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ENVIRONMENTAL AFFAIRS

AIR PROGRAMS REPORT

PETCOKE FUEL EMISSIONS TEST

POLK POWER STATION
UNIT NO. 1

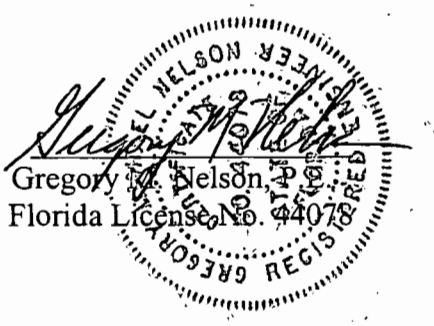
AIRS # 1050233

FEBRUARY 7, 2000 THRU APRIL 26, 2000

Petcoke Fuel Emissions Test
Polk Power Station
Unit No. 1
February 7, 2000 through April 26, 2000
Sulfuric Acid Mist, Sulfur Dioxide, Opacity
Oxides of Nitrogen and Fuel Analysis

Tampa Electric Company

May 26, 2000



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REPORT CERTIFICATION

I have reviewed the test performance, the resulting calculations, and contents of this report, and verified that all project quality objectives have been met.

Date 6/7/2000 Signature _____

Senior Environmental Technician
Air Services
Environmental Affairs
Tampa Electric Company

I have calculated and compiled all data in this report, and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date 6/7/00 Signature _____

Test Report Author
Coordinator-Air Services
Environmental Affairs
Tampa Electric Company

The sampling and analysis performed for this report were carried out under my direction and, and I hereby certify that this test is authentic and accurate.

Date 6/7/00 Signature _____

Test Team Leader
Environmental Technician
Air Services
Environmental Affairs
Tampa Electric Company

I have reviewed the testing details and results in this report, and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date 6/8/00 Signature _____

Administrator-Air Programs
Environmental Affairs
Tampa Electric Company

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1.0 INTRODUCTION

The Environmental Affairs, Air Services group of Tampa Electric Company performed a series of emission tests during the Petcoke test burn on Unit No. 1 at the Polk Power Station. The emission tests were conducted to measure pollutant emissions while firing syngas that was gasified from a blend of Petcoke and coal.

The Florida Department of Environmental Protection issued a letter of authorization to Tampa Electric Company for these emission tests to be conducted at Polk Power Station Unit No. 1, (operating permit No. 1050233-001-AV, Airs # 1050233). The test burn authorization included a Baseline Test firing syngas that was gasified with 100% coal and a series of Fuel Blend Petcoke Tests (Blend Tests) firing syngas that was gasified from a fuel blend of up to 70% Petcoke.

The Baseline stack test was performed on February 7, 2000 and February 8, 2000. The Fuel Blend test of 60% Petcoke and 40% coal was performed on April 24th, 25th and 26th, 2000. Operational data during the baseline and fuel blend testing can be found in Appendix C.

Unit No. 1 is an integrated coal gasification combined cycle (IGCC) generating unit. The combustion turbine is normally fired with syngas. Nitrogen Oxides, Sulfur Dioxide and Opacity data were measured and recorded using Continuous Emission Monitoring System (CEMS) during the Baseline and Fuel Blend Tests. All emission tests were performed following the procedures and quality control guidelines given in 40 CFR 60 Appendix A -Test Methods.

The Sulfuric Acid Mist (H_2SO_4) emissions rate for the baseline test was derived from 8 test runs. The calculated average was 0.018 lbs/MMBtu. The ninth run was not completed due to turbine failure, which resulted in the unit coming off

line. The H_2SO_4 emissions rate for the blend test was derived from 9 test runs. The calculated average during the blend was 0.011 lbs/MMBtu.

The sulfur dioxide (SO_2) emissions rate for the baseline test was derived from a 2-day daily CEMS average. The calculated average during the baseline test was 0.176 lbs/MMBtu. The sulfur dioxide (SO_2) emissions rate for the blend test was derived from a 3-day daily CEMS average during the blend test period. The calculated average during the blend was 0.133 lbs/MMBtu.

The nitrogen oxides (NOx) emissions rate for the baseline test was derived from a 2-day daily CEMS average. The calculated average during the baseline test was 0.093 lbs/MMBtu. The nitrogen oxides (NOx) emissions rate for the blend test was derived from a 3-day daily CEMS average during the blend test period. The calculated average during the blend was 0.097 lbs/MMBtu.

The SO_2 and NO_X averages were calculated on a daily CEMS average for each test period. Due to the short run time period on the Petcoke blend, a 30-day rolling average comparison in lbs/hr was not possible.

The average opacity for the baseline test was 1.3% and the blend test was 4.4%. The FDEP allowable rate for opacity is 20%. Increases in opacity from the baseline test period to the fuel blend test period are primarily caused by lense fouling on the opacity monitor as well as misalignment of the monitor itself. Differences in ambient temperatures cause the stack metal to expand and contract which, ultimately, results in an inelastic structural distortion in the brackets that fix the monitor to the stack. This distortion causes monitor misalignment which, in turn, results in opacity measurements that trend upward with time and can only be corrected through monitor realignment. In correspondence dated September 15, 1999, to Dr. Richard D. Garrity of FDEP, Tampa Electric Company explained this phenomenon to FDEP. To address this issue, The Company realigns the monitor whenever Polk Unit 1 is offline for a

maintenance outage greater than 24 hours in duration.

Section 2.0 presents a brief source description and diagram of the sample point locations.

Section 3.0 outlines the procedures and test methods used along with diagrams of sampling trains used.

Section 4.0 presents the test results and comparison tables.

All supporting documentation, field data sheets, laboratory data, sample calculations, calibration data, and quality assurance/quality control measures are included in the appendices to this report.

2.0 SOURCE DESCRIPTION

Polk Power Station is located at County Road 630 approximately 13 miles southwest of Bartow in Polk County, Florida. Unit No. 1 is an integrated coal gasification combined cycle (IGCC) generating unit. It's net capacity is 192 MW when fired with Syngas fuel. The source sampling location consists of a circular stack 19 ft. in diameter with four sample ports located 90° apart on the stack circumference. A diagram of the stack sampling location is included in Figure 1 along with other pertinent information on the test site.

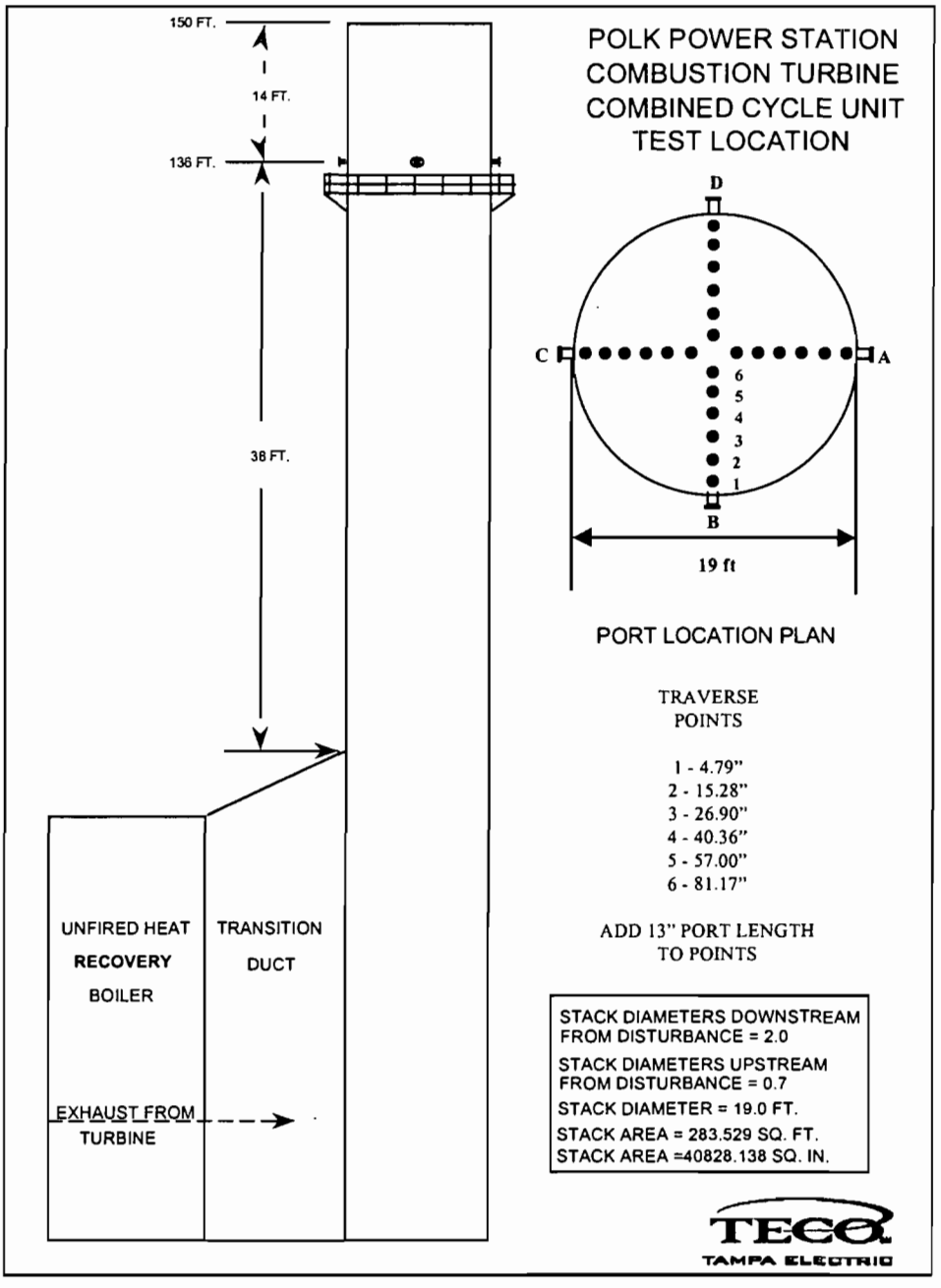
150 FT.
14 FT.
136 FT.
38 FT.
UNFIRED HEAT RECOVERY BOILER
TRANSITION DUCT
EXHAUST FROM TURBINE
POLK POWER STATION
COMBUSTION TURBINE
COMBINED CYCLE UNIT
TEST LOCATION
D
C
A
B
6
5
4
3
2
1
19 ft
PORT LOCATION PLAN
TRAVERSE POINTS
1 - 4.79"
2 - 15.28"
3 - 26.90"
4 - 40.36"
5 - 57.00"
6 - 81.17"
ADD 13" PORT LENGTH TO POINTS
STACK DIAMETERS DOWNSTREAM FROM DISTURBANCE = 2.0
STACK DIAMETERS UPSTREAM FROM DISTURBANCE = 0.7
STACK DIAMETER = 19.0 FT.
STACK AREA = 283.529 SQ. FT.
STACK AREA =40828.138 SQ. IN.
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FIGURE 1

3.0 TEST PROCEDURES/SAMPLING TRAIN DIAGRAMS

Sulfuric Acid Mist sampling was performed according to U.S. EPA Method 8 "Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources". Sampling was performed using the equipment depicted on Figure 2.

Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x) and Opacity emissions were taken from the Continuous Emissions Monitoring System (CEMS) readings.

Gas sampling and analysis was performed according to U.S. EPA Method 3-B "Gas Analysis for Determination of Emission Rate Correction Factor, or Excess Air ". Sampling was performed using the equipment depicted in Figure 3 and 4.

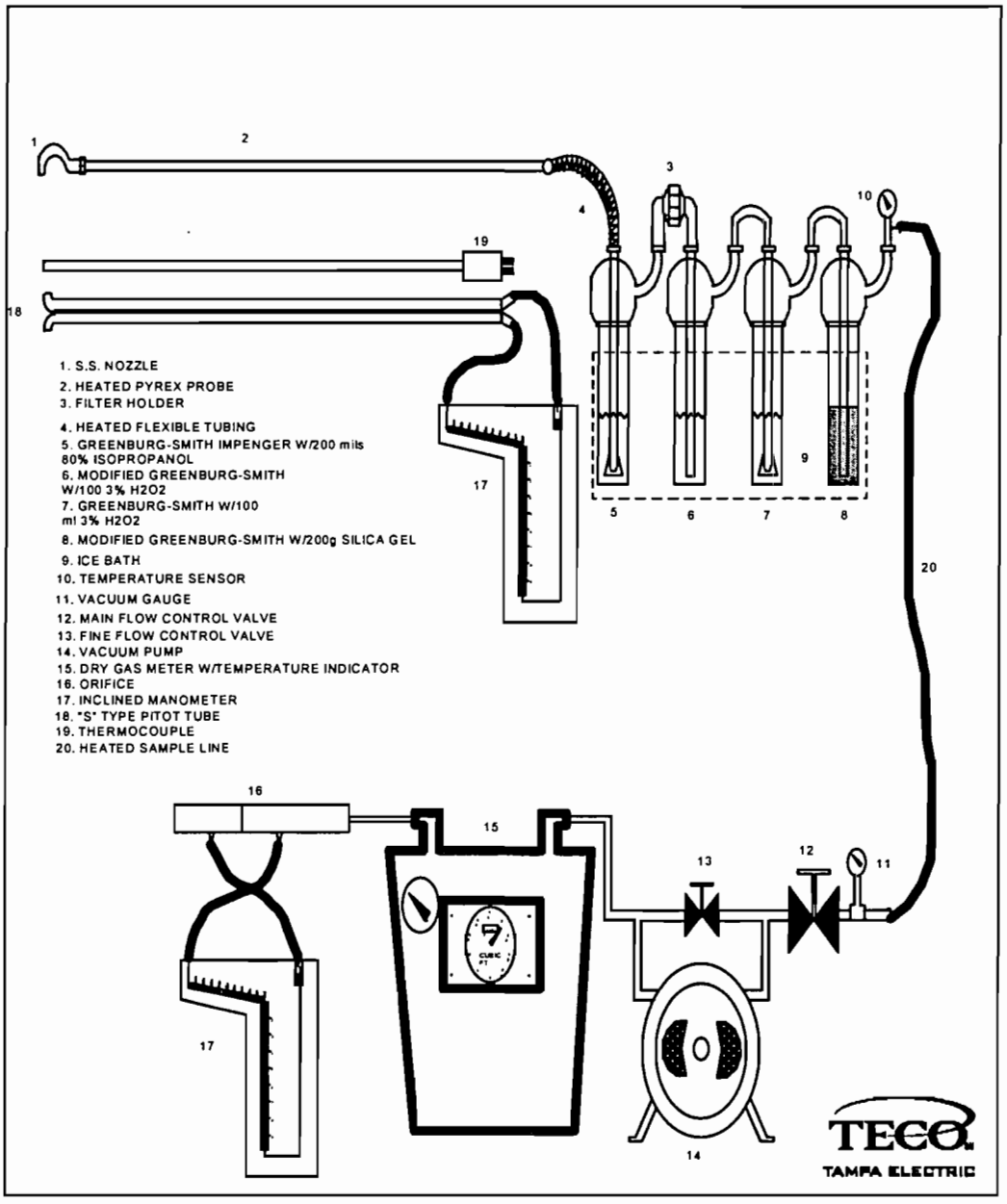

FIGURE 2
SULFURIC ACID MIST SAMPLING TRAIN
USEPA METHOD 8

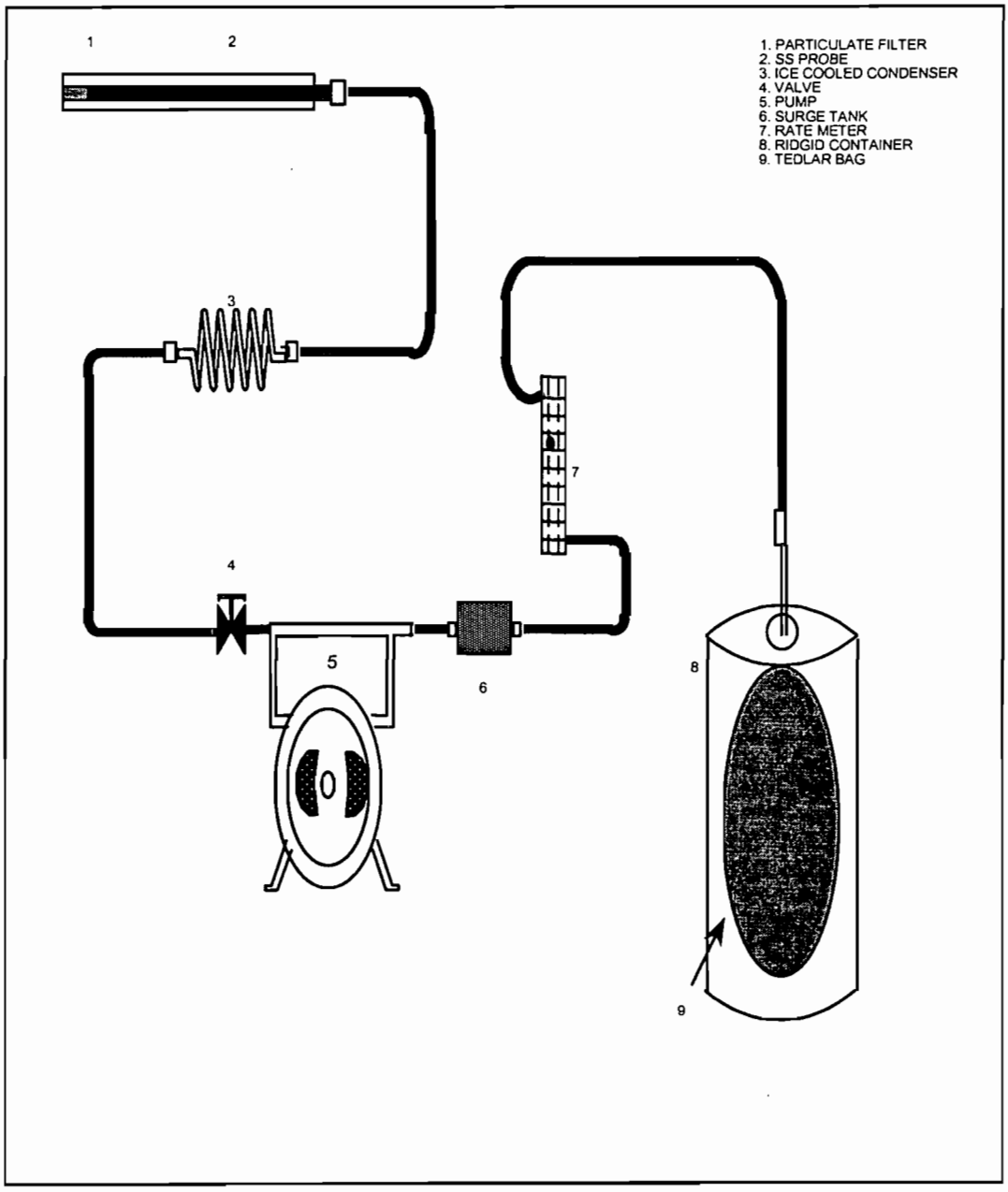

FIGURE 3

INTEGRATED GAS SAMPLING TRAIN

USEPA METHOD 3-B

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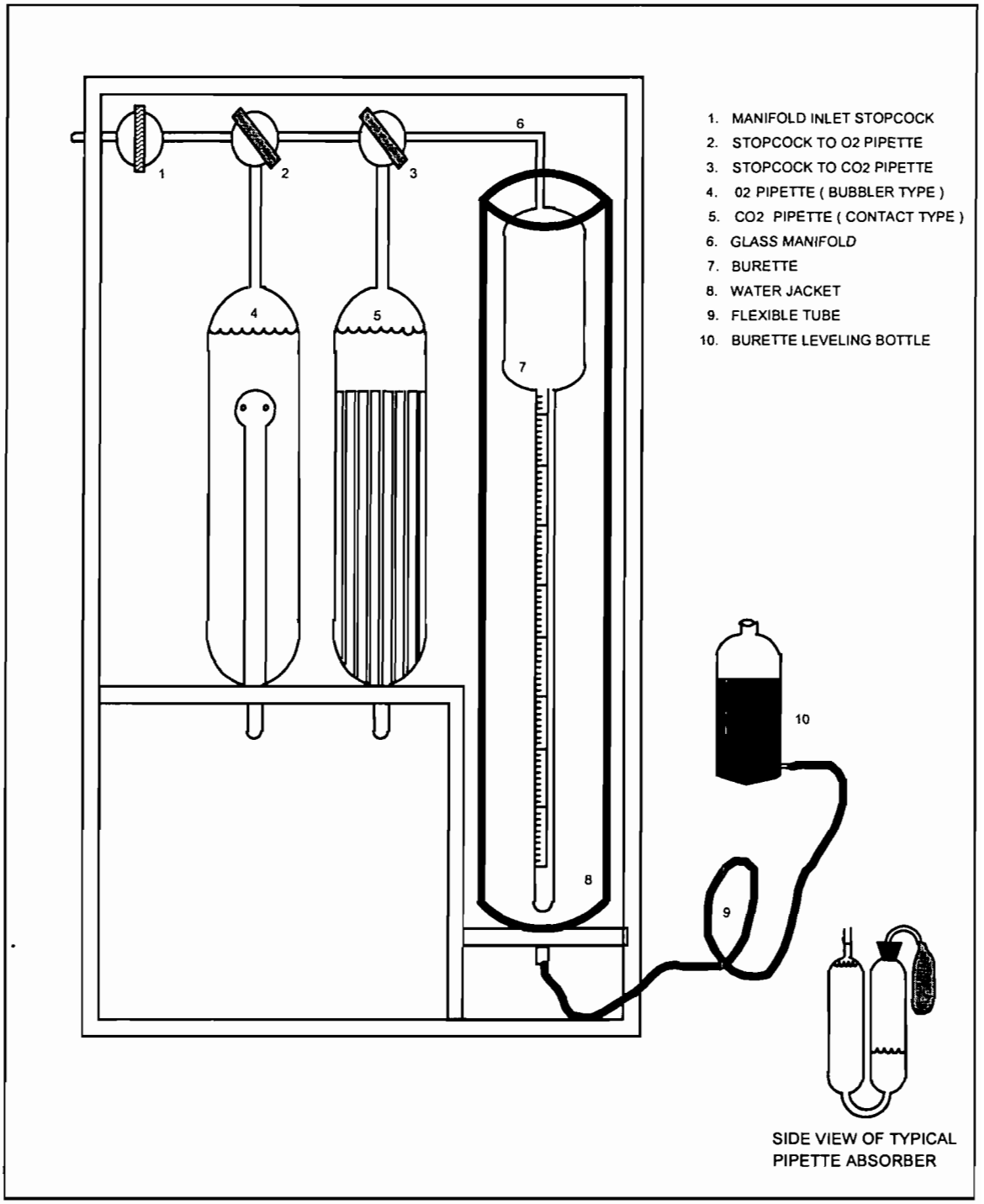

FIGURE 4

ORSAT ANALYZER

USEPA METHOD 3-B

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4.0 SUMMARY OF RESULTS

Table 1 presents the Continuous Emission Monitoring System (CEMS) data from the Baseline Test and the Fuel Blend Test. Data is presented comparing SO_2, NO_x and Opacity during Baseline and Fuel Blend Tests.

TABLE 1
POLK POWER STATION UNIT NO. 1
CONTINUOUS EMISSION MONITORING SYSTEM DATA

PARAMETER	BASELINE	FUEL BLEND	EMISSION RATE
SO_2	0.176	0.133	lbs/MMBtu
NO_x	0.093	0.097	lbs/MMBtu
Opacity	1.3	4.4	%

Table 2 presents stack test data from the Baseline Test and the Fuel Blend Test comparing Sulfuric Acid Mist test levels.

TABLE 2
POLK POWER STATION UNIT NO. 1
STACK TEST DATA

PARAMETER	BASELINE	FUEL BLEND	EMISSION RATE
H_2SO_4	0.018	0.011	lbs/MMBtu

Table 3 represents Fuel Analysis data from Appendix E for Baseline vs. Blend tests.

TABLE 3
POLK POWER STATION UNIT NO. 1
FUEL ANALYSIS DATA

PARAMETER	Coal Baseline	40% Coal 60% Petcoke Blend	Units
Total Moisture	12.9	6.98	%
Ash, as Received	8.97	3.90	%
BTU, as Received	11313	13535	Btu/Lbs
Sulfur, as Received	2.88	2.88	%
BTU, Moisture-Ash Free, Calc	14479	15187	Btu/Lb
Pounds SO2/Million BTU, Coal	4.84	4.05	Lb/MMBtu
Ash, Dry Basis	10.3	4.19	%
BTU, Dry Basis	12988	14551	Btu/Lb
Sulfur, Dry Basis	3.31	3.10	%
Carbon, as Received	63.16	77.51	%
Hydrogen, as Received	4.33	4.14	%
Nitrogen, as Received	1.39	1.82	%
Oxygen, as Received (Calculated)	6.27	2.69	%
Carbon, Dry Basis	72.51	83.33	%
Hydrogen, Dry Basis	4.97	4.45	%
Nitrogen, Dry Basis	1.60	1.96	%
Oxygen, Dry Basis (Calculated)	7.19	2.88	%
Chlorine by Bomb/IC, as Received	0.10	0.08	%
Chlorine by Bomb/IC, Dry Basis	0.12	0.09	%
Volatiles, Dry Basis	39.05	23.60	%
Volatiles, as Received	34.01	21.95	%

UNIT OPERATIONS SUMMARY

Fuel sample composites were taken for coal and Petcoke/coal blends during barge loading prior to leaving the port. A certified laboratory performed all analysis and details are included in Appendix E.

Operational data during the baseline and fuel blend testing can be found in Appendix C.

SOURCE SAMPLING NOMENCLATURE

A	=	Absorbance of sample.
A_n	=	Cross-sectional area of nozzle, m5 (ft5).
A_s	=	Cross-sectional area of stack, m5 (ft5).
B_{ws}	=	Water vapor in the gas steam, proportion by volume.
C	=	Concentration of particulate matter, (lbs/dscf), Method 5,17.
C	=	Concentration of NO_x, as NO_2, basis, corrected to standard conditions, mg/dscm (lbs/dscf), Method 7.
C_a	=	Concentration of acetone blank residue, mg/g.
$CH_2 SO_4$	=	Sulfuric acid (including SO_3) concentration, g/dscm (lbs/dscf).
C_p	=	Pitot tube coefficient, dimensionless.
c_s	=	Concentration of stack gas particulates, dry basis corrected to standard conditions, g/dscm (lbs/dscf).
CSO_2	=	Sulfur dioxide concentration, mg/dscm (lbs/dscf).
E	=	Pollutant emissions, lbs/10^6 Btu.
EM	=	Particulate emission rate, lbs/hr.
F	=	Factor ratio of generated flue gases to calorific value of fuel, Method 5,17.
F	=	Dilution factor (i.e., 25/5, 25/10, etc.) required only if sample dilution was needed to reduce the absorbance to the range of calibration, Method 7.
FDA	=	Fraction of dry air.
I	=	Percent of isokinetic sampling, %.
K_c	=	Spectrophotometer calibration factor.
K_p	=	Pitot tube constant,

$$34.97m / \sec\left[\frac{(g / g\text{-}mole)(mmHg)}{(^\circ K)(mmH20)}\right]1/2$$

Metric

$$85.49ft / \sec\left[\frac{(lb / lb - mole)(" Hg)}{(° K)(mmH2O)}\right]1 / 2$$

English

L_a = Maximum acceptable leakage rate for either a pretest leak check or a leak check following a component change; equal to 0.00057 m^3/min (0.02 ft^3/min) or 4% of the average sampling rate, whichever is less.

L_i = Individual leakage rate observed during the leak check conducted prior to the "ith" component change (i = 1, 2, 3,...n), m^3/min (ft/min).

L_p = Leakage rate observed during the post test leak check, m^3/min (ft^3/min).

m = Mass of NO_x as NO_2 in gas sample, :g.

m_a = Mass of acetone residue after evaporation, mg.

M_d = Molecular weight of stack gas, dry basis, g/g-mole (lb/lb-mole).

m_f = Filter weight gain, mg.

m_n = Total amount of particulate collected, mg.

M_s = Molecular weight of stack gas, wet basis, g/g-mole (lb/lb-mole), or $M_d(1 - B_{ws}) = 18.0\ B_{ws}$.

M_w = Molecular weight of water, 18.0 g/g-mole (18.0 lb/lb-mole).

N = Normality of $Ba(ClO_4)_2 \cong 3H_2O$ titrant, g-eq/l.

N = Normality of barium perchlorate titrant, meq/ml.

P_a = Density of acetone, mg/ml (see bottle label).

P_{bar} = Barometric pressure at sampling site, mm Hg (in. Hg).

P_f = Final absolute pressure of flask, mm Hg (in. Hg).

P_g = Stack static pressure, mm Hg (in. Hg).

P_i = Initial absolute pressure of flask, mm Hg (in. Hg).

P_s = Absolute stack pressure, 760 mm Hg (29.92 in. Hg).

P_w = Density of water, 0.9982 g/ml (0.0022 lb/ml).

Q_s = Volumetric flow rate, actual cubic feet per min, acf/min.

Q_{std} = Dry volumetric stack gas flow rate corrected to standard conditions dsm^3/hr (dscf/hr).

R = Ideal gas constant, 0.06236 (mm Hg - m^3)/(EK - g - mole) for metric units and 21.85 (in. Hg - ft^3)(ER - 1b - mole) for English units.

S.V.P. = Saturated vapor pressure of water at average stack temperature mm Hg (in. Hg).

T_f = Final absolute temperature of flask, K (ER).

T_i = Initial absolute temperature of flask, K (ER).

T_m = Absolute average dry gas meter temperature, K (ER).

t_s = Stack temperature, EC (EF).

T_s = Absolute stack temperature, K (ER), or 273 + t_s for metric system or 460 + t_s for English system.

T_{std} = Standard absolute temperature, 293K (528ER).

V_a = Volume of acetone blank, ml, (Method 5,17).

V_a = Volume of sample aliquot titrated, ml, (Method 6).

V_a = Volume of absorbing solution, 25 ml, (Method 7).

V_a = Volume of sample aliquot titrated, 100 ml for H_2SO_4 and 10ml for SO_2 (Method 8).

V_{aw} = Volume of acetone used in wash, ml.

V_f = Final volume of condenser water, ml.

V_f = Volume of flask and valve, ml.

V_i = Initial volume of condenser water, ml.

V_{ic} = Total volumes of liquid and silica gel collected in impingers, ml.

V_m = Dry gas volume measured by dry gas meter, scm (dcf).

$V_{m(std)}$ = Volume of gas sample measured by the dry gas meter and corrected to standard condition, dscm (dscf).

v_s = Average stack gas velocity calculated by Method 2, m/sec (ft/sec).

V_{sc} = Sample volume at standard conditions (dry basis), ml.

V_{soln} = Total volume of solution in which the sulfur dioxide sample is contained, 100 ml, (method 6).

V_{soln} = Total volume of solution in which the H_2SO_4 or SO_2 sample is contained, 250 ml or 1000 ml, respectively, (Method 8).

V_t = Volume of $Ba(ClO_4)_2 \cong 3H_2O$ titrant used for the sample, ml, (Method 8).

V_t = Volume of barium perchlorate titrant used for the sample (average of replicate titrations), ml, (Method 6).

V_{tb} = Volume of barium perchlorate titrant used for the blank, ml.

$V_{w(std)}$ = Volume of water vapor in the gas sample, corrected to standard conditions, scm (scf).

$V_{wc(std)}$ = Volume of condensed water vapor, corrected to standard conditions, sm^3(scf).

$V_{wsg(std)}$ = Volume of water vapor collected in silica gel, corrected to standard conditions, sm^3 (scf).

W_a = Weight of acetone wash residue, mg.

W_f = Final weight of silica gel or silica gel plus impinger, g.

W_i = Initial weight of silica gel or silica gel plus impinger, g.

Y = Dry gas meter calibration factor.

)H = Average pressure differential across the orifice meter, mm (in) H_2O.

)H@ = Measurement of pressure differential across the orifice meter, mm (in.) H_2O.

)p = Average velocity head of stack gas, mm (in.) H_2O.

$)V_m$ = Incremental volume measured by dry gas meter at each traverse point, dm^3 (dcf).

%CO = Percent CO by volume (dry basis), average of three CO values.

$\%CO_2$ = Percent CO_2 by volume (dry basis), average of three analyses.

%EA = Percent excess air, %.

$\%N_2$ = Percent N_2 by volume (dry basis), average of three N_2 values.

$\%O_2$ = Percent O_2 by volume (dry basis), average of three O_2 values.

0.262 = Ratio of O_2 to N_2 in air, v/v.

2 = 50/25, the aliquot factor, (Method 7).

13.6 = Specific gravity of mercury (Hg).

18.0 = Molecular weight of water, g/g-mole (lb/lb-mole).

32.03 = Equivalent weight of sulfur dioxide.

60 = Seconds per minute (sec/min).

100 = Conversion to percent, %.

3600 = Conversion factor, (sec/hr).

2 = Total sampling time, min.

2_l = Interval of sampling time from beginning of a run until first component change, min.

2_i = Interval of sampling time between two successive component changes, beginning with first and second changes, min.

2_p = Interval of sampling time from final (nth) component change until the end of the sampling run, min.

APPENDIX A

SOURCE TEST CALCULATIONS

A-1 BASELINE SULFURIC ACID MIST CALCULATIONS

A-2 FUEL BLEND SULFURIC ACID MIST CALCULATIONS

A-1 BASELINE SULFURIC ACID MIST CALCULATIONS

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40 CFR 60, Appendix A - Test Methods
Method 8 Test Calculations
Test Summary

Plant: Polk Power Station

Date: 02/07/00 -02/08/00

Sampling Location: Stack

Operating Conditions: Baseload

		Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8	Average
Gas Flow Rate										
	acfm	1366047.5	1374893.7	1370300.5	1370300.5	1355840.5	1360433.6	1351247.3	1364006.1	1364133.7
	dscfm	866391.5	864442.5	865226.9	861984.7	850867.9	853857.7	850877.5	855426.6	858634.4
Average Stack Temperature, °F		335.8	334.7	333.0	331.3	335.7	335.6	336.0	336.0	334.8
% Isokinetic		98.1	100.1	99.9	101.5	103.5	102.2	101.4	100.2	100.9
Moisture, %H2O		4.6	5.4	5.2	5.6	5.3	5.3	5.1	5.2	5.2
Sampled Volume, dscf		39.622	40.351	40.317	40.788	41.038	40.720	40.251	39.976	40.383
Condensate Volume, ml		40.6	49.1	46.8	51.4	49.2	48.3	46.0	46.4	47.2
Meter Temperature, °F		83.6	83.5	82.9	73.5	61.4	66.6	75.0	81.0	75.9
	C_{H2SO4}, lb/dscf	5.172E-07	6.034E-07	5.707E-07	7.124E-07	4.759E-07	5.913E-07	6.315E-07	7.295E-07	6.0399E-07
$E_{H2SO4} = C_{H2SO4}$ x F-factor, lbs/MMBtu		0.015	0.018	0.017	0.021	0.014	0.017	0.018	0.021	0.018

F-factor is calculated from flow data during testing and DCS data Heat Input on a run/run basis.

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40 CFR 60, Appendix A - Test Methods
Method 8 Test Calculations

Run Number 1

Plant: Polk Power Station
Date: 02/07/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	30.05 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.98 " Hg	Average Orifice Meter, ΔH:	1.436 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	40.924 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	83.6 °F
Gas Analysis:	8.0 % CO_2	Average Stack Temp., T_s:	335.8 °F
	11.8 % O_2	Average $\sqrt{\Delta p}$:	1.173 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	40.6 ml
	80.2 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	1.914 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	39.622 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.046 %
$FDA = 1.0 - B_{ws}$	0.954 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.75 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.21 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	80.3 ft/second
$Q_s = v_s \times A_s \times 60$	1366047.5 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	866391.5 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	98.1 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29452.40 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	3.88 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	5.172E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.015 lb/MMBtu

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40 CFR 60, Appendix A - Test Methods
Method 8 Test Calculations

Run Number 2

Plant: Polk Power Station
Date: 02/07/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	30.00 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.93 " Hg	Average Orifice Meter, ΔH:	1.468 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	41.736 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	83.5 °F
Gas Analysis:	8.2 % CO_2	Average Stack Temp., T_s:	334.7 °F
	11.8 % O_2	Average √Δp:	1.179 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	49.1 ml
	80.0 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.315 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.351 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.054 %
$FDA = 1.0 - B_{ws}$	0.946 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.78 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.14 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	80.82 ft/second
$Q_s = v_s \times A_s \times 60$	1374893.7 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	864442.5 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	100.1 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29386.15 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	4.6 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	6.034E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.018 lb/MMBtu

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Run Number 3

Plant: Polk Power Station
Date: 02/07/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	30.00 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.93 " Hg	Average Orifice Meter, ΔH:	1.46 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	41.655 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	82.9 °F
Gas Analysis:	8.2 % CO_2	Average Stack Temp., T_s:	333 °F
	11.8 % O_2	Average $\sqrt{\Delta p}$:	1.177 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	46.8 ml
	80.0 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.206 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.317 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.052 %
$FDA = 1.0 - B_{ws}$	0.948 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.78 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.17 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	80.55 ft/second
$Q_s = v_s \times A_s \times 60$	1370300.5 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	865226.9 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	99.9 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29412.81 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	4.35 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	5.707E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.017 lb/MMBtu

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Run Number 4

Plant: Polk Power Station
Date: 02/07/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.95 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.88 " Hg	Average Orifice Meter, ΔH:	1.445 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	41.483 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	73.5 °F
Gas Analysis:	8.4 % CO_2	Average Stack Temp., T_s:	331.3 °F
	11.8 % O_2	Average $\sqrt{\Delta p}$:	1.177 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	51.4 ml
	79.8 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.423 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.788 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.056 %
$FDA = 1.0 - B_{ws}$	0.944 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.82 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.16 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	80.55 ft/second
$Q_s = v_s \times A_s \times 60$	1370300.5 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	861984.7 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	101.5 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29302.60 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	5.48 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	7.124E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.021 lb/MMBtu

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Run Number 5

Plant: Polk Power Station
Date: 02/08/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.95 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.88 " Hg	Average Orifice Meter, ΔH:	1.38 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	40.797 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	61.4 °F
Gas Analysis:	8.0 % CO_2	Average Stack Temp., T_s:	335.7 °F
	12.0 % O_2	Average $\sqrt{\Delta p}$:	1.161 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	49.2 ml
	80.0 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.319 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	41.038 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.053 %
$FDA = 1.0 - B_{ws}$	0.947 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.76 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.14 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	79.7 ft/second
$Q_s = v_s \times A_s \times 60$	1355840.5 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	850867.9 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	103.5 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	28924.69 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	3.7 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	4.759E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.014 lb/MMBtu

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Run Number 6

Plant: Polk Power Station
Date: 02/08/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.95 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.88 " Hg	Average Orifice Meter, ΔH:	1.388 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	40.883 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	66.6 °F
Gas Analysis:	8.0 % CO_2	Average Stack Temp., T_s:	335.6 °F
	12.0 % O_2	Average √Δp:	1.165 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	48.3 ml
	80.0 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.277 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.72 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.053 %
$FDA = 1.0 - B_{ws}$	0.947 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.76 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.14 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	79.97 ft/second
$Q_s = v_s \times A_s \times 60$	1360433.6 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	853857.7 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	102.2 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29026.32 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	4.55 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	5.913E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.017 lb/MMBtu

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Run Number 7

Plant: Polk Power Station
Date: 02/08/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	30.00 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.93 " Hg	Average Orifice Meter, ΔH:	1.398 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	40.988 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	75.0 °F
Gas Analysis:	8.0 % CO_2	Average Stack Temp., T_s:	336.0 °F
	11.8 % O_2	Average √Δp:	1.158 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	46.0 ml
	80.2 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.168 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.251 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.051 %
$FDA = 1.0 - B_{ws}$	0.949 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.75 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.15 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	79.43 ft/second
$Q_s = v_s \times A_s \times 60$	1351247.3 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	850877.5 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	101.4 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	28925.01 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	4.8 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	6.315E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.018 lb/MMBtu

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Run Number 8

Plant: Polk Power Station
Date: 02/08/2000
Sampling Location: Stack
Operating Conditions: Baseload

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.91 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.84 " Hg	Average Orifice Meter, ΔH:	1.418 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	41.286 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	81.0 °F
Gas Analysis:	8.0 % CO_2	Average Stack Temp., T_s:	336.0 °F
	11.8 % O_2	Average $\sqrt{\Delta p}$:	1.167 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	46.4 ml
	80.2 % N_2	Meter Box Y:	0.989 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.187 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	39.976 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.052 %
$FDA = 1.0 - B_{ws}$	0.948 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.75 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.14 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	80.18 ft/second
$Q_s = v_s \times A_s \times 60$	1364006.1 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	855426.6 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	100.2 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29079.66 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0099 meq/ml
Volume Titrant Blank, V_{tb}	0.05 ml
Volume Titrant Sample, V_t	5.5 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	7.295E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.021 lb/MMBtu

A-2 FUEL BLEND SULFURIC ACID MIST CALCULATIONS

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Test Summary

Plant: Polk Power Station

Date: 4-24-00 To 4-26-00

Sampling Location: Stack

Operating Conditions: Baseload, Blend 2

	Run #1	Run #2	Run #3	Run #6	Run #7	Run #8	Run #9	Run #10	Run #11	Average
Gas Flow Rate										
acfm	1408917.3	1405174.7	1425418.7	1363665.9	1360773.9	1357031.3	1357031.3	1385270.9	1390884.8	1383797
dscfm	872528.9	866398.3	881799.7	856027.9	853858	860571.4	860571.4	873817.2	873322.5	866544
Average Stack Temperature, °F	320.7	320	321.3	322	321.0	321.8	321.8	324.5	324.8	322.0
% Isokinetic	104.0	105.8	99	103	102.4	102	102	102.3	101.9	102.5
Moisture, %H2O	5.2	5.7	4.9	5.8	5.8	4.7	4.7	5.2	5.6	5.3
Sampled Volume, dscf	42.321	42.76	40.705	41.144	40.782	40.927	40.927	41.698	41.51	41.419
Condensate Volume, ml	49.4	54.9	44.5	53.3	53.2	43.1	43.1	48.6	52.4	49.2
Meter Temperature, °F	80.4	86.7	84.6	88.1	89.0	86.5	86.5	72.8	80.4	83.9
C_{H2SO4}, lb/dscf	3.457E-07	2.17E-07	8.72E-08	5.666E-07	4.712E-07	4.243E-07	5.189E-07	4.085E-07	4.392E-07	3.86511E-07
$E_{H2SO4} = C_{H2SO4}$ x F-factor, lbs/MMBtu	0.010	0.006	0.003	0.017	0.014	0.013	0.015	0.012	0.013	0.011

F-factor is calculated from flow data during testing and DCS data Heat Input on a run/run basis.

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Run Number 1

Plant: Polk Power Station
Date: 04/24/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.50 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	28.9 " Hg	Average Orifice Meter, ΔH:	1.544 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	43.72 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	80.4 °F
Gas Analysis:	7.0 % CO_2	Average $\sqrt{\Delta p}$:	1.195 " H_2O
	12.0 % O_2	Condensate Volume, V_{lc}:	49.4 ml
	0.0 % CO	Meter Box Y:	1.001 dimensionless
	81.0 % N_2		

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.329 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	42.321 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.052 %
$FDA = 1.0 - B_{ws}$	0.948 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \%\ CO))$	29.6 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	82.82 ft/second
$Q_s = v_s \times A_s \times 60$	1408917.3 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	872528.9 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	104.0 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	30087.20 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0 ml
Volume Titrant Sample, V_t	2.68 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	3.457E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.010 lb/MMBtu

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Run Number 2

Plant: Polk Power Station
Date: 04/24/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.50 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	28.9 " Hg	Average Orifice Meter, ΔH:	1.553 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	44.687 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	86.7 °F
Gas Analysis:	7.0 % CO_2	Average Stack Temp., T_s:	320 °F
	12.0 % O_2	Average $\sqrt{\Delta p}$:	1.191 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	54.9 ml
	81.0 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.588 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	42.76 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.057 %
$FDA = 1.0 - B_{ws}$	0.943 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.6 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	28.94 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	82.6 ft/second
$Q_s = v_s \times A_s \times 60$	1405174.7 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	866398.3 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	105.8 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29875.80 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0 ml
Volume Titrant Sample, V_t	1.7 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	2.170E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.006 lb/MMBtu

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Run Number 3

Plant: Polk Power Station
Date: 04/24/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.40 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	28.8 " Hg	Average Orifice Meter, ΔH:	1.569 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.518 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	84.6 °F
Gas Analysis:	7.0 % CO_2	Average Stack Temp., T_s:	321.3 °F
	12.0 % O_2	Average √Δp:	1.207 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	44.5 ml
	81.0 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.098 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.705 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.049 %
$FDA = 1.0 - B_{ws}$	0.951 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.6 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.03 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	83.79 ft/second
$Q_s = v_s \times A_s \times 60$	1425418.7 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	881799.7 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	99 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	30406.89 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0 ml
Volume Titrant Sample, V_t	0.65 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	8.720E-08 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.003 lb/MMBtu

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Run Number 6

Plant: Polk Power Station
Date: 04/25/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.60 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.53 " Hg	Average Orifice Meter, ΔH:	1.47 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.972 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	88.1 °F
Gas Analysis:	8.1 % CO_2	Average Stack Temp., T_s:	322 °F
	13.3 % O_2	Average √Δp:	1.171 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	53.3 ml
	78.6 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.513 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	41.144 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.058 %
$FDA = 1.0 - B_{ws}$	0.942 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.83 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.14 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	80.16 ft/second
$Q_s = v_s \times A_s \times 60$	1363665.9 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	856027.9 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	103 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29518.20 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0.01 ml
Volume Titrant Sample, V_t	4.28 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	5.666E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.017 lb/MMBtu

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Run Number 7

Plant: Polk Power Station
Date: 04/25/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.55 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.48 " Hg	Average Orifice Meter, ΔH:	1.456 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.737 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	89.0 °F
Gas Analysis:	7.7 % CO_2	Average Stack Temp., T_s:	321.0 °F
	13.1 % O_2	Average $\sqrt{\Delta p}$:	1.167 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	53.2 ml
	79.2 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.508 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.782 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.058 %
$FDA = 1.0 - B_{ws}$	0.942 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.76 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.08 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	79.99 ft/second
$Q_s = v_s \times A_s \times 60$	1360773.9 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	853858 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	102.4 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29443.38 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0.01 ml
Volume Titrant Sample, V_t	3.53 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	4.712E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.014 lb/MMBtu

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Run Number 8

Plant: Polk Power Station
Date: 04/25/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.55 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.48 " Hg	Average Orifice Meter, ΔH:	1.461 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.799 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	89.8 °F
Gas Analysis:	7.8 % CO_2	Average Stack Temp., T_s:	321.3 °F
	13.0 % O_2	Average $\sqrt{\Delta p}$:	1.167 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	47.8 ml
	79.2 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.253 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.782 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.052 %
$FDA = 1.0 - B_{ws}$	0.948 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.77 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.16 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	79.89 ft/second
$Q_s = v_s \times A_s \times 60$	1359072.7 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	857892.8 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	102 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29582.51 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0.01 ml
Volume Titrant Sample, V_t	3.18 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	4.243E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.013 lb/MMBtu

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Run Number 9

Plant: Polk Power Station
Date: 04/25/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.5 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.48 " Hg	Average Orifice Meter, ΔH:	1.46 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.766 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	86.5 °F
Gas Analysis:	7.8 % CO_2	Average Stack Temp., T_s:	321.8 °F
	13.0 % O_2	Average $\sqrt{\Delta p}$:	1.166 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	43.1 ml
	79.2 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.032 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	40.927 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.047 %
$FDA = 1.0 - B_{ws}$	0.953 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.77 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.22 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	79.77 ft/second
$Q_s = v_s \times A_s \times 60$	1357031.3 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	860571.4 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	102 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	29674.88 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0.01 ml
Volume Titrant Sample, V_t	3.9 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	5.189E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.015 lb/MMBtu

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Run Number 10

Plant: Polk Power Station
Date: 04/26/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.65 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.58 " Hg	Average Orifice Meter, ΔH:	1.476 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.263 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	72.8 °F
Gas Analysis:	7.8 % CO_2	Average Stack Temp., T_s:	324.5 °F
	13.0 % O_2	Average √Δp:	1.189 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	48.6 ml
	79.2 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.291 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	41.698 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.052 %
$FDA = 1.0 - B_{ws}$	0.948 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.77 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.16 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	81.43 ft/second
$Q_s = v_s \times A_s \times 60$	1385270.9 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	873817.2 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	102.3 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	30131.63 dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0.01 ml
Volume Titrant Sample, V_t	3.13 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	4.085E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.012 lb/MMBtu

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Run Number 11

Plant: Polk Power Station
Date: 04/26/2000
Sampling Location: Stack
Operating Conditions: Baseload, Blend 2

Sample Time, θ:	60 minutes	Nozzle Diameter, D_n:	0.201 inches
Barometric Pressure, P_b:	29.65 " Hg	Nozzle Area, A_n:	0.0002204 $ft.^2$
Stack Pressure, P_s:	29.58 " Hg	Average Orifice Meter, ΔH:	1.49 " H_2O
Effective Stack Area, A_s:	283.53 $ft.^2$	Sample Volume, V_m:	42.671 $ft.^3$
Pitot Coefficient, C_p:	0.84 dimensionless	Average Meter Temp., T_m:	80.4 °F
Gas Analysis:	8.0 % CO_2	Average Stack Temp., T_s:	324.8 °F
	11.6 % O_2	Average $\sqrt{\Delta p}$:	1.192 " H_2O
	0.0 % CO	Condensate Volume, V_{lc}:	52.4 ml
	80.4 % N_2	Meter Box Y:	1.001 dimensionless

Data Calculated from Source Measurements:

$V_{w(std)} = 4.714E\text{-}02 \times V_{lc}$	2.47 scf
$V_{m(std)} = 17.647 \times V_m \times Y \times (P_b + (\Delta H / 13.6)) / (T_m + 460)$	41.51 dscf
$B_{ws} = V_{w(std)} / (V_{m(std)} + V_{w(std)})$	0.056 %
$FDA = 1.0 - B_{ws}$	0.944 %
$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times (\%N_2 + \% CO))$	29.74 lb/lb mole
$M_s = (M_d \times FDA) + (18.0 \times B_{ws})$	29.08 lb/lb mole
$v_s = 85.49 \times C_p \times (\sqrt{\Delta p}) \times (\sqrt{(T_s + 460)} / (M_s \times P_s)$	81.76 ft/second
$Q_s = v_s \times A_s \times 60$	1390884.8 acf/minute
$Q_{s(std)} = Q_s \times FDA \times (528 / (T_s + 460)) \times (P_s / 29.92))$	873322.5 dscf/minute
$I = (T_s + 460) \times ((2.67E\text{-}03 \times V_{lc}) + (V_{m(std)} / 17.647)) \times 100 / (\theta \times P_s \times A_n \times v_s \times 60)$	101.9 %
Calculated F-factor= $Q_{s(std)}$ / Heat Input	**30114.57** dscf/MMBtu

Data from Laboratory Analysis:

Normality of Barium Perchlorate titrant, N	0.0101 meq/ml
Volume Titrant Blank, V_{tb}	0.01 ml
Volume Titrant Sample, V_t	3.35 ml
Volume of Sample Aliquot, V_a	100 ml
Total Volume of Solution, V_{soln}	500 ml

Calculated Data from Laboratory Analysis:

$C_{H2SO4} = 1.081E\text{-}04 \times (N \times (V_t - V_{tb}) \times (V_{soln} / V_a)) / V_{m(std)}$	4.392E-07 lb/dscf
$E_{H2SO4} = C_{H2SO4} \times$ F-factor	0.013 lb/MMBtu

APPENDIX B

LABORATORY ANALYTICAL DATA

B-1 BASELINE SULFURIC ACID MIST LABORATORY DATA

B-2 FUEL BLEND SULFURIC ACID MIST LABORATORY DATA

B-1 BASELINE SULFURIC ACID MIST LABORATORY DATA

TECO TAMPA ELECTRIC
Corporate Environmental
Laboratory Services

5012 Causeway Blvd • Tampa Fl. 33619 • Ph (813)630-7378 • Fax (813)630-7360 • CompQAP #910140G • DOH #E54272

Report For: David Smith, Air Programs

Report Date: 02/08/00

Laboratory ID: AA53532

Sample Information

Location Code: SPECL-PK
Location Description: Polk Power Plant

Sampled By: R. BARTHELETTE
Date Sampled: 02/07/00
Time Sampled: 11:56:00 AM

POLK STACK TEST
BASELINE FOR PETCOKE TEST BURN

Laboratory Results

Parameter	Result	Units	MDL	Method
Normality of BaCl2 * 2H2O	0.0099		0.0001	
SO3, Avg. of Blank Titrations	0.05	milliliters	0.01	EPA - Meth.8
SO3, Run #1, Avg. of Titrations	3.88	milliliters	0.01	EPA - Meth.8
SO3, Run #2, Avg. of Titrations	4.60	milliliters	0.01	EPA - Meth.8
SO3, Run #3, Avg. of Titrations	4.35	milliliters	0.01	EPA - Meth.8
SO3, Volume of Contained Sample	500	milliliters	1	EPA - Meth.8
SO3, Volume of Sample Aliquot	100	milliliters	0.1	EPA - Meth.8

Comments:

Samples received at the lab were isopropanol solutions recovered from stack test for SO3 analysis.

Robert Dorey,
Supervisor of Laboratory Services

TECO TAMPA ELECTRIC
Corporate Environmental
Laboratory Services

5012 Causeway Blvd • Tampa Fl. 33619 • Ph (813)630-7378 • Fax (813)630-7360 • CompQAP #910140G • DOH #E54272

Report For: David Smith, Air Programs

Report Date: 03/15/00

Laboratory ID: AA53545

Sample Information

Location Code: SPECL-PK
Location Description: Polk Power Plant
Project Account Code: L3
SAMPLE DESCRIPTION: ISOPROPANOL SOLUTION
RECOVERD FROM STACKTEST FOR SO3 ANALYSIS

Sampled By: R. BARTHELETTE
Date Sampled: 02/08/00
Time Sampled: 10:01:00 AM

Laboratory Results

Parameter	Result	Units	MDL	Lower Limit	Upper Limit	Violation Check
Normality of BaCl2 • 2H2O	0.0099		0.0001			
SO3, Avg. of Blank Titrations	0.05	milliliters	0.01			
SO3, Run #5, Avg. of Titrations	3.70	milliliters	0.01			
SO3, Run #6, Avg. of Titrations	4.55	milliliters	0.01			
SO3, Run #7, Avg. of Titrations	4.80	milliliters	0.01			
SO3, Run #8, Avg. of Titrations	5.50	milliliters	0.01			
SO3, Volume of Contained Sample	500	milliliters	1			
SO3, Volume of Sample Aliquot	100	milliliters	0.1			

Comments:

Robert Dorey,
Supervisor of Laboratory Services

B-2 FUEL BLEND SULFURIC ACID MIST LABORATORY DATA

TECO
TAMPA ELECTRIC

Corporate Environmental
Laboratory Services

5012 Causeway Blvd * Tampa Fl. 33619 * Ph (813)630-7378 * Fax (813)630-7360 * CompQAP #910140G * DOH #E54272

Report For: David Smith, Air Programs

Report Date: 04/28/00

Laboratory ID: AA54563

Sample Information

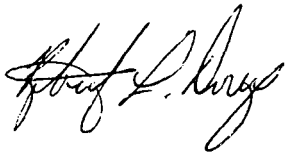
Location Code: SPECL-PK
Location Description: Polk Power Plant
Project Account Code: L16
SAMPLE DESCRIPTION:
60/40 PETCOKE BLEND

Sampled By: AIR PROGRAMS
Date Sampled: 04/24/00
Time Sampled: 12:00:00 AM

Laboratory Results

Parameter	Result	Units	MDL	Lower Limit	Upper Limit	Violation Check
Normality of BaCl2 * 2H2O	0.0101		0.0001			
SO3, Avg. of Blank Titrations	0.0	milliliters	0.01			
SO3, Run #1, Avg. of Titrations	2.68	milliliters	0.01			
SO3, Run #2, Avg. of Titrations	1.70	milliliters	0.01			
SO3, Volume of Contained Sample	500	milliliters	1			
SO3, Volume of Sample Aliquot	100	milliliters	0.1			

Comments:



Robert Dorey,
Supervisor of Laboratory Services

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Corporate Environmental
Laboratory Services

5012 Causeway Blvd * Tampa Fl. 33619 * Ph (813)630-7378 * Fax (813)630-7360 * CompQAP #910140G * DOH #E54272

Report For: David Smith, Air Programs

Report Date: 04/28/00

Laboratory ID: AA54564

Sample Information

Location Code: SPECL-PK
Location Description: Polk Power Plant
Project Account Code: L16
SAMPLE DESCRIPTION:
60/40 PETCOKE BLEND

Sampled By: AIR PROGRAMS
Date Sampled: 04/25/00
Time Sampled: 12:00:00 AM

Laboratory Results

Parameter	Result	Units	MDL	Lower Limit	Upper Limit	Violation Check
Normality of BaCl2 * 2H2O	0.0101		0.0001			
SO3, Avg. of Blank Titrations	0.01	milliliters	0.01			
SO3, Run #6, Avg. of Titrations	4.28	milliliters	0.01			
SO3, Run #7, Avg. of Titrations	3.53	milliliters	0.01			
SO3, Run #8, Avg. of Titrations	3.18	milliliters	0.01			
SO3, Run #9, Avg. of Titrations	3.90	milliliters	0.01			
SO3, Volume of Contained Sample	500	milliliters	1			
SO3, Volume of Sample Aliquot	100	milliliters	0.1			

Comments:

Robert Dorey,
Supervisor of Laboratory Services

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Corporate Environmental
Laboratory Services

5012 Causeway Blvd * Tampa Fl. 33619 * Ph (813)630-7378 * Fax (813)630-7360 * CompQAP #910140G * DOH #E54272

Report For: David Smith, Air Programs

Report Date: 04/28/00

Laboratory ID: AA54565

Sample Information

Location Code: SPECL-PK
Location Description: Polk Power Plant
Project Account Code: L16
SAMPLE DESCRIPTION:
60/40 PETCOKE BLEND

Sampled By: AIR PROGRAMS
Date Sampled: 04/26/00
Time Sampled: 12:00:00 AM

Laboratory Results

Parameter	Result	Units	MDL	Lower Limit	Upper Limit	Violation Check
Normality of BaCl2 * 2H2O	0.0101		0.0001			
SO3, Avg. of Blank Titrations	0.01	milliliters	0.01			
SO3, Run #10, Avg. of Titrations	3.13	milliliters	0.01			
SO3, Volume of Contained Sample	500	milliliters	1			
SO3, Volume of Sample Aliquot	100	milliliters	0.1			

Comments:

Robert Dorey,
Supervisor of Laboratory Services

APPENDIX C

COMBUSTION TURBINE OPERATION DATA

C-1 BASELINE OPERATIONAL DATA

C-2 FUEL BLEND OPERATIONAL DATA

C-1 BASELINE OPERATIONAL DATA

Baseline

POLK POWER STATION DCS DATA

Date	Time	Fuel To Slurry Preparation	Combustion Turbine Output (MW)	Net Output Generation (MW)	Diluent N2 To Turbine (KSCFH)	Fuel Flow To Turbine (KSCFH)	Fuel LHV To Turbine (BTU/SCF)	Fuel HHV To Turbine (BTU/SCF)	Fuel HHV To Turbine (MMBTU/Hr)	NOx Emissions (Lb/Hr)	NOx Emissions (lb/MMBTU)	SO2 Emissions (Lb/Hr)	SO2 Emissions (lb/MMBTU)	Opacity %
02/07/00	10:00	Kentucky 9	191.8	248.7	5793	6607	247.2	267.7	1768	173.264	0.098	247.52	0.140	0.6
02/07/00	11:00	Kentucky 9	191.8	249.1	5816.0	6622	247.5	268	1774	175.626	0.099	266.1	0.150	1.3
02/07/00	12:00	Kentucky 9	191.8	251.0	5838.0	6623	247.4	267.8	1774	177.4	0.100	301.58	0.170	1.9
02/07/00	13:00	Kentucky 9	191.8	250.2	5852.0	6626	246.8	267.1	1770	178.77	0.101	300.9	0.170	1.6
02/07/00	14:00	Kentucky 9	191.8	249.9	5865.0	6642	245.7	265.8	1765	180.03	0.102	335.35	0.190	2.1
02/07/00	15:00	Kentucky 9	191.8	251.8	5859.0	6655	245.2	265.1	1764	179.928	0.102	335.16	0.190	2.3
02/07/00	16:00	Kentucky 9	191.8	251.6	5852.0	6662	244.8	264.6	1762	181.486	0.103	334.78	0.190	2.9
02/07/00	17:00	Kentucky 9	191.8	252.4	5843.0	6650	245	264.8	1761	177.861	0.101	352.2	0.200	1.5
02/07/00	18:00	Kentucky 9	191.8	251.1	5836.0	6642	245.5	265.3	1762	174.438	0.099	352.4	0.200	1.6
02/07/00	19:00	Kentucky 9	191.8	250.8	5832.0	6633	245.4	265.1	1759	172.382	0.098	316.62	0.180	1.1
02/08/00	8:00	Kentucky 9	191.3	251.1	5816.0	6718	243.5	263.4	1770	141.6	0.080	460.2	0.260	0.9
02/08/00	9:00	Kentucky 9	190.0	250.7	5832.0	6682	243.8	263.8	1763	142.803	0.081	282.08	0.160	0.8
02/08/00	10:00	Kentucky 9	190.0	249.1	5872.0	6677	244.1	264.2	1764	142.884	0.081	299.88	0.170	1.2
02/08/00	11:00	Kentucky 9	190.0	249.2	5896.0	6679	244.2	264.4	1766	144.812	0.082	282.56	0.160	1
02/08/00	12:00	Kentucky 9	190.0	249.6	5917.0	6681	244	264.3	1766	150.11	0.085	264.9	0.150	0.8
02/08/00	13:00	Kentucky 9	190.1	249.5	5937.0	6685	243.3	263.5	1761	149.685	0.085	281.76	0.160	0.5
02/08/00	14:00	Kentucky 9	190.0	249.9	5938.0	6672	243.4	263.6	1759	151.274	0.086	281.44	0.160	0.9
02/08/00	15:00	Kentucky 9	189.9	249.4	5927.0	6658	241.7	264.1	1758	154.704	0.088	298.86	0.170	0.9
		Average	191.1	250.3	5862.3	6656	244.9	265.1	1765	164	0.093	311	0.176	1.3

C-2 FUEL BLEND OPERATIONAL DATA

Blend 60%

POLK POWER STATION DCS DATA

Date	Time	Fuel To Slurry Preparation	Combustion Turbine Output (MW)	Net Output Generation (MW)	Diluent N2 To Turbine (KSCFH)	Fuel Flow To Turbine (KSCFH)	Fuel LHV To Turbine (BTU/SCF)	Fuel HHV To Turbine (BTU/SCF)	Fuel HHV To Turbine (MMBTU/Hr)	NOx Emissions (Lb/Hr)	NOx Emissions (lb/MMBTU)	SO2 Emissions (Lb/Hr)	SO2 Emissions (lb/MMBTU)	Opacity %
04/24/00	9:00	60% Pet Coke	191.8	251.2	5887	6481	251.1	269.5	1747	191.7	0.110	197.5	0.113	3.4
04/24/00	10:00	60% Pet Coke	191.8	251.7	5865	6493	250.9	269.3	1749	195.1	0.112	208.4	0.119	3.1
04/24/00	11:00	60% Pet Coke	191.8	252.0	5863	6510	250.7	269.0	1751	198.9	0.114	235.5	0.134	3.7
04/24/00	12:00	60% Pet Coke	191.8	251.5	5991	6498	250.7	269.0	1748	185.7	0.106	241.0	0.138	3.7
04/24/00	13:00	60% Pet Coke	191.7	251.1	6143	6484	251.0	269.4	1747	184.6	0.106	243.8	0.140	3.9
04/24/00	14:00	60% Pet Coke	191.8	251.0	6272	6476	250.9	269.3	1744	174.9	0.100	236.5	0.136	4.0
04/24/00	15:00	60% Pet Coke	191.8	250.4	6287	6467	251.2	269.6	1743	166.0	0.095	241.3	0.138	4.1
04/24/00	16:00	60% Pet Coke	191.8	250.0	6284	6455	251.4	269.8	1742	160.6	0.092	236.6	0.136	4.2
04/24/00	17:00	60% Pet Coke	191.8	250.0	6281	6449	251.4	269.9	1741	158.9	0.091	231.3	0.133	4.3
04/24/00	18:00	60% Pet Coke	191.8	249.9	6278	6448	251.5	269.9	1740	160.0	0.092	237.4	0.136	4.3
04/25/00	12:00	60% Pet Coke	190.3	247.7	6301	6410	250.8	269.1	1725	155.3	0.090	245.2	0.142	5.4
04/25/00	13:00	60% Pet Coke	191.7	249.7	6332	6438	251.3	269.7	1736	156.5	0.090	240.4	0.138	5.3
04/25/00	14:00	60% Pet Coke	191.7	249.2	6362	6426	251.8	270.3	1737	161.5	0.093	244.4	0.141	5.3
04/25/00	15:00	60% Pet Coke	191.7	248.9	6392	6423	251.8	270.3	1736	161.8	0.093	250.2	0.144	5.4
04/25/00	16:00	60% Pet Coke	191.8	249.3	6423	6416	252.2	270.7	1737	164.0	0.094	254.8	0.147	5.6
04/25/00	17:00	60% Pet Coke	191.8	249.0	6450	6411	252.6	271.1	1738	162.6	0.094	253.4	0.146	5.9
04/25/00	18:00	60% Pet Coke	191.8	248.6	6444	6402	253.1	271.6	1739	160.8	0.092	249.1	0.143	5.4
04/25/00	19:00	60% Pet Coke	191.7	248.4	6428	6396	253.2	271.8	1738	157.7	0.091	239.4	0.138	5.3
04/26/00	10:00	60% Pet Coke	191.8	246.1	6584	6406	251.9	270.4	1732	158.7	0.092	185.5	0.107	2.9
04/26/00	11:00	60% Pet Coke	191.8	246.6	6603	6420	251.7	270.3	1735	158.4	0.091	191.7	0.110	3.0
04/26/00	12:00	60% Pet Coke	191.8	247.2	6622	6419	251.8	270.4	1736	156.6	0.090	194.2	0.112	3.4
		Average	191.7	249.5	6290.2	6444.2	251.6	270.0	1740.1	168.1	0.097	231.3	0.133	4.4

APPENDIX D

CONTINUOUS EMISSION MONITORING SYSTEM DATA

D-1 BASELINE CEMS STACK TEST LOGS

D-2 FUEL BLEND CEMS STACK TEST LOGS

D-3 CONTINUOUS EMISSIONS RELATIVE ACCURACY TEST AUDIT RESULTS 1999

D-4 CONTINUOUS EMISSIONS QUALITY ASSURANCE LINEARITY CHECKS - QUARTER 1, 2000

D-1 BASELINE CEMS STACK TESTS LOGS

Polk Station
HRSG
Tampa

Today's Date: 05/11/2000 Reporting Period
Time: 05:10:44 Day: 02/07/2000

DAILY EPA CEM SUMMARY

Time	CO2 %	SO2 ppm	SO2 lb/mmBtu	SO2 lb/hr	NOX ppm	NOX lb/mmBtu	FLOW kscfh	Ht Inp mmBtu
100	8	30.1	0.14	265.7	28.2	0.097	53172	1841
200	8	28.2	0.14	245.4	28.3	0.098M	52416M	1815
300	8	27.1	0.13	239.1	28.1	0.097	53160	1841
400	8	27.6	0.13	239.3	28.2	0.097	52230	1808
500	8	26.9	0.13	235.3	29	0.1	52692	1824
600	8	27.2	0.13	231.4	28.8	0.099	51252	1774
700	8	27.4	0.13	238	28.8	0.099	52326	1812
800	8.1	28.2	0.13	243.9	28.7	0.098	52104	1827
900	8.1	28.7	0.14	245	28.8	0.098	51432	1803
1000	8.1	30.9	0.15	272.8	29.2	0.099	53184	1864
1100	8.1	35	0.17	315.6	29.3	0.1	54312	1904
1200	8.1	36	0.17	342.3	29.6	0.101	57282	2008
1300	8	38.8	0.19	356.2	29.6	0.102	55296	1915
1400	8.1	40	0.19	363.9	30.1	0.102	54804	1921
1500	8.1	39.9	0.19	358.3	30.3	0.103	54090	1896
1600	8.1	41.8	0.2	377.9	29.7	0.101	54468	1909
1700	8.1	42.8	0.2	386.6	29	0.099M	54408M	1907
1800	8.2	38.9	0.18	339	29.1	0.098	52494	1863
1900	8.1	34.8	0.16	307.5	28.6	0.097	53238	1866
2000	8.2	35.8	0.17	315.5	28.4	0.096	53094	1884
2100	8.2	32.8	0.15	288.4	27.8	0.094	52962	1880
2200	8.2	30.9	0.14	272.7	27.2	0.091	53166	1887
2300	8.2	29.3	0.14	227.5	27.1	0.091M	46770M	1660
2400	8.1	31.6	0.15	257.2	27	0.092	49026	1719
AVRGE	8.1	32.9	0.156	290.2	28.7	0.098	52891	1852

Daily SO2 3.5 Tons
Daily CO2 5851.6 Tons

Legend
C - Out of Control
F - Fans Off
D - Out of Service
I - Insufficient Data
M - Maintenance Fault
A - Calibration Error

Polk Station
HRSG
Tampa

Today's Date: 05/11/2000 Reporting Period
Time: 05:11:10 Day: 02/08/2000

DAILY EPA CEM SUMMARY

Time	CO2 %	SO2 ppm	SO2 lb/mmBtu	SO2 lb/hr	NOX ppm	NOX lb/mmBtu	FLOW kscfh	Ht Inp mmBtu
100	8.1	32.2	0.15	283.4	26.5	0.090M	53028M	1859
200	8.1	31.6	0.15	266	26.6	0.091	50712	1778
300	8.2	31.7	0.15	277.3	26.4	0.089M	52698M	1870
400	8.2	37.9	0.18	345.1	25.8	0.087	54858	1947
500	8.2	48.8	0.23	475.4	24.8	0.083	58686	2083
600	8.2	64.1	0.3	617.5	24.2	0.081	58032	2060
700	8.2	55.5	0.26	443.2	23.9	0.080M	48108M	1707
800	8.2	34.6	0.16	303.2	24.2	0.081	52794	1874
900	8.2	36.1	0.17	327.3	24.2	0.081	54624	1939
1000	8.2	33.7	0.16	304.9	24.4	0.082	54498	1934
1100	8.2	32.5	0.15	292.3	25.2	0.085	54174	1923
1200	8.2	33.6	0.16	301.7	25.4	0.085	54096	1920
1300	8.1	33.8	0.16	357.4	25.3	0.086M	63690M	2233
1400	8.2	36.2	0.17	323.5	26.3	0.088	53826	1910
1500	8.2	36.4	0.17	324.3	27	0.091	53670	1905
1600	8.2	32.7	0.15	292.5	27.6	0.093M	53892M	1913
1700	7.6	31.6	0.16	256.7	25.6	0.093M	48936M	1610
1800	0	0	0	0	0	0.000M	0M	0
1900	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0
2100	0	0	0	0	0	0	0	0
2200	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0
2400	0	0	0	0	0	0	0	0
AVRGE	5.8	26.8	0.126	241.3	18.1	0.061	38347	1353

Daily SO2 2.9 Tons
Daily CO2 4275.3 Tons

Legend
C - Out of Control
F - Fans Off
D - Out of Service
I - Insufficient Data
M - Maintenance Fault
A - Calibration Error

D-2 FUEL BLEND CEMS STACK TEST LOGS

Polk Station
HRSG
Tampa

Today's Date: 05/11/2000
Time: 05:11:32

Reporting Period
Day: 04/24/2000

DAILY EPA CEM SUMMARY

Time	CO2 %	SO2 ppm	SO2 lb/mmBtu	SO2 lb/hr	NOX ppm	NOX lb/mmBtu	FLOW kscfh	Ht Inp mmBtu
100	7.8	32.3	0.16	0	31.3	0.111C	0C	0
200	7.9	37.6	0.18	0	31.1	0.109C	0C	0
300	7.9	38.7	0.19	0	31.6	0.110C	0C	0
400	7.9	38.8	0.19	0	31.3	0.109C	0C	0
500	7.9	39.8	0.19	0	31	0.108C	0C	0
600	7.9	39	0.19	0	31.1	0.109C	0C	0
700	7.9	24.9	0.12	0	30.6	0.107C	0C	0
800	7.9	22.6	0.11	0	30.8	0.108C	0C	0
900	8	22.9	0.11	0	31.1	0.107C	0C	0
1000	7.9	24	0.12	0	31.5	0.110C	0C	0
1100	7.9	26.5	0.13	0	31.5	0.110C	0C	0
1200	7.9	27.5	0.13	0	29.9	0.104C	0C	0
1300	7.8	28	0.14	0	29.2	0.103C	0C	0
1400	7.9	27.7	0.13	0	28.5	0.100C	0C	0
1500	7.9	28	0.14	0	27.1	0.095C	0C	0
1600	7.9	27.9	0.14	0	26.2	0.091C	0C	0
1700	7.9	27.3	0.13	0	25.9	0.090C	0C	0
1800	7.9	27.8	0.13	0	25.7	0.090C	0C	0
1900	7.9	27.4	0.13	0	25.5	0.089C	0C	0
2000	7.9	28	0.14	0	25.6	0.089C	0C	0
2100	7.9	29.9	0.15	0	25.1	0.088C	0C	0
2200	7.9	30.9	0.15	0	24.8	0.087C	0C	0
2300	7.9	29.4	0.14	0	25.3	0.088C	0C	0
2400	7.9	29.8	0.14	0	25.5	0.089C	0C	0
AVRGE	7.9	29.9	0.145	0	28.6	0.1	0	0

Daily SO2 0.0 Tons
Daily CO2 0.0 Tons

Legend
C - Out of Control
F - Fans Off
D - Out of Service
I - Insufficient Data
M - Maintenance Fault
A - Calibration Error

Polk Station
HRSG
Tampa

Today's Date: 05/11/2000 Reporting Period
Time: 05:11:48 Day: 04/25/2000

DAILY EPA CEM SUMMARY

Time	CO2 %	SO2 ppm	SO2 lb/mmBtu	SO2 lb/hr	NOX ppm	NOX lb/mmBtu	FLOW kscfh	Ht Inp mmBtu
100	7.9	30.6	0.15	0	25	0.087C	0C	0
200	7.9	32.6	0.16	0	24.8	0.087C	0C	0
300	7.9	34.2	0.17	0	24.4	0.085C	0C	0
400	8	37.3	0.18	0	23.9	0.082C	0C	0
500	8	43.7	0.21	0	23	0.079C	0C	0
600	8	49.7	0.24	0	22.7	0.078C	0C	0
700	7.9A	40.0A	0.19	0	21.6A	0.075C	0C	0
800	7.9	32.8	0.16	0	23.1	0.081C	0C	0
900	7.9	29.9	0.15	0	24.3	0.085C	0C	0
1000	7.9	30	0.15	0	24.2	0.084C	0C	0
1100	7.9	29.8	0.14	0	24.7	0.086C	0C	0
1200	7.9	29	0.14	0	25.3	0.088C	0C	0
1300	7.9	28.5	0.14	0	25.5	0.089C	0C	0
1400	7.9	28.7	0.14	0	26.1	0.091C	0C	0
1500	7.9	29.1	0.14	0	26.2	0.091C	0C	0
1600	7.9	29.4	0.14	0	26.3	0.092C	0C	0
1700	7.8	29.6	0.15	0	26.2	0.093C	0C	0
1800	7.8	29.5	0.15	0	26.1	0.092C	0C	0
1900	7.8	29	0.14	0	26	0.092C	0C	0
2000	7.7	26.8	0.13	0	25.6	0.092C	0C	0
2100	7.7	26.4	0.13	0	25.3	0.091C	0C	0
2200	7.7	26.9	0.13	0	25	0.090C	0C	0
2300	7.7	28.6	0.14	0	24.9	0.089C	0C	0
2400	7.7	29	0.14	0	25	0.090C	0C	0
AVRGE	7.9	31.7	0.155	0	24.8	0.087	0	0

Daily SO2 0.0 Tons
Daily CO2 0.0 Tons

Legend
C - Out of Control
F - Fans Off
D - Out of Service
I - Insufficient Data
M - Maintenance Fault
A - Calibration Error

Polk Station
HRSG
Tampa

Today's Date: 05/11/2000
Time: 05:12:13

Reporting Period
Day: 04/26/2000

DAILY EPA CEM SUMMARY

Time	CO2 %	SO2 ppm	SO2 lb/mmBtu	SO2 lb/hr	NOX ppm	NOX lb/mmBtu	FLOW kscfh	Ht Inp mmBtu
100	7.7	29.6	0.15	0	24.7	0.088C	0C	0
200	7.7	29.9	0.15	0	25.2	0.090C	0C	0
300	7.7	30.4	0.15	0	25.4	0.091C	0C	0
400	7.7	30.4	0.15	0	25.2	0.090C	0C	0
500	7.7	30.2	0.15	0	25.3	0.091C	0C	0
600	7.7	29.7	0.15	0	25.1	0.090C	0C	0
700	7.6	27.6	0.14	0	24.5	0.089C	0C	0
800	7.7	25.1	0.12	0	24.5	0.088C	0C	0
900	7.7	23	0.11	0	24.6	0.088C	0C	0
1000	7.7	21	0.1	0	24.7	0.088C	0C	0
1100	7.7	21.3	0.11	0	24.4	0.087C	0C	0
1200	7.7	22	0.11	0	24.8	0.089C	0C	0
1300	7.7	22.9	0.11	0	24.8	0.089C	0C	0
1400	7.7	24.1	0.12	0	24.8	0.089C	0C	0
1500	7.8	24.3	0.12	0	25.2	0.089C	0C	0
1600	7.8	24.2	0.12	0	25.3	0.089C	0C	0
1700	7.8	24.2	0.12	0	25.2	0.089C	0C	0
1800	7.8	23.8	0.12	0	24.9	0.088C	0C	0
1900	7.7	23.5	0.12	0	24.8	0.089C	0C	0
2000	7.7	22.7	0.11	0	24.5	0.088C	0C	0
2100	7.7	20.7	0.1	0	23.9	0.086C	0C	0
2200	7.7	22.3	0.11	0	24.1	0.086C	0C	0
2300	7.7	24.7	0.12	0	24.1	0.086C	0C	0
2400	7.7	26.6	0.13	0	24	0.086C	0C	0
AVRGE	7.7	25.2	0.125	0	24.8	0.088	0	0

Daily SO2 0.0 Tons
Daily CO2 0.0 Tons

Legend
C - Out of Control
F - Fans Off
D - Out of Service
I - Insufficient Data
M - Maintenance Fault
A - Calibration Error

D-3 CONTINUOUS EMISSIONS RELATIVE ACCURACY TEST AUDIT RESULTS - 1999

TECO
TAMPA ELECTRIC

CORPORATE ENVIRONMENTAL SERVICES
MEMORANDUM

SUBJECT: Continuous Emissions Monitoring (CEM) Systems
Relative Accuracy Test Audit Results

TO: David Knapp

FROM: Robert Barthelette Jr.

DATE: 27, October, 1999

Corporate Environmental Services, Air Services Group, performed a Relative Accuracy Test Audit (RATA) on combustion turbine HRSG CEMS (001) September 7 through September 9 , 1999. This audit was conducted in accordance with the system supplier's directions, and meet the requirements of 40 CFR 75, Appendix B.

All results were deemed acceptable, meeting the performance specifications of 40 CFR 75, Appendix A, Performance Specification 3.31, 3.32, 3.33, & 3.34.

Attached to this memorandum, you will find data summary sheets for each system tested. All testing was performed under my direction, and the results are certified as true and accurate.

These records should be maintained at your facility for a period of three (3) years to comply with 40 CFR 75, Appendix F, Record Keeping Requirements. Corporate Environmental Services will maintain all supporting information for this test for the same time period.

Should you have any questions regarding this information, feel free to contact me at extension 38227.

Robert A. Barthelette Jr.
Technician
Corporate Environmental Services
Air Services

cc: J. Nail
J. Woodlee
D. Coleman
D. Smith

SHAREDATA/AIR&WASTE/CEMS/RATA/RATA99/MEMOS

TECO
TAMPA ELECTRIC

RELATIVE ACCURACY TEST AUDIT
DATA SUMMARY

Plant: POLK POWER STATION

Unit: HRSG PRIMARY

Plant ORIS Code: 7242

Boiler or Stack ID: #1

Test Date: 09/7&9/99

Run Number	Start Time	End Time	RM - 6C SO2 ppm	CEM SO2 ppm	Difference ppm	RM - 7E/3A NOx lbs/Mmbtu	CEM NOx lbs/Mmbtu	Difference lbs/MMBtu	RM- 3A CO2 %	CEM CO2 %	Difference %	Run Flag
1	1847	1908	12.600	12.481	0.119	0.078	0.074	0.004	7.640	8.262	-0.622	1
2	1937	1958	13.200	13.096	0.104	0.075	0.073	0.002	7.740	8.354	-0.614	1
3	2014	2035	13.700	12.838	0.862	0.077	0.073	0.004	7.900	8.366	-0.466	0
4	2104	2125	13.800	12.714	1.086	0.076	0.073	0.003	7.890	8.399	-0.509	0
5	0719	0740	9.300	8.877	0.423	0.08	0.078	0.002	7.890	8.201	-0.311	1
6	0819	0840	9.600	8.654	0.946	0.08	0.079	0.001	7.900	8.207	-0.307	0
7	0915	0936	9.500	8.698	0.802	0.083	0.082	0.001	7.860	8.135	-0.275	1
8	1001	1022	8.700	9.117	-0.417	0.081	0.083	-0.002	7.770	8.136	-0.366	1
9	1048	1109	8.500	8.935	-0.435	0.083	0.086	-0.003	7.790	8.064	-0.274	1
10	1130	1151	8.700	9.008	-0.308	0.085	0.086	-0.001	7.630	8.072	-0.442	1
11	1209	1230	8.2	8.724	-0.524	0.084	0.087	-0.003	7.760	8.074	-0.314	1
12	1255	1316	8.1	8.492	-0.392	0.083	0.087	-0.004	7.810	8.021	-0.211	1
Means of Accepted:			9.644	9.714	-0.070	0.081	0.082	0.000	7.766	8.147	-0.381	
Standard Deviations (n-1) of Differences:					0.460			0.003			0.149	

SO2 Confidence Coefficient:	0.353
SO2 Relative Accuracy:	4.35
SO2 Bias Test:	Passed
SO2 Bias Adjustment Factor:	1.000
NOx Confidence Coefficient:	0.002
NOx Relative Accuracy:	3.16
NOx Bias Test:	Passed
NOx Bias Adjustment Factor:	1.000
CO2 Confidence Coefficient:	0.114
CO2 Relative Accuracy:	6.08

Number of Valid Runs:	9
T-value:	2.306

CEM RACK

SO2 Analyzer S/N:	43B-48910-282
NOx Analyzer S/N:	42D-53124-294
CO2 Analyzer S/N:	EN-029

TECO
TAMPA ELECTRIC

CORPORATE ENVIRONMENTAL SERVICES
MEMORANDUM

SUBJECT: Continuous Emissions Monitoring (CEM) Systems
Relative Accuracy Test Audit Results

TO: David Knapp

FROM: Robert Barthelette Jr.

DATE: 16, December 1999

Corporate Environmental Services, Air Services Group, performed a Relative Accuracy Test Audit (RATA) on combustion turbine HRSG CEMS (001) on November 8 through November 16, 1999. These audits were conducted in accordance with the system supplier's directions, and meet the requirements of 40 CFR 75, Appendix B.

All results were deemed acceptable, meeting the performance specifications of 40 CFR 75, Appendix A, Performance Specification 3.34.

Attached to this memorandum, you will find data summary sheets for each system tested. All testing was performed under my direction, and the results are certified as true and accurate.

These records should be maintained at your facility for a period of three (3) years to comply with 40 CFR 75, Appendix F, Record Keeping Requirements. Corporate Environmental Services will maintain all supporting information for this test for the same time period.

Should you have any questions regarding this information, feel free to contact me at extension 38227.

Robert A. Barthelette Jr.
Technician
Corporate Environmental Services
Air Services

cc: J. Nail
J. Woodlee
D. Coleman
D. Smith

SHAREDATA/AIR&WASTE/CEMS/RATA/RATA99/MEMOS

CEMS Flow Rate Relative Accuracy

Plant Name: POLK POWER STATION
Unit #: 1
Date: 11/16/99
Load: HIGH,192MW

			Reference Method Data	Source Data		Difference
Run #	Start Time	End Time	Flow Rate (scfh)	Unit Load	CEMS Flow Rate (scfh)	CEMS Flow Rate (scfh)
1	12:07	12:21	49548678.000	191.104	53104560.000	-3555882.000
2	12:22	12:33	49451007.000	191.306	49797120.000	-346113.000
3	12:34	12:44	49640552.000	191.084	51307380.000	-1666828.000
4	12:45	12:56	50082886.000	191.173	52852980.000	-2770094.000
5	12:57	13:10	49720685.000	191.222	51809940.000	-2089255.000
6	13:12	13:24	49747758.000	191.189	51581820.000	-1834062.000
7	13:24	13:34	49679427.000	191.218	51745140.000	-2065713.000
8	13:36	13:47	49949132.000	191.314	52079700.000	-2130568.000
9	13:48	13:58	49822211.000	191.176	53990940.000	-4168729.000
* 10	0:00	0:00				
* 11	0:00	0:00				
* 12	0:00	0:00				
Arithmetic Mean:			49738037.333	191.198	52029953.333	-2291916.000
				R_{ref}= 2.601	Standard Deviation:	1109812.954
					Confidence Coefficient:	853076.224
					Relative Accuracy (%):	**6.32**
					Bias Adjustment Factor:	**1.000**
					T-Value:	2.306

* Runs not included in Relative Accuracy Calculaton

CEMS Flow Rate Relative Accuracy

Plant Name: POLK POWER STATION
Unit #: 1
Date: 11/11/99
Load: MID,180

	Run #	Start Time	End Time	Reference Method Data Flow Rate (scfh)	Source Data CEMS Flow Rate (scfh)	Difference CEMS Flow Rate (scfh)
	1	14:55	15:12	47000135.000	49091460.000	-2091325.000
	2	15:17	15:29	46830213.000	49268160.000	-2437947.000
	3	15:30	15:42	47483042.000	48638220.000	-1155178.000
	4	15:44	15:56	47688787.000	49946340.000	-2257553.000
	5	15:58	16:10	47403358.000	49539660.000	-2136302.000
	6	16:14	16:24	47520527.000	49007520.000	-1486993.000
	7	16:26	16:35	47786355.000	50421060.000	-2634705.000
	8	16:36	16:45	48080908.000	50286960.000	-2206052.000
	9	16:47	16:56	47565053.000	48331080.000	-766027.000
*	10	0:00	0:00	#DIV/0!	0.000	#DIV/0!
*	11	0:00	0:00	#DIV/0!	0.000	#DIV/0!
*	12	0:00	0:00	#DIV/0!	0.000	#DIV/0!
	Arithmetic Mean:			47484264.222	49392273.333	-1908009.111
					Standard Deviation:	627872.033
					Confidence Coefficient:	482624.303
					Relative Accuracy (%):	**5.03**
					Bias Adjustment Factor:	**1.000**
					T-Value:	2.306

* Runs not included in Relative Accuracy Calculaton

CEMS Flow Rate Relative Accuracy

Plant Name: POLK POWER STATION
Unit #: 1
Date: 11/16/99
Load: LOW,165 MW

Run #	Start Time	End Time	Reference Method Data Flow Rate (scfh)	Source Data CEMS Flow Rate (scfh)	Difference CEMS Flow Rate (scfh)
1	8:27	8:39	46397799.000	48139560.000	-1741761.000
2	8:40	8:50	46610216.000	47565840.000	-955624.000
3	8:52	9:03	46598399.000	45584400.000	1013999.000
4	9:17	9:29	46147705.000	47698500.000	-1550795.000
5	9:30	9:41	46117811.000	47575020.000	-1457209.000
6	9:42	9:52	46076884.000	47006340.000	-929456.000
7	10:00	10:10	46027076.000	46789980.000	-762904.000
8	10:11	10:23	46604078.000	46296480.000	307598.000
9	10:24	10:35	46240982.000	48306300.000	-2065318.000
* 10	0:00	0:00	#DIV/0!	0.000	#DIV/0!
* 11	0:00	0:00	#DIV/0!	0.000	#DIV/0!
* 12	0:00	0:00	#DIV/0!	0.000	#DIV/0!
Arithmetic Mean:			46313438.889	47218046.667	-904607.778
				Standard Deviation:	996543.692
				Confidence Coefficient:	766009.918
				Relative Accuracy (%):	**3.61**
				Bias Adjustment Factor:	**1.000**
				T-Value:	2.306

* Runs not included in Relative Accuracy Calculaton

D-4 CONTINUOUS EMISSIONS QUALITY ASSURANCE LINEARITY CHECKS - QUARTER 1, 2000

Polk Station

HRSG Start Time:_____ Date:_____ End Time:_____ Date:_____

Analyzer SO2	LOW	MID	HIGH
REF GAS VALUE	22.87	55.97	91.36
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	16:33	16:40	16:52
RUN 1	21.60	52.05	88.53
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	17:16	17:24	17:32
RUN 2	24.20	58.03	90.83
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	17:41	17:49	17:57
RUN 3	24.01	57.13	90.80
AVERAGE=SUM/3	23.27	55.74	90.05
% ACCURACY	0.40	0.23	1.31
OUT OF CONTROL	NO	NO	NO
SERIAL NUMBER	ALM 010535	ALM 045236	ALM 049904
EXPIRATION DATE	09/02/2000	03/03/2002	03/03/2002

Analyzer NOX	LOW	MID	HIGH
REF GAS VALUE	24.88	54.03	89.31
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	16:33	16:40	16:52
RUN 1	26.44	58.28	92.38
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	17:16	17:24	17:32
RUN 2	26.07	56.31	89.83
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	17:41	17:49	17:57
RUN 3	25.71	55.80	89.23
AVERAGE=SUM/3	26.07	56.80	90.48
% ACCURACY	1.19	2.77	1.17
OUT OF CONTROL	NO	NO	NO
SERIAL NUMBER	ALM 010535	ALM 045236	ALM 049904
EXPIRATION DATE	09/02/2000	03/03/2002	03/03/2002

Analyzer CO2	LOW	MID	HIGH
REF GAS VALUE	3.46	7.72	12.54
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	16:33	16:40	16:52
RUN 1	3.52	7.67	12.40
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	17:16	17:24	17:32
RUN 2	3.56	7.71	12.41
DATE	03/29/2000	03/29/2000	03/29/2000
TIME	17:41	17:49	17:57
RUN 3	3.59	7.71	12.44
AVERAGE=SUM/3	3.56	7.70	12.42
% ACCURACY	0.10	0.02	0.96
OUT OF CONTROL	NO	NO	NO
SERIAL NUMBER	ALM 010535	ALM 045236	ALM 049904
EXPIRATION DATE	09/02/2000	03/03/2002	03/03/2002

APPENDIX E

FUEL ANALYSIS

E-1 BASELINE COMPOSITE

E-2 FUEL BLEND COMPOSITES

E-1 BASELINE COMPOSITE

TECO TAMPA ELECTRIC
Corporate Environmental
Laboratory Services

5012 Causeway Blvd * Tampa, Fl. 33619 * Ph (813)630-7378 * Fax (813)630-7360 * CompQAP #910140G * DOH #E54272

John McDaniel
Martin Duff, Fuels

Report Date: 5/11/00

Laboratory ID: ***AA53522***

Location Description:	Polk Power Plant Test Burn	**Sampled By:**	CTE, ST. ROSE
Location Code:	SPECL-PK	**Date Sampled:**	01/27/00
Sample Description:	BASE LINE COAL	**Time Sampled:**	00:00
	CAMP COAL	**Date Received:**	02/08/00

ANALYTICAL RESULTS

Parameter	Results	Units
Ash Fusion, FT, Reducing	2230	Degrees F
Ash Fusion, HT, Reducing	2050	Degrees F
Ash Fusion, IT, Reducing	1960	Degrees F
Ash Fusion, ST, Reducing	2000	Degrees F
Ash, as Received	8.97	%
Ash, Dry Basis	10.3	%
BTU, as Received	11313	BTU/Lb
BTU, Dry Basis	12988	BTU/Lb.
BTU, Moisture-Ash Free	14479	BTU/Lb.
Calcium Oxide, CaO	5.49	%
Carbon, as Received	63.16	%
Carbon, Dry Basis	72.51	%
Chlorine , as Received	0.10	%
Chlorine , Dry Basis	0.12	%
Fixed Carbon, as Received	44.12	%
Fixed Carbon, Dry Basis	50.65	%
Hardgrove Grindability Index	54	HGI
Hydrogen, as Received	4.33	%

TECO TAMPA ELECTRIC
Corporate Environmental
Laboratory Services

5012 Causeway Blvd * Tampa, Fl. 33619 * Ph (813)630-7378 * Fax (813)630-7360 * CompQAP #910140G * DOH #E54272

Parameter	Results	Units
Aluminum Oxide, Al203	18.07	%
Hydrogen, Dry Basis	4.97	%
Iron Oxide, Fe2O3	19.28	%
Magnesium Oxide, MgO	1.00	%
Nitrogen, as Received	1.39	%
Nitrogen, Dry Basis	1.60	%
Oxygen, as Received	6.27	%
Oxygen, Dry Basis	7.19	%
Phosphorus, P2O5	0.09	%
Potassium Oxide, K2O	2.40	%
Pounds SO2 / Million BTU	4.84	Lbs. SO2/MMBTU
Silica Value	66.3	%
Silicon Dioxide, SiO2	50.79	%
Sodium Oxide, Na2O	0.81	%
Sulfur in Ash	1.56	%
Sulfur Trioxide, SO3	3.90	%
Sulfur, as Received	2.88	%
Sulfur, Dry Basis	3.31	%
Titanium Dioxide, TiO2	1.00	%
Total Moisture	12.9	%
Volatiles, as Received	34.01	%
Volatiles, Dry Basis	39.05	%

Comments:

Robert L. Dorey
Supervisor of Laboratory Services

E-2 FUEL BLEND COMPOSITES

TECO TAMPA ELECTRIC
Corporate Environmental
Laboratory Services

5012 Causeway Blvd * Tampa, Fl. 33619 * Ph (813)630-7378 * Fax (813)630-7360 * CompQAP #910140G * DOH #E54272

John McDaniel, Polk
Martin Duff, Fuels

Report Date: 5/11/00

Laboratory ID: ***AA54434***

Location Description: Polk Power Plant
Location Code: SPECL-PK
Sample Description: PET COKE TEST BURN AT POLK

Sampled By: CTE, ST. ROSE
Date Sampled: 04/13/00
Time Sampled: 00:00
Date Received: 04/14/00

ANALYTICAL RESULTS

Parameter	Results	Units
Ash Fusion, FT, Reducing	2390	Degrees F
Ash Fusion, HT, Reducing	2340	Degrees F
Ash Fusion, IT, Reducing	2270	Degrees F
Ash Fusion, ST, Reducing	2290	Degrees F
Ash, as Received	3.90	%
Ash, Dry Basis	4.19	%
BTU, as Received	13535	BTU/Lb
BTU, Dry Basis	14551	BTU/Lb.
BTU, Moisture-Ash Free	15187	BTU/Lb.
Calcium Oxide, CaO	6.10	%
Carbon, as Received	77.51	%
Carbon, Dry Basis	83.33	%
Chlorine , as Received	0.08	%
Chlorine , Dry Basis	0.09	%
Fixed Carbon, as Received	67.17	%
Fixed Carbon, Dry Basis	72.21	%
Hardgrove Grindability Index	55	HGI

TECO TAMPA ELECTRIC
Corporate Environmental
Laboratory Services

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Parameter	Results	Units
Aluminum Oxide, Al203	21.87	%
Hydrogen, as Received	4.14	%
Hydrogen, Dry Basis	4.45	%
Iron Oxide, Fe2O3	12.73	%
Magnesium Oxide, MgO	0.97	%
Nitrogen, as Received	1.82	%
Nitrogen, Dry Basis	1.96	%
Oxygen, as Received	2.69	%
Oxygen, Dry Basis	2.88	%
Phosphorus, P2O5	0.37	%
Potassium Oxide, K2O	1.41	%
Pounds of Ash / Million BTU	2.877	Lbs./MMBTU
Pounds SO2 / Million BTU	4.05	Lbs. SO2/MMBTU
Silica Value	70.9	%
Silicon Dioxide, SiO2	48.24	%
Sodium Oxide, Na2O	0.93	%
Sulfur in Ash	0.40	%
Sulfur Trioxide, SO3	1.00	%
Sulfur, as Received	2.88	%
Sulfur, Dry Basis	3.10	%
Titanium Dioxide, TiO2	1.10	%
Total Moisture	6.98	%
Volatiles, as Received	21.95	%
Volatiles, Dry Basis	23.6	%

Comments:
CTE, St. Rose Lab #'s 89-1634-15, 16, 17
A weighted composite was made from the three supplied samples.
89-1634-15 = 8308 short tons (hold 1)
89-1634-16 = 8094 short tons (hold 2)

Robert L. Dorey
Supervisor of Laboratory Services

APPENDIX F

FIELD DATA SHEETS

F-1 BASELINE SULFURIC ACID DATA SHEETS

F-2 BASELINE ORSAT DATA SHEETS

F-3 FUEL BLEND SULFURIC ACID MIST DATA SHEETS

F-4 FUEL BLEND ORSAT DATA SHEETS

F-1 BASELINE SULFURIC ACID DATA SHEETS

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47 0.201	Dry Gas Meter Volume	
Location	Unit #1	Nozzle Diameter	0.201 "	Final	148,326 Ft³
Date	2-7-00	Pitot Tube No.		Initial	107,402 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	40,924 Ft³
Run No.	Base-1	Probe Length	14"		
Box Operator	RAB/CVC	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	RAB/RAM	Probe Heater Setting	250	Initial	0.000 CFM @ 15 "Hg
Time - Start:	10:17 End: 11:25	Pressure	Pb ("Hg): 30.65 Pg ("H2O): 0.52 Ps ("Hg): 29.65	Final	0.000 CFM @ 5 "H2O
Sampling Time	60	Ambient Temperature	70 °F	Pitot Tube	OK @ 0.7 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	Baseline test	Impinger	16 ml
Meter Cal. (ΔH)	1.780			Silica Gel	24.6 gm
Meter Cal. (ΔY)	0.989			Total	40.6

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	10:17	109.2	1.45	1.51	235	336	74	270	63	5
2		111.0	1.45	1.51	235	335	77	267	62	5
3		112.8	1.45	1.51	230	336	78	270	62	5
4		114.4	1.45	1.51	240	335	79	270	62	5
5		116.2	1.45	1.51	239	335	79	270	63	5
6	10:32	117.8	1.25	1.30	237	334	80	267	64	5
1	10:35	119.6	1.45	1.51	235	334	78	267	62	5
2		121.3	1.45	1.51	228	336	80	265	63	5
3		123.1	1.45	1.51	229	336	82	265	64	5
4		124.8	1.45	1.51	228	336	83	266	65	5
5		126.5	1.45	1.51	226	336	84	274	64	5
6	11:00	128.1	1.25	1.30	228	335	85	276	64	5

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	10:57	129.8	1.30	1.36	236	335	84	277	63	5
2		131.5	1.35	1.41	238	336	85	276	63	5
3		133.1	1.35	1.41	238	336	86	276	64	5
4		134.9	1.35	1.41	242	337	87	278	65	5
5		136.5	1.35	1.41	244	336	88	278	65	5
6	11:07	138.1	1.20	1.25	238	334	88	277	65	5
1	11:10	139.8	1.30	1.36	226	335	86	273	64	5
2		141.5	1.35	1.41	227	336	88	275	64	5
3		143.3	1.40	1.46	224	337	89	274	64	5
4		145.0	1.40	1.46	220	338	89	274	64	5
5		146.7	1.40	1.46	219	337	89	271	65	5
6	11:25	148.326	1.30	1.36	217	337	89	276	65	5

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1	Nozzle Diameter	0.201	Final	199.456 Ft³
Date	2-7-00	Pitot Tube No.		Initial	157.824 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	41.136 Ft³
Run No.	Base-2	Probe Length	14 FT		
Box Operator	RMB	Probe Liner Material	Pyrex	Equipment Leak Checks	15.0 IN
Probe Operator	QK/RM	Probe Heater Setting	250	Initial	0.000 CFM @ 4.6 "Hg
Time - Start:	13:36 End: 14:42	Pressure	Pb ("Hg): 30.00 Pg ("H2O): -0.52 Ps ("Hg): 29.93	Final	0.000 CFM @ 5.0 "H2O
Sampling Time	60	Ambient Temperature	75 WINDY	Pitot Tube	OK@ 4.6 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	243.529	Comments	BASELINE	Impinger	34 ml
Meter Cal. (ΔH)	~~0.9~~ 1.780			Silica Gel	15.1 gm
Meter Cal. (ΔY)	0.989			Total	49.1

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	13:36	159.6	1.35	1.42	180	335	75	263	62	8
2		161.3	1.35	1.42	180	335	78	267	62	7
3		163.0	1.35	1.42	178	335	79	270	57	7
4		164.7	1.40	1.48	182	336	80	268	56	7
5		166.5	1.45	1.53	196	336	81	270	55	8
6	13:51	168.2	1.30	1.37	190	334	81	268	55	7
1	13:53	169.9	1.35	1.42	206	331	80	270	57	7
2		171.6	1.35	1.42	211	336	81	269	55	7
3		173.3	1.35	1.42	216	336	81	270	54	7
4		175.0	1.40	1.48	213	337	82	271	55	7
5		176.8	1.45	1.53	223	336	83	268	56	7
6	14:08	178.5	1.30	1.37	232	335	84	270	56	7

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	14:10	180.3	1.40	1.48	240	334	84	270	58	7
2		182.0	1.45	1.53	245	336	87	271	57	7
3		183.8	1.45	1.53	241	335	88	274	57	7
4		185.6	1.45	1.53	246	335	89	274	57	7
5		187.3	1.45	1.53	217	334	89	273	58	7
6	14:25	189.0	1.30	1.37	201	333	87	273	59	7
1	14:27	190.8	1.40	1.48	205	333	85	270	59	7
2		192.5	1.45	1.53	210	334	84	268	58	7
3		194.2	1.45	1.53	223	334	85	269	57	7
4		196.0	1.45	1.53	226	335	86	271	58	7
5		197.8	1.45	1.53	234	335	87	271	58	7
6	14:42	199.456	1.30	1.37	232	333	88	269	59	7

Sulfuric Acid Mist Field Data Form

Plant	POLK POWER STATION	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	UNIT #1	Nozzle Diameter	0.201	Final	251.380 Ft³
Date	2-7-00	Pitot Tube No.		Initial	209.725 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	41.655 Ft³
Run No.	BASE-3	Probe Length	14.0 FT		
Box Operator	RAB	Probe Liner Material	PYREX	Equipment Leak Checks	
Probe Operator	CVC/RM	Probe Heater Setting	250 °F	Initial	0.002 CFM @ 15 "Hg
Time - Start:	15:36 End: 16:45	Pressure	Pb ("Hg): 30.00 Pg ("H2O): -.92 Ps ("Hg): 29.93	Final	0.000 CFM @ 10 "H2O
Sampling Time	60	Ambient Temperature	82	Pitot Tube	OK @ 4.6 "H2O
Min.\ Pt	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	BASELINE	Impinger	30 ml
Meter Cal. (ΔH)	1.7950			Silica Gel	16.8 gm
Meter Cal. (ΔY)	0.9989			Total	46.8

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	15:36	211.5	1.40	1.48	221	333	81	271	63	10
2		213.3	1.45	1.53	196	334	84	267	54	9
3		215.1	1.45	1.53	193	334	85	268	59	9
4		216.9	1.45	1.53	191	334	86	268	59	9
5		218.6	1.45	1.53	201	334	85	270	59	9
6	15:51	220.2	1.30	1.37	198	332	86	270	60	9
1	15:53	222.0	1.45	1.53	206	331	84	269	61	9
2		223.8	1.45	1.53	205	332	85	272	59	9
3		225.5	1.45	1.53	200	331	86	272	60	9
4		227.3	1.45	1.53	188	332	86	272	61	9
5		229.0	1.45	1.53	181	332	86	269	61	9
6	16:08	230.7	1.30	1.37	197	331	86	270	62	9

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	16:12	232.5	1.35	1.42	192	334	81	270	62	9
2		234.2	1.35	1.42	191	334	82	271	60	9
3		235.9	1.35	1.42	189	333	82	271	59	9
4		237.6	1.35	1.42	186	334	82	272	61	9
5		239.3	1.35	1.42	182	334	82	268	61	9
6	16:27	241.1	1.30	1.37	177	333	82	271	62	9
1	16:30	242.7	1.35	1.42	163	332	79	268	62	9
2		244.5	1.35	1.42	160	334	80	266	60	9
3		246.2	1.35	1.42	165	334	80	265	61	9
4		247.9	1.40	1.48	164	334	80	268	61	9
5		249.7	1.40	1.48	161	334	80	267	61	9
6	16:45	251.380	1.30	1.37	161	333	80	269	61	9

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1	Nozzle Diameter	0.201 "	Final	303.408 Ft³
Date	2-7-00	Pitot Tube No.		Initial	261.925 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	41.483 Ft³
Run No.	Base-4	Probe Length	14 FT		
Box Operator	RAM	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	RAM | DAS	Probe Heater Setting	250	Initial	0.000 CFM @ 15 "Hg
Time - Start:	17:37 End: 18:45	Pressure	Pb ("Hg): 29.95 Pg ("H2O): -.92 Ps ("Hg): 29.88	Final	0.000 CFM @ 8 "H2O
Sampling Time	60	Ambient Temperature	71	Pitot Tube	OK, @ 4.6 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	Baseline	Impinger	31 ml
Meter Cal. (ΔH)	1.780			Silica Gel	20.4 gm
Meter Cal. (ΔY)	0.989			Total	51.4

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	17:37	263.8	1.35	1.41	160	333	72	260	61	~~10~~ 8
2		265.4	1.35	1.41	164	333	74	264	55	~~10~~ 8
3		267.1	1.35	1.41	165	333	75	268	56	8
4		268.9	1.40	1.46	166	332	76	267	57	8
5		270.6	1.40	1.46	167	331	76	267	58	8
6	17:52	272.2	1.30	1.36	171	330	76	266	58	8
1	17:55	273.9	1.35	1.41	187	330	74	270	58	8
2		275.6	1.35	1.41	194	331	75	271	57	8
3		277.3	1.35	1.41	194	331	75	267	57	8
4		279.0	1.40	1.46	196	331	75	270	58	8
5		280.7	1.35	1.41	197	332	75	267	58	8
6	18:10	282.4	1.30	1.36	195	331	75	268	59	8

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	18:13	284.2	1.40	1.46	180	331	73	268	58	8
2		286.0	1.45	1.51	175	333	73	270	58	8
3		287.7	1.45	1.51	170	333	74	266	59	8
4		289.5	1.45	1.51	169	332	73	267	60	8
5		291.2	1.45	1.51	164	332	73	265	60	8
6	18:28	292.9	1.30	1.36	162	329	73	266	61	7
1	18:30	294.6	1.40	1.46	165	330	71	272	60	8
2		296.2	1.45	1.51	164	332	71	271	59	8
3		298.2	1.45	1.51	164	331	71	268	60	8
4		299.9	1.45	1.51	166	331	71	271	61	8
5		301.7	1.45	1.51	167	330	71	270	61	8
6	18:45	303.408	1.30	1.36	166	329	71	267	62	7

Sulfuric Acid Mist Field Data Form

Plant	POLK POWER STATION	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	UNIT #1	Nozzle Diameter	0.201"	Final	353.510 Ft³
Date	2-8-00	Pitot Tube No.		Initial	312.713 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	40.797 Ft³
Run No.	BASE-5	Probe Length	14.0 Ft		
Box Operator	RAB/CVC	Probe Liner Material	PYREX	Equipment Leak Checks	
Probe Operator	CVC/RAB	Probe Heater Setting	250 °F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	8:17 End: 9:37	Pressure	Pb ("Hg): 29.95 Pg ("H2O): -.90 Ps ("Hg): 29.88	Final	0.000 CFM @ 12 "H2O
Sampling Time	60	Ambient Temperature	58 °F	Pitot Tube	OK @ 7.7 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	BASELINE	Impinger	29 ml
Meter Cal. (ΔH)	1.780			Silica Gel	20.2 gm
Meter Cal. (ΔY)	0.9989			Total	49.2

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	8:17	314.4	1.45	1.48	170	336	55	268	50	10
2		316.1	1.45	1.48	169	336	56	268	49	10
3		317.8	1.45	1.48	168	336	57	269	49	10
4		319.5	1.45	1.48	173	336	58	271	50	10
5		321.2	1.45	1.48	174	335	59	269	52	10
6	8:32	322.8	1.30	1.33	174	334	60	273	53	9
1	8:35	~~326.2~~ 324.1	1.45	1.48	188	336	60	268	52	10
2		326.2	1.45	1.48	194	336	60	263	53	10
3		327.8	1.45	1.48	194	336	60	253	54	10
4		329.6	1.45	1.48	202	336	60	256	51	10
5		331.3	1.45	1.48	211	336	62	261	52	10
6	8:58	332.9	1.20	1.22	214	334	63	269	54	8

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (FT^3)	ΔP_R (In. H_2O)	$\Delta H_@$ (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	9:03	334.6	1.30	1.33	192	337	62	269	55	10
2		336.3	1.30	1.33	187	337	63	266	54	10
3		337.9	1.30	1.33	183	337	64	266	54	10
4		339.6	1.30	1.33	182	336	64	266	56	10
5		341.4	1.30	1.33	177	336	65	269	57	10
6	9:18	343.0	1.20	1.22	175	334	65	269	58	10
						~~334~~ cvc	~~62~~ cvc	~~269~~ cvc		
1	9:22	~~343.0~~	1.30	1.33	190	334	62	269	56	10
2		344.7	1.30	1.33	196	336	63	271	56	10
3		346.3	1.34	1.37	199	336	64	273	57	~~12~~ 10 cvc
4		348.1	1.34	1.37	199	336	64	273	58	~~12~~ 10 cvc
5		350.0	1.34	1.37	195	336	64	273	59	12
6	9:37	351.9	1.10	1.12	197	334	64	273	59	10
		353.510								

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1	Nozzle Diameter	0.201"	Final	404.392 Ft³
Date	2-8-00	Pitot Tube No.		Initial	363.509 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	40.883 Ft³
Run No.	Base-6	Probe Length	14.0 ft		
Box Operator	CVL/RAB	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	RAB/RAM/CVL	Probe Heater Setting	250° F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	10:18 End: 1127	Pressure	Pb ("Hg): 29.95 Pg ("H2O): -.90 Ps ("Hg): 29.87	Final	0.000 CFM @ 11 "H2O
Sampling Time	60	Ambient Temperature	58° F	Pitot Tube	OK 0.7 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	Baseline -6	Impinger	26 ml
Meter Cal. (ΔH)	1.780			Silica Gel	22.3 gm
Meter Cal. (ΔY)	0.989			Total	48.3

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	10:18	365.3	1.40	1.43	187	336	61	260	55	11
2		367.0	1.30	1.33	190	336	62	259	53	11
3		368.7	1.30	1.33	195	336	63	263	54	10
4		370.4	1.40	1.43	194	336	64	266	55	10
5		372.1	1.40	1.43	199	336	64	270	56	10
6	10:33	373.8	1.30	1.33	198	335	65	273	56	10
1	10:35	375.5	1.30	1.33	179	334	64	274	56	11
2		377.1	1.30	1.33	173	337	65	273	56	11
3		378.7	1.30	1.33	179	337	65	270	57	11
4		380.4	1.30	1.33	180	336	66	273	58	11
5		382.1	1.30	1.33	181	336	66	272	59	10
6	10:50	383.7	1.20	1.22	173	334	67	271	61	9

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1054	385.4	1.40	1.43	193	335	66	273	60	10
2		387.2	1.40	1.43	198	335	67	273	59	10
3		388.9	1.40	1.43	202	336	68	270	60	10
4		390.6	1.40	1.43	193	335	69	273	61	10
5		392.3	1.40	1.43	193	335	69	269	63	10
6	1109	393.9	1.20	1.22	198	335	69	273	63	9
1	1112	395.7	1.40	1.43	203	336	67	270	62	10
2		397.4	1.40	1.43	199	336	69	269	59	10
3		399.1	1.50	1.53	207	336	70	272	61	11
4		400.9	1.50	1.53	205	336	70	272	61	11
5		402.7	1.50	1.53	209	336	71	271	62	11
6	1127	404.392	1.30	1.33	204	335	72	269	63	10

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1	Nozzle Diameter	0.201"	Final	456.063 Ft³
Date	2-8-00	Pitot Tube No.		Initial	415.075 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	40.988 Ft³
Run No.	Baseline 7	Probe Length	14.0 Ft		
Box Operator	CVC/RAB	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	RAM/RAB/CVC	Probe Heater Setting	250° F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	1216 End: 1324	Pressure	Pb ("Hg):30.00 Pg ("H2O):-.40 Ps ("Hg):29.88	Final	0.000 CFM @ 12 "H2O
Sampling Time	60	Ambient Temperature	60° F	Pitot Tube	Okay 7.7 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	Baseline - 7	Impinger	26 ml
Meter Cal. (ΔH)	1.780			Silica Gel	20 gm
Meter Cal. (ΔY)	0.984			Total	46

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1216	416.8	1.40	1.46	233	337	73	269	59	11
2		418.5	1.40	1.46	208	337	76	268	57	11
3		420.2	1.40	1.46	209	336	76	269	56	11
4		422.0	1.40	1.46	191	336	76	269	57	11
5		423.7	1.40	1.46	192	336	76	269	57	11
6	1231	425.4	1.30	1.35	201	335	76	270	57	11
1	1233	427.1	1.40	1.46	202	336	75	275	60	12
2		428.9	1.40	1.46	196	336	75	271	59	12
3		430.6	1.40	~~1.42~~ 1.46	203	336	74	270	60	12
4		432.3	1.40	1.46	207	337	74	271	61	12
5		434.1	1.40	1.46	219	336	74	271	61	12
6	1248	435.7	1.20	1.25	226	334	74	273	62	10

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1251	437.4	1.30	1.35	198	336	73	270	64	11
2		439.0	1.20	1.25	203	336	74	271	61	10
3		440.7	1.30	1.35	204	336	74	271	61	11
4		442.4	1.40	1.46	209	336	75	270	63	12
5		444.2	1.40	1.46	210	336	75	269	64	12
6	1306	445.8	1.20	1.25	215	335	75	270	64	10
1	1309	447.5	1.30	1.35	219	336	74	273	66	11
2		449.2	1.30	1.35	220	337	75	269	61	11
3		450.9	1.30	1.35	233	337	75	272	62	11
4		452.6	1.40	1.46	230	337	76	272	62	12
5		454.4	1.40	1.46	238	336	77	269	63	12
6	1324	456.063	1.20	1.25	237	335	77	268	63	10

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit 41	Nozzle Diameter	0.201"	Final	507.654 Ft³
Date	2-8-00	Pitot Tube No.		Initial	466.368 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	41.286 Ft³
Run No.	Base-8	Probe Length	14.0 ft		
Box Operator	CVC/RAB	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	RAM/RABI CVC	Probe Heater Setting	250° F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	1404 End: 1512	Pressure	Pb ("Hg):29.91 Pg ("H_2O):-.40 Ps ("Hg):29.84	Final	0.000 CFM @ 12 "H_2O
Sampling Time	60	Ambient Temperature	60° F	Pitot Tube	OK 8.7 "H_2O
Min.\ Pt.	2.5	Assumed Moisture (%)	7.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments	Baseline	Impinger	26 ml
Meter Cal. (ΔH)	1.780			Silica Gel	20.4 gm
Meter Cal. (ΔY)	0.989			Total	46.4

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1404	468.0	1.30	1.35	188	336	74	266	61	10
2		469.7	1.30	1.35	191	337	76	270	58	10
3		471.4	1.40	1.46	201	337	77	271	57	10
4		473.1	1.40	1.46	214	337	78	272	58	11
5		474.9	1.40	1.46	223	336	79	272	60	11
6	1419	476.6	1.30	1.35	224	335	80	270	60	10
1	14:21	478.3	1.30	1.35	218	336	78	269	62	10
2		480.0	1.30	1.35	225	336	79	269	60	10
3		481.6	1.30	1.35	232	336	80	273	60	10
4		483.3	1.35	1.40	225	336	81	271	61	10
5		485.0	1.40	1.46	220	336	81	269	62	11
6	14:36	486.6	1.25	1.30	230	335	82	272	62	9

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1439	488.3	1.30	1.35	221	335	81	273	65	10
2		490.1	1.40	1.46	222	336	82	274	64	11
3		491.8	1.40	1.46	211	336	82	272	67	11
4		493.5	1.40	1.46	209	336	83	275	67	11
5		495.3	1.40	1.46	213	336	84	271	67	11
6	1454	496.9	1.20	1.25	223	334	84	272	66	10
1	1457	498.8	1.40	1.46	215	337	82	271	65	11
2		500.5	1.40	1.46	213	337	84	274	62	11
3		502.3	1.50	1.56	211	336	84	270	62	12
4		504.2	1.50	1.56	212	336	84	272	63	12
5		505.9	1.50	1.56	223	336	84	270	62	12
6	1512	507.654	1.30	1.35	228	335	85	269	62	10

F-2 BASELINE ORSAT DATA SHEETS

ORSAT DATA AND CALCULATION SHEET

Source UNIT #1 Location POCK POWER STATION

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
BASE-1	2-7-00 BAB	CO2	8.0	8.0	8.0	8.0	
		O2	11.8	11.8	11.8	11.8	
		CO	0	0	0	0	
		N2	80.2	80.2	80.2	80.2	
BASE-2	2-7-00 BAB	CO2	8.2	8.2	8.2	8.2	
		O2	11.8	11.8	11.8	11.8	
		CO	0	0	0	0	
		N2	80.0	80.0	80.0	80.0	
BASE-3	2-7-00 BAB	CO2	8.2	8.2	8.2	8.2	
		O2	11.8	11.8	11.8	11.8	
		CO	0	0	0	0	
		N2	80.0	80.0	80.0	80.0	

ORSAT DATA AND CALCULATION SHEET

Source Unit #1 Location Polk Power Station

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
BASE 4	2-7-00 BAP	CO2	8.4	8.4	8.4	8.4	
		O2	11.8	11.8	11.8	11.8	
		CO	0	0	0	0	
		N2	79.8	79.8	79.8	79.8	
		CO2					
		O2					
		CO					
		N2					
		CO2					
		O2					
		CO					
		N2					

ORSAT DATA AND CALCULATION SHEET

Source UNIT #1 Location POLK POWER STATION

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
BASE-5	2-8-00 RAB	CO2	8.0	8.0	8.0	8.0	
		O2	12.0	12.0	12.0	12.0	
		CO	0	0	0	0	
		N2	80.0	80.0	80.0	80.0	
BASE-6	2-8-00 RAB	CO2	8.0	8.0	8.0	8.0	
		O2	12.0	12.0	12.0	12.0	
		CO	0	0	0	0	
		N2	80.0	80.0	80.0	80.0	
BASE-7	2-8-00 RAB	CO2	8.0	8.0	8.0	8.0	
		O2	11.8	11.8	11.8	11.8	
		CO	0	0	0	0	
		N2	80.2	80.2	80.2	80.2	

ORSAT DATA AND CALCULATION SHEET

Source Unit #1 Location Rock Power Station

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
BASE-8	2-8-00 RAD	CO2	8.0	8.0	8.0	8.0	
		O2	11.8	11.8	11.8	11.8	
		CO	0	0	0	0	
		N2	80.2	80.2	80.2	80.2	
BASE-9		CO2					
		O2					
		CO					
		N2					
		CO2					
		O2					
		CO					
		N2					

F-3 FUEL BLEND SULFURIC ACID MIST DATA SHEETS

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	47	Dry Gas Meter Volume	
Location	HRSG	Nozzle Diameter	0.201 inches	Final	394.899 Ft³
Date	04-24-2000	Pitot Tube No.	00122	Initial	351.179 Ft³
Method No.	8	Pitot Tube (C_p)	.84	Net	43.720 ~~Ft³~~
Run No.	1	Probe Length	14		
Box Operator	C. Coronado	Probe Liner Material	Quartz	Equipment Leak Checks	
Probe Operator	J. Werner, D. Smith	Probe Heater Setting	280	Initial	0.0 CFM @ 15 "Hg
Time - Start:	1037 End: 1200	Pressure	Pb ("Hg): 29.5 Pg ("H2O): -.83 Ps ("Hg): 28.9	Final	0.0 CFM @ 6 ~~"H2O~~
Sampling Time	60 minutes	Ambient Temperature	74	Pitot Tube	0.0 @ 7.8 ~~"H2O~~
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0		
Meter Box No.	6	Filter Holder No.	1	Moisture Determination	
Stack Area Ft³	283.53 ft²	Comments		Impinger	29 ml
Meter Cal. (ΔH)	1.756			Silica Gel	20.4 gm
Meter Cal. (ΔY)	1.001			Total	49.4 ✓

reviewed - ~~BSM~~ 5/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1 2.5	1037	353.0	1.40	~~1.50~~ 1.51	188	319	74	245	59	5.5
2 5.0		354.8	1.40	~~1.50~~ 1.51	188	320	75	245	56	5.5
3 7.5		356.6	1.50	1.62	190	320	87	246	57	5.5
4 10.0		358.4	1.60	1.73	187	320	78	246	59	6.0
5 12.5		360.3	1.60	1.73	188	321	78	247	61	6.0
6 15.0	1052	362.1	1.40	~~1.50~~ 1.51	187	320	79	247	63	6.0
1 2.5	1055	364.0	1.50	1.62	197	321	78	250	66	5.5
2 5.0		365.8	1.40	~~1.50~~ 1.51	201	321	79	251	65	5.5
3 7.5		367.7	1.50	1.62	199	320	80	250	66	5.5
4 10.0		369.5	1.50	1.62	202	321	80	252	67	5.5
5 12.5		371.4	1.40	~~1.50~~ 1.51	198	321	81	252	66	5.5
6 15.0	1110	373.1	1.30	1.41	197	319	82	253	66	5.0

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1 2.5	1113	374.9	1.40	1.51	193	321	80	255	65	5.0
2 5.0		376.7	1.30	1.41	188	321	81	256	65	5.0
3 7.5		378.4	1.30	1.41	186	322	82	255	66	5.0
4 10.0		380.3	1.50	1.62	180	322	82	257	66	5.5
5 12.5		382.1	1.40	1.51	180	322	82	255	66	5.0
6 15.0	1128	383.8	1.20	1.30	186	320	82	255	65	5.0
1	1145	385.6	1.40	1.51	185	320	80	257	66	5.0
2		387.5	1.40	1.51	185	321	82	256	63	5.0
3		389.3	1.50	1.62	189	321	82	255	66	5.5
4		391.2	1.50	1.62	188	321	82	255	66	5.5
5		393.1	1.50	1.62	183	322	82	255	67	5.5
6	1200	394,899	1.40	1.51	184	321	82	255	67	5.5

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	47	Dry Gas Meter Volume	
Location	HRSG	Nozzle Diameter	0.201 inches	Final	449.498 Ft³
Date	4-24-2000	Pitot Tube No.	00122	Initial	404.811 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	44.687 ✓ Ft³
Run No.	2	Probe Length	14 ft		
Box Operator	C. Conrad	Probe Liner Material	Quartz	Equipment Leak Checks	
Probe Operator	J. Werner, D. Smith	Probe Heater Setting	600°/450°	Initial	0.0 CFM @ 15 "Hg
Time - Start:	1313 End: 1423	Pressure	Pb ("Hg): 29.5 Pg ("H2O): -.83 Ps ("Hg): 28.9	Final	0.0 CFM @ 10 "H2O
Sampling Time	60 min	Ambient Temperature	76	Pitot Tube	0.0 @ 7.0 "H2O
Min.\ Pt.	15 min/pt.	Assumed Moisture (%)	6.0		
Meter Box No.	6	Filter Holder No.	2	Moisture Determination	
Stack Area Ft²	283.53 ft²	Comments		Impinger	35 ml
Meter Cal. (ΔH)	1.756			Silica Gel	19.9 gm
Meter Cal. (ΔY)	1.001			Total	54.9 ✓

reviewed - RTM 5/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1 2.5	1313	406.6	1.40	CVE 1.51 1.53	182	320	85	235	65	CVE 6
2 5.0		408.4	1.40	1.53	177	321	86	236	65	6
3 7.5		410.3	1.60	1.75	180	321	86	241	66	6.5
4 10.0		412.3	1.60	1.75	182	321	86	243	66	6.5
5 12.5		414.2	1.60	1.75	179	322	86	246	66	6.5
6 15.0	1328	416.2	1.30	1.42	177	320	87	247	67	5.5
1	1330	417.9	1.30	1.42	191	322	86	249	68	5.5
2		419.6	1.30	1.42	180	322	87	251	68	5.5
3		421.5	1.40	1.53	172	321	87	254	67	6
4		423.4	1.50	1.64	171	321	87	255	67	6
5		425.2	1.40	1.53	164	321	87	256	67	6
6	1345	427.1	1.30	1.42	164	320	87	257	67	5.5

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1 2.5	1350	428.9	1.40	1.53	182	320	86	260	67	6.0
2 5.0		430.8	1.40	1.53	180	320	87	260	66	6.0
3 7.5		432.7	1.50	1.64	179	319	87	260	67	6.0
4 10.0		434.6	1.40	1.53	176	320	87	261	67	6.0
5 12.5		436.5	1.40	1.53	180	320	87	260	68	6.0
6 15.0	1405	438.2	1.20	1.31	179	318	87	259	68	5.0
1	1408	440.1	1.40	1.53	170	320	86	260	67	6.0
2		442.0	1.50	1.64	171	320	87	259	67	6.0
3		443.9	1.50	1.64	172	318	87	258	68	6.0
4		445.8	1.50	1.64	172	318	87	257	68	6.0
5		447.7	1.50	1.64	177	318	87	257	67	6.0
6	1423	449.498	1.30	1.42	185	316	88	257	68	5.5

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#7	Dry Gas Meter Volume	
Location	HRSG	Nozzle Diameter	0.201 inches	Final	505.008 Ft³
Date	04-24-00	Pitot Tube No.	00127	Initial	462.490 Ft³
Method No.	8	Pitot Tube (C_p)	.84	Net	42.518 ✓ Ft³
Run No.	3	Probe Length	14'		
Box Operator	J. Werner	Probe Liner Material	Quartz	Equipment Leak Checks	
Probe Operator	C. Coronado/D. Smith	Probe Heater Setting	230	Initial	0.15 CFM @ 10 "Hg
Time - Start:	1630 End: 1855	Pressure	Pb ("Hg): 29.46 Pg ("H2O): -.83 Ps ("Hg): 28.9	Final	0.12 CFM @ 10 "H2O
Sampling Time	60 min.	Ambient Temperature	84° F	Pitot Tube	0.0 @ 7.5 "H2O
Min.\ Pt.	5 min/pt.	Assumed Moisture (%)	6.0		
Meter Box No.	6	Filter Holder No.	3	Moisture Determination	
Stack Area Ft.³	283.53ft²	Comments	STOPPED @ 1705 DUE TO BROKEN LINER	Impinger	24 ml
Meter Cal. (ΔH)	1.756		RESUME TESTING @ 1820	Silica Gel	20.5 gm
Meter Cal. (ΔY)	1.001		(Leak check: 0.015 @ 10")	Total	44.5 ✓

reviewed - [signature] 6/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1630		1.5	1.61	172	320	84	222	64	5
2			1.5	1.61	170	322	86	229	62	4
3		467.9	1.6	1.72	169	322	86	237	64	5
4		469.7	1.7	1.83	171	323	85	240	66	5
5		471.6	1.6	1.72	171	322	85	243	67	5
6	1645	473.	1.4	1.51	174	322	86	246	66	4
1	1700	475.1	1.4	1.51	161	321	85	251	65	4
2		476.7	1.5	1.61	162	320	86	252	65	4
3		478.3	1.4	1.51	160	320	86	254	65	4
4		480.1	1.5	1.61	162	320	86	254	66	4
5		481.8	1.4	1.51	159	320	86	255	65	4
6	1715	483.5	1.2	1.29	164	318	85	256	66	4

484.485

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (FT^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	1820	486.9	1.4	1.51	181	323	83	260	64	4
2		487.7	1.4	1.51	186	323	83	259	62	4
3		489.4	1.4	1.61	190	323	84	258	62	4
4		491.0	1.4	1.51	188	323	85	258	65	4
5		492.7	1.4	1.51	189	321	84	257	64	4
6	1835	494.4	1.2	1.29	184	321	84	257	64	4
1	1840	496.1	1.6	1.61	175	318	83	257	65	4.5
2		497.9	1.5	1.61	172	321	84	256	65	4.5
3		499.65	1.6	1.72	174	321	84	255	65	5.0
4		501.50	1.6	1.72	167	322	84	255	64	5.0
5		503.10	1.6	1.72	162	322	84	255	64	5.0
6	1855	505.008	Jan 1.3	Jan 1.40	162	322	84	255	64	5.0

Sulfuric Acid Mist Field Data Form

Plant	Pock Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit 1 HRSG	Nozzle Diameter	0.201	Final	665.156 Ft³
Date	4-25-00	Pitot Tube No.	~~RD 6184~~ 00122	Initial	622.184 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	42.972 Ft³
Run No.	6	Probe Length	14.0		
Box Operator	RAD	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	JAW / CUC	Probe Heater Setting	300 °F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	12:21 End: 14:28	Pressure	Pb ("Hg):29.60 Pg ("H2O):-.97 Ps ("Hg):29.53	Final	0.000 CFM @ 7 ✓"H2O
Sampling Time	60 MIN	Ambient Temperature	85 °F	Pitot Tube	OK @4.2 ✓"H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0%		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.530	Comments		Impinger	34 ml
Meter Cal. (ΔH)	1.756			Silica Gel	19.3 gm
Meter Cal. (ΔY)	1.001			Total	53.3 ✓

reviewed - RTM 5/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	13:21	624.0	1.40	1.50	191	321	85	256	64	7
2		625.9	1.40	1.50	180	324	86	256	63	7
3		627.7	1.40	1.50	182	323	87	256	62	7
4		629.5	1.40	1.50	188	324	87	256	62	7
5		631.3	1.40	1.50	195	323	88	256	62	7
6	13:36	633.0	1.25	1.34	190	323	88	257	62	6
1	13:38	634.8	1.35	1.45	206	321	87	258	63	7
2		636.6	1.40	1.50	213	322	88	259	63	7
3		638.3	1.40	1.50	213	322	89	258	63	7
4		640.1	1.40	1.50	212	322	89	258	63	7
5		641.9	1.35	1.45	210	321	88	258	63	7
6	13:53	643.6	1.25	1.34	216	322	88	258	63	7

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	13:55	645.4	1.35	1.45	202	320	87	259	64	7
2		647.3	1.40	1.50	199	324	88	260	64	7
3		649.0	1.40	1.50	195	324	89	260	63	7
4		650.8	1.40	1.50	194	322	89	259	63	7
5		652.7	1.40	1.50	192	322	89	260	63	7
6	14:10	654.4	1.35	1.45	198	321	90	261	63	7
1	14:13	656.2	1.35	1.45	192	321	88	260	64	7
2		658.0	1.40	1.50	195	322	89	260	64	7
3		659.8	1.40	1.50	204	321	89	259	64	7
4		661.6	1.40	1.50	211	321	89	259	64	7
5		663.4	1.40	1.50	209	321	89	259	64	7
6	14:28	665.156	1.25	1.34	205	320	89	259	65	7

Sulfuric Acid Mist Field Data Form

Plant	Rock Powerstation	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1 HRSG	Nozzle Diameter	0.201	Final	717.050 Ft³
Date	4-25-00	Pitot Tube No.	00122	Initial	674.313 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	42.737 Ft³
Run No.	1	Probe Length	14 FT		
Box Operator	MAD	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	CVC / JAW	Probe Heater Setting	300 °F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	15:04 End: 16:10	Pressure	Pb ("Hg): 29.55 Pg ("H2O): -.97 Ps ("Hg): 29.48	Final	0.000 CFM @ 8 "H2O
Sampling Time	60 MIN	Ambient Temperature	85 °F	Pitot Tube	OK @ 4.6 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0 %		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.530	Comments		Impinger	~~24~~ 32 ml
Meter Cal. (ΔH)	1.756			Silica Gel	21.2 gm
Meter Cal. (ΔY)	1.001			Total	53.2

reviewed - KTM 5/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	15:04	676.1	1.35	1.45	207	322	85	265	63	8
2		678.0	1.40	1.50	209	321	86	263	63	8
3		679.8	1.40	1.50	206	321	86	263	62	8
4		681.6	1.40	1.50	206	321	87	262	62	8
5		683.3	1.40	1.50	199	320	88	261	62	8
6	15:19	685.1	1.25	1.34	203	319	88	259	63	7
1	15:21	686.9	1.35	1.45	195	320	88	260	63	8
2		688.7	1.40	1.50	194	321	89	259	63	8
3		690.4	1.40	1.50	190	322	89	258	64	8
4		692.2	1.40	1.50	186	321	89	258	64	8
5		694.0	1.40	1.50	188	321	89	258	64	8
6	15:36	695.7	1.20	1.29	191	320	89	259	64	7

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	15:38	699.2	1.35	1.45	203	322	89	256	64	8
2		701.1	1.40	1.50	202	323	89	252	64	8
3		702.9	1.40	1.50	206	321	90	252	65	8
4		~~704.7~~ 703.5	1.40	1.50	210	322	90	251	65	8
5		704.7	1.40	1.50	216	320	91	251	64	8
6	15:53	706.5	1.25	1.34	217	321	91	251	63	10 8.7
1	15:55	708.1	1.35	1.45	214	321	90	251	63	8
2		710.1	1.40	1.50	199	321	90	251	63	8
3		711.8	1.40	1.50	198	322	91	252	63	8
4		713.6	1.40	1.50	195	322	91	252	64	8
5		715.4	1.40	1.50	194	321	91	254	64	8
6	16:10	717.050	1.20	1.29	196	321	91	253	64	7

Sulfuric Acid Mist Field Data Form

Plant	Rock Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1 Hrsg	Nozzle Diameter	0.201	Final	768.895 Ft³
Date	4-25-00	Pitot Tube No.	00122	Initial	726.096 Ft³
Method No.	8	Pitot Tube (C_p)	~~0.80~~ 0.84	Net	42.799 Ft³
Run No.	8	Probe Length	14.0		
Box Operator	RHD	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	CUC / JAW	Probe Heater Setting	300 °F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	17:12 End: 18:17	Pressure	Pb ("Hg): 29.55 Pg ("H2O): -.97 Ps ("Hg): 29.48	Final	0.000 CFM @ 8 "H2O
Sampling Time	60 MIN	Ambient Temperature	84 °F	Pitot Tube	OK @ 4.6 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.530	Comments		Impinger	28 ml
Meter Cal. (ΔH)	1.756			Silica Gel	19.8 gm
Meter Cal. (ΔY)	1.001			Total	47.8 ✓

reviewed - KRM 5/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (in. H_2O)	Δ H (in. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (in. Hg)
1	17:12	727.9	1.35	1.45	190	323	87	255	64	8
2		729.7	1.40	1.50	197	323	89	254	63	8
3		731.5	1.40	1.50	197	322	90	254	62	8
4		733.3	1.40	1.50	198	322	91	253	62	8
5		735.2	1.40	1.50	195	321	91	254	62	8
6	17:27	736.9	1.20	1.29	191	320	91	254	62	7
1	17:29	738.7	1.35	1.45	200	321	90	255	62	8
2		740.5	1.40	1.50	203	321	90	255	62	8
3		742.2	1.40	1.50	207	322	90	255	63	8
4		743.9	1.40	1.50	207	321	90	254	63	8
5		745.7	1.40	1.50	203	322	90	255	63	8
6	17:44	747.4	1.25	1.34	204	321	90	254	63	7

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	17:45	749.2	1.35	1.45	197	320	89	254	64	7
2		751.0	1.40	1.50	200	322	89	254	64	8
3		752.8	1.40	1.50	195	321	90	255	64	8
4		754.6	1.40	1.50	204	321	90	255	64	8
5		756.4	1.40	1.50	204	320	90	256	64	8
6	18:00	758.1	1.20	1.29	196	320	90	256	64	7
1	18:02	759.9	1.35	1.45	198	319	89	255	64	7
2		761.7	1.40	1.50	201	322	90	256	64	8
3		763.5	1.40	1.50	196	321	89	256	64	8
4		765.3	1.40	1.50	197	322	89	256	65	8
5		767.1	1.40	1.50	199	322	90	256	65	8
6	18:17	768.895	1.25	1.35	196	321	90	256	65	7

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1 Hesg	Nozzle Diameter	0.201	Final	820.390 Ft³
Date	4-25-00	Pitot Tube No.	00122	Initial	777.624 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	42.766 Ft³
Run No.	9	Probe Length	14.0		
Box Operator	AB	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	CVC/JAW	Probe Heater Setting	300 °F	Initial	0.000 CFM @ 15 "Hg
Time - Start	18:49 End: 20:00	Pressure	Pb ("Hg): 29.50 Pg ("H2O): .97 Ps ("Hg): 29.48	Final	0.000 CFM @ 6 ✓"H2O
Sampling Time	60 min	Ambient Temperature	81 °F	Pitot Tube	OK @ 4.6 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.530	Comments		Impinger	24 ml
Meter Cal. (ΔH)	1.756			Silica Gel	19.1 gm
Meter Cal. (ΔY)	1.001			Total	43.1 ✓

reviewed - RAM 5/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	18:49	779.5	1.35	1.45	217	323	86	260	63	6
2		781.3	1.40	1.50	217	322	86	259	62	6
3		783.3	1.40	1.50	214	322	87	259	63	6
4		784.9	1.40	1.50	206	322	87	258	63	6
5		786.7	1.40	1.50	202	321	88	257	64	6
6	19:04	788.4	1.25	1.35	198	320	88	257	64	5
1	19:06	790.2	1.35	1.45	192	315	87	257	64	5
2		792.0	1.40	1.50	195	323	87	257	64	5
3		793.8	1.40	1.50	194	321	87	256	64	5
4		795.6	1.40	1.50	197	322	87	255	64	5
5		797.4	1.40	1.50	201	322	88	255	64	5
6	19:21	799.2	1.25	1.35	201	320	88	255	64	5

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	19:23	800.9	1.30	1.40	208	320	87	250	64	5
2		802.7	1.40	1.50	214	323	88	251	64	5
3		804.5	1.40	1.50	223	323	88	252	64	5
4		806.3	1.40	1.50	221	322	88	253	64	5
5		808.2	1.40	1.50	221	324	88	253	64	5
6	19:38	809.8	1.20	1.29	221	320	87	254	63	5
1	19:40	811.6	1.35	1.45	205	321	85	240	63	5
2		813.4	1.40	1.50	213	322	85	235	63	5
3		815.2	1.40	1.50	215	322	85	231	64	5
4		817.9	1.40	1.50	190	324	84	250	65	5
5		818.8	1.40	1.50	187	326	83	253	64	5
6	~~19:55~~ 20:00	820.390	1.20	1.29	190	323	83	253	63	5

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1 HRSG	Nozzle Diameter	0.201	Final	870.380 Ft³
Date	4-26-00	Pitot Tube No.	00122	Initial	828.117 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	42.263 ~~Ft³~~
Run No.	10	Probe Length	14.0		
Box Operator	RWD	Probe Liner Material	Pyrex	Equipment Leak Checks	
Probe Operator	CVC / JAW	Probe Heater Setting	300 °F	Initial	0.000 CFM @ 15 ~~"Hg~~
Time - Start	10:18 End: 11:25	Pressure	Pb ("Hg): 29.45 Pg ("H2O): -1.00 Ps ("Hg): 29.58	Final	0.000 CFM @ 7 ~~"H2O~~
Sampling Time	60 min	Ambient Temperature	60 °F	Pitot Tube	OK @ 4.7 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0 %		
Meter Box No.	6	Filter Holder No.		Moisture Determination	
Stack Area Ft.²	283.529	Comments		Impinger	28 ml
Meter Cal. (ΔH)	1.756			Silica Gel	20.6 gm
Meter Cal. (ΔY)	1.601			Total	48.6 ✓

reviewed - JCSm 9/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	10:18	829.9	1.35	1.41	207	326	67	267	62	7
2		831.7	1.40	1.46	209	325	69	268	56	5
3		833.5	1.45	1.51	213	324	70	266	56	5
4		835.3	1.50	1.56	219	325	70	268	57	5
5		837.0	1.50	1.56	219	325	71	267	58	5
6	10:33	838.8	1.35	1.41	217	325	71	266	59	5
1	10:36	840.6	1.40	1.46	208	323	71	266	60	5
2		842.3	1.40	1.46	196	324	71	267	60	5
3		844.1	1.40	1.46	193	324	72	264	60	5
4		845.8	1.40	1.46	194	324	72	266	61	5
5		847.5	1.40	1.46	190	325	73	267	61	5
6	10:51	849.2	1.25	1.31	186	323	74	265	62	5

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	10:53	851.0	1.45	1.51	202	323	73	268	63	5
2		852.7	1.45	1.51	200	325	73	267	63	5
3		854.5	1.45	1.51	203	325	73	266	63	5
4		856.3	1.45	1.51	203	324	74	264	63	5
5		858.0	1.45	1.51	208	324	75	266	63	5
6	11:08	859.7	1.25	1.31	198	323	75	267	63	5
1	11:10	861.5	1.45	1.51	196	323	74	267	63	5
2		863.3	1.45	1.51	190	326	75	267	64	5
3		865.1	1.50	1.57	194	327	76	267	64	6
4		866.9	1.50	1.57	192	326	76	264	63	6
5		868.7	1.50	1.57	193	326	76	264	63	6
6	11:25	870.380	1.25	1.31	190	325	76	266	63	5

Sulfuric Acid Mist Field Data Form

Plant	Polk Power Station	Nozzle I.D. No.	#47	Dry Gas Meter Volume	
Location	Unit #1 HRSG	Nozzle Diameter	0.201	Final	922.498 Ft³
Date	4-26-00	Pitot Tube No.	00122	Initial	879.827 Ft³
Method No.	8	Pitot Tube (C_p)	0.84	Net	42.671 Ft³
Run No.	11	Probe Length	14.0		
Box Operator	RAD	Probe Liner Material	PYREX	Equipment Leak Checks	
Probe Operator	CUC/JAW	Probe Heater Setting	300°F	Initial	0.000 CFM @ 15 "Hg
Time - Start:	12:02 End: 1308	Pressure	Pb ("Hg): 29.65 Pg ("H2O): -1.00 Ps ("Hg): 29.58	Final	0.000 CFM @ 5 "H2O
Sampling Time	60 MIN	Ambient Temperature	63 °F	Pitot Tube	OK @ 4.7 "H2O
Min.\ Pt.	2.5	Assumed Moisture (%)	6.0 %		
Meter Box No.	#6	Filter Holder No.		Moisture Determination	
Stack Area Ft²	283.529	Comments		Impinger	32 ml
Meter Cal. (ΔH)	1.756			Silica Gel	20.4 gm
Meter Cal. (ΔY)	1.001			Total	52.4 ✓

reviewed - JBM 6/1/2000

Traverse Point No.	Clock Time	Gas Sample Volume (Ft³)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	12:02	881.7	1.45	1.51	205	325	74	266	57	5
2		883.4	1.45	1.51	207	325	76	267	57	5
3		885.2	1.45	1.51	204	325	77	265	57	5
4		887.0	1.50	1.57	205	326	78	268	58	5
5		888.9	1.50	1.57	201	326	79	265	59	5
6	12:17	890.1	1.25	1.31	194	326	79	264	59	5
1	12:19	892.3	1.45	1.51	203	324	77	266	60	5
2		894.1	1.45	1.51	217	325	78	267	60	5
3		895.9	1.45	1.51	211	324	79	265	61	5
4		897.7	1.45	1.51	210	324	80	266	62	5
5		899.4	1.45	1.51	215	325	80	265	62	5
6	12:34	901.1	1.25	1.31	222	323	81	265	63	5

Sulfuric Acid Mist Field Data Form (Continued)

Traverse Point No.	Clock Time	Gas Sample Volume (Ft^3)	Δ P (In. H_2O)	Δ H (In. H_2O)	Probe Temp. (°F)	Stack Temp. Ts (°F)	Meter Temp. (°F)	Umbilical Temp. Tm (°F)	Last Imp. Temp. (°F)	Vacuum (In. Hg)
1	12:36	902.9	1.40	1.46	216	324	80	267	63	5
2		904.7	1.45	1.51	220	326	81	268	64	5
3		906.5	1.45	1.51	215	326	82	268	64	5
4		908.3	1.45	1.51	208	325	82	269	64	5
5		910.0	1.45	1.51	207	325	82	266	64	5
6	12:51	911.7	1.25	1.31	213	325	83	265	64	5
1	12:53	913.6	1.45	1.51	212	326	82	266	64	5
2		915.3	1.45	1.51	211	325	83	266	64	5
3		917.1	1.45	1.51	215	325	83	264	65	5
4		919.0	1.50	1.57	217	324	84	266	65	5
5		920.8	1.45	1.51	227	324	84	266	65	5
6	13:08	922.498	1.25	1.31	229	323	85	267	65	5

F-4 FUEL BLEND ORSAT DATA SHEETS

ORSAT DATA AND CALCULATION SHEET

Source UNIT 1 HRSG Location DOCK POWER

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume) 1	2	3	Avg.	Remarks
jaw 1	4/24/00	CO2	7.0	6.8	7.0	6.9	Replaced bladder on Orsat 001 using bladder from Orsat 002
		O2	13.6	13.8	13.6	13.7	
		CO	0	0	0	0	
		N2	79.4	79.4	79.4	79.4	F_o = 1.043
jaw 2	4/24/00	CO2	7.6	7.6 jaw 7.5	7.6	7.6	F_o = 1.039
		O2	13.2	13.0	13.0	13.0	
		CO	0	0	0	0	
		N2	79.2	79.4	79.4	79.4	
jaw 3	4/24/00	CO2	7.6	7.6	7.6	7.6	F_o = 1.043
		O2	13.4	13.0	13.2	13.2	
		CO	0	0	0	0	
		N2	79.0	79.4	79.2	79.2	

5/1/2000

ORSAT DATA AND CALCULATION SHEET

Source HRSG UNIT 1 Location POLK POWER STATION

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
jaw 6	4/25/00	CO2	8.0	8.1	8.2	8.1	$F_o = 0.938$
		O2	13.4	13.2	13.2	13.3	
		CO	0	0	0	0	
		N2	78.6	78.6	78.6	78.6	
jaw 7	4/25/00	CO2	7.8	7.8	7.6	7.7	$F_o = 1.013$
		O2	13.0	13.0	13.2	13.1	
		CO	0	0	0	0	
		N2	79.2	79.2	79.2	79.2	
jaw 8	4/25/00	CO2	7.8	7.8	7.8	7.8	$F_o = 1.013$
		O2	13.0	13.0	13.0	13.0	
		CO	0	0	0	0	
		N2	79.2	79.2	79.2	79.2	

5/1/2000

ORSAT DATA AND CALCULATION SHEET

Source HRSG UNIT 1 Location POLK POWER STATION

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
Jaw 9	4/25/00	CO2	7.8	7.8	7.6	7.7	F_o = 1.026
		O2	13.0	13.0	13.0	13.0	
		CO	0	0	0	0	
		N2	79.2	79.2	79.4	79.3	
		CO2					
		O2					
		CO					
		N2					
		CO2					
		O2					
		CO					
		N2					

5/1/2000

ORSAT DATA AND CALCULATION SHEET

Source HRSG UNIT 1 Location POLK POWER STATION

Run No.	Date	Gas	Orsat Analysis, Dry Basis (% Volume)				Remarks
			1	2	3	Avg.	
10	4/26/00	CO2	7.8	~~11.8~~ 7.8	7.8	7.8	$F_O = 1.179$
		O2	11.8	11.6	11.6	11.7	
		CO	0	0	0	0	
		N2	80.4	80.6	80.6	80.5	
11	4/26/00	CO2	~~11.8~~ 8.0	8.0	8.0	8.0	$F_O = 1.163$
		O2	11.6	11.6	11.6	11.6	
		CO	0	0	0	0	
		N2	80.4	80.4	80.4	80.4	
		CO2					
		O2					
		CO					
		N2					

5/1/2000

APPENDIX G

SAMPLE EQUIPMENT CALIBRATIONS

G-1 BASELINE EQUIPMENT CALIBRATIONS

G-2 FUEL BLEND EQUIPMENT CALIBRATIONS

G-1 BASELINE EQUIPMENT CALIBRATIONS

SUMMARY OF EQUIPMENT CALIBRATIONS

EQUIPMENT	CALIBRATION DATE	LOCATION	METHOD	RESULTS
Method 8 Console 6 Initial Test Post Test	 10-06-99 03-02-00	 CES CES	 Wet Test Meter Wet Test Meter	 Y = 0.989 Y = 0.965
Nozzle #47 Initial Measurement Post Test	 10-04-00 03-03-00	 CES CES	 3 Measurements w/calipers	 DN= 0.201 DN= 0.201
Pyrometer No. 12	1-11-00	CES	Comparison to ASTM Thermometer	Correct to ∀ 2EF
Pitot Tube 00122	1-07-00	CES	EPA Method 2	CP = 0.84
Wet Test Meter Serial No. 12-AH-4	7-01-99	CES	Liquid Displacement	CF= 1.003
Barometer SN 00227	1-04-00	CES	Comparison to National Weather Services	Correct to ∀ 0.01" Hg

INITIAL DRY GAS METER AND ORIFICE CALIBRATION

CONTROL BOX NO. 6 BAROMETRIC PRESS. 30.00 IN. HG.

DATE 06-Oct-99 PERFORMED BY Smk

SYSTEM LEAK CK. 0.000 @ 27 "Hg ORIFICE LEAK CK. OK @ 6.3 "H_2O

	RUN 1	RUN 2	RUN 3	RUN 4
VACUUM ("Hg)	3.0	3.0	3.0	3.0
dHw ("H2O)	0.5	1.1	1.6	2.0
dHd ("H2O)	0.5	1.0	1.5	2.0
INITIAL WTM	0.000	0.000	0.000	0.000
FINAL WTM	5.9595	8.9333	6.7078	7.6529
INITIAL DGM	674.148	680.514	690.009	697.452
FINAL DGM	680.241	689.775	697.048	705.582
TEMP. WTM (F)	71.0	71.0	71.0	71.0
TEMP. DGM (F)	87.0	89.0	90.0	91.0
TEST TIME (MIN.)	15.0	16.0	10.0	10.0

NET VOLUME WTM	5.9595	8.9333	6.7078	7.6529
NET VOLUME DGM	6.093	9.261	7.039	8.130
Y	1.006	0.995	0.983	0.972
dH@	1.725	1.741	1.806	1.847

AVERAGE Y = 0.989

ACCEPTABLE Y RANGE = 0.969 TO 1.009

AVERAGE dH@ = 1.780

ACCEPTABLE dH@ RANGE = 1.630 TO 1.930

$Y = (Vw (Pb) \times (Td + 460)) / (Vd (Pb + (dHd / 13.6)) \times (Tw + 460)$

$dH@ = 0.0317 \times dHd / (Pb (Td + 460)) \times ((Tw + 460) \times time) / Vw)^2$

Reviewed By: RTM

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Date: 11/15/99

RECHECK OF ORIFICE AND DGM CALIBRATION

CONTROL BOX NO. 6 BAROMETRIC PRESS. 30.10 IN. HG.

DATE 3-2-00 PERFORMED BY BDR

PRIOR Y = 0.989

SYSTEM LEAK CK. 0.000 @ 7" Hg

	RUN 1	RUN 2	RUN 3
VACUUM ("Hg)	7.0	7.0	7.0
dHw ("H2O)	1.05	1.05	1.05
dHd ("H2O)	1.00	1.00	1.00
INITIAL WTM	0.0000	8.3365	16.5600
FINAL WTM	8.3365	16.5600	24.7382
INITIAL DGM	302.780	311.688	320.485
FINAL DGM	311.688	320.485	329.246
TEMP. WTM (F)	70.5	70.5	70.0
TEMP. DGM (F)	88.0	89.0	90.0
TEST TIME (MIN.)	15.0	15.0	15.0
NET VOLUME WTM	8.3365	8.2235	8.1782
NET VOLUME DGM	8.908	8.797	8.761
Y	0.964	0.965	0.966
dH@	1.751	1.796	1.809

PRIOR Y = 0.989
RECHECK Y = 0.965
% DIFFERENCE = -2.427

AVERAGE dH@ = 1.786

$Y = (Vw (Pb) \times (Td + 460)) / (Vd (Pb + (dHd / 13.6)) \times (Tw + 460)$
$dH@ = 0.0317 \times dHd / (Pb (Td + 460)) \times ((Tw + 460) \times time / Vw)^2$

Reviewed By:

Date: 3/13/2000

NOZZLE CALIBRATION DATA FORM

NOZZLE SET NO. 1

DATE: 10/04/99 CALIBRATOR: Bruce D. Rodriguez BDR

NOZZLE I. D.	NOZZLE DIAMETER (IN.) D1	D2	D3	D diff.	D avg.
#1	0.110	0.114	0.114	0.004	0.113
#4	0.122	0.122	0.122	0.000	0.112
#5	0.146	0.146	0.150	0.004	0.147
#6	0.197	0.197	0.193	0.004	0.196
#9	0.276	0.276	0.276	0.000	0.276
#10	0.293	0.293	0.293	0.000	0.293
#12	0.386	0.386	0.388	0.002	0.387
#15	0.159	0.159	0.159	0.000	0.159
#16	0.197	0.197	0.197	0.000	0.197
#19	0.278	0.278	0.280	0.002	0.279
#22	0.364	0.366	0.366	0.002	0.365
#30	0.309	0.311	0.311	0.002	0.310
#36	0.185	0.185	0.185	0.000	0.185
#37	0.211	0.211	0.211	0.000	0.211
#38	0.248	0.248	0.248	0.000	0.248
#46	0.189	0.189	0.189	0.000	0.189
#47	0.201	0.201	0.201	0.000	0.201
#48	0.250	0.252	0.250	0.002	0.251
#50	0.311	0.311	0.311	0.000	0.311
#58	0.240	0.240	0.240	0.000	0.240
#68	0.240	0.240	0.242	0.002	0.241

where:

D 1,2,3 = three different nozzle diameters,(in); each diameter must be measured to the nearest 0.001 in.

D diff. = maximum difference between any two diameters, (in.) must be .004 in. or less.

D avg. = average of D1, D2, and D3.

REVIEWED BY: [signature]
DATE: 11/15/99

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FINAL NOZZLE CALIBRATION DATA FORM

NOZZLE NO. 47

DATE: 3-3-00 **CALIBRATED BY:** BDR BDR

NOZZLE IDENTIFICATION	NOZZLE DIAMETER			ΔD (IN.)	D AVG
	D1 (IN.)	D2 (IN.)	D3 (IN.)		
47	0.201	0.201	0.201	0.000 ERR	0.201 ERR
				ERR ERR	ERR ERR
				ERR ERR	ERR ERR

where:

D1,2,3= three different nozzle diameters,(in); each diameter must be measured to the nearest 0.001 in.

ΔD= maximum difference between any two diameters,(in.).
ΔD≤ 0.004 in.

D AVG= average of D1,D2 and D3.

Reviewed By: BDR
Date: 3/13/2000

SHARDATA\AIR SERVICES\CALS\NOZZLES\POSTTEST\NOZCALF

PYROMETER CALIBRATION

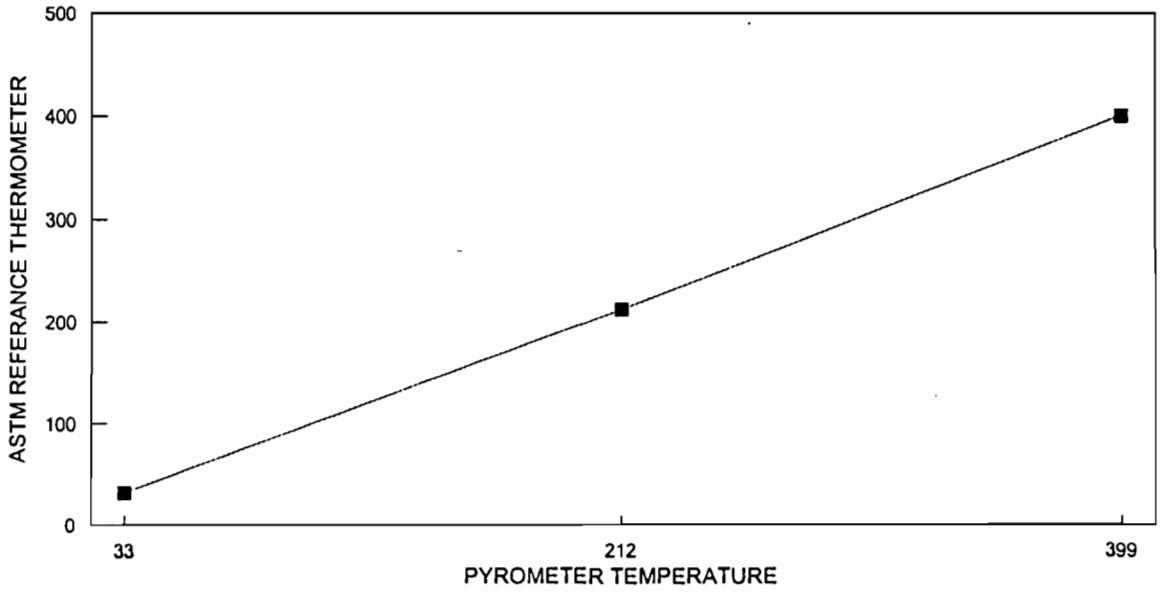
PYROMETER NO.: 12 REFERENCE THERMOMETER: ASTM 2-F

CTL SERIAL NO.: 12 SERIAL NO.: L98-213

DATE: 1-11-00 CALIBRATOR: B Rodgers

REFERENCE TEMP. (F)	PYROMETER INDICATION
32	33
212	212
400	399

PYROMETER TEMPERATURE CALIBRATION



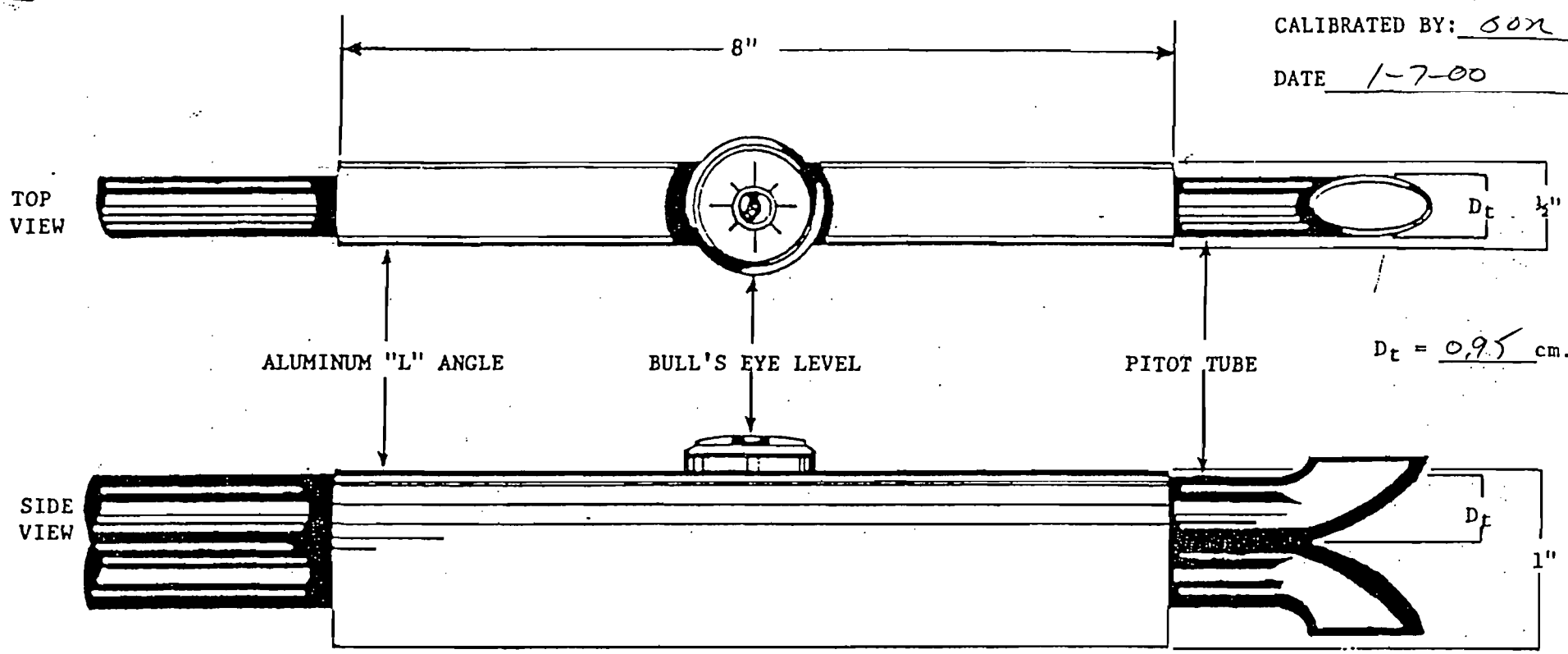
REVIEWED BY: [signature] DATE: 2/21/00

shardata\airservices\cals\pyros\pyro#12

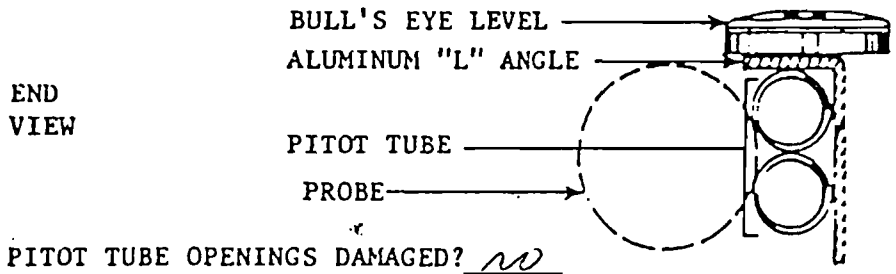
SERIAL NO. 00122

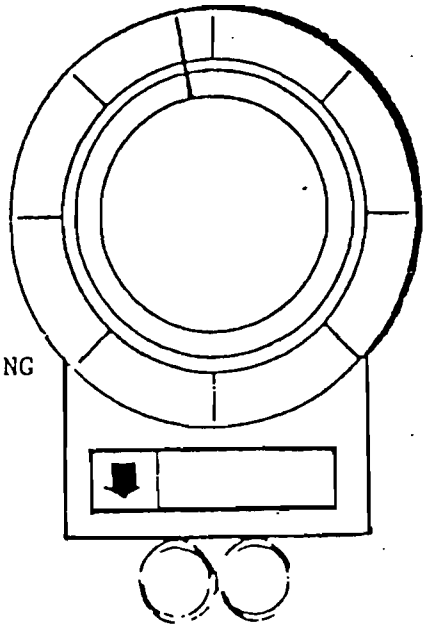
CALIBRATED BY: GOX

DATE 1-7-00



D_t = 0,95 cm.





DEGREE INDICATING LEVEL

PITOT TUBE OPENINGS DAMAGED? no

COMMENTS: _____

Reviewed By: KBM

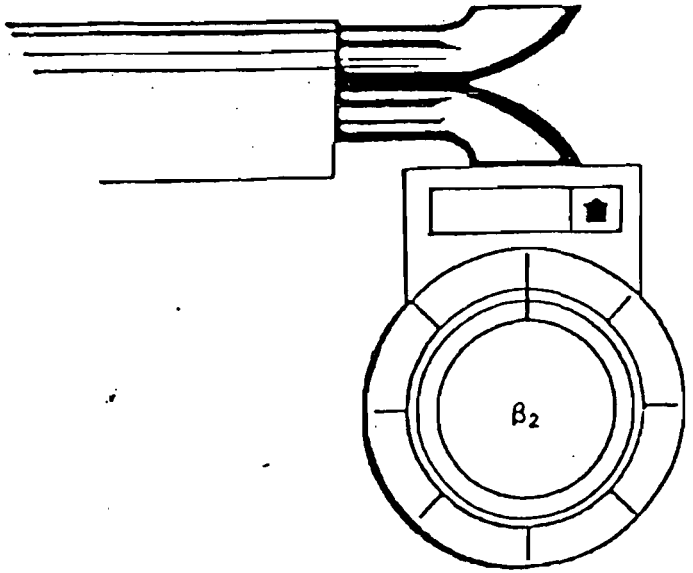
Date: 2/21/00

PITOT TUBE CALIBRATION SET-UP POSITION

SERIAL NO. 00122

CALIBRATED BY BOR

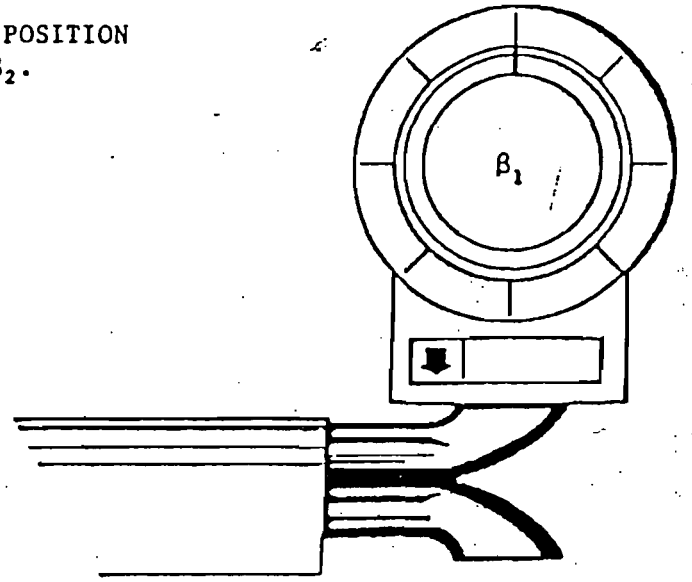
DATE 1-7-00

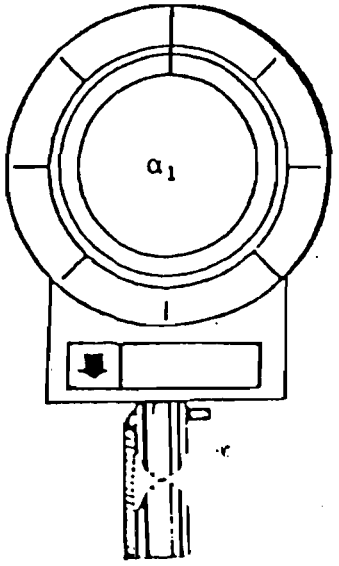


DEGREE INDICATING LEVEL POSITION FOR DETERMINING β_1 and β_2.

β_1 = 0.5 °(<5°)

β_2 = 0.2 °(<5°)

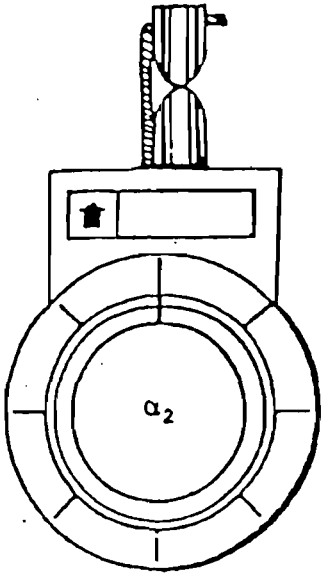




DEGREE INDICATING LEVEL POSITION FOR DETERMINING α_1 and α_2.

α_1 = 0.4 °(<10°)

α_2 = 0.4 °(<10°)



PITOT TUBE CALIBRATION; α and β DETERMINATION

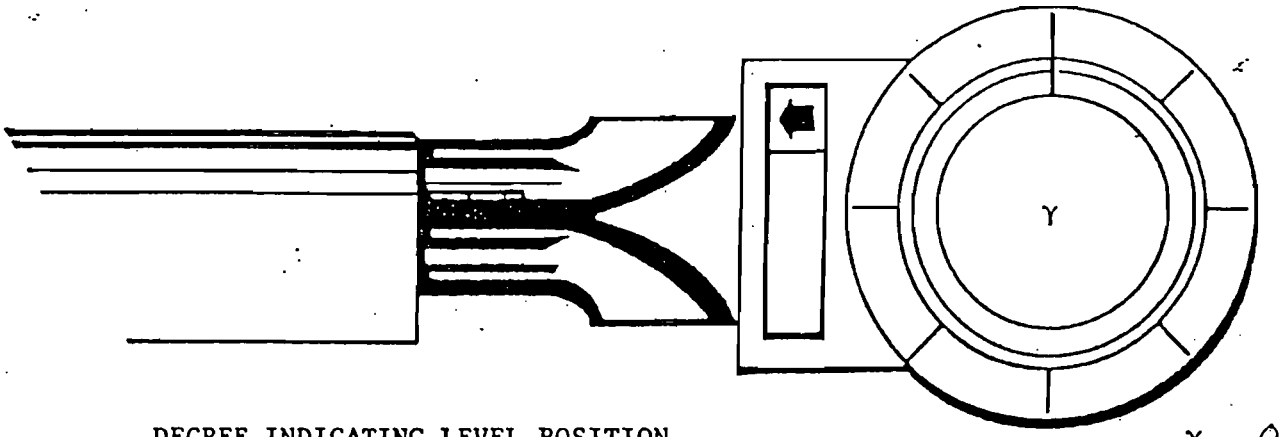
Reviewed By: RBM

Date: 2/21/00

SERIAL NO. 00122

CALIBRATED BY BSM

DATE 1-7-00

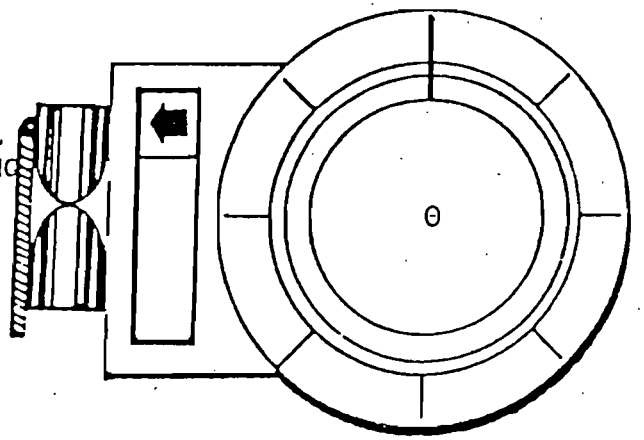


DEGREE INDICATING LEVEL POSITION FOR DETERMINING γ, THEN CALCULATING Z.

γ = 0.9 °

A = DISTANCE BETWEEN TIPS, (P_a + P_b), cm. = ~~0.9~~ 0.360.

Z = A sin γ = 0.037 cm; (<0.32 cm).



DEGREE INDICATING LEVEL POSITION FOR DETERMINING θ, THEN CALCULATING W.

θ = 0.2 °

W = A sin θ = 0.008 cm; (<0.08 cm).

PITOT TUBE CALIBRATION: A, W, γ, θ and Z DETERMINATION

Reviewed By: BSM

Date: 2/21/00

WET TEST METER CALIBRATION DATA FORM

DATE: 07/01/99

BAROMETRIC PRESS: 30.09

WET TEST METER SERIAL NUMBER: 12-AH-4

NAME: [signature]

AMBIENT TEMP: 70.5

RUN NUMBER	VOLUME OF WATER DISPLACED (LITERS) Va	INITIAL METER READING (FT3)	FINAL METER READING (FT3)	NET METER VOLUME (FT3)	NET METER VOLUME (LITERS) Vw	ERROR
1	3.3600	0.0000	0.1184	0.1184	3.3531	-0.002053571
2	3.3600	0.1184	0.2372	0.1188	3.3644	0.001309524
3	3.3600	0.2372	0.3555	0.1183	3.3503	-0.002886905
4	3.3600	0.3555	0.4731	0.1176	3.3304	-0.008809524
					AVG. ERROR =	-0.003110119

CALCULATIONS:

CORRECTION FACTOR : 1.003119822

(1.000 +/- 0.010)

ERROR = (Vw - Va) / Va

CORRECTION FACTOR (C.F.) = 1 /(1 + AVERAGE ERROR)

* CONVERSION FACTOR , FT3 TO LITERS = FT3 x 28.32

WHEN USING THE WET TEST METER, THE ACTUAL VOLUME OF AIR CAN BE DETERMINED BY THE EQUATION:

Va = Vw x C.F.

WHERE:

Va = ACTUAL VOLUME OF AIR PASSED THROUGH THE WET TEST METER.

Vw = MEASURED VOLUME OF AIR PASSED THROUGH THE WET TEST METER.

C.F. = CORRECTION FACTOR FOR THE WET TEST METER.

REVIEWED BY: [signature]

DATE: 8/10/99

REVISED 5-9-96

BAROMETER CALIBRATION DATA FORM

DATE: 1-4-00 CALIBRATOR: BDR

INST. NO: 227

COMMENTS: _____

TIME OF READING	BAROMETER READING (HG")	REFERENCE STANDARD READING (HG")	DIFFERENCE (HG")
1020	30.22	30.16	0.06
1215	30.15	30.14	0.01
1400	30.13	30.13	0.00
			0.00
			0.00
			0.00

*NOTE: BAROMETRIC READINGS MUST AGREE WITHIN 0.1 INCHES HG OF READINGS OBTAINED FROM THE REFERENCE STANDARD, THE NATIONAL WEATHER SERVICE, RUSKIN FL. TO BE DEEMED ACCEPTABLE.

REVIEWED BY: [signature]

DATE: 2/21/00

G-2 FUEL BLEND EQUIPMENT CALIBRATIONS

SUMMARY OF EQUIPMENT CALIBRATIONS

EQUIPMENT	CALIBRATION DATE	LOCATION	METHOD	RESULTS
Method 8 Console 6 Initial Test Post Test	 4-03-00 05-01-00	 CES CES	 Wet Test Meter Wet Test Meter	 Y = 0.986 Y = 0.987
Nozzle #47 Initial Measurement Post Test	 10-04-00 05-01-00	 CES CES	 3 Measurements w/calipers	 DN= 0.201 DN= 0.202
Pyrometer No. 12	4-13-00	CES	Comparison to ASTM Thermometer	Correct to ∀ 2EF
Pitot Tube 00122	4-07-00	CES	EPA Method 2	CP = 0.84
Wet Test Meter Serial No. 12-AH-4	1-04-00	CES	Liquid Displacement	CF= 1.003
Barometer SN 00227	4-13-00	CES	Comparison to National Weather Services	Correct to ∀ 0.01" Hg

INITIAL DRY GAS METER AND ORIFICE CALIBRATION

CONTROL BOX NO. 6 BAROMETRIC PRESS. 30.08 IN. HG.

DATE 4-3-00 PERFORMED BY bdr /SDR

SYSTEM LEAK CK. 0.000 15" Hg ORIFICE LEAK CK. ok @ 5.8" H2O

	RUN 1	RUN 2	RUN 3	RUN 4
VACUUM ("Hg)	3.0	3.0	3.0	3.0
dHw ("H2O)	0.6	1.1	1.6	2.0
dHd ("H2O)	0.5	1.0	1.5	2.0
INITIAL WTM	0.000	6.118	16.769	23.495
FINAL WTM	6.118	14.500	23.495	31.130
INITIAL DGM	877.242	883.515	894.710	901.885
FINAL DGM	883.515	892.302	901.885	910.136
TEMP. WTM (F)	69.5	69.5	69.5	69.5
TEMP. DGM (F)	86.0	92.0	95.0	97.0
TEST TIME (MIN.)	15.0	15.0	10.0	10.0
NET VOLUME WTM	6.1180	8.3820	6.7260	7.6350
NET VOLUME DGM	6.273	8.787	7.175	8.251
Y	1.004	0.992	0.979	0.969
dH@	1.627	1.714	1.765	1.820

AVERAGE Y = 0.986

ACCEPTABLE Y RANGE = 0.966 TO 1.006

AVERAGE dH@ = 1.731

ACCEPTABLE dH@ RANGE = 1.581 TO 1.881

$Y = (Vw (Pb) \times (Td + 460)) / (Vd (Pb + (dHd / 13.6)) \times (Tw + 460)$

$dH@ = 0.0317 \times dHd / (Pb (Td + 460)) \times ((Tw + 460) \times time) / Vw)^2$

Reviewed By: BM

Date: 5/1/2000

RECHECK OF ORIFICE AND DGM CALIBRATION

CONTROL BOX NO. 6 BAROMETRIC PRESS. 30.08 IN. HG.

DATE 5-1-00 PERFORMED BY RAB / JAW

PRIOR Y = 1.001

SYSTEM LEAK CK. 0.000 @ 10 In Hg

	RUN 1	RUN 2	RUN 3
VACUUM ("Hg)	10.0	10.0	10.0
dHw ("H2O)	1.05	1.05	1.05
dHd ("H2O)	1.00	1.00	0.99
INITIAL WTM	0.0000	8.3992	16.7632
FINAL WTM	8.3992	16.7632	25.1080
INITIAL DGM	217.472	226.187	234.879
FINAL DGM	226.187	234.899	243.567
TEMP. WTM (F)	71.0	70.5	69.5
TEMP. DGM (F)	85.0	86.0	86.0
TEST TIME (MIN.)	15.0	15.0	15.0
NET VOLUME WTM	8.3992	8.3640	8.3448
NET VOLUME DGM	8.715	8.712	8.688
Y	0.987	0.986	0.988
dH@	1.739	1.747	1.731

PRIOR Y = 1.001
RECHECK Y = 0.987
% DIFFERENCE = -1.399

AVERAGE dH@ = 1.739

$Y = (Vw (Pb) \times (Td + 460)) / (Vd (Pb + (dHd / 13.6)) \times (Tw + 460)$
$dH@ = 0.0317 \times dHd / (Pb (Td + 460)) \times ((Tw + 460) \times time / Vw)^2$

Reviewed By: [signature]

Date: 5/2/2000

NOZZLE CALIBRATION DATA FORM

NOZZLE SET NO. 1

DATE: 4-3-00 CALIBRATOR: BDR BVN

NOZZLE I. D.	NOZZLE DIAMETER (IN.) D1	D2	D3	D diff.	D avg
#1	0.114	0.114	0.112	0.002	0.113
#4	0.124	0.124	0.124	0.000	0.124
#5	0.15	0.15	0.15	0.000	0.150
#6	0.193	0.193	0.193	0.000	0.193
#9	0.278	0.278	0.278	0.000	0.278
#10	0.295	0.295	0.295	0.000	0.295
#12	0.395	0.395	0.394	0.001	0.395
#15	0.161	0.161	0.159	0.002	0.160
#16	0.197	0.197	0.197	0.000	0.197
#19	0.280	0.280	0.278	0.002	0.279
#22	0.366	0.366	0.366	0.000	0.366
#30	0.311	0.311	0.311	0.000	0.311
#36	0.187	0.187	0.185	0.002	0.186
#37	0.213	0.213	0.211	0.002	0.212
#38	0.252	0.252	0.252	0.000	0.252
#46	0.193	0.191	0.191	0.002	0.192
#47	0.201	0.201	0.201	0.000	0.201
#48	0.252	0.250	0.252	0.002	0.251
#50	0.311	0.313	0.313	0.002	0.312
#58	0.242	0.240	0.242	0.002	0.241
#68	0.242	0.242	0.242	0.000	0.242

where:

D 1,2,3 = three different nozzle diameters,(in); each diameter must be measured to the nearest 0.001 in.

D diff. = maximum difference between any two diameters, (in.) must be .004 in. or less.

D avg. = average of D1, D2, and D3.

REVIEWED BY: [signature]
DATE: 5/1/2000

FINAL NOZZLE CALIBRATION DATA FORM

NOZZLE NO. 1

DATE: May 01, 2000 **CALIBRATED BY:** Jim Werner

NOZZLE IDENTIFICATION	NOZZLE DIAMETER			¼D (IN.)	D AVG
	D1 (IN.)	D2 (IN.)	D3 (IN.)		
47	0.201	0.201	0.203	0.002	0.202

where:

D1,2,3= three different nozzle diameters,(in); each diameter must be measured to the nearest 0.001 in.

¼D= maximum difference between any two diameters,(in.). ¼D≠ 0.004 in.

D AVG= average of D1,D2 and D3.

Reviewed By:

Date: 5/2/2000

PYROMETER CALIBRATION

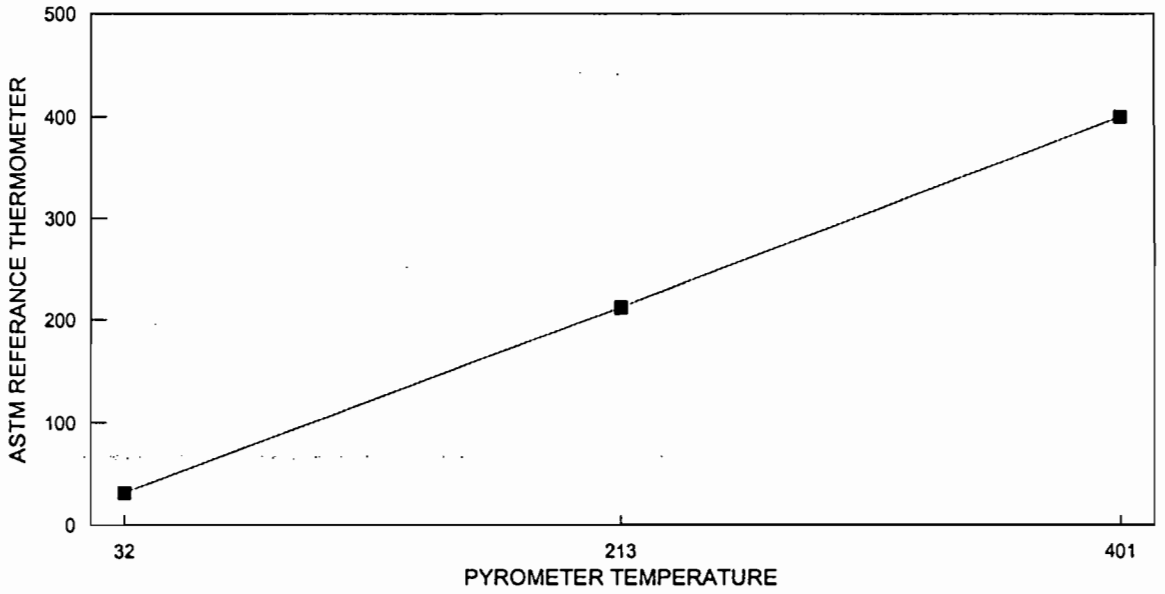
PYROMETER NO.: 12 REFERENCE THERMOMETER: ASTM 2-F

CTL SERIAL NO.: 12 SERIAL NO.: L98-218

DATE: 4-13-00 CALIBRATOR: BDR BDR

REFERENCE TEMP. (F)	PYROMETER INDICATION
32	32
212	213
400	401

PYROMETER TEMPERATURE CALIBRATION



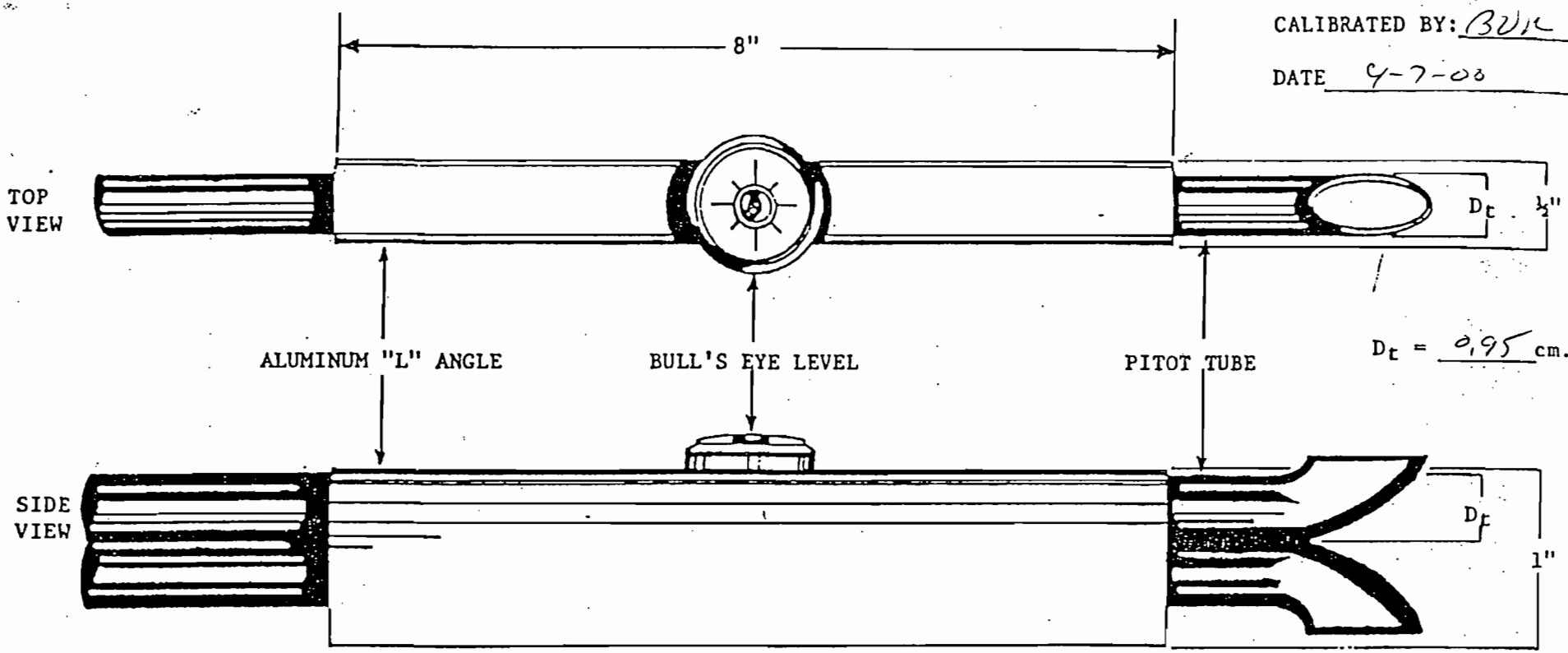
REVIEWED BY: [signature] DATE: 5/1/2000

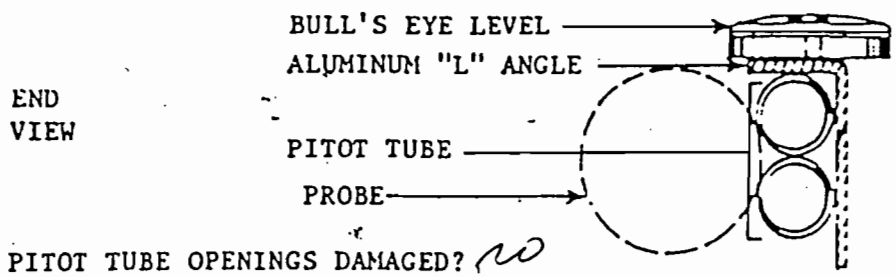
shardata\airservices\cals\pyros\pyro#12

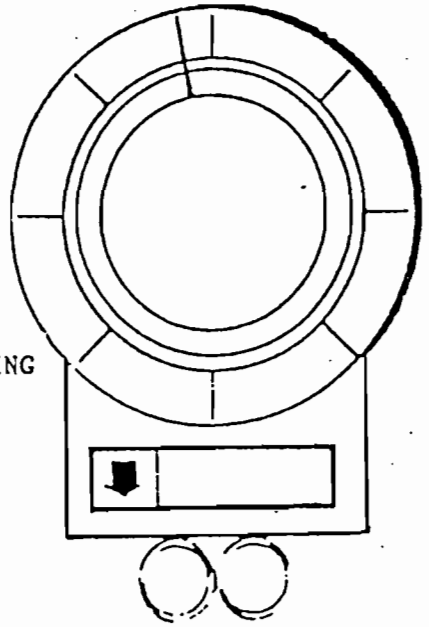
SERIAL NO. 00122

CALIBRATED BY: BVL

DATE 4-7-00







PITOT TUBE OPENINGS DAMAGED? NO

COMMENTS: _____

Reviewed By: _____

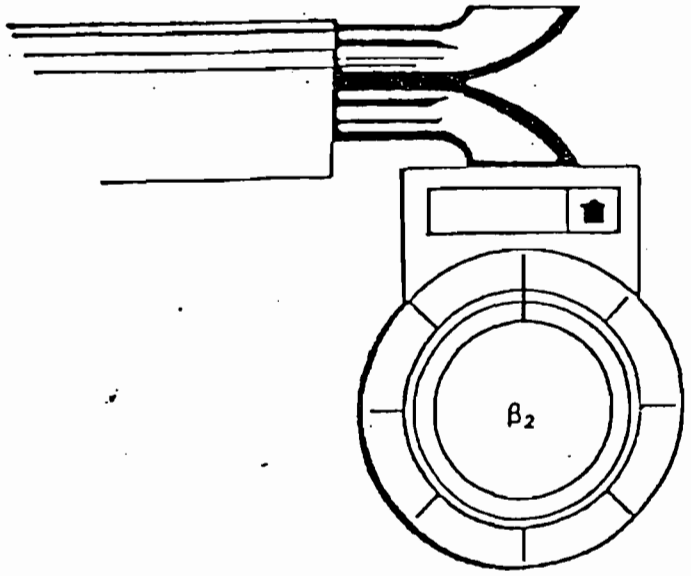
Date: 5/1/2000

PITOT TUBE CALIBRATION SET-UP POSITION

SERIAL NO. 00122

CALIBRATED BY Bun

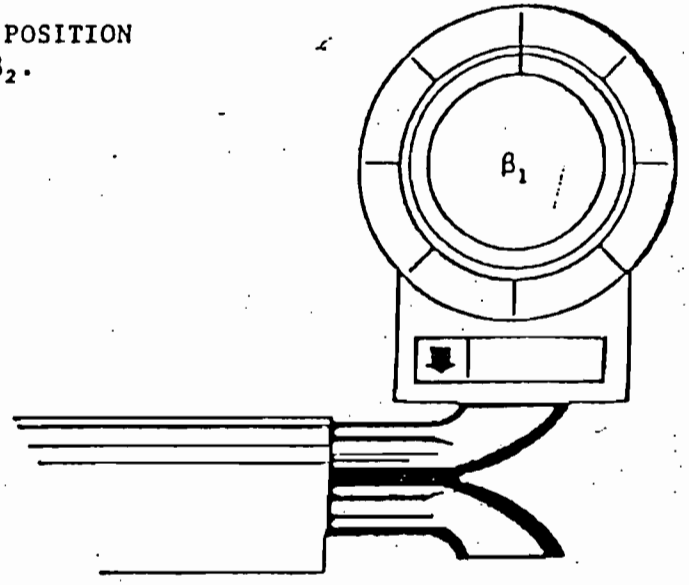
DATE 4-7-00

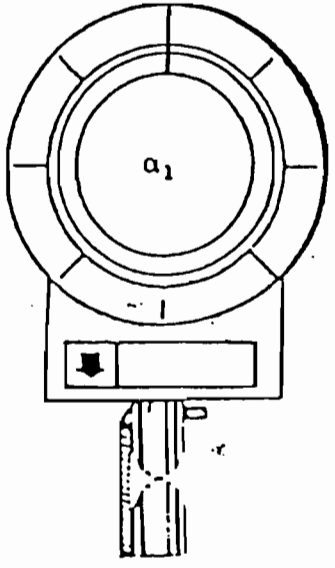


DEGREE INDICATING LEVEL POSITION FOR DETERMINING β_1 and β_2.

β_1 = 0,6 °(<5°)

β_2 = 0,5 °(<5°)

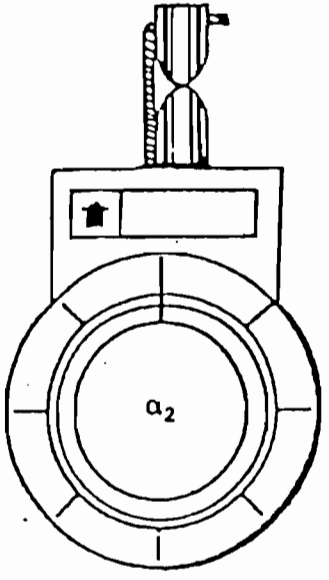




DEGREE INDICATING LEVEL POSITION FOR DETERMINING α_1 and α_2.

α_1 = 1,8 °(<10°)

α_2 = 1,4 °(<10°)



PITOT TUBE CALIBRATION; α and β DETERMINATION

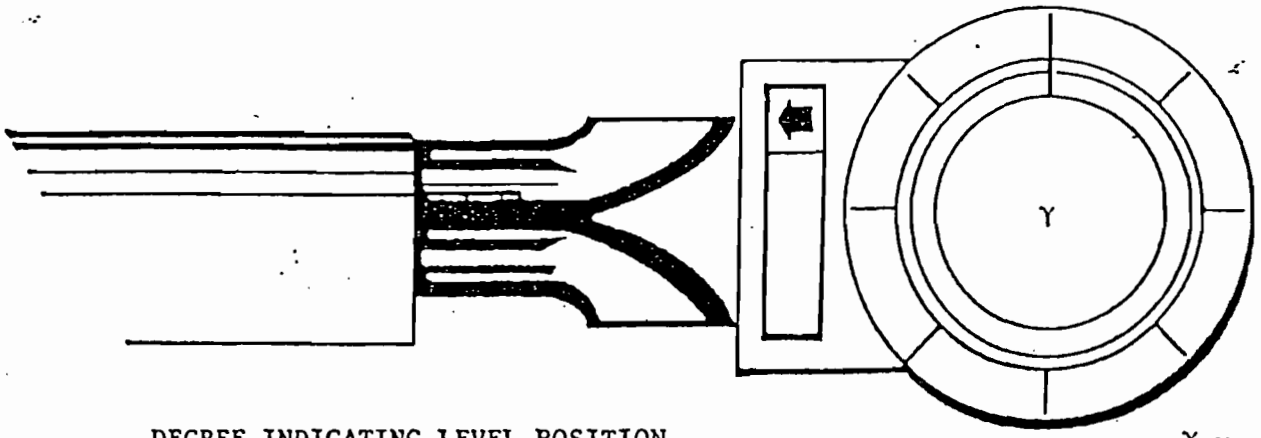
Reviewed By: RAM

Date: 5/1/2000

SERIAL NO. 00122

CALIBRATED BY Bon

DATE 4-7-00



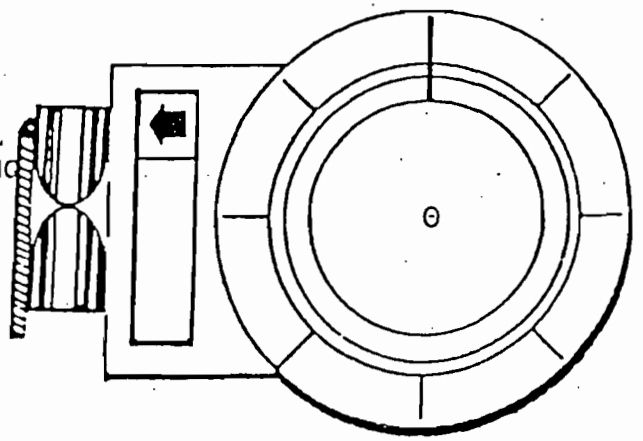
DEGREE INDICATING LEVEL POSITION FOR DETERMINING γ, THEN CALCULATING Z.

γ = 1.2 °

A = DISTANCE BETWEEN TIPS, $(P_a + P_b)$, cm. = 2.35 .

Z = A sin γ = 0.049 cm; (<0.32 cm).

DEGREE INDICATING LEVEL POSITION FOR DETERMINING Θ, THEN CALCULATING W.



Θ = 0.5 °

W = A sin Θ = 0.021 cm; (<0.08 cm).

PITOT TUBE CALIBRATION: A, W, γ, Θ and Z DETERMINATION

Reviewed By: [signature]

Date: 5/1/2000

WET TEST METER CALIBRATION DATA FORM

DATE: 1-4-00

BAROMETRIC PRESS: 30.2

WET TEST METER SERIAL NUMBER: 12-AH-4

NAME: BDR BOT

AMBIENT TEMP: 73

RUN NUMBER	VOLUME OF WATER DISPLACED (LITERS) Va	INITIAL METER READING (FT3)	FINAL METER READING (FT3)	NET METER VOLUME (FT3)	NET METER VOLUME (LITERS) Vw	ERROR
1	3.3600	0.0000	0.1180	0.1180	3.3418	-0.005416667
2	3.3600	0.1180	0.2362	0.1182	3.3474	-0.003750000
3	3.3600	0.2362	0.3548	0.1186	3.3588	-0.000357143
4	3.3600	0.3548	0.4730	0.1182	3.3474	-0.003750000
					AVG. ERROR =	-0.003318453

CALCULATIONS:

CORRECTION FACTOR: 1.003329501

(1.000 +/- 0.010)

ERROR = (Vw - Va) / Va

CORRECTION FACTOR (C.F.) = 1 / (1 + AVERAGE ERROR)

* CONVERSION FACTOR , FT3 TO LITERS = FT3 x 28.32

WHEN USING THE WET TEST METER, THE ACTUAL VOLUME OF AIR CAN BE DETERMINED BY THE EQUATION:

Va = Vw x C.F.

WHERE:

Va = ACTUAL VOLUME OF AIR PASSED THROUGH THE WET TEST METER.

Vw = MEASURED VOLUME OF AIR PASSED THROUGH THE WET TEST METER.

C.F. = CORRECTION FACTOR FOR THE WET TEST METER.

REVIEWED BY:

DATE: 2/21/00

REVISED 5-9-96

SHARDATA\AIR SERVICES\CALS\WETTEST\WETCAL

BAROMETER CALIBRATION DATA FORM

DATE: 4-13-00 CALIBRATOR: bdr Bon

INST. NO: 227

COMMENTS: Adjusted after 1015 reading.

TIME OF READING	BAROMETER READING (HG")	REFERENCE STANDARD READING (HG")	DIFFERENCE (HG")
815	30.12	30.11	0.01
1015	30.25	30.13	0.12
1230	30.14	30.15	-0.01
1430	30.08	30.10	-0.02
			0.00
			0.00

*NOTE: BAROMETRIC READINGS MUST AGREE WITHIN 0.1 INCHES HG OF READINGS OBTAINED FROM THE REFERENCE STANDARD, THE NATIONAL WEATHER SERVICE, RUSKIN FL. TO BE DEEMED ACCEPTABLE.

REVIEWED BY: [signature]

DATE: 5/1/2000

APPENDIX H

CHAIN OF CUSTODY

H-1 BASELINE CHAIN OF CUSTODY

H-2 FUEL BLEND CHAIN OF CUSTODY

H-1 BASELINE CHAIN OF CUSTODY

SAMPLE RECOVERY AND INTEGRITY DATA

Plant POLK POWER STATION Sample location UNIT #1

Field Data Checks

Sample recovery personnel R.A. BARTHELETTE

Person with direct responsibility for recovered samples SAME AS ABOVE

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	BASE-1	2-7-00 DAB ~~1700~~ @ 11:56	✓	✓
2	BASE-2 "	2-7-00 DAB ~~1700~~ @ 15:17	✓	✓
3	BASE-3 "	2-7-00 DAB ~~1700~~ @ 17:13	✓	✓
4	BASE-4 "	2-7-00 ~~1700~~ @ 19:10	✓	✓
5		DAB		
6				
Blank				

Remarks

Signature of field sample trustee

Laboratory Data Checks

Lab person with direct responsibility for recovered samples

Date recovered samples received 2-8-00 @ 0700

Analyst

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	BASE 1-	2-8-00 @ 0700	✓	✓
2	BASE 2- "	2-8-00 @ 0700	✓	✓
3	BASE 3- "	2-8-00 @ 0700	✓	✓
4	BASE 4- "	2-8-00 @ 0700	✓	✓
5				
6				
Blank				

H-2 FUEL BLEND CHAIN OF CUSTODY

TAMPA ELECTRIC COMPANY
SAMPLE CHAIN OF CUSTODY

GENERATING STATION Polk

SOURCE IDENTIFICATION Unit 1 60% Petcoke

DATE OF TEST 4/24/00

POLLUTANT SAMPLED H_2SO_4

SAMPLE RECOVERY

LOCATION Corporate Environmental Services

DATE / TIME 4/24/00 23:00

SIGNATURE C. Command.

TITLE Tech.

SAMPLE ANALYSIS

LOCATION CORPORATE ENVIRONMENTAL SERVICES

DATES 4.25.00 @ 8:00

SIGNATURE [signature]

TITLE

CONTAINER CODE	SAMPLE IDENTIFICATION	ANALYTICAL METHOD
AA54563	ISO Run 1 @ 12:15	isopropenol	USEPA 8
	ISO Run 2 @ 14:31	isopropenol	
	ISO Run 3 @ 19:13	isopropenol	

TAMPA ELECTRIC COMPANY
SAMPLE CHAIN OF CUSTODY

GENERATING STATION Polk

SOURCE IDENTIFICATION Un. 4 / 60 & Petrike

DATE OF TEST 4/24/00

POLLUTANT SAMPLED H_2SO_4

SAMPLE RECOVERY

LOCATION Corporate Environmental Services

DATE / TIME 4/24/00 23:00

SIGNATURE C. Coronado

TITLE Tech.

SAMPLE ANALYSIS

LOCATION CORPORATE ENVIRONMENTAL SERVICES

DATES 4.25.00 @ 8:00

SIGNATURE

TITLE

CONTAINER CODE	SAMPLE IDENTIFICATION	ANALYTICAL METHOD
H_2O_2 Run 1 @ 12:29	Hydrogen Peroxide	USEPA 8
H_2O_2 Run 2 @ 14:53		
H_2O_2 Run 3 @ 19:31		

SAMPLE RECOVERY AND INTEGRITY DATA

Plant F.J. GANNON STATION Sample location UNIT 03

Field Data Checks

Sample recovery personnel CRAIG V. CORONADO

Person with direct responsibility for recovered samples CRAIG V. CORONADO

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	RUN 1 H_2O_2	4/28/00 @ 335	✓	✓
2	RUN 2 H_2O_2	4/28/00 @ 507	✓	✓
3	RUN 3 H_2O_2	4/28/00 @ 645	✓	✓
4				
5				
6				
Blank				

Remarks WDF BASELINE

Signature of field sample trustee Craig V. Coronado

Laboratory Data Checks

Lab person with direct responsibility for recovered samples

Date recovered samples received Natalie Jaquez 4-28-00

Analyst

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1				
2				
3				
4				
5				
6				
Blank				

Remarks

Signature of lab sample trustee

SAMPLE RECOVERY AND INTEGRITY DATA

Plant Polk Power Station Sample location HRSG Unit No. 1

Field Data Checks

Sample recovery personnel Craig V. Corondo

Person with direct responsibility for recovered samples Craig V. Corondo

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	Run 6 Iso	4-25-2000 ~~14:23~~ 14:33	✓	✓
2	Run 7 Iso	" 16:28	✓	✓
3	Run 8 Iso	" 18:22	✓	✓
4	Run 9 Iso	" 20:07	✓	✓
5				
6				
Blank				

Remarks

Signature of field sample trustee Craig V. Corondo

Laboratory Data Checks

Lab person with direct responsibility for recovered samples [signature]

Date recovered samples received 4-26-00 @ 6:15

Analyst [signature] / [signature]

AA-54564

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	RUN 6 Iso	✓		✓
2	RUN 7 Iso	✓		✓
3	RUN 8 Iso	✓		✓
4	RUN 9 Iso	✓		✓
5				
6				
Blank				

Remarks

Signature of lab sample trustee

SAMPLE RECOVERY AND INTEGRITY DATA

Plant Polk Power Station Sample location HRSG Unit No. 1

Field Data Checks

Sample recovery personnel Craig V. Coronado

Person with direct responsibility for recovered samples Craig V. Coronado

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	Run 6 H_2O_2	4-25-2000 14:52	✓	✓
2	Run 7 H_2O_2	" 16:31	✓	✓
3	Run 8 H_2O_2	" 18:27	✓	✓
4	Run 9 H_2O_2	" 20:09	✓	✓
5				
6				
Blank				

Remarks

Signature of field sample trustee Craig V. Coronado

Laboratory Data Checks

Lab person with direct responsibility for recovered samples [signature]

Date recovered samples received 4·26·00@ 6:15

Analyst [signature]

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	RUN 6 H_2O_2	4·26·00@0615	✓	✓
2	RUN 7 H_2O_2	4·26·00@ 6:15	✓	✓
3	RUN 8 H_2O_2	4·26·00@ 6:15	✓	✓
4	RUN 9 H_2O_2	4·26·00@ 6:15	✓	✓
5				
6				
Blank				

Remarks

Signature of lab sample trustee

SAMPLE RECOVERY AND INTEGRITY DATA

Plant Polk Power Station Sample location HRSG Unit No. 1

Field Data Checks

Sample recovery personnel Craig V. Coronado

Person with direct responsibility for recovered samples Craig V. Coronado

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	Run 10 ISO	4-26-00 @ 11:29	✓	✓
2	Run 11 ISO	4-26-00 @ 13:15	✓	✓
3				
4				
5				
6				
Blank				

Remarks

Signature of field sample trustee Craig V. Coronado

Laboratory Data Checks

Lab person with direct responsibility for recovered samples

Date recovered samples received

Analyst Marcia Jegley

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1				
2				
3				
4				
5				
6				
Blank				

AA54565

Remarks

Signature of lab sample trustee

SAMPLE RECOVERY AND INTEGRITY DATA

Plant POLK POWER STATION Sample location HRSG UNIT 1

Field Data Checks

Sample recovery personnel CRAIG V. CORONADO

Person with direct responsibility for recovered samples CRAIG CORONADO

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1	RUN 10 H_2O_2	4/26/00 @ 1137	✓	✓
2	RUN 11 H_2O_2	4/26/00 @ 1319	✓	✓
3				
4				
5				
6				
Blank				

Remarks

Signature of field sample trustee Craig V. Coronado

Laboratory Data Checks

Lab person with direct responsibility for recovered samples [signature]

Date recovered samples received 4-27-00

Analyst M. Gonzalez

Sample Number	Sample Identification Number	Date and Time of Recovery	Liquid Level Marked	Stored in refrigerated Container
1				
2				
3				
4				
5				
6				
Blank				

Remarks

Signature of lab sample trustee [signature]

APPENDIX I

PROJECT PARTICIPANTS

PROJECT PARTICIPANTS

Environmental Affairs

Gregory M. Nelson, P.E.	Director
Patrick Shell	Administrator- Air Programs
David Smith	Coordinator- Air Services
Robert Barthelette Jr.	Environmental Technician
Craig Coronado	Technician
Linda Kong	Engineer Associate
Raymond McDarby	Senior Environmental Technician
Glenn Naslund	Environmental Technician
Bruce Rodriguez	Technician
James Werner	Technician

Polk Power Station

David Knapp	Environmental And Safety Engineer
John McDaniel, P.E.	Senior Engineer
Preston Moore	IGCC Specialist