

RELATIVE ACCURACY  
TEST REPORT  
FOR  
ST. JOHNS RIVER POWER PARK  
UNIT 2 STACK & INLET  
JACKSONVILLE, FL  
December 11 & 12, 2001

REV. 1

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BUREAU OF AIR REGULATION

Job # 01-315

Test Report Date: 1-25-02



January 25, 2002

I, Hal Stiles, hereby certify that the data obtained for St. Johns River Power Park, Unit 2 Stack & Inlet in Jacksonville, FL are in accordance with procedures set forth by the USEPA. This report accurately represents the data obtained from the testing procedures and analysis of this data.

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Hal Stiles  
Crew Chief

I, Carl Vineyard, hereby certify that I have reviewed this report and to the best of my knowledge, the data presented herein is complete and accurate.

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Carl Vineyard, P.E.  
Test Engineer

Grace Consulting, Inc.  
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## INTRODUCTION

This report presents the results of the Relative Accuracy tests performed for St. Johns River Power Park, Unit 2 Stack & Inlet in Jacksonville, FL.

The purpose of the tests was to determine the emissions of the units. The results can be found in the Summary of Test Results section of this report.

The testing was performed by Grace Consulting, Inc., located at 510 Dickson Street – Wellington, OH 44090. Present during the testing were Hal Stiles, Tim Moody, Josh Nichols, and Ernie Givens from Grace Consulting, Inc. Mark Loechelt was present from St. Johns River Power Park.

The tests were performed on December 11 & 12, 2001. The testing was completed in accordance with USEPA test methods as published in the July 1, 2001 Federal Register, - "Standards of Performance for New Stationary Sources" and subsequent revisions.

The sampling and analytical procedures can be found in the Sampling and Analytical Procedures section of this report. The raw field data and the equations used to determine the final results are presented in the Appendix section.

**SUMMARY OF TEST RESULTS**

The following presents the results of the Relative Accuracy tests performed for St. Johns River Power Park, Unit 2 Stack and Inlet in Jacksonville, FL.

**PART 75 RELATIVE ACCURACY  
UNIT 2 STACK**

Date	Monitor	Units	RA	Allowable	Results	MW
12-12-01	NO <sub>x</sub>	lb/mmBtu	2.33%	10%	Pass	650.9
12-12-01	CO <sub>2</sub>	Percent	1.95%	10%	Pass	650.9
12-12-01	SO <sub>2</sub>	PPM	7.40%	10%	Pass	650.9
12-10/12-01	Flow (N)	KSCFH	1.61%	10%	Pass	645.5

**BIAS TEST RESULTS**

Date	Monitor	Monitor Designation	Mean of Difference	Confidence Coefficient	Bias Results Factor Required	Bias Adj. Factor
12-12-01	NO <sub>x</sub>	lb/mmBtu	-0.009	0.002	No	N/A
12-12-01	SO <sub>2</sub>	PPM	-6.713	3.884	No	N/A
12-10/12-01	Flow (N)	KSCFH	-877.550	668.554	No	N/A

**PART 60 RELATIVE ACCURACY**

Date	Monitor	Location	Units	RA	Allowable	Results	MW
12-12-01	SO <sub>2</sub>	Stack	lb/mmBtu	8.61%	20%	Pass	650.9
12-11-01	SO <sub>2</sub>	Inlet	lb/mmBtu	2.60%	20%	Pass	644.4
12-11-01	CO <sub>2</sub>	Inlet	Percent	1.08%	20%	Pass	644.4

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

Grace Consulting, Inc.

SJRPP: Jacksonville, FL Unit 2  
Relative Accuracy Test Audit  
Relative Accuracy Calculations and Results  
NOx lb/mmBtu  
12/12/01

Use	Run	NOx lb/mmBtu		
		RM	CEMS	Difference
Y	1	0.475	0.480	-0.005
Y	2	0.475	0.483	-0.008
Y	3	0.478	0.488	-0.010
Y	4	0.475	0.484	-0.009
Y	5	0.465	0.479	-0.014
N	6	0.464	0.479	-0.015
Y	7	0.461	0.472	-0.011
Y	8	0.462	0.472	-0.010
Y	9	0.469	0.477	-0.008
Y	10	0.474	0.482	-0.008
N	11	0.000	0.000	0.000
N	12	0.000	0.000	0.000
Averages		0.471	0.480	-0.009

Standard Deviation            0.002  
Confidence Coefficient        0.002  
Relative Accuracy               2.33  
  
Bias Test Pass/Fail            PASS  
Bias Adjustment Factor        1.000

**Grace Consulting, Inc.**

SJRPP: Jacksonville, FL Unit 2  
 Relative Accuracy Test Audit  
 Relative Accuracy Calculations and Results  
 CO2 Percent  
 12/12/01

Use	Run	CO2 Percent		
		RM.	CEMS	Difference
Y	1	11.781	11.610	0.171
Y	2	11.807	11.700	0.107
Y	3	11.729	11.640	0.089
Y	4	11.785	11.650	0.135
Y	5	11.782	11.620	0.162
N	6	11.827	11.340	0.487
Y	7	11.819	11.460	0.359
Y	8	11.834	11.610	0.224
Y	9	11.774	11.630	0.144
Y	10	11.772	11.680	0.092
N	11	0.000	0.000	0.000
N	12	0.000	0.000	0.000
Averages		11.787	11.622	0.165

Standard Deviation            0.085  
 Confidence Coefficient        0.065  
 Relative Accuracy              1.95

Bias Test Pass/Fail            FAIL  
 Bias Adjustment Factor        1.014

**Grace Consulting, Inc.**

SJRPP: Jacksonville, FL Unit 2  
 Relative Accuracy Test Audit  
 Relative Accuracy Calculations and Results  
 SO2 ppm  
 12/12/01

Use	Run	SO2 ppm		
		RM	CEMS	Difference
Y	1	138.078	152.200	-14.122
N	2	139.109	153.400	-14.291
Y	3	139.625	151.000	-11.375
Y	4	138.934	149.600	-10.666
Y	5	138.555	148.600	-10.045
Y	6	145.542	144.400	1.142
Y	7	145.352	147.300	-1.948
Y	8	146.951	150.600	-3.649
Y	9	148.807	153.300	-4.493
Y	10	147.642	152.900	-5.258
N	11	0.000	0.000	0.000
N	12	0.000	0.000	0.000
Averages		143.276	149.989	-6.713

Standard Deviation            5.052  
 Confidence Coefficient        3.884  
 Relative Accuracy              7.40

Bias Test Pass/Fail            PASS  
 Bias Adjustment Factor        1.000



**Grace Consulting, Inc.**

St. Johns River Power Park: Jacksonville, FL Unit 2  
 Relative Accuracy Test Audit  
 Relative Accuracy Calculations and Results  
 High Flow  
 12-10 & 12-01

Use	Run	Flow		Difference
		RM	CEMS	
Y	1	93898.357	93959.100	-60.743
N	2	95139.695	90339.600	4800.095
Y	3	94684.986	94372.700	312.286
Y	4	94951.204	94524.700	426.504
Y	5	96480.640	97753.600	-1272.960
Y	6	96746.671	97740.800	-994.129
Y	7	96700.212	98413.200	-1712.988
Y	8	96877.481	98132.000	-1254.519
Y	9	96642.492	98323.600	-1681.108
N	10	96643.662	98401.600	-1757.938
Y	11	96976.904	98637.200	-1660.296
N	12	96622.326	98357.600	-1735.274
Averages		95995.438	96872.989	-877.550

Standard Deviation 869.759  
 Confidence Coefficient 668.554  
 Relative Accuracy 1.61

Bias Test Pass/Fail PASS  
 Bias Adjustment Factor 1.000

**Grace Consulting, Inc.**

SJRPP: Jacksonville, FL Unit 2  
 Relative Accuracy Test Audit  
 Relative Accuracy Calculations and Results  
 SO2 lb/mmBtu  
 12/12/01

Use	Run	SO2 lb/mmBtu		
		RM	CEMS	Difference
N	1	0.350	0.392	-0.042
Y	2	0.352	0.392	-0.040
Y	3	0.356	0.388	-0.032
Y	4	0.352	0.384	-0.032
Y	5	0.351	0.382	-0.031
Y	6	0.368	0.381	-0.013
Y	7	0.367	0.384	-0.017
Y	8	0.371	0.388	-0.017
Y	9	0.378	0.394	-0.016
Y	10	0.375	0.391	-0.016
N	11	0.000	0.000	0.000
N	12	0.000	0.000	0.000
Averages		0.363	0.387	-0.024

Standard Deviation                      0.010  
 Confidence Coefficient                  0.008  
 Relative Accuracy                         8.61

**Grace Consulting, Inc.**

St.Johns River Power Park: Jacksonville, FL Unit 2 FGD inlet  
 Relative Accuracy Test Audit  
 Relative Accuracy Calculations and Results  
 SO2 lb/mmBtu  
 12/11/2001

Use	Run	SO2 lb/mmBtu		
		RM	CEMS	Difference
Y	1	3.352	3.435	-0.083
Y	2	3.346	3.419	-0.073
Y	3	3.358	3.443	-0.085
Y	4	3.328	3.410	-0.082
Y	5	3.339	3.427	-0.088
Y	6	3.302	3.383	-0.081
Y	7	3.251	3.329	-0.078
Y	8	3.249	3.335	-0.086
N	9	3.226	3.316	-0.090
Y	10	3.148	3.232	-0.084
N	11	0.000	0.000	0.000
N	12	0.000	0.000	0.000
Averages		3.297	3.379	-0.082

Standard Deviation            0.005  
 Confidence Coefficient        0.003  
 Relative Accuracy              2.60

**Grace Consulting, Inc.**

St.Johns River Power Park: Jacksonville, FL Unit 2 FGD inlet  
Relative Accuracy Test Audit

Relative Accuracy Calculations and Results

CO2 Percent

12/11/2001

Use	Run	CO2 Percent		
		RM	CEMS	Difference
Y	1	13.318	13.050	0.268
Y	2	13.135	13.120	0.015
Y	3	13.159	13.130	0.029
Y	4	13.114	13.190	-0.076
Y	5	12.990	13.120	-0.130
Y	6	13.048	13.150	-0.102
Y	7	13.001	13.100	-0.099
Y	8	13.008	13.110	-0.102
Y	9	12.877	13.040	-0.163
N	10	12.914	13.090	-0.176
N	11	0.000	0.000	0.000
N	12	0.000	0.000	0.000
Averages		13.072	13.112	-0.040

Standard Deviation                    0.132  
Confidence Coefficient                0.101  
Relative Accuracy                        1.08

Grace Consulting, Inc.

Sampling System Bias Check and Measured Value Correction

St. Johns River Power Park  
Jacksonville, FL - Unit 2

Date: 12/12/2001  
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	Percent Moisture	Corrected Value, Dry Basis	Corrected Value, Wet Basis
1	299.10	0.70	1.00	0.03	559.00	559.00	0.00	552.00	11.69	294.96	260.47
2	299.40	1.00	1.30	0.03	559.00	559.50	0.05	552.00	11.46	294.99	261.18
3	300.10	1.30	1.20	-0.01	559.50	561.00	0.15	552.00	11.54	295.11	261.06
4	301.20	1.20	1.40	0.02	561.00	566.00	0.50	552.00	11.49	294.46	260.61
5	291.50	1.40	1.40	0.00	566.00	548.70	-1.73	552.00	11.46	288.04	255.02
6	287.60	1.40	2.00	0.06	548.70	549.50	0.08	552.00	11.35	288.30	255.58
7	284.90	2.00	1.70	-0.03	549.50	546.00	-0.35	552.00	11.34	286.21	253.76
8	285.10	1.70	1.50	-0.02	546.00	545.50	-0.05	552.00	11.63	287.59	254.16
9	287.80	1.50	1.60	0.01	545.50	545.00	-0.05	552.00	11.60	290.62	256.90
10	291.80	1.60	1.80	0.02	545.00	549.00	0.40	552.00	11.60	293.66	259.61

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

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

Grace Consulting, Inc.

Sampling System Bias Check and Measured Value Correction

St. Johns River Power Park  
Jacksonville, FL - Unit 2

Date: 12/12/2001  
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	Percent Moisture	Corrected Value, Dry Basis	Corrected Value, Wet Basis
1	153.30	2.40	4.00	0.53	157.50	158.00	0.17	161.00	11.69	156.36	138.08
2	154.75	4.00	2.00	-0.67	158.00	159.00	0.33	161.00	11.46	157.12	139.11
3	155.42	2.00	1.72	-0.09	159.00	158.00	-0.33	161.00	11.54	157.83	139.62
4	154.29	1.72	1.73	0.00	158.00	158.40	0.13	161.00	11.49	156.98	138.93
5	154.45	1.73	1.70	-0.01	158.40	159.30	0.30	161.00	11.46	156.49	138.55
6	162.31	1.70	1.60	-0.03	159.30	159.10	-0.07	161.00	11.35	164.18	145.54
7	162.64	1.60	1.70	0.03	159.10	160.40	0.43	161.00	11.34	163.94	145.35
8	165.19	1.70	1.90	0.07	160.40	159.60	-0.27	161.00	11.63	166.28	146.95
9	167.17	1.90	1.31	-0.20	159.60	160.30	0.23	161.00	11.60	168.34	148.81
10	166.43	1.31	1.80	0.16	160.30	160.70	0.13	161.00	11.60	167.01	147.64

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

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

Grace Consulting, Inc.

Sampling System Bias Check and Measured Value Correction

St. Johns River Power Park  
Jacksonville, FL - Unit 2

Date: 12/12/2001  
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 Moisture	Corrected Percent, Dry Basis	Corrected Percent, Wet Basis
1	13.53	0.35	0.40	0.25	11.24	11.40	0.80	11.10	11.69	13.34	11.78
2	13.62	0.40	0.35	-0.25	11.40	11.40	0.00	11.10	11.46	13.34	11.81
3	13.54	0.35	0.44	0.45	11.40	11.40	0.00	11.10	11.54	13.26	11.73
4	13.59	0.44	0.42	-0.10	11.40	11.40	0.00	11.10	11.49	13.32	11.79
5	13.60	0.42	0.37	-0.25	11.40	11.42	0.10	11.10	11.46	13.31	11.78
6	13.62	0.37	0.38	0.05	11.42	11.37	-0.25	11.10	11.35	13.34	11.83
7	13.57	0.38	0.47	0.45	11.37	11.37	0.00	11.10	11.34	13.33	11.82
8	13.61	0.47	0.44	-0.15	11.37	11.35	-0.10	11.10	11.63	13.39	11.83
9	13.55	0.44	0.44	0.00	11.35	11.38	0.15	11.10	11.60	13.32	11.77
10	13.56	0.44	0.36	-0.40	11.38	11.36	-0.10	11.10	11.60	13.32	11.77

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

where:

- C<sub>gas</sub> = Effluent gas concentration, dry basis, percent
- C<sub>avg</sub> = Average gas concentration indicated by gas analyzer, dry basis, percent
- C<sub>o</sub> = Average of initial and final system calibration bias check responses for the zero gas, percent
- C<sub>m</sub> = Average of initial and final system calibration bias check responses for the upscale calibration gas, percent
- C<sub>ma</sub> = Actual concentration of the upscale calibration gas, percent

Grace Consulting, Inc.

Sampling System Bias Check and Measured Value Correction

St. Johns River Power Park  
Jacksonville, FL - Unit 2

Date: 12/12/2001  
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 Moisture	Corrected Percent, Dry Basis	Corrected Percent, Wet Basis
1	6.06	0.03	0.04	0.04	11.05	11.05	0.00	11.10	11.69	6.07	5.36
2	6.05	0.04	0.02	-0.08	11.05	11.07	0.08	11.10	11.46	6.06	5.36
3	6.11	0.02	0.03	0.04	11.07	11.12	0.20	11.10	11.54	6.10	5.39
4	6.07	0.03	0.03	0.00	11.12	11.10	-0.08	11.10	11.49	6.05	5.36
5	6.07	0.03	0.03	0.00	11.10	11.10	0.00	11.10	11.46	6.06	5.36
6	6.04	0.03	0.03	0.00	11.10	11.05	-0.20	11.10	11.35	6.04	5.35
7	6.02	0.03	0.03	0.00	11.05	11.04	-0.04	11.10	11.34	6.04	5.35
8	5.98	0.03	0.03	0.00	11.04	11.07	0.12	11.10	11.63	5.99	5.29
9	6.03	0.03	0.03	0.00	11.07	11.06	-0.04	11.10	11.60	6.04	5.34

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

where:

- C<sub>gas</sub> = Effluent gas concentration, dry basis, percent
- C<sub>avg</sub> = Average gas concentration indicated by gas analyzer, dry basis, percent
- C<sub>o</sub> = Average of initial and final system calibration bias check responses for the zero gas, percent
- C<sub>m</sub> = Average of initial and final system calibration bias check responses for the upscale calibration gas, percent
- C<sub>ma</sub> = Actual concentration of the upscale calibration gas, percent



**Grace Consulting, Inc.**  
**Moisture Calculations (Runs 1 - 6)**

Client: St.Johns River Power Park  
 Site: Jacksonville, FL - Unit 2  
 Date: 12/12/01  
 Unit Number: 2  
 Load: High

Run:	1	2	3
Volume of Condensate:	47.80	47.10	46.30
Weight of Silica Gel:	14.90	13.80	14.20
Volume Metered:	22.483	22.482	22.210
Meter Temperature:	91.50	95.00	96.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.35	30.35	30.35
Meter Correction Factor:	1.017	1.017	1.017
Volume Measured (DSCF):	22.29	22.15	21.84
Water Volume (SCF):	2.95	2.87	2.85
% Moisture in Flue Gas:	11.69	11.46	11.54

Run:	4	5	6
Volume of Condensate:	47.20	47.30	46.80
Weight of Silica Gel:	13.90	13.50	14.10
Volume Metered:	22.485	22.485	22.484
Meter Temperature:	95.00	96.00	89.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.35	30.35	30.35
Meter Correction Factor:	1.017	1.017	1.017
Volume Measured (DSCF):	22.15	22.11	22.40
Water Volume (SCF):	2.88	2.86	2.87
% Moisture in Flue Gas:	11.49	11.46	11.35

**Grace Consulting, Inc.**  
**Moisture Calculations (Runs 7 - 12)**

Client: St. Johns River Power Park  
Site: Jacksonville, FL - Unit 2  
Date: 12/12/01  
Unit Number: 2  
Load: High

Run:	7	8	9
Volume of Condensate:	46.30	47.30	48.20
Weight of Silica Gel:	14.20	14.60	13.40
Volume Metered:	22.484	22.448	22.466
Meter Temperature:	92.00	94.00	96.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.35	30.35	30.35
Meter Correction Factor:	1.017	1.017	1.017
Volume Measured (DSCF):	22.27	22.16	22.10
Water Volume (SCF):	2.85	2.91	2.90
% Moisture in Flue Gas:	11.34	11.63	11.60

Run:	10
Volume of Condensate:	47.20
Weight of Silica Gel:	14.30
Volume Metered:	22.449
Meter Temperature:	96.00
Delta H:	1.80
Barometric Pressure:	30.35
Meter Correction Factor:	1.017
Volume Measured (DSCF):	22.08
Water Volume (SCF):	2.90
% Moisture in Flue Gas:	11.60

Grace Consulting, Inc.  
Moisture Calculations (Runs 1 - 6)

Flows

Client: St. Johns River Power Park  
Site: Jacksonville, FL - Unit 2  
Date: 12-10 & 12-01  
Unit Number: 2  
Load: High

Run:	1	2	3
Volume of Condensate:	61.00	61.00	61.90
Weight of Silica Gel:	4.50	4.50	7.70
Volume Metered:	22.487	22.487	22.480
Meter Temperature:	95.00	95.00	90.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.21	30.21	30.21
Meter Correction Factor:	1.019	1.019	1.019
Volume Measured (DSCF):	22.10	22.10	22.29
Water Volume (SCF):	3.08	3.08	3.28
% Moisture in Flue Gas:	12.24	12.24	12.82

Run:	4	5	6
Volume of Condensate:	61.90	47.80	47.80
Weight of Silica Gel:	7.70	14.90	14.90
Volume Metered:	22.480	22.483	22.483
Meter Temperature:	90.00	91.50	91.50
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.21	30.35	30.35
Meter Correction Factor:	1.019	1.017	1.017
Volume Measured (DSCF):	22.29	22.29	22.29
Water Volume (SCF):	3.28	2.95	2.95
% Moisture in Flue Gas:	12.82	11.69	11.69

**Grace Consulting, Inc.**  
**Moisture Calculations (Runs 7 - 12)**

Client: St. Johns River Power Park  
 Site: Jacksonville, FL - Unit 2  
 Date: 12-10 & 12-01  
 Unit Number: 2  
 Load: High

Run:	7	8	9
Volume of Condensate:	47.10	47.10	46.30
Weight of Silica Gel:	13.80	13.80	14.20
Volume Metered:	22.482	22.482	22.210
Meter Temperature:	95.00	95.00	96.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.35	30.35	30.35
Meter Correction Factor:	1.017	1.017	1.017
 Volume Measured (DSCF):	 22.15	 22.15	 21.84
Water Volume (SCF):	2.87	2.87	2.85
% Moisture in Flue Gas:	11.46	11.46	11.54
Run:	10	11	12
Volume of Condensate:	46.30	47.20	47.20
Weight of Silica Gel:	14.20	13.90	13.90
Volume Metered:	22.210	22.485	22.485
Meter Temperature:	96.00	95.00	95.00
Delta H:	1.80	1.80	1.80
Barometric Pressure:	30.35	30.35	30.35
Meter Correction Factor:	1.017	1.017	1.017
 Volume Measured (DSCF):	 21.84	 22.15	 22.15
Water Volume (SCF):	2.85	2.88	2.88
% Moisture in Flue Gas:	11.54	11.49	11.49

Grace Consulting, Inc.

Velocity Traverse Calculations and Results

Client: St. Johns River Power Park  
 Site: Jacksonville, FL - Unit 2  
 Date: 12-10 & 12-01  
 Unit Number: 2  
 Load: High

Run:		1	2	3
Start Time:		08:36	08:50	09:35
End Time:		08:48	09:04	09:43
Pitot Coefficient:		0.8285	0.8285	0.8285
Barometric Pressure:	In. Hg.	30.21	30.21	30.21
Static Pressure:	In. H2O	0.78	0.78	0.78
Square Root of Delta-P:		1.059	1.073	1.067
Flue Temperature:	Deg. F.	139.00	139.00	140.00
Percent CO2:	%	13.7	13.7	13.5
Percent O2:	%	5.70	5.70	5.80
Percent Moisture:	%	12.24	12.24	12.82
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	30.27	30.27	30.27
Molecular Weight:	Lb/Lb Mole	28.90	28.90	28.80
Velocity of Flue Gas:	FPS	62.07	62.89	62.70
Volume of Flue Gas:	ACFM	1755738	1778949	1773402
Volume of Flue Gas:	DSCFM	1373345	1391501	1375850
Volume of Flue Gas:	KSCFM	1564.97	1585.66	1578.08
Volume of Flue Gas:	KSCFH	93898.36	95139.70	94684.99

Grace Consulting, Inc.

Velocity Traverse Calculations and Results

Client: St. Johns River Power Park  
 Site: Jacksonville, FL - Unit 2  
 Date: 12-10 & 12-01  
 Unit Number: 2  
 Load: High

Run:	4	5	6
Start Time:	09:44	08:52	09:06
End Time:	09:52	09:02	09:21
Pitot Coefficient:	0.8285	0.8285	0.8285
Barometric Pressure: In. Hg.	30.21	30.35	30.35
Static Pressure: In. H2O	0.78	0.78	0.78
Square Root of Delta-P:	1.07	1.088	1.091
Flue Temperature: Deg. F.	140.00	141.00	141.00
Percent CO2: %	13.5	13.34	13.34
Percent O2: %	5.80	6.07	6.07
Percent Moisture: %	12.82	11.69	11.69
Area of Flue: Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure: In. Hg.	30.27	30.41	30.41
Molecular Weight: Lb/Lb Mole	28.80	28.93	28.93
Velocity of Flue Gas: FPS	62.87	63.70	63.87
Volume of Flue Gas: ACFM	1778389	1801712	1806680
Volume of Flue Gas: DSCFM	1379718	1419955	1423870
Volume of Flue Gas: KSCFM	1582.52	1608.01	1612.44
Volume of Flue Gas: KSCFH	94951.20	96480.64	96746.67

Grace Consulting, Inc.

Velocity Traverse Calculations and Results

Client: St. Johns River Power Park  
 Site: Jacksonville, FL - Unit 2  
 Date: 12-10 & 12-01  
 Unit Number: 2  
 Load: High

Run:		7	8	9
Start Time:		09:30	09:45	10:08
End Time:		09:44	09:59	10:22
Pitot Coefficient:		0.8285	0.8285	0.8285
Barometric Pressure:	In. Hg.	30.35	30.35	30.35
Static Pressure:	In. H2O	0.79	0.79	0.78
Square Root of Delta-P:		1.091	1.093	1.09
Flue Temperature:	Deg. F.	141.00	141.00	141.00
Percent CO2:	%	13.34	13.34	13.26
Percent O2:	%	6.06	6.06	6.10
Percent Moisture:	%	11.46	11.46	11.54
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	30.41	30.41	30.41
Molecular Weight:	Lb/Lb Mole	28.96	28.96	28.94
Velocity of Flue Gas:	FPS	63.84	63.96	63.80
Volume of Flue Gas:	ACFM	1805769	1809079	1804735
Volume of Flue Gas:	DSCFM	1426944	1429560	1424880
Volume of Flue Gas:	KSCFM	1611.67	1614.62	1610.71
Volume of Flue Gas:	KSCFH	96700.21	96877.48	96642.49

Grace Consulting, Inc.

Velocity Traverse Calculations and Results

Client: St. Johns River Power Park  
 Site: Jacksonville, FL - Unit 2  
 Date: 12-10 & 12-01  
 Unit Number: 2  
 Load: High

Run:		10	11	12
Start Time:		10:23	10:47	11:02
End Time:		10:37	11:01	11:16
Pitot Coefficient:		0.8285	0.8285	0.8285
Barometric Pressure:	In. Hg.	30.35	30.35	30.35
Static Pressure:	In. H2O	0.79	0.78	0.78
Square Root of Delta-P:		1.09	1.094	1.09
Flue Temperature:	Deg. F.	141.00	141.00	141.00
Percent CO2:	%	13.26	13.32	13.32
Percent O2:	%	6.10	6.05	6.05
Percent Moisture:	%	11.54	11.49	11.49
Area of Flue:	Sq. Ft.	471.44	471.44	471.44
Absolute Flue Pressure:	In. Hg.	30.41	30.41	30.41
Molecular Weight:	Lb/Lb Mole	28.94	28.95	28.95
Velocity of Flue Gas:	FPS	63.80	64.02	63.79
Volume of Flue Gas:	ACFM	1804713	1810980	1804358
Volume of Flue Gas:	DSCFM	1424897	1430510	1425280
Volume of Flue Gas:	KSCFM	1610.73	1616.28	1610.37
Volume of Flue Gas:	KSCFH	96643.66	96976.90	96622.33



Grace Consulting, Inc.

Sampling System Bias Check and Measured Value Correction

St. Johns River Power Park  
Jacksonville, FL - Unit 2 FGD inlet

Date: 12/11/2001  
Pollutant: SO2  
Monitor Span: 3500

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	Percent Moisture	Corrected Value, Dry Basis	Corrected Value, Wet Basis
1	1584.00	0.80	4.20	0.10	1914.00	1952.00	1.09	1963.00	7.09	1608.12	1494.12
2	1577.80	4.20	4.10	0.00	1952.00	1959.00	0.20	1963.00	7.09	1583.05	1470.82
3	1598.40	4.10	0.00	-0.12	1959.00	1972.00	0.37	1963.00	7.33	1595.98	1478.94
4	1586.10	0.00	-0.20	-0.01	1972.00	1979.00	0.20	1963.00	7.33	1576.08	1460.49
5	1585.10	-0.20	0.90	0.03	1979.00	1969.00	-0.29	1963.00	7.90	1576.20	1451.60
6	1566.10	0.90	2.10	0.03	1969.00	1957.00	-0.34	1963.00	7.90	1565.80	1442.02
7	1537.60	2.10	2.50	0.01	1957.00	1959.00	0.06	1963.00	8.21	1541.03	1414.54
8	1536.60	2.50	2.70	0.01	1959.00	1955.00	-0.11	1963.00	8.21	1540.75	1414.28
9	1516.90	2.70	-0.20	-0.08	1955.00	1953.00	-0.06	1963.00	8.74	1523.61	1390.42
10	1480.91	-0.20	-1.00	-0.02	1953.00	1947.00	-0.17	1963.00	8.74	1490.93	1360.59

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

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

Grace Consulting, Inc.

Sampling System Bias Check and Measured Value Correction

St. Johns River Power Park  
Jacksonville, FL - Unit 2 FGD Inlet

Date: 12/11/2001  
Pollutant: CO2  
Monitor Span: 20

Run Number	Average Measured Percent	Initial Zero 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 Moisture	Corrected Percent, Dry Basis	Corrected Percent, Wet Basis
1	14.21	0.37	0.38	0.38	0.05	11.09	11.28	0.95	11.20	7.09	14.33	13.32
2	14.13	0.38	0.49	0.49	0.55	11.28	11.29	0.05	11.20	7.09	14.14	13.13
3	14.20	0.49	0.51	0.51	0.10	11.29	11.32	0.15	11.20	7.33	14.20	13.16
4	14.15	0.51	0.46	0.46	-0.25	11.32	11.28	-0.20	11.20	7.33	14.15	13.11
5	14.09	0.46	0.48	0.48	0.10	11.28	11.29	0.05	11.20	7.90	14.10	12.99
6	14.16	0.48	0.49	0.49	0.05	11.29	11.30	0.05	11.20	7.90	14.17	13.05
7	14.15	0.49	0.52	0.52	0.15	11.30	11.29	-0.05	11.20	8.21	14.16	13.00
8	14.16	0.52	0.52	0.52	0.00	11.29	11.31	0.10	11.20	8.21	14.17	13.01
9	14.12	0.52	0.47	0.47	-0.25	11.31	11.31	0.00	11.20	8.74	14.11	12.88
10	14.17	0.47	0.49	0.49	0.10	11.31	11.32	0.05	11.20	8.74	14.15	12.91

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

where:

$C_{gas}$  = Effluent gas concentration, dry basis, percent

$C_{avg}$  = Average gas concentration indicated by gas analyzer, dry basis, percent

$C_o$  = Average of initial and final system calibration bias check responses for the zero gas, percent

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

$C_{ma}$  = Actual concentration of the upscale calibration gas, percent

**Grace Consulting, Inc.**  
**Moisture Calculations (Runs 1 - 6)**

Client: St. Johns River Power Park  
 Site: Jacksonville, FL - Unit 2 FGD inlet  
 Date: 12/11/01  
 Unit Number: 2 FGD inlet

Run:	1	2	3
Volume of Condensate:	32.00	32.00	30.00
Weight of Silica Gel:	3.10	3.10	6.20
Volume Metered:	22.350	22.350	22.306
Meter Temperature:	79.30	79.30	81.25
Delta H:	1.97	1.97	1.97
Barometric Pressure:	30.27	30.27	30.27
Meter Correction Factor:	0.974	0.974	0.974
Volume Measured (DSCF):	21.66	21.66	21.54
Water Volume (SCF):	1.65	1.65	1.70
% Moisture in Flue Gas:	7.09	7.09	7.33
Run:	4	5	6
Volume of Condensate:	30.00	32.00	32.00
Weight of Silica Gel:	6.20	8.00	8.00
Volume Metered:	22.306	22.766	22.766
Meter Temperature:	81.25	82.16	82.16
Delta H:	1.97	1.97	1.97
Barometric Pressure:	30.27	30.27	30.27
Meter Correction Factor:	0.974	0.974	0.974
Volume Measured (DSCF):	21.54	21.94	21.94
Water Volume (SCF):	1.70	1.88	1.88
% Moisture in Flue Gas:	7.33	7.90	7.90

**Grace Consulting, Inc.**  
**Moisture Calculations (Runs 7 - 10)**

Client: St. Johns River Power Park  
Site: Jacksonville, FL - Unit 2 FGD inlet  
Date: 12/11/01  
Unit Number: 2 FGD inlet

Run:	7	8	9
Volume of Condensate:	34.00	34.00	38.00
Weight of Silica Gel:	7.10	7.10	6.60
Volume Metered:	22.362	22.362	22.705
Meter Temperature:	80.00	80.00	81.25
Delta H:	1.97	1.97	1.97
Barometric Pressure:	30.27	30.27	30.27
Meter Correction Factor:	0.974	0.974	0.974
Volume Measured (DSCF):	21.64	21.64	21.92
Water Volume (SCF):	1.94	1.94	2.10
% Moisture in Flue Gas:	8.21	8.21	8.74

Run:	10
Volume of Condensate:	38.00
Weight of Silica Gel:	6.60
Volume Metered:	22.705
Meter Temperature:	81.25
Delta H:	1.97
Barometric Pressure:	30.27
Meter Correction Factor:	0.974
Volume Measured (DSCF):	21.92
Water Volume (SCF):	2.10
% Moisture in Flue Gas:	8.74

## **Test Methods used at St. Johns River Power Park, Unit 2**

### **Methods 1, 2, 3, and 4**

GCI performed 12 Method 2 test runs on the Stack to determine the KSCFH of flue gas exiting the stack for a Relative Accuracy Test Audit of the in stack flow monitor. A 16-point traverse was tested for each Method 2 test run. One method 4 test was performed for each test run of Methods 3A, 6C and 7E on the Stack. One method 4 test was performed for each 2-test runs of Methods 3A and 6C on the Inlet. One method 3 test was performed for each 2-test runs during flow testing on the 10<sup>th</sup>.

### **Method 3A**

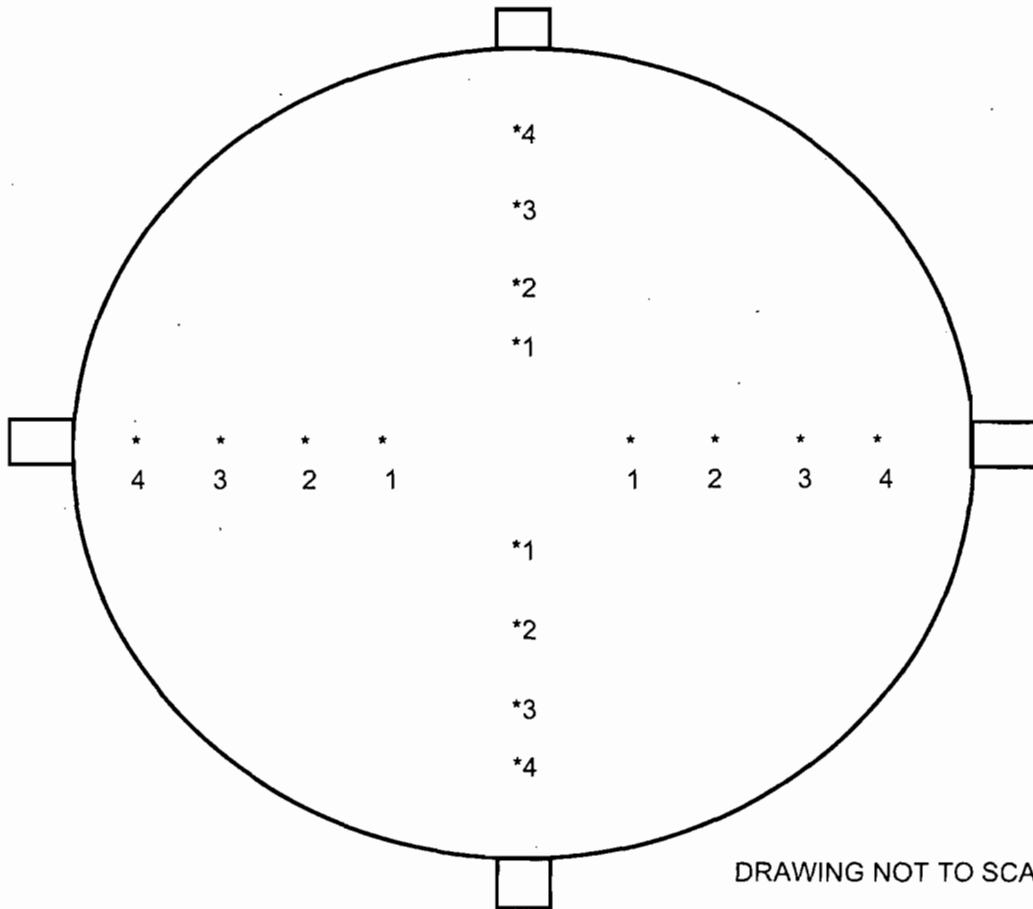
CO<sub>2</sub> and O<sub>2</sub> concentrations were determined with 10 Method 3A test runs on the Stack and the Inlet. The sampling was performed at 3-points. GCI used a monitor range of 0-20% for CO<sub>2</sub> and a range of 0-25% for O<sub>2</sub>.

### **Method 6C**

SO<sub>2</sub> emissions were determined with 10 test runs on the Stack and the Inlet. The sampling was performed at 3-points. GCI used a monitor span of 300 ppm for SO<sub>2</sub> testing on the Stack and 3500 ppm SO<sub>2</sub> for testing on the Inlet.

### **Method 7E**

NO<sub>x</sub> emissions were determined with 10 test runs on the Stack. The sampling was performed at 3-points. GCI used a monitor span of 1000 ppm for NO<sub>x</sub> on Stack.



DRAWING NOT TO SCALE

**POINTS    DISTANCE FROM INSIDE WALL**

1)	94.962 "
2)	57.036 "
3)	30.870 "
4)	9.408 "

STACK AREA = 471.435 sq ft  
 STACK DIAMETER = 24.5 '

St. Johns River Power Park  
 Unit 2



APPENDIX

**NO<sub>x</sub> CALCULATION**  
(CO<sub>2</sub> Based)

$$\text{lb/dscf} = 1.194 \times 10^{-7} \times \text{PPM}$$

$$\text{lb/mmBtu} = \text{lb/dscf} \times \text{f-factor} \times \frac{100}{\%CO_2}$$

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



**SO<sub>2</sub> CALCULATION**  
(CO<sub>2</sub> Based)

lb/dscf =  $1.660 \times 10^{-7}$  x PPM

lb/mmBtu = lb/dscf x f-factor x  $\frac{100}{\%CO_2}$

lb/hour = lb/dscf x dscfm x 60 min./hr

The following is used to convert ppm dry to ppm wet.

$$\text{ppm dry} \times \left(1 - \frac{\% \text{ moisture}}{100}\right) = \text{ppm wet}$$

Calculate the arithmetic mean of the differences,  $d$ , of a data set as follows:

$$\bar{d} = \frac{1}{n} \sum_{i=1}^n d_i$$

Where:

$n$  = Number of data points

$\sum_{i=1}^n d_i$  = Algebraic sum of the individual differences  $d_i$

$d_i$  = The difference between a reference method value and the corresponding continuous emissions monitoring system value ( $RM_i - CEM_i$ ) at a given point in time  $i$ .

When calculating the arithmetic mean of the difference of a flow monitor data set, be sure to correct the monitor measurements for moisture if applicable.

Calculate the confidence coefficient (one-tailed), CC, of a data set as follows:

$$CC = t_{0.025} \frac{S_{\sigma}}{\sqrt{n}}$$

Where:

$t_{0.025}$  = t value (see Table 7-1).

TABLE 7-1 T-VALUES

n-1	$t_{0.025}$	n-1	$t_{0.025}$	n-1	$t_{0.025}$
1	12.076	12	2.179	23	2.069
2	4.303	13	2.160	24	2.064
3	3.182	14	2.145	25	2.060
4	2.775	15	2.131	26	2.056
5	2.571	16	2.120	27	2.052
6	2.447	17	2.110	28	2.048
7	2.365	18	2.101	29	2.045
8	2.306	19	2.093	30	2.042
9	2.262	20	2.086	40	2.021
10	2.228	21	2.080	60	2.000
11	2.201	22	2.074	>60	1.960

Calculate the standard deviation,  $S_d$ , of a data set as follows:

$$S_d = \sqrt{\frac{\sum_{i=1}^n d_i^2 - \frac{\left(\sum_{i=1}^n d_i\right)^2}{n}}{n-1}}$$

The following equation is used to calculate the relative accuracy of a data set:

$$RA = \frac{|\bar{d}| + |cc|}{RM} \times 100$$

Where:

RM = Arithmetic mean of the reference method values.

$|\bar{d}|$  = The absolute value of the mean difference between the reference method values and the corresponding continuous emissions monitoring system values.

$|cc|$  = The absolute value of the confidence coefficient.

#### BIAS ADJUSTMENT CALCULATION

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

## SAMPLING SYSTEM BIAS CORRECTION

### EMISSION CALCULATION (CFR 40, Part 60, Appendix A)

Eq. 6C-1

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

Where:

- $C_{gas}$  = Effluent gas concentration, dry basis, ppm.
- $\bar{C}$  = 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.

## VELOCITY NOMENCLATURE

A	=	cross-sectional area of stack, (ft <sup>2</sup> )
acf	=	actual cubic feet
acfm	=	actual cubic feet per minute
B <sub>ws</sub>	=	water vapor in the gas stream, proportion by volume
C <sub>p</sub>	=	pitot tube coefficient, dimensionless
dscf	=	dry standard cubic feet
dscm	=	dry standard cubic meters
fps	=	feet per second
gm-mole	=	gram-mole
ΔH	=	orifice pressure drop in inches water, average
hr	=	hour
I	=	percent of isokinetic sampling
In. Hg	=	inches mercury
lbs	=	pounds
lb-mole	=	pound-mole
%M	=	percent moisture by volume
mmBtu	=	million Btu
M <sub>s</sub>	=	molecular weight of stack gas, wet basis, (lb/lb-mole)
n	=	total number of traverse points
P <sub>b</sub>	=	barometric pressure at the sampling site, (in Hg)
P <sub>f</sub>	=	static pressure in flue in inches water, average
P <sub>s</sub>	=	absolute stack gas pressure, (in. Hg)
P <sub>std</sub>	=	standard absolute pressure, (29.92 in. Hg)
Q <sub>sd</sub>	=	dry volumetric stack gas flow rate corrected to standard conditions, (dscf/hr)
$\sqrt{\Delta P}$	=	square root of velocity head in inches water, average
scf	=	standard cubic feet
scm	=	standard cubic meters
T <sub>m</sub>	=	absolute average DGM temperature, (°R)
T <sub>s</sub>	=	absolute average stack gas temperature, (°R)
T <sub>std</sub>	=	standard absolute temperature, (528 °R)
V <sub>l</sub>	=	volume of condensate through the impingers, ml
V <sub>lc</sub>	=	total volume of liquid collected in impingers and silica gel, ml
V <sub>m</sub>	=	volume of gas sample as measured by dry gas meter, (dcf)
V <sub>m(std)</sub>	=	volume of gas sample measured by the dry gas meter, corrected to standard conditions, (dscf)
V <sub>o</sub>	=	volume of flue gas at actual conditions in cubic feet per minute
V <sub>w(std)</sub>	=	volume of water vapor in the gas sample, corrected to standard conditions, (scf)
V <sub>wc</sub>	=	volume of water condensed in impingers corrected to standard conditions
V <sub>wsg</sub>	=	volume of water collected in silica gel corrected to standard conditions
V <sub>s</sub>	=	average stack gas velocity, (ft/sec)
W <sub>sg</sub>	=	weight gain of impinger silica gel in grams
Y	=	dry gas meter calibration factor
*	=	total sampling time, min



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MOISTURE DATA SHEET

STAPP						Date: 12-10-01		
No: 01-315						Operator: Nichols / Givens		
Sampling Location: UOita						Run No. 1/12		
Barometric Pressure: 30.21						Probe Number:		
Condensate: 61 ml						Silica Gel: 4.5		
Meter Corr. Factor: 1.09						Meter Orifice: 3.0778		Meter #: 4A
Sample Pt. Time: 5min						Leak Test @ (in. HG)		After @ (in. HG)
Sample Point		Delta H	Probe	Imp. Out	Meter In	Meter Out	Vac. Pr (in. HG)	Dry Gas Meter Reading in Cu. Ft.
	Start Time							163.700
5	8:36	1.798	250	58	91	91	3	157.468
10		↓	↓	58	95	91	↓	161.216
15				58	<del>100</del> 98	91		164.963
20				59	100	91		168.712
25				60	103	90		172.460
30				61	104	91		176.207
			↓	↓				↓
	Stop Time							
AVG.	9:06				95			22.487

**GRACE CONSULTING, INC.**  
MOISTURE DATA SHEET

Client: <u>STRPD</u>				Date: <u>12-10-01</u>			
Project No: <u>01-315</u>				Operator: <u>Nichols/Givens</u>			
Sampling Location: <u>Unit 2</u>				Run No. <u>2 (344)</u>			
Barometric Pressure: <u>30.21</u>				Probe Number			
Condensate: <u>61.9</u>				Silica Gel: <u>7.7</u>			
Meter Corr. Factor: <u>1.017</u>				Meter Orifice: <u>3.2978</u>		Meter #: <u>4 A</u>	
Sample Pt. Time: <u>5 min</u>				Leak Test @ (in. HG)		After @ (in. HG)	
						.001 @ 15 in	
						.001 @ 15 in	
Sample Point	Delta H	Probe	Imp. Out	Meter In	Meter Out	Vac. Pr (in. HG)	Dry Gas Meter Reading in Cu. Ft.
							176.400
5	1.798	250	55	91	90	3	180.148
10			56	94	89		183.895
15			57	94	89		187.641
20			57	93	86		191.388
25			59	91	84		195.134
30			61	92	84		198.880
Start Time							
9:35							
Stop Time							
10:05							
<b>AVG.</b>	<u>1.798</u>				<u>90</u>		<u>22.480</u>

# GRACE CONSULTING, INC.

## MOISTURE DATA SHEET

Client: <u>SJRP</u>					Date: <u>12-12-01</u>			
Project No: <u>01-315</u>					Operator: <u>Nichols</u>			
Sampling Location <u>Unit 2</u>					Run No. <u>high 3 (S24)</u>			
Barometric Pressure <u>30.35</u>					Probe Number			
Condensate <u>47.8</u>					Silica Gel <u>14.9</u>			
Meter Corr. Factor <u>1.017</u>					Meter Orifice <u>3.2978</u>		Meter # <u>4A</u>	
Sample Pt. Time <u>5min</u>					Leak Test @ (in. HG)		After @ (in. HG)	
Sample Point		Delta H	Probe	Imp. Out	Meter In	Meter Out	Vac. Pr (in. HG)	Dry Gas Meter Reading in Cu. Ft.
	Start Time							4.000
5	8:52	1.798	250	59	86	86	3	7.747
10		↓	↓	59	94	87	↓	11.495
15		↓	↓	60	95	87	↓	15.241
20		↓	↓	61	98	87	↓	18.988
25		↓	↓	62	100	88	↓	22.736
30		↓	↓	64	101	89	↓	26.483
	Stop Time							
AVG.	9:22					91.5		22.483

MOISTURE FIELD DATA SHEETS

CLIENT: 5JRP	DATE: 12-12-01
PROJECT NO.: 01-315	OPERATOR: Nichols
SAMPLING LOCATION: Unit 2	METER ORifice: 3.2978
BAROMETRIC PRESSURE: 30.35	METER CORR. FACTOR: 1.017
SAMPLE FT. TIME: 5min	UNIT LOAD: high PROBE NO:

LEAK CHECK: BEFORE .001 @ 15in AFTER .001 @ 5in

RUN NO.	748 FLOW	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (CL. FL.)
					IMP. OUT	METER IN	METER OUT		INITIAL READING
	2								26.505
START TIME	9:30	1	1.798	250	56	91	89	3	30.252
STOP TIME	10:00	2			57	100	89		33.990
SILICA GEL	13.8	3			57	102	89		37.745
CONDENSATE	47.1	4			58	103	90		41.492
		5			59	104	90		45.239
		6	↓	↓	61	105	91	↓	48.987
AVG.							95		22.482

LEAK CHECK: BEFORE .001 @ 15in AFTER .002 @ 4in

RUN NO.	9410 FLOW	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (CL. FL.)
					IMP. OUT	METER IN	METER OUT		INITIAL READING
	3								49.093
START TIME	10:08	1	1.798	250	54	94	90	3	52.840
STOP TIME	10:38	2			55	98	90		56.588
SILICA GEL	14.2	3			56	101	90		60.334
CONDENSATE	46.3	4			57	104	91		64.082
		5			58	105	91		67.829
		6	↓	↓	60	105	91	↓	71.303
AVG.							96		22.210

LEAK CHECK: BEFORE .001 @ 14in AFTER .001 @ 5in

RUN NO.	11412 FLOW	SAMPLE POINT	DELTA H	PROBE TEMP.	TEMPERATURE DEGREE FAHRENHEIT			VAC. PR. (In. Hg)	DRY GAS VOLUME (CL. FL.)
					IMP. OUT	METER IN	METER OUT		INITIAL READING
	4								71.500
START TIME	10:47	1	1.798	250	55	93	90	3	75.247
STOP TIME	11:17	2			56	98	90		78.995
SILICA GEL	13.9	3			57	102	90		82.743
CONDENSATE	47.2	4			58	103	90		86.490
		5			59	103	91		90.238
		6	↓	↓	61	104	91	↓	93.985
AVG.							95		22.485

MOISTURE FIELD DATA SHEETS

CLIENT: **SJRRP** DATE: **12-12-01**  
 PROJECT NO.: **01-315** OPERATOR: **Nichols**  
 SAMPLING LOCATION: **Unit 2** METER-OFFICE: **3.2978**  
 BAROMETRIC PRESSURE: **30.35** METER CORR. FACTOR: **1.017**  
 SAMPLE PT. TIME: **5min** UNIT LOAD: **high** PROBE NO:

LEAK CHECK: BEFORE .001 @ 15in AFTER .001 @ 15in

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)	
								STARTING READING	ENDING READING
5	1	1.798	250	55	93	90	3	94.120	97.867
START TIME	11:25								
STOP TIME	11:55			56	100	90			101.615
SILICA GEL	13.5			58	103	90			105.363
CONDENSATE	47.3			58	103	90			109.111
	5			59	104	90			112.855
	6	↓	↓	60	104	91	↓		116.605
AVG.						96			22.485

LEAK CHECK: BEFORE .001 @ 15in AFTER .001 @ 15in

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)	
								STARTING READING	ENDING READING
6	1	1.798	250	54	84	84	3	116.800	120.547
START TIME	12:48								
STOP TIME	13:18			55	89	84			124.295
SILICA GEL	14.1			57	93	84			128.042
CONDENSATE	46.8			57	95	84			131.789
	5			58	98	85			135.537
	6	↓	↓	60	97	85	↓		139.284
AVG.						89			22.484

LEAK CHECK: BEFORE .001 @ 15in AFTER .001 @ 15in

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)	
								STARTING READING	ENDING READING
7	1	1.798	250	54	91	85	3	139.600	<del>143.347</del>
START TIME	<del>13:00</del>								
STOP TIME	13:59			56	97	86			<del>147.095</del>
SILICA GEL	14.2			56	98	86			<del>150.842</del>
CONDENSATE	46.3			57	100	86			<del>154.590</del>
	5			58	101	87			<del>158.33</del>
	6	↓	↓	59	102	87	↓		<del>162.084</del>
AVG.						92			22.484

MOISTURE FIELD DATA SHEETS

CLIENT: <b>SJRPP</b>	DATE: <b>12-12-01</b>
PROJECT NO.: <b>01-315</b>	OPERATOR: <b>Nichols</b>
SAMPLING LOCATION: <b>Unit 2</b>	METER ORifice: <b>3.2978</b>
BAROMETRIC PRESSURE: <b>30.35</b>	METER CORR. FACTOR: <b>1.017</b>
SAMPLE PT. TIME: <b>5min</b>	UNIT LOAD: <b>High</b> PROBE NO:

LEAK CHECK: BEFORE .001 @ 15 in    AFTER .0016 @ 5 in

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	TEMPERATURE DEGREE FAHRENHEIT			VAC. PL. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)
					METER IN	METER OUT	INITIAL READING		
8	1	1.798	250	54	89	88	3	162.200	
START TIME	18:56							165.948	
STOP TIME	14:26	2		55	98	88		169.675	
SILICA GEL	42.46	3		56	102	88		173.442	
CONDENSATE	47.3	4		57	102	89		177.189	
		5		58	103	90		180.936	
		6		59	104	90		184.648	
AVG.						94		22.488	

LEAK CHECK: BEFORE .001 @ 15 in    AFTER .001 @ 5 in

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	TEMPERATURE DEGREE FAHRENHEIT			VAC. PL. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)
					METER IN	METER OUT	INITIAL READING		
9	1	1.798	253	55	92	89	3	184.800	
START TIME	14:31							188.548	
STOP TIME	15:01	2		56	101	90		192.295	
SILICA GEL	13.4	3		57	103	90		196.043	
CONDENSATE	48.2	4		58	104	90		199.790	
		5		59	104	90		203.537	
		6		61	105	91		207.286	
AVG.						96		22.486	

LEAK CHECK: BEFORE .001 @ 15 in    AFTER .000 @ 5 in

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	TEMPERATURE DEGREE FAHRENHEIT			VAC. PL. (In. Hg)	DRY GAS VOLUME (Cu. Ft.)
					METER IN	METER OUT	INITIAL READING		
10	1	1.788	250	54	91	90	3	207.400	
START TIME	15:09							211.147	
STOP TIME	15:39	2		55	100	90		214.895	
SILICA GEL	14.3	3		56	102	90		218.642	
CONDENSATE	47.2	4		57	105	91		222.390	
		5		58	105	91		226.137	
		6		59	106	92		229.889	
AVG.						96		22.449	



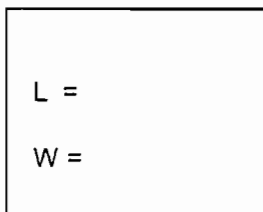
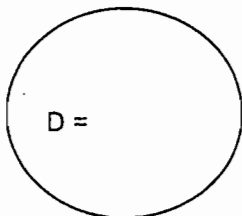
# GRACE CONSULTING, INC.

## VELOCITY TRAVERSE DATA SHEET

Client: <u>STRPD</u>		Date: <u>12-10-01</u>						
Project No. <u>01-315</u>		Operator: <u>Nichols / Givens</u>						
Sampling Location <u>Unit #2</u>		Run No. <u>2</u>						
Barometric Pressure <u>30.21</u>		Assumed % Moisture <u>12%</u>						
Pitot Coefficient		Probe No.						
Pitot No. <u>S-1004</u>		Ambient Temperature <u>80</u>						
Pitot Leak Test								
Before: <u>good</u>				After: <u>good</u>				
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %	
A 1	Start Time  8:50	1.2	1.095	139				
2		1.2	1.095	139				
3		1.1	1.049	139	.78	5.7	13.7	
4		1.0	1.000	139				
B 1		1.2	1.095	139				
2		1.3	1.140	139				
3		1.2	1.095	139				
4		1.0	1.000	139				
C 1		1.3	1.140	139				
2		1.2	1.095	139				
3		1.1	1.049	140				
4		.98	.990	140				
D 1		1.3	1.140	139				
2		1.2	1.095	139				
3		1.2	1.095	139				
4		1.0	1.000	139				
	Stop Time							
	9:04		1.073	139	.78			

Which Port is North?

Check for Ambient Air





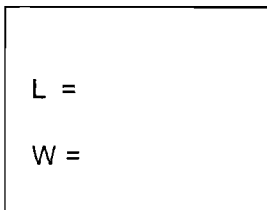
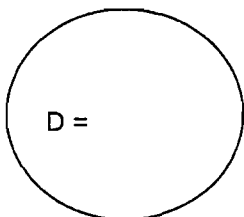
GRACE CONSULTING, INC.

VELOCITY TRAVERSE DATA SHEET

Client: STBPP		Date: 12-10-01					
Project No. 01-315		Operator: Nicholas					
Sampling Location 02118		Run No. 3					
Barometric Pressure 30.21		Assumed % Moisture 12%					
Pitot Coefficient		Probe No.					
Pitot No. S-1004		Ambient Temperature 80					
Pitot Leak Test							
Before: good				After: good			
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %
A 1	Start Time 9:35	1.2	1.095	140			
2		1.3	1.140	141			
3		1.1	1.049	140	.78	5.8	13.5
4		1.0	1.000	140			
B 1		1.2	1.095	140			
2		1.2	1.095	140			
3		1.3	1.140	140			
4		1.0	1.000	140			
C 1		1.2	1.095	140			
2		1.2	1.095	140			
3		1.1	1.049	140			
4		.97	.985	140			
D 1		1.2	1.095	140			
2		1.2	1.095	140			
3		1.1	1.049	140			
4		.99	.995	140			
	Stop Time 9:43						
			1.067		140	.78	

Which Port is North?

Check for Ambient Air



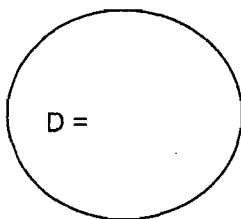
# GRACE CONSULTING, INC.

## VELOCITY TRAVERSE DATA SHEET

Client: STRPP		Date: 12-10-01					
Project No. 01-215		Operator: Nichols/Givens					
Sampling Location Unit 2		Run No. 4					
Barometric Pressure 30.21		Assumed % Moisture 12%					
Pitot Coefficient		Probe No.					
Pitot No. S-1004		Ambient Temperature 80					
Pitot Leak Test							
Before: good				After: good			
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %
A 1	Start Time 9:44	1.2	1.095	140			
2		1.2	1.095	140			
3		1.1	1.049	140	.75	5.8	13.5
4		1.0	1.000	140			
B 1		1.2	1.095	140			
2		1.3	1.140	140			
3		1.2	1.095	140			
4		1.0	1.000	140			
C 1		1.2	1.095	140			
2		1.3	1.140	140			
3		1.1	1.049	140			
4		.98	.990	140			
D 1		1.2	1.095	140			
2		1.3	1.140	140			
3		1.1	1.049	140			
4		1.0	1.000	140			
	Stop Time 9:52						
			1.070	140	.75		

Which Port is North?

Check for Ambient Air



L =

W =

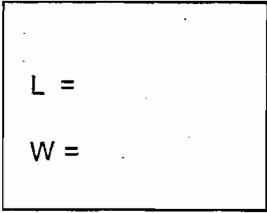
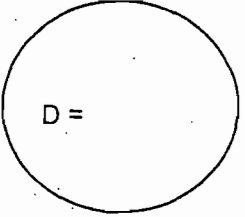
GRACE CONSULTING, INC.

VELOCITY TRAVERSE DATA SHEET

Client: <u>STRPP</u>				Date: <u>12-12-01</u>			
Project No. <u>01-315</u>				Operator: <u>Nichols/Givens</u>			
Sampling Location <u>Unit 2</u>				Run No. <u>45</u>			
Barometric Pressure <u>30.35</u>				Assumed % Moisture <u>12%</u>			
Pitot Coefficient <u>.8285</u>				Probe No.			
Pitot No. <u>54004 2610</u>				Ambient Temperature <u>86</u>			
Pitot Leak Test							
Before: <u>good</u>				After:			
Sample Point	Time	Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %
D 1	<u>8:50</u>	<u>1.3</u>	<u>1.140</u>	<u>141</u>			
2		<u>1.3</u>	<u>1.140</u>	<u>141</u>			
3		<u>1.2</u>	<u>1.095</u>	<u>141</u>			
4		<u>1.1</u>	<u>1.049</u>	<u>141</u>			
A 1		<u>1.3</u>	<u>1.140</u>	<u>141</u>			
2		<u>1.3</u>	<u>1.146</u>	<u>141</u>			
3		<u>1.2</u>	<u>1.095</u>	<u>141</u>			
4		<u>1.0</u>	<u>1.000</u>	<u>141</u>			
B 1		<u>1.2</u>	<u>1.095</u>	<u>141</u>			
2		<u>1.3</u>	<u>1.140</u>	<u>141</u>	<u>.78</u>		
3		<u>1.1</u>	<u>1.049</u>	<u>141</u>			
4		<u>.99</u>	<u>.995</u>	<u>141</u>			
C 1		<u>1.3</u>	<u>1.140</u>	<u>140</u>			
2		<u>1.2</u>	<u>1.095</u>	<u>140</u>			
3		<u>1.2</u>	<u>1.095</u>	<u>140</u>			
4		<u>1.0</u>	<u>1.000</u>	<u>140</u>			
<del>D 1</del>							
<del>D 2</del>							
		<u>9:02</u>		<u>1.088</u>	<u>141</u>	<u>.78</u>	

Which Port is North?

Check for Ambient Air

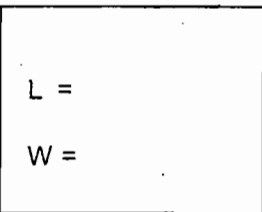
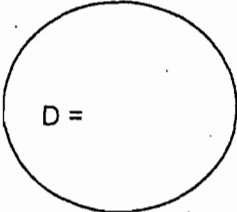


**GRACE CONSULTING, INC.**  
VELOCITY TRAVERSE DATA SHEET

Client: <i>SRPP</i>		Date: <i>12-12-01</i>					
Project No. <i>01-315</i>		Operator: <i>Nichols/Givens</i>					
Sampling Location Unit		Run No. <i>26</i>					
Barometric Pressure <i>30.35</i>		Assumed % Moisture <i>12%</i>					
Pitot Coefficient <i>.8285</i>		Probe No.					
Pitot No. <i>S-1004 2610</i>		Ambient Temperature <i>86</i>					
Pitot Leak Test							
Before: <i>good</i>				After: <i>good</i>			
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %
<i>C1</i>	Start Time <i>9:06</i>	<i>1.3</i>	<i>1.140</i>	<i>140</i>			
<i>2</i>		<i>1.3</i>	<i>1.140</i>	<i>141</i>			
<i>3</i>		<i>1.2</i>	<i>1.095</i>	<i>141</i>			
<i>4</i>		<i>1.0</i>	<i>1.000</i>	<i>141</i>			
<i>B1</i>		<i>1.2</i>	<i>1.095</i>	<i>141</i>			
<i>2</i>		<i>1.3</i>	<i>1.140</i>	<i>141</i>	<i>-.78</i>		
<i>3</i>		<i>1.1</i>	<i>1.049</i>	<i>141</i>			
<i>4</i>		<i>.98</i>	<i>.990</i>	<i>141</i>			
<i>A1</i>		<i>1.3</i>	<i>1.140</i>	<i>141</i>			
<i>2</i>		<i>1.3</i>	<i>1.140</i>	<i>141</i>			
<i>3</i>		<i>1.2</i>	<i>1.095</i>	<i>141</i>			
<i>4</i>		<i>1.0</i>	<i>1.000</i>	<i>141</i>			
<i>D1</i>		<i>1.2</i>	<i>1.095</i>	<i>141</i>			
<i>2</i>		<i>1.3</i>	<i>1.140</i>	<i>141</i>			
<i>3</i>		<i>1.3</i>	<i>1.140</i>	<i>141</i>			
<i>4</i>		<i>1.1</i>	<i>1.049</i>	<i>141</i>			
	Stop Time						
		<i>9:21</i>		<i>1.091</i>	<i>141</i>	<i>.78</i>	

Which Port is North?

Check for Ambient Air



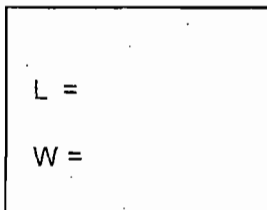
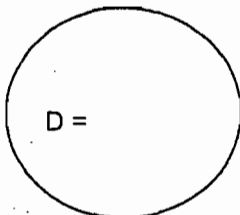
# GRACE CONSULTING, INC.

## VELOCITY TRAVERSE DATA SHEET

Client: SJRPP		Date: 12-12-01					
Project No. 01-815		Operator: Nichols / Givens					
Sampling Location Unit 2		Run No. 87 high					
Barometric Pressure 30.35		Assumed % Moisture 12%					
Pitot Coefficient .6285		Probe No.					
Pitot No. <del>87004</del> 2610		Ambient Temperature 86					
Pitot Leak Test							
Before: good				After: good			
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %
C	1	1.3	1.140	141			
	2	1.3	1.140	141			
	3	1.2	1.095	141			
	4	1.1	1.049	141			
B	1	1.3	1.140	141			
	2	1.2	1.095	141	.79		
	3	1.2	1.095	141			
	4	.99	.995	141			
A	1	1.3	1.140	141			
	2	1.3	1.140	141			
	3	1.2	1.095	141			
	4	1.0	1.000	141			
D	1	1.2	1.095	141			
	2	1.3	1.140	141			
	3	1.2	1.095	141			
	4	.99	.995	141			
Stop Time							
9:44			1.091	141	.79		

Which Port is North?

Check for Ambient Air

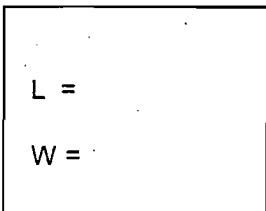
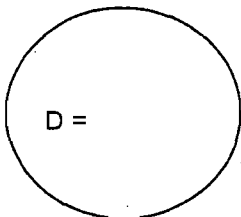


GRACE CONSULTING, INC.  
VELOCITY TRAVERSE DATA SHEET

Client: <u>8JRPP</u>			Date: <u>12-12-01</u>					
Project No. <u>01-315</u>			Operator: <u>Nichols/Givens</u>					
Sampling Location <u>Unit 2</u>			Run No. <u>48 high</u>					
Barometric Pressure <u>30.35</u>			Assumed % Moisture <u>10%</u>					
Pitot Coefficient <u>.8285</u>			Probe No.					
Pitot No. <u>2610</u>			Ambient Temperature <u>86</u>					
Pitot Leak Test								
Before: <u>good</u>				After: <u>good</u>				
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %	
D 1	Start Time	1.2	1.095	141				
2		1.2	1.095	141				
3		1.3	1.140	141				
4		9:45	.98	.990	141			
A 1	Stop Time	1.3	1.140	141				
2		1.3	1.140	141				
3		1.3	1.140	141				
4		1.0	1.000	141				
B 1		1.3	1.140	141				
2		1.3	1.140	141	.79			
3		1.2	1.095	141				
4		<del>1.0</del> .98	.990	141				
C 1		1.3	1.140	141				
2		1.2	1.095	141				
3		1.2	1.095	141				
4		1.1	1.049	141				
	9:59		1.093	141	.79			

Which Port is North?

Check for Ambient Air





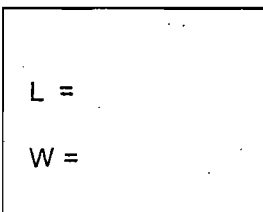
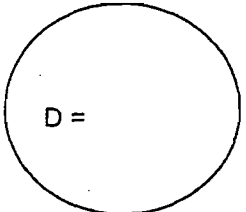
# GRACE CONSULTING, INC.

## VELOCITY TRAVERSE DATA SHEET

Client: <u>STRPP</u>		Date: <u>12-12-01</u>						
Project No. <u>01-315</u>		Operator: <u>Nichols/Givens</u>						
Sampling Location <u>Unit 2</u>		Run No. <u>6 High 10</u>						
Barometric Pressure <u>30.35</u>		Assumed % Moisture <u>12%</u>						
Pitot Coefficient <u>.845 .8285</u>		Probe No.						
Pitot No. <u>S-1004 2610</u>		Ambient Temperature <u>86</u>						
Pitot Leak Test								
Before: <u>good</u>			After: <u>good</u>					
Sample Point		Delta P.	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %	
D 1	Start Time  10:23	1.3	1.146	141				
2		1.2	1.095	141				
3		1.3	1.140	141				
4		.96	.990	141				
A 1		1.3	1.140	140				
2		1.3	1.146	141				
3		1.2	1.095	141				
4		1.0	1.000	141				
B 1		1.3	1.146	141				
2		1.2	1.095	141	.79			
3		1.2	1.095	141				
4		1.0	1.000	141				
C 1		1.3	1.140	141				
2		1.3	1.146	141				
3		1.2	1.095	141				
4		.99	.995	141				
					141			
	Stop Time							
	10:37		1.090	141	.79			

Which Port is North?

Check for Ambient Air





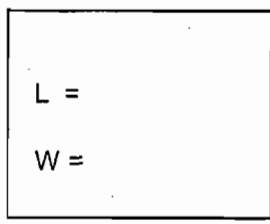
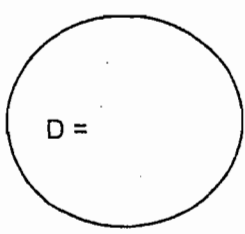
# GRACE CONSULTING, INC.

## VELOCITY TRAVERSE DATA SHEET

Client: SJRPP		Date: 12-12-01						
Project No. 01-315		Operator: Nichols/Givens						
Sampling Location Unit 2		Run No. 7 High 11						
Barometric Pressure 30.35		Assumed % Moisture 12%						
Pitot Coefficient <del>0.245</del> .8285		Probe No.						
Pitot No. <del>5104</del> 2610		Ambient Temperature 86						
Pitot Leak Test								
Before: good		After: good						
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %	
D 1	Start Time  10:47	1.3	1.140	141				
2		1.3	1.140	141				
3		1.2	1.095	141				
4		.99	.995	141				
A 1		1.2	1.095	141				
2		1.3	1.140	141				
3		1.3	1.140	141				
4		1.0	1.000	141				
B 1		1.3	1.140	141		.78		
2		1.2	1.095	141				
3		1.2	1.095	141				
4		1.1	1.049	141				
C 1		1.3	1.140	141				
2		1.3	1.140	141				
3		1.2	1.095	141				
4		1.0	1.000	141				
	Stop Time							
	11:01		1.094	141		.78		

Which Port is North?

Check for Ambient Air

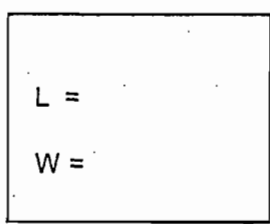
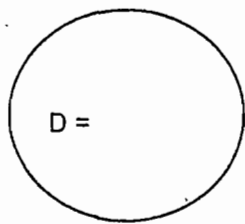


# GRACE CONSULTING, INC.

## VELOCITY TRAVERSE DATA SHEET

Client: <u>SJAPP</u>			Date: <u>12-12-01</u>					
Project No. <u>01-315</u>			Operator: <u>Nichols/Guans</u>					
Sampling Location <u>Unit 2</u>			Run No. <u>8 high 12</u>					
Barometric Pressure <u>30.35</u>			Assumed % Moisture <u>12%</u>					
Pitot Coefficient <u>.8245 .8285</u>			Probe No.					
Pitot No. <u><del>51004</del> 2610</u>			Ambient Temperature <u>86</u>					
Pitot Leak Test								
Before: <u>good</u>			After: <u>good</u>					
Sample Point		Delta P	SQRT Delta P	Stack Temp.	Static Pressure	O2 %	CO2 %	
<u>C1</u>	Start Time <u>11:02</u>	<u>1.3</u>	<u>1.140</u>	<u>141</u>				
<u>2</u>		<u>1.3</u>	<u>1.140</u>	<u>141</u>				
<u>3</u>		<u>1.2</u>	<u>1.095</u>	<u>141</u>				
<u>4</u>		<u>.99</u>	<u>.995</u>	<u>141</u>				
<u>B1</u>	Vertical Column	<u>1.3</u>	<u>1.140</u>	<u>141</u>				
<u>2</u>		<u>1.3</u>	<u>1.140</u>	<u>141</u>	<u>.78</u>			
<u>3</u>		<u>1.2</u>	<u>1.095</u>	<u>141</u>				
<u>4</u>		<u>1.0</u>	<u>1.000</u>	<u>141</u>				
<u>A1</u>		<u>1.2</u>	<u>1.095</u>	<u>141</u>				
<u>2</u>		<u>1.3</u>	<u>1.140</u>	<u>141</u>				
<u>3</u>		<u>1.2</u>	<u>1.095</u>	<u>141</u>				
<u>4</u>		<u>1.0</u>	<u>1.000</u>	<u>141</u>				
<u>D1</u>		<u>1.3</u>	<u>1.140</u>	<u>141</u>				
<u>2</u>		<u>1.3</u>	<u>1.140</u>	<u>141</u>				
<u>3</u>		<u>1.2</u>	<u>1.095</u>	<u>141</u>				
<u>4</u>		<u>.98</u>	<u>.990</u>	<u>141</u>				
	Stop Time							
		<u>11:16</u>	<u>1.00</u>	<u>141</u>	<u>.78</u>			

Which Port is North? Check for Ambient Air



Test Run 1 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2	CO2	NOx	SO2
		%	%	ppm	ppm
Start Averaging					
12/12/01	8:53:12	6.07	13.32	299.20	159.78
12/12/01	8:54:11	6.05	13.42	298.70	160.57
12/12/01	8:55:11	6.01	13.38	301.80	160.00
12/12/01	8:56:12	6.13	13.35	299.00	157.47
12/12/01	8:57:12	6.06	13.52	296.40	156.64
12/12/01	8:58:11	5.91	13.61	295.40	156.56
12/12/01	8:59:11	5.91	13.52	299.30	154.64
12/12/01	9:00:12	6.22	13.29	305.20	149.23
12/12/01	9:01:12	6.27	13.38	301.60	148.12
12/12/01	9:02:11	6.05	13.58	295.30	149.90
12/12/01	9:03:11	5.98	13.56	298.60	150.41
12/12/01	9:04:12	6.11	13.50	301.10	150.94
12/12/01	9:05:12	6.12	13.53	300.00	149.75
12/12/01	9:06:11	6.07	13.59	297.90	149.30
12/12/01	9:07:10	5.99	13.66	299.50	149.97
12/12/01	9:08:12	6.06	13.56	299.50	149.75
12/12/01	9:09:11	6.03	13.67	297.90	153.02
12/12/01	9:10:11	6.04	13.63	299.60	154.79
12/12/01	9:11:13	6.06	13.57	299.90	153.85
12/12/01	9:12:12	6.05	13.63	298.10	154.87
12/12/01	9:13:11	6.03	13.69	296.80	155.60
Test Run 1 End					
Average	549 sampl	6.06	13.53	299.10	153.30

Test Run 2 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2 %	CO2 %	NOx ppm	SO2 ppm
Start Averaging					
12/12/01	9:31:18	5.95	13.57	300.50	159.28
12/12/01	9:32:17	6.08	13.47	300.30	156.56
12/12/01	9:33:19	6.10	13.52	297.20	155.99
12/12/01	9:34:18	6.08	13.58	301.90	155.86
12/12/01	9:35:18	6.04	13.59	301.60	154.10
12/12/01	9:36:17	6.09	13.54	302.40	151.92
12/12/01	9:37:19	6.06	13.64	299.10	151.90
12/12/01	9:38:18	6.03	13.59	298.40	153.64
12/12/01	9:39:17	6.09	13.59	300.00	153.98
12/12/01	9:40:17	5.99	13.70	296.90	156.67
12/12/01	9:41:18	5.98	13.66	298.40	155.37
12/12/01	9:42:18	6.06	13.67	298.70	154.70
12/12/01	9:43:17	6.11	13.52	302.00	153.75
12/12/01	9:44:17	6.25	13.47	296.90	152.40
12/12/01	9:45:18	6.10	13.67	300.40	154.46
12/12/01	9:46:18	5.96	13.74	300.60	156.32
12/12/01	9:47:17	6.05	13.65	296.80	154.25
12/12/01	9:48:19	6.06	13.67	297.00	155.44
12/12/01	9:49:18	6.01	13.74	296.50	155.97
12/12/01	9:50:18	5.97	13.76	299.00	154.84
12/12/01	9:51:17	6.08	13.63	303.30	152.47
Test Run 2 End					
Average	572 sampl	6.05	13.62	299.40	154.75

Test Run 3 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2 %	CO2 %	NOx ppm	SO2 ppm
Start Averaging					
12/12/01	10:09:22	6.034	13.48	303.20	158.00
12/12/01	10:10:23	5.993	13.51	298.20	159.08
12/12/01	10:11:23	5.959	13.58	297.60	159.22
12/12/01	10:12:22	6.043	13.45	304.40	157.10
12/12/01	10:13:22	6.102	13.53	297.30	156.00
12/12/01	10:14:23	5.947	13.64	295.40	157.30
12/12/01	10:15:23	6.146	13.43	302.90	153.20
12/12/01	10:16:22	6.266	13.37	304.00	151.42
12/12/01	10:17:24	6.158	13.47	305.00	152.67
12/12/01	10:18:23	6.207	13.45	299.60	152.75
12/12/01	10:19:23	6.129	13.58	301.70	155.20
12/12/01	10:20:22	5.978	13.69	299.50	155.91
12/12/01	10:21:24	6.058	13.55	299.30	154.65
12/12/01	10:22:23	6.273	13.42	303.90	151.50
12/12/01	10:23:23	6.216	13.53	301.60	153.02
12/12/01	10:24:22	6.127	13.55	301.20	156.04
12/12/01	10:25:24	6.076	13.62	300.30	158.35
12/12/01	10:26:23	6.101	13.60	297.30	156.46
12/12/01	10:27:23	6.172	13.53	299.70	154.26
12/12/01	10:28:22	6.225	13.51	298.10	154.33
12/12/01	10:29:24	6.028	13.73	293.30	157.17
Test Run 3 End					
Average	573 sampl	6.106	13.54	300.10	155.42

Test Run 4 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2	CO2	NOx	SO2
		%	%	ppm	ppm
Start Averaging					
12/12/01	10:48:17	6.155	13.39	301.50	157.19
12/12/01	10:49:19	6.053	13.53	299.80	158.58
12/12/01	10:50:18	6.065	13.46	301.00	156.35
12/12/01	10:51:18	6.096	13.54	299.00	155.15
12/12/01	10:52:19	5.994	13.61	299.40	154.39
12/12/01	10:53:19	5.983	13.67	299.10	154.50
12/12/01	10:54:18	5.997	13.58	302.90	153.66
12/12/01	10:55:18	6.145	13.52	303.20	154.86
12/12/01	10:56:19	6.02	13.68	305.20	155.93
12/12/01	10:57:19	6.224	13.40	307.30	151.52
12/12/01	10:58:18	6.198	13.52	304.10	153.57
12/12/01	10:59:18	6.15	13.54	298.30	153.64
12/12/01	11:00:19	6.109	13.59	301.20	153.17
12/12/01	11:01:19	6.103	13.65	299.70	153.41
12/12/01	11:02:18	5.94	13.74	297.70	154.14
12/12/01	11:03:18	5.932	13.74	297.40	157.00
12/12/01	11:04:19	6.072	13.64	300.40	155.07
12/12/01	11:05:19	6.051	13.66	299.80	153.68
12/12/01	11:06:18	6.082	13.64	303.70	151.74
12/12/01	11:07:17	6.051	13.66	299.80	151.47
12/12/01	11:08:19	6.132	13.56	304.10	150.94
Test Run 4 End					
Average	573 sampl	6.074	13.59	301.20	154.29

Test Run 5 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2 %	CO2 %	NOx ppm	SO2 ppm
Start Averaging					
12/12/01	11:26:05	6.02	13.55	290.10	158.56
12/12/01	11:27:06	5.90	13.67	289.20	158.70
12/12/01	11:28:06	5.91	13.63	292.10	156.34
12/12/01	11:29:05	6.12	13.45	298.20	152.35
12/12/01	11:30:05	6.15	13.52	296.60	151.08
12/12/01	11:31:06	6.01	13.65	293.00	152.43
12/12/01	11:32:06	6.03	13.64	290.60	153.18
12/12/01	11:33:05	6.05	13.55	293.00	153.97
12/12/01	11:34:05	6.16	13.51	294.90	152.96
12/12/01	11:35:06	6.15	13.57	295.00	152.84
12/12/01	11:36:06	6.11	13.49	294.00	149.58
12/12/01	11:37:05	6.25	13.44	293.40	147.15
12/12/01	11:38:07	6.14	13.57	291.00	149.89
12/12/01	11:39:06	6.12	13.61	291.20	152.50
12/12/01	11:40:06	6.05	13.62	290.80	154.17
12/12/01	11:41:05	6.19	13.51	290.40	152.93
12/12/01	11:42:07	6.18	13.61	287.50	154.65
12/12/01	11:43:06	5.88	13.85	286.30	160.73
12/12/01	11:44:06	5.93	13.80	288.20	161.25
12/12/01	11:45:05	6.02	13.64	289.70	159.11
12/12/01	11:46:07	6.10	13.68	287.30	159.20
Test Run 5 End					
Average	573 sampl	6.07	13.60	291.50	154.45

Test Run 6 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2 %	CO2 %	NOx ppm	SO2 ppm
Start Averaging					
12/12/01	12:49:15	6.06	13.60	294.60	158.30
12/12/01	12:50:17	6.05	13.61	295.10	156.61
12/12/01	12:51:16	6.13	13.52	292.50	154.13
12/12/01	12:52:16	6.12	13.59	290.20	153.53
12/12/01	12:53:15	6.10	13.56	287.30	156.55
12/12/01	12:54:17	5.98	13.65	284.60	163.65
12/12/01	12:55:16	6.15	13.51	289.90	162.54
12/12/01	12:56:16	6.07	13.63	289.40	163.52
12/12/01	12:57:15	5.92	13.73	284.60	163.92
12/12/01	12:58:17	6.03	13.59	286.20	162.42
12/12/01	12:59:16	6.05	13.58	286.90	162.58
12/12/01	13:00:15	6.21	13.47	286.90	161.43
12/12/01	13:01:15	6.10	13.61	282.90	163.58
12/12/01	13:02:16	5.82	13.82	283.60	169.38
12/12/01	13:03:16	5.83	13.73	283.60	169.29
12/12/01	13:04:15	6.09	13.57	289.50	165.34
12/12/01	13:05:17	6.05	13.64	285.40	164.92
12/12/01	13:06:16	5.99	13.66	283.60	164.45
12/12/01	13:07:16	6.06	13.57	288.10	161.80
12/12/01	13:08:15	6.07	13.63	286.70	162.79
12/12/01	13:09:17	6.00	13.69	287.90	167.31
Test Run 6 End					
Average	573 sampl	6.04	13.62	287.60	162.31



Test Run 7 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2 %	CO2 %	NOx ppm	SO2 ppm
Start Averaging					
12/12/01	13:23:15	5.98	13.50	284.30	159.86
12/12/01	13:24:17	5.90	13.54	284.10	164.13
12/12/01	13:25:16	6.11	13.39	285.80	162.74
12/12/01	13:26:15	6.09	13.47	287.40	161.37
12/12/01	13:27:15	6.03	13.49	287.10	160.24
12/12/01	13:28:17	6.02	13.56	285.10	163.16
12/12/01	13:29:16	6.00	13.56	283.70	163.55
12/12/01	13:30:15	6.07	13.51	285.40	162.25
12/12/01	13:31:17	5.96	13.71	282.00	165.35
12/12/01	13:32:16	5.85	13.74	282.30	167.17
12/12/01	13:33:16	5.88	13.70	280.80	168.29
12/12/01	13:34:15	6.05	13.52	284.90	165.99
12/12/01	13:35:17	6.08	13.58	286.70	164.04
12/12/01	13:36:16	5.92	13.74	284.80	164.58
12/12/01	13:37:16	5.94	13.66	286.20	162.88
12/12/01	13:38:15	6.03	13.56	286.90	154.26
12/12/01	13:39:17	6.18	13.51	286.20	158.82
12/12/01	13:40:16	5.96	13.67	285.60	163.70
12/12/01	13:41:16	6.15	13.45	285.10	160.26
12/12/01	13:42:15	6.22	13.48	286.10	159.76
12/12/01	13:43:17	6.05	13.67	283.60	162.82
Test Run 7 End					
Average	573 sampl	6.02	13.57	284.90	162.64

Test Run 8 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2	CO2	NOx	SO2
		%	%	ppm	ppm
Start Averaging					
12/12/01	13:57:20	5.98	13.54	283.90	161.01
12/12/01	13:58:22	5.94	13.50	284.90	163.34
12/12/01	13:59:21	6.08	13.47	283.20	161.87
12/12/01	14:00:20	6.03	13.52	284.10	162.61
12/12/01	14:01:20	5.97	13.60	282.90	164.43
12/12/01	14:02:22	5.91	13.67	281.80	165.13
12/12/01	14:03:21	5.91	13.69	279.30	166.72
12/12/01	14:04:20	5.85	13.61	282.20	167.36
12/12/01	14:05:20	6.14	13.52	286.30	164.12
12/12/01	14:06:21	6.01	13.62	283.70	162.86
12/12/01	14:07:21	5.92	13.75	283.80	163.30
12/12/01	14:08:20	5.76	13.81	286.30	165.73
12/12/01	14:09:20	6.03	13.55	291.10	164.71
12/12/01	14:10:21	6.16	13.44	287.70	164.19
12/12/01	14:11:21	6.17	13.54	285.80	164.40
12/12/01	14:12:20	5.96	13.74	286.90	167.62
12/12/01	14:13:20	5.83	13.74	284.10	170.12
12/12/01	14:14:21	6.12	13.49	289.10	165.58
12/12/01	14:15:21	6.01	13.77	286.60	168.43
12/12/01	14:16:20	5.75	13.81	284.20	170.72
12/12/01	14:17:20	6.04	13.51	289.40	164.91
Test Run 8 End					
Average	573 sampl	5.98	13.61	285.10	165.19

Test Run 9 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		O2 %	CO2 %	NOx ppm	SO2 ppm
Start Averaging					
12/12/01	14:32:19	5.92	13.52	286.30	165.88
12/12/01	14:33:21	5.98	13.41	286.00	166.30
12/12/01	14:34:21	6.06	13.45	288.40	166.47
12/12/01	14:35:20	6.05	13.42	289.40	164.74
12/12/01	14:36:19	6.11	13.47	286.40	163.59
12/12/01	14:37:21	6.01	13.54	287.60	164.45
12/12/01	14:38:21	6.01	13.53	287.00	164.10
12/12/01	14:39:20	6.03	13.56	288.00	165.63
12/12/01	14:40:19	6.07	13.46	289.10	165.86
12/12/01	14:41:21	6.14	13.46	287.10	165.89
12/12/01	14:42:20	6.00	13.67	289.00	167.80
12/12/01	14:43:20	5.91	13.65	285.50	169.49
12/12/01	14:44:19	6.14	13.47	291.10	167.50
12/12/01	14:45:21	6.22	13.41	292.80	166.66
12/12/01	14:46:20	6.08	13.59	288.30	168.52
12/12/01	14:47:20	6.02	13.63	285.70	169.69
12/12/01	14:48:19	5.96	13.71	286.80	170.60
12/12/01	14:49:21	6.02	13.60	289.00	169.95
12/12/01	14:50:20	6.11	13.54	289.20	167.67
12/12/01	14:51:20	5.92	13.81	285.30	170.53
12/12/01	14:52:21	5.96	13.65	286.60	169.19
Test Run 9 End					
Average	573 sampl	6.03	13.55	287.80	167.17

Test Run 10 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 high load

		CO2	NOx	SO2
		%	ppm	ppm
12/12/01	15:10:04	13.36	290.10	162.67
12/12/01	15:11:06	13.46	286.50	164.25
12/12/01	15:12:05	13.51	289.20	165.41
12/12/01	15:13:05	13.59	288.90	166.45
12/12/01	15:14:04	13.50	289.80	164.14
12/12/01	15:15:06	13.48	290.40	162.98
12/12/01	15:16:05	13.60	293.20	164.04
12/12/01	15:17:05	13.55	290.70	162.58
12/12/01	15:18:06	13.61	288.70	164.81
12/12/01	15:19:05	13.57	287.30	165.05
12/12/01	15:20:05	13.59	293.20	164.23
12/12/01	15:21:04	13.58	296.10	164.89
12/12/01	15:22:06	13.63	296.00	168.59
12/12/01	15:23:05	13.69	288.50	170.14
12/12/01	15:24:05	13.73	286.40	170.58
12/12/01	15:25:04	13.68	293.10	171.04
12/12/01	15:26:06	13.48	296.00	168.82
12/12/01	15:27:05	13.57	298.20	167.49
12/12/01	15:28:04	13.59	295.40	169.41
12/12/01	15:29:06	13.59	294.40	169.27
12/12/01	15:30:05	13.49	295.70	168.19
Test Run 10 End				
	averages	13.56	291.80	166.43

MOISTURE FIELD DATA SHEETS

CLIENT: <del>Amphenol - STARK</del> JE4	DATE: 12/11/01
PROJECT NO.: <del>00-01000</del> 01-315	OPERATOR: T. Moody
SAMPLING LOCATION: <del>01-315</del> unit 2 FGD #1	METER-OFFICE: 3.35
BAROMETRIC PRESSURE: 30.27	METER CORR. FACTOR: 974
SAMPLE PT. TIME: 5 min	UNIT LOAD: High PROBE NO: M-5

LEAK CHECK: BEFORE 0100 15" H<sub>2</sub>O AFTER 0150 12" H<sub>2</sub>O

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	TEMPERATURE DEGREE FAHRENHEIT		VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. FL)	
					METER IN	METER OUT		INITIAL READING	FINAL READING
1+2									929.10
START TIME	0800	5	1.966	240	67	75	70	2.0	932.850
STOP TIME	0830	10			65	80	72	2.0	936.600
SILICA GEL	3.1	15			65	87	72	2.0	940.450
CONDENSATE	32	20			66	90	74	2.0	944.150
		25			65	90	74	2.0	947.850
		30			67	94	74	2.0	951.453
AVG.						79.3			22.350

LEAK CHECK: BEFORE AFTER

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	TEMPERATURE DEGREE FAHRENHEIT		VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. FL)	
					METER IN	METER OUT		INITIAL READING	FINAL READING
3H									951.605
START TIME	0915	5	1.966	240	67	79	73	1.0	958.350
STOP TIME	0945	10			64	85	74	1.0	959.100
SILICA GEL	6.2	15			64	90	74	1.0	962.900
CONDENSATE	30	20			63	92	75	1.0	966.600
		25			62	92	75	1.0	970.300
		30			62	92	74	1.0	973.911
AVG.						81.25			22.306

LEAK CHECK: BEFORE AFTER

RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	TEMPERATURE DEGREE FAHRENHEIT		VAC. PR. (In. Hg)	DRY GAS VOLUME (Cu. FL)	
					METER IN	METER OUT		INITIAL READING	FINAL READING
5+6									974.350
START TIME	1035	5	1.966	240	62	86	72	1.0	978.050
STOP TIME	1105	10			66	89	73	1.0	981.900
SILICA GEL	8.0	15			66	90	74	1.0	985.750
CONDENSATE	32	20			66	92	75	1.0	989.550
		25			66	93	75	1.0	993.350
		30			66	93	74	1.0	997.116
AVG.						92.16			22.766

MOISTURE FIELD DATA SHEETS

CLIENT: <del>AmericanUE-Slovak</del> JEA	DATE: 12/11/01
PROJECT NO.: <del>06-010MO</del> 01-315	OPERATOR: T. Moody
SAMPLING LOCATION: Unit 2 FGD Inlet	METER-ORFICE: 3.35
BAROMETRIC PRESSURE: 30.27	METER CORR. FACTOR: .974
SAMPLE PT. TIME: 5 min	UNIT LOAD: High PROBE NO: M-5

		LEAK CHECK: BEFORE							AFTER	
		TEMPERATURE DEGREE FAHRENHEIT							DRY GAS VOLUME (Cu. Ft.)	
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING		
748	5	15	240	67	70	74	2.0	997.870		
START TIME	8:11:55							001.570		
STOP TIME	10:27:10							005.370		
SILICA GEL	7.1	15		66	87	72	2.0	009.170		
CONDENSATE	34	20		66	88	73	2.0	012.970		
		25		67	90	74	2.0	016.570		
		30		67	92	75	2.0	020.232		
AVG.								22.362		

		LEAK CHECK: BEFORE							AFTER	
		TEMPERATURE DEGREE FAHRENHEIT							DRY GAS VOLUME (Cu. Fl.)	
RUN NO.	SAMPLE POINT	DELTA H	PROBE TEMP.	IMP. OUT	METER IN	METER OUT	VAC. PR. (In. Hg)	INITIAL READING		
9410	5	15	240	65	74	73	2.0	020.351		
START TIME	13:01							024.100		
STOP TIME	13:31							027.800		
SILICA GEL	6.6	15		63	94	72	2.0	031.610		
CONDENSATE	38	20		62	94	72	2.0	035.400		
		25		61	92	73	2.0	039.250		
		30		60	92	74	2.0	043.050		
AVG.								22.705		

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

Test Run 1 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	8:01:08	14.25	1602.80
12/11/2001	8:02:09	14.18	1584.00
12/11/2001	8:03:09	14.06	1575.20
12/11/2001	8:04:08	14.15	1573.00
12/11/2001	8:05:09	14.21	1589.10
12/11/2001	8:06:09	14.24	1591.30
12/11/2001	8:07:08	14.26	1590.60
12/11/2001	8:08:08	14.15	1582.60
12/11/2001	8:09:09	14.15	1571.40
12/11/2001	8:10:08	14.29	1587.20
12/11/2001	8:11:08	14.10	1566.60
12/11/2001	8:12:09	14.20	1564.80
12/11/2001	8:13:10	14.31	1585.60
12/11/2001	8:14:08	14.30	1591.00
12/11/2001	8:15:09	14.24	1583.30
12/11/2001	8:16:09	14.35	1595.60
12/11/2001	8:17:08	14.31	1592.60
12/11/2001	8:18:09	14.33	1602.00
12/11/2001	8:19:09	14.06	1574.60
12/11/2001	8:20:08	14.06	1558.20
12/11/2001	8:21:08	14.32	1602.30
Test Run 1 End			
Average	603 sampl	14.21	1584.00

Test Run 2 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	8:43:10	13.92	1585.40
12/11/2001	8:44:08	13.74	1558.50
12/11/2001	8:45:09	14.02	1575.20
12/11/2001	8:46:09	14.08	1584.20
12/11/2001	8:47:08	13.98	1577.00
12/11/2001	8:48:09	14.05	1563.50
12/11/2001	8:49:09	14.13	1574.30
12/11/2001	8:50:10	14.17	1581.90
12/11/2001	8:51:08	14.21	1583.50
12/11/2001	8:52:09	14.17	1582.00
12/11/2001	8:53:10	14.13	1572.80
12/11/2001	8:54:08	14.22	1587.30
12/11/2001	8:55:09	14.21	1588.00
12/11/2001	8:56:10	14.19	1586.90
12/11/2001	8:57:08	14.13	1563.40
12/11/2001	8:58:09	14.29	1581.30
12/11/2001	8:59:09	14.22	1577.90
12/11/2001	9:00:08	14.17	1574.50
12/11/2001	9:01:09	14.16	1561.90
12/11/2001	9:02:09	14.21	1573.70
12/11/2001	9:03:10	14.31	1599.90
Test Run 2 End			
Average	603 sampl	14.13	1577.80



Test Run 3 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2 %	SO2 ppm
Start Averaging			
12/11/2001	9:16:16	13.88	1586.30
12/11/2001	9:17:15	14.02	1588.80
12/11/2001	9:18:16	14.14	1609.30
12/11/2001	9:19:16	14.14	1612.00
12/11/2001	9:20:15	14.09	1590.10
12/11/2001	9:21:15	14.03	1582.30
12/11/2001	9:22:16	14.28	1611.40
12/11/2001	9:23:17	14.27	1625.50
12/11/2001	9:24:15	14.19	1604.00
12/11/2001	9:25:16	14.22	1603.80
12/11/2001	9:26:17	14.27	1609.70
12/11/2001	9:27:15	14.18	1604.60
12/11/2001	9:28:16	14.28	1614.70
12/11/2001	9:29:16	14.21	1594.80
12/11/2001	9:30:15	14.10	1577.50
12/11/2001	9:31:16	14.15	1580.40
12/11/2001	9:32:16	14.29	1582.10
12/11/2001	9:33:15	14.33	1589.60
12/11/2001	9:34:15	14.44	1604.00
12/11/2001	9:35:16	14.25	1590.20
12/11/2001	9:36:15	14.36	1604.90
Test Run 3 End			
Average	603 sampl	14.20	1598.40

Test Run 4 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	9:56:40	14.14	1593.20
12/11/2001	9:57:38	14.06	1583.20
12/11/2001	9:58:39	14.03	1578.50
12/11/2001	9:59:40	14.16	1592.60
12/11/2001	10:00:38	14.09	1584.10
12/11/2001	10:01:39	14.12	1574.80
12/11/2001	10:02:39	14.24	1600.30
12/11/2001	10:03:38	14.33	1614.30
12/11/2001	10:04:39	14.23	1599.10
12/11/2001	10:05:39	13.97	1566.60
12/11/2001	10:06:40	14.04	1570.30
12/11/2001	10:07:38	14.15	1582.00
12/11/2001	10:08:39	14.04	1568.50
12/11/2001	10:09:40	14.23	1591.10
12/11/2001	10:10:38	14.15	1589.40
12/11/2001	10:11:39	14.16	1589.60
12/11/2001	10:12:40	14.13	1576.70
12/11/2001	10:13:38	14.27	1589.80
12/11/2001	10:14:39	14.31	1599.10
12/11/2001	10:15:39	14.14	1583.50
12/11/2001	10:16:38	14.21	1581.70
Test Run 4 End			
Average	602 sampl	14.15	1586.10

Test Run 5 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	10:35:08	14.01	1563.70
12/11/2001	10:36:08	14.13	1591.60
12/11/2001	10:37:07	14.08	1605.40
12/11/2001	10:38:08	13.92	1577.90
12/11/2001	10:39:08	13.80	1567.10
12/11/2001	10:40:07	14.01	1589.40
12/11/2001	10:41:08	14.08	1607.40
12/11/2001	10:42:08	13.99	1589.50
12/11/2001	10:43:07	14.01	1591.50
12/11/2001	10:44:07	14.00	1576.60
12/11/2001	10:45:08	14.01	1577.40
12/11/2001	10:46:07	14.01	1573.40
12/11/2001	10:47:07	14.11	1585.10
12/11/2001	10:48:08	14.18	1593.70
12/11/2001	10:49:09	14.25	1593.00
12/11/2001	10:50:07	14.25	1594.90
12/11/2001	10:51:08	14.20	1581.80
12/11/2001	10:52:08	14.18	1574.20
12/11/2001	10:53:07	14.19	1577.30
12/11/2001	10:54:08	14.26	1586.40
12/11/2001	10:55:08	14.27	1590.20
Test Run 5 End			
Average	603 sampl	14.09	1585.10

Test Run 6 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	11:17:30	14.02	1560.20
12/11/2001	11:18:29	14.12	1579.40
12/11/2001	11:19:29	14.01	1561.60
12/11/2001	11:20:30	14.10	1565.10
12/11/2001	11:21:29	14.04	1560.10
12/11/2001	11:22:29	14.25	1587.10
12/11/2001	11:23:30	14.20	1585.30
12/11/2001	11:24:28	14.04	1565.40
12/11/2001	11:25:29	14.07	1556.20
12/11/2001	11:26:30	14.07	1552.90
12/11/2001	11:27:30	14.32	1588.30
12/11/2001	11:28:29	14.29	1577.30
12/11/2001	11:29:29	14.19	1561.10
12/11/2001	11:30:30	14.15	1547.80
12/11/2001	11:31:29	14.17	1550.00
12/11/2001	11:32:29	14.31	1569.60
12/11/2001	11:33:30	14.29	1569.20
12/11/2001	11:34:29	14.12	1546.10
12/11/2001	11:35:29	14.10	1555.70
12/11/2001	11:36:30	14.28	1572.00
12/11/2001	11:37:28	14.22	1575.40
Test Run 6 End			
Average	601 sampl	14.16	1566.10

Test Run 7 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	11:50:07	14.12	1530.80
12/11/2001	11:51:05	13.99	1513.30
12/11/2001	11:52:06	14.06	1526.20
12/11/2001	11:53:06	14.04	1519.80
12/11/2001	11:54:07	14.12	1533.70
12/11/2001	11:55:06	14.14	1531.30
12/11/2001	11:56:06	14.19	1547.50
12/11/2001	11:57:07	14.16	1546.30
12/11/2001	11:58:06	14.08	1533.10
12/11/2001	11:59:06	14.12	1535.70
12/11/2001	12:00:07	14.20	1541.70
12/11/2001	12:01:05	14.27	1565.60
12/11/2001	12:02:06	14.15	1544.10
12/11/2001	12:03:07	14.16	1529.70
12/11/2001	12:04:05	14.20	1537.60
12/11/2001	12:05:06	14.15	1529.70
12/11/2001	12:06:07	14.16	1541.50
12/11/2001	12:07:07	14.26	1549.50
12/11/2001	12:08:06	14.19	1541.30
12/11/2001	12:09:06	14.18	1541.10
12/11/2001	12:10:07	14.20	1549.10
Test Run 7 End			
Average	603 sampl	14.15	1537.60

Test Run 8 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	12:26:11	13.91	1523.70
12/11/2001	12:27:12	13.89	1515.80
12/11/2001	12:28:10	14.06	1533.40
12/11/2001	12:29:11	14.24	1555.40
12/11/2001	12:30:11	14.17	1556.00
12/11/2001	12:31:10	14.02	1532.00
12/11/2001	12:32:11	14.04	1534.90
12/11/2001	12:33:11	13.94	1505.60
12/11/2001	12:34:10	14.08	1526.40
12/11/2001	12:35:11	14.18	1540.40
12/11/2001	12:36:11	14.24	1545.70
12/11/2001	12:37:10	14.12	1534.50
12/11/2001	12:38:10	14.16	1524.10
12/11/2001	12:39:11	14.01	1506.30
12/11/2001	12:40:10	14.18	1518.00
12/11/2001	12:41:10	14.39	1553.50
12/11/2001	12:42:11	14.27	1540.40
12/11/2001	12:43:12	14.21	1530.20
12/11/2001	12:44:10	14.52	1569.80
12/11/2001	12:45:11	14.56	1581.10
12/11/2001	12:46:11	14.22	1541.80
Test Run 8 End			
Average	603 sampl	14.16	1536.60

Test Run 9 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
Start Averaging			
12/11/2001	13:02:09	14.00	1499.60
12/11/2001	13:03:09	13.98	1504.70
12/11/2001	13:04:08	14.06	1517.30
12/11/2001	13:05:09	14.12	1529.00
12/11/2001	13:06:09	14.07	1517.10
12/11/2001	13:07:08	14.13	1525.10
12/11/2001	13:08:08	14.03	1513.80
12/11/2001	13:09:09	14.05	1512.30
12/11/2001	13:10:08	13.98	1505.30
12/11/2001	13:11:08	14.11	1512.80
12/11/2001	13:12:09	14.04	1508.40
12/11/2001	13:13:08	14.06	1503.00
12/11/2001	13:14:08	14.08	1500.40
12/11/2001	13:15:09	14.16	1508.70
12/11/2001	13:16:07	14.19	1528.10
12/11/2001	13:17:08	14.19	1522.00
12/11/2001	13:18:09	14.35	1539.20
12/11/2001	13:19:09	14.29	1543.90
12/11/2001	13:20:08	14.18	1523.40
12/11/2001	13:21:09	14.23	1532.80
12/11/2001	13:22:09	14.14	1508.60
Test Run 9 End			
Average	603 sampl	14.12	1516.90

Test Run 10 Begin. STRATA Version 2.0

Operator: hal stiles

Plant Name: St.Johns River Power Park

Location: Unit 2 FGD Inlet

		CO2	SO2
		%	ppm
12/11/2001	13:48:06	13.92	1461.50
12/11/2001	13:49:05	14.21	1500.00
12/11/2001	13:50:05	14.06	1492.90
12/11/2001	13:51:06	13.79	1452.30
12/11/2001	13:52:07	14.12	1479.00
12/11/2001	13:53:05	14.27	1500.10
12/11/2001	13:54:06	14.12	1477.80
12/11/2001	13:55:06	14.23	1486.70
12/11/2001	13:56:05	14.05	1461.10
12/11/2001	13:57:06	14.25	1487.80
12/11/2001	13:58:06	14.21	1486.80
12/11/2001	13:59:05	14.14	1474.10
12/11/2001	14:00:06	14.35	1500.70
12/11/2001	14:01:06	14.27	1500.80
12/11/2001	14:02:05	14.01	1463.80
12/11/2001	14:03:05	14.15	1460.40
12/11/2001	14:04:06	14.39	1496.90
12/11/2001	14:05:05	14.42	1512.70
12/11/2001	14:06:05	13.98	1455.00
12/11/2001	14:07:06	14.23	1462.30
12/11/2001	14:08:07	14.38	1486.50
Test Run 10 End		14.17	1480.91



# ANALYZER CALIBRATION DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification **Jacksonville, FL** 2 Operator **stiles**

Calibration Data For Sampling Runs: <b>1-12</b> Gas Type: <b>NOx</b> Span: <b>1000</b>	Cylinder Number	Cylinder Value % or PPM	Analyzer Response	Absolute Difference % or PPM	Difference % of Span
Zero Gas		.0	.8	.80	.08
Low-Range Gas		N/A			
Mid-Range Gas	cc99263	552.0	554.7	2.70	.27
High-Range Gas	dp010791	866.0	862.0	4.00	.40

Calibration Data For Sampling Runs: <b>1-12</b> Gas Type: <b>SO2</b> Span: <b>300</b>	Cylinder Number	Cylinder Value % or PPM	Analyzer Response	Absolute Difference % or PPM	Difference % of Span
Zero Gas		.00	.69	.69	.23
Low-Range Gas					
Mid-Range Gas	cc99263	161.00	163.00	2.00	.67
High-Range Gas	dp010791	251.00	252.00	1.00	.33

Calibration Data For Sampling Runs: <b>1-12</b> Gas Type: <b>CO2</b> Span: <b>20</b>	Cylinder Number	Cylinder Value % or PPM	Analyzer Response	Absolute Difference % or PPM	Difference % of Span
Zero Gas		.00	.08	.08	.40
Low-Range Gas		N/A			
Mid-Range Gas	CC99263	11.10	11.14	.04	.20
High-Range Gas	DP010791	17.30	17.25	.05	.25

Calibration Data For Sampling Runs: <b>1-12</b> Gas Type: <b>O2</b> Span: <b>25</b>	Cylinder Number	Cylinder Value % or PPM	Analyzer Response	Absolute Difference % or PPM	Difference % of Span
Zero Gas		.00	.03	.03	.12
Low-Range Gas		N/A			
Mid-Range Gas	458	11.10	11.15	.05	.20
High-Range Gas	327	22.00	22.00	.00	.00

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/2001**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	0.70	0.01	1.00	0.02	0.03
Upscale Gas		554.70	559.00	0.43	559.00	0.43	0.00
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.00	0.02	1.30	0.05	0.03
Upscale Gas		554.70	559.00	0.43	559.50	0.48	0.05
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.30	0.05	1.20	0.04	0.01
Upscale Gas		554.70	559.50	0.48	561.00	0.63	0.15
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.20	0.04	1.40	0.06	0.02
Upscale Gas		554.70	561.00	0.63	566.00	1.13	0.50

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/2001**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.40	0.06	1.40	0.06	0.00
Upscale Gas		554.70	566.00	1.13	548.70	0.60	1.73
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.40	0.06	2.00	0.12	0.06
Upscale Gas		554.70	548.70	0.60	549.50	0.52	0.08
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	2.00	0.12	1.70	0.09	0.03
Upscale Gas		554.70	549.50	0.52	546.00	0.87	0.35
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.70	0.09	1.50	0.07	0.02
Upscale Gas		554.70	546.00	0.87	545.50	0.92	0.05

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.50	0.07	1.60	0.08	0.01
Upscale Gas		554.70	545.50	0.92	545.00	0.97	0.05
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.60	0.08	1.80	0.10	0.02
Upscale Gas		554.70	545.00	0.97	549.00	0.57	0.40
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.80	0.10	0.00	0.08	0.18
Upscale Gas		554.70	549.00	0.57	0.00	55.47	54.90
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	NOX						
Span:	1000						
Zero Gas		0.80	1.70	0.09	0.00	0.08	0.17
Upscale Gas		554.70	552.50	0.22	0.00	55.47	55.25

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/2001**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	2.40	0.57	4.00	1.10	0.53
Upscale Gas		163.00	157.50	1.83	158.00	1.67	0.17
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	4.00	1.10	2.00	0.44	0.67
Upscale Gas		163.00	158.00	1.67	159.00	1.33	0.33
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	2.00	0.44	1.72	0.34	0.09
Upscale Gas		163.00	159.00	1.33	158.00	1.67	0.33
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.72	0.34	1.73	0.35	0.00
Upscale Gas		163.00	158.00	1.67	158.40	1.53	0.13

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/2001**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.73	0.35	1.70	0.34	0.01
Upscale Gas		163.00	158.40	1.53	159.30	1.23	0.30
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.70	0.34	1.60	0.30	0.03
Upscale Gas		163.00	159.30	1.23	159.10	1.30	0.07
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.60	0.30	1.70	0.34	0.03
Upscale Gas		163.00	159.10	1.30	160.40	0.87	0.43
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.70	0.34	1.90	0.40	0.07
Upscale Gas		163.00	160.40	0.87	159.60	1.13	0.27

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification **Jacksonville, FL** 2 Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.90	0.40	1.31	0.21	0.20
Upscale Gas		163.00	159.60	1.13	160.30	0.90	0.23
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.31	0.21	1.80	0.37	0.16
Upscale Gas		163.00	160.30	0.90	160.70	0.77	0.13
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.80	0.37	0.00	0.23	0.60
Upscale Gas		163.00	160.70	0.77	0.00	54.33	53.57
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	300						
Zero Gas		0.69	1.80	0.37	0.00	0.23	0.60
Upscale Gas		163.00	160.50	0.83	0.00	54.33	53.50

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.35	1.35	0.40	1.60	0.25
Span:	20						
Zero Gas		0.08	0.35	1.35	0.40	1.60	0.25
Upscale Gas		11.14	11.24	0.50	11.40	1.30	0.80
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.40	1.60	0.35	1.35	0.25
Span:	20						
Zero Gas		0.08	0.40	1.60	0.35	1.35	0.25
Upscale Gas		11.14	11.40	1.30	11.40	1.30	0.00
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.35	1.35	0.44	1.80	0.45
Span:	20						
Zero Gas		0.08	0.35	1.35	0.44	1.80	0.45
Upscale Gas		11.14	11.40	1.30	11.40	1.30	0.00
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.44	1.80	0.42	1.70	0.10
Span:	20						
Zero Gas		0.08	0.44	1.80	0.42	1.70	0.10
Upscale Gas		11.14	11.40	1.30	11.40	1.30	0.00

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



## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification **Jacksonville, FL 2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.08	0.42	1.70	0.37	1.45	0.25
Upscale Gas		11.14	11.40	1.30	11.42	1.40	0.10
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.08	0.37	1.45	0.38	1.50	0.05
Upscale Gas		11.14	11.42	1.40	11.37	1.15	0.25
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.08	0.38	1.50	0.47	1.95	0.45
Upscale Gas		11.14	11.37	1.15	11.37	1.15	0.00
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.08	0.47	1.95	0.44	1.80	0.15
Upscale Gas		11.14	11.37	1.15	11.35	1.05	0.10

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification Jacksonville, FL 2 Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.44	1.80	0.44	1.80	0.00
Span:	20						
Zero Gas		0.08	0.44	1.80	0.44	1.80	0.00
Upscale Gas		11.14	11.35	1.05	11.38	1.20	0.15
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.44	1.80	0.36	1.40	0.40
Span:	20						
Zero Gas		0.08	0.44	1.80	0.36	1.40	0.40
Upscale Gas		11.14	11.38	1.20	11.36	1.10	0.10
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.36	1.40	0.00	0.40	1.80
Span:	20						
Zero Gas		0.08	0.36	1.40	0.00	0.40	1.80
Upscale Gas		11.14	11.36	1.10	0.00	55.70	56.80
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2	0.08	0.32	1.20	0.00	0.40	1.60
Span:	20						
Zero Gas		0.08	0.32	1.20	0.00	0.40	1.60
Upscale Gas		11.14	11.37	1.15	0.00	55.70	56.85

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification Jacksonville, FL **2** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
1	O2	0.03	0.03	0.00	0.04	0.04	0.04
Gas Type:	25						
Span:		11.15	11.05	0.40	11.05	0.40	0.00
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
2	O2	0.03	0.04	0.04	0.02	0.04	0.08
Gas Type:	25						
Span:		11.15	11.05	0.40	11.07	0.32	0.08
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
3	O2	0.03	0.02	0.04	0.03	0.00	0.04
Gas Type:	25						
Span:		11.15	11.07	0.32	11.12	0.12	0.20
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
4	O2	0.03	0.03	0.00	0.03	0.00	0.00
Gas Type:	25						
Span:		11.15	11.12	0.12	11.10	0.20	0.08
Zero Gas							
Upscale Gas							

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification Jacksonville, FL 2 Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.03	0.00	0.03	0.00	0.00
Upscale Gas		11.15	11.10	0.20	11.10	0.20	0.00

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.03	0.00	0.03	0.00	0.00
Upscale Gas		11.15	11.10	0.20	11.05	0.40	0.20

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.03	0.00	0.03	0.00	0.00
Upscale Gas		11.15	11.05	0.40	11.04	0.44	0.04

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.03	0.00	0.03	0.00	0.00
Upscale Gas		11.15	11.04	0.44	11.07	0.32	0.12

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/12/01**  
 Source Identification Jacksonville, FL 2 Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.03	0.00	0.03	0.00	0.00
Upscale Gas		11.15	11.07	0.32	11.06	0.36	0.04

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.03	0.00	0.00	0.12	0.12
Upscale Gas		11.15	11.06	0.36	0.00	44.60	44.24

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.00	0.12	0.00	0.12	0.00
Upscale Gas		11.15	0.00	44.60	0.00	44.60	0.00

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	O2						
Span:	25						
Zero Gas		0.03	0.00	0.12	0.00	0.12	0.00
Upscale Gas		11.15	0.00	44.60	0.00	44.60	0.00

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

# ANALYZER CALIBRATION DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/01**  
 Source Identification **Jacksonville, FL** 2 FGD inlet Operator **stiles**

Calibration Data For Sampling Runs: <b>1-12</b> Gas Type: <b>SO2</b> Span: <b>3500</b>	Cylinder Number	Cylinder Value % or PPM	Analyzer Response	Absolute Difference % or PPM	Difference % of Span
Zero Gas		.00	1.80	1.80	.05
Low-Range Gas		N/A			
Mid-Range Gas	alm1963002797	1963.00	1962.00	1.00	.03
High-Range Gas	cc23221	2850.00	2840.00	10.00	.29

Calibration Data For Sampling Runs: <b>1-12</b> Gas Type: <b>CO2</b> Span: <b>20</b>	Cylinder Number	Cylinder Value % or PPM	Analyzer Response	Absolute Difference % or PPM	Difference % of Span
Zero Gas		.00	.04	.04	.20
Low-Range Gas		N/A			
Mid-Range Gas	alm1963002797	11.20	11.11	.09	.45
High-Range Gas	cc23221	17.20	17.28	.08	.40

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/2001**  
 Source Identification **Jacksonville, FL 2 FGD inlet** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2	1.80	0.80	0.03	4.20	0.07	0.10
Span:	3500						
Zero Gas		1.80	0.80	0.03	4.20	0.07	0.10
Upscale Gas		1962.00	1914.00	1.37	1952.00	0.29	1.09
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2	1.80	4.20	0.07	4.10	0.07	0.00
Span:	3500						
Zero Gas		1.80	4.20	0.07	4.10	0.07	0.00
Upscale Gas		1962.00	1952.00	0.29	1959.00	0.09	0.20
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2	1.80	4.10	0.07	0.00	0.05	0.12
Span:	3500						
Zero Gas		1.80	4.10	0.07	0.00	0.05	0.12
Upscale Gas		1962.00	1959.00	0.09	1972.00	0.29	0.37
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2	1.80	0.00	0.05	-0.20	0.06	0.01
Span:	3500						
Zero Gas		1.80	0.00	0.05	-0.20	0.06	0.01
Upscale Gas		1962.00	1972.00	0.29	1979.00	0.49	0.20

$$\text{DRIFT} = (\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE} / \text{SPAN}) \times 100$$

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/2001**  
 Source Identification Jacksonville, FL 2 FGD inlet Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
5	SO2	1.80	-0.20	0.06	0.90	0.03	0.03
Span:	3500		1962.00	1979.00	1969.00	0.20	0.29
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
6	SO2	1.80	0.90	0.03	2.10	0.01	0.03
Span:	3500		1962.00	1969.00	1957.00	0.14	0.34
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
7	SO2	1.80	2.10	0.01	2.50	0.02	0.01
Span:	3500		1962.00	1957.00	1959.00	0.09	0.06
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
8	SO2	1.80	2.50	0.02	2.70	0.03	0.01
Span:	3500		1962.00	1959.00	1955.00	0.20	0.11
Zero Gas							
Upscale Gas							

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



## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/2001**  
 Source Identification Jacksonville, FL 2 FGD inlet Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	3500						
Zero Gas		1.80	2.70	0.03	-0.20	0.06	0.08
Upscale Gas		1962.00	1955.00	0.20	1953.00	0.26	0.06
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	3500						
Zero Gas		1.80	-0.20	0.06	-1.00	0.08	0.02
Upscale Gas		1962.00	1953.00	0.26	1947.00	0.43	0.17
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	3500						
Zero Gas		1.80	-1.00	0.08	0.00	0.05	0.03
Upscale Gas		1962.00	1947.00	0.43	0.00	56.06	55.63
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	SO2						
Span:	3500						
Zero Gas		1.80	0.00	0.05	0.00	0.05	0.00
Upscale Gas		1962.00	0.00	56.06	0.00	56.06	0.00

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/2001**  
 Source Identification **Jacksonville, FL 2 FGD inlet** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
1	CO2	0.04	0.37	1.65	0.38	1.70	0.05
Span: 20			11.11	11.09	11.28	0.85	0.95
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
2	CO2	0.04	0.38	1.70	0.49	2.25	0.55
Span: 20			11.11	11.28	11.29	0.90	0.05
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
3	CO2	0.04	0.49	2.25	0.51	2.35	0.10
Span: 20			11.11	11.29	11.32	1.05	0.15
Zero Gas							
Upscale Gas							
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
4	CO2	0.04	0.51	2.35	0.46	2.10	0.25
Span: 20			11.11	11.32	11.28	0.85	0.20
Zero Gas							
Upscale Gas							

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/2001**  
 Source Identification **Jacksonville, FL 2 FGD inlet** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.52	2.40	0.47	2.15	0.25
Upscale Gas		11.11	11.31	1.00	11.31	1.00	0.00
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.47	2.15	0.49	2.25	0.10
Upscale Gas		11.11	11.31	1.00	11.32	1.05	0.05
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.49	2.25	0.00	0.20	2.45
Upscale Gas		11.11	11.32	1.05	0.00	55.55	56.60
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.00	0.20	0.00	0.20	0.00
Upscale Gas		11.11	0.00	55.55	0.00	55.55	0.00

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

## ANALYZER CALIBRATION BIAS AND DRIFT DATA

Client **SJRPP** Project # **01-315** Test Date **12/11/2001**  
 Source Identification **Jacksonville, FL 2 FGD inlet** Operator **stiles**

Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.46	2.10	0.48	2.20	0.10
Upscale Gas		11.11	11.28	0.85	11.29	0.90	0.05
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.48	2.20	0.49	2.25	0.05
Upscale Gas		11.11	11.29	0.90	11.30	0.95	0.05
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.49	2.25	0.52	2.40	0.15
Upscale Gas		11.11	11.30	0.95	11.29	0.90	0.05
Calibration Data For		Analyzer Response	Initial Values		Final Values		Drift % of Span
Sampling Runs:			System Response	System Cal. Bias % of Span	System Response	System Cal. Bias % of Span	
Gas Type:	CO2						
Span:	20						
Zero Gas		0.04	0.52	2.40	0.52	2.40	0.00
Upscale Gas		11.11	11.29	0.90	11.31	1.00	0.10

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

Grace Consulting, Inc.  
 EPA Method 5  
 522 Series Meter Box Calibration  
 Calibration Orifice Method  
 English Meter Box Units, English K' Factor

a:	10/2/01
Model:	Apex
Serial:	4A

Barometric Pressure:	29.29	(in Hg)
Theoretical Critical Vacuum:	13.82	(in Hg)

IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.  
 IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)<sup>3</sup>\*(deg R)<sup>0.5</sup>/((in.Hg)\*(min)).

DRY GAS METER READINGS							Critical Orifice Readings			AMBIENT TEMPERATURE		
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Temp Initial (deg F)	Temp Final (deg F)	Orifice Serial #	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.61	11.45	800.50	805.50	5	64	66	48	0.3449	14	65	66	65.5
1.1	9.37	806.50	812.00	5.5	66	67	55	0.4595	14	66	66	66
1.9	12.98	812.50	822.50	10	69	72	63	0.5958	14	66	66	66
3.5	19.42	823.00	843.50	20.5	71	77	73	0.8215	14	65	66	65.5
5.4	15.22	844.00	864.00	20	77	77	81	1.0185	14	66	66	66

CORRECTED VOLUME	
DRY GAS METER Vm(std) (cu ft)	ORIFICE Vcr(std) (cu ft)
4.928	5.046
5.412	5.499
9.786	9.876
20.009	20.384
19.504	19.797

DRY GAS METER CALIBRATION FACTOR Y	
Value	Variation
1.024	0.007
1.016	-0.0006
1.009	-0.0073
1.019	0.0022
1.015	-0.0015

ORIFICE CALIBRATION FACTOR dH@	
Value (in H2O)	Variation (in H2O)
1.767	-0.032
1.797	-0.002
1.846	0.048
1.787	-0.011
1.795	-0.003

Orifice for Calc.  
3.2978

Average 1.017

Average 1.798

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.

SIGNED: \_\_\_\_\_

Date: \_\_\_\_\_

$$V_{m(std)} = 17.64 (V_m) \frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K' \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_{@} = \Delta H \left( \frac{.75\theta}{V_{cr(std)}} \right)^2$$

Grace Consulting, Inc.  
EPA Method 5  
Post Test Calibration  
Calibration Orifice Method  
English Meter Box Units, English K' Factor

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Date:	12/20/01
Model:	Apex
Serial:	4-a

Barometric Pressure:	29.25	(in Hg)
Theoretical Critical Vacuum:	13.80	(in Hg)

IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.  
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)<sup>3</sup>/(deg R)<sup>0.5</sup>((in.Hg)<sup>3</sup>(min)).

DRY GAS METER READINGS							Critical Orifice Readings			AMBIENT TEMPERATURE		
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Temp Initial (deg F)	Temp Final (deg F)	Orifice Serial #	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
1.8	13.08	975.1	985.1	10	61	65	63	0.5958	14	58	59	58.5
1.8	13.13	985.1	995.1	10	65	66	63	0.5958	14	59	59	59
1.8	13.05	1005.1	1015.1	10	67	67	63	0.5958	14	59	58	58.5

CORRECTED VOLUME	
DRY GAS METER Vm(std) (cu ft)	ORIFICE Vcr(std) (cu ft)
9.910	10.011
9.863	10.044
9.835	9.988

DRY GAS METER CALIBRATION FACTOR Y	
Value	Variation
1.010	-0.005
1.018	0.00368
1.016	0.00085

ORIFICE CALIBRATION FACTOR dH@	
Value (in H2O)	Variation (in H2O)
1.729	-0.001
1.730	0.001
1.729	-0.001

Average 1.015

Average 1.729

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.

SIGNED: \_\_\_\_\_

*[Signature]*

Date: \_\_\_\_\_

*12/20/01*

$$V_{m(std)} = 17.64 (V_m) \frac{P_b + \Delta H}{t_m + 460}$$

$$V_{cr(std)} = K' \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_{@} = \Delta H \left( \frac{.75\theta}{V_{cr(std)}} \right)^2$$

Grace Consulting, Inc.  
EPA Method 5  
522 Series Meter Box Calibration  
Calibration Orifice Method  
English Meter Box Units, English K' Factor

Date:	7/9/01
Model:	Apex
Serial:	5A

Barometric Pressure:	29.29	(in Hg)
Theoretical Critical Vacuum:	13.82	(in Hg)

IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.  
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)<sup>3</sup>/(deg R)<sup>0.5</sup>/((in.Hg)\*(min)).

DRY GAS METER READINGS							Critical Orifice Readings			AMBIENT TEMPERATURE		
dH (in H <sub>2</sub> O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Temp Initial (deg F)	Temp Final (deg F)	Orifice Serial #	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.68	11.63	573.000	578.500	5.5	75	76	48	0.3449	14	69	69	69
1.2	12.8	579.000	587.000	8	76	77	55	0.4595	14	70	69	69.5
2	26.12	587.500	608.500	21	78	77	63	0.5958	14	69	69	69
3.8	9.08	609.000	619.000	10	77	79	73	0.8215	14	69	69	69
5.8	7.38	619.500	629.500	10	80	80	81	1.0185	14	69	69	69

CORRECTED VOLUME	
DRY GAS METER Vm(std) (cu ft)	ORIFICE Vcr(std) (cu ft)
5.316	5.108
7.728	7.487
20.288	19.818
9.695	9.499
9.707	9.572

DRY GAS METER CALIBRATION FACTOR Y	
Value	Variation
0.961	-0.014
0.969	-0.006
0.977	0.0024
0.980	0.0053
0.986	0.0116

ORIFICE CALIBRATION FACTOR dH@	
Value (in H <sub>2</sub> O)	Variation (in H <sub>2</sub> O)
1.983	0.017
1.973	0.007
1.954	-0.012
1.953	-0.013
1.939	-0.026

Orifice for Calc.  
3.35053

Average 0.974

Average 1.966

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H<sub>2</sub>O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.

SIGNED: \_\_\_\_\_

Date: \_\_\_\_\_

$$V_{m(std)} = 17.64 (V_m) \frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K' \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_{@} = \Delta H \left( \frac{.75\theta}{V_{cr(std)}} \right)^2$$

Date:	12/20/01
Model:	Apex
Serial:	5-a

Barometric Pressure:	29.25	(in Hg)
Theoretical Critical Vacuum:	13.80	(in Hg)

**IMPORTANT** For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.  
**IMPORTANT** The Critical Orifice Coefficient, K', must be entered in English units, (ft)<sup>3</sup>\*(deg R)<sup>0.5</sup>/((in.Hg)\*(min)).

DRY GAS METER READINGS							Critical Orifice Readings			AMBIENT TEMPERATURE		
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Temp Initial (deg F)	Temp Final (deg F)	Orifice Serial #	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
1.8	12.78	435.100	445.100	10	61	61	63	0.5958	14	57	57	57
1.8	12.73	445.100	455.100	10	61	62	63	0.5958	14	57	58	57.5
1.8	12.77	455.100	465.100	10	62	63	63	0.5958	14	58	58	58

CORRECTED VOLUME	
DRY GAS METER Vm(std) (cu ft)	ORIFICE Vcr(std) (cu ft)
9.948	9.795
9.939	9.752
9.920	9.778

DRY GAS METER CALIBRATION FACTOR Y	
Value	Variation
0.985	0.001
0.981	-0.0026
0.986	0.00187

ORIFICE CALIBRATION FACTOR dH@	
Value (in H2O)	Variation (in H2O)
1.724	-0.002
1.725	0.000
1.727	0.002

Average 0.984

Average 1.725

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +0.2.

SIGNED: Allen Z. Jahn

Date: 12/20/01

$$V_{m(std)} = 17.64 (V_m) \frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K' \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_{@} = \Delta H \left( \frac{.75 \theta}{V_{cr(std)}} \right)^2$$



**“S” Type Probe Calibration**

**FOR**

**Grace Consulting Inc.**

**Pitot Tube S/N: 2G-10**

Lawrence H. Rogers, Jr.  
Project Coordinator  
Environmental Services

Southern Company  
Energy Solutions, Inc.  
Alabama Power Company  
General Services Complex - Bldg. # 8  
Calera, Alabama 35040

Tel 205.664.6290 / Fax 205.664.6309  
Pager 205.257.1666 (6290)  
lahroger@southernco.com



*Energy to Serve Your World™*

Date: 7/26/01

## Southern Company Energy Solutions, Inc. Pitot Tube Calibration Questionnaire

Company: Grace Consulting Inc.

Billing Address: P.O. Box 58  
Wellington, Ohio 44090

Contact : Dale Vineyard

Phone : 440-647-6672

FAX : 440-647-6673

(Pitot Tube)

APCO Shipping : Alabama Power Company  
General Services Complex - Bldg # 8  
Calera, Alabama 35040  
Attention: Lawrence Rogers

Return Shipping: Grace Consulting Inc.  
510 Deckson Street  
Wellington, OH 44090

Return Shipping : → UPS, FedEx, US Mail, Trucking  
Account Number : R & L Carries 1-800-298-8114

1. Tube Type : S -Type S/N or ID: 2G - 10
2. Tube Size [OD] : 2" Length: 10'
3. Required Calibration Velocities ( ft/sec) 60 + 90
4. Required Pitch Angles : N/A

Comments: Note: 2G Method

# SOUTHERN COMPANY ENERGY SOLUTIONS PITOT CALIBRATION

Wind Tunnel Facility: APC/GSC

Wind Tunnel Location: Alabama Power Co. GSC

Probe Type: S type

Probe ID: 2G10

Probe Calibration Date: 8/1/01

Test point Location: See Figure WT-1

Ambient Temperature 83 F

Barometric Pressure 29.86

Side: A

Low Velocity Setting(ft/sec)	Repetition	Dp Standard	DP "S"	Cp "S"	DEVIATION	Yaw Angle
					Cp(S)-Cp	
60	1	0.8	1.15	0.8257	0.0000	36.1
60	2	0.8	1.15	0.8257	0.0000	36.2
60	3	0.8	1.15	0.8257	0.0000	
				<b>Cp</b>	<b>0.8257</b>	

High Velocity Setting(ft/sec)	Repetition	Dp Standard	DP "S"	Cp "S"	DEVIATION
					Cp(S)-Cp
90	1	1.81	2.56	0.8324	0.0011
90	2	1.81	2.57	0.8308	-0.0005
90	3	1.81	2.57	0.8308	-0.0005
				<b>Cp</b>	<b>0.8314</b>

Avg. Low vel. And High vel. **0.8285**

% Difference = **-0.34** (Must be less than 3%)

# SOUTHERN COMPANY ENERGY SOLUTIONS PITOT CALIBRATION

Wind Tunnel Facility: APC/GSC  
 Wind Tunnel Location: Alabama Power Co. GSC  
 Probe Type: S type  
 Probe ID: 2G10  
 Probe Calibration Date: 8/1/01  
 Test point Location: See Figure WT-1  
 Ambient Temperature: 83 F  
 Barometric Pressure: 29.86

Side: B

Low Velocity Setting(ft/sec)	Repetition	Dp Standard	DP "S"	Cp "S"	DEVIATION	Yaw Angle
					Cp(S)-Cp	
60	1	0.8	1.15	0.8257	0.0005	35.8
60	2	0.79	1.14	0.8241	-0.0011	35.7
60	3	0.8	1.15	0.8257	0.0005	
				<b>Cp</b>	<b>0.8252</b>	

High Velocity Setting(ft/sec)	Repetition	Dp Standard	DP "S"	Cp "S"	DEVIATION
					Cp(S)-Cp
90	1	1.82	2.61	0.8267	-0.0003
90	2	1.81	2.6	0.8260	-0.0010
90	3	1.82	2.6	0.8283	0.0013
				<b>Cp</b>	<b>0.8270</b>

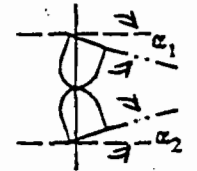
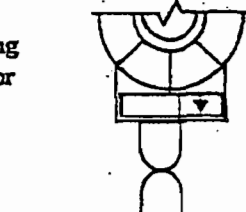
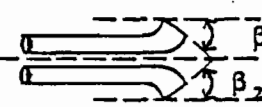
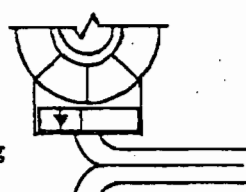

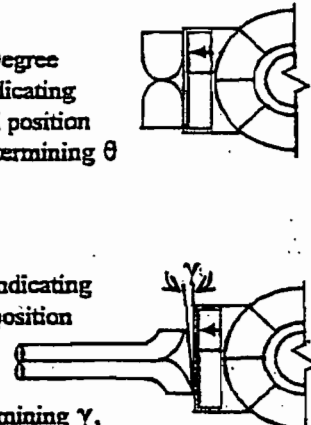
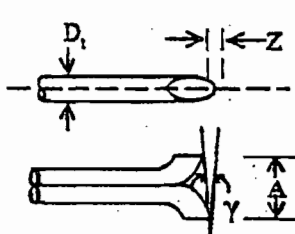
Avg. Low vel. And High vel. **0.8261**

% Difference = -0.11 (Must be less than 3%)

### Table 2G-1. Type S Probe Inspection Sheet

**Note:** Method 2 provides the criteria for an acceptably constructed Type S pitot tube. However, the procedure for making the necessary measurements is not specified. One approach is given below.

1. Use a vise with parallel and perpendicular faces. Use an angle-measuring device (analog or digital) for this check.
2. Place the pitot tube in the vise, and level the pitot tube horizontally using the angle-measuring device.
3. Place the angle-measuring device as shown below.
4. Measure distance A, which is P<sub>A</sub> plus P<sub>B</sub>. Method 2 specifies that P<sub>A</sub> = P<sub>B</sub>, but provides no tolerance for this measurement. Because this measurement is very difficult, it is suggested that P<sub>A</sub> = P<sub>B</sub> = A/2.
5. Measure the external tube diameter (D) with a micrometer, machinist's rule, or internal caliper.
6. Record all data as shown on the form below.
7. Calculate dimensions w and z as shown below.

	Degree indicating level position for determining $\alpha_1$ and $\alpha_2$		Level and perpendicular?	Yes
	Degree indicating level position for determining $\beta_1$ and $\beta_2$		Obstruction?	No
	Degree indicating level position for determining $\theta$		Damaged?	No
	Degree indicating level position for determining $\gamma$ , then calculating z.		$\alpha_1$ $(-2^\circ \leq \alpha_1 \leq +2^\circ)$	2
			$\alpha_2$ $(-2^\circ \leq \alpha_2 \leq +2^\circ)$	0
			$\beta_1$ $(-2^\circ \leq \beta_1 \leq +2^\circ)$	1
			$\beta_2$ $(-2^\circ \leq \beta_2 \leq +2^\circ)$	2
			$\gamma$	0
			$\theta$	0
			$z = A (\tan \gamma)$ $[\leq 0.5 \text{ mm (0.02 in.)}]$	0
			$w = A (\tan \theta)$ $[\leq 0.5 \text{ mm (0.02 in.)}]$	0
			$D_t$ $[\geq 9.5 \text{ mm (3/8 in.)}]$	0.378
			A	1.047
			$A/2D_t$ $(1.05 \leq P_A/D_t \leq 1.5)^*$	1.385
* Recommended dimensions				

**QA/QC Check**

Completeness  \_\_\_\_\_  
 Specifications  \_\_\_\_\_

Legibility  \_\_\_\_\_  
 Reasonableness  \_\_\_\_\_

Accuracy  \_\_\_\_\_

**Certification**

I certify that the Type S probe ID 2G10 meets or exceeds all specifications, criteria, and applicable design features.

Certified by: DHWright

Date: 8-1-01

Table 2G-6. Yaw Angle Calibration

Probe Type: 5 Tester(s): DA Wright  
 Probe ID: 2G10 Affiliation: SCEC  
 Test Location: See Figure WT-1 Date: 8-1-01

Nominal Velocity Setting in m/sec (ft/sec)	Repetition 1		Repetition 2	
	$\theta_{null}$ (degrees)	$R_{SLO}$ (degrees)*	$\theta_{null}$ (degrees)	$R_{SLO}$ (degrees)*
<u>60</u>	<u>36.1</u>		<u>36.2</u>	
<u>90</u>	<u>35.8</u>		<u>35.7</u>	
Average of all recorded $R_{SLO}$ values:		<u>36°</u>		

\* Include magnitude and algebraic sign in accordance with section 10.5.6.



AGA Gas, Inc.

**CERTIFICATE OF ANALYSIS  
EPA PROTOCOL**

PERFORMED ACCORDING TO EPA-600/R-97/121, PROCEDURE G1

**NOTICE: THIS CYLINDER IS NOT TO BE USED WHEN PRESSURE IS UNDER 150 psig**

**MANUFACTURED AND CERTIFIED AT:**

AGA Gas inc.  
Specialty & Medical Gas Division  
6421 Monclova Road  
Maumee, Ohio 43537  
419-893-7226

**ANALYTICAL AND CYLINDER DATA:**

Certified Component	Concentration and Uncertainty	Date of Certification
Nitric Oxide	552 ± 6 ppm	3/13/2001
Sulfur Dioxide	161 ± 2 ppm	3/13/2001
Carbon Monoxide	1090 ± 10 ppm	3/13/2001
Carbon Dioxide	11.1 ± 0.1%	3/13/2001

Analyzed for Reference Use Only	Concentration	Date of Analysis
NOX	552 ppm	3/13/2001

Production Number: 100032368  
Cylinder Number: CC99263  
Expiration Date: 3/13/2003

Cylinder Pressure (psi): 2000  
Balance Gas: Nitrogen  
CGA: 660

**REFERENCE STANDARDS DATA (TRACEABLE TO NIST AND NMI STANDARDS):**

Reference Standard Number	Cylinder Number	Concentration and Component	Expiration Date
GMIS	CC84214	2522 ppm Carbon Monoxide	3/21/2002
GMIS	DP009338	490.5 ppm Carbon Monoxide	3/21/2002
GMIS	CC59278	2075 ppm Nitric Oxide	3/21/2002
GMIS	CC13748	496.1 ppm Nitric Oxide	3/21/2002
GMIS	CC314	494.0 ppm Sulfur Dioxide	3/21/2002
GMIS	CC59244	100.7 ppm Sulfur Dioxide	3/21/2002
NTRM	CC59213	19.91% Carbon Dioxide	8/1/2005
NTRM	CC59178	6.90% Carbon Dioxide	10/2002

**INSTRUMENTATION DATA:**

Instrument Model	Serial Number	Date of Last Calibration	Analytical Principle
Horiba CLA-510SS	569466055	3/13/2001	Chemiluminescence
Horiba VIA-510	568279012	3/13/2001	Non-Dispersive Infrared
Horiba VIA-510	568849043	3/13/2001	Non-Dispersive Infrared

Analytical Report Approved By: *Kathy Anderson*



AGA Gas, Inc.

CERTIFICATE OF ANALYSIS  
EPA PROTOCOL

PERFORMED ACCORDING TO EPA-600/R-97/121, PROCEDURE G1

NOTICE: THIS CYLINDER IS NOT TO BE USED WHEN PRESSURE IS UNDER 150 psig

MANUFACTURED AND CERTIFIED AT:

AGA Gas inc.  
Specialty & Medical Gas Division  
6421 Monclova Road  
Maumee, Ohio 43537  
419-893-7226

ANALYTICAL AND CYLINDER DATA:

Certified Component	Concentration and Uncertainty	Date of Certification
Nitric Oxide	866 ± 8 ppm	3/13/2001
Sulfur Dioxide	251 ± 3 ppm	3/13/2001
Carbon Monoxide	1610 ± 16 ppm	3/13/2001
Carbon Dioxide	17.3 ± 0.2%	3/13/2001

Analyzed for Reference Use Only	Concentration	Date of Analysis
NOX	869 ppm	3/13/2001

Production Number: 100032367  
Cylinder Number: DP010791  
Expiration Date: 3/13/2003

Cylinder Pressure (psi): 2000  
Balance Gas: Nitrogen  
CGA: 660

REFERENCE STANDARDS DATA (TRACEABLE TO NIST AND NMI STANDARDS):

Reference Standard Number	Cylinder Number	Concentration and Component	Expiration Date
GMIS	CC84214	2522 ppm Carbon Monoxide	3/21/2002
GMIS	DP009338	490.5 ppm Carbon Monoxide	3/21/2002
GMIS	CC59278	2075 ppm Nitric Oxide	3/21/2002
GMIS	CC13748	496.1 ppm Nitric Oxide	3/21/2002
GMIS	CC314	494.0 ppm Sulfur Dioxide	3/21/2002
GMIS	CC59244	100.7 ppm Sulfur Dioxide	3/21/2002
NTRM	CC59213	19.91% Carbon Dioxide	8/1/2005
NTRM	CC59178	6.90% Carbon Dioxide	10/2002

INSTRUMENTATION DATA:

Instrument Model	Serial Number	Date of Last Calibration	Analytical Principle
Horiba CLA-510SS	569466055	3/13/2001	Chemiluminescence
Horiba VIA-510	568279012	3/13/2001	Non-Dispersive Infrared
Horiba VIA-510	568849043	3/13/2001	Non-Dispersive Infrared

Analytical Report Approved By: *Larry Anderson*



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: 231 -1  
APCI  
5420 WARNER RD.  
VALLEY VIEW  
CLEVELAND

OH 44125-

Order No: SRP762654-72  
Batch No: 86185093  
PO:  
Release:

Cylinder No: SG9130410BAL  
Bar Code No: FEL055  
Cylinder Pressure\*: 2000 psig  
Certification Date: 07/17/2001  
Expiration Date: 07/17/2004

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	11.4±.11 %	SG9169458BAL	NTRM	19.37 %	HORIBA VIA-510	51135063	07/01/01	NON DISPERSIVE INFRARED
OXYGEN	11.1±.055 %	SG9168406BAL	NTRM	16.04 %	SERVOMEX 1100	2974C	07/01/01	PARAMAGNETIC

NITROGEN Balance Gas

\* STANDARD SHOULD NOT BE USED BELOW 150 PSIG

EPA PROTOCOL GAS MIXTURE : 2 COMPONENTS IN NITROGEN  
To reorder this mixture please use Mix ID: 34371

Analyst:

SUZANNE HAUTER

(16921)

Approved By:

James Laas

458

**CERTIFICATE OF ANALYSIS**  
EPA Protocol Gas

CUSTOMER	CYLINDER NO	: CC14122
OE MEYER	EXPIRATION DATE	: 08/15/03
3303 TIFFIN AVE	CERTIFICATION DATE	: 08/17/00
ROUTE 101	CYLINDER PRESSURE	: 2000 psig
SANDUSKY, OH 448700000	PRODUCT ID NO	: 03000765
CUSTOMER PO NO: OE MEYER / TSA STOC	LOT NUMBER	: 398491

Previous Certification Date(s):

**ANALYTICAL INFORMATION**

This calibration standard has been certified per the 1997 EPA Traceability Protocol, Document EPA-600/97/121, Using Procedure G1. All Values certified to be +/-1% NIST Traceable.

Do Not Use This Cylinder below 150 psig. i.e. 1.0 Megapascal

Components	Analytical Results			Assay Dates
	Requested Mixture	Certified Concentration	Analytical Uncertainty	
CARBON DIOXIDE	17.00%	17.25%	+/-1.00% NIST Traceable	08/15/00
OXYGEN	22.00%	22.00%		
ARGON	BALANCE GAS			

**CALIBRATION STANDARDS USED IN ASSAY**

Type	LOT ID	Cylinder No	Concentration	Expiration
NTRM 82745X	97060201	XN003277B	19.98 +/- 0.20 % CO2/N2	02/01/04
NTRM 82659	95030903	CC15262	20.70 +/- 0.23 % O2/N2	12/04/00

**ANALYTICAL INSTRUMENTS USED IN ASSAY**

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Rosemount 880A L3 1000331	NonDispersive Infrared	08/10/00
Rosemount 755R L8 1000314	Paramagnetic	08/07/00

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# 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.: 12-38356-001

#### 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: **ALM002797** Certification Date: 5/17/00 Exp. Date: 5/17/2002  
Cylinder Pressure\*\*\*: 2015 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON DIOXIDE	11.10 %	+/- 1%	Direct NIST and NMI
CARBON MONOXIDE	1,078.00 PPM	+/- 1%	Direct NIST and NMI
NITRIC OXIDE	557.7 PPM	+/- 1%	Direct NIST and NMI
SULFUR DIOXIDE *	1,963 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
NTRM1887	3/01/03	ALM009632	1000. PPM	NO/N2
NTRM1896	8/01/02	ALM057905	3131. PPM	SO2/N2

#### INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN GC/3400/0160-CO2	04/17/00	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

##### CARBON DIOXIDE

Date: 05/16/00 Response Unit: PCT  
Z1 = 0.0000 R1 = 943249 T1 = 580189  
R2 = 944446 Z2 = 0.0000 T2 = 580937  
Z3 = 0.0000 T3 = 580736 R3 = 943769  
Avg. Concentration: 11.10 %

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 = 28672.  
R2 = 68525. Z2 = 0.0000 T2 = 28766.  
Z3 = 0.0000 T3 = 28806. R3 = 68462.  
Avg. Concentration: 1067. PPM

Date: 05/17/00 Response Unit: PPM  
Z1 = 0.0000 R1 = 68723. T1 = 28954.  
R2 = 68656. Z2 = 0.0000 T2 = 28960.  
Z3 = 0.0000 T3 = 28999. R3 = 68699.  
Avg. Concentration: 1074. 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 = 558.58  
R2 = 1000.3 Z2 = 0.4172 T2 = 558.22  
Z3 = 0.3187 T3 = 558.38 R3 = 999.27  
Avg. Concentration: 558.4 PPM

Date: 05/16/00 Response Unit: PPM  
Z1 = 0.1548 R1 = 1000.5 T1 = 557.00  
R2 = 997.39 Z2 = 0.3364 T2 = 556.58  
Z3 = 0.5171 T3 = 557.48 R3 = 1002.1  
Avg. Concentration: 557.0 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.: 12-38356-001

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: ALM002797 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=1962.0
R2=3128.7 Z2=0.5359 T2=1961.7
Z3=3.1523 T3=1966.8 R3=3129.6
Avg. Concentration: 1963. PPM

Date:05/16/00 Response Unit: PPM
Z1=-0.415 R1=3138.4 T1=1963.0
R2=3126.8 Z2=4.9264 T2=1961.2
Z3=4.6126 T3=1962.2 R3=3127.7
Avg. Concentration: 1962. 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 (signature)
B. M. Becton

**CERTIFICATE OF ANALYSIS  
EPA PROTOCOL**

PERFORMED ACCORDING TO EPA-600/R-97/121, PROCEDURE G1

**NOTICE: THIS CYLINDER IS NOT TO BE USED WHEN PRESSURE IS UNDER 150 psig**

**MANUFACTURED AND CERTIFIED AT:**

AGA Gas Inc.  
Specialty & Medical Gas Division  
6421 Monclova Road  
Maumee, Ohio 43537  
419-893-7226

**ANALYTICAL AND CYLINDER DATA:**

Certified Component	Concentration and Uncertainty	Date of Certification
Nitric Oxide	845 ± 8 ppm	5/31/2001
Sulfur Dioxide	2850 ± 29 ppm	5/31/2001
Carbon Monoxide	1680 ± 17 ppm	5/31/2001
Carbon Dioxide	17.2 ± 0.2%	5/31/2001

Analyzed for Reference Use Only	Concentration	Date of Analysis
NOX	845 ppm	5/31/2001

Production Number: 100036016  
Cylinder Number: CC23221  
Expiration Date: 5/31/2003

Cylinder Pressure (psi): 2000  
Balance Gas: Nitrogen  
CGA: 660

**REFERENCE STANDARDS DATA (TRACEABLE TO NIST AND NMI STANDARDS):**

Reference Standard Number	Cylinder Number	Concentration and Component	Expiration Date
GMIS	CC13934	993.8 ppm Nitric Oxide	3/21/2002
GMIS	CC30193	2998 ppm Sulfur Dioxide	3/21/2002
GMIS	DP009338	490.5 ppm Carbon Monoxide	3/21/2002
GMIS	CC84214	2522.2 ppm Carbon Monoxide	3/21/2002
NTRM	CC59225	19.91% Carbon Dioxide	8/1/2005

**INSTRUMENTATION DATA:**

Instrument Model	Serial Number	Date of Last Calibration	Analytical Principle
Horiba CLA-510SS	569466055	5/31/2001	Chemiluminescence
Horiba VIA-510	569905062	5/31/2001	Non-Dispersive Infrared
Horiba VIA-510	568384012	5/31/2001	Non-Dispersive Infrared
Horiba VIA-510	568849043	5/31/2001	Non-Dispersive Infrared

Analytical Report Approved By: *Kathy Anderson*

**AGA**

Member of the Linde Gas Group

AGA Gas, Inc.  
6421 Monclova Road  
Maumee, OH 43537

Phone (419) 893-7226  
Fax (419) 893-6411

www.us.lindegas.com

**COMMERCIAL TESTING & ENGINEERING CO.**

GENERAL OFFICES: 1818 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 630-958-8300 FAX: 630-953-8306

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1908-1998 90 Years Committed To Excellence

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 752  
HENDERSON, KY 42418  
TEL: (502) 827-1167  
FAX: (502) 826-0719

December 27, 2001

ST. JOHNS RIVER POWER PARK  
11201 NEW BERLIN RD  
JACKSONVILLE FL 32226Sample identification by  
SJRPPUnit #: TWO  
Date Collected: 12/10/01  
SJRPP Lab ID #: UNIT2-121001  
P.O. #2312Kind of sample Coal  
reported to us

Sample taken at -----

Sample taken by -----

Date sampled December 10, 2001

Date received December 21, 2001

Analysis Report No. 63-53285

SHORT PROXIMATE ANALYSIS

	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	7.38	XXXXX		
% Ash	13.15	14.20		
Btu/lb	11902	12850	MAF	14977
% Sulfur	2.12	2.29		

Respectfully submitted,  
COMMERCIAL TESTING & ENGINEERING CO.  
Henderson LaboratoryMEMBER  
**ACIL**

# COMMERCIAL TESTING & ENGINEERING CO.

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TEL: (502) 827-1197  
FAX: (502) 826-0719

December 27, 2001

ST. JOHNS RIVER POWER PARK  
11201 NEW BERLIN RD  
JACKSONVILLE FL 32226

Sample identification by  
SJRPP

Unit #: TWO  
Date Collected: 12/11/01  
SJRPP Lab ID #: UNIT2-121101  
P.O. #2312

Kind of sample Coal  
reported to us

Sample taken at -----

Sample taken by -----

Date sampled December 11, 2001

Date received December 21, 2001

Analysis Report No. 63-53286

### SHORT PROXIMATE ANALYSIS

	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	7.23	XXXXX		
% Ash	9.32	10.05		
Btu/lb	12434	13403	MAF	14901
% Sulfur	2.27	2.45		

Respectfully submitted,  
COMMERCIAL TESTING & ENGINEERING CO.

*Delvin D. Henderson*  
Henderson Laboratory



BEST AVAILABLE COPY

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ADDRESS ALL CORRESPONDENCE TO:

P.O. BOX 752  
HENDERSON, KY 42419  
TEL: (502) 827-1187  
FAX: (502) 825-0719

December 27, 2001

ST. JOHNS RIVER POWER PARK  
11201 NEW BERLIN RD  
JACKSONVILLE FL 32226

Sample identification by  
SJRPP

Unit #: TWO  
Date Collected: 12/12/01  
SJRPP Lab ID #: UNIT2-121201  
P.O. #2312

Kind of sample Coal  
reported to us

Sample taken at -----

Sample taken by

Date sampled December 12, 2001

Date received December 21, 2001

Analysis Report No. 63-53287

SHORT PROXIMATE ANALYSIS

	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	8.05	XXXXX		
% Ash	7.36	8.00		
Btu/lb	12605	13708	MAF	14900
% Sulfur	2.29	2.49		

Respectfully submitted,  
COMMERCIAL TESTING & ENGINEERING

*Richard Henderson*  
Henderson Laboratory







# COMMERCIAL TESTING & ENGINEERING CO.

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HENDERSON, KY 42419  
TEL: (502) 827-1187  
FAX: (502) 828-0719

December 27, 2001

ST. JOHNS RIVER POWER PARK  
11201 NEW BERTIN RD  
JACKSONVILLE FL 32226

Sample identification by  
SJRPP

Unit #: TWO  
Date Collected: 12/13/01  
SJRPP Lab ID #: UNIT2-121301  
P.O. #2312

Kind of sample Coal  
reported to us

Sample taken at -----

Sample taken by ---

Date sampled December 13, 2001

Date received December 21, 2001

Analysis Report No. 63-53288

### SHORT PROXIMATE ANALYSIS

	<u>As Received</u>	<u>Dry Basis</u>		
% Moisture	7.24	XXXXX		
% Ash	8.87	9.56		
Btu/lb	12426	13396	MAF	14812
% Sulfur	1.93	2.08		

Respectfully submitted,  
COMMERCIAL TESTING & ENGINEERING CO.

Henderson Laboratory



**RUN #1 OUTLET**  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/12/01 11:00

Company: St. Johns Unit 2  
 Plant: \_\_\_\_\_  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 08:52  
 Period End: 12/12/01 09:13  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average ✓ 2outCO2_C %	Average ✓ 2outNOX_MM #/M	Average 2outSO2_C ppm	Average ✓ 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 08:52	281.5	0.321	11.48	0.479	150.3	0.391	97506.0	652.4
12/12/01 08:53	258.4	0.295	11.49	0.485	150.2	0.392	97524.0	655.7
12/12/01 08:54	352.2	0.404	11.42	0.484	153.2	0.401	97536.0	651.2
12/12/01 08:55	361.8	0.411	11.53	0.479	154.0	0.399	97524.0	645.7
12/12/01 08:56	320.0	0.362	11.57	0.481	154.1	0.398	97704.0	648.8
12/12/01 08:57	438.4	0.495	11.57	0.479	152.5	0.394	97746.0	654.8
12/12/01 08:58	508.1	0.574	11.59	0.476	153.2	0.395	97758.0	656.6
12/12/01 08:59	628.1	0.704	11.69	0.470	155.6	0.398	97746.0	649.1
12/12/01 09:00	646.5	0.724	11.68	0.474	154.2	0.395	98376.0	645.8
12/12/01 09:01	370.4	0.428	11.57	0.489	150.3	0.388	98376.0	647.1
12/12/01 09:02	266.5	0.302	11.53	0.491	149.8	0.388	98400.0	653.7
12/12/01 09:03	357.1	0.400	11.69	0.474	151.7	0.388	98202.0	655.9
12/12/01 09:04	442.6	0.497	11.66	0.476	151.8	0.389	98034.0	656.2
12/12/01 09:05	362.5	0.409	11.60	0.485	152.3	0.392	98022.0	653.0
12/12/01 09:06	363.8	0.409	11.63	0.484	150.1	0.386	98034.0	650.1
12/12/01 09:07	377.4	0.425	11.62	0.482	150.1	0.386	98100.0	650.5
12/12/01 09:08	365.1	0.407	11.75	0.477	150.5	0.383	98124.0	654.5
12/12/01 09:09	452.3	0.509	11.65	0.481	150.5	0.387	98112.0	656.3
12/12/01 09:10	375.5	0.421	11.69	0.478	152.0	0.389	97938.0	654.1
12/12/01 09:11	365.6	0.410	11.66	0.481	154.1	0.395	97482.0	652.0
12/12/01 09:12	370.5	0.414	11.70	0.478	153.6	0.392	97494.0	652.1
12/12/01 09:13	383.1	0.427	11.64	0.480	154.1	0.396	97494.0	653.3
<b>Final Average*</b>	<b>393.1</b>	<b>0.443</b>	<b>11.61</b>	<b>0.480</b>	<b>152.2</b>	<b>0.392</b>	<b>97874.2</b>	<b>652.2</b>
<b>Maximum*</b>	<b>646.5</b>	<b>0.724</b>	<b>11.75</b>	<b>0.491</b>	<b>155.6</b>	<b>0.401</b>	<b>98400.0</b>	<b>656.6</b>
<b>Minimum*</b>	<b>258.4</b>	<b>0.295</b>	<b>11.42</b>	<b>0.470</b>	<b>149.8</b>	<b>0.383</b>	<b>97482.0</b>	<b>645.7</b>

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

RUN #2 OUTLET

Enertec NTDARS®

Average Values Report

Generated : 12/12/01 11:01

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/12/01 09:30  
Period End: 12/12/01 09:51  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 09:30	398.0	0.450	11.58	0.485	153.0	0.395	98562.0	657.3
12/12/01 09:31	490.4	0.549	11.75	0.476	155.4	0.396	98562.0	654.5
12/12/01 09:32	468.7	0.520	11.80	0.478	154.8	0.392	98592.0	648.5
12/12/01 09:33	487.9	0.548	11.69	0.484	153.4	0.392	98406.0	649.0
12/12/01 09:34	476.7	0.536	11.63	0.484	153.4	0.394	98430.0	650.6
12/12/01 09:35	433.4	0.487	11.66	0.486	154.7	0.397	98430.0	654.8
12/12/01 09:36	407.0	0.456	11.68	0.487	153.8	0.393	98406.0	654.1
12/12/01 09:37	369.4	0.413	11.70	0.485	152.3	0.389	98376.0	652.5
12/12/01 09:38	409.3	0.457	11.73	0.484	151.4	0.386	98376.0	650.6
12/12/01 09:39	495.0	0.553	11.71	0.482	151.9	0.388	98376.0	650.5
12/12/01 09:40	369.6	0.414	11.68	0.485	153.5	0.393	98298.0	651.6
12/12/01 09:41	480.6	0.526	11.72	0.482	154.5	0.394	98274.0	651.0
12/12/01 09:42	534.4	0.591	11.70	0.481	154.6	0.395	98274.0	648.4
12/12/01 09:43	397.0	0.446	11.66	0.485	153.1	0.392	98286.0	647.3
12/12/01 09:44	296.9	0.332	11.69	0.486	152.8	0.391	98076.0	650.4
12/12/01 09:45	273.0	0.309	11.58	0.486	151.7	0.391	98100.0	654.2
12/12/01 09:46	335.9	0.377	11.64	0.484	152.8	0.393	98100.0	652.6
12/12/01 09:47	487.5	0.542	11.77	0.484	154.4	0.392	98118.0	653.4
12/12/01 09:48	406.4	0.452	11.77	0.479	152.9	0.388	98268.0	654.5
12/12/01 09:49	526.7	0.590	11.69	0.482	153.4	0.392	98262.0	655.8
12/12/01 09:50	465.0	0.519	11.73	0.480	153.2	0.390	98274.0	654.0
12/12/01 09:51	383.5	0.427	11.74	0.479	152.8	0.389	98064.0	653.1
<b>Final Average*</b>	<b>426.9</b>	<b>0.477</b>	<b>11.70</b>	<b>0.483</b>	<b>153.4</b>	<b>0.392</b>	<b>98314.1</b>	<b>652.2</b>
<b>Maximum*</b>	<b>534.4</b>	<b>0.591</b>	<b>11.80</b>	<b>0.487</b>	<b>155.4</b>	<b>0.397</b>	<b>98592.0</b>	<b>657.3</b>
<b>Minimum*</b>	<b>273.0</b>	<b>0.309</b>	<b>11.58</b>	<b>0.476</b>	<b>151.4</b>	<b>0.386</b>	<b>98064.0</b>	<b>647.3</b>

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

**DUN #3 OUTLET**  
 Enertec NTDAS®  
 Average Values Report  
 Generated : 12/12/01 11:02

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 10:08  
 Period End: 12/12/01 10:29  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 10:08	448.3	0.498	11.66	0.487	146.7	0.376	98364.0	656.4
12/12/01 10:09	566.0	0.635	11.66	0.489	149.0	0.382	98118.0	655.3
12/12/01 10:10	450.3	0.504	11.70	0.489	150.3	0.384	98046.0	654.5
12/12/01 10:11	477.4	0.533	11.73	0.483	152.0	0.387	98022.0	652.1
12/12/01 10:12	601.8	0.673	11.71	0.479	151.4	0.386	98010.0	654.1
12/12/01 10:13	478.6	0.541	11.70	0.486	150.4	0.385	98004.0	653.4
12/12/01 10:14	412.1	0.465	11.60	0.490	150.8	0.389	98472.0	646.6
12/12/01 10:15	606.6	0.677	11.74	0.475	152.5	0.389	98514.0	643.8
12/12/01 10:16	451.8	0.520	11.61	0.487	150.9	0.388	98496.0	643.0
12/12/01 10:17	296.7	0.337	11.52	0.498	150.1	0.389	98508.0	646.4
12/12/01 10:18	360.8	0.406	11.63	0.493	150.6	0.387	98496.0	652.8
12/12/01 10:19	388.7	0.439	11.60	0.491	150.8	0.389	98508.0	653.8
12/12/01 10:20	402.9	0.458	11.61	0.489	152.5	0.393	98460.0	645.5
12/12/01 10:21	361.6	0.403	11.75	0.485	152.8	0.389	98496.0	642.1
12/12/01 10:22	359.0	0.408	11.68	0.482	152.5	0.390	98496.0	645.8
12/12/01 10:23	299.6	0.338	11.60	0.493	149.3	0.385	98460.0	651.5
12/12/01 10:24	336.0	0.380	11.55	0.496	149.3	0.386	98448.0	650.8
12/12/01 10:25	396.6	0.446	11.63	0.488	152.4	0.392	98448.0	648.8
12/12/01 10:26	383.9	0.431	11.64	0.488	153.8	0.395	98418.0	646.5
12/12/01 10:27	438.5	0.493	11.64	0.485	152.6	0.392	98418.0	649.0
12/12/01 10:28	484.5	0.548	11.57	0.489	151.3	0.390	98406.0	652.5
12/12/01 10:29	379.1	0.430	11.55	0.491	150.9	0.390	98406.0	651.9
<b>Final Average*</b>	<b>426.4</b>	<b>0.480</b>	<b>11.64</b>	<b>0.488</b>	<b>151.0</b>	<b>0.388</b>	<b>98364.3</b>	<b>649.8</b>
<b>Maximum*</b>	<b>606.6</b>	<b>0.677</b>	<b>11.75</b>	<b>0.498</b>	<b>153.8</b>	<b>0.395</b>	<b>98514.0</b>	<b>656.4</b>
<b>Minimum*</b>	<b>296.7</b>	<b>0.337</b>	<b>11.52</b>	<b>0.475</b>	<b>146.7</b>	<b>0.376</b>	<b>98004.0</b>	<b>642.1</b>

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

*PUN #4 OUTLET*  
 Enertec NTDAS®  
 Average Values Report  
 Generated : 12/12/01 11:21

Company: St. Johns Unit 2  
 Plant: \_\_\_\_\_  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 10:47  
 Period End: 12/12/01 11:08  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh	Average 2Unit_Load MW
12/12/01 10:47	437.8	0.493	11.61	0.491	149.6	0.385	98976.0	651.8
12/12/01 10:48	465.1	0.524	11.63	0.488	149.4	0.384	98856.0	651.8
12/12/01 10:49	391.1	0.437	11.58	0.488	149.9	0.387	98814.0	652.3
12/12/01 10:50	420.3	0.473	11.64	0.480	150.7	0.387	98814.0	651.3
12/12/01 10:51	324.4	0.365	11.68	0.481	149.5	0.384	98814.0	653.4
12/12/01 10:52	385.7	0.423	11.62	0.483	149.1	0.383	98706.0	655.0
12/12/01 10:53	489.5	0.546	11.69	0.480	149.4	0.382	98376.0	655.6
12/12/01 10:54	443.1	0.495	11.75	0.480	149.9	0.382	98376.0	655.4
12/12/01 10:55	392.8	0.440	11.67	0.484	151.0	0.387	98376.0	652.6
12/12/01 10:56	308.4	0.342	11.63	0.485	151.4	0.389	98520.0	647.5
12/12/01 10:57	274.5	0.308	11.67	0.487	152.0	0.389	98496.0	645.0
12/12/01 10:58	223.3	0.251	11.63	0.493	148.9	0.382	98484.0	646.0
12/12/01 10:59	245.5	0.278	11.56	0.495	149.7	0.387	98508.0	647.7
12/12/01 11:00	405.8	0.458	11.61	0.482	149.6	0.385	98496.0	650.8
12/12/01 11:01	374.2	0.421	11.62	0.484	149.2	0.384	98508.0	651.4
12/12/01 11:02	415.0	0.458	11.65	0.485	149.6	0.384	98508.0	650.1
12/12/01 11:03	522.8	0.584	11.71	0.477	149.8	0.382	98640.0	649.0
12/12/01 11:04	638.3	0.715	11.70	0.475	151.4	0.387	98694.0	650.0
12/12/01 11:05	478.0	0.527	11.68	0.479	150.3	0.385	98682.0	651.3
12/12/01 11:06	471.0	0.530	11.64	0.481	148.2	0.380	98550.0	648.6
12/12/01 11:07	381.8	0.428	11.65	0.484	146.4	0.376	98166.0	644.6
12/12/01 11:08	390.3	0.439	11.64	0.482	147.1	0.378	98154.0	649.4
<b>Final Average*</b>	<b>403.6</b>	<b>0.452</b>	<b>11.65</b>	<b>0.484</b>	<b>149.6</b>	<b>0.384</b>	<b>98568.8</b>	<b>650.5</b>
<b>Maximum*</b>	<b>638.3</b>	<b>0.715</b>	<b>11.75</b>	<b>0.495</b>	<b>152.0</b>	<b>0.389</b>	<b>98976.0</b>	<b>655.6</b>
<b>Minimum*</b>	<b>223.3</b>	<b>0.251</b>	<b>11.56</b>	<b>0.475</b>	<b>146.4</b>	<b>0.376</b>	<b>98154.0</b>	<b>644.6</b>

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

Enertec NTDAS®  
 Average Values Report  
 Generated : 12/12/01 12:06

BEST AVAILABLE COPY

Company: St. Johns Unit 2  
 Plant: \_\_\_\_\_  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 11:25  
 Period End: 12/12/01 11:46  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 11:25	495.2	0.555	11.68	0.474	147.3	0.377	98652.0	655.6
12/12/01 11:26	561.7	0.632	11.63	0.474	148.8	0.382	98628.0	656.8
12/12/01 11:27	502.9	0.566	11.63	0.476	149.4	0.384	98550.0	654.6
12/12/01 11:28	544.9	0.608	11.73	0.470	149.5	0.381	98244.0	651.5
12/12/01 11:29	439.5	0.490	11.72	0.473	148.8	0.379	98244.0	650.7
12/12/01 11:30	303.2	0.341	11.64	0.487	146.2	0.375	98220.0	651.6
12/12/01 11:31	307.0	0.347	11.57	0.489	146.9	0.379	98046.0	650.9
12/12/01 11:32	326.4	0.365	11.70	0.478	148.3	0.379	97890.0	647.4
12/12/01 11:33	369.8	0.416	11.66	0.476	149.5	0.383	97878.0	646.9
12/12/01 11:34	404.8	0.457	11.59	0.481	149.7	0.386	97890.0	646.3
12/12/01 11:35	349.6	0.396	11.51	0.488	149.0	0.387	98124.0	645.3
12/12/01 11:36	418.4	0.471	11.60	0.487	148.1	0.382	98100.0	649.0
12/12/01 11:37	559.2	0.632	11.57	0.486	144.4	0.373	98112.0	649.4
12/12/01 11:38	457.9	0.520	11.50	0.488	143.2	0.372	98100.0	652.9
12/12/01 11:39	570.6	0.645	11.58	0.481	145.1	0.375	97758.0	651.2
12/12/01 11:40	493.0	0.557	11.59	0.481	146.9	0.379	97758.0	648.2
12/12/01 11:41	433.6	0.488	11.62	0.480	148.7	0.382	97758.0	652.5
12/12/01 11:42	376.7	0.428	11.54	0.483	147.6	0.382	97758.0	658.7
12/12/01 11:43	369.6	0.419	11.56	0.477	149.1	0.386	97758.0	658.3
12/12/01 11:44	507.6	0.566	11.75	0.467	154.2	0.392	97746.0	657.0
12/12/01 11:45	569.5	0.636	11.72	0.471	155.6	0.397	97740.0	655.6
12/12/01 11:46	466.8	0.525	11.64	0.477	153.0	0.393	97626.0	653.1
<b>Final Average*</b>	<b>446.7</b>	<b>0.503</b>	<b>11.62</b>	<b>0.479</b>	<b>148.6</b>	<b>0.382</b>	<b>98026.4</b>	<b>652.0</b>
<b>Maximum*</b>	<b>570.6</b>	<b>0.645</b>	<b>11.75</b>	<b>0.489</b>	<b>155.6</b>	<b>0.397</b>	<b>98652.0</b>	<b>658.7</b>
<b>Minimum*</b>	<b>303.2</b>	<b>0.341</b>	<b>11.50</b>	<b>0.467</b>	<b>143.2</b>	<b>0.372</b>	<b>97626.0</b>	<b>645.3</b>

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

RUN #6 OUTLET

Enertec NTDHS®  
Average Values Report  
Generated : 12/12/01 14:26

Company: St. Johns Unit 2  
Plant: \_\_\_\_\_  
City/St:  
Source: Unit 2

Period Start: 12/12/01 12:48  
Period End: 12/12/01 13:09  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh	Average 2Unit_Load MW
12/12/01 12:48	451.9	0.528	11.20	0.481	140.6	0.375	97848.0	652.3
12/12/01 12:49	507.3	0.589	11.28	0.478	141.3	0.375	97848.0	646.8
12/12/01 12:50	330.7	0.385	11.25	0.490	140.8	0.374	97836.0	642.5
12/12/01 12:51	260.7	0.303	11.29	0.494	139.6	0.370	97938.0	646.8
12/12/01 12:52	267.0	0.312	11.21	0.495	137.8	0.367	97932.0	653.0
12/12/01 12:53	418.4	0.487	11.24	0.490	137.3	0.365	97956.0	650.3
12/12/01 12:54	451.3	0.522	11.32	0.485	139.5	0.368	98052.0	647.3
12/12/01 12:55	487.3	0.561	11.38	0.475	145.3	0.382	98142.0	647.4
12/12/01 12:56	381.3	0.442	11.30	0.487	146.0	0.387	98136.0	649.2
12/12/01 12:57	515.4	0.594	11.36	0.481	145.4	0.383	98136.0	648.8
12/12/01 12:58	753.1	0.871	11.42	0.471	145.9	0.382	97758.0	646.6
12/12/01 12:59	578.0	0.668	11.33	0.474	145.4	0.383	97770.0	644.2
12/12/01 13:00	460.6	0.532	11.33	0.477	145.6	0.384	97746.0	651.5
12/12/01 13:01	356.4	0.414	11.25	0.481	143.4	0.381	97692.0	656.2
12/12/01 13:02	559.2	0.644	11.37	0.470	146.9	0.386	97494.0	656.2
12/12/01 13:03	873.4	0.994	11.49	0.465	150.2	0.391	97494.0	651.7
12/12/01 13:04	869.5	0.992	11.47	0.465	151.3	0.394	97482.0	646.5
12/12/01 13:05	504.3	0.579	11.39	0.478	148.7	0.391	97404.0	647.6
12/12/01 13:06	450.5	0.518	11.39	0.475	146.9	0.386	97392.0	647.7
12/12/01 13:07	550.4	0.629	11.46	0.467	146.9	0.383	97404.0	652.1
12/12/01 13:08	405.4	0.464	11.43	0.475	145.9	0.381	97518.0	649.6
12/12/01 13:09	453.2	0.521	11.38	0.478	145.9	0.384	97848.0	644.6
<b>Final Average*</b>	<b>494.8</b>	<b>0.570</b>	<b>11.34</b>	<b>0.479</b>	<b>144.4</b>	<b>0.381</b>	<b>97764.8</b>	<b>649.0</b>
<b>Maximum*</b>	<b>873.4</b>	<b>0.994</b>	<b>11.49</b>	<b>0.495</b>	<b>151.3</b>	<b>0.394</b>	<b>98142.0</b>	<b>656.2</b>
<b>Minimum*</b>	<b>260.7</b>	<b>0.303</b>	<b>11.20</b>	<b>0.465</b>	<b>137.3</b>	<b>0.365</b>	<b>97392.0</b>	<b>642.5</b>

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

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 13:22  
 Period End: 12/12/01 13:43  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 13:22	440.4	0.507	11.36	0.475	145.1	0.382	98340.0	650.9
12/12/01 13:23	441.6	0.505	11.43	0.473	145.7	0.381	98298.0	649.6
12/12/01 13:24	607.7	0.695	11.44	0.470	146.1	0.382	98298.0	647.2
12/12/01 13:25	612.4	0.695	11.52	0.466	148.2	0.384	98298.0	644.4
12/12/01 13:26	474.8	0.545	11.40	0.475	147.8	0.387	98076.0	646.7
12/12/01 13:27	334.7	0.385	11.39	0.478	146.3	0.384	97992.0	650.7
12/12/01 13:28	294.1	0.338	11.40	0.476	146.4	0.384	97992.0	653.0
12/12/01 13:29	364.6	0.417	11.46	0.471	147.2	0.384	97980.0	652.1
12/12/01 13:30	401.1	0.458	11.48	0.467	147.4	0.384	97536.0	654.2
12/12/01 13:31	359.3	0.412	11.41	0.473	146.4	0.383	97536.0	656.3
12/12/01 13:32	377.0	0.428	11.54	0.465	148.9	0.385	97524.0	654.5
12/12/01 13:33	386.7	0.437	11.58	0.462	149.8	0.387	97524.0	652.1
12/12/01 13:34	531.3	0.603	11.53	0.461	150.8	0.390	97716.0	651.2
12/12/01 13:35	354.0	0.406	11.40	0.471	149.0	0.391	97716.0	651.9
12/12/01 13:36	299.1	0.343	11.42	0.475	147.6	0.386	97728.0	652.2
12/12/01 13:37	305.2	0.345	11.55	0.467	148.4	0.384	97494.0	648.1
12/12/01 13:38	353.7	0.399	11.55	0.469	147.4	0.382	97494.0	643.8
12/12/01 13:39	309.9	0.354	11.47	0.475	145.1	0.378	97494.0	643.8
12/12/01 13:40	263.0	0.302	11.41	0.479	146.1	0.382	97506.0	640.4
12/12/01 13:41	292.2	0.331	11.54	0.471	149.1	0.386	98208.0	641.9
12/12/01 13:42	263.5	0.301	11.45	0.476	147.0	0.384	98184.0	648.0
12/12/01 13:43	279.3	0.321	11.40	0.479	145.5	0.381	98196.0	657.4
<b>Final Average*</b>	<b>379.3</b>	<b>0.433</b>	<b>11.46</b>	<b>0.472</b>	<b>147.3</b>	<b>0.384</b>	<b>97869.6</b>	<b>649.6</b>
<b>Maximum*</b>	<b>612.4</b>	<b>0.695</b>	<b>11.58</b>	<b>0.479</b>	<b>150.8</b>	<b>0.391</b>	<b>98340.0</b>	<b>657.4</b>
<b>Minimum*</b>	<b>263.0</b>	<b>0.301</b>	<b>11.36</b>	<b>0.461</b>	<b>145.1</b>	<b>0.378</b>	<b>97494.0</b>	<b>640.4</b>

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



PUN #8 OUTLET

Enertec NTDAHS®  
Average Values Report  
Generated : 12/12/01 14:29

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/12/01 13:56  
Period End: 12/12/01 14:17  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 13:56	338.8	0.385	11.51	0.478	149.4	0.388	98178.0	648.4
12/12/01 13:57	264.0	0.301	11.49	0.481	147.9	0.385	98112.0	649.6
12/12/01 13:58	421.3	0.476	11.57	0.471	148.3	0.383	98124.0	649.9
12/12/01 13:59	479.0	0.542	11.60	0.470	149.3	0.385	98376.0	649.4
12/12/01 14:00	399.2	0.454	11.52	0.472	148.2	0.384	98484.0	652.3
12/12/01 14:01	396.6	0.448	11.59	0.470	149.8	0.386	98460.0	654.4
12/12/01 14:02	452.8	0.510	11.63	0.468	150.6	0.388	98472.0	655.5
12/12/01 14:03	505.3	0.568	11.64	0.466	150.9	0.387	98076.0	652.4
12/12/01 14:04	632.1	0.710	11.66	0.461	151.9	0.389	97656.0	648.3
12/12/01 14:05	542.4	0.607	11.70	0.461	152.2	0.389	97668.0	649.5
12/12/01 14:06	318.5	0.362	11.51	0.476	150.2	0.390	97662.0	656.2
12/12/01 14:07	331.0	0.375	11.57	0.472	148.9	0.385	97638.0	657.3
12/12/01 14:08	492.5	0.552	11.63	0.469	148.9	0.382	97638.0	654.5
12/12/01 14:09	567.4	0.628	11.81	0.465	150.3	0.381	97638.0	646.9
12/12/01 14:10	364.0	0.410	11.61	0.482	149.9	0.386	97626.0	648.5
12/12/01 14:11	263.4	0.299	11.51	0.484	149.9	0.389	97362.0	654.6
12/12/01 14:12	251.8	0.287	11.49	0.480	149.9	0.390	97284.0	651.9
12/12/01 14:13	315.4	0.354	11.66	0.474	152.8	0.391	97284.0	648.8
12/12/01 14:14	468.0	0.523	11.73	0.467	154.3	0.393	97812.0	650.9
12/12/01 14:15	330.5	0.375	11.53	0.478	151.8	0.394	N/A	653.5
12/12/01 14:16	302.8	0.342	11.59	0.476	152.9	0.394	N/A	650.5
12/12/01 14:17	570.9	0.618	11.78	0.464	155.1	0.393	N/A	645.1
<b>Final Average*</b>	<b>409.4</b>	<b>0.460</b>	<b>11.61</b>	<b>0.472</b>	<b>150.6</b>	<b>0.388</b>	<b>97871.1</b>	<b>651.3</b>
<b>Maximum*</b>	<b>632.1</b>	<b>0.710</b>	<b>11.81</b>	<b>0.484</b>	<b>155.1</b>	<b>0.394</b>	<b>98484.0</b>	<b>657.3</b>
<b>Minimum*</b>	<b>251.8</b>	<b>0.287</b>	<b>11.49</b>	<b>0.461</b>	<b>147.9</b>	<b>0.381</b>	<b>97284.0</b>	<b>645.1</b>

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

**PON # 9 OUTLET**  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/12/01 14:54

Company: St. Johns Unit 2  
 Plant: \_\_\_\_\_  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 14:31  
 Period End: 12/12/01 14:52  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 14:31	538.1	0.602	11.70	0.465	153.3	0.392	98598.0	657.3
12/12/01 14:32	478.6	0.537	11.66	0.470	153.3	0.393	98574.0	657.0
12/12/01 14:33	466.3	0.522	11.69	0.471	154.2	0.394	98514.0	655.8
12/12/01 14:34	377.5	0.425	11.63	0.474	153.9	0.396	98448.0	652.2
12/12/01 14:35	326.3	0.368	11.62	0.476	154.1	0.396	98460.0	646.1
12/12/01 14:36	251.2	0.283	11.61	0.481	152.7	0.393	98460.0	648.5
12/12/01 14:37	290.2	0.329	11.55	0.480	151.4	0.392	97956.0	652.2
12/12/01 14:38	366.0	0.412	11.62	0.476	150.4	0.387	97800.0	651.9
12/12/01 14:39	330.4	0.372	11.63	0.477	150.6	0.387	97800.0	644.3
12/12/01 14:40	360.7	0.406	11.64	0.476	152.1	0.390	97878.0	645.0
12/12/01 14:41	300.9	0.346	11.61	0.480	152.1	0.392	97932.0	652.1
12/12/01 14:42	242.4	0.274	11.57	0.480	151.9	0.393	97920.0	652.7
12/12/01 14:43	311.1	0.350	11.62	0.480	153.1	0.394	97920.0	646.6
12/12/01 14:44	424.5	0.473	11.75	0.470	154.7	0.393	97770.0	641.7
12/12/01 14:45	226.0	0.255	11.59	0.481	153.9	0.397	97638.0	643.2
12/12/01 14:46	185.9	0.212	11.48	0.491	152.3	0.397	97644.0	650.4
12/12/01 14:47	274.9	0.310	11.62	0.483	154.0	0.396	97650.0	655.1
12/12/01 14:48	359.6	0.405	11.64	0.475	154.7	0.397	98244.0	650.2
12/12/01 14:49	307.9	0.345	11.69	0.474	155.4	0.398	98460.0	649.1
12/12/01 14:50	251.8	0.286	11.67	0.478	155.6	0.399	98460.0	653.4
12/12/01 14:51	224.6	0.254	11.58	0.483	153.9	0.398	98460.0	655.9
12/12/01 14:52	407.5	0.455	11.72	0.473	155.8	0.397	97890.0	654.4
<b>Final Average*</b>	<b>331.9</b>	<b>0.374</b>	<b>11.63</b>	<b>0.477</b>	<b>153.3</b>	<b>0.394</b>	<b>98112.6</b>	<b>650.7</b>
<b>Maximum*</b>	<b>538.1</b>	<b>0.602</b>	<b>11.75</b>	<b>0.491</b>	<b>155.8</b>	<b>0.399</b>	<b>98598.0</b>	<b>657.3</b>
<b>Minimum*</b>	<b>185.9</b>	<b>0.212</b>	<b>11.48</b>	<b>0.465</b>	<b>150.4</b>	<b>0.387</b>	<b>97638.0</b>	<b>641.7</b>

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

PON #10 OUTLET  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/12/01 15:56

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 15:09  
 Period End: 12/12/01 15:30  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2outCO_C ppm	Average 2outCO_MM #/M	Average 2outCO2_C %	Average 2outNOX_MM #/M	Average 2outSO2_C ppm	Average 2outSO2_MM #/M	Average 2Stk_kscfh	Average 2Unit_Load MW
12/12/01 15:09	297.9	0.336	11.61	0.490	150.1	0.386	99006.0	650.7
12/12/01 15:10	406.1	0.458	11.60	0.486	151.1	0.389	98772.0	653.3
12/12/01 15:11	404.1	0.456	11.60	0.483	151.4	0.390	98772.0	654.2
12/12/01 15:12	493.4	0.556	11.61	0.476	153.1	0.394	98784.0	653.8
12/12/01 15:13	558.3	0.628	11.63	0.478	153.3	0.394	98484.0	650.9
12/12/01 15:14	598.8	0.668	11.73	0.475	153.7	0.392	98184.0	651.0
12/12/01 15:15	384.9	0.432	11.66	0.480	151.2	0.387	98196.0	649.5
12/12/01 15:16	341.7	0.385	11.62	0.483	150.6	0.387	98196.0	650.7
12/12/01 15:17	419.2	0.469	11.71	0.483	150.4	0.384	98196.0	650.9
12/12/01 15:18	401.7	0.450	11.68	0.482	150.1	0.384	98184.0	650.4
12/12/01 15:19	430.5	0.480	11.74	0.475	152.1	0.387	98196.0	651.5
12/12/01 15:20	454.0	0.510	11.66	0.475	152.3	0.391	98184.0	654.3
12/12/01 15:21	319.1	0.361	11.67	0.483	151.2	0.387	98178.0	654.2
12/12/01 15:22	294.1	0.330	11.69	0.488	152.3	0.389	98232.0	656.6
12/12/01 15:23	414.0	0.461	11.76	0.486	153.8	0.391	98298.0	656.3
12/12/01 15:24	574.7	0.641	11.73	0.477	156.8	0.399	98316.0	654.5
12/12/01 15:25	464.3	0.516	11.78	0.469	156.6	0.398	98286.0	649.2
12/12/01 15:26	335.1	0.373	11.77	0.478	155.8	0.397	98316.0	647.7
12/12/01 15:27	224.4	0.253	11.63	0.489	153.4	0.394	98298.0	647.5
12/12/01 15:28	245.9	0.276	11.64	0.492	154.1	0.396	98304.0	647.6
12/12/01 15:29	358.6	0.402	11.69	0.486	155.1	0.397	98376.0	647.9
12/12/01 15:30	362.0	0.405	11.70	0.484	155.0	0.396	98388.0	646.0
<b>Final Average*</b>	<b>399.2</b>	<b>0.448</b>	<b>11.68</b>	<b>0.482</b>	<b>152.9</b>	<b>0.391</b>	<b>98370.3</b>	<b>651.3</b>
<b>Maximum*</b>	<b>598.8</b>	<b>0.668</b>	<b>11.78</b>	<b>0.492</b>	<b>156.8</b>	<b>0.399</b>	<b>99006.0</b>	<b>656.6</b>
<b>Minimum*</b>	<b>224.4</b>	<b>0.253</b>	<b>11.60</b>	<b>0.469</b>	<b>150.1</b>	<b>0.384</b>	<b>98178.0</b>	<b>646.0</b>

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

*Unit #1 Flow*  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/10/01 09:39

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/10/01 08:36  
 Period End: 12/10/01 08:48  
 Validation Type: 1/1 min  
 Averaging Period: 1/1 min  
 Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/10/01 08:36	95208.0	639.8
12/10/01 08:37	95094.0	637.9
12/10/01 08:38	95106.0	635.0
12/10/01 08:39	95118.0	631.1
12/10/01 08:40	95118.0	628.1
12/10/01 08:41	94200.0	625.5
12/10/01 08:42	93888.0	624.2
12/10/01 08:43	93912.0	624.5
12/10/01 08:44	93078.0	624.8
12/10/01 08:45	92790.0	625.0
12/10/01 08:46	92802.0	624.1
12/10/01 08:47	92802.0	622.3
12/10/01 08:48	92352.0	620.0
<b>Final Average*</b>	<b>93959.1</b>	<b>627.9</b>
<b>Maximum*</b>	<b>95208.0</b>	<b>639.8</b>
<b>Minimum*</b>	<b>92352.0</b>	<b>620.0</b>

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

*UN #2 Flow*  
 Enertec NTDASHS®  
 Average Values Report  
 Generated : 12/10/01 09:39

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/10/01 08:50  
 Period End: 12/10/01 09:04  
 Validation Type: 1/1 min  
 Averaging Period: 1/1 min  
 Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/10/01 08:50	91878.0	619.0
12/10/01 08:51	91224.0	618.0
12/10/01 08:52	90540.0	618.6
12/10/01 08:53	90552.0	618.4
12/10/01 08:54	90444.0	617.9
12/10/01 08:55	90108.0	617.5
12/10/01 08:56	90108.0	617.0
12/10/01 08:57	90108.0	616.9
12/10/01 08:58	89880.0	617.4
12/10/01 08:59	89790.0	617.9
12/10/01 09:00	89802.0	620.4
12/10/01 09:01	90024.0	623.0
12/10/01 09:02	90216.0	626.3
12/10/01 09:03	90222.0	629.2
12/10/01 09:04	90198.0	631.1
<b>Final Average*</b>	<b>90339.6</b>	<b>620.6</b>
<b>Maximum*</b>	<b>91878.0</b>	<b>631.1</b>
<b>Minimum*</b>	<b>89790.0</b>	<b>616.9</b>

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

Average Values Report  
Generated : 12/10/01 10:57

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/10/01 09:35  
Period End: 12/10/01 09:43  
Validation Type: 1/1 min  
Averaging Period: 1/1 min  
Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/10/01 09:35	94002.0	643.0
12/10/01 09:36	94080.0	643.3
12/10/01 09:37	94332.0	642.8
12/10/01 09:38	94362.0	643.0
12/10/01 09:39	94344.0	643.7
12/10/01 09:40	94344.0	643.5
12/10/01 09:41	94434.0	644.3
12/10/01 09:42	94728.0	644.1
12/10/01 09:43	94728.0	643.6
<b>Final Average*</b>	<b>94372.7</b>	<b>643.5</b>
<b>Maximum*</b>	<b>94728.0</b>	<b>644.3</b>
<b>Minimum*</b>	<b>94002.0</b>	<b>642.8</b>

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

PW #4 flow

BEST AVAILABLE COPY

Enertec NTDAS®  
Average Values Report  
Generated : 12/10/01 10:57

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/10/01 09:44  
Period End: 12/10/01 09:52  
Validation Type: 1/1 min  
Averaging Period: 1/1 min  
Type: Rolling Avg

Period Start	Average 2Stk_kscfh	Average 2Unit_Load MW
12/10/01 09:44	94674.0	643.3
12/10/01 09:45	94548.0	643.4
12/10/01 09:46	94548.0	643.2
12/10/01 09:47	94560.0	643.0
12/10/01 09:48	94548.0	642.6
12/10/01 09:49	94452.0	642.8
12/10/01 09:50	94464.0	643.2
12/10/01 09:51	94464.0	643.6
12/10/01 09:52	94464.0	643.8
<b>Final Average*</b>	<b>94524.7</b>	<b>643.2</b>
<b>Maximum*</b>	<b>94674.0</b>	<b>643.8</b>
<b>Minimum*</b>	<b>94452.0</b>	<b>642.6</b>

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

Average Values Report  
Generated : 12/12/01 11:05

Company: St. Johns Unit 2  
Plant: \_\_\_\_\_  
City/St:  
Source: Unit 2

Period Start: 12/12/01 08:52  
Period End: 12/12/01 09:02  
Validation Type: 1/1 min  
Averaging Period: 1/1 min  
Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 08:52	97494.0	644.8
12/12/01 08:53	97506.0	652.4
12/12/01 08:54	97524.0	655.7
12/12/01 08:55	97536.0	651.2
12/12/01 08:56	97524.0	645.7
12/12/01 08:57	97704.0	648.8
12/12/01 08:58	97746.0	654.8
12/12/01 08:59	97758.0	656.6
12/12/01 09:00	97746.0	649.1
12/12/01 09:01	98376.0	645.8
12/12/01 09:02	98376.0	647.1
<b>Final Average*</b>	<b>97753.6</b>	<b>650.2</b>
<b>Maximum*</b>	<b>98376.0</b>	<b>656.6</b>
<b>Minimum*</b>	<b>97494.0</b>	<b>644.8</b>

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



Run # 6 High Flow  
 Enertec NTDAS®  
 Average Values Report  
 Generated : 12/12/01 11:07

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 09:06  
 Period End: 12/12/01 09:21  
 Validation Type: 1/1 min  
 Averaging Period: 1/1 min  
 Type: Rolling Avg

Period Start	Average 2Stk_kscfh	Average 2Unit_Load MW
12/12/01 09:06	98022.0	653.0
12/12/01 09:07	98034.0	650.1
12/12/01 09:08	98100.0	650.5
12/12/01 09:09	98124.0	654.5
12/12/01 09:10	98112.0	656.3
12/12/01 09:11	97938.0	654.1
12/12/01 09:12	97482.0	652.0
12/12/01 09:13	97494.0	652.1
12/12/01 09:14	97494.0	653.3
12/12/01 09:15	97482.0	653.2
12/12/01 09:16	97584.0	651.9
12/12/01 09:17	97614.0	650.6
12/12/01 09:18	97596.0	651.7
12/12/01 09:19	97572.0	654.7
12/12/01 09:20	97608.0	657.6
12/12/01 09:21	97596.0	657.7
<b>Final Average*</b>	<b>97740.8</b>	<b>653.3</b>
<b>Maximum*</b>	<b>98124.0</b>	<b>657.7</b>
<b>Minimum*</b>	<b>97482.0</b>	<b>650.1</b>

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

**RUN #7 HIGH FLOW**  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/12/01 11:07

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 09:30  
 Period End: 12/12/01 09:44  
 Validation Type: 1/1 min  
 Averaging Period: 1/1 min  
 Type: Rolling Avg

Period Start	Average 2Stk_kscfh	Average 2Unit_Load MW
12/12/01 09:30	98550.0	657.5
12/12/01 09:31	98562.0	657.3
12/12/01 09:32	98562.0	654.5
12/12/01 09:33	98592.0	648.5
12/12/01 09:34	98406.0	649.0
12/12/01 09:35	98430.0	650.6
12/12/01 09:36	98430.0	654.8
12/12/01 09:37	98406.0	654.1
12/12/01 09:38	98376.0	652.5
12/12/01 09:39	98376.0	650.6
12/12/01 09:40	98376.0	650.5
12/12/01 09:41	98298.0	651.6
12/12/01 09:42	98274.0	651.0
12/12/01 09:43	98274.0	648.4
12/12/01 09:44	98286.0	647.3
<b>Final Average*</b>	<b>98413.2</b>	<b>651.9</b>
<b>Maximum*</b>	<b>98592.0</b>	<b>657.5</b>
<b>Minimum*</b>	<b>98274.0</b>	<b>647.3</b>

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

*Run #8 High Flow*  
Enertec NTDAHS®

Average Values Report  
Generated : 12/12/01 11:08

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/12/01 09:45  
Period End: 12/12/01 09:59  
Validation Type: 1/1 min  
Averaging Period: 1/1 min  
Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 09:45	98076.0	650.4
12/12/01 09:46	98100.0	654.2
12/12/01 09:47	98100.0	652.6
12/12/01 09:48	98118.0	653.4
12/12/01 09:49	98268.0	654.5
12/12/01 09:50	98262.0	655.8
12/12/01 09:51	98274.0	654.0
12/12/01 09:52	98064.0	653.1
12/12/01 09:53	98004.0	651.6
12/12/01 09:54	98034.0	651.0
12/12/01 09:55	98070.0	647.4
12/12/01 09:56	98112.0	646.1
12/12/01 09:57	98142.0	645.2
12/12/01 09:58	98124.0	649.8
12/12/01 09:59	98232.0	651.5
<b>Final Average*</b>	<b>98132.0</b>	<b>651.4</b>
<b>Maximum*</b>	<b>98274.0</b>	<b>655.8</b>
<b>Minimum*</b>	<b>98004.0</b>	<b>645.2</b>

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

BUN # 9 High Flow

Enertec NTDAS®

Average Values Report

Generated : 12/12/01 11:08

Company: St. Johns Unit 2

Plant:

City/St:

Source: Unit 2

Period Start: 12/12/01 10:08

Period End: 12/12/01 10:22

Validation Type: 1/1 min

Averaging Period: 1/1 min

Type: Rolling Avg

Period Start	Average 2Stk_kscfh	Average 2Unit_Load MW
12/12/01 10:08	98340.0	654.1
12/12/01 10:09	98364.0	656.4
12/12/01 10:10	98118.0	655.3
12/12/01 10:11	98046.0	654.5
12/12/01 10:12	98022.0	652.1
12/12/01 10:13	98010.0	654.1
12/12/01 10:14	98004.0	653.4
12/12/01 10:15	98472.0	646.6
12/12/01 10:16	98514.0	643.8
12/12/01 10:17	98496.0	643.0
12/12/01 10:18	98508.0	646.4
12/12/01 10:19	98496.0	652.8
12/12/01 10:20	98508.0	653.8
12/12/01 10:21	98460.0	645.5
12/12/01 10:22	98496.0	642.1
<b>Final Average*</b>	<b>98323.6</b>	<b>650.3</b>
<b>Maximum*</b>	<b>98514.0</b>	<b>656.4</b>
<b>Minimum*</b>	<b>98004.0</b>	<b>642.1</b>

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

Run # 10 High Flow  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/12/01 11:09

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 10:23  
 Period End: 12/12/01 10:37  
 Validation Type: 1/1 min  
 Averaging Period: 1/1 min  
 Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 10:23	98496.0	645.8
12/12/01 10:24	98460.0	651.5
12/12/01 10:25	98448.0	650.8
12/12/01 10:26	98448.0	648.8
12/12/01 10:27	98418.0	646.5
12/12/01 10:28	98418.0	649.0
12/12/01 10:29	98406.0	652.5
12/12/01 10:30	98406.0	651.9
12/12/01 10:31	98310.0	652.3
12/12/01 10:32	98232.0	653.8
12/12/01 10:33	98244.0	657.2
12/12/01 10:34	98394.0	655.9
12/12/01 10:35	98448.0	653.4
12/12/01 10:36	98448.0	646.5
12/12/01 10:37	98448.0	649.3
<b>Final Average*</b>	<b>98401.6</b>	<b>651.0</b>
<b>Maximum*</b>	<b>98496.0</b>	<b>657.2</b>
<b>Minimum*</b>	<b>98232.0</b>	<b>645.8</b>

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

RUN # 7/ HIGH FLOW  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/12/01 11:20

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/12/01 10:47  
 Period End: 12/12/01 11:01  
 Validation Type: 1/1 min  
 Averaging Period: 1/1 min  
 Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 10:47	98946.0	648.6
12/12/01 10:48	98976.0	651.8
12/12/01 10:49	98856.0	651.8
12/12/01 10:50	98814.0	652.3
12/12/01 10:51	98814.0	651.3
12/12/01 10:52	98814.0	653.4
12/12/01 10:53	98706.0	655.0
12/12/01 10:54	98376.0	655.6
12/12/01 10:55	98376.0	655.4
12/12/01 10:56	98376.0	652.6
12/12/01 10:57	98520.0	647.5
12/12/01 10:58	98496.0	645.0
12/12/01 10:59	98484.0	646.0
12/12/01 11:00	98508.0	647.7
12/12/01 11:01	98496.0	650.8
<b>Final Average*</b>	<b>98637.2</b>	<b>651.0</b>
<b>Maximum*</b>	<b>98976.0</b>	<b>655.6</b>
<b>Minimum*</b>	<b>98376.0</b>	<b>645.0</b>

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

WN# 12 HIGH FLOW  
Enertec NTDAHS®

Average Values Report  
Generated : 12/12/01 14:30

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/12/01 11:02  
Period End: 12/12/01 11:16  
Validation Type: 1/1 min  
Averaging Period: 1/1 min  
Type: Rolling Avg

Period Start	Average 2Stk_kscfh kscfh	Average 2Unit_Load MW
12/12/01 11:02	98508.0	651.4
12/12/01 11:03	98508.0	650.1
12/12/01 11:04	98640.0	649.0
12/12/01 11:05	98694.0	650.0
12/12/01 11:06	98682.0	651.3
12/12/01 11:07	98550.0	648.6
12/12/01 11:08	98166.0	644.6
12/12/01 11:09	98154.0	649.4
12/12/01 11:10	98154.0	653.2
12/12/01 11:11	98136.0	653.1
12/12/01 11:12	98112.0	650.8
12/12/01 11:13	98112.0	652.2
12/12/01 11:14	98112.0	656.7
12/12/01 11:15	98364.0	656.8
12/12/01 11:16	98472.0	652.3
<b>Final Average*</b>	<b>98357.6</b>	<b>651.3</b>
<b>Maximum*</b>	<b>98694.0</b>	<b>656.8</b>
<b>Minimum*</b>	<b>98112.0</b>	<b>644.6</b>

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

*RUN #1 Inlet*  
 Enertec NTDAS®  
 Average Values Report  
 Generated : 12/11/01 10:41

Company: St. Johns Unit 2  
 Plant: \_\_\_\_\_  
 City/St:  
 Source: Unit 2

Period Start: 12/11/01 08:00  
 Period End: 12/11/01 08:21  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 08:00	12.94	1482	3.421	647.5
12/11/01 08:01	13.03	1493	3.424	652.0
12/11/01 08:02	13.13	1514	3.445	644.0
12/11/01 08:03	13.05	1504	3.444	636.8
12/11/01 08:04	12.99	1500	3.451	635.5
12/11/01 08:05	12.93	1485	3.431	640.7
12/11/01 08:06	13.00	1492	3.430	644.6
12/11/01 08:07	13.04	1498	3.432	644.5
12/11/01 08:08	13.04	1500	3.437	640.2
12/11/01 08:09	13.04	1500	3.437	639.2
12/11/01 08:10	12.93	1492	3.449	641.2
12/11/01 08:11	13.01	1497	3.437	640.1
12/11/01 08:12	13.01	1493	3.431	639.8
12/11/01 08:13	12.98	1488	3.426	645.7
12/11/01 08:14	13.08	1494	3.413	649.8
12/11/01 08:15	13.16	1510	3.430	646.6
12/11/01 08:16	13.12	1506	3.431	644.7
12/11/01 08:17	13.13	1510	3.437	648.4
12/11/01 08:18	13.14	1510	3.432	649.8
12/11/01 08:19	13.15	1518	3.449	640.8
12/11/01 08:20	13.12	1512	3.443	638.2
12/11/01 08:21	12.97	1491	3.435	642.1
<b>Final Average*</b>	<b>13.05</b>	<b>1499</b>	<b>3.435</b>	<b>643.3</b>
<b>Maximum*</b>	<b>13.16</b>	<b>1518</b>	<b>3.451</b>	<b>652.0</b>
<b>Minimum*</b>	<b>12.93</b>	<b>1482</b>	<b>3.413</b>	<b>635.5</b>

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



PW#2 Inlet

Enertec NTDAS®  
Average Values Report  
Generated : 12/11/01 10:42

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/11/01 08:42  
Period End: 12/11/01 09:03  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 08:42	13.03	1512	3.467	647.2
12/11/01 08:43	13.18	1529	3.466	643.4
12/11/01 08:44	13.07	1514	3.460	641.4
12/11/01 08:45	13.05	1499	3.431	642.1
12/11/01 08:46	13.05	1500	3.435	645.5
12/11/01 08:47	13.15	1510	3.431	644.7
12/11/01 08:48	13.12	1499	3.413	642.3
12/11/01 08:49	13.05	1489	3.410	640.4
12/11/01 08:50	13.11	1491	3.397	642.8
12/11/01 08:51	13.15	1501	3.406	647.2
12/11/01 08:52	13.15	1500	3.409	643.7
12/11/01 08:53	13.15	1505	3.419	643.5
12/11/01 08:54	13.09	1493	3.409	643.5
12/11/01 08:55	13.10	1498	3.415	646.3
12/11/01 08:56	13.18	1509	3.418	643.0
12/11/01 08:57	13.18	1507	3.417	642.4
12/11/01 08:58	13.07	1487	3.399	646.2
12/11/01 08:59	13.13	1493	3.399	646.5
12/11/01 09:00	13.20	1497	3.389	643.6
12/11/01 09:01	13.13	1497	3.405	643.8
12/11/01 09:02	13.05	1491	3.414	645.2
12/11/01 09:03	13.15	1496	3.398	645.5
<b>Final Average*</b>	<b>13.12</b>	<b>1501</b>	<b>3.419</b>	<b>644.1</b>
<b>Maximum*</b>	<b>13.20</b>	<b>1529</b>	<b>3.467</b>	<b>647.2</b>
<b>Minimum*</b>	<b>13.03</b>	<b>1487</b>	<b>3.389</b>	<b>640.4</b>

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

RUN#3 Inlet

Enertec NTDAHS®  
Average Values Report  
Generated : 12/11/01 10:42

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/11/01 09:15  
Period End: 12/11/01 09:36  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 09:15	13.11	1520	3.465	645.1
12/11/01 09:16	13.23	1534	3.468	638.6
12/11/01 09:17	13.08	1518	3.469	639.9
12/11/01 09:18	13.04	1503	3.444	647.4
12/11/01 09:19	13.10	1512	3.446	646.8
12/11/01 09:20	13.15	1521	3.458	641.2
12/11/01 09:21	13.12	1512	3.445	641.5
12/11/01 09:22	13.09	1506	3.442	647.6
12/11/01 09:23	13.11	1510	3.440	650.2
12/11/01 09:24	13.17	1524	3.457	648.7
12/11/01 09:25	13.18	1521	3.449	644.0
12/11/01 09:26	13.09	1511	3.449	641.6
12/11/01 09:27	13.14	1518	3.451	643.1
12/11/01 09:28	13.14	1513	3.439	645.2
12/11/01 09:29	13.14	1514	3.443	642.0
12/11/01 09:30	13.11	1511	3.444	639.3
12/11/01 09:31	13.05	1496	3.425	637.9
12/11/01 09:32	13.03	1487	3.410	644.0
12/11/01 09:33	13.09	1496	3.413	649.1
12/11/01 09:34	13.21	1513	3.423	650.1
12/11/01 09:35	13.21	1519	3.436	646.5
12/11/01 09:36	13.19	1511	3.421	642.3
<b>Final Average*</b>	<b>13.13</b>	<b>1512</b>	<b>3.443</b>	<b>644.2</b>
<b>Maximum*</b>	<b>13.23</b>	<b>1534</b>	<b>3.469</b>	<b>650.2</b>
<b>Minimum*</b>	<b>13.03</b>	<b>1487</b>	<b>3.410</b>	<b>637.9</b>

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

PW#4 Inlet -

Enertec NTDAS®  
Average Values Report  
Generated : 12/11/01 10:43

Company: St. Johns Unit 2  
Plant: \_\_\_\_\_  
City/St:  
Source: Unit 2

Period Start: 12/11/01 09:55  
Period End: 12/11/01 10:16  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 09:55	13.12	1490	3.395	642.5
12/11/01 09:56	13.11	1492	3.401	648.4
12/11/01 09:57	13.26	1498	3.340	645.4
12/11/01 09:58	12.15	1323	3.554	643.4
12/11/01 09:59	15.69	1733	3.261	646.2
12/11/01 10:00	13.16	1518	3.447	646.2
12/11/01 10:01	13.16	1497	3.400	644.9
12/11/01 10:02	13.09	1495	3.412	643.7
12/11/01 10:03	13.05	1489	3.409	649.8
12/11/01 10:04	13.17	1507	3.419	650.6
12/11/01 10:05	13.21	1521	3.437	646.2
12/11/01 10:06	13.13	1504	3.430	643.3
12/11/01 10:07	13.01	1486	3.412	644.1
12/11/01 10:08	13.07	1490	3.405	642.7
12/11/01 10:09	13.08	1494	3.414	642.8
12/11/01 10:10	13.05	1486	3.403	641.5
12/11/01 10:11	13.09	1497	3.417	641.3
12/11/01 10:12	13.05	1498	3.430	641.3
12/11/01 10:13	13.06	1492	3.415	644.2
12/11/01 10:14	13.08	1491	3.407	646.6
12/11/01 10:15	13.15	1497	3.403	642.3
12/11/01 10:16	13.15	1500	3.407	640.4
<b>Final Average*</b>	<b>13.19</b>	<b>1500</b>	<b>3.410</b>	<b>644.4</b>
<b>Maximum*</b>	<b>15.69</b>	<b>1733</b>	<b>3.554</b>	<b>650.6</b>
<b>Minimum*</b>	<b>12.15</b>	<b>1323</b>	<b>3.261</b>	<b>640.4</b>

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

PUN #5 Inlet.

Enertec NTDAS®  
Average Values Report  
Generated : 12/11/01 11:11

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/11/01 10:34  
Period End: 12/11/01 10:55  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 10:34	13.22	1504	3.400	649.7
12/11/01 10:35	13.19	1508	3.418	652.7
12/11/01 10:36	13.14	1505	3.422	655.8
12/11/01 10:37	13.23	1518	3.431	653.1
12/11/01 10:38	13.21	1524	3.445	642.3
12/11/01 10:39	13.09	1506	3.439	637.9
12/11/01 10:40	13.03	1495	3.422	637.4
12/11/01 10:41	12.99	1500	3.453	639.2
12/11/01 10:42	13.12	1516	3.456	642.7
12/11/01 10:43	13.03	1505	3.451	642.8
12/11/01 10:44	13.03	1504	3.448	640.0
12/11/01 10:45	13.06	1502	3.435	637.0
12/11/01 10:46	13.06	1506	3.449	634.3
12/11/01 10:47	13.07	1498	3.424	636.5
12/11/01 10:48	13.01	1498	3.442	642.5
12/11/01 10:49	13.04	1504	3.446	644.3
12/11/01 10:50	13.15	1502	3.413	646.2
12/11/01 10:51	13.21	1508	3.411	644.8
12/11/01 10:52	13.20	1501	3.397	644.0
12/11/01 10:53	13.16	1494	3.393	644.7
12/11/01 10:54	13.18	1495	3.392	646.3
12/11/01 10:55	13.18	1503	3.408	647.1
<b>Final Average*</b>	<b>13.12</b>	<b>1504</b>	<b>3.427</b>	<b>643.7</b>
<b>Maximum*</b>	<b>13.23</b>	<b>1524</b>	<b>3.456</b>	<b>655.8</b>
<b>Minimum*</b>	<b>12.99</b>	<b>1494</b>	<b>3.392</b>	<b>634.3</b>

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

*PON #6 Inlet*  
 Enertec NTDAS®  
 Average Values Report  
 Generated : 12/11/01 12:37

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/11/01 11:16  
 Period End: 12/11/01 11:37  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 11:16	13.05	1484	3.398	638.0
12/11/01 11:17	13.01	1480	3.398	641.1
12/11/01 11:18	13.08	1486	3.397	648.9
12/11/01 11:19	13.19	1509	3.418	650.5
12/11/01 11:20	13.21	1504	3.402	644.5
12/11/01 11:21	13.19	1494	3.386	641.0
12/11/01 11:22	13.14	1486	3.380	644.5
12/11/01 11:23	13.16	1491	3.384	644.5
12/11/01 11:24	13.20	1502	3.399	644.8
12/11/01 11:25	13.22	1496	3.383	639.6
12/11/01 11:26	13.08	1487	3.397	639.4
12/11/01 11:27	13.08	1479	3.378	644.3
12/11/01 11:28	13.10	1484	3.386	649.5
12/11/01 11:29	13.21	1503	3.396	646.8
12/11/01 11:30	13.22	1495	3.378	644.2
12/11/01 11:31	13.18	1475	3.345	644.3
12/11/01 11:32	13.16	1471	3.340	648.1
12/11/01 11:33	13.17	1478	3.354	648.6
12/11/01 11:34	13.20	1490	3.374	648.3
12/11/01 11:35	13.19	1487	3.363	647.0
12/11/01 11:36	13.11	1481	3.376	645.1
12/11/01 11:37	13.08	1483	3.386	644.6
<b>Final Average*</b>	<b>13.15</b>	<b>1488</b>	<b>3.383</b>	<b>644.9</b>
<b>Maximum*</b>	<b>13.22</b>	<b>1509</b>	<b>3.418</b>	<b>650.5</b>
<b>Minimum*</b>	<b>13.01</b>	<b>1471</b>	<b>3.340</b>	<b>638.0</b>

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

*PUN#7 Inlet*  
 Enertec NTDAHS®  
 Average Values Report  
 Generated : 12/11/01 12:38

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/11/01 11:49  
 Period End: 12/11/01 12:10  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 11:49	13.06	1453	3.326	651.8
12/11/01 11:50	13.19	1470	3.330	651.6
12/11/01 11:51	13.21	1474	3.335	647.0
12/11/01 11:52	13.15	1455	3.307	642.4
12/11/01 11:53	13.05	1448	3.315	640.8
12/11/01 11:54	13.04	1445	3.311	643.0
12/11/01 11:55	13.10	1450	3.309	647.2
12/11/01 11:56	13.12	1454	3.311	649.2
12/11/01 11:57	13.13	1457	3.318	643.0
12/11/01 11:58	13.10	1462	3.335	640.8
12/11/01 11:59	13.07	1458	3.334	641.0
12/11/01 12:00	13.05	1458	3.337	645.7
12/11/01 12:01	13.07	1459	3.336	647.8
12/11/01 12:02	13.17	1475	3.348	649.7
12/11/01 12:03	13.14	1464	3.329	647.6
12/11/01 12:04	13.03	1453	3.332	644.5
12/11/01 12:05	13.11	1460	3.326	645.8
12/11/01 12:06	13.09	1455	3.322	646.3
12/11/01 12:07	13.05	1465	3.355	647.5
12/11/01 12:08	13.09	1467	3.348	643.9
12/11/01 12:09	13.09	1462	3.337	642.4
12/11/01 12:10	13.08	1461	3.336	641.5
<b>Final Average*</b>	<b>13.10</b>	<b>1459</b>	<b>3.329</b>	<b>645.5</b>
<b>Maximum*</b>	<b>13.21</b>	<b>1475</b>	<b>3.355</b>	<b>651.8</b>
<b>Minimum*</b>	<b>13.03</b>	<b>1445</b>	<b>3.307</b>	<b>640.8</b>

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

*RUN #8 Inlet*  
 Enertec NTDAS®  
 Average Values Report  
 Generated : 12/11/01 12:56

Company: St. Johns Unit 2  
 Plant:  
 City/St:  
 Source: Unit 2

Period Start: 12/11/01 12:25  
 Period End: 12/11/01 12:46  
 Validation Type: 1/1 min  
 Averaging Period: 1 min  
 Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 12:25	13.06	1456	3.331	647.6
12/11/01 12:26	13.13	1471	3.349	644.6
12/11/01 12:27	13.09	1463	3.339	642.5
12/11/01 12:28	13.05	1452	3.325	646.1
12/11/01 12:29	13.07	1460	3.336	650.8
12/11/01 12:30	13.18	1476	3.347	650.3
12/11/01 12:31	13.26	1488	3.354	648.7
12/11/01 12:32	13.11	1468	3.346	641.6
12/11/01 12:33	13.02	1458	3.347	639.0
12/11/01 12:34	13.02	1449	3.325	641.8
12/11/01 12:35	13.02	1450	3.328	643.2
12/11/01 12:36	13.14	1464	3.329	643.0
12/11/01 12:37	13.19	1471	3.334	643.3
12/11/01 12:38	13.06	1461	3.345	639.1
12/11/01 12:39	13.07	1453	3.320	640.4
12/11/01 12:40	13.05	1447	3.314	645.2
12/11/01 12:41	13.04	1441	3.300	647.3
12/11/01 12:42	13.14	1472	3.353	647.1
12/11/01 12:43	13.22	1477	3.337	646.5
12/11/01 12:44	13.10	1459	3.328	649.3
12/11/01 12:45	13.14	1467	3.335	652.3
12/11/01 12:46	13.18	1479	3.351	648.6
<b>Final Average*</b>	<b>13.11</b>	<b>1463</b>	<b>3.335</b>	<b>645.4</b>
<b>Maximum*</b>	<b>13.26</b>	<b>1488</b>	<b>3.354</b>	<b>652.3</b>
<b>Minimum*</b>	<b>13.02</b>	<b>1441</b>	<b>3.300</b>	<b>639.0</b>

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

RUN #9 Inlet

Enertec NTDAS®

Average Values Report

Generated : 12/11/01 13:32

Company: St. Johns Unit 2  
Plant:  
City/St:  
Source: Unit 2

Period Start: 12/11/01 13:01  
Period End: 12/11/01 13:22  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 13:01	12.88	1439	3.340	636.0
12/11/01 13:02	13.03	1458	3.347	642.5
12/11/01 13:03	13.05	1457	3.337	644.0
12/11/01 13:04	13.05	1452	3.324	642.0
12/11/01 13:05	13.09	1455	3.322	644.2
12/11/01 13:06	13.07	1457	3.332	646.3
12/11/01 13:07	13.03	1449	3.325	646.5
12/11/01 13:08	13.07	1449	3.311	645.1
12/11/01 13:09	13.02	1446	3.317	639.9
12/11/01 13:10	13.01	1442	3.311	638.7
12/11/01 13:11	13.01	1434	3.292	638.3
12/11/01 13:12	13.00	1435	3.297	640.6
12/11/01 13:13	13.05	1439	3.296	642.7
12/11/01 13:14	13.03	1431	3.287	644.1
12/11/01 13:15	13.02	1432	3.287	644.4
12/11/01 13:16	13.02	1435	3.292	644.1
12/11/01 13:17	13.07	1450	3.317	645.1
12/11/01 13:18	13.11	1452	3.314	648.0
12/11/01 13:19	13.08	1457	3.327	645.6
12/11/01 13:20	13.13	1465	3.334	642.4
12/11/01 13:21	13.05	1452	3.325	643.7
12/11/01 13:22	13.04	1450	3.322	645.8
<b>Final Average*</b>	<b>13.04</b>	<b>1447</b>	<b>3.316</b>	<b>643.2</b>
<b>Maximum*</b>	<b>13.13</b>	<b>1465</b>	<b>3.347</b>	<b>648.0</b>
<b>Minimum*</b>	<b>12.88</b>	<b>1431</b>	<b>3.287</b>	<b>636.0</b>

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



PUN #10 Inlet  
Enertec NTDAS®

Average Values Report  
Generated : 12/11/01 14:11

Company: St. Johns Unit 2  
Plant: \_\_\_\_\_  
City/St:  
Source: Unit 2

Period Start: 12/11/01 13:47  
Period End: 12/11/01 14:08  
Validation Type: 1/1 min  
Averaging Period: 1 min  
Type: Block Avg

Period Start	Average 2inCO2_C %	Average 2inSO2_C ppm	Average 2inSO2_MM #/M	Average 2Unit_Load MW
12/11/01 13:47	13.23	1447	3.269	637.0
12/11/01 13:48	13.01	1416	3.252	644.0
12/11/01 13:49	13.03	1403	3.219	649.9
12/11/01 13:50	13.12	1422	3.240	641.6
12/11/01 13:51	13.15	1429	3.246	638.8
12/11/01 13:52	12.95	1401	3.232	643.9
12/11/01 13:53	12.99	1402	3.226	647.6
12/11/01 13:54	13.19	1427	3.234	645.7
12/11/01 13:55	13.07	1412	3.227	643.7
12/11/01 13:56	13.10	1408	3.212	645.6
12/11/01 13:57	13.04	1405	3.220	646.4
12/11/01 13:58	13.08	1415	3.234	643.5
12/11/01 13:59	13.15	1422	3.232	646.3
12/11/01 14:00	13.09	1414	3.228	649.4
12/11/01 14:01	13.14	1424	3.238	646.3
12/11/01 14:02	13.18	1431	3.245	639.6
12/11/01 14:03	13.05	1408	3.224	641.2
12/11/01 14:04	13.00	1400	3.218	651.8
12/11/01 14:05	13.17	1423	3.229	647.9
12/11/01 14:06	13.23	1437	3.247	641.3
12/11/01 14:07	13.06	1407	3.219	643.7
12/11/01 14:08	12.97	1393	3.210	649.7
<b>Final Average*</b>	<b>13.09</b>	<b>1416</b>	<b>3.232</b>	<b>644.8</b>
<b>Maximum*</b>	<b>13.23</b>	<b>1447</b>	<b>3.269</b>	<b>651.8</b>
<b>Minimum*</b>	<b>12.95</b>	<b>1393</b>	<b>3.210</b>	<b>637.0</b>

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



**GCI**