0	666.8
10/18/00 15:09	100146.0	666.1
10/18/00 15:10	100158.0	664.3
Final Average*	100233.8	670.7
Maximum*	100686.0	674.8
Minimum*	100146.0	664.3

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

Enertec NTDHS®
Average Values Report
10/18/00 16:03

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

Period Start: 10/18/00 15:30
Period End: 10/18/00 15:52
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1outCO_C ppm	Average 1outCO_MM #/M	Average 1outCO2_C %	Average 1outNOX_MM #/M	Average 1outSO2_C ppm	Average 1outSO2_MM #/M	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 15:30	47.3	0.051	12.02	0.485	164.0	0.407	101112.0	674.7
10/18/00 15:31	54.2	0.059	12.07	0.484	165.6	0.410	101784.0	674.0
10/18/00 15:32	41.1	0.045	11.97	0.490	164.0	0.410	101784.0	673.0
10/18/00 15:33	40.9	0.045	11.93	0.492	162.4	0.407	101772.0	672.0
10/18/00 15:34	56.9	0.062	11.98	0.494	162.9	0.406	101784.0	668.4
10/18/00 15:35	45.6	0.050	11.99	0.492	164.2	0.409	101538.0	664.5
10/18/00 15:36	37.2	0.040	12.01	0.479	165.5	0.412	101472.0	662.7
10/18/00 15:37	33.5	0.037	11.93	0.473	164.8	0.413	101472.0	662.6
10/18/00 15:38	29.0	0.032	11.85	0.489	163.2	0.412	101274.0	663.7
10/18/00 15:39	35.6	0.039	11.89	0.495	161.8	0.407	101088.0	665.3
10/18/00 15:40	37.3	0.041	11.99	0.490	162.5	0.405	101100.0	664.9
10/18/00 15:41	42.7	0.047	12.01	0.486	164.8	0.410	101064.0	661.7
10/18/00 15:42	52.9	0.058	12.01	0.487	165.4	0.411	100800.0	656.7
10/18/00 15:43	39.1	0.043	12.02	0.478	166.2	0.413	100686.0	659.8
10/18/00 15:44	36.1	0.040	11.91	0.479	163.8	0.411	100674.0	665.5
10/18/00 15:45	35.5	0.040	11.86	0.490	163.6	0.412	100674.0	668.4
10/18/00 15:46	32.0	0.035	11.95	0.476	165.6	0.414	100584.0	671.0
10/18/00 15:47	44.7	0.048	12.05	0.469	168.2	0.417	100584.0	672.7
10/18/00 15:48	69.9	0.076	12.10	0.467	168.9	0.417	100572.0	674.8
10/18/00 15:49	61.5	0.067	12.09	0.465	165.7	0.410	100650.0	676.4
10/18/00 15:50	48.5	0.053	11.99	0.474	162.3	0.404	100734.0	676.9
10/18/00 15:51	34.6	0.038	11.93	0.487	161.3	0.404	100746.0	677.4
Final Average*	43.5	0.048	11.98	0.483	164.4	0.410	101088.5	668.5
Maximum*	69.9	0.076	12.10	0.495	168.9	0.417	101784.0	677.4
Minimum*	29.0	0.032	11.85	0.465	161.3	0.404	100572.0	656.7

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

Enertec NTDHS®
Average Values Report
10/18/00 16:01

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 15:30
Period End: 10/18/00 15:41
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/18/00 15:30	101112.0	674.7
10/18/00 15:31	101784.0	674.0
10/18/00 15:32	101784.0	673.0
10/18/00 15:33	101772.0	672.0
10/18/00 15:34	101784.0	668.4
10/18/00 15:35	101538.0	664.5
10/18/00 15:36	101472.0	662.7
10/18/00 15:37	101472.0	662.6
10/18/00 15:38	101274.0	663.7
10/18/00 15:39	101088.0	665.3
10/18/00 15:40	101100.0	664.9
Final Average*	101470.9	667.8
Maximum*	101784.0	674.7
Minimum*	101088.0	662.6

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

FLOW TEST #2 Run#1

Enertec NTDAHS®
 Average Values Report
 10/19/00 09:50

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

Period Start: 10/19/00 08:50
 Period End: 10/19/00 09:01
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 08:50	100410.0	651.0
10/19/00 08:51	100044.0	652.3
10/19/00 08:52	99942.0	658.4
10/19/00 08:53	99948.0	658.6
10/19/00 08:54	100320.0	652.2
10/19/00 08:55	100704.0	648.0
10/19/00 08:56	100704.0	651.3
10/19/00 08:57	100716.0	655.8
10/19/00 08:58	100746.0	660.9
10/19/00 08:59	100734.0	663.8
10/19/00 09:00	100746.0	663.8
Final Average*	100455.8	656.0
Maximum*	100746.0	663.8
Minimum*	99942.0	648.0

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

MW Avg = 655.167

Enertec NTDHS®
 Average Values Report
 10/19/00 09:50

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

Period Start: 10/19/00 09:05
 Period End: 10/19/00 09:16
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 09:05	100242.0	659.1
10/19/00 09:06	100230.0	659.7
10/19/00 09:07	100254.0	658.1
10/19/00 09:08	100254.0	658.3
10/19/00 09:09	100242.0	653.4
10/19/00 09:10	100242.0	653.0
10/19/00 09:11	100242.0	654.1
10/19/00 09:12	99702.0	657.7
10/19/00 09:13	99702.0	660.0
10/19/00 09:14	99678.0	661.6
10/19/00 09:15	99360.0	661.9
Final Average*	100013.5	657.9
Maximum*	100254.0	661.9
Minimum*	99360.0	653.0

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

Enertec NTAHS®
 Average Values Report
 10/19/00 09:50

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

Period Start: 10/19/00 09:20
 Period End: 10/19/00 09:31
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 09:20	98796.0	653.4
10/19/00 09:21	98784.0	649.0
10/19/00 09:22	98880.0	651.4
10/19/00 09:23	98880.0	661.0
10/19/00 09:24	98892.0	662.0
10/19/00 09:25	98892.0	657.3
10/19/00 09:26	98928.0	655.5
10/19/00 09:27	98928.0	661.7
10/19/00 09:28	99234.0	665.0
10/19/00 09:29	99528.0	661.7
10/19/00 09:30	99540.0	659.2
Final Average*	99025.6	657.9
Maximum*	99540.0	665.0
Minimum*	98784.0	649.0

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

Enertec NTDAHS®
 Average Values Report
 10/19/00 11:20

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

Period Start: 10/19/00 10:26
 Period End: 10/19/00 10:38
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 10:26	99594.0	651.6
10/19/00 10:27	99672.0	656.4
10/19/00 10:28	99690.0	658.9
10/19/00 10:29	99690.0	655.6
10/19/00 10:30	99768.0	656.0
10/19/00 10:31	99900.0	653.7
10/19/00 10:32	99912.0	650.3
10/19/00 10:33	99912.0	650.2
10/19/00 10:34	99504.0	650.8
10/19/00 10:35	99384.0	649.8
10/19/00 10:36	99372.0	646.5
10/19/00 10:37	98928.0	649.4
Final Average*	99610.5	652.4
Maximum*	99912.0	658.9
Minimum*	98928.0	646.5

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

Enertec NTDHS®
Average Values Report
10/19/00 11:20

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

Period Start: 10/19/00 10:55
Period End: 10/19/00 11:06
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 10:55	98880.0	650.7
10/19/00 10:56	98904.0	655.4
10/19/00 10:57	98868.0	659.7
10/19/00 10:58	98928.0	660.4
10/19/00 10:59	98916.0	655.8
10/19/00 11:00	98946.0	649.9
10/19/00 11:01	99126.0	648.8
10/19/00 11:02	99342.0	648.4
10/19/00 11:03	99330.0	650.1
10/19/00 11:04	99342.0	649.6
10/19/00 11:05	99108.0	647.6
Final Average*	99062.7	652.4
Maximum*	99342.0	660.4
Minimum*	98868.0	647.6

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

Enertec NTDAHS®
 Average Values Report
 10/19/00 11:21

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

Period Start: 10/19/00 11:07
 Period End: 10/19/00 11:18
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 11:07	99018.0	650.7
10/19/00 11:08	99018.0	653.3
10/19/00 11:09	99018.0	653.9
10/19/00 11:10	99018.0	653.5
10/19/00 11:11	99012.0	650.1
10/19/00 11:12	99018.0	646.8
10/19/00 11:13	99162.0	647.5
10/19/00 11:14	99636.0	651.4
10/19/00 11:15	99636.0	655.1
10/19/00 11:16	99636.0	651.4
10/19/00 11:17	99660.0	648.9
Final Average*	99257.5	651.1
Maximum*	99660.0	655.1
Minimum*	99012.0	646.8

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

Flow test #2 2W # 7

Enertec NTDAS®
Average Values Report
10/19/00 12:42

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

Period Start: 10/19/00 11:30
Period End: 10/19/00 11:41
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 11:30	99102.0	651.5
10/19/00 11:31	99750.0	650.7
10/19/00 11:32	99954.0	653.4
10/19/00 11:33	99966.0	654.0
10/19/00 11:34	100350.0	656.0
10/19/00 11:35	100464.0	656.0
10/19/00 11:36	100482.0	655.2
10/19/00 11:37	100470.0	655.7
10/19/00 11:38	100548.0	655.9
10/19/00 11:39	100596.0	651.6
10/19/00 11:40	100602.0	650.2
Final Average*	100207.6	653.7
Maximum*	100602.0	656.0
Minimum*	99102.0	650.2

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

Enertec NTDAHS®
 Average Values Report
 10/19/00 12:42

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

Period Start: 10/19/00 11:45
 Period End: 10/19/00 11:56
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 11:45	100278.0	652.8
10/19/00 11:46	100278.0	654.1
10/19/00 11:47	100320.0	659.4
10/19/00 11:48	100176.0	659.9
10/19/00 11:49	100176.0	656.4
10/19/00 11:50	100164.0	654.3
10/19/00 11:51	99672.0	660.8
10/19/00 11:52	99504.0	661.6
10/19/00 11:53	99516.0	663.0
10/19/00 11:54	99516.0	662.5
10/19/00 11:55	98760.0	658.3
Final Average*	99850.9	658.5
Maximum*	100320.0	663.0
Minimum*	98760.0	652.8

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

FLOWTEST # 2 Run# 9

Enertec NTDAS®
Average Values Report
10/19/00 12:43

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

Period Start: 10/19/00 12:00
Period End: 10/19/00 12:11
Validation Type: 1/1 min
Averaging Period: 1/1 min
Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 12:00	98274.0	653.9
10/19/00 12:01	98352.0	650.9
10/19/00 12:02	98616.0	649.4
10/19/00 12:03	98604.0	652.0
10/19/00 12:04	98628.0	654.2
10/19/00 12:05	99516.0	654.9
10/19/00 12:06	99504.0	651.3
10/19/00 12:07	99498.0	650.5
10/19/00 12:08	99516.0	653.8
10/19/00 12:09	99516.0	658.6
10/19/00 12:10	99498.0	658.3
Final Average*	99047.5	653.4
Maximum*	99516.0	658.6
Minimum*	98274.0	649.4

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

Enertec NTDHS®
 Average Values Report
 10/19/00 13:38

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

Period Start: 10/19/00 12:25
 Period End: 10/19/00 12:36
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 12:25	100164.0	656.4
10/19/00 12:26	100128.0	659.6
10/19/00 12:27	100068.0	657.1
10/19/00 12:28	100086.0	654.7
10/19/00 12:29	100080.0	652.9
10/19/00 12:30	100002.0	655.7
10/19/00 12:31	100002.0	657.6
10/19/00 12:32	100002.0	657.5
10/19/00 12:33	99726.0	653.7
10/19/00 12:34	99738.0	651.8
10/19/00 12:35	99738.0	653.4
Final Average*	99975.8	655.5
Maximum*	100164.0	659.6
Minimum*	99726.0	651.8

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

Enertec NTAHS®
 Average Values Report
 10/19/00 13:39

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

Period Start: 10/19/00 12:38
 Period End: 10/19/00 12:49
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 12:38	100134.0	665.6
10/19/00 12:39	100476.0	663.3
10/19/00 12:40	100836.0	656.2
10/19/00 12:41	100848.0	656.2
10/19/00 12:42	100758.0	654.8
10/19/00 12:43	100470.0	656.1
10/19/00 12:44	100482.0	653.1
10/19/00 12:45	100482.0	653.8
10/19/00 12:46	100482.0	657.2
10/19/00 12:47	99870.0	658.5
10/19/00 12:48	99870.0	655.2
Final Average*	100428.0	657.3
Maximum*	100848.0	665.6
Minimum*	99870.0	653.1

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

Enertec NTDASHS@
 Average Values Report
 10/19/00 13:45

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

Period Start: 10/19/00 12:51
 Period End: 10/19/00 13:02
 Validation Type: 1/1 min
 Averaging Period: 1/1 min
 Type: Rolling Avg

Period Start	Average 1Stk_kscfh kscfh	Average 1Unit_Load MW
10/19/00 12:51	99462.0	653.9
10/19/00 12:52	99474.0	653.1
10/19/00 12:53	99420.0	658.0
10/19/00 12:54	99300.0	656.3
10/19/00 12:55	99294.0	655.0
10/19/00 12:56	99276.0	654.0
10/19/00 12:57	99912.0	654.4
10/19/00 12:58	99894.0	658.8
10/19/00 12:59	99882.0	660.5
10/19/00 13:00	99804.0	655.0
10/19/00 13:01	99546.0	656.4
Final Average*	99569.5	655.9
Maximum*	99912.0	660.5
Minimum*	99276.0	653.1

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

Gas Certification Sheets



Scott Specialty Gases

1750 EAST CLUB BLVD, DURHAM, NC 27704

Installed 8/17/00

Dual-Analyzed Calibration Standard

Phone: 919-220-0803

Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM, NC 27704

P.O. No.: 17556
Project No.: 12-38356-001

Customer

JEA 11201 NEW BERLIN ROAD
ATTEN OP DEPT BLDG 1
ST JOHNS RIVER POWER PARK
PO BOX 4910
JACKSONVILLE FL 32201-4910

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM046485 Certification Date: 5/17/00 Exp. Date: 5/17/2002
Cylinder Pressure***: 2015 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON DIOXIDE	11.13 %	+/- 1%	Direct NIST and NMI
CARBON MONOXIDE	1,079.4 PPM	+/- 1%	Direct NIST and NMI
NITRIC OXIDE	558.0 PPM	+/- 1%	Direct NIST and NMI
SULFUR DIOXIDE *	1,978 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	559.0 PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Protocols.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1800	1/01/04	A9806	18.05 %	CARBON DIOXIDE
NTRM 2637	4/03/03	ALM023773	2547. PPM	CARBON MONOXIDE
NTRM1687	3/01/03	ALM009632	1000. PPM	NO/N2
NTRM1696	8/01/02	ALM057905	3131. PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN GC/3400/0160-CO2	05/17/00	GC / TCD
VARIAN/3400/16804-CO	05/02/00	GC
FTIR System/8220/AAB9400252	04/18/00	Scott Enhanced FTIR
FTIR System/8220/AAB9400252	04/18/00	Scott Enhanced FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON DIOXIDE

Date: 05/17/00 Response Unit: PCT
 Z1 = 0.0000 R1 = 941429 T1 = 580923
 R2 = 943276 Z2 = 0.0000 T2 = 579935
 Z3 = 0.0000 T3 = 582550 R3 = 942253
 Avg. Concentration 11.13 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
 r = 0.999990 1800
 Constants: A = 0.000000
 B = 1.000000 C = 0.000000
 D = 0.000000 E = 0.000000

CARBON MONOXIDE

Date: 05/09/00 Response Unit: PPM
 Z1 = 0.0000 R1 = 68819 T1 = 28974
 R2 = 68525 Z2 = 0.0000 T2 = 28804
 Z3 = 0.0000 T3 = 28857 R3 = 68462
 Avg. Concentration 1072. PPM

Date: 05/17/00 Response Unit: PPM
 Z1 = 0.0000 R1 = 68252 T1 = 29099
 R2 = 68287 Z2 = 0.0000 T2 = 29169
 Z3 = 0.0000 T3 = 29159 R3 = 68399
 Avg. Concentration: 1087. PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
 r = 0.999990 2637
 Constants: A = 0.000000
 B = 1.000000 C = 0.000000
 D = 0.000000 E = 0.000000

NITRIC OXIDE

Date: 05/09/00 Response Unit: PPM
 Z1 = 0.2318 R1 = 1000.4 T1 = 558.96
 R2 = 1000.3 Z2 = 0.4172 T2 = 558.30
 Z3 = 0.3187 T3 = 558.31 R3 = 999.27
 Avg. Concentration 558.5 PPM

Date: 05/16/00 Response Unit: PPM
 Z1 = 0.1548 R1 = 1000.5 T1 = 557.85
 R2 = 997.39 Z2 = 0.3364 T2 = 556.90
 Z3 = 0.5171 T3 = 557.93 R3 = 1002.1
 Avg. Concentration: 557.6 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
 r = 0.999990
 Constants: A = 0.000000
 B = 1.000000 C = 0.000000
 D = 0.000000 E = 0.000000



Scott Specialty Gases

1750 EAST CLUB BLVD. DURHAM, NC 27704

RATA CLASS

Dual-Analyzed Calibration Standard

Phone: 919-220-0803

Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM, NC 27704

P.O. No.: 17556
Project No.: 12-38356-002

Customer

JEA 11201 NEW BERLIN ROAD
ATTEN OP DEPT BLDG1
ST JOHNS RIVER POWER PARK
PO BOX 4910
JACKSONVILLE FL 32201-4910

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: **AAL9543** Certification Date: 5/17/00 Exp. Date: 5/17/2002
Cylinder Pressure***: 2015 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON DIOXIDE	18.06 %	+/- 1%	Direct NIST and NMI
CARBON MONOXIDE	1,687.00 PPM	+/- 1%	Direct NIST and NMI
NITRIC OXIDE	875.6 PPM	+/- 1%	Direct NIST and NMI
SULFUR DIOXIDE *	3,045 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	876.0 PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Protocols.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1800	1/01/04	A9806	18.05 %	CARBON DIOXIDE
NTRM 2637	4/03/03	ALM023773	2547. PPM	CARBON MONOXIDE
NTRM1687	3/01/03	ALM009632	1000. PPM	NO/N2
NTRM1696	8/01/02	ALM057905	3131. PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN GC/3400/0160-CO2	05/17/00	GC / TCD
VARIAN/3400/16804-CO	05/02/00	GC
FTIR System/8220/AAB9400252	04/18/00	Scott Enhanced FTIR
FTIR System/8220/AAB9400252	04/18/00	Scott Enhanced FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON DIOXIDE

Date: 05/17/00 Response Unit: PCT
 Z1 = 0.0000 R1 = 941429 T1 = 943564
 R2 = 943276 Z2 = 0.0000 T2 = 940880
 Z3 = 0.0000 T3 = 944719 R3 = 942253
 Avg. Concentration: 18.06 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
 r = 0.999990 1800
 Constants: A = 0.000000
 B = 1.000000 C = 0.000000
 D = 0.000000 E = 0.000000

CARBON MONOXIDE

Date: 05/09/00 Response Unit: PPM
 Z1 = 0.0000 R1 = 68819. T1 = 45415.
 R2 = 68525. Z2 = 0.0000 T2 = 45665.
 Z3 = 0.0000 T3 = 45595. R3 = 68462.
 Avg. Concentration: 1694. PPM

Date: 05/16/00 Response Unit: PPM
 Z1 = 0.0000 R1 = 68834. T1 = 45280.
 R2 = 68675. Z2 = 0.0000 T2 = 45534.
 Z3 = 0.0000 T3 = 45291. R3 = 68813.
 Avg. Concentration: 1680. PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
 r = 0.999990 2637
 Constants: A = 0.000000
 B = 1.000000 C = 0.000000
 D = 0.000000 E = 0.000000

NITRIC OXIDE

Date: 05/09/00 Response Unit: PPM
 Z1 = 0.2318 R1 = 1000.4 T1 = 876.59
 R2 = 1000.3 Z2 = 0.4172 T2 = 875.64
 Z3 = 0.3187 T3 = 875.49 R3 = 999.27
 Avg. Concentration: 875.9 PPM

Date: 05/16/00 Response Unit: PPM
 Z1 = 0.1548 R1 = 1000.5 T1 = 874.04
 R2 = 997.39 Z2 = 0.3364 T2 = 875.02
 Z3 = 0.5171 T3 = 877.09 R3 = 1002.1
 Avg. Concentration: 875.4 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
 r = 0.999990
 Constants: A = 0.000000
 B = 1.000000 C = 0.000000
 D = 0.000000 E = 0.000000



1750 EAST CLUB BLVD, DURHAM, NC 27704

Phone: 919-220-0803

Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM, NC 27704

P.O. No.: PO 6893
Project No.: 12-33764-002

Customer

ST JOHNS RIVER POWER PARK

OPERATIONS DEPT BLDG 1
11201 NEW BERLIN RD
JACKSONVILLE FL 32226

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: AAL021741 Certification Date: 4/27/99 Exp. Date: 4/27/2001
Cylinder Pressure***: 1958 PSIG

ANALYTICAL

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	<u>166.1</u> PPM	+/- 1%	Direct NIST and NMI
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Protocols.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM1661	10/02/02	ALM061003	488.5 PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	04/16/99	Scott Enhanced FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

SULFUR DIOXIDE *

Date: 04/20/99	Response Unit: PPM		
Z1 = 0.2549	R1 = 488.27	T1 = 166.19	
R2 = 488.55	Z2 = 0.4108	T2 = 165.87	
Z3 = 0.4137	T3 = 166.09	R3 = 486.68	
Avg. Concentration:		166.0	PPM

Date: 04/27/99	Response Unit: PPM		
Z1 = 0.5466	R1 = 487.93	T1 = 166.32	
R2 = 488.85	Z2 = 0.6361	T2 = 166.09	
Z3 = 0.6424	T3 = 166.14	R3 = 488.71	
Avg. Concentration:		166.2	PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY:

B.M. Becton

B.M. Becton

G3

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. * 12722 S. Wentworth Avenue, Chicago, IL 60628

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE AG1)

Customer:
AIR PRODUCTS AND CHEMICALS
9725 ALDEN ROAD
LENEXA KS 66215

Order No: CSS-316538-04
Batch No: 861-64006
PO:
Release:

Cylinder No: SG9114792BAL
Bar Code No: DYE635
Cylinder Pressure*: 2000 psig
Certification Date: 11/04/1999
Expiration Date: 11/04/2001

5078

RATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
SULFUR DIOXIDE	247 ±1.4 PPM	SG9150563BAL	NTRM 81661X	368.8 PPM	HORIBA VIA-510	85079208	10/18/99	NON DISPERSIVE INFRARED

NITROGEN

Balance Gas

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

G4

Analyst:

Bryan Baker

Approved By:

Richard Fry



CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM, NC 27704

P.O. No.: 17556
Project No.: 12-38356-001

Customer

JEA TT201 NEW BERLIN ROAD
ATTEN OP DEPT BLDG1
ST JOHNS RIVER POWER PARK
PO BOX 4910
JACKSONVILLE FL 32201-4910

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM046485 Certification Date: 5/17/00 Exp. Date: 5/17/2002
Cylinder Pressure***: 2015 PSIG

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

SULFUR DIOXIDE °

Date: 05/09/00 Response Unit: PPM
Z1 = 0.4468 R1 = 3134.7 T1 = 1980.6
R2 = 3128.7 Z2 = 0.5359 T2 = 1980.9
Z3 = 3.1523 T3 = 1981.4 R3 = 3129.6
Avg. Concentration: 1981. PPM

Date: 05/16/00 Response Unit: PPM
Z1 = -0.415 R1 = 3138.4 T1 = 1977.9
R2 = 3126.8 Z2 = 4.9264 T2 = 1974.4
Z3 = 4.6126 T3 = 1974.5 R3 = 3127.7
Avg. Concentration: 1975. PPM

Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 0.999990
Constants: A = 0.000000
B = 1.000000 C = 0.000000
D = 0.000000 E = 0.000000

APPROVED BY:

B. M. Becton

G5



Scott Specialty Gases

1750 EAST CLUB BLVD, DURHAM, NC 27704

RATA CLASS

Dual-Analyzed Calibration Standard

Phone: 919-220-0803

Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM, NC 27704

P.O. No.: 17556
Project No.: 12-38356-002

Customer

JEA 11201 NEW BERLIN ROAD

ATTEN OP DEPT BLDG1
ST JOHNS RIVER POWER PARK
PO BOX 4910
JACKSONVILLE FL 32201-4910

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: AAL9543
Cylinder Pressure***: 2015 PSIG

Certification Date: 5/17/00

Exp. Date: 5/17/2002

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

SULFUR DIOXIDE *


Date: 05/09/00	Response Unit: PPM	
Z1 = 0.4468	R1 = 3134.7	T1 = 3043.8
R2 = 3128.7	Z2 = 0.5359	T2 = 3044.1
Z3 = 3.1523	T3 = 3042.9	R3 = 3129.6
Avg. Concentration: 3043. PPM		

Date: 05/16/00	Response Unit: PPM	
Z1 = -0.415	R1 = 3138.4	T1 = 3047.4
R2 = 3126.8	Z2 = 4.9264	T2 = 3045.6
Z3 = 4.6126	T3 = 3048.2	R3 = 3127.7
Avg. Concentration: 3047. PPM		

Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 0.999990
Constants: A = 0.000000
B = 1.000000 C = 0.000000
D = 0.000000 E = 0.000000

G6

APPROVED BY:


B. M. Becton

BEST AVAILABLE COPY

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. • 12722 S. Wentworth Avenue, Chicago, IL 60628

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:

KIRK WELDING GASES (CYLINDERS)**
9725 ALDEN ROAD
LENEXA KS 66215-

Order No: CSS-930819-06
Batch No: 861-46304
PO: TOTAL SOURCE ANALYSIS
Release: 3005

Cylinder No: 8G9152911BAL
Bar Code No: DDH372
Cylinder Pressure*: 2000 psig
Certification Date: 04/14/98
Expiration Date: 04/14/01

5032

CERTIFIED CONCENTRATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard type	Standard Concentration	Instrument Name/Model	Serial Number	Last Calibration	Measurement Principle
SULFUR DIOXIDE	89345.1, PPM	809130649BAL	OWIB R	1000 PPM	MORIBA VIA-510	85079208	03/17/98	NON DISPERSIVE INFRARED
NITROGEN	Balance Gas							

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

Analyst:

Chris Baile

Approved By:

James Lase

G7

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. • 12722 S. Wentworth Avenue, Chicago, IL 60628

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:
AIR PRODUCTS AND CHEMICALS
9725 ALDEN ROAD
LENEXA KS 66215

Order No: CSS-931661-01
Batch No: 861-46296
PO:
Release:

Cylinder No: SG9170506BAL
Bar Code No: DDH246
Cylinder Pressure*: 2000 psig
Certification Date: 04/14/98
Expiration Date: 04/14/01

5027

CERTIFIED CONCENTRATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
SULFUR DIOXIDE	1730±22 PPM	SG9150503BAL	GMIS R	3447 PPM	HORIBA VIA-510	85079208	03/17/98	NON DISPERSIVE INFRARED

NITROGEN Balance Gas

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

CG

Analyst:

Chris Basile

Chris Basile

Approved By:

James Laas

James Laas

(16921)

No. 702

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. • Rural Route #1, Tamaqua, PA 18252

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:
AIR PRODUCTS AND CHEMICALS
9725 ALDEN ROAD
LENEXA KS 66215

Order No: CSS-249609-01
Batch No: 255-4996E
PO:
Release:

Cylinder No: SG9173770BAL
Bar Code No: DTT184
Cylinder Pressure*: 2000 psig
Certification Date: 08/09/1999
Expiration Date: 08/09/2002

5069

CERTIFIED CONCENTRATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
CARBON DIOXIDE	18.1.04	SG9169557BAL	NTRM 81675X	10.82 t	Shimadzu Model	C1049300	08/05/99	GC-TCD
OXYGEN	29.1.07	SG9168291BAL	NTRM 82658X	16.04 t	SHIMADZU GC-8A	59405U	08/05/99	GC-TCD

NITROGEN Balance Gas

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

G9

Analyst:

Michael Koval

Michael Koval

Approved By:

Bruce Andersen

Bruce Andersen

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. * 12722 S. Wentworth Avenue, Chicago, IL 60628

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:
AIR PRODUCTS AND CHEMICALS
9725 ALDEN ROAD
LENEXA KS 66215

Order No: CSS-506611-01
Batch No: 861-71965
PO:
Release:

Cylinder No: SG900075
Bar Code No: FAF05
Cylinder Pressure*: 2000 psig
Certification Date: 07/26/2000
Expiration Date: 07/26/2003

5088

CERTIFIED CONCENTRATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
CARBON DIOXIDE	9.82 ± 0.065 %	SG91630928AL	NTRM 81674X	8.918 %	Horiba VIA-510	51135063	07/10/00	NON DISPERSIVE INFRARED
OXYGEN	12.0 ± 0.059 %	SG909740ALB	NTRM	16.04 %	SERVOMEX 1100	2974C	07/12/00	PARAMAGNETIC

NITROGEN Balance Gas

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

G10

Analyst:

Abbasi Husain

Approved By:

James Laas

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. *

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:
AIR PRODUCTS AND CHEMICALS
9725 ALDEN ROAD
LENEXA KS 66215

Order No: CSS-045204-01
Batch No: 861-49936
PO:
Release:

Cylinder No: SG9163576BAL
Bar Code No: DPV779
Cylinder Pressure*: 2000 psig
Certification Date: 10/06/1998
Expiration Date: 10/05/2001

5038

CERTIFIED CONCENTRATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
CARBON MONOXIDE	322 ±8.60 PPM	SG9165503BAL	GHIS	991.7 PPM	HORIBA VIA-510	405079	10/03/98	NON DISPERSIVE INFRARED
NITROGEN	Balance Gas							

G11
STANDARD SHOULD NOT BE USED BELOW 150 PSIG

Analyst:

Chris Basile

Approved By:

James Lass

For Technical Information Call
1-800-752-1597



Air Products and Chemicals, Inc. * 12722 S. Wentworth Avenue, Chicago, IL 60628

ISO CERTIFICATION: 9002

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS STANDARD

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:
AIR PRODUCTS AND CHEMICALS
9725 ALDEN ROAD
LENEXA KS 66215

Order No: CSS-191898-01
Batch No: 861-58104
PO:
Release:

Cylinder No: SG1813NB
Bar Code No: DPV633
Cylinder Pressure*: 2000 psig
Certification Date: 06/19/1999
Expiration Date: 06/19/2002

5054

CERTIFIED CONCENTRATION		REFERENCE STANDARDS			ANALYTICAL INSTRUMENTATION			
Component	Certified Concentration	Cylinder Number	Standard Type	Standard Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
CARBON MONOXIDE	608 ±8 PPM	SG9165511BAL	GMIS	990.2 PPM	HORIBA VIA-510	405079	06/13/99	NON DISPERSIVE INFRARED
NITROGEN	Balance Gas							

* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

G12

Analyst:

James Leas

Approved By:

Richard Fry

Calibration of Test Equipment

Dry Gas Meter Calibration Sheet

Client St. Johns River Power
 Project No 00-205MO
 Module New Meter M-2
 Orifice Small
 Orifice Dia.

Run By RA
 Date 6/14/00
 Baro. Press 28.925

Signature _____

Delta H in. H2O	Vw initial (L)	Vw final (L)	Vw cubic ft.	Vd initial (CF)	Vd final (CF)	Vd cubic ft.	Tw degrees F	Tdi degrees F	Tdo degrees F	Td avg	Time min
0.5	456.200	467.800	4.096	720.800	724.927	4.127	75	81	81	81	13
1.0	439.500	455.600	5.685	714.860	720.593	5.733	75	81	81	81	10
1.5	420.011	438.945	6.686	707.958	714.668	6.710	75	80	80	80	10
2.0	396.705	419.052	7.891	699.723	707.617	7.894	75	79	79	79.0	10
4.0	363.498	395.122	11.167	688.111	699.162	11.051	75	78	78	78.0	10

C1

Delta H in. H2O	Mc(Y) $\frac{V_w * P_b(T_d + 460)}{V_d(P_b + \Delta H / 13.6)(T_w + 460)}$	YI	Delta H@ $\frac{0.0317 * \Delta H}{P_b(T_d + 460)} \left[\frac{(T_w + 460) \Theta}{V_w} \right]^2$	Delta HI
0.5	1.002	0.000	2.920	0.404
1.0	1.000	-0.002	1.794	-0.138
1.5	1.002	-0.001	1.949	-0.063
2.0	1.002	0.000	1.869	-0.102
4.0	1.006	0.003	1.870	-0.101
Average	1.002	<+-.02	2.081	<+-.20

Orifice Calculation				
Delta H	CFM	CFM^2	H@1cfm	Avg Orifice Setting
0.5	0.317	0.101	4.961	3.454
1.0	0.573	0.329	2.898	
1.5	0.671	0.450	3.097	
2.0	0.789	0.623	3.098	
4.0	1.105	1.221	3.216	

Dry Gas Meter Calibration Sheet

Client St. Johns River Power
 Project No 00-205MO
 Module New Meter M-2
 Orifice Small
 Orifice Dia.

Run By RA
 Date 10/23/00
 Baro. Press 29.515

Signature _____

Delta H in. H2O	Vw initial (L)	Vw final (L)	Vw cubic ft.	Vd initial (CF)	Vd final (CF)	Vd cubic ft.	Tw degrees F	Tdi degrees F	Tdo degrees F	Td avg	Time min
0.5	626.000	637.325	3.999	124.267	128.465	4.198	71.6	80.5	80.5	81	10
1.0	609.510	625.325	5.584	118.314	124.025	5.711	71.6	80	80	80	10
1.5	589.500	608.625	6.753	111.067	117.995	6.928	69.8	81	81	81	10
2.0	566.011	588.180	7.828	102.557	110.594	8.037	69.8	80	80	80.0	10
4.0	533.000	564.349	11.070	90.718	101.961	11.243	69.8	77	77	77.0	10

Delta H in. H2O	Mc(Y)		Yi	Delta H@		Delta Hi
	$\frac{V_w * P_b(T_d + 460)}{V_d(P_b + \Delta H / 13.6)(T_w + 460)}$			$\frac{0.0317 * \Delta H}{P_b(T_d + 460)} \left[\frac{(T_w + 460) \ominus}{V_w} \right]^2$		
0.5		0.967	-0.018		1.756	-0.029
1.0		0.991	0.006		1.802	-0.004
1.5		0.992	0.007		1.833	0.013
2.0		0.988	0.003		1.822	0.007
4.0		0.988	0.003		1.833	0.013
Average		0.985	<+-.02		1.809	<+-.20

Orifice Calculation				
Delta H	CFM	CFM^2	H@1cfm	Avg Orifice Setting
0.5	0.420	0.176	2.837	3.070
1.0	0.571	0.326	3.059	
1.5	0.693	0.480	3.141	
2.0	0.804	0.646	3.131	
4.0	1.124	1.264	3.180	

C2

Dry Gas Meter Calibration Sheet

Client St. Johns River Power
 Project No 00-205MO
 Module M-3
 Orifice 3.002

Run By RA
 Date 10/5/00
 Baro. Press 29.085

Signature _____

Delta H in. H2O	Vw initial (L)	Vw final (L)	Vw cubic ft.	Vd initial (CF)	Vd final (CF)	Vd cubic ft.	Tw degrees F	Tdi degrees F	Tdo degrees F	Td avg	Time min
0.5	467.510	479.420	4.206	327.022	331.232	4.210	66.2	73.7	73.7	73.7	10
1.0	450.010	466.722	5.901	320.940	326.890	5.950	66.2	73	73	73.0	10
1.5	429.500	449.270	6.981	313.765	320.678	6.913	68	72	72	72.0	10
2.0	405.505	428.190	8.010	305.377	313.290	7.913	68	69.8	69.8	69.8	10
4.0	356.006	404.751	17.212	288.262	305.460	17.198	68	68	68	68.0	15

C3

Delta H in. H2O	Mc(Y) $\frac{V_w * P_b(T_d + 460)}{V_d(P_b + \Delta H / 13.6)(T_w + 460)}$	YI	Delta H@ $\frac{0.0317 * \Delta H}{P_b(T_d + 460)} \left[\frac{(T_w + 460) \Theta}{V_w} \right]^2$	Delta HI
0.5	1.012	0.006	1.599	-0.062
1.0	1.002	-0.004	1.626	-0.046
1.5	1.014	0.008	1.758	0.032
2.0	1.011	0.005	1.788	0.049
4.0	0.991	-0.015	1.748	0.026
Average	1.006	<+-.02	1.704	<+-.20

Orifice Calculation				
Delta H	CFM	CFM^2	H@1cfm	Avg Orifice Setting
0.5	0.421	0.177	2.821	3.002
1.0	0.595	0.354	2.825	
1.5	0.691	0.478	3.084	
2.0	0.791	0.626	3.204	
4.0	1.147	1.315	3.076	

Dry Gas Meter Calibration Sheet

Client St. Johns River Power
 Project No 00-205MO
 Module M-3
 Orifice 3.054

Run By RA
 Date 10/24/00
 Baro. Press 29.505

Signature _____

Delta H in. H2O	Vw initial (L)	Vw final (L)	Vw cubic ft.	Vd initial (CF)	Vd final (CF)	Vd cubic ft.	Tw degrees F	Tdi degrees F	Tdo degrees F	Td avg	Time min
0.5	749.540	761.230	4.128	517.437	521.548	4.111	68	75	75	75.0	10
1.0	732.665	748.970	5.757	511.501	517.249	5.748	68	75	75	75.0	10
1.5	710.065	732.115	7.786	503.530	511.292	7.762	68	73	73	73.0	11
2.0	684.510	709.535	8.837	494.550	503.360	8.810	68	72	72	72.0	11
4.0	651.000	683.435	11.453	482.908	494.174	11.266	68	71	71	71.0	10

Delta H in. H2O	Mc(Y)		Yi	Delta H@		Delta Hi
	$\frac{V_w * P_b(T_d + 460)}{V_d(P_b + \Delta H / 13.6)(T_w + 460)}$			$\frac{0.0317 * \Delta H}{P_b(T_d + 460)} \left[\frac{(T_w + 460) \ominus}{V_w} \right]^2$		
0.5	1.016		0.005	1.643		-0.031
1.0	1.012		0.001	1.689		-0.004
1.5	1.009		-0.002	1.682		-0.008
2.0	1.006		-0.005	1.745		0.029
4.0	1.012		0.001	1.720		0.014
Average	1.011		<+-.02	1.696		<+-.20

Orifice Calculation				
Delta H	CFM	CFM^2	H@1cfm	Avg Orifice Setting
0.5	0.411	0.169	2.959	3.054
1.0	0.575	0.330	3.026	
1.5	0.706	0.498	3.021	
2.0	0.801	0.641	3.100	
4.0	1.127	1.269	3.164	

PITOT CALIBRATION FORM

Client:	SJRPP	Run by:	R.Howes/R.Amott
Project Number:	00-205MO	Date:	3/31/00
Test Location:	TSA - Missouri	Pitot Number:	M-8

** Without Nozzle

**

"A" Side Calibration				
Run No.	dP std [in H2O]	dP (s) [in H2O]	Cp (s)	Deviation Cp(s)- $\bar{Cp}(A)$
1	0.71	1.04	0.818	0.000
2	0.71	1.04	0.818	0.000
3	0.71	1.04	0.818	0.000
Average		$\bar{Cp}(A)$	0.818	0.000

Calculations:

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

$$\text{Deviation} = Cp(s) - \bar{Cp}(A \text{ or } B)$$

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

**

"B" Side Calibration				
Run No.	dP std [in H2O]	dP (s) [in H2O]	Cp (s)	Deviation Cp(s)- $\bar{Cp}(A)$
1	0.71	1.03	0.822	0.000
2	0.71	1.03	0.822	0.000
3	0.71	1.03	0.822	0.000
Average		$\bar{Cp}(B)$	0.822	0.000

$$|\bar{Cp}(\text{Side A}) - \bar{Cp}(\text{Side B})| = 0.004$$

Nozzle size used for Calibrations (inches): 0.250

Intercomponent Spacings During Calibrations:

Pitot - Nozzle: 1/2"

Pitot - Thermocouple: 3/4"

Pitot - Probe Sheath: 1"



9-27-00

NO₂ to No_x Conversion Efficiency

ALTERNATIVE PROCEDURE TO CHECK NO₂ TO NO CONVERTER EFFICIENCY -
APPLIES TO BOTH METHODS 7E AND 20.

As noted in Section 5.6.2 of Method 20, alternative procedures may be acceptable.

An acceptable alternative to the Section 5.6.1 procedure of Method 20 for checking NO₂ to NO converter efficiency can be the use of a cylinder of NO₂ in N₂ calibration gas. As compared to the Tedlar bag procedure in Section 5.6.1 of Method 20, the use of NO₂ cylinder gas can provide a direct measurement of converter efficiency.

To be acceptable, the cylinder gas procedure must use NIST/EPA approved certified reference material; standard reference material or Protocol 1 calibration gases certified by the vendor to be within two percent (2%) of the tag value. The concentration of NO₂ is to be between 40 and 60 PPM.

Although Section 5.6.1 of Method 20 specifies that the tester is to '...attach the bag outlet to the calibration valve assembly and begin operation of the sampling system...', the Tedlar bag procedure is only intended to performance check the NO₂ to NO converter itself, and not the entire assembly No_x measurement system, or any other portion thereof, such as the moisture removal system. Substitution of the NO₂ cylinder gas procedure will still only check the efficiency of the converter. Consequently, it is now found acceptable for the tester to introduce either the NO₂ in N₂ gas or the gas prepared as described in Section 5.6.1 of Method 20 at any point upstream of the NO₂ to N₂ converter, including the injection port at the back of the monitor.

The tester is to direct the NO₂ in N₂ gas to the NO_x analyzer (operating in the NO_x mode) until the concentration reading stabilizes. Then, the tester records the instrument response, and calculates the converter efficiency. If the instrument response indicates at least 90 percent NO₂ to NO conversion, the converter is acceptable. If the instrument response indicates less 90 percent NO₂ to NO conversion, the converter is unacceptable, and repair or replacement is required before repeating the check.

NO₂ to No_x Conversion Efficiency

Date: 9-27-00

Taken By: R. Howes

NO_x Value Read
NO₂ Value of Tank x 100 = Conversion Efficiency

$$119.33 / 125 * 100 = 95.47\% \text{ C9}$$

NO2 TO NO CONVERSION EFFICIENCY

ANALYZER NOX Model 10 PERFORMED BY R. Howes
 SERIAL # 10 AR 28640-232 DATE 9-27-00
 NO2 GAS VALUE 125 CYLINDER NUMBER SG9134679

0-250 scale

SPAN	CYLINDER NO	CYLINDER VALUE	ANALYZER RESPONSE	ABSOLUTE DIFFERENCE	DIFFERENCE % OF SPAN
ZERO GAS		0	.02	.02	0.01%
MID GAS	SG9154074	128	128.32	.32	0.13%
HIGH GAS	SG9136334	222	223.25	1.25	0.50%

CONVERSION DATA

START TIME	NOX PPM	NO2 TANK VALUE	ABSOLUTE DIFFERENCE
11:19	117.08	125	-7.92
11:20	119.72		-5.28
11:21	119.90		-5.10
11:22	119.70		-5.30
11:23	120.26		-4.74
AVERAGE	119.33		125

(NOX VALUE READ / NO2 VALUE OF TANK) X 100 = CONVERSION EFFICIENCY

(119.33 / 125) X 100 = 95.47 % EFFICIENT

Client : shop
Site :
Unit :
Project : 00-000
Test Date : 9/27/00

Time : 11:15 thru 11:29

1032

NOX

PPM

Time	NOX PPM	Notes
1:15:02	-0.01	
1:16:02	0.02	- Initial zero Reading
1:17:02	223.25	- High Cal Gas = 222 ppm
1:18:02	128.32	- Mid Cal Gas = 128 ppm
1:19:02	117.08	
1:20:02	119.72	} NOx Conversion Cal Gas = 125 ppm Avg = 119.33
1:21:02	119.90	
1:22:02	119.70	
1:23:01	120.26	
1:24:01	120.85	
1:25:01	0.27	- Final zero Reading
1:26:01	-0.13	
1:27:01	222.71	- High Cal Gas = 222 ppm
1:28:01	128.23	- Mid Cal Gas = 128 ppm

INTERFERENCE RESPONSE

(Thermo) NOx ANALYZER (0-1000 ppm = span)

Test Gas Type	Concentration	Analyzer Output Response	% of Span
(CO) Carbon Monoxide	600 ppm	0	0
(O ₂) Oxygen	20.9%	0	0
(SO ₂) Sulfur Dioxide	250 ppm	0	0
(CO ₂) Carbon Dioxide	12%	0	0

$$\% \text{ of Span} = \frac{\text{Analyzer Output Response}}{\text{Instrument Span}} \times 100$$

INTERFERENCE RESPONSE

CO₂ Analyzer (0-20% = span)

Test Gas Type	Concentration	Analyzer Output Response	% of Span
(CO) Carbon Monoxide	600 ppm	0	0
(O ₂) Oxygen	20.9%	0	0
(SO ₂) Sulfur Dioxide	250 ppm	0	0
(NO _x) Nitrogen Dioxide	494 ppm	0	0

$$\% \text{ of Span} = \frac{\text{Analyzer Output Response}}{\text{Instrument Span}} \times 100$$

INTERFERENCE RESPONSE

SO₂ Analyzer (0-2500 = span range)

Test Gas Type	Concentration	Analyzer Output Response	% of Span
(CO) Carbon Monoxide	600 ppm	0	0
(O ₂) Oxygen	20.9%	0	0
(NO _x) Nitrogen Oxide	494 ppm	2 ppm	.08%
(CO ₂) Carbon Dioxide	12%	0	0

$$\% \text{ of Span} = \frac{\text{Analyzer Output Response}}{\text{Instrument Span}} \times 100$$

C12

FIELD SO₂ INTERFERENCE CHECK

Test Date: 11-10-92
 Site: Kansas City Power & Light Company
 Iatan Station Unit I

Run#	Monitor Method 6C Milton Roy ZRF	Method 6 H ₂ O ₂ Impingers & Meter	Percent Difference
1	298	312	4.5%
2	310	317	2.2%
3	329	321	2.5%
4	307	318	3.5%

Interference check was prepared in accordance with Method 6C
 7.2 - 7.5.

Run#	Vol. Metered	Meter Temp.	Vol. Titrated	Vol. Sample	Vol. Aliquot	SO ₂ PPM
1	1.02	52	15.15	100	20	312
2	1.051	56	15.75	100	20	317
3	.987	58	14.90	100	20	321
4	.984	60	14.70	100	20	318

Total Source Analysis, Inc.
SO2 - Sulfur Analysis

TOTAL SOURCE ANALYSIS
COAL FIRED UTILITY
I
93-000
SO2 INTERFERENCE TEST

Run Number	1	2	3	4
Data set	(01)	(02)	(03)	(04)
Date	11-10-92	11-10-92	11-10-92	11-10-92
Location	STACK IATAN	STACK IATAN	STACK IATAN	STACK IATAN
Start time	08:05	08:30	09:05	09:40
End time	08:20	08:50	09:25	10:00
Barometric Pressure	In/Hg 29.50	29.50	29.50	29.50
Volume of Sample	Cu. Ft. 1.020	1.051	0.987	0.984
Meter Correction Factor	1.000	1.000	1.000	1.000
Meter Temperature	Deg. F 52	56	58	60
Percent CO2	% 12.0	12.0	12.0	12.0
Volume of Solution	ML 100	100	100	100
Volume of Aliquot	ML 20	20	20	20
Normality of Barium	N 0.0101	0.0101	0.0101	0.0101
Volume to Titrate Blank	ML 0.10	0.10	0.10	0.10
Volume to Titrate Sample	ML 15.15	15.76	14.90	14.70
Volume of Metered Gas	DSCF 1.037	1.060	0.992	0.985
Concentration of SO2	LBS/DSCF 5.176E-05	5.268E-05	5.322E-05	5.286E-05
Parts Per Million SO2	PPM 311.84	317.35	320.63	318.49

Laboratory Analysis



COMMERCIAL TESTING & ENGINEERING CO.

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TEL: (502) 827-1187
FAX: (502) 826-0719

October 31, 2000

ST. JOHNS RIVER POWER PARK
11201 NEW BERLIN RD
JACKSONVILLE FL 32226

Sample identification by
SJRPP

Sample #U1-101700
UnitID: Unit 1, RATA Test
Exxon/Pet. Coke Composite
Burn Date: 10/17/00

Kind of sample reported to us Petroleum Coke

Sample taken at -----

Sample taken by SJRPP

Data sampled October 16,17, 2000

Data received October 26. 2000

Analysis Report No. 63-30868

SHORT PROXIMATE ANALYSIS

	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	8.67	XXXXXX		
% Ash	6.41	7.02		
Btu/lb	12467	13651	MAF	14682
% Sulfur	1.79	1.96		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

L1

Henderson Laboratory





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FAX: (502) 826-0719

October 31, 2000

ST. JOHNS RIVER POWER PARK
11201 NEW BERLIN RD
JACKSONVILLE FL 32226

Sample identification by
SJRPP

Sample #U1-101800
UnitID: Unit 1, RATA Test
Exxon/Pet. Coke Composite
Burn Date: 10/18/00

Kind of sample reported to us Petroleum Coke

Sample taken at -----

Sample taken by SJRPP

Date sampled October 17, 19, 2000

Date received October 26, 2000

Analysis Report No. 63-30869

SHORT PROXIMATE ANALYSIS

	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	9.67	XXXXXX		
% Ash	6.40	7.09		
Btu/lb	12254	13566	MAF	14601
% Sulfur	1.18	1.31		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

L2

Robert A. Henderson
Henderson Laboratory





COMMERCIAL TESTING & ENGINEERING CO.

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FAX: (502) 826-0719

October 31, 2000

ST. JOHNS RIVER POWER PARK
11201 NEW BERLIN RD
JACKSONVILLE FL 32226

Sample identification by
SJRPP

Sample #U1-101900
UnitID: Unit 1, RATA Test
Exxon/Pet. Coke Composite
Burn Date: 10/19/00

Kind of sample reported to us Petroleum Coke

Sample taken at -----

Sample taken by SJRPP

Date sampled October 18,19, 2000

Date received October 26, 2000

Analysis Report No. 63-30870

SHORT PROXIMATE ANALYSIS

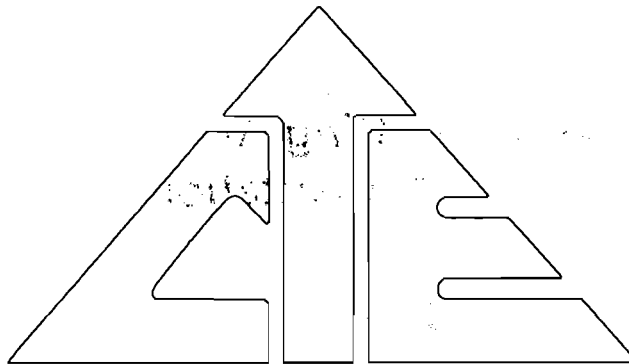
	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	9.17	XXXXXX		
% Ash	5.79	6.38		
Btu/lb	12462	13720	MAF	14655
% Sulfur	2.09	2.30		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO. *E*

L3

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