Indiantown Cogeneration, L.P.

PO Box 1799
13303 SW Silver Fox Lane
Indiantown, FL 34956
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August 27th, 2014

Lee Hoefert
Florida Department of Environmental Protection.
400 N Congress Ave.
Suite 200
West Palm Beach, FL 33416

VIA ELECTRONIC MAIL

Re: ***2014 COMPLIANCE TESTING FOR INDIANTOWN COGENERTION L.P (TITLE V PERMIT # 0850102)***

Dear Mr. Hoefert:

Enclosed please find a report on 2014 Compliance testing for Indiantown Cogeneration's P.C. Boiler. Per your request the testing for Carbon Monoxide and Nitrogen Oxide were done simultaneously.

Summary of Test Results

Parameter	Results %	Allowable Limit	Heat Input
PARTICULATE MATTER (lb/hr)	27.9	61.6	2860.2
PARTICULATE MATTER (lb/mmbtu)	0.008	0.018	2860.2
NITROGEN OXIDE (lb/hr)	491	582	2905.9
NITROGEN OXIDE (lb/mmbtu)	0.161	0.170	2905.9
SULFUR DIOXIDE (lb/hr)	342	582	2905.9
SULFUR DIOXIDE (lb/mmbtu)	0.112	0.170	2905.9
CARBON MONOXIDE (lb/hr)	274	376	2905.9
CARBON MONOXIDE (lb/mmbtu)	0.089	0.110	2905.9
PC STACK(%VE)	0	5	
COAL UNLOADING JK-H 10 (%VE)	0	5	
COAL BUNKER JK-H 50 (%VE)	0	5	
COAL CRUSHER JK-H 41 (%VE)	0	5	
COAL RECLAIM JK-H 27(%VE)	0	5	
FLY ASH SILO DUST COLLECTOR BH	0	5	
RAIL LIME UNLOADING CARTRIDGE	0	5	
LIME SILO DUST COLLECTOR (%VE)	0	5	

Attached are the Audit reports for your review. In accordance to Chapter 62-213-440(1)(b)3-c, F.A.C., I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Should you have any questions please contact Nicholas Laryea at (772) 597-6535.

Sincerely,

Todd Shirley
Projects General Manager

cc: Nicholas Laryea
Errin Pichard
U.S. EPA Region IV
File 2.4.4.

COASTAL AIR CONSULTING INC.

245 West Ohio Ave. • Suite A • Lake Helen, FL 32744
Phone (386) 451-0169 • coastalair123@aol.com

COMPLETE EMISSIONS TESTING SERVICES • PERMITTING ASSISTANCE • CEMS CERTIFICATION • AMBIENT AIR MONITORING

Emissions Test Report

No. 122-038

INDIANTOWN COGENERATION PLANT

COMPLIANCE
PARTICULATE, VE'S, NOx, SO2 & CO
PC BOILER STACK

Prepared for:

Indiantown Cogeneration, LP
13303 SW Silver Fox Lane
Indiantown, FL 34956

Prepared by:

Coastal Air Consulting, Inc.
1531 Wyngate Dr.
DeLand, FL 32724
(386) 451-0169

Completed on:

July 18, 2014

STATEMENT OF VALIDITY

All testing activities and results represented herein were conducted and obtained in accordance with the approved EPA protocols listed in 40 CFR Part 60 & 75. The contents have been reviewed and verified, to the extent practical, to be valid and accurate representation of the source emissions at the time of testing.

Stephen C. Webb

Stephen C. Webb

President
Coastal Air Consulting, Inc.
1531 Wyngate Dr.
DeLand, FL 32724
(386) 451-0169

PROJECT STATISTICS

Client:	Indiantown Cogeneration, LP
Facility:	Indiantown Cogeneration Plant, L.P.
Location:	13303 SW Silver Fox Lane Indiantown, FL 34956
Type of Process Tested:	330 MW Pulverized Coal Fired Boiler
Test Protocols Performed: (Compliance)	Particulate Emissions – EPA Method 5 Oxygen/Carbon Dioxide-EPA Method 3A Sulfur Dioxide- EPA Method 6C Nitrogen Oxide-EPA Method 7E Visible Emissions - EPA Method 9 Carbon Monoxide – EPA Method 10 Visible Emissions - EPA Method 22
Testing Firm:	Coastal Air Consulting, Inc. 1531 Wyngate Dr. DeLand, FL 32724 (386) 451-0169
Test Personnel:	Stephen Webb QSTI Quin Revel Troy Marlowe
Test Dates:	July 15 -18, 2014
Client Representative:	Nick Laryea
Observers:	Lee Hoefert DEP Southeast District Air Program

TABLE OF CONTENTS

1.0 Introduction

Coastal Air Consulting, Inc. (Coastal) was contracted by Indiantown Cogeneration, LP to determine the Compliance Testing at the Indiantown Cogeneration Plant located in Indiantown, Florida. Coastal performed the compliance testing for particulate emissions, visible emissions, sulfur dioxide and nitrogen oxides on the PC Boiler Stack.

The sampling program was conducted on July 15-18, 2014. The compliance testing was performed by Coastal personnel, with the assistance of personnel assigned by Indiantown Cogeneration.

2.0 Test Program Summary

A summary of test results developed by this source sampling program is presented in Tables 1, 2, 3, 4 & 5 as follows;

TABLE 1
Summary of Particulate Emissions EPA Method 5

Source	Date	Particulate (lb/mmBtu)	Limit (lb/mmBtu)	Particulate (lb/hr)	Limit (lb/hr)	Particulate tpy	Limit tpy	mmBtu/hr
PC Boiler	7-17-14	0.008	0.018	27.9	61.1	122	270	2860.2

TABLE 2
Summery of Gaseous Emissions EPA Methods 6C & 7E

Source	Date	NOx lb/mmBtu	SO2 lb/mmBtu	Limit lb/mmBtu	NOx lb/hr	SO2 lb/hr	Limit lb/hr	NOx tpy	SO2 tpy	Limit tpy	mmBtu/hr
PC Boiler	7-16-14	0.161	0.112	0.170	491	342	582	2,151	1,498	2,549	2905.9

*24 hour daily block average (midnight to midnight)

TABLE 3
Summery of Gaseous Emissions EPA Method 10

Source	Date	CO lb/hr	Limit lb/hr	mmBtu/hr
PC Boiler	7-16-14	274	376	2905.9

*24 hour daily block average (midnight to midnight)

TABLE 3
Summary of Visible Emissions EPA Method 9

Source	Date	Average VE (%)	Highest 6 min (%)	Allowable (%)
PC Boiler Stack	7-17-14	0.0	0.0	10
Coal Pulverizer BH	7-16-14	0.0	0.0	5
Coal Crusher Dust Collector BH	7-16-14	0.0	0.0	5
Coal Transfer BH	7-16-14	0.0	0.0	5
Coal Unloading BH	7-15-14	0.0	0.0	5
Fly Ash Silo Dust Collector BH	7-17-14	0.0	0.0	5
Lime Transfer Cartridge Collector	7-18-14	0.0	0.0	5
Lime Transfer Bag Collector	7-18-14	0.0	0.0	5

TABLE 4
Summary of Visible Emissions EPA Method 22

Source	Date	Start Time	Observation Period (min:sec)	Emission Period (min:sec)	Allowable (min:sec)
Bunker Room Exhaust (JK-H50)	7-16-14	14:08	20:00	0:00	2:00
		14:33	20:00	0:00	2:00
		14:58	20:00	0:00	2:00
Crusher Building BH (JK-H41)	7-16-14	11:50	20:00	0:00	2:00
		12:15	20:00	0:00	2:00
		12:40	20:00	0:00	2:00
Coal Reclaim Building (JK-H27)	7-17-14	11:20	20:00	0:00	2:00
		11:45	20:00	0:00	2:00
		12:10	20:00	0:00	2:00
Coal Unloading (JK-H10)	7-15-14	17:00	20:00	0:00	2:00
		17:25	20:00	0:00	2:00
		17:50	20:00	0:00	2:00

3.0 Results of Testing

These results indicate that the PC Boiler passed the compliance testing at the time of testing under normal operating conditions. The individual test run results are tabulated in Appendix 1.

4.0 Description of Source

Indiantown Cogeneration PC Boiler is a 330 MW pulverized coal fired boiler exporting 175,000 lb/hr of steam to a host facility. The boiler was supplied by Foster Wheeler Energy Corporation. Low-NOx reduction burners with over fired air and selective catalytic reduction using ammonia injection are used for NOx reduction. Particulate and sulfur dioxide emissions are controlled by an Aseav Brown Boveri (ABB) flue gas cleaning system (FGCS) comprised of two 50 percent capacity lime injection spray dryer absorbers followed by a fabric filter bag house.

The controlled emissions from the pulverized coal boiler exhausts into the atmosphere through the PC Boiler stack, which is 17.17 feet (206 inches) in diameter, contained in a reinforced cement shell. There are four six-inch test ports spaced at 90-degree intervals around the flue at an elevation of approximately 250 feet above grade.

5.0 Sampling Procedures

EPA testing protocols utilized during this test program include the following;

EPA Method 1	Sample and Velocity Traverse for Stationary Sources
EPA Method 2	Determination of Stack Gas Velocity and Volumetric Flow Rate
EPA Method 3A	Gas Analysis for CO_2, O_2, Excess Air and Dry Molecular Weight (Instrumental Analyzer Method)
EPA Method 4	Determination of Moisture Content in Stack Gas
EPA Method 5	Determination of Particulate Emissions From Stationary Sources
EPA Method 6C	Determination of Sulfur Dioxide Emissions From Stationary Sources (Instrumental Analyzer Method)
EPA Method 7E	Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Method)
EPA Method 8	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources
EPA Method 9	Visual Determination of the Opacity of Emissions From Stationary Sources
EPA Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyzer Method)
EPA Method 22	Visual Determination of Fugitive Emissions From Material Sources

6.0 Operating Conditions

The PC Boiler ran under normal operations during testing with no delays or interruptions. Indiantown Cogeneration personnel monitored operating conditions throughout the duration of the sampling program.

7.0 Quality Assurance Procedures

Quality assurance procedures followed during these testing activities were applied consistent with the requirements outlined by the EPA methods referenced in 40 CFR Parts 60 & 75. Analyzer calibrations, system bias and drift checks were completed before and after each sample run utilizing EPA Protocol 1 calibration gases.

APPENDIX 1
REFERENCE DATA
Particulate

COASTAL AIR CONSULTING, INC.

PARTICULATE EMISSION TEST SUMMARY

CLIENT: INDIANTOWN COGENERATION
PLANT: INDIANTOWN COGENERATION PLANT
UNIT: PC BOILER
TEST: COMPLIANCE
METHOD: 5

	RUN 1	RUN 2	RUN 3
DATE OF RUN	07/17/14	07/17/14	07/17/14
HEAT INPUT (MMBTU/HR)	3184.0	3151.2	3076.6
STEAM FLOW (KLB/HR)	2326.5	2333.6	2310.8
GROSS LOAD (MW)	330.8	331.6	331.1
START TIME (24-HR CLOCK)	1200	1419	1700
END TIME (24-HR CLOCK)	1408	1626	1907
VOL DRY GAS SAMPLED METER COND (DCF)	115.656	115.874	115.206
BAROMETRIC PRESSURE (IN. HG)	29.88	29.88	29.88
AVG ORIFICE PRESSURE DROP (IN. H20)	2.692	2.642	2.683
AVG GAS METER TEMP (F)	103.7	109.5	113.5
GAS METER CALIBRATION FACTOR	0.9870	0.9870	0.9870
VOL GAS SAMPLED STD COND (DSCF)	107.451	106.538	105.195
TOTAL WATER COLLECTED (G)	340.6	342.1	306.4
VOL WATER COLLECTED STD COND (SCF)	16.06	16.13	14.45
MOISTURE IN STACK GAS (% VOL)	13.00	13.15	12.07
MOLE FRACTION DRY GAS	0.870	0.869	0.879
CO2 VOL PERCENT DRY	12.4	12.7	13.0
O2 VOL PERCENT DRY	6.7	6.6	6.3
N2 VOL PERCENT DRY	80.90	80.70	80.70
MOL. WT. DRY STACK GAS (LB/LB-MOLE)	30.25	30.30	30.33
MOL. WT. WET STACK GAS (LB/LB-MOLE)	28.66	28.68	28.84
ELEV. DIFF. FROM MANOM. TO BAROM. (FT)	0.00	0.00	0.00
STACK GAS STATIC PRESSURE (IN. H2O GAGE)	-1.00	-1.00	-1.00
STACK GAS STATIC PRESSURE (IN. HG ABS.)	29.81	29.81	29.81
AVERAGE SQUARE ROOT VELOCITY HEAD	1.334	1.329	1.332
PITOT TUBE COEFFICIENT	0.84	0.84	0.84
AVG STACK TEMP (F)	191.9	192.3	190.2
STACK GAS VELOCITY STACK COND (FT/SEC)	83.68	83.35	83.16
CROSS SECTION STACK AREA (SQ FT)	231.5	231.5	231.5
STACK GAS FLOW RATE STD COND (DSCFM)	815893.9	810718.6	821618.1
STACK GAS FLOW RATE STACK COND (ACFM)	1162415.2	1157735.6	1155114.2
NET TIME OF RUN (MIN)	120	120	120
NOZZLE DIAMETER (IN)	0.215	0.215	0.215
PERCENT ISOKINETIC	100.83	100.61	98.03
PARTICULATE COLLECTED (MG)	38.2	17.6	26.6
WEIGHTED AVERAGE F FACTOR (DSCF/MILL. BTU)	9780.00	9780.00	9780.00
HEAT INPUT COAL (%)	100.0	100.0	100.0
PARTICULATE EMISSIONS (GRAINS/SCF)	0.0055	0.0025	0.0039
PARTICULATE EMISSIONS (LB/MILL. BTU)	0.0113	0.0052	0.0078
PARTICULATE EMISSIONS (LB/HR)	38.356	17.710	27.473
AVERAGE PARTICULATE EMISSIONS (LB/MMBTU)		0.0081	
AVERAGE PARTICULATE EMISSIONS (LB/HR)		27.846	

NOTE: STANDARD CONDITIONS -- 68F, 29.92 in. Hg

PARTICULATE TEST FIELD DATA SHEET

Plant & Unit: ICLP PC Boiler
Type of test: Compliance
Method: 5
Run Number: 1
Date: 07/17/14
Sample Location: Stack
Operators: TAM/SCW

Reference:	1.51	Filter #:	181
Bar. Pressure (in.Hg):	29.88	Nozzle #:	T2
Static Pressure (H2O):	-1.00	Nozzle Dia.(in):	0.211
Meter Box #:	CAC 2	^H@ 1.615 Yi	0.9870
Ini. Pitot Leak Check:	OK @ 5"	Pitot # CAC 9	0.84
Fin. Pitot Leak Check:	OK @ 5"	Thermocouple #	CAC 9
Ini. Leak Rate:0.000@	15 "	Impinger Set:	A
Fin. Leak Rate:0.000@	10 "	Sample Head:	A

POINT #	CLOCK TIME	SAMPLE TIME	DRY GAS VOLUME	VELOCITY HEAD (in H2O)	ORIFICE ^H (in H2O)	METER TEMP (F)	STACK TEMP (F)	HOT BOX TEMP (F)	VAC. (IN.HG)	IMPINGER TEMP (F)
			263.642							
N-1	1200	10	273.0	1.60	2.40	96	191	264	7.5	65
N-2		20	283.5	2.00	3.00	97	192	263	9.0	67
N-3		30	294.098	1.90	2.90	98	192	260	9.0	67
W-1		10	303.5	1.70	2.60	100	193	265	6.5	66
W-2		20	312.8	1.80	2.70	101	193	267	7.0	67
W-3		30	321.891	1.60	2.40	103	192	265	6.5	67
S-1		10	331.0	1.70	2.60	104	192	248	7.0	68
S-2		20	340.5	1.80	2.70	106	192	266	7.0	61
S-3		30	349.996	1.60	2.40	108	191	259	7.5	57
E-1		10	359.5	1.80	2.70	109	191	265	7.0	57
E-2		20	369.7	2.20	3.30	111	192	257	7.5	58
E-3	1408	30	379.298	1.70	2.60	111	192	262	7.0	59
			115.656	1.334	2.692	103.7	191.9			

MOISTURE, PARTICULATE CATCH AND DRY MOLECULAR WEIGHT DATA

PLANT: ICLP PC Boiler **RUN 1**
DATE: 17-Jul-14

METHOD 4 MOISTURE DETERMINATION

IMPG SET:	A				
	IMPG.#1	IMPG.#2	IMPG.#3	IMPG.#4	WT. BY
FINAL WT.	942.0	750.6	615.0	903.5	SCW
INITIAL WT.	710.5	688.8	600.2	871.0	SCW
NET WT.	231.5	61.8	14.8	32.5	SCW
TOTAL WT.	340.6	note: all weights in grams			

PARTICULATE FILTER CATCH

FILTER #	181	BY	BEAKER #	1	BY
FINAL WT.	0.4360	SCW	FINAL WT.	72.9542	SCW
INITIAL WT.	0.4110	SCW	INITIAL WT.	72.9410	SCW
NET WT.	0.0250	SCW	NET WT.	0.0132	SCW

TOTAL CATCH (grams)	0.0382
TOTAL CATCH (mg)	38.2

DRY MOLECULAR WEIGHT

GAS	1	2	3	AVG	Fo: 1.145
CO2	12.4	12.4	12.4	12.4	ALLOWED Fo RANGE
O2+CO2	19.1	19.1	19.1	-------	OIL: 1.210 TO 1.370
O2	6.7	6.7	6.7	6.7	COAL: 1.083 TO 1.230

4 MINUTE ORSAT ANALYZER CHECK

	BEFORE	AFTER	
BURETTE MENISCUS READING:	15	15	<0.2 ? YES
CO2 CAPILLARY TUBE LEVEL:	OK	OK	
O2 CAPILLARY TUBE LEVEL:	OK	OK	

PARTICULATE TEST FIELD DATA SHEET

Plant & Unit: ICLP PC Boiler
Type of test: Compliance
Method: 5
Run Number: 2
Date: 07/17/14
Sample Location: Stack
Operators: TAM

Reference:	1.36	Filter #:	182
Bar. Pressure (in.Hg):	29.88	Nozzle #:	T2
Static Pressure (H2O):	-1.00	Nozzle Diam.(in):	0.211
Meter Box #:	CAC 2	^H@ 1.615 Yi	0.9870
Ini. Pitot Leak Check:	OK @ 5"	Pitot # CAC 9	0.84
Fin. Pitot Leak Check:	OK @ 5"	Thermocouple #	9
Ini. Leak Rate:0.000@	15 "	Impinger Set:	B
Fin. Leak Rate:0.003@	5.5 "	Sample Head:	A

POINT #	CLOCK TIME	SAMPLE TIME	DRY GAS VOLUME	VELOCITY HEAD (in H2O)	ORIFICE ^H (in H2O)	METER TEMP (F)	STACK TEMP (F)	HOT BOX TEMP (F)	VAC. (IN.HG)	IMPINGER TEMP (F)
			379.649							
E-1	1448	10	389.0	1.70	2.40	107	193	253	2.5	67
E-2		20	398.8	1.90	2.90	107	192	255	4.0	65
E-3		30	408.171	1.70	2.40	108	193	257	2.5	65
S-1		10	417.9	1.80	2.70	108	193	256	2.5	65
S-2		20	427.7	1.90	2.90	109	193	256	3.5	66
S-3		30	437.451	1.80	2.70	109	192	256	4.0	66
W-1		10	447.2	1.80	2.70	109	193	257	4.0	67
W-2		20	457.0	1.80	2.70	110	192	255	4.0	67
W-3		30	466.397	1.60	2.40	111	191	256	4.5	67
N-1		10	476.0	1.70	2.60	112	193	259	4.0	65
N-2		20	486.1	1.90	2.90	112	192	259	4.5	66
N-3	1652	30	495.523	1.60	2.40	112	191	257	4.0	66
			115.874	1.329	2.642	109.5	192.3			

MOISTURE, PARTICULATE CATCH AND DRY MOLECULAR WEIGHT DATA

PLANT: ICLP PC Boiler **RUN 2**
DATE: 17-Jul-14

METHOD 4 MOISTURE DETERMINATION

IMPG SET:	B				
	IMPG.#1	**IMPG.#2**	**IMPG.#3**	**IMPG.#4**	**WT. BY**
FINAL WT.	904.4	793.3	603.9	935.5	SCW
INITIAL WT.	702.3	684.5	600.6	907.6	SCW
NET WT.	202.1	108.8	3.3	27.9	SCW
TOTAL WT.	342.1	note: all weights in grams			

PARTICULATE FILTER CATCH

FILTER #	182	**BY**	**BEAKER #**	2	**BY**
FINAL WT.	0.4206	SCW	FINAL WT.	73.0737	SCW
INITIAL WT.	0.4149	SCW	INITIAL WT.	73.0618	SCW
NET WT.	0.0057	SCW	NET WT.	0.0119	SCW

TOTAL CATCH (grams)	0.0176
TOTAL CATCH (mg)	17.6

DRY MOLECULAR WEIGHT

GAS	1	2	3	**AVG**	**Fo:** 1.126
CO2	12.7	12.7	12.7	12.7	**ALLOWED Fo RANGE**
O2+CO2	19.3	19.3	19.3	------	OIL: 1.210 TO 1.370
O2	6.6	6.6	6.6	6.6	COAL: 1.083 TO 1.230

4 MINUTE ORSAT ANALYZER CHECK

	BEFORE	**AFTER**	
BURETTE MENISCUS READING:	15	15	<0.2 ? YES
CO2 CAPILLARY TUBE LEVEL:	OK	OK	
O2 CAPILLARY TUBE LEVEL:	OK	OK	

PARTICULATE TEST FIELD DATA SHEET

Plant & Unit: ICLP PC Boiler
Type of test: Compliance
Method: 5
Run Number: 3
Date: 07/17/14
Sample Location: Stack
Operators: TAM/TQR

Reference:	1.36	Filter #:	183
Bar. Pressure (in.Hg):	29.88	Nozzle #:	T2
Static Pressure (H2O):	-1.00	Nozzle Diam.(in):	0.211
Meter Box #:	CAC 2	^H@ 1.615 Yi	0.9870
Ini. Pitot Leak Check:	OK @ 5"	Pitot # CAC 9	0.84
Fin. Pitot Leak Check:	OK @ 5"	Thermocouple #	9
Ini. Leak Rate:0.000@	15 "	Impinger Set:	C
Fin. Leak Rate:0.000@	8.5 "	Sample Head:	A

POINT #	CLOCK TIME	SAMPLE TIME	DRY GAS VOLUME	VELOCITY HEAD (in H2O)	ORIFICE ^H (in H2O)	METER TEMP (F)	STACK TEMP (F)	HOT BOX TEMP (F)	VAC. (IN.HG)	IMPINGER TEMP (F)
			496.518							
N-1	1700	10	505.5	1.60	2.40	108	191	236	6.0	67
N-2		20	515.5	1.90	2.90	109	190	258	7.5	66
N-3		30	525.162	1.80	2.70	111	190	256	7.0	67
W-1		10	534.7	1.70	2.60	114	190	259	7.0	68
W-2		20	544.3	1.70	2.60	112	190	260	6.5	68
W-3		30	553.876	1.80	2.70	113	190	259	6.5	68
S-1		10	563.5	1.80	2.70	114	190	258	7.0	65
S-2		20	572.7	1.60	2.40	115	190	259	7.0	65
S-3		30	582.255	1.70	2.60	115	190	261	6.0	66
E-1		10	591.7	1.80	2.70	116	190	260	7.0	65
E-2		20	601.6	1.90	2.90	117	190	260	7.0	64
E-3	1907	30	611.724	2.00	3.00	118	191	260	7.5	65
			115.206	1.332	2.683	113.5	190.2			

MOISTURE, PARTICULATE CATCH AND DRY MOLECULAR WEIGHT DATA

PLANT: ICLP PC Boiler **RUN 3**
DATE: 17-Jul-14

METHOD 4 MOISTURE DETERMINATION

IMPG SET:	C				
	IMPG.#1	**IMPG.#2**	**IMPG.#3**	**IMPG.#4**	**WT. BY**
FINAL WT.	940.2	825.4	610.6	935.1	SCW
INITIAL WT.	778.0	715.8	603.8	907.3	SCW
NET WT.	162.2	109.6	6.8	27.8	SCW
TOTAL WT.	306.4	note: all weights in grams			

PARTICULATE FILTER CATCH

FILTER #	183	**BY**	**BEAKER #**	3	**BY**
FINAL WT.	0.4010	SCW	FINAL WT.	73.2929	SCW
INITIAL WT.	0.3865	SCW	INITIAL WT.	73.2808	SCW
NET WT.	0.0145	SCW	NET WT.	0.0121	SCW

TOTAL CATCH (grams)	0.0266
TOTAL CATCH (mg)	26.6

DRY MOLECULAR WEIGHT

GAS	1	2	3	**AVG**	**Fo:** 1.123
CO2	13.0	13.0	13.0	13.0	**ALLOWED Fo RANGE**
O2+CO2	19.2	19.2	19.5	------	OIL: 1.210 TO 1.370
O2	6.2	6.2	6.5	6.3	COAL: 1.083 TO 1.230

4 MINUTE ORSAT ANALYZER CHECK

	BEFORE	**AFTER**	
BURETTE MENISCUS READING:	15	15	<0.2 ? YES
CO2 CAPILLARY TUBE LEVEL:	OK	OK	
O2 CAPILLARY TUBE LEVEL:	OK	OK	

REFERENCE DATA
NOx, SO2 & CO

NOx LB/HR RELATIVE ACCURACY

PLANT: Indiantown Cogeneration
UNIT: PC Boiler
LOAD: High
DATE: 7/16/2014

ANALYZER: TECO
SERIAL # CM07260054

RUN	TIME START	TIME END	REFERENCE METHOD (NOxlb/hr)	CEM RESPONSE (NOxlb/hr)	ARITHMATIC DIFFERENCE	DIFFERENCE SQUARED
1	1338	1358	485.38	526.38	-40.999199	1680.93433
2	1410	1430	437.35	464.52	-27.165964	737.98959
3	1440	1500	510.19	532.45	-22.264472	495.70670
4	1510	1530	498.36	522.71	-24.346268	592.74074
5	1540	1600	498.38	519.66	-21.283515	452.98803
6	1610	1630	486.49	512.27	-25.780217	664.61960
7	1640	1700	487.74	501.31	-13.569897	184.14210
8	1721	1741	491.27	517.85	-26.576904	706.33183
9	1750	1810	522.08	521.65	0.42648389	0.18189
			AVERAGE	AVERAGE	SUM OF DIFF.	SUM OF THE SQUARES
			490.8044	513.2000	-201.55995	5515.63482

**MEAN DIFFERENCE, d (Eq. A-7)	-22.5346
**STANDARD DEVIATION, Sd (Eq. A-8)	11.1892
**CONFIDENCE COEFFICIENT, |CC| (Eq. A-9)	8.6008
**PERCENT (%) RELATIVE ACCURACY, RA (Eq. A-10)	6.356

** 40 CFR 75, Appendix A

NOx LB/MMBTU RELATIVE ACCURACY

PLANT: Indiantown Cogeneration
UNIT: PC Boiler
LOAD: High
DATE: 7/16/2014

ANALYZER: TECO
SERIAL # CM07260054

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RUN	TIME START	TIME END	REFERENCE METHOD (NOxlb/mmBTU)	CEM RESPONSE (NOxlb/mmBTU)	ARITHMATIC DIFFERENCE	DIFFERENCE SQUARED
1	1338	1358	0.163	0.166	-0.003	0.00001
2	1410	1430	0.144	0.146	-0.0024	0.00001
3	1440	1500	0.165	0.168	-0.003	0.00001
4	1510	1530	0.161	0.166	-0.005	0.00003
5	1540	1600	0.162	0.163	-0.0012	0.00000
6	1610	1630	0.159	0.162	-0.0025	0.00001
7	1640	1700	0.157	0.157	-0.0002	0.00000
8	1721	1741	0.167	0.162	0.0046	0.00002
9	1750	1810	0.167	0.163	0.004	0.00002
			AVERAGE	AVERAGE	SUM OF DIFF.	SUM OF THE SQUARES
			0.1606	0.1615	-0.0087	0.00009

**MEAN DIFFERENCE, d (Eq. A-7)	-0.0009
**STANDARD DEVIATION, Sd (Eq. A-8)	0.0033
**CONFIDENCE COEFFICIENT, |CC| (Eq. A-9)	0.0025
**PERCENT (%) RELATIVE ACCURACY, RA (Eq. A-10)	2.149
**BIAS ADJUSTMENT FACTOR, BAF (Eq. A-12)	1.000

** 40 CFR 75, Appendix A

SO2 LB/HR RELATIVE ACCURACY

PLANT: Indiantown Cogeneration
UNIT: PC Boiler
LOAD: High
DATE: 7/16/2014

ANALYZER: TECO
SERIAL # CM07260055

RUN	TIME START	TIME END	REFERENCE METHOD (SO2 lb/hr)	CEM RESPONSE (SO2 lb/hr)	ARITHMATIC DIFFERENCE	DIFFERENCE SQUARED
1	1338	1358	324.79	349.50	-24.715	610.809
2	1410	1430	323.31	351.02	-27.707	767.703
3	1440	1500	412.73	443.15	-30.420	925.368
4	1510	1530	407.19	424.65	-17.456	304.705
5	1540	1600	330.05	350.76	-20.714	429.077
6	1610	1630	297.26	312.87	-15.612	243.738
7	1640	1700	310.54	322.89	-12.352	152.570
8	1721	1741	335.92	355.44	-19.519	381.006
9	1750	1810	336.78	340.85	-4.067	16.542
			AVERAGE	AVERAGE	SUM OF DIFF.	SUM OF THE SQUARES
			342.0631	361.2367	-172.56247	3831.5183

**MEAN DIFFERENCE, d (Eq. A-7)	-18.9810
**STANDARD DEVIATION, Sd (Eq. A-8)	8.0845
**CONFIDENCE COEFFICIENT, |CC| (Eq. A-9)	6.2143
**PERCENT (%) RELATIVE ACCURACY, RA (Eq. A-10)	7.333

**BIAS ADJUSTMENT FACTOR, BAF (Eq. A-12)

** 40 CFR 75, Appendix A

SO2 LB/MMBTU RELATIVE ACCURACY

PLANT: Indiantown Cogeneration
UNIT: PC Boiler
LOAD: High
DATE: 7/16/2014

ANALYZER: TECO
SERIAL # CM07260055

RUN	TIME START	TIME END	REFERENCE METHOD (SO2 lb/mmbtu)	CEM RESPONSE (SO2 lb/mmbtu)	ARITHMATIC DIFFERENCE	DIFFERENCE SQUARED
1	1338	1358	0.108	0.110	-0.002	0.000004
2	1410	1430	0.106	0.111	-0.005	0.000023
3	1440	1500	0.133	0.140	-0.007	0.000042
4	1510	1530	0.131	0.134	-0.003	0.000012
5	1540	1600	0.107	0.110	-0.003	0.000010
6	1610	1630	0.097	0.099	-0.002	0.000003
7	1640	1700	0.100	0.101	-0.001	0.000002
8	1721	1741	0.114	0.112	0.003	0.000006
9	1750	1810	0.108	0.107	0.002	0.000002
			AVERAGE	AVERAGE	SUM OF DIFF.	SUM OF THE SQUARES
			0.1116	0.1137	-0.019	0.000104

**MEAN DIFFERENCE, d (Eq. A-7)	-0.0020
**STANDARD DEVIATION, Sd (Eq. A-8)	0.002831078
**CONFIDENCE COEFFICIENT, |CC| (Eq. A-9)	0.002176155
**PERCENT (%) RELATIVE ACCURACY, RA (Eq. A-10)	3.702
**BIAS ADJUSTMENT FACTOR, BAF (Eq. A-12)	1.000

** 40 CFR 75, Appendix A

PC BOILER

DATE: 7/16/2014
RUN: 1

CORRECTED O2 %	6.78
CORRECTED CO2 %	12.61
CORRECTED CO ppmvd	64.33
CO LB/DSCF	4.677E-06
CO LB/HR	203.95

ANALYZER RESPONSE, SYSTEM BIAS AND SYSTEM DRIFT DATA

RANGE SETTING	CAL GASES	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFFERENCE PPM	% SPAN	ANALYZER PRETEST VALUE	% SPAN	ANALYZER POSTTEST VALUE	% SPAN	% DRIFT	ANALYZER SERIAL #
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	% O2	11.90	11.90	0.00	0.00	11.90	0.00	11.90	0.00	0.00	01420/B425
		22.70	22.50	-0.20	-0.89						
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	% CO2	8.42	8.40	-0.02	-0.12	8.40	0.00	8.40	0.00	0.00	PO3048
		17.10	17.30	0.20	1.16						
		0.00	0.00	0.00	0.0	0.10	0.0	0.30	0.1	0.0	
500	PPM CO	215.00	217	2.00	0.4	217	0.0	218.00	0.2	0.2	48C-71754-369
		497.00	494.00	-3.00	-0.6						

UNCORRECTED RAW DATA

DATE & TIME	O2 %	CO2 %	CO PPM
7/16/2014 13:38	7.15	12.06	33.63
7/16/2014 13:39	6.97	12.29	24.50
7/16/2014 13:40	7.00	12.26	32.88
7/16/2014 13:41	7.11	12.20	24.88
7/16/2014 13:42	7.06	12.27	34.25
7/16/2014 13:43	6.83	12.51	123.63
7/16/2014 13:44	6.71	12.63	182.50
7/16/2014 13:45	6.79	12.54	210.88
7/16/2014 13:46	6.54	12.79	74.00
7/16/2014 13:47	6.74	12.56	97.63
7/16/2014 13:48	6.97	12.34	23.50
7/16/2014 13:49	7.11	12.21	16.88
7/16/2014 13:50	7.03	12.35	12.25
7/16/2014 13:51	7.08	12.30	13.13
7/16/2014 13:52	6.81	12.53	11.75
7/16/2014 13:53	6.89	12.46	19.50
7/16/2014 13:54	6.89	12.49	26.75
7/16/2014 13:55	6.99	12.37	40.38
7/16/2014 13:56	7.10	12.26	28.63
7/16/2014 13:57	6.86	12.54	35.50
7/16/2014 13:58	6.59	12.74	69.50
7/16/2014 14:10	6.72	12.59	41.50
7/16/2014 14:11	6.64	12.69	50.13
7/16/2014 14:12	6.59	12.73	89.13
7/16/2014 14:13	6.67	12.69	102.38
7/16/2014 14:14	6.56	12.78	102.50
7/16/2014 14:15	6.65	12.70	94.13
7/16/2014 14:16	6.85	12.54	72.50
7/16/2014 14:17	6.79	12.58	56.63
7/16/2014 14:18	6.63	12.74	84.75
7/16/2014 14:19	6.70	12.70	98.25
7/16/2014 14:20	6.67	12.69	129.13
7/16/2014 14:21	6.70	12.71	85.38
7/16/2014 14:22	6.79	12.61	83.63
7/16/2014 14:23	6.68	12.73	47.38
7/16/2014 14:24	6.74	12.64	47.25
7/16/2014 14:25	6.81	12.59	62.13
7/16/2014 14:26	6.77	12.64	74.88
7/16/2014 14:27	6.62	12.80	95.63
7/16/2014 14:28	6.64	12.74	142.25
7/16/2014 14:29	6.71	12.70	116.25
7/16/2014 14:30	6.91	12.53	79.75
7/16/2014 14:40	6.69	12.58	100.63
7/16/2014 14:41	6.70	12.62	95.63
7/16/2014 14:42	6.77	12.59	57.75
7/16/2014 14:43	6.63	12.72	80.13
7/16/2014 14:44	6.71	12.67	63.88
7/16/2014 14:45	6.64	12.72	62.63
7/16/2014 14:46	6.61	12.76	69.63
7/16/2014 14:47	6.79	12.63	40.88
7/16/2014 14:48	6.63	12.75	62.13
7/16/2014 14:49	6.81	12.60	40.38
7/16/2014 14:50	6.71	12.71	40.50
7/16/2014 14:51	6.69	12.70	54.00
7/16/2014 14:52	6.53	12.88	52.13
7/16/2014 14:53	6.50	12.89	71.38
7/16/2014 14:54	6.80	12.63	40.88
7/16/2014 14:55	6.73	12.69	26.13
7/16/2014 14:56	6.86	12.54	30.50
7/16/2014 14:57	6.85	12.57	32.25

MEAN ANALYZER VALUES

Avg. % O2	6.78
Avg. % CO2	12.58
Avg. CO ppmvd	65.22

PC BOILER

DATE: 7/16/2014
RUN: 2

CORRECTED O2 %	6.79
CORRECTED CO2 %	12.63
CORRECTED CO ppmvd	105.60
CO LB/DSCF	7.677E-06
CO LB/HR	341.64

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ANALYZER RESPONSE, SYSTEM BIAS AND SYSTEM DRIFT DATA

RANGE SETTING	CAL GASES	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFFERENCE PPM	% SPAN	ANALYZER PRETEST VALUE	% SPAN	ANALYZER POSTTEST VALUE	% SPAN	% DRIFT	ANALYZER SERIAL #
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	% O2	11.90	11.90	0.00	0.00	11.90	0.00	11.90	0.00	0.00	01420/B425
		22.70	22.50	-0.20	-0.89						
		0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.58	0.58	
20	% CO2	8.42	8.40	-0.02	-0.12	8.40	0.00	8.40	0.00	0.00	PO3048
		17.10	17.30	0.20	1.16						
		0.00	0.00	0.00	0.0	0.30	0.1	0.40	0.1	0.0	
500	PPM CO	215.00	217.00	2.00	0.4	218.00	0.2	219.00	0.4	0.2	48C-71754-369
		497.00	494.00	-3.00	-0.6						

UNCORRECTED RAW DATA

DATE & TIME	O2 %	CO2 %	CO PPM
7/16/2014 15:10	6.79	12.63	47.38
7/16/2014 15:11	6.79	12.60	46.75
7/16/2014 15:12	6.83	12.61	45.75
7/16/2014 15:13	6.71	12.73	63.38
7/16/2014 15:14	6.64	12.82	65.13
7/16/2014 15:15	6.61	12.83	89.38
7/16/2014 15:16	6.64	12.80	236.00
7/16/2014 15:17	6.84	12.61	124.75
7/16/2014 15:18	6.76	12.68	117.50
7/16/2014 15:19	6.86	12.56	134.63
7/16/2014 15:20	6.68	12.71	140.50
7/16/2014 15:21	6.73	12.66	151.25
7/16/2014 15:22	6.73	12.68	110.88
7/16/2014 15:23	6.71	12.68	171.88
7/16/2014 15:24	6.71	12.69	151.63
7/16/2014 15:25	6.79	12.61	139.88
7/16/2014 15:26	6.73	12.66	161.50
7/16/2014 15:27	6.77	12.64	306.50
7/16/2014 15:28	6.71	12.71	166.88
7/16/2014 15:29	6.72	12.69	157.38
7/16/2014 15:30	6.77	12.66	209.38
7/16/2014 15:40	6.83	12.38	119.38
7/16/2014 15:41	6.69	12.45	235.38
7/16/2014 15:42	6.88	12.33	128.00
7/16/2014 15:43	6.65	12.54	154.63
7/16/2014 15:44	6.61	12.57	151.00
7/16/2014 15:45	6.76	12.42	185.63
7/16/2014 15:46	6.85	12.34	109.38
7/16/2014 15:47	6.84	12.33	83.38
7/16/2014 15:48	6.83	12.32	83.88
7/16/2014 15:49	6.87	12.26	105.50
7/16/2014 15:50	6.76	12.38	133.63
7/16/2014 15:51	6.68	12.47	88.38
7/16/2014 15:52	6.71	12.41	106.13
7/16/2014 15:53	6.88	12.24	113.63
7/16/2014 15:54	7.03	12.14	82.63
7/16/2014 15:55	6.79	12.38	83.00
7/16/2014 15:56	6.79	12.33	113.00
7/16/2014 15:57	6.86	12.29	94.25
7/16/2014 15:58	6.68	12.46	81.50
7/16/2014 15:59	6.76	12.39	77.63
7/16/2014 16:00	6.87	12.28	81.25
7/16/2014 16:10	6.75	12.42	93.63
7/16/2014 16:11	7.02	12.18	55.13
7/16/2014 16:12	6.94	12.25	34.75
7/16/2014 16:13	6.83	12.38	57.00
7/16/2014 16:14	6.79	12.37	57.25
7/16/2014 16:15	6.92	12.27	61.38
7/16/2014 16:16	7.01	12.19	52.75
7/16/2014 16:17	6.91	12.28	62.88
7/16/2014 16:18	6.96	12.25	66.38
7/16/2014 16:19	6.92	12.29	70.38
7/16/2014 16:20	6.77	12.45	112.50
7/16/2014 16:21	6.69	12.51	114.13
7/16/2014 16:22	6.74	12.49	55.00
7/16/2014 16:23	6.84	12.34	75.00
7/16/2014 16:24	7.02	12.23	46.88
7/16/2014 16:25	6.73	12.50	49.88
7/16/2014 16:26	6.81	12.41	57.25
7/16/2014 16:27	6.83	12.40	78.50

MEAN ANALYZER VALUES

Avg. % O2	6.79
Avg. % CO2	12.47
Avg. CO ppmvd	107.50

PC BOILER

DATE: 7/16/2014
RUN: 3

CORRECTED O2 %	6.97
CORRECTED CO2 %	12.08
CORRECTED CO ppmvd	82.53
CO LB/DSCF	6.000E-06
CO LB/HR	276.38

ANALYZER RESPONSE, SYSTEM BIAS AND SYSTEM DRIFT DATA

RANGE SETTING	CAL GASES	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFFERENCE PPM	% SPAN	ANALYZER PRETEST VALUE	% SPAN	ANALYZER POSTTEST VALUE	% SPAN	% DRIFT	ANALYZER SERIAL #
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	% O2	11.90	11.90	0.00	0.00	11.90	0.00	11.90	0.00	0.00	01420/B425
		22.70	22.50	-0.20	-0.89						
		0.00	0.00	0.00	0.00	0.10	0.58	0.10	0.58	0.00	
20	% CO2	8.42	8.40	-0.02	-0.12	8.40	0.00	8.50	0.58	0.58	PO3048
		17.10	17.30	0.20	1.16						
		0.00	0.00	0.00	0.0	0.40	0.1	0.50	0.1	0.0	
500	PPM CO	215.00	217.00	2.00	0.4	219.00	0.4	220.00	0.6	0.2	48C-71754-369
		497.00	494.00	-3.00	-0.6						

UNCORRECTED RAW DATA

DATE & TIME	O2 %	CO2 %	CO PPM
7/16/2014 16:40	6.93	12.34	163.50
7/16/2014 16:41	6.92	12.32	197.38
7/16/2014 16:42	7.07	12.20	120.00
7/16/2014 16:43	7.25	12.05	115.00
7/16/2014 16:44	6.99	12.20	88.00
7/16/2014 16:45	6.88	12.31	41.00
7/16/2014 16:46	6.96	12.27	53.88
7/16/2014 16:47	6.89	12.29	105.50
7/16/2014 16:48	6.94	12.28	55.63
7/16/2014 16:49	6.89	12.35	51.88
7/16/2014 16:50	6.88	12.33	60.75
7/16/2014 16:51	6.91	12.31	47.38
7/16/2014 16:52	7.01	12.20	58.38
7/16/2014 16:53	6.97	12.26	49.38
7/16/2014 16:54	6.81	12.38	62.38
7/16/2014 16:55	6.83	12.34	103.00
7/16/2014 16:56	7.00	12.20	94.00
7/16/2014 16:57	6.92	12.28	77.88
7/16/2014 16:58	6.97	12.24	47.00
7/16/2014 16:59	7.00	12.20	58.38
7/16/2014 17:00	6.96	12.23	56.63
7/16/2014 17:21	6.48	12.45	217.88
7/16/2014 17:22	6.99	11.96	214.63
7/16/2014 17:23	6.99	11.98	77.38
7/16/2014 17:24	6.89	12.08	109.88
7/16/2014 17:25	6.98	11.99	99.25
7/16/2014 17:26	6.88	12.08	156.50
7/16/2014 17:27	7.34	11.64	83.63
7/16/2014 17:28	7.41	11.63	25.25
7/16/2014 17:29	7.19	11.84	20.25
7/16/2014 17:30	6.74	12.19	103.13
7/16/2014 17:31	6.63	12.31	115.25
7/16/2014 17:32	6.76	12.13	201.38
7/16/2014 17:33	7.17	11.81	78.88
7/16/2014 17:34	6.92	12.05	56.50
7/16/2014 17:35	7.06	11.92	56.63
7/16/2014 17:36	6.98	12.01	36.50
7/16/2014 17:37	6.83	12.12	136.25
7/16/2014 17:38	6.95	12.04	81.50
7/16/2014 17:39	6.97	12.00	47.63
7/16/2014 17:40	6.81	12.14	102.38
7/16/2014 17:41	6.94	12.03	63.38
7/16/2014 17:50	7.03	11.95	31.75
7/16/2014 17:51	7.04	11.94	31.00
7/16/2014 17:52	7.16	11.83	27.13
7/16/2014 17:53	6.94	12.01	30.63
7/16/2014 17:54	6.99	11.98	49.63
7/16/2014 17:55	6.89	12.07	63.25
7/16/2014 17:56	6.87	12.04	122.13
7/16/2014 17:57	6.99	11.98	71.25
7/16/2014 17:58	6.91	12.04	31.38
7/16/2014 17:59	6.97	11.97	47.75
7/16/2014 18:00	6.83	12.16	71.75
7/16/2014 18:01	6.37	12.51	267.00
7/16/2014 18:02	7.14	11.84	131.50
7/16/2014 18:03	7.31	11.68	42.25
7/16/2014 18:04	7.39	11.63	31.50
7/16/2014 18:05	7.16	11.80	44.63
7/16/2014 18:06	7.06	11.90	95.13
7/16/2014 18:07	7.01	11.84	91.50

MEAN ANALYZER VALUES

Avg. % O2	6.97
Avg. % CO2	12.08
Avg. CO ppmvd	84.53

REFERENCE DATA
Visible Emissions

Coastal Air Consulting, Inc.

(386) 451-0169

VISIBLE EMISSION TEST

Method Used (Circle One): Method 9 | 203A | 203B | Report Y-11

Company Name	Indiantown Cogeneration LP
Facility Nar.	Indiantown Cogen
Street Address	13303 Silver Fox Lane
City	Indintown
Zip	34956
Phone No.	(772) 597-6500

Process	PC Boiler	Unit # EU-004	Operating Mode Normal
Control Equipment	Baghouses		Operating Mode Normal

Describe Emission Point	Circular Stack		
Ht of Emis.Point	500 ft.	Ht Rel to Observer	500ft.
Distance to Emis. Pt.	1500 ft.	Direction to Emis. Pt (Degrees)	130°

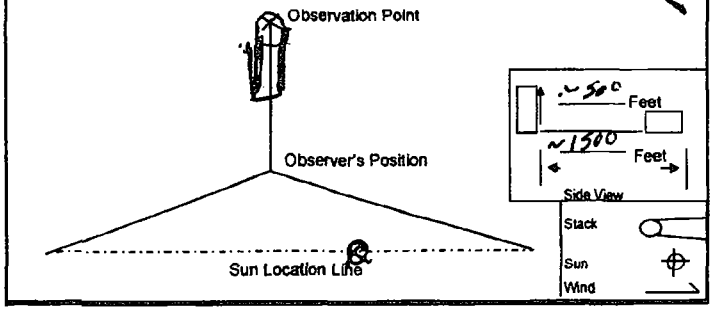
Vertical Angle to Obs.	<18°	Direction to Obs. Pt. (Degrees)	130°
Distance and Direction to Obs. Pt from Emission Pt	SAME		

Describe Emissions	None		
Emission Color	N/A	Water Droplet Plume: Attached ___ Detached ___	None X

Describe Plume Background	Grey Sky		
Background Color	Grey	Sky Conditions	Overcast
Wind Speed	4 MPH	Wind Direction	West
Ambient Temp.	84	Wet Bulb Temp.	% RH 77

Source Layout Sketch

Draw North Arrow ☐ IN ☐ MN



Latitude 27° 2' 18"	Longitude 80° 31' 15"	Declination

Comments

Observation Date 7.17.14	Start Time 14:20	Stop Time 15:20

Min / Sec	0	15	30	45	Min / Sec	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above 0 were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min 0 Max 0	Average Opacity for 2nd Highest 6 Min 0
Observers Name (Print)	Quin Treve
Observers Signature	Date 7.17.14
Organization	Coastal Air Consulting, Inc.
Certified By	Whitlow Enterprises Date 7.11.14

Coastal Air Consulting, Inc.

(386) 451-0169

VISIBLE EMISSION TEST

Method Used (Circle One): Method 9 | 203A | 203B | Report V-6

Company Name	Indiantown Cogeneration LP
Facility Nar.	Indiantown Cogen
Street Address	13303 Silver Fox Lane
City	Indintown
Zip	34956
Phone No.	(772) 597-6500

Process	Coal Pulverizer	Unit # EU-004	Operating Mode Normal
Control Equipment	Baghouse		Operating Mode Normal

Describe Emission Point	9th Floor UW1 Port		
Ht of Emis.Point	130'	Ht Rel to Observer	130'
Distance to Emis. Pt.	1400'	Direction to Emis. Pt (Degrees)	30°

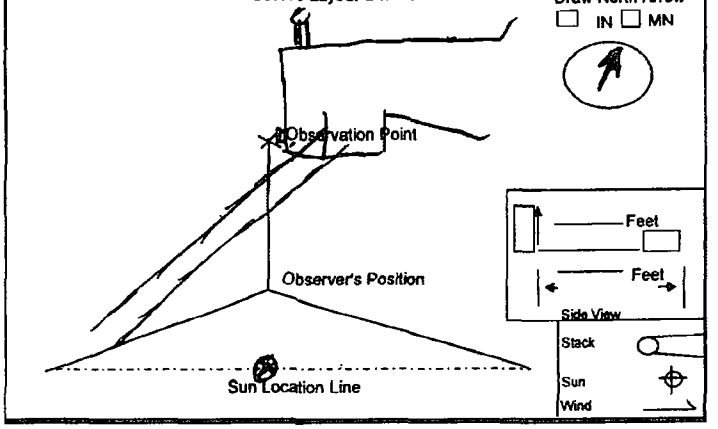
Vertical Angle to Obs.	< 18°	Direction to Obs. Pt. (Degrees)	30°
Distance and Direction to Obs. Pt from Emission Pt	Same		

Describe Emissions	NONE		
Emission Color	N/A	Water Droplet Plume Attached / Detached	None X

Describe Plume Background	Buildings		
Background Color	Blue	Sky Conditions	Scattered/overcast
Wind Speed	4 MPH	Wind Direction	SE
Ambient Temp.	74	Wet Bulb Temp.	% RH 95

Source Layout Sketch

Draw North Arrow ☐ IN ☐ MN



Latitude 27° 2' 19"	Longitude 80° 31' 2"	Declination

Comments

Observation Date 7-16-14 | Start Time 1306 | Stop Time 1406

Min / Sec	0	15	30	45	Min / Sec	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above were	Average Opacity for Highest 6 Min Period
Range of opacity Readings Min Max	Average Opacity for 2nd Highest 6 Min
Observers Name (Print) Quin Revel	
Observers Signature	Date 7-16-14
Organization Coastal Air Consulting, Inc.	
Certified By Whitlow Enterprises	Date 7-11-14

Coastal Air Consulting, Inc.

(386) 451-0169

V-3

VISIBLE EMISSION TEST

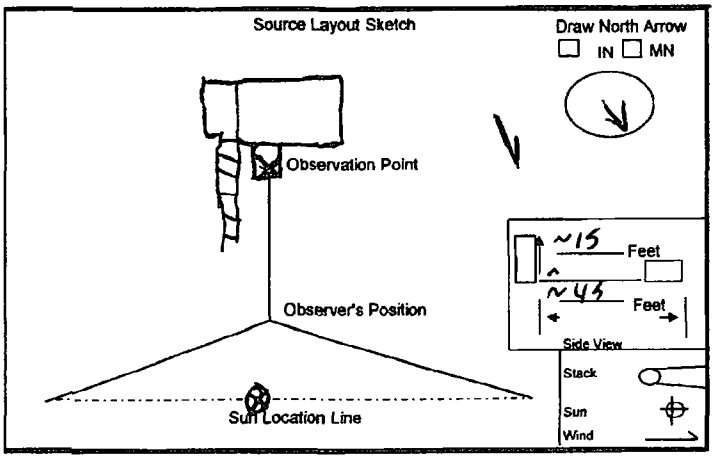
Method 9 (Circle One) — 203A — 203B — Report V-3

Company Name	Indiantown Cogeneration LP
Facility Nar.	Indiantown Cogen
Street Address	13303 Silver Fox Lane
City	Indintown
Zip	34956
Phone No.	(772) 597-6500

Process	~~Boiler~~ Cat Crusher	Unit # EU-004	Operating Mode Normal
Control Equipment	Baghouse		Operating Mode Normal

Describe Emission Point	Vertical Square Stack		
Ht of Emis.Point	15ft.	Ht Rel to Observer	15ft.
Distance to Emis. Pt.	45ft.	Direction to Emis. Pt (Degrees)	248°
Verticle Angle to Obs.	< 18°	Direction to Obs. Pt. (Degrees)	248°
Distance and Direction to Obs. Pt from Emission Pt	45ft.		
Describe Emissions	NONE		
Emission Color	N/A	Water Droplet Plume Attached ___ Detached ___ None X	
Describe Plume Background	Wall of Buildings		
Background Color	Grey/Blue	Sky Conditions	Scattered
Wind Speed	~~WSW~~ 8 MPH	Wind Direction	VSW
Ambient Temp.	85°	Wet Bulb Temp.	% RH 30%

Source Layout Sketch — Draw North Arrow ☐ IN ☐ MN



Latitude 27° 2' 21" N	Longitude 80° 30' 59" W	Declination

Comments

Observation Date: 7-16-14 — Start Time: 0:45 — Stop Time: 11:45

Min / Sec	0	15	30	45	Min / Sec	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	38	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above 0 were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min 0 Max 0	Average Opacity for 2nd Highest 6 Min 0
Observers Name (Print)	Quin Revels
Observers Signature	Date 7/16/14
Organization	Coastal Air Consulting, Inc.
Certified By	Whitlow Enterprises — Date 7/11/14

Coastal Air Consulting, Inc.

(386) 451-0169

VISIBLE EMISSION TEST

Method Used (Circle One) Method 9 | 203A | 203B | Report V-5

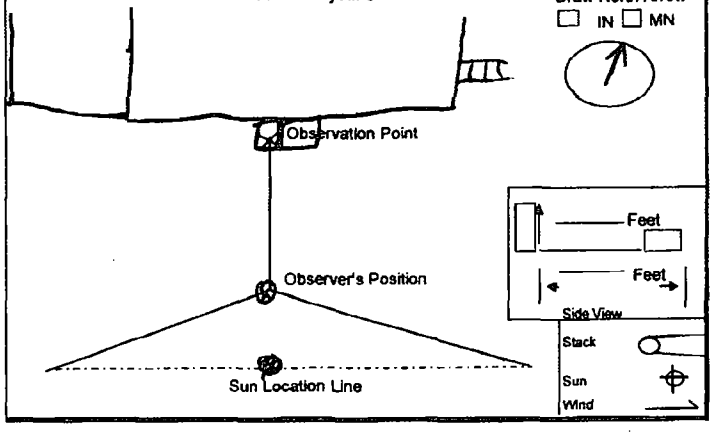
Company Name	Indiantown Cogeneration LP
Facility Nar.	Indiantown Cogen
Street Address	13303 Silver Fox Lane
City	Indintown
Zip	34956
Phone No.	(772) 597-6500

Process	Coal Transfer	Unit # EU-004	Operating Mode Normal
Control Equipment	Baghouse		Operating Mode Normal

Describe Emission Point	Vertical Square Stack		
Ht of Emis.Point	15'	Ht Rel to Observer	15'
Distance to Emis. Pt.	50'	Direction to Emis. Pt (Degrees)	280°
Vertical Angle to Obs.	<18°	Direction to Obs. Pt. (Degrees)	280°
Distance and Direction to Obs. Pt from Emission Pt	Same		
Describe Emissions	NONE		
Emission Color	N/A	Water Droplet Plume Attached Detached Non	X
Describe Plume Background	Grey Building		
Background Color	Grey	Sky Conditions	Scattered/Overcast
Wind Speed	4 MPH	Wind Direction	SE
Ambient Temp.	74°	Wet Bulb Temp.	% RH 95

Source Layout Sketch

Draw North Arrow ☐ IN ☐ MN



Latitude 27°2'19"	Longitude 80°31'2"	Declination

Comments

Observation Date 7.16.14	Start Time 1305	Stop Time 1405

Min / Sec	0	15	30	45	Min / Sec	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above 0 were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min 0 Max 0	Average Opacity for 2nd Highest 6 Min 0
Observers Name (Print) Quin Revel	
Observers Signature	Date 7.16.14
Organization Coastal Air Consulting, Inc.	
Certified By Whitlow Enterprises	Date 7.11.14

Coastal Air Consulting, Inc.

(386) 451-0169

VISIBLE EMISSION TEST

Method Used (Circle One): Method 9 | 203A | 203B | Report V-1

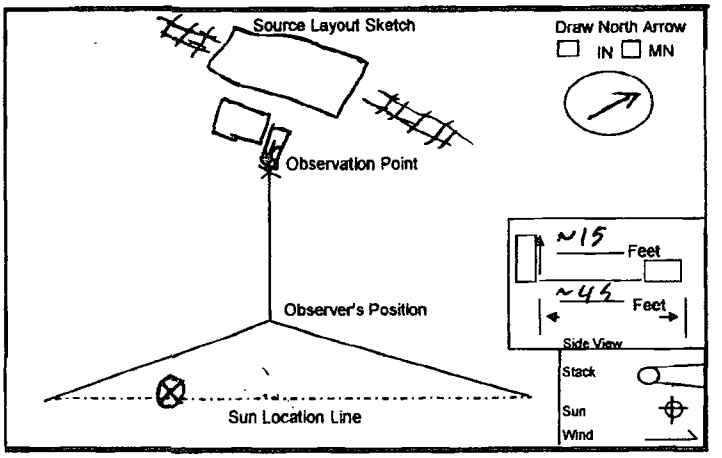
Company Name	Indiantown Cogeneration LP
Facility Nar.	Indiantown Cogen
Street Address	13303 Silver Fox Lane
City	Indintown
Zip	34956
Phone No.	(772) 597-6500

Process	Power	Unit # EU 004	Operating Mode: Continuous
Control Equipment	Baghouse		Operating Mode: Normal

Describe Emission Point	Coal Unloading Stack - Square		
Ht of Emis.Point	15'	Ht Rel to Observer	15'
Distance to Emis. Pt.	45'	Direction to Emis. Pt (Degrees)	~~205°~~ 235°
Verticle Angle to Obs.	~18°	Direction to Obs. Pt. (Degrees)	~~205°~~ 235°
Distance and Direction to Obs. Pt from Emission Pt	Same		

Describe Emissions	NONE		
Emission Color	N/A	Water Droplet Plume: Attached ___ Detached ___	None X

Describe Plume Background	Wall of Building		
Background Color	Blue	Sky Conditions	Overcast
Wind Speed	5 mph	Wind Direction	SW
Ambient Temp.	82°	Wet Bulb Temp.	% RH 92



Latitude 27° 2' 18"	Longitude 80° 31' 13"	Declination

Comments

Observation Date: 7-15-14 | Start Time: 15:54 | Stop Time: 16:54

Min / Sec	0	15	30	45	Min / Sec	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above All were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min 0 Max 0	Average Opacity for 2nd Highest 6 Min 0
Observers Name (Prtn)	Quin Revels
Observers Signature	Date 7/15/14
Organization	Coastal Air Consulting, Inc.
Certified By	Whitlow Enterprises Date 7/11/14

Coastal Air Consulting, Inc.

(386) 451-0169

VISIBLE EMISSION TEST

Method Used (Circle One) Method 9 — 203A — 203B — Report V-10

Company Name	Indiantown Cogeneration LP
Facility Nar.	Indiantown Cogen
Street Address	13303 Silver Fox Lane
City	Indintown
Zip	34956
Phone No.	(772) 597-6500

Process	Fly Ash	Unit # EU-004	Operating Mode Normal,
Control Equipment	Dust Collector		Operating Mode Normal

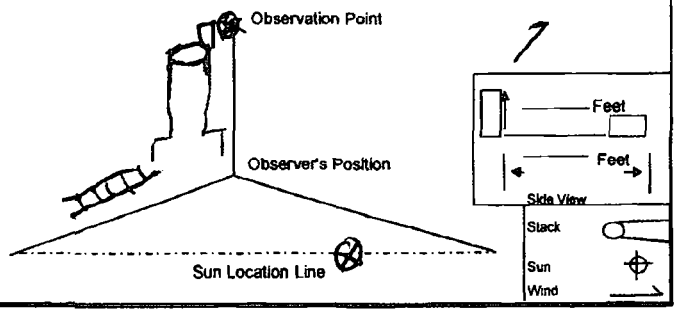
Describe Emission Point	Square Stack		
Ht of Emis.Point	136ft.	Ht Rel to Observer	130 ft.
Distance to Emis. Pt.	400ft.	Direction to Emis. Pt (Degrees)	50°

Verticle Angle to Obs.	<18°	Direction to Obs. Pt. (Degrees)	50°
Distance and Direction to Obs. Pt from Emission Pt	Same		

Describe Emissions	None		
Emission Color	N/A	Water Droplet Plume Attached ___ Detached ___	None X

Describe Plume Background	Blue Sky			
Background Color	Blue	Sky Conditions	Scattered	
Wind Speed	15-21 MPH	Wind Direction	WSW	
Ambient Temp.	80	Wet Bulb Temp.		% RH 100

Source Layout Sketch — Draw North Arrow ☐ IN ☐ MN



Latitude 27°2'27"	Longitude 80°30'52"	Declination

Comments

Observation Date	7.17.14	Start Time	1231	Stop Time	1331

Min / Sec	0	15	30	45	Min / Sec	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above 0 were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min 0 Max 0	Average Opacity for 2nd Highest 6 Min 0
Observers Name (Print)	Quin Reed
Observers Signature	Date 7.17.14
Organization	Coastal Air Consulting, Inc.
Certified By	Whitlow Enterprises — Date 7.11.14

Arlington Environmental Services, Inc.

Post Office Box 657 Okeechobee, Florida 34973
605 Park Street, Suite 209, Okeechobee, Florida 343974
(863) 467-0555

VISIBLE EMISSION TEST

Method Used (Circle One): (Method 9) 203A 203B Report V. 1

Company Name	Indiantown Cogeneration, LP
Facility Name	Indiantown Plant — AIRS 0850102
Street Address	P.O. Box 1799
City	Indiantown — Zip 34956
Phone No.	772-697-6500

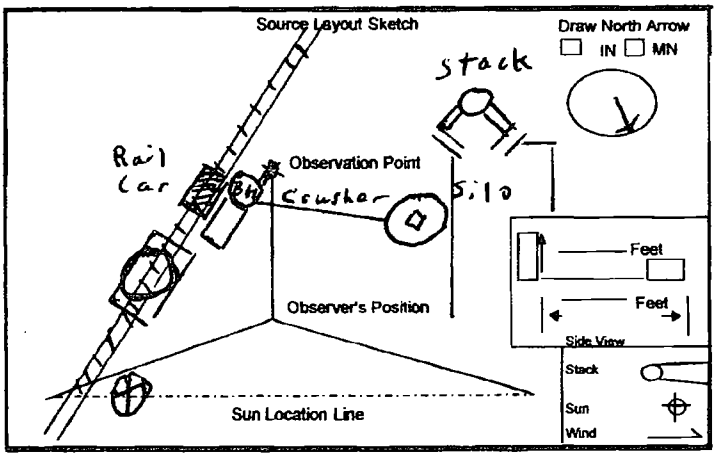
Process	Unit #	Operating Mode
Power	Fu-006	Normal
Control Equipment		Operating Mode
bag Collector		B & P

Describe Emission Point	DC outlet Pipe		
Ht of Emis.Point	10'	Ht Rel to Observer	10'
Distance to Emis. Pt.	30'	Direction to Emis. Pt (Degrees)	206°
Vertical Angle to Obs.	18°	Direction to Obs. Pt. (Degrees)	206°
Distance and Direction to Obs. Pt from Emission Pt	Same		

Describe Emissions	None
Emission Color	NA
Water Droplet Plume	Attached ___ Detached ___ None X

Describe Plume Background	Sky			
Background Color	blue	Sky Conditions	Clear	
Wind Speed	3-5 mph	Wind Direction	SE	
Ambient Temp.	81°F	Wet Bulb Temp.	77°F	% RH 89

Source Layout Sketch — Draw North Arrow ☐ IN ☐ MN



Latitude 27°02' 12"	Longitude 80°29' 15"	Declination -6.35°

Comments: Lime unloading From Rail Car.

Observation Date	Start Time	Stop Time
7-18-14	10:00	11:00

Sec / Min	0	15	30	45	Min	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above 0 were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min Max 0	Average Opacity for 2nd Highest 6 Min
Observers Name (Print)	William Arlington
Observers Signature	Date 7/18/14
Organization	Arlington Environmental Services, Inc.
Certified By	Date 7/11/14
	Whitlow Enterprises

Arlington Environmental Services, Inc.

Post Office Box 657 Okeechobee, Florida 34973
605 Park Street, Suite 209, Okeechobee, Florida 343974
(863) 467-0555

VISIBLE EMISSION TEST

Method Used (Circle One): Method 9 | 203A | 203B | Report — V-2

Company Name	Indiantown Cogeneration, LP
Facility Name	Indiantown Plant — AIRS 0850102
Street Address	P.O. Box 1799
City	Indiantown — Zip 34956
Phone No.	772-697-6500

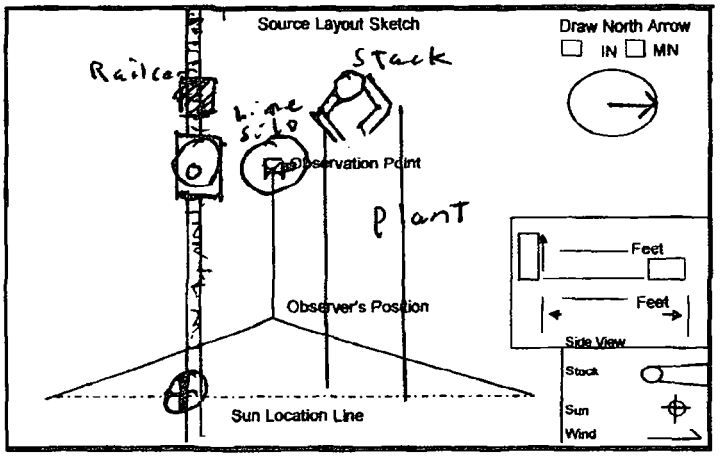
Process	Power	Unit # EU-006	Operating Mode Normal
Control Equipment	Baghouse		Operating Mode Normal

Describe Emission Point	Lime Silo DC		
Ht of Emis.Point	110'	Ht Rel to Observer	110'
Distance to Emis. Pt.	275'	Direction to Emis. Pt (Degrees)	262°

Vertical Angle to Obs.	23°	Direction to Obs. Pt. (Degrees)	262°
Distance and Direction to Obs. Pt from Emission Pt	Same		

Describe Emissions	None		
Emission Color	NA	Water Droplet Plume: Attached ___ Detached ___	None ✓

Describe Plume Background	Sky		
Background Color	blue	Sky Conditions	Scattered
Wind Speed	3.5 mph	Wind Direction	North
Ambient Temp.	84° F	Wet Bulb Temp. 75° F	% RH 74



Latitude 27°02'12"	Longitude 80°29'15"	Declination -6.35°

Comments: Lime Transfer To Silo

Observation Date: 7-18-14 | Start Time: 11:03 | Stop Time: 12:03

Sec / Min	0	15	30	45	Sec / Min	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Number of Readings Above 0 were 0	Average Opacity for Highest 6 Min Period 0
Range of opacity Readings Min 0 Max	Average Opacity for 2nd Highest 6 Min
Observers Name (Print): William Arlington	
Observers Signature: W. Arlington	Date 7/18/14
Organization: Arlington Environmental Services, Inc.	
Certified By: Whitlow Enterprises	Date 7/11/14

Have Not Received Quin Revels
VE Certification as of this
Report Prep.

Quin's VE Certification was July 11, 2014

Recertified
July 11, 2014
Cert Not received
Yet

Whitlow Enterprises, LLC
www.smokeschool.net
Certifies that
William Arlington of Arlington Environmental Services
Has passed the certification test required by EPA Method 9
40 CFR 60 Appendix A and is qualified as a visible emissions evaluator.
Certification Date: January 10,2014 Location: Lakeland,FL

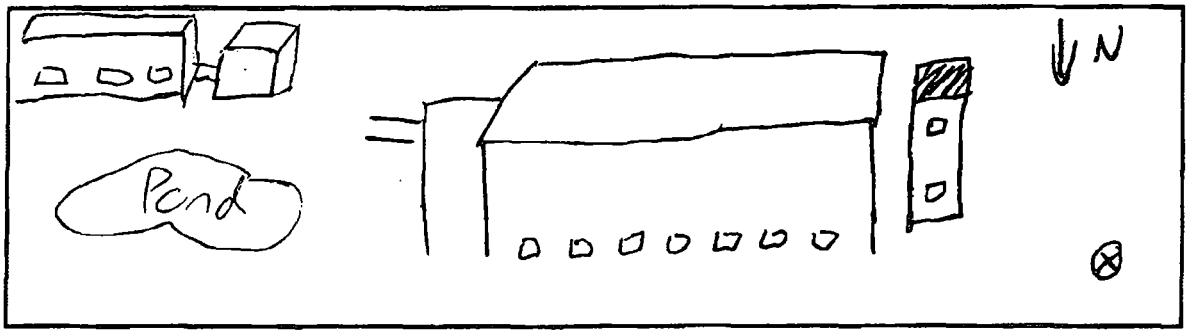
George Whitlow
President

LFL011014-17

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION V-7

Company ICLP	Observer Quin Revel
Location Indiantown	Affiliation Coast Air Consulting
Company Rep. Nick Laryne	Date 7·16·14
Sky Conditions Overcast	Wind Direction ~~ESE~~ N
Precipitation ~~Rain~~ Light	Wind Speed ~~10 MPH~~ 1 MPH
Industry Power	Process Unit Coal Storage/Transfer EU-004

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.



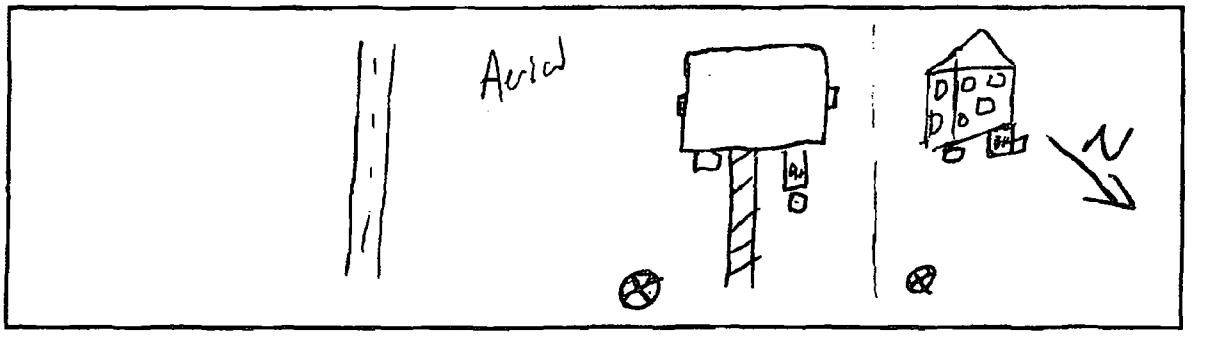
OBSERVATIONS	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation	1408 ~~1408~~	20:00	00:00
	1428 ~~1428~~		
	1433 ~~1437~~	20:00	00:00
	1453 ~~1457~~		
	1458 ~~1502~~	20:00	00:00
	1518 ~~1522~~		
End Observation			

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

V-4

Company ICLP	Observer Quin Reed
Location Indiantown Plant	Affiliation Coastal Air Consulting
Company Rep. Nick Laryea	Date 7.16.14
Sky Conditions Scattered	Wind Direction SW
Precipitation None	Wind Speed 8MPH
Industry Power	Process Unit Coal Crusher Building EU-004

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.



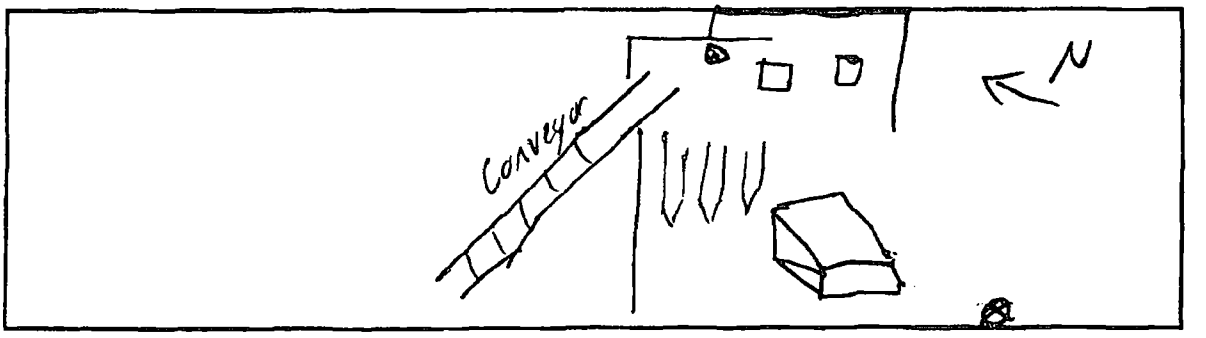
OBSERVATIONS	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation	11:50	20:00	00:00
	12:10		
	12:15	20:00	0:00
	12:35		
	12:40	20:00	0:00
	13:00		
End Observation			

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

V-8

Company: ICLP	Observer: Quin Reed
Location: Indiantown Plant	Affiliation: Coastal Air Consulting
Company Rep.: Nick Laryae	Date: 7-17-14
Sky Conditions: Overcast	Wind Direction: VSW
Precipitation: NONE	Wind Speed: 15 MPH
Industry: Power	Process Unit: Pulverizer - EU-004

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.

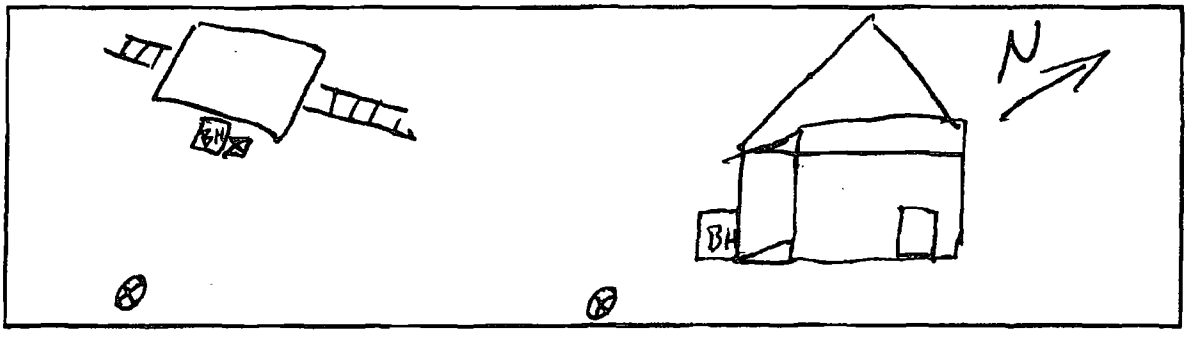


OBSERVATIONS	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation	11:20		
	11:40	20:00	00:00
	11:45	20:00	00:00
	12:05		
	12:10	20:00	00:00
	12:30		
End Observation			

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION V-2

Company ICLP	Observer Quin Revel
Location Industown Plant	Affiliation Coastal Air Consulting
Company Rep. Nick Laryea	Date 7.15.14
Sky Conditions Overcast	Wind Direction SW
Precipitation Light	Wind Speed 5 MPH
Industry Power	Process Unit Coal Unloading EU-004

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.



OBSERVATIONS	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation	17:00	20:00	00:00
	17:20		
	17:25	20:00	00:00
	17:45		
	17:50	20:00	00:00
	18:10		
End Observation			

APPENDIX 2
PLANT DATA

PM

CeDAR 1-Hour Data

Indiantown CoGen

Data for 7/17/2014 12 PM thru 7/17/2014 5 PM

Timestamp	(Main Boiler) Total Heat Input Rate 1-Hr mmBtu/hr
7/17/14 12 PM	2943.9
7/17/14 1 PM	2880.1
7/17/14 2 PM	2837.6
7/17/14 3 PM	2841.3
7/17/14 4 PM	2832.7
7/17/14 5 PM	2825.3
Average (all)	2860.2
Total (all)	--
Minimum (all)	2825.3
Maximum (all)	2943.9
Average (valid values only)	2860.2
Total (valid values only)	--
Count (valid values only)	6

NOx, SO_2 & CO

CeDAR 1-Hour Data

Indiantown CoGen

Data for 7/16/2014 1 PM thru 7/16/2014 6 PM

Timestamp	(Main Boiler) Total Heat Input Rate 1-Hr mmBtu/hr
7/16/14 1 PM	2941.8
7/16/14 2 PM	2868.6
7/16/14 3 PM	2876.1
7/16/14 4 PM	2913.2
7/16/14 5 PM	2925.0
7/16/14 6 PM	2910.7
Average (all)	2905.9
Total (all)	–
Minimum (all)	2868.6
Maximum (all)	2941.8
Average (valid values only)	2905.9
Total (valid values only)	–
Count (valid values only)	6

APPENDIX 3
QUALITY ASSURANCE

SAMPLE NOZZLE CALIBRATION

Reference: EPA Method 5

Procedure: Measure the inner diameter of the sampling nozzle to the nearest 0.001 inches. Repeat until three measurements are made at different points on the nozzle diameter.

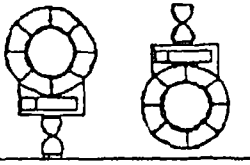
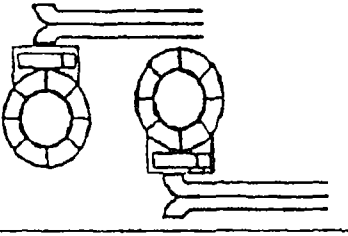
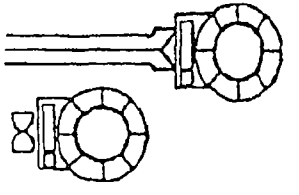
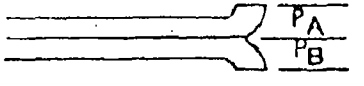
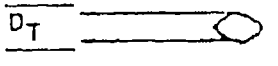
Tolerance: Range not exceed 0.004 inches.

Date: 7-17-14

By: SC Webb

Nozzle Number	1st	2nd	3rd	Average
T2	0.211	0.211	0.211	0.211

TYPE "S" PITOT TUBE CALIBRATION

PARAMETER	SPECIFICATION	EXAMPLE	MEASUREMENT INSTRUMENT
IMPACT/ a1	(< 10 DEG)		DEGREE INDICATING LEVEL
STATIC/ a2	(< 10 DEG)		
STATIC/ B1	(< 5 DEG)		DEGREE INDICATING LEVEL
IMPACT/ B2	(< 5 DEG)		
γ	DEGREES		DEGREE INDICATING LEVEL
θ	DEGREES		
P_A	INCHES		RULER
P_B	INCHES		
$P_A + P_B = A$	INCHES		
D_T	INCHES		MICROMETER

$Z = A \sin \gamma$ (LIMIT < 0.125 INCHES) $W = A \sin \theta$ (LIMIT < 0.03125 INCHES)

PITOT #	a1	a2	B1	B2	γ	θ	PA	PB	A	DT	Z	W	DAMAGE ?
Flow	3	4	2	2	0	0	0.4926	0.4926	0.9852	0.3740	0	0	None
CAC 9	4	4	2	2	0	0	0.4855	0.4855	0.9710	0.3770	0	0	None

CALIBRATED BY: SCW DATE: 7-13-14

BY: RRR 3-93
FILE: PITOT-5

THERMOCOUPLE POSTTEST CALIBRATION CHECK

Standard: National Bureau of Standards Thermocouple

Reference: Q.A. sec 3.1.2

Procedure: Test thermocouple and NBS thermocouple are wrapped in a heating mat. The temperature is controlled by the current flow into the mat, and is stabilized at a point within 10% of the average stack temperature during the test.

Tolerance: +/- 1.5% of actual absolute temperature

Test site: ICLP	Check date: 7/19/14
Test date: 7/16-17/14	Check by: S. C. Webb
Avg. stack temp. 190 F	

T/C #	LENGTH ft	REFERENCE TEMP. F	MEASURED TEMP. F	DIFFERENCE %
9	9	220	221	0.15
Flow	12	220	219	-0.15

FILE:PTCALCH.xls

APEX INSTRUMENTS METHOD 5 POST-TEST CONSOLE CALIBRATION
USING CALIBRATED CRITICAL ORIFICES
3-POINT ENGLISH UNITS

Meter Console Information	
Console Model Number	CAC 2
Console Serial Number	
DGM Model Number	
DGM Serial Number	

Calibration Conditions			
Date	Time	19-Jul-14	1:00 PM
Barometric Pressure		30.0	in Hg
Theoretical Critical Vacuum[1]		14.2	in Hg
Calibration Technician			

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K_1	17.647	°R/in Hg

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, $(ft^{3}\cdot{}^{\circ}R^{1/2})/(in.Hg\cdot min)$.

Calibration Data

Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(Θ)	(P_m)	(V_{mi})	(V_{mf})	(t_{mi})	(t_{mf})		K'	(t_{amb})	(t_{amb})	
min	in H_2O	cubic feet	cubic feet	°F	°F		see above2	°F	°F	in Hg
10.0	1.9	619.600	627.518	92	94	63	0.6000	95	95	16
10.0	1.9	627.518	635.450	94	97	63	0.6000	95	96	16
10.0	1.9	635.450	643.392	97	98	63	0.6000	96	96	16

Results

Standardized Data				Dry Gas Meter				
				Calibration Factor		Flowrate	ΔH@	
Dry Gas Meter		Critical Orifice		Value	Variation	Std & Corr	0.75 SCFM	Variation
($V_{m(std)}$)	($Q_{m(std)}$)	($Vcr_{(std)}$)	($Q_{cr(std)}$)	(Y)	(ΔY)	($Q_{m(std)(corr)}$)	(ΔH@)	(ΔΔH@)
cubic feet	cfm	cubic feet	cfm			cfm	in H2O	
7.618	0.762	7.643	0.764	1.003	-0.002	0.764	1.770	0.006
7.597	0.760	7.640	0.764	1.006	0.000	0.764	1.763	-0.001
7.579	0.758	7.636	0.764	1.007	0.002	0.764	1.759	-0.005
Pretest Gamma		% Deviation	Enter Data	1.005	Y Average		1.764	ΔH@ Average

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

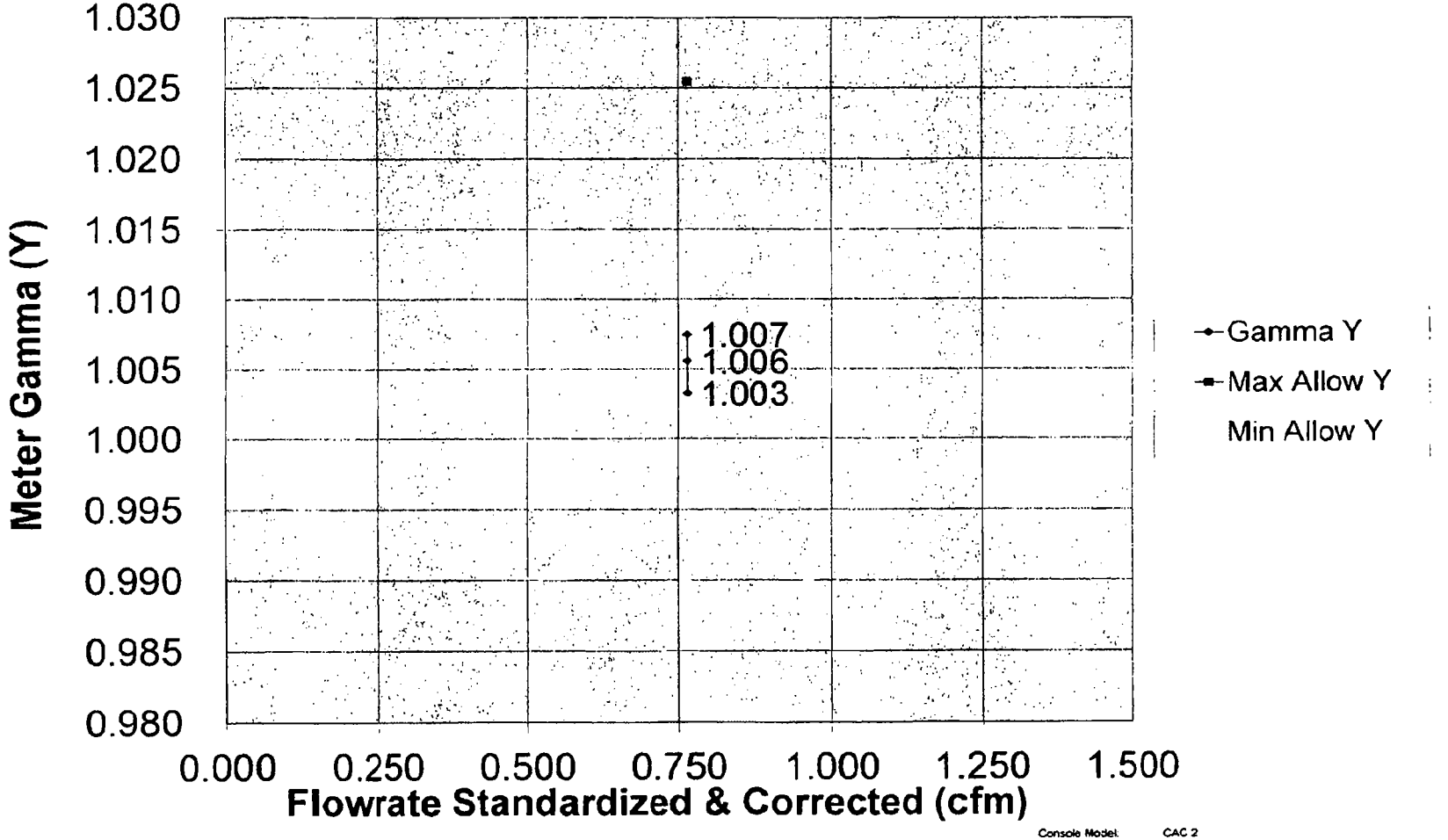
I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature Stephen C. Weld Date 7-19-14

Calibration Date: 4-19-2013

Calibration Technician:

Meter Gamma vs Flowrate



Console Serial:

Console Model: CAC 2

APEX INSTRUMENTS METHOD 5 PRE-TEST CONSOLE CALIBRATION
USING CALIBRATED CRITICAL ORIFICES
5-POINT ENGLISH UNITS

Meter Console Information	
Console Model Number	CAC 2
Console Serial Number	
DGM Model Number	
DGM Serial Number	

Calibration Conditions			
Date	Time	21-Oct-13	22:00
Barometric Pressure		30.1	in Hg
Theoretical Critical Vacuum[1]		14.2	in Hg
Calibration Technician		SCW	

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K_1	17.647	oR/in Hg

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, $(ft^3 \cdot {}^oR^{1/2})/(in.Hg \cdot min)$.

Calibration Data

Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(Θ)	(P_m)	(V_{mi})	(V_{mf})	(t_{mi})	(t_{mf})		K'	(t_{amb})	(t_{amb})	
min	in H_2O	cubic feet	cubic feet	°F	°F		see above2	°F	°F	in Hg
16.0	0.3	556.000	561.361	92	92	40	0.2430	85	85	16
10.0	0.6	563.700	568.490	88	89	48	0.3570	85	85	16
8.0	1.1	570.131	575.154	89	90	55	0.4710	85	86	16
7.0	1.8	575.800	581.427	90	91	63	0.6000	86	86	16
5.0	3.5	582.619	588.280	91	92	73	0.8410	86	86	16

Results

Standardized Data				Dry Gas Meter				
				Calibration Factor		Flowrate	ΔH @	
Dry Gas Meter		Critical Orifice		Value	Variation	Std & Corr	0.75 SCFM	Variation
($V_{m(std)}$)	($Q_{m(std)}$)	($Vcr_{(std)}$)	($Q_{cr(std)}$)	(Y)	(ΔY)	($Q_{m(std)(corr)}$)	(ΔH@)	(ΔΔH@)
cubic feet	cfm	cubic feet	cfm			cfm	in H2O	
5.166	0.323	5.016	0.314	0.971	-0.016	0.314	1.602	-0.013
4.649	0.465	4.606	0.461	0.991	0.004	0.461	1.547	-0.068
4.872	0.609	4.859	0.607	0.997	0.010	0.607	1.632	0.017
5.457	0.780	5.414	0.773	0.992	0.005	0.773	1.650	0.035
5.503	1.101	5.420	1.084	0.985	-0.002	1.084	1.644	0.029
				0.987	Y Average		1.615	ΔH@ Average

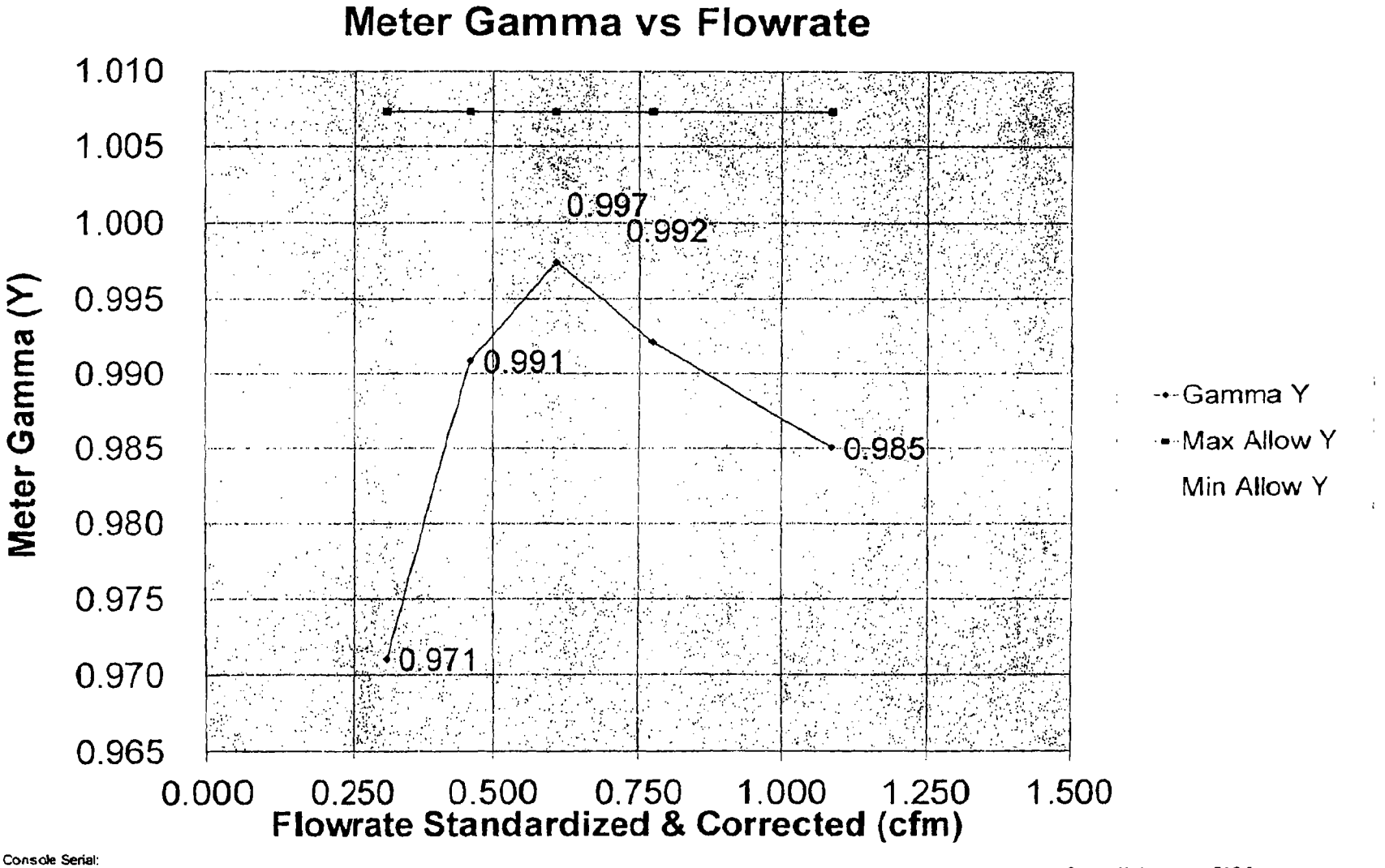
Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature S. Stephen C. Welch Date 10-21-13

Calibration Date: 5-10-2012

Calibration Technician: SCW

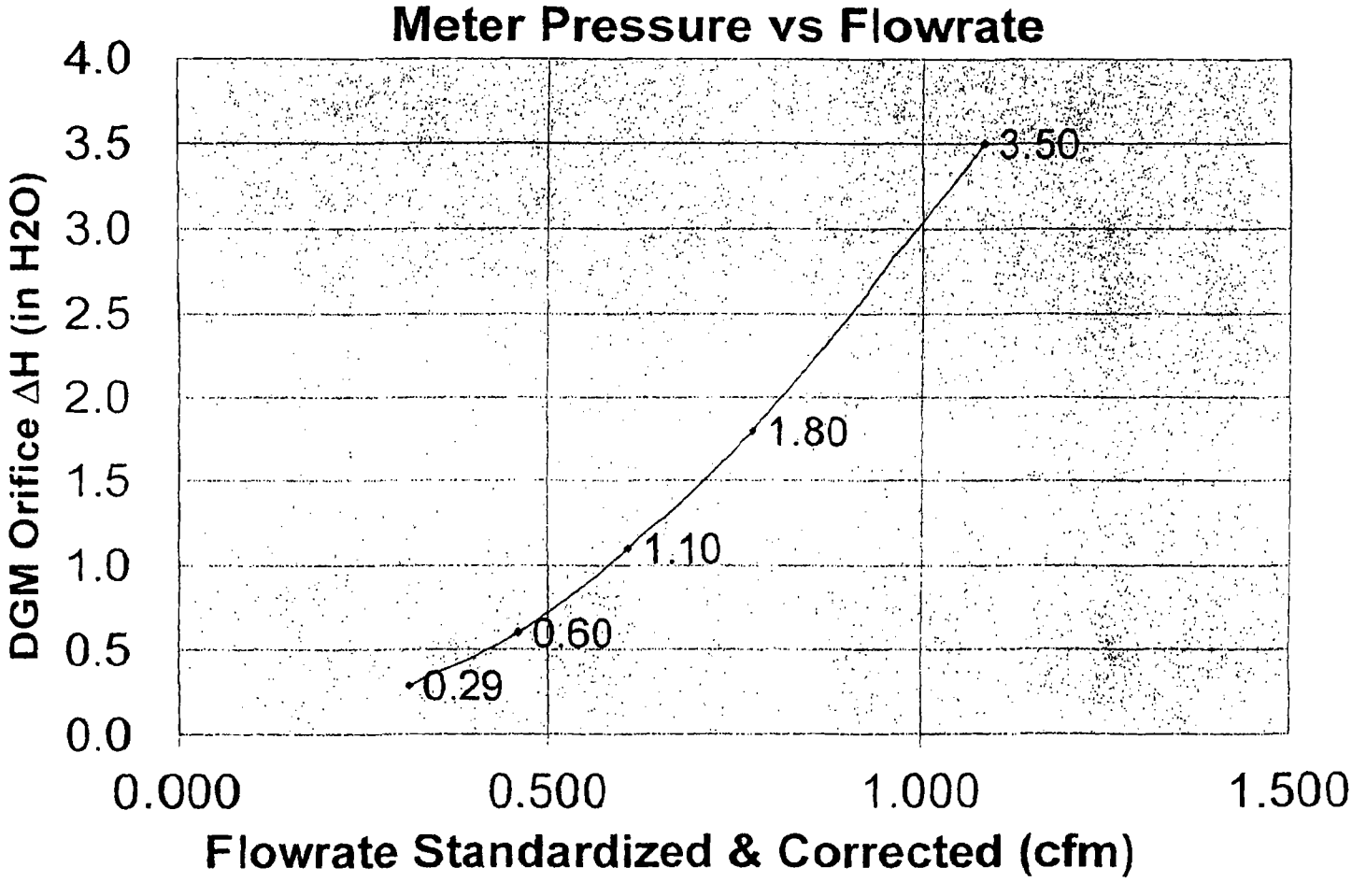


Console Serial:

Console Model: CAC 2

Calibration Date: 5-10-2012

Calibration Technician: SCW



Console Serial:

Console Model: CAC 2

DRY GAS METER
THERMOCOUPLE CALIBRATION DATA

Frequency: Annual (two point) calibration.

Standard: ASTM Hg in glass thermometer, NBS ice point reference chamber, and potentiometer.

Reference: EPA Method 5, Section 2.1.8

Procedure: 1. Place ASTM thermometer and dry gas meter thermocouples (inlet and outlet) in hot water bath where the temperature is maintained between 100 F and 125 F. When the temperature has stabilized the thermocouple and ASTM thermometer are compared.

2. Remove ASTM thermometer and thermocouples from the warm bath, dry thoroughly, and place in a room with constant temperature and humidity. Allow a period of stabilization and record the readings.

Tolerance: +/- 5.4 F

Therm ID No.	Location	Reference Temp. (F) 1	Reference Temp. (F) 2	Observed Temp. (F) 1	Observed Temp. (F) 2	Difference (F) 1	Difference (F) 2
1 MB	Meter Box No. CAC1	113.0	70.0	113.0	70.0	0.0	0.0
2 MB	Meter Box No. CAC1	113.0	70.0	113.0	70.0	0.0	0.0
1 MB	Meter Box No. CAC2	113.0	70.0	113.0	70.0	0.0	0.0
2 MB	Meter Box No. CAC2	113.0	70.0	113.0	70.0	0.0	0.0
1 MB	Meter Box No. CAC3	113.0	70.0	113.0	69.0	0.0	1.0
2 MB	Meter Box No. CAC3	113.0	70.0	113.0	70.0	0.0	0.0

CALIBRATED BY: S. Webb
DATE: 01/3/14
DUE: 01/3/15
Signature: Stephen C. Webb

SAMPLE HEAD HOOK-UP THERMOCOUPLE CALIBRATION PROCEDURES

FREQUENCY: Quarterly (two point calibration)

1. Place ASTM thermometer and sample head hook-up thermocouple in ice bath, allow time for both to equilibrate. Compare and record readings after they have stabilized.

2. Remove both the ASTM thermometer and sample head hook-up thermocouple. Dry off thoroughly and place in a room with constant temperature and humidity. Allow a period of stabilization and record readings.

Acceptance Standard: The test thermocouple (sample head hook up) shall be acceptable if both temperatures are within + / - 2 F of the ASTM standard thermometer.

Note: If the thermocouple is not within the tolerances, discard and calibrate one which will be satisfactory.

Thermo. I.D. No.		Location	Reference Temp. (F) 1	2	Observed Temp. (F) 1	2	Difference Temp. (F) 1	2
A		SHH-A	32.0	72.0	32.0	72.0	0.0	0.0
B		SHH-B	32.0	72.0	32.0	72.0	0.0	0.0
C		SHH-C	32.0	72.0	33.0	71.0	1.0	-1.0
							0.0	0.0
							0.0	0.0
							0.0	0.0

Calibrated by: S. C. Webb
Date: 1/3/14
Due: 1/3/15
Signature: Stephen C. Webb

FILE:SHHTHCAL.XLS

THERMOCOUPLE CALIBRATION DATA

STANDARD: National Bureau of Standards Thermocouple

REFERENCE: EPA Method 2.

FREQUENCY: Annualy

PROCEDURE: Thermocouple and NBS thermocouple are inserted into a thermostatically controlled oil bath. Temperatures are stabilized at approximately 230 & 340 F. Potentiometer and thermocouple readings are compared.

TOLERENCE: + / - 1.5% of actual absolute temperature.

REFERENCE TEMPERATURES

AMBIENT	70.0	MID	225.0	HIGH	350.0

T/C. Number	Length (ft)	OBS TEMP (F)	DIFF (%)	OBS TEMP (F)	DIFF (%)	OBS TEMP (%)	DIFF (%)
4	4	70.0	0.00	224.0	-0.15	349.0	-0.12
Inco 4	4	71.0	0.19	223.0	-0.29	349.0	-0.12
5	6	71.0	0.19	223.0	-0.29	348.0	-0.25
7	7	70.0	0.00	225.0	0.00	350.0	0.00
8	8	70.0	0.00	224.0	-0.15	350.0	0.00
9	9	71.0	0.19	225.0	0.00	352.0	0.25
10	10	70.0	0.00	224.0	-0.15	348.0	-0.25
11G	11	71.0	0.19	224.0	-0.15	351.0	0.12
Flow	12	69.0	-0.19	224.0	-0.15	348.0	-0.25
15	15	72.0	0.38	226.0	0.15	348.0	-0.25
Inco 11	11	71.0	0.19	223.0	-0.29	252.0	-12.10

Calibrated by: S. C. Webb
Date: 1/3/14
Due: 1/3/15

Signature: S. Stephen C. Webb

FILE:STKTCCAL.XLS

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

Customer	Coastal Air Consulting (Deland, FL)
Date	June 04, 2014
Delivery Receipt	DR-51892
Product:	Nitrogen, CEMS Grade
Lot Number:	LTE274-PG

Mixture Specifications

Cylinder Number EB-0040458

Components	Requested	Actual
Moisture	2.0 ppm	< 2.0 ppm
Hydrocarbons	0.1 ppm	< 0.1 ppm
Oxygen	1.0 ppm	< 1.0 ppm
Carbon Monoxide	1.0 ppm	< 1.0 ppm
Carbon Dioxide	1.0 ppm	< 1.0 ppm
Nitrogen	99.9995%	99.9995%

Cylinder Data

Cylinder Valve:	CGA 580
Cylinder Volume:	140 Cubic Feet
Cylinder Pressure:	2000 psig, 70°F
Expiration Date:	June 04, 2017
Certified by:	Cole Dylewski

Cole Dylewski

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LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	November 07, 2013
Delivery Receipt	DR-49129
Gas Standard	90-99 ppm NO, 90-99 ppm SO2, 90-99 ppm CO/Nitrogen - EPA PROTOCOL
Final Analysis Date	November 06, 2013
Expiration Date	November 06, 2021 ✓
Components	Nitric Oxide, Sulfur Dioxide, Carbon Monoxide
Balance Gas	Nitrogen

Analytical Data: **DO NOT USE BELOW 100 psig**

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Nitric Oxide: 93.2 ppm +/- 0.22 ppm ✓

Sulfur Dioxide: 92.1 ppm +/- 0.90 ppm

Carbon Monoxide: 97.3 ppm +/- 0.30 ppm

Nitrogen: Balance

Total Oxides of Nitrogen: 93.2 ppm

** Total NOX for Reference Use Only **

Reference Standards:

SRM/GMIS:	GMIS	GMIS	GMIS
Cylinder Number:	CC-252014	CC-54548	EB-0015851
Concentration:	97.25 ppm NO/Nitrogen	102.43 ppm SO2/N2	104.90 ppm CO/Nitrogen
Expiration Date:	03/21/21	12/01/14	10/21/14

Certification Instrumentation

Component:	Nitric Oxide	Sulfur Dioxide	Carbon Monoxide
Make/Model:	Nicolet 6700	Nicolet 6700	Nicolet 6700
Serial Number:	APW1100563	APW1100563	APW1100563
Principal of Measurement:	FTIR	FTIR	FTIR
Last Calibration:	October 23, 2013	October 23, 2013	October 16, 2013

Cylinder Data

Cylinder Serial Number:	CC-88806 ✓	Cylinder Outlet:	CGA 660
Cylinder Volume:	135 Cubic Feet	Cylinder Pressure:	1925 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: Cole Dylewski

Cole Dylewski

PGVP Vendor ID: E12013 ✓

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland. FL)
Date	April 03. 2013
Delivery Receipt	DR-46482
Gas Standard	185-225 ppm NO. 185-225 ppm SO2. 185-225 ppm CO/Nitrogen - EPA PROTOCOL
Final Analysis Date	April 02. 2013
Expiration Date	April 02. 2021
Components	Nitric Oxide. Sulfur Dioxide. Carbon Monoxide
Balance Gas	Nitrogen

Analytical Data: **DO NOT USE BELOW 100 psig**

EPA Protocol. Section No. 2.2. Procedure G-1

Reported Concentrations

Nitric Oxide: 212 ppm +/- 1.0 ppm

Sulfur Dioxide: 213 ppm +/- 1.4 ppm

Carbon Monoxide: 215 ppm +/- 1.0 ppm

Nitrogen: Balance

Total Oxides of Nitrogen: 213 ppm

** Total NOX for Reference Use Only **

Reference Standards:

SRM/GMIS:	GMIS	GMIS/GMIS	GMIS
Cylinder Number:	ND-45515	CC-54548 CC-251490	CC-185111
Concentration:	245.26 ppm NO/Nitrogen	102.43 ppm SO2 507.88 ppm SO2	257.47 ppm CO/Nitrogen
Expiration Date:	08/23/20	04-12-14 - 04-12-14	10/22/14

Certification Instrumentation

Component:	Nitric Oxide	Sulfur Dioxide	Carbon Monoxide
Make/Model:	Nicolet 6700	Nicolet 6700	Nicolet 6700
Serial Number:	APW1100563	APW1100563	APW1100563
Principal of Measurement:	FTIR	FTIR	FTIR
Last Calibration:	March 28. 2013	March 28. 2013	March 28, 2013

Cylinder Data

Cylinder Serial Number:	CC-165576	Cylinder Outlet:	CGA 660
Cylinder Volume:	135 Cubic Feet	Cylinder Pressure:	1925 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: David Scott

PGVP Vendor ID: E12013

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	August 08, 2012
Delivery Receipt	DR-43385
Gas Standard	440-499 ppm NO, 440-499 ppm SO2, 440-499 ppm CO/Nitrogen - EPA PROTOCOL
Final Analysis Date	August 05, 2012
Expiration Date	August 05, 2014
Components	Nitric Oxide, Sulfur Dioxide, Carbon Monoxide
Balance Gas	Nitrogen

Analytical Data: **DO NOT USE BELOW 150 psig**

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Nitric Oxide: 495 ppm +/- 4.9 ppm

Sulfur Dioxide: 467 ppm +/- 4.6 ppm

Carbon Monoxide: 497 ppm +/- 4.9 ppm

Nitrogen: Balance

Total Oxides of Nitrogen: 495 ppm

** Total NOX for Reference Use Only **

Reference Standards:

SRM/GMIS:	GMIS	GMIS	GMIS
Cylinder Number:	CC-184280	EB-0017372	CC-159116
Concentration:	494.05 ppm NO/Nitrogen	520.89 ppm SO2/N2	509.64 ppm CO/Nitrogen
Expiration Date:	01/13/14	04 12 13	09/23/12

Certification Instrumentation

Component:	Nitric Oxide	Sulfur Dioxide	Carbon Monoxide
Make/Model:	Nicolet 6700	Nicolet 6700	Nicolet 6700
Serial Number:	APW1100563	APW1100563	APW1100563
Principal of Measurement:	FTIR	FTIR	FTIR
Last Calibration:	July 28, 2012	July 28, 2012	July 28, 2012

Cylinder Data

Cylinder Serial Number:	EB-0021756	Cylinder Outlet:	CGA 660
Cylinder Volume:	135 Cubic Feet	Cylinder Pressure:	1925 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-97/121.

Certified by:

Adam Strickland

PGVP Vendor ID: E12012

"UNMATCHED EXCELLENCE"

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LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	June 04, 2014
Delivery Receipt	DR-51892
Gas Standard	8.50% CO2, 12.0% Oxygen/Nitrogen - EPA PROTOCOL
Final Analysis Date	June 04, 2014
Expiration Date	June 04, 2022
Component	Carbon Dioxide, Oxygen
Balance Gas	Nitrogen

Analytical Data: **DO NOT USE BELOW 100 psig**

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Carbon Dioxide: 8.42% +/- 0.06%

Oxygen: 11.9% +/- 0.05%

Nitrogen: Balance

Reference Standards:

SRM/GMIS:	GMIS/GMIS	GMIS
Cylinder Number:	EB-0026839/EB-0051547	CC-231332
Concentration:	6.847% CO2/9.923% CO2	9.96% Oxygen/Nitrogen
Expiration Date:	10/03/20 - 06/24/20	04/17/22

Certification Instrumentation

Component:	Carbon Dioxide	Oxygen
Make/Model:	Nicolet 6700	Servomex 244a
Serial Number:	APW1100563	1847
Principal of Measurement:	FTIR	Paramagnetic
Last Calibration:	May 15, 2014	May 01, 2014

Cylinder Data

Cylinder Serial Number:	CC-252000	Cylinder Outlet:	CGA 590
Cylinder Volume:	136 Cubic Feet	Cylinder Pressure:	1925 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: Cole Dylewski

Cole Dylewski

PGVP Vendor ID: E12014

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LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	November 01, 2011
Delivery Receipt	DR-39306
Gas Standard	17.0-18.0% CO2, 22.0-23.0% Oxygen/Nitrogen - EPA PROTOCOL
Final Analysis Date	November 01, 2011
Expiration Date	November 01, 2014

Component	Carbon Dioxide, Oxygen
Balance Gas	Nitrogen

Analytical Data: **DO NOT USE BELOW 150 psig**

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Carbon Dioxide: 17.1% +/- 0.17%

Oxygen: 22.7% +/- 0.22%

Nitrogen: Balance

Reference Standards:

SRM/GMIS:	GMIS/GMIS	GMIS
Cylinder Number:	CC-252091/CC-184404	CC-159090
Concentration:	15.816% CO2/19.87% CO2	20.72% Oxygen/Nitrogen
Expiration Date:	02/04/13 - 02/04/13	05/06/12

Certification Instrumentation

Component:	Carbon Dioxide	Oxygen
Make/Model:	Horiba - VIA 510	Servomex 244a
Serial Number:	SN075GSF	1847
Principal of Measurement:	NDIR	Paramagnetic
Last Calibration:	October 10, 2011	October 09, 2011

Cylinder Data

Cylinder Serial Number:	CC-159134	Cylinder Outlet:	CGA 590
Cylinder Volume:	140 Cubic Feet	Cylinder Pressure:	2000 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-97/121.

Certified by:

Adam Strickland

PGVP Vendor ID: E12011

APPENDIX 4
SAMPLE CALCULATIONS

CALCULATIONS FOR RUN 1

1. Volume of dry gas sampled at standard conditions, DSCF

$$V_{m\,std} = 17.64 * 115.656 * 0.9870 * \frac{29.88 + 2.692 / 13.6}{103.7 + 460} = 107.281$$

2. Volume of water vapor at standard conditions, SCF

$$V_{m\,gas} = 0.04715 * 340.6 = 16.06$$

3. Percent moisture in stack gas

$$\%M = 100 * 16.06 / (107.451 + 16.06) = 13.00$$

4. Mole fraction dry gas

$$Md = (100 - 13.00) / 100 = 0.870$$

5. Percent nitrogen in dry stack gas, lb/lb-mole

$$\%N2 = 100 - 12.40 - 6.70 = 80.90$$

6. Molecular weight of dry stack gas, lb/lb-mole

$$MWd = (12.40 * 0.44) + (6.70 * 0.32) + (80.90 * 0.28) = 30.25$$

7. Molecular weight of wet stack gas, lb/lb-mole

$$MW = (30.25 * 0.870) + 18 * (1 - 0.86998) = 28.66$$

8. Stack gas static pressure, in. Hg abs.

$$Psa = (-1.00 / 13.6) + 29.88 - (0.001 * 0.00) = 29.81$$

9. Stack gas velocity at standard conditions, fps

$$Vs = 85.49 * 0.84 * 1.334 * \left| \frac{(191.917 + 460)}{(29.81 * 28.6589)} \right|^{1/2} = 83.68$$

10. Stack gas volumetric flow rate at standard conditions, DSCFM

$$Qs = \frac{(1058.82 * 83.68 * 231.50 * 0.870 * 29.81)}{(191.9 + 460)} = 816893.9$$

11. Stack gas volumetric flow rate at stack conditions, ACFM

$$Qa = 0.05667 * 815893.9 * (191.9 + 460) / (29.81 * 0.870) = 1162416.2$$

12. Percent isokinetic

$$\%I = \frac{17.326 * 107.451 * (191.9 + 460)}{83.68 * 120 * 29.81 * 0.870 * (0.215)^2} = 100.83$$

13. Particulate emission rate, grains/SCF

$$Eg = 0.01543 * (38.2 / 107.451) = 0.00549$$

14. Particulate emission rate, lbs/MMBTU

$$Eb = 9780 * (0.0055 / 7000) * [20.9 / (20.9 - 6.70)] = 0.0113$$

15. Particulate emission rate, lbs/hr

$$Eh = 0.00857 * 0.0055 * 815893.9 = 38.356$$

SAMPLE EQUATIONS
FOR ISOKINETIC SAMPLING

CALCULATIONS FOR FLUE GAS VOLUME AND ISOKINETIC RATIO

Time	Dry Gas Meter Ft^3	Pitot ΔP In. H_2O	Orifice ΔH In. H_2O	Dry Gas Temp.°F In Out	Flue Gas Static Pressure In. H_2O	Stack Temp.°F
T	V_m	Δp	ΔH	TMI TMO	P_g	t_s

1. D_n = Nozzle Diameter (inches)

1a. A_n = Area of Nozzle (ft^2)

2. P_{bar} = Barometric Pressure (in. Hg)

3. TT = Net Sampling Time (minutes)

4. V_m = V_m Final - V_m Initial = Sample Gas Volume (Ft^3)

5. T_m = Average Dry Gas Temperature at Meter (°F)

$$T_m = \frac{Avg.TMI + Avg.TMO}{2}$$

6. Δp = Velocity head of stack gas (in. H_2O)

7. ΔH = Average Orifice Pressure Drop (in.H_2O)

8. Volume of dry gas sampled at standard conditions[a] (DSCF)

$$V_{m(std)} = \frac{(17.64)(V_m)(Y)\left(P_{bar} + \frac{\Delta H}{13.6}\right)}{(T_m + 460)}$$

9. V_{lc} = Total Water Collected = gm H_2O Silica gel + ml Imp. H_2O = ml

10. Volume of water vapor at standard conditions[b] (SCF)

$$V_{w(std)} = 0.0471(V_{lc}) = SCF$$

11. Percent moisture in flue gas

$$\%M = \frac{100(V_{w(std)})}{V_{m(std)} + V_{w(std)}}$$

12. Mole fraction of water vapor in flue gas

$$B_{ws} = \frac{\%M}{100}$$

13. Molecular Weight of dry fluc gas

$$M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2 + \%CO)$$

13a. %EA = % Excess Air =

$$\frac{[(\%O_2) - 0.5(\%CO)]}{[0.264(\%N_2)] - [(\%O_2) - 0.5(\%CO)]} x100$$

14. Molecular weight of wet flue gas

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

15. A = Cross-sectional area of stack (Ft^2)

$$\frac{\pi r^2}{144}$$

16. P_s = Flue gas pressure (in, Hg)

$$P_s = P_{bar} + P_g$$

NOTE: $$P_g(Hg) = \frac{P_g(in.H_2O)}{13.6}$$

17. T_s = Absolute stack temperature (°R)

$$T_s = 460 + t_s$$

18. Flue velocity at stack conditions (FT/SEC)

$$V_s = (K_p)(C_p)\left[\left(\sqrt{\Delta p}\right)avg\right]\sqrt{\frac{T_s(avg)}{P_s * M_s}}$$

C_p = pitot tube coefficient
K_p = pitot tube constant = 85.49ft/sec

19. Flue gas volumetric flow rate at standard conditions[b] (SCFM)

$$Q_s = (V_s)(A)\left(\frac{528}{T_s(avg.)}\right)\left(\frac{P_s}{29.92}\right)(60)$$

20. Flue gas volumetric flow rate at standard conditions[c] (DSCFM)

$$Q_{sd} = (1 - B_{ws})(V_s)(A)\left(\frac{528}{T_s(avg.)}\right)\left(\frac{P_s}{29.92}\right)(60)$$

21. Flue gas volumetric flow rate at stack conditions (ACFM)

$$Q_a = (V_s)(A)(60)$$

22. Percent Isokinetic

$$\%I = \frac{K_4(T_s)(V_{m(std)})}{P_s V_s A_n \Theta(1 - B_{ws})}$$

$K_4 = 0.09450$
$\Theta = time(\min)$

NOTES: [a]Dry standard cubic feet at 68°F, 29.92 in. Hg
[b]Standard conditions at 68°F, 29.92 in. Hg
[c]Dry standard cubic feet per minute at 68°F, 29.92 in. Hg

II. Calculations for grain loading and emission rates

23. Particulate (gr/DSCF)

$$gr / DSCF = 0.01543\left(\frac{mg}{V_{m(std)}}\right)$$

24. Particulate at stack conditions (gr/ACF)

$$gr / ACF = \frac{17.64 gr / DSCF(P_s)(M_d)}{(T_s + 460)}$$

25. Particulate (lbs/hr), concentration method

$$lbs / hr = 0.00857 * gr / DSCF * Q_{sd}$$

26. Particulate (lbs/hr), area method

$$lbs / hr = 0.132 * \frac{particulate(g) * A}{\frac{(D_n)^2}{2} * TT}$$

27. Particulate (lbs/mmBtu)

$$\frac{lbs / hr}{10^6 Btu / hr}$$

28. Particulate (lbs/ton)

$$lbs / ton = \frac{lbs / hr}{tons / hr}$$

29. Particulate (lbs/mmBtu), F-Factor Method

$$\text{Using } O_2 = \frac{(0.01543)(mg)(F - Factor)(20.9)}{(7000)(V_{m(std)})(20.9 - \%O_2)}$$

30. Particulate (gr/dscf) @ % Excess Air

gr/dscf @ % EA = ((100 + %EA)/150) (gr/dscf)

31. Particulate (lbs/mmBtu), F-Factor Method (Continued)

$$\text{Using } CO_2 = \frac{(0.01543)(mg)(F - Factor)(100)}{(7000)(V_{m(std)})(\%CO_2)}$$

32. F-Factor (dscf/mmBtu)

Wet Basis (F_w)

$$F_w = \frac{10^6\ Btu / mmBtu\left[5.57(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O_2) + 0.21(\%H_2O)\right]}{GCV_w}$$

Dry Basis (F_d)

$$F_d = \frac{10^6\ Btu / mmBtu\left[3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O_2)\right]}{GCV_d}$$

Carbon Basis (F_c)

$$F_c = \frac{10^6\ Btu / mmBtu\left[0.321(\%C)\right]}{GCV_d}$$

33. Particulate Emissions, (grams/DSCF)

Cs = Particulate (mg) / 1000 / DSCF

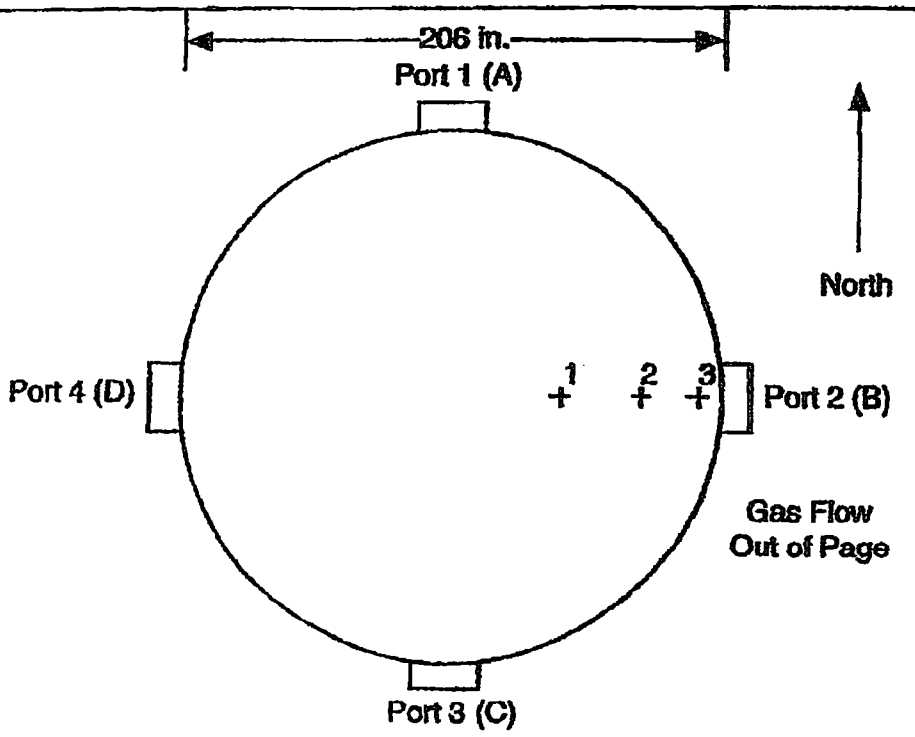
34. Particulate Emissions, (lb/ton) of Kiln Feed

(Cs) (DSCFH) / (130 tph) (453.6g/lb)

APPENDIX 5
FIGURES

INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

SAMPLING POINT DETERMINATION (CONTINUED)



Traverse Point	Port to Point Distance (meters)
1	2.0
2	1.2
3	0.4

Diameters to upstream disturbance: >8.7 Limit: 2.0
Diameters to downstream disturbance: >2.0 Limit: 0.5

PC Boiler Stack Sampling Point Determination
(Performance Specification 2)

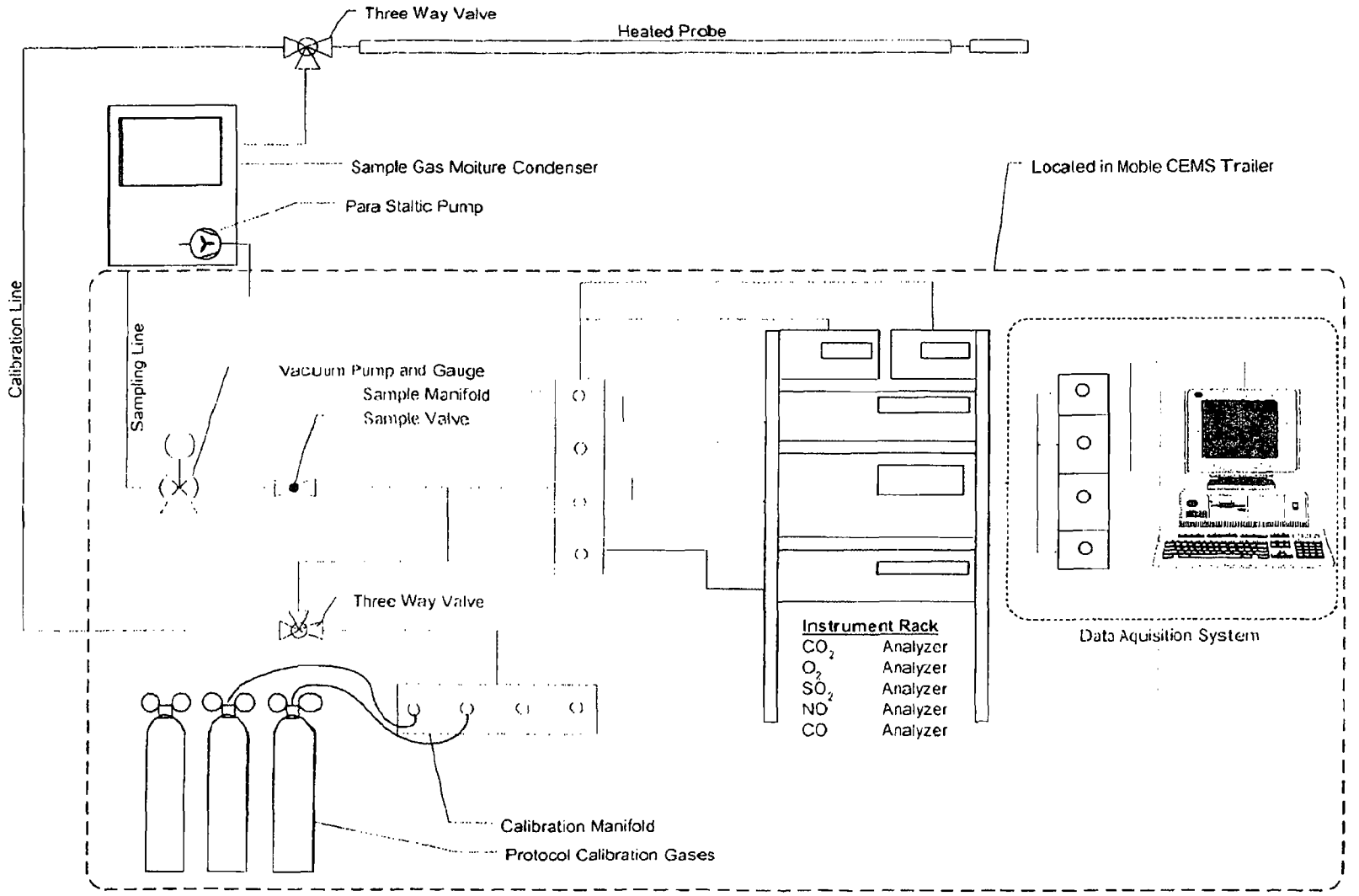
PROBE MARKINGS

Plant: Indiantown Cogeneration
Unit: PC Boiler
Diameter: 206 Inches
Port Depth: 16"

PM Flow

	Number of Points on a diameter				
	4	6	8	10	12
1	13.80	9.06	6.80	5.15	4.33
2	51.50	30.28	21.63	16.89	13.80
3	154.50	60.77	39.96	30.08	24.31
4	192.20	145.23	66.54	46.56	36.46
5		175.72	139.46	70.45	51.50
6		196.94	166.04	135.55	73.13
7			184.37	159.44	132.87
8			199.20	175.92	154.50
9				189.11	169.54
10				200.85	181.69
11					192.20
12		PM	Flow		201.67

*Stacks having diameters > 24" no points within 1" from stack wall
*Stacks having diameters < 24" no points within 0.5" from stack wall



Coastal Air Consulting, Inc
1021 Wingate Drive, Deland FL
(386) 943-9241 Fax (386) 943 9212

DRAWN BY	TITLE		
R F Cobb	EPA Instrumental Sample Train		
DATE	SCALE	DESCRIPTION	
4/15/02	NONE	Sample Train Schematic	

APPENDIX 6
QSTI

Source Evaluation Society

P. O. Box 12124
Research Triangle Park
North Carolina 27709

May 1, 2012

Stephen C. Webb
Coastal Air Consulting
1531 Wyngate Dr.
DeLand, FL 32724

Subject: Qualified Source Tester Application No. 2012-670
Qualification Notice - Manual Gas Volume Measurements and Isokinetic Particulate Sampling Methods
- Manual Gaseous Pollutants Source Sampling Methods
- Gaseous Pollutants Instrumental Sampling Methods
- Hazardous Metals Measurement Sampling Methods

Dear Mr. Webb:

It is my pleasure to inform you that you have satisfied the requirements of the Source Evaluation Society Qualified Source Test Individual program for group exam(s) listed above. As a member of the successful candidates in this SES program, you should be proud of this distinction within the source emissions testing community. I am confident that you will continue to uphold the standards of technical excellence and ethical conduct embodied in the SES mission statement.

The enclosed Qualification Notice(s) and SES identification card are your permanent record of this achievement. This status is valid for the period shown on the Qualification Notices.

Congratulations on your achievement and I wish you continued success in your future endeavors. Please see attached a permission letter if you wish to have your information posted on the SES web site.

Sincerely yours,

Peter R. Westlin
SES QSTI/QSTO Review Committee Chairman

cc: Roy Owens, SES QSTI/QSTO Review Board Member
Glenn England, SES QSTI/QSTO Review Board Member
C. David Bagwell, SES QSTI/QSTO Review Board Member
Karen D. Kajiya-Mills, SES QSTI QSTO Review Board Member
Peter S. Pakalnis, SES QSTI QSTO Review Board Member
Gail Westlin, SES QSTI QSTO Review Committee Administrator

Source Evaluation Society

P. O. Box 12124
Research Triangle Park
North Carolina 27709

An idea was introduced at the 2006 SSSAAP conference to list those individuals who have received their QSTI qualification approvals on the SES web site. The SES Board of Directors determined that individuals would have to approve in writing before making public such information. The QSTI Committee would like your permission to post the information shown below on the SES web site for public view. This information will be provided on the website as a link to an Excel spreadsheet. Your information will be listed as below or with any changes you indicate:

Name Company City/State/Zip:	Stephen C. Webb Coastal Air Consulting DeLand, FL 32724		
Contact Info.:	Coastalair123@aol.com		
Any Addit. Info:	qstiprogram@gmail.com.		
Passed:	Group 1	Exam Date: 5/5/11	Valid From - To: 2012/05/01 to 2017/04/30
	Group 2	Exam Date: 5/5/11	Valid From - To: 2012/05/01 to 2017/04/30
	Group 3	Exam Date: 5/6/11	Valid From - To: 2012/05/01 to 2017/04/30
	Group 4	Exam Date: 5/6/11	Valid From - To: 2012/05/01 to 2017/04/30
QSTI Certificate #:	2012-670		

You may view the current spreadsheet format at the SES website at www.sesnews.org. If you agree to your name and information being posted, please sign below and fax this page to Gail Westlin at 919-572-2203 or email to gail_westlin@yahoo.com. Also, if you wish to have your contact information listed other than your email address, please note any changes above (e.g., an address, telephone or a cell phone number, etc.). Any further changes or additions will need to be made in writing and emailed to Gail Westlin at gail_westlin@yahoo.com. If you have any questions concerning this matter, please contact the SES QSTI/QSTO Review Committee Chairman, Peter Westlin, at westlin.peter@epa.gov or myself.

Thank you,

Gail Westlin
SES QSTI/QSTO Review Committee Administrator

I give the SES QSTI/QSTO Review Committee approval to have my name and information as outlined above to be posted on the SES web site. Any changes have been noted above. This approval extends to any future exams for which I receive a QSTI or QSTO Qualification Approval(s).

Signature: _____ Date: _____

NEW. DO YOU APPROVE SES RELEASING INFORMATION, UPON REQUEST, ABOUT WHETHER YOU HAVE PASSED A METHOD GROUP EXAM? (The information released will be if you passed an exam and the date of the exam. This information is in support of ASTM D-7036-D.) YES ☐ NO ☐ IF YOU AGREE, PLEASE SIGN BELOW.

Signature: _____ Date: _____

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS

ISSUED THIS 1ST DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH , 2017

Peter R. Westlin, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

MANUAL GASEOUS POLLUTANTS SOURCE SAMPLING METHODS

ISSUED THIS 1st DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH, 2017

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

C. David Bagwell QSTI/QSTO Review Board

Karen D. Kajiya-Mills, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

GASEOUS POLLUTANTS INSTRUMENTAL SAMPLING METHODS

ISSUED THIS 1ST DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH, 2017

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

Karen D. Kaiya-Mills, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670

1995

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

HAZARDOUS METALS MEASUREMENT SAMPLING METHODS

ISSUED THIS 1ST DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH, 2017

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pekarik, QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

Karen D. Kajiya-Mills, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670