

Indiantown Cogeneration, L.P.

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May 29, 2007

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MAY 31 2007

BUREAU OF AIR REGULATION

Subject: **Auxiliary Boiler Stack Test Report
Indiantown Cogeneration L.P. Permit No. 0850102-008-AC**

Indiantown Cogeneration, LP (ICLP) is submitting the results of the following tests:

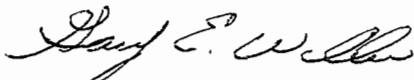
1. Initial emissions testing for Auxiliary Boiler 1 (called Auxiliary Boiler B in the attached report); and
2. Initial CEMS certification testing for the Auxiliary Boiler common stack.

Auxiliary Boiler 2 (called Auxiliary Boiler A in the attached report) will be tested at a future date.

The Auxiliary Boiler performance test satisfies the requirements to perform a performance test per the following requirements: air construction permit 0850102-008-AC Specific Condition #21; 40CFR§60.8(a); and 40 CFR§63.7510(d). As such it addresses the issue raised in the Compliance Report and Plan submitted as part of Title V air operation permit modification application 1388-1, submitted April 2007.

The test results document compliance with air construction permit 0850102-008-AC, and related requirements in 40 CFR 60 and 63, for Auxiliary Boiler 1 and the common CEMS. Please contact Nick Laryea at 772-597-6500 extension 19 with any questions or comments.

Sincerely,



Gary Willer
General Manager

cc: Tom Cascio
AJ Jablonowski
Lauren Billheimer
Nick Laryea, ICLP



Indiantown Cogeneration, L.P.
13303 SW Silver Fox Lane
Indiantown, Florida 34956

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BUREAU OF AIR REGULATION

**REPORT ON THE
INITIAL COMPLIANCE DETERMINATION
OF THE AUXILIARY BOILERS**

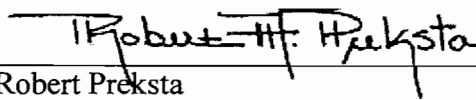
To Be Performed for:
**INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA**

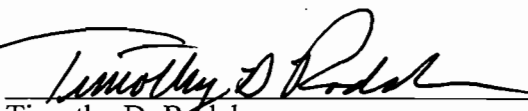
Client Reference No: I-10644
CleanAir Project No: 10199
Revision 0: May 24, 2007

To the best of our knowledge, the data presented in this report are accurate, complete, error free, legible and representative of the actual emissions during the test program.

Submitted by,

Reviewed by,


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INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

REVISION HISTORY

**REPORT ON THE
INITIAL COMPLIANCE DETERMINATION
OF THE AUXILIARY BOILERS**

Revision History

Revision No:	Date	Pages	Comments
0	05/24/2007	All	Final version of original document.

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PROJECT OVERVIEW

1-1

Indiantown Cogeneration, L.P. contracted Clean Air Engineering (CleanAir) to perform a series of air emission measurements at their Indiantown, Florida facility. The program was designed to meet the requirements of Indiantown Cogeneration for the initial compliance demonstration of the two (2) newly installed Victory Energy Model 23M Keystone boilers.

PROJECT OBJECTIVE

The objectives of the test program were:

- Demonstrate initial compliance of the two (2) Victory Energy Model 23M Keystone boilers with the Florida Department of Environmental Protection ARMS Permit No. 0850102-008-AC and 40 CFR 63 Subpart DDDD requirements.
- Perform a Relative Accuracy Test Audit (including cycle time and 7-day calibration drift) on the Auxiliary Boiler Stack Continuous Emissions Measurement System (CEMS).

The field portion of the test program included the determination of the following parameters:

- nitrogen oxides (NO_x)
- carbon monoxide (CO)
- opacity
- total hydrocarbons (THC)
- flue gas composition (e.g., O₂, CO₂, H₂O)
- flue gas temperature and volumetric flow

PROJECT CONTACTS

Indiantown Cogeneration (ICLP)	Clean Air Engineering – Project Manager
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PROJECT OVERVIEW

1-2

The testing took place at the Auxiliary Boiler Common Stack on April 25 and 26, 2007. Coordinating the field testing were:

N. Laryea – Indiantown Cogeneration, L.P.
E. Doak – Clean Air Engineering

Indiantown Cogeneration operates two (2) auxiliary boilers (A and B) which join together to form a common stack. The CEMS are installed only on the common stack. During the program, Auxiliary Boiler A was not in operation. Therefore, testing was conducted on Auxiliary Boiler B only.

Table 1-1 outlines the schedule adhered to during the test program. Tables 1-2 and 1-3 summarize the results of the test program. A more detailed presentation of the test conditions and results of analysis are shown in Tables 2-1 through 2- 5 on pages 2-1 through 2-5.

**Table 1-1:
Schedule of Activities**

Run Number	Location	USEPA Method	Analyte	Date	Start Time	End Time	Notes
1	Auxiliary Boiler B	2,4	Velocity & Flow Rate	04/25/07	11:51	12:51	
2	Auxiliary Boiler B	2,4	Velocity & Flow Rate	04/25/07	13:27	14:27	
3	Auxiliary Boiler B	2,4	Velocity & Flow Rate	04/25/07	15:17	16:17	
1	Auxiliary Boiler B	3A, 7E, 10, 25A	O2, CO2, NOx, CO, THC	04/25/07	11:51	12:51	(1)
2	Auxiliary Boiler B	3A, 7E, 10, 25A	O2, CO2, NOx, CO, THC	04/25/07	13:21	14:21	(1)
3	Auxiliary Boiler B	3A, 7E, 10, 25A	O2, CO2, NOx, CO, THC	04/25/07	15:06	16:06	(1)
1	Auxiliary Boiler B	9	Visible Emissions	04/25/07	11:54	12:54	
2	Auxiliary Boiler B	9	Visible Emissions	04/25/07	13:37	14:37	
3	Auxiliary Boiler B	9	Visible Emissions	04/25/07	15:24	16:24	
1	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	11:28	11:49	(2)
2	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	12:08	12:29	(2)
3	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	13:08	13:29	(2)
4	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	13:50	14:11	(2)
5	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	14:28	14:49	(2)
6	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	15:04	15:25	(2)
7	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	15:43	16:04	(2)
8	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	16:19	16:40	(2)
9	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	17:02	17:23	(2)
10	Aux. Boiler CEMS	3A, 7E, 10	O2, CO2, NOx, CO	04/26/07	17:42	18:03	(2)

Notes:

- 1 - Compliance Test Runs
- 2 - Relative Accuracy Test Audit Runs

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PROJECT OVERVIEW

**Table 1-2:
Summary of Compliance Testing (Auxiliary Boiler B)**

Target Emission	Test Method	Average Measured Result	Applicable Permit Limit ¹
NO _x	EPA Methods 7E,19	0.037	0.040 lb/MMBtu
Visible Emissions	EPA Method 9	0.0	20%
CO	EPA Methods 10,19	0.010	0.040 lb/MMBtu
VOC	EPA Methods 1-4, 25A	0.56	0.70 lb/hr

¹Florida Department of Environmental Protection ARMS Permit No. 0850102-008-AC

**Table 1-3:
Summary of RATA Testing**

CEM Parameter	Reference Method	Average Test Result	Specification Limit ¹
<u>Oxygen (%dv)</u>	EPA M3A	0.64	20.00%
Zero Drift (24-hour)	PS3	0.0	0.50%
Calibration Drift (24-hour)	PS3	0.07	0.50%
O ₂ Cycle Time (min:sec)	PS3	3:00	15:00
<u>Nitrogen Oxides (lb/MMBtu)</u>	EPA M7E/19	1.14	20.00%
Zero Drift (24-hour)	PS2	0.04	2.50%
Calibration Drift (24-hour)	PS2	0.62	2.50%
NO _x Cycle Time (min:sec)	PS2	3:00	15:00
<u>Carbon Monoxide (lb/MMBtu)</u>	EPA M10/19	3.14	10.00%
Zero Drift (24-hour) ²	PS4	0.11	5.00%
Calibration Drift (24-hour) ²	PS4	0.56	5.00%
CO Cycle Time (min:sec)	PS4	4:00	15:00

¹ Specification limits obtained 40 CFR Part 60, Appendix B.

² Carbon monoxide calibration drift test is based on 6 out of 7 days.

PROJECT OVERVIEW

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DISCUSSION OF TEST PROGRAM

CleanAir performed a series of air emission measurements at the Auxiliary Boilers Main Steel Stack (EPA Test Ports located at 8th Floor).

Compliance Test Program

Compliance testing was performed on Auxiliary Boiler B while operating at full load. A series of three (3) 60-minute test runs were performed on April 25, 2007. The wet instrumental method (THC) was converted into the applicable permit limit of lb/hour using the exhaust gas moisture content and volumetric flow rate determined in conjunction with each test run.

Auxiliary Boiler A was not tested during the test program due to steam load requires that prohibited additional single boiler operations. Auxiliary Boiler A compliance testing is scheduled for a future date.

Relative Accuracy Test Audit

Certification test runs were performed on the Auxiliary Boiler Stack CEM System. Ten (10) 21-minute test RATA runs were performed on April 26, 2007.

The dry instrumental methods (NO_x and CO) were converted into the applicable permit limits (lb/MBtu) using the natural gas Dry Fuel Factor (F_d) of 8,710 dscf/MBtu and Carbon Based Fuel Factor (F_c) of 1,040 scf/MBtu as referenced in EPA Method 19 Table 19-2 "F Factors for Various Fuels".

PROJECT OVERVIEW

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Compliance Test Program

O₂, CO₂, NO_x, CO and THC

CleanAir incorporated guidelines as stated in 40 CFR 60, Appendix A. Figure 1-1 outlines the testing guidelines.

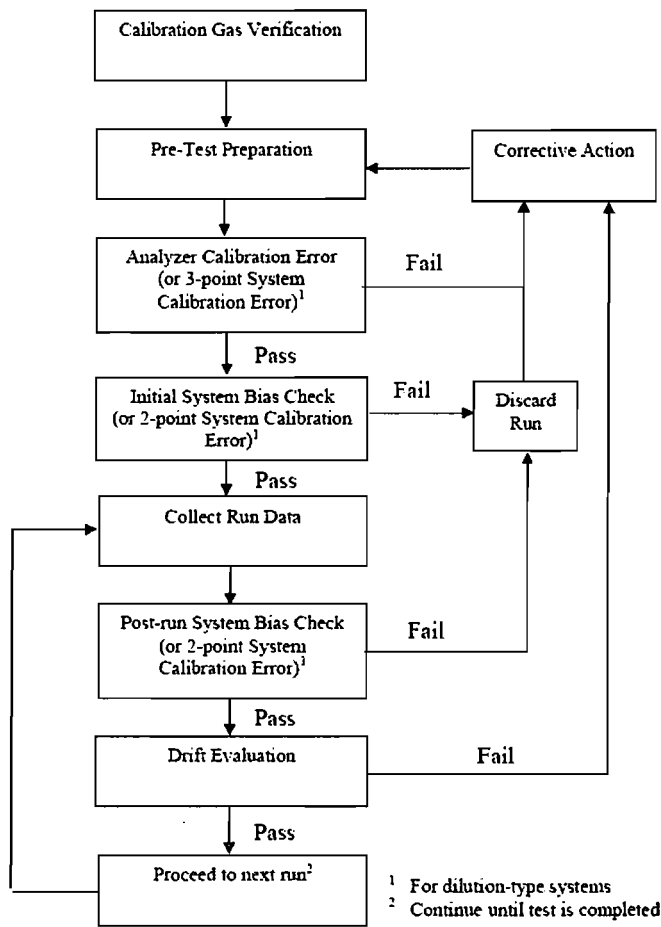


Figure 1-1: Testing Flow Chart (EPA Method 7E)

PROJECT OVERVIEW

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Calibration Gas Verification

CleanAir used EPA protocol 1 calibration gases for the calibration of all instruments. Certificate of Analysis sheets are contained in Appendix D of this report.

Pre-Test Preparation

The following activities were performed in the field prior to the start of the sampling program.

- Measurement system preparation including verification of sample line and moisture removal system operating temperatures, sampling system leak-check and sample delivery rate.
- Calibration error test in which three (3) calibration gases, low-level (0-20% of calibration span), mid-level (40-60% of calibration span) and high-level (calibration span) were introduced directly into the analyzer. Each response was within $\pm 2\%$ of the calibration span value.
- Calibration error test, (THC), in which four (4) calibration gases, zero, low-level (25-35% of span value), mid-level (45-55% of span value) and high-level (80-90% of span value) were introduced at the calibration valve assembly. Each response was within $\pm 5\%$ of the span value.
- NO₂ to NO conversion efficiency test in which a calibration gas containing 40 to 60 ppm of NO₂ was introduced directly to the analyzer. A response of 90% or greater was required for an acceptable result.
- System bias checks were performed by introducing the low-level and calibration gas (mid or high) which was closest to the expected concentration in the exhaust gas stream. No adjustments were made to the analyzer. Each response was within $\pm 5\%$ of the calibration span value.
- System response time was determined in conjunction with the bias test. This is a measure of the time required to record a value of 95% of the calibration gas value. This was performed for both the low and calibration gas used. The longer of the two measurements was used as the system response time.
- Interference checks – In accordance with the method current instruments analysis principles) that already passed the interference test requirement under the previous method (before August 14, 2006) are grandfathered from the new interference test requirements.

PROJECT OVERVIEW

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Determination of Stratification

The NO_x and CO concentrations were measured at three points on a line passing through the center of the stack located at 16.7, 50.0, and 83.3 percent of the stack diameter.

Each point was sampled for a minimum of twice the system response time. The concentration was recorded at each point and the mean (average) concentration was calculated.

The concentration at each traverse point did not differ from the mean concentration for all traverse points by more than:

- (a) ± 5.0 percent of the mean concentration; or
- (b) ± 0.5 ppm (whichever is less restrictive).

Therefore, the gas stream was considered unstratified and samples may be collected from a single point during the compliance test runs that most closely matches the mean. Samples were collected from three (3) points during the RATA runs.

Sample Collection

The sampling probe was positioned at the first traverse point and a minimum system purge of twice the system response time is required prior to the collection of test data. The actual sampling time per point was dependent of the actual number of sampling points required by the stratification test. A minimum purge time of twice the system response time was required anytime the test probe was removed from the duct or following system calibrations.

If at any time a measured one-minute average gas concentration exceeded the calibration span value it was reported as a deviation from the method and may be have cause to invalidate the test run. No measurements exceeded the calibration span values.

Post Run Bias Check

Immediately following each test run the low and calibration gas were introduced into the sampling system as close as possible to the probe tip. No adjustments were made to the analyzer. Each response was within $\pm 5\%$ of the calibration span value.

PROJECT OVERVIEW

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Volatile Organic Compounds

The definition utilized for this project for the term volatile organic compound (VOC) was an organic compound that participates in atmospheric chemical reactions; i.e., an organic compound other than those which the EPA has designated as having negligible photoreactivity. The exempted compounds, two of which are methane and ethane, are listed in 40 CFR 51.100(s)(1).

EPA Method 25A (Total Hydrocarbons - THC) does not distinguish between the photoreactive and non-photoreactive compounds, as referenced in 40 CFR 51. The flame ionization analyzer detected any methane and ethane concentrations in the sample gas as well as other hydrocarbon compounds.

In order to determine the non-methane/non-ethane concentration in the exhaust gas stream a sample of the actual exhaust gas was collected concurrently with each EPA Method 25A test run.

In the event the VOC concentration, as measured by Method 25A, exceeded the permitted limit the individual gas sample corresponding to that test run would be analyzed in the laboratory for methane and ethane using EPA Method 18 (gas chromatography coupled with a flame ionization detector GC/FID). The methane and ethane concentrations would be subtracted from the total hydrocarbon concentration.

The VOC concentration as measured by EPA Method 25A was below the permitted limit. No additional analysis was required.

Visible Observations

Visible observations of emissions were made according to EPA Method 9. This method is based upon visible evaluations of the opacity of emissions by a trained and FDEP certified observer.

Observer Certification Procedure

The field observer for the project attended and successfully completed an EPA certified Visual Emission Certification Program (Eastern Technician Associates with State of Florida criteria). This program consisted of a classroom lecture and discussion session (as required) in conjunction with actual field opacity determinations.

PROJECT OVERVIEW

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The classroom curriculum (if required) consisted of the following items:

- Background, principles, and the theory of opacity
- Source conditions, related particle characteristics, and opacity reading procedures and problems
- Proper procedures for conducting field observations under a variety of conditions
- Influence and impact of meteorology on plume behavior
- Legal aspects of VE and opacity measurements
- Actual observation/testing procedures

The field proficiency portion of the program consisted of fifty plumes (25 white and 25 black) produced by a smoke generator. The plumes within each color set were presented in a random order. The observer was required to assign an opacity to each plume and record it to the nearest 5 percent. The observer demonstrated the following requirements:

- The average error did not exceed 7.5 percent opacity in each category
- The error on any individual reading did not exceed 15 percent

Field Records

The observer recorded his name, company and certification date along with the name of the facility, source identification, process and control devices associated with the emission point. The time, estimated distance, height and orientation of the observer from emission point, meteorological data (wind speed and direction, sky conditions etc.), plume and background description were also recorded.

Field Observations - EPA Method 9

The observer positioned himself at a sufficient distance from each source to provide a clear view of the emissions. The sun was oriented in the 140-degree sector to his back. Consistent with the above requirements, the observer made his observations from a position such that his line of vision was perpendicular to the plume direction. The observations were made at the point of greatest opacity in the portion of the plume where condensed water vapor was not present. The observer did not look continuously at the plume, but observed the plume momentarily at 15-second intervals.

PROJECT OVERVIEW

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Relative Accuracy Test Audit

The RATA for the facility Part 60 Continuous Emissions Monitoring System (CEMS) consisted of concurrent pollutant emissions measurements using the facility CEMS and a Reference Method (RM) monitoring system. A complete RATA was comprised of a 10 runs of paired measurements. Each test run was 21-minutes in duration. Testing was performed while the unit was operated at full load. The 21-minute average of the RM results and the CEMS results were determined. The differences between the RM results and the CEMS results were determined. The relative accuracy was based on the average of these differences and the 95% statistical confidence coefficient.

Individual run values were calculated using the arithmetic average of 21 one-minute-average RM readings with the 21-minute average reading supplied by the CEMS data acquisition system print-out. The relative accuracy was based on units of percent dry volume (%dv) for O₂ and pounds per million Btu (lb/MBtu) for the NO_x and CO. Pollutant (NO_x and CO) and diluent (O₂ and CO₂) measurements were made concurrently by both the facility CEMS and RM system to facilitate the lb/MMBtu calculations. The determined relative accuracy was considered acceptable if the CEMS are within 20 percent (O₂ and NO_x) or 10 percent (CO) of the reference method average.

7-Day Calibration Drift Test

The calibration drift of CO₂, NO_x and CO analyzers was measured once for each of seven consecutive days at approximately 24-hour intervals. Zero (0-20% of span) and high-level (80-100% of span) calibration gases are introduced as close as possible to the probe tip. The calibration drift tests were acceptable if the monitors did not deviate from the reference value of the calibration gas more than 2.5% based on the instrument span for NO_x and 0.5% for O₂. For CO the calibration drift did not deviate from the reference value of the calibration gas by more than 5.0 percent based upon the instrument's span value six of seven days

The auxiliary boilers are operated on a limited basis through out the year. Therefore, the calibration error test was performed over a consecutive seven calendar day period regardless of boiler operations. In previous correspondence with Peter Westlin (US EPA) the question concerning importance of plant load during the seven-day drift period was addressed. The following is the answer presented by Mr. Westlin, "In answer to the drift test question first, you are on the right track that load really has no bearing on completing the 7-day drift test. We have conveyed to others in the past that the drift test can proceed regardless of the process operation during the seven days. The

PROJECT OVERVIEW

1-11

more important factor is determining whether the CEMS can pass the checks for at least seven days straight.”

Linearity Check (Calibration Error)

Part 60 does not require linearity checks.

Cycle Time (Response Time)

The cycle time of each monitor was determined using a low and high level calibration gas. The gas was introduced into the system and the system was allowed to stabilize. Once the system was stabilized, the introduction of calibration gas was stopped, and the amount of time required to reach 95% of the stack emissions value was recorded. Each gas was injected three times. The test was acceptable. None of the response times exceed 15 minutes.

PROCESS DATA

The following process data was collected by ICLP personnel during each test run and included in the final test report.

Auxiliary Boiler Operational Parameters:

- Natural Gas Flow
- Heat Input

RESULTS

2-1

**Table 2-1:
Auxiliary Boiler B – NO_x, CO, Visible Emissions & THC – Compliance Test**

Run No.	1	2	3	Average
Date (2007)	Apr 25	Apr 25	Apr 25	
Start Time (approx.)	11:51	13:21	15:06	
Stop Time (approx.)	12:51	14:21	16:06	
Operational Parameters				
C ₁ Heat Input (MMBtu/hr)	146	146	146	146
C ₂ Natural Gas Flow (scfm)	2,332	2,333	2,332	2,332
C ₃ Dry Fuel Factor (F _d)	8,710	8,710	8,710	8,710
C ₄ Carbon Based Fuel Factor (F _c)	1,040	1,040	1,040	1,040
Gas Conditions				
O ₂ Oxygen (dry volume %)	4.6	4.6	4.4	4.5
CO ₂ Carbon dioxide (dry volume %)	9.4	9.5	9.6	9.5
T _s Sample temperature (°F)	405	405	402	404
B _{wo} Moisture measured in sample (% by volume)	15.23	16.74	16.10	16.02
Gas Flow Rate				
Q _a Volumetric flow rate, actual (acfm)	63,503	65,490	62,650	63,881
Q _s Volumetric flow rate, standard (scfm)	38,497	39,721	38,119	38,779
Q _{std} Volumetric flow rate, dry standard (dscfm)	32,635	33,072	31,982	32,563
Visible Emissions (Opacity) Results				
C _{sd} Opacity (%)	0.0	0.0	0.0	0.0
Nitrogen Oxides (NO_x) Results				
C _{sd} NO _x Concentration (ppmdv)	28.2	27.7	27.3	27.7
E _{Fd} NO _x Rate - Fd-based (lb/MMBtu)	0.0377	0.0368	0.0359	0.0368
F _{Fc} NO _x Rate - Fc-based (lb/MMBtu)	0.0373	0.0364	0.0355	0.0364
E _{lb/hr} NO _x Rate (lb/hr)	6.60	6.56	6.25	6.47
Carbon Monoxide (CO) Results				
C _{sd} CO Concentration (ppmdv)	8.0	11.0	18.5	12.5
E _{Fd} CO Rate - Fd-based (lb/MMBtu)	0.0065	0.0089	0.0148	0.0101
F _{Fc} CO Rate - Fc-based (lb/MMBtu)	0.0064	0.0088	0.0147	0.0100
E _{lb/hr} CO Rate (lb/hr)	1.14	1.59	2.58	1.77
Total Hydrocarbons (THC) Results, propane basis				
C _{sw} THC Concentration (ppmdw)	2.11	2.08	2.06	2.09
C _{sd} THC Concentration (ppmdv)	2.49	2.50	2.45	2.48
E _{Fd} THC Rate - Fd-based (lb/MMBtu)	0.0032	0.0032	0.0031	0.0032
F _{Fc} THC Rate - Fc-based (lb/MMBtu)	0.0032	0.0032	0.0031	0.0031
E _{lb/hr} THC Rate (lb/hr)	0.56	0.57	0.54	0.56

RESULTS

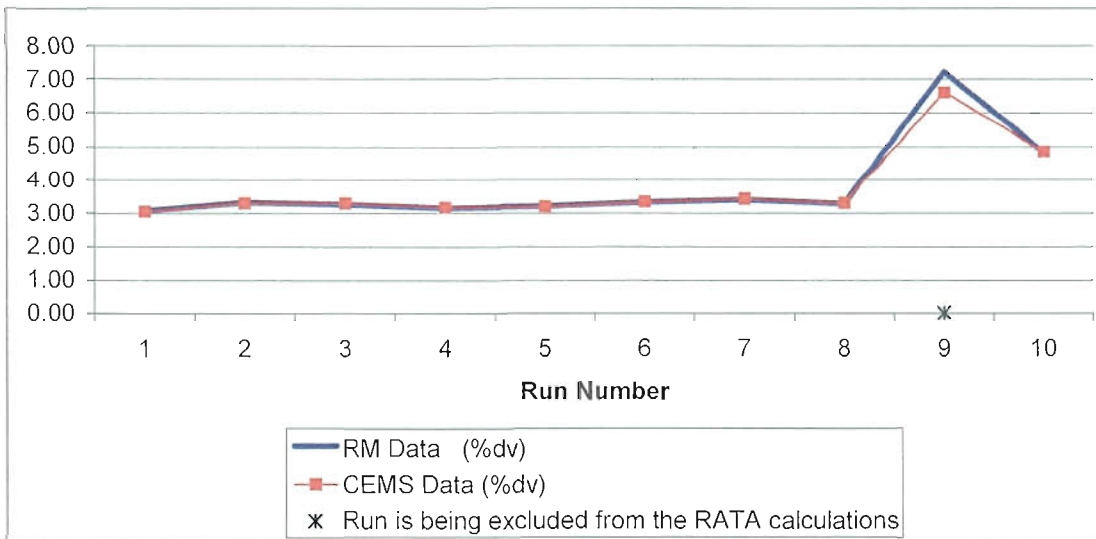
**Table 2-2:
Auxiliary Boiler Common Stack CEMS – Oxygen – RATA**

Run No.	Start Time	Date (2007)	RM Data (%dv)	CEMS Data (%dv)	Difference (%dv)	Percent Difference
1	11:28	Apr 26	3.08	3.06	0.02411	0.78%
2	12:08	Apr 26	3.34	3.31	0.02529	0.76%
3	13:08	Apr 26	3.27	3.30	-0.02693	-0.82%
4	13:50	Apr 26	3.16	3.18	-0.01670	-0.53%
5	14:28	Apr 26	3.23	3.22	0.01160	0.36%
6	15:04	Apr 26	3.36	3.36	-0.00310	-0.09%
7	15:43	Apr 26	3.42	3.45	-0.03035	-0.89%
8	16:19	Apr 26	3.31	3.32	-0.00985	-0.30%
9	17:02	Apr 26	7.22	6.61	0.61151	8.47% *
10	17:42	Apr 26	4.84	4.86	-0.02383	-0.49%
Average			3.45	3.45	-0.01	-0.16%

RATA	
Standard Deviation	0.021449462
Confidence Coefficient	0.016487486
Relative Accuracy (as % of RM)	0.64%
Limits	
	20.00%

* Indicates that the run was not included in the RATA calculations.
 9 Runs are being considered in the RATA calculations
 1 Run is being excluded from the RATA calculations

RM = Reference Method (CleanAir Data)
 CEMS = Continuous Emissions Monitoring System (Indiantown Cogeneration, L.P. data)



RESULTS

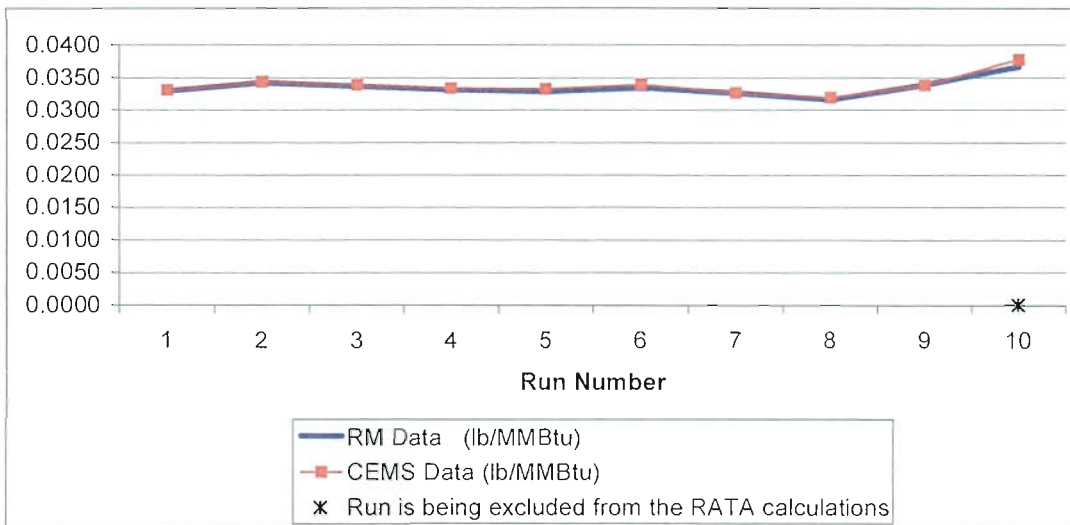
**Table 2-3:
Auxiliary Boiler Common Stack CEMS – Nitrogen Oxides – RATA**

Run No.	Start Time	Date (2007)	RM Data (lb/MMBtu)	CEMS Data (lb/MMBtu)	Difference (lb/MMBtu)	Percent Difference
1	11:28	Apr 26	0.0329	0.0331	-0.0002	-0.46%
2	12:08	Apr 26	0.0342	0.0344	-0.0002	-0.45%
3	13:08	Apr 26	0.0337	0.0339	-0.0002	-0.71%
4	13:50	Apr 26	0.0332	0.0334	-0.0002	-0.71%
5	14:28	Apr 26	0.0329	0.0333	-0.0004	-1.17%
6	15:04	Apr 26	0.0334	0.0340	-0.0006	-1.69%
7	15:43	Apr 26	0.0327	0.0327	0.0000	-0.13%
8	16:19	Apr 26	0.0316	0.0320	-0.0004	-1.21%
9	17:02	Apr 26	0.0340	0.0339	0.0001	0.16%
10	17:42	Apr 26	0.0367	0.0378	-0.0011	-2.87%*
Average			0.0332	0.0334	-0.0002	-0.70%

	RATA	Limits
Standard Deviation	0.000189687	
Confidence Coefficient	0.000145806	
Relative Accuracy (as % of RM)	1.14%	20.00%

* Indicates that the run was not included in the RATA calculations.
9 Runs are being considered in the RATA calculations
1 Run is being excluded from the RATA calculations

RM = Reference Method (CleanAir Data)
 CEMS = Continuous Emissions Monitoring System (Indiantown Cogeneration, L.P. data)



RESULTS

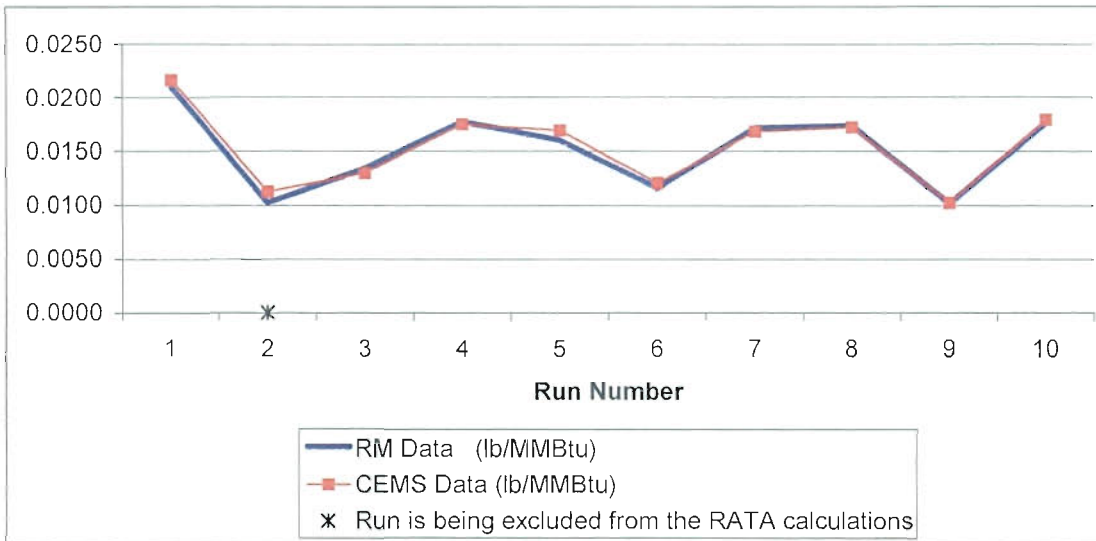
**Table 2-4:
Auxiliary Boiler Common Stack CEMS – Carbon Monoxide – RATA**

Run No.	Start Time	Date (2007)	RM Data (lb/MMBtu)	CEMS Data (lb/MMBtu)	Difference (lb/MMBtu)	Percent Difference
1	11:28	Apr 26	0.0209	0.0216	-0.0007	-3.19%
2	12:08	Apr 26	0.0103	0.0113	-0.0010	-10.13% *
3	13:08	Apr 26	0.0134	0.0130	0.0004	3.27%
4	13:50	Apr 26	0.0177	0.0175	0.0002	1.32%
5	14:28	Apr 26	0.0160	0.0169	-0.0009	-5.47%
6	15:04	Apr 26	0.0116	0.0121	-0.0005	-3.91%
7	15:43	Apr 26	0.0171	0.0168	0.0003	1.98%
8	16:19	Apr 26	0.0174	0.0172	0.0002	0.87%
9	17:02	Apr 26	0.0102	0.0103	-0.0001	-1.10%
10	17:42	Apr 26	0.0176	0.0179	-0.0003	-1.63%
Average			0.0158	0.0159	-0.0001	-0.87%

RATA	
Standard Deviation	0.000465386
Confidence Coefficient	0.000357727
Relative Accuracy (as % of RM)	3.14%
	Limits
	10.00%

* Indicates that the run was not included in the RATA calculations.
9 Runs are being considered in the RATA calculations
1 Run is being excluded from the RATA calculations

RM = Reference Method (CleanAir Data)
CEMS = Continuous Emissions Monitoring System (Indiantown Cogeneration, L.P. data)



RESULTS

**Table 2-5:
Auxiliary Boiler Common Stack CEMS – Cycle Time**

	Downscale			Upscale		
	Start	Stop	Response Time	Start	Stop	Response Time
NOx (ppmdv)	9:05:20	9:07:20	0:02:00	9:10:20	9:13:20	0:03:00
	9:16:20	9:19:20	0:03:00	9:22:20	9:25:20	0:03:00
	9:28:20	9:31:00	0:02:40	9:34:20	9:37:20	0:03:00
	Maximum Response			0:03:00		
CO - Low (ppmdv)	9:05:20	9:07:20	0:02:00	9:10:20	9:13:20	0:03:00
	9:16:20	9:19:20	0:03:00	9:22:20	9:25:20	0:03:00
	9:28:20	9:31:00	0:02:40	9:34:20	9:37:20	0:03:00
	Maximum Response			0:03:00		
CO - High (ppmdv)	11:06:20	11:09:20	0:03:00	11:12:20	11:15:20	0:03:00
	11:18:20	11:22:20	0:04:00	11:25:20	11:28:20	0:03:00
	11:31:20	11:34:20	0:03:00	11:37:20	11:40:20	0:03:00
	Maximum Response			0:04:00		
O2 (%dv)	9:05:20	9:07:20	0:02:00	9:40:20	9:43:20	0:03:00
	9:16:20	9:19:20	0:03:00	9:46:20	9:49:20	0:03:00
	9:28:20	9:31:00	0:02:40	9:52:20	9:55:20	0:03:00
	Maximum Response			0:03:00		

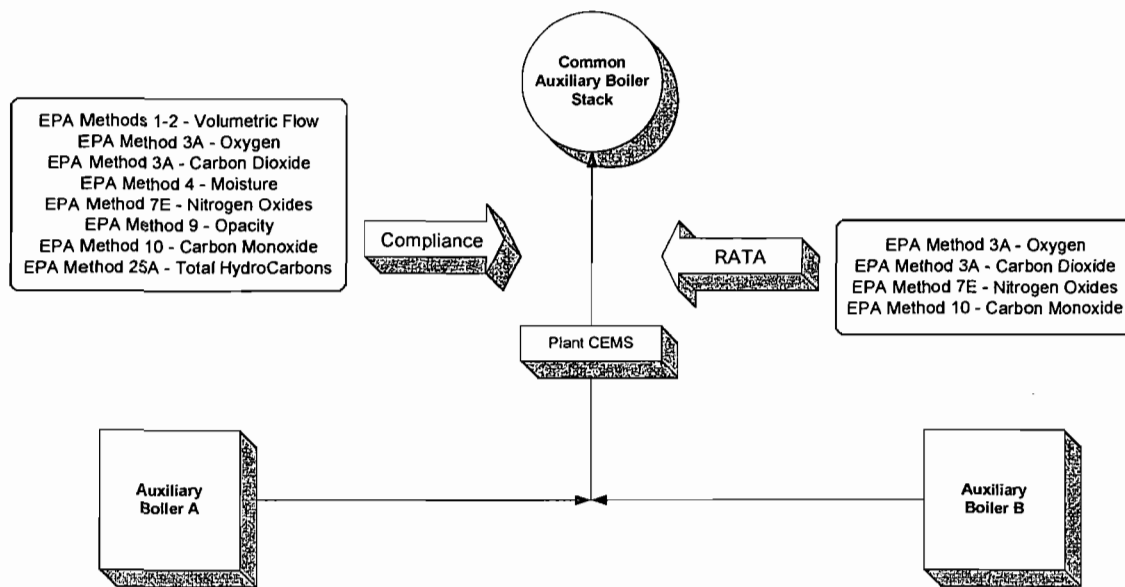
DESCRIPTION OF INSTALLATION

PROCESS DESCRIPTION

The Indiantown Cogeneration Plant operates two (2) auxiliary boilers when necessary to assist in startup of the pulverized coal boiler or to provide process steam to an adjacent company. Natural gas is the primary fuel with propane available as the backup fuel.

Nitrogen oxides emissions from each boiler are controlled through burner technology. The exhaust from each boiler travels through a common header and is exhausted to the atmosphere through a steel stack 215 feet above grade. Two (2) EPA Test ports are located in the steel stack. The test ports are located on the 8th floor and access is available by way of the permanent plant elevator.

A schematic of the process indicating sampling locations is shown in Figure 3-1.



Note: All measurements were performed at the Common Stack. Measurements were taken with only one (1) Auxiliary Boiler in operation at a time.

Figure 3-1: Process Schematic

DESCRIPTION OF INSTALLATION

3-2

DESCRIPTION OF SAMPLING LOCATION

Compliance Test Program

The velocity traverse (volumetric flow) sampling point locations were determined according to EPA Method 1.

The instrumental methods (O₂, CO₂, NO_x, CO and THC) initial stratification check traverse points were located at 16.7, 50.0 and 83.3% of the stack diameter. The stratification check indicated all points were within 5% of the mean value therefore sampling was performed at a single point.

Relative Accuracy Test Audit

Instrumental methods (O₂, CO₂, NO_x and CO) sampling points were located on a measurement line passing through the centroidal area of the stack. The points were positioned at 16.7, 50.0 and 83.3% of the stack diameter.

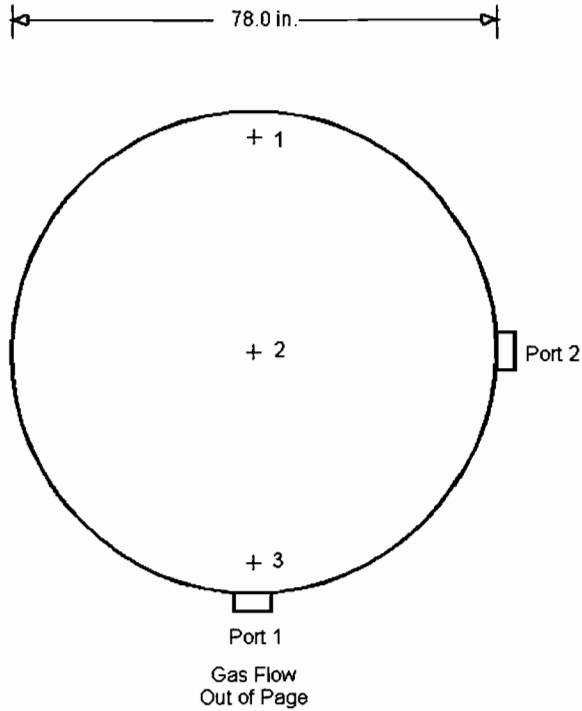
**Table 3-1:
Sampling Point Configurations**

Location	Parameters	Method	Test Program	No. of Sample Points Required	Time per Point	Figure
Stack	O ₂ , CO ₂ , NO _x , CO, THC	3A, 7E, 10, 25A	Compliance	1	60 min.	N/A
	Volumetric Flow Rate	1, 2	Compliance	12	N/A	3-3
	Moisture Determination	4	Compliance	1	60 min.	N/A
	O ₂ , CO ₂ , NO _x , CO	3A, 7E, 10	RATA	3	7 min.	3-2

DESCRIPTION OF INSTALLATION

3-3

DESCRIPTION OF SAMPLING LOCATION (CONTINUED)



Sampling Point	Port to Point Distance (in.)
1	65.0 in. (83.3% of Diameter)
2	39.0 in. (50.0 % of Diameter)
3	13.0 in. (16.7% of Diameter)

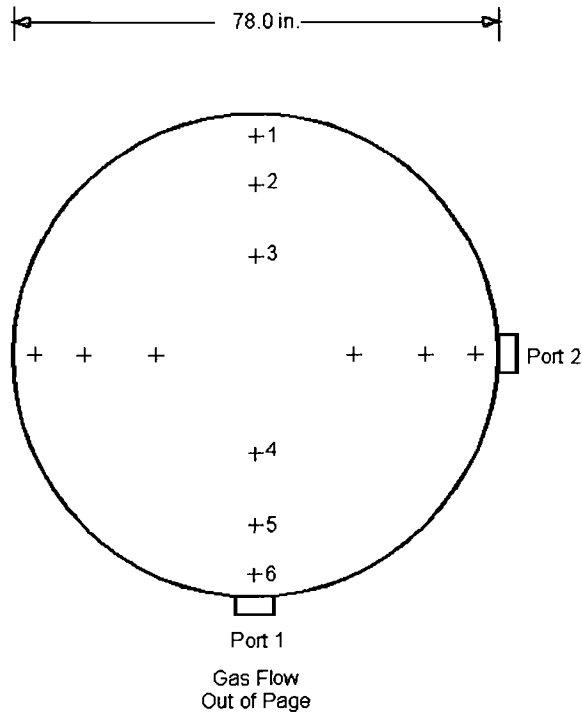
Duct diameters upstream from flow disturbance (A):	>2.0	Limit: 0.5
Duct diameters downstream from flow disturbance (B):	>8.0	Limit: 2.0

**Figure 3-2: Auxiliary Boiler Stack Sampling Point Determination
(Performance Specification 2)**

DESCRIPTION OF INSTALLATION

3-4

DESCRIPTION OF SAMPLING LOCATION (CONTINUED)



<u>Sampling Point</u>	<u>Port to Point Distance (in.)</u>
1	74.6
2	66.6
3	54.9
4	23.1
5	11.4
6	3.4

Duct diameters upstream from flow disturbance (A): >2.0 Limit: 0.5
Duct diameters downstream from flow disturbance (B): >8.0 Limit: 2.0

Figure 3-3: Auxiliary Boiler Stack Sampling Point Determination (EPA Method 1)

METHODOLOGY

4-1

Clean Air Engineering followed procedures as detailed in U.S. Environmental Protection Agency (EPA) Methods 1, 2, 3A, 4, 7E, 9, 10, 19 and 25A and Performance Specifications (PS) 2, 3 and 4. The following table summarizes the methods and their respective sources.

**Table 4-1:
Summary of Sampling Procedures**

Title 40 CFR Part 60 Appendix A

Method 1	"Sample and Velocity Traverses for Stationary Sources"
Method 2	"Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)"
Method 3A	"Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)"
Method 4	"Determination of Moisture Content in Stack Gases"
Method 7E	"Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)"
Method 9	"Visual Determination of the Opacity of Emissions from Stationary Sources"
Method 10	"Determination of Carbon Monoxide Emissions from Stationary Sources"
Method 19	"Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates"
Method 25A	"Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer"

Title 40 CFR Part 60 Appendix B (Performance Specifications (PS))

PS2	"Specifications and Test Procedures for SO ₂ and NO _x Continuous Emission Monitoring Systems in Stationary Sources"
PS3	"Specifications and Test Procedures for O ₂ and CO ₂ Continuous Emission Monitoring Systems in Stationary Sources"
PS4	"Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources"

These methods appear in detail in Title 40 of the Code of Federal Regulations (CFR) and on the World Wide Web at <http://www.cleanair.com>.

Diagrams of the sampling apparatus and major specifications of the sampling equipment are summarized for each method in Appendix A.

CleanAir followed specific quality assurance and quality control (QA/QC) procedures as outlined in the individual methods and in USEPA "Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III Stationary Source-Specific Methods", EPA/600/R-94/038C. Additional QA/QC methods as prescribed in CleanAir's internal Quality Manual were also followed. Results of all QA/QC activities performed by CleanAir are summarized in Appendix D.

INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

APPENDIX

5-1

TEST METHOD SPECIFICATIONS..... A
SAMPLE CALCULATIONS..... B
PARAMETERS..... C
QA/QC DATA..... D
FIELD DATA..... E
FIELD DATA PRINTOUTS..... F
PLANT DATA..... G

INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

TEST METHOD SPECIFICATIONS

A

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Specification Sheet for

EPA Methods 7E, 10 and 25A

Source Location Name(s) Auxiliary Boiler Stack
 Pollutant(s) to be Determined Nitrogen Oxides (NO_x), Carbon Monoxide (CO) and Total Hydrocarbon (THC)
 Other Parameters to be Determined from Train O₂ and CO₂ (EPA Method 3A)

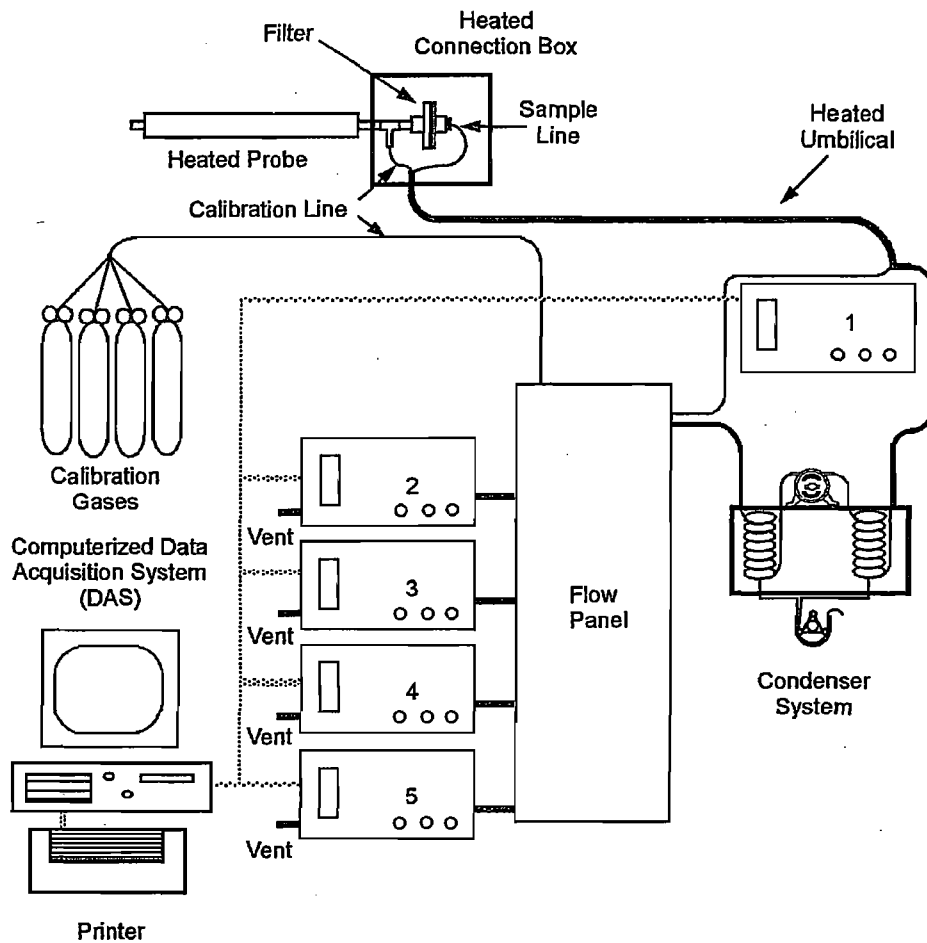
	<u>Standard Method Specification</u>	<u>Actual Specification Used</u>
Pollutant Sampling Information		
Duration of Run	N/A	Compliance = 60 minutes RATA = 21 minutes
No. of Sample Traverse Points	N/A	1
Sample Time per Point	N/A	Compliance = 60 minutes RATA = 21 minutes
Sampling Rate	Constant Rate	Constant Rate
Sampling Probe		
Nozzle Material	N/A	None
Nozzle Design	N/A	N/A
Probe Liner Material	Stainless Steel or Pyrex Glass	Stainless Steel
Effective Probe Length	Sufficient to Traverse Points	6 feet
Probe Temperature Set-Point	Prevent Condensation	248°F±25°F
Particulate Filter		
In-Stack Filter	Yes	No
In-Stack Filter Material	Non-reactive to gas	N/A
External Filter	Yes	No
External Filter Material	Borosilicate, Quartz Glass Wool or Fiber Mat	N/A
External Filter Set-Point	Prevent Condensation	248°F±25°F
Sample Delivery System		
Heated Sample Line Material	Stainless Steel or Teflon	Teflon
Heated Sample Line Set-Point	Prevent Condensation	248°F±25°F
Heated Sample Line Connections	Probe Exit to Moisture Removal System	Probe to Moisture Removal System
Moisture Removal System	Refrigerator-type condenser or similar	Refrigerator-type condenser
Sample Pump Type	Leak-Free, minimal response time	Diaphragm
Sample Pump Material	Non-reactive to sample gases	Teflon
Sample Flow Control	Constant Rate	Constant Rate (±10%)
Non-Heated Sample Line Material	Stainless Steel or Teflon	Teflon
Non-Heated Sample Line Connections	Moisture Removal to Sample Gas Manifold	Moisture Removal to Sample Gas Manifold
Additional Filters	Optional	No
Additional Filter Type	N/A	N/A
Additional Filter Location	Optional	N/A
Filter Material	Non-reactive to sample gases	N/A
Analyzer Description		
Oxygen (O ₂)	EPA Method 3A (Paramagnetic)	EPA Method 3A (Paramagnetic)
Carbon Dioxide (CO ₂)	EPA Method 3A (NDIR)	EPA Method 3A (NDIR)
Sulfur Dioxide (SO ₂)	EPA Method 6C (UV, NDIR or Fluorescence)	
Nitrogen Oxides (NO _x)	EPA Method 7E (Chemiluminescent)	EPA Method 7E (Chemiluminescent)
Carbon Monoxide (CO)	EPA Method 10 (Gas Filter Correlation IR)	EPA Method 10 (Gas Filter Correlation IR)
Total Hydrocarbon (THC)	EPA Method 25A (Flame Ionization)	EPA Method 25A (Flame Ionization Detection)
Hydrogen Chloride (HCl)	N/A	
Ammonia (NH ₃)	N/A	

Specification Sheet for

EPA Methods 7E, 10 and 25A

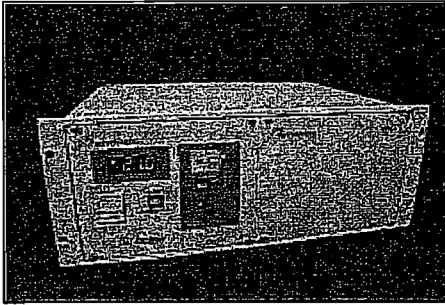
	Standard Method Specification	Actual Specification Used
Instrument Span Range		
Oxygen (O ₂)	≤ 1.33 x Expected Maximum	0-19.54%
Carbon Dioxide (CO ₂)	≤ 1.33 x Expected Maximum	0-19.62%
Sulfur Dioxide (SO ₂)	≤ 1.33 x Expected Maximum	N/A
Nitrogen Oxides (NO _x)	≤ 1.33 x Expected Maximum	0-250.9 ppm
Carbon Monoxide (CO)	1000 ppm maximum	0-590.8 ppm
Total Hydrocarbon (THC)	1.5 to 2.5 x Expected Maximum	0-85.5 ppm
Hydrogen Chloride (HCl)	N/A	N/A
Ammonia (NH ₃)	N/A	N/A
Data Acquisition		
Data Recorder	Strip chart, Analog Computer or Digital Recorder	Digital Recorder
Recorder Resolution	0.5 Percent of Span	0.1 Percent of Span
Data Storage	Manually or Automatic	Automatic
Measurement Freq. ≤60 min. Sample Time	1-min. intervals or 30 measurements (less restrictive)	One reading per second
Recording Freq. ≤60 min. Sample Time	1-min. intervals or 30 measurements (less restrictive)	One Minute Average (60, 1 second readings)
Measurement Freq. >60 min. Sample Time	2-min. intervals or 96 measurements (less restrictive)	N/A
Recording Freq. >60 min. Sample Time	2-min. intervals or 96 measurements (less restrictive)	N/A
Calibration Gas Specifications		
Oxygen (O ₂)	EPA Protocol 1	EPA Protocol 1
Carbon Dioxide (CO ₂)	EPA Protocol 1	EPA Protocol 1
Sulfur Dioxide (SO ₂)	EPA Protocol 1	
Nitrogen Oxides (NO _x)	EPA Protocol 1	EPA Protocol 1
Carbon Monoxide (CO)	Certified Standard (±2%)	EPA Protocol 1
Total Hydrocarbon (THC)	EPA Protocol 1	EPA Protocol 1
Hydrogen Chloride (HCl)	N/A	
Ammonia (NH ₃)	N/A	

EPA Methods 3A, 7E, 10, 25A Sampling Train Configuration



Number	Gas	Monitor	Calibration Span	Calibration Gas Concentrations
1	THC	JUM 3-300A	85.5 PPM	25.7, 44.4, 85.5 PPM
2	O ₂	Servomex 1420C	19.54 %	10.01, 19.54%
3	CO ₂	Servomex 1415C	19.62 %	10.18, 19.62%
4	NO _x	TEI 42	167, 250.9 PPM	76.6, 119, 167.0, 250.9 PPM
5	CO	TEI 48	111.0, 590.8 PPM	51.1, 111, 294.4, 590.8 PPM

Servomex 1420C Oxygen Analyzer



The 1420C Oxygen Analyzer Includes:

- Analyzer
- Power cord
- Signal cable
- Manual
- Calibration sheet
- Instrument Rental Shipping Container

Specifications:

- Weight: 12 lbs.
- Dimensions: 9" x 5" x 7" (single unit)
- Range: 0-25 & 100% O₂.
- Accuracy: +/- 0.1%
- Linearity: +/- 0.1% O₂
- Repeatability: +/- 0.1% O₂
- Response time (T₉₀): 2.5 seconds at 200 ml/min; 2.0 seconds at 250 ml/min
- Zero Drift: <+/- .002% O₂/hour
- Span Drift: <+/- .002% O₂/hour
- Warm up time: typically 1 hour
- Electrical output: 0-1V non-isolated (min load 1K) or 4-20mA isolated (max load 600?).
- Display: 3.5 digit green LED display reading 0-100% oxygen.
- Display resolution: 0.1%
- AC Supply: 88-264VAC, 47-63 Hz
- Power required: 45 VA
- Operating ambient temperature: 32°F to 113°F (0°C to 45°C) as standard. 32°F to 104°F (0°C to 40°C) when fitted in bench top case.
- Storage temperature: -4°F to 158°F (-20°C to 70°C).
- Relative humidity: 0-90% non-condensing.

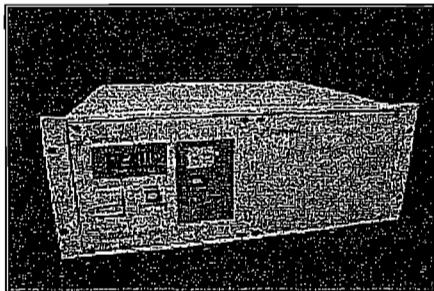
Rental/Application Notes:

1. Effect of ambient temperature: <+/- 0.03% O₂/°C zero; <+/- 0.10% O₂/°C span
2. Effect of barometric pressure: The analyzer measures the partial pressure of oxygen in the sample gas. Therefore, any change in sample pressure at the measuring cell will have an effect, which is proportional to the change in absolute pressure from time of calibration. An analyzer for oxygen purity (with pressure compensation) reduces error by a factor of approximately 5.
3. Inlet pressure: 1-10 psig (7-70 kPag)
4. Vent pressure: 11.6 to 15.9 psia (80-110 kPag)
5. Flow rate: 1-6 lpm
6. The Servomex 1420C/1415C can be plumbed together in a 19" rack mount (Model 1440C). The combined weight is 44 lbs. These units are compatible with the older 1400B series.
7. When renting, equipment must be returned in its original packaging.

Clean Air Engineering
500 W. Wood Street
Palatine, IL 60067
(800) 553-5511
(847) 934-8668
Fax: (847) 934-8260
www.cleanair.com



Servomex 1415C CO2 Analyzer



The 1415C CO2 Analyzer Includes:

- Analyzer
- Power cord
- Signal cable
- Manual
- Calibration sheet
- Instrument Rental Shipping Carton

Specifications:

- Weight: 12 lbs.
- Dimensions: 9" x 5" x 7" (single unit)
- Range: 0-20 & 25% CO₂.
- Accuracy: 1% of selected range
- Linearity: 1% of selected range
- Repeatability: 1% of selected range
- Response time (T₉₀): <10 seconds
- Zero Drift: 2% of full scale/week
- Span Drift: 1% of reading/day
- Warm up time: typically 1 hour
- Electrical output: 0-1V non-isolated (min load 1K) or 4-20mA isolated (max load 600?).
- Display: 3.5 digit green LED display reading.
- Display resolution: 0.1%
- AC Supply: 88-264VAC, 47-63 Hz
- Power required: 45 VA
- Operating ambient temperature: 32°F to 113°F (0°C to 45°C) as standard. 32°F to 104°F (0°C to 40°C) when fitted in bench top case.
- Storage temperature: -4°F to 158°F (-20°C to 70°C)
- Relative humidity: 0-90% non-condensing.

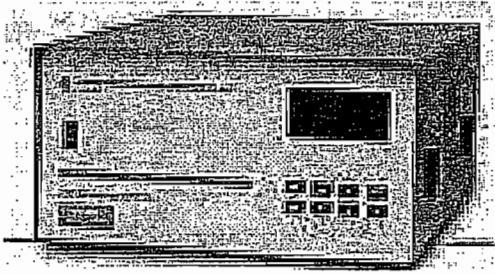
Rental/Application Notes:

1. Effect of ambient temperature: 1% of full scale per 10°C change.
2. Effect of barometric pressure: 0.15% of reading per mbar within specified range.
3. Inlet pressure: 1-10 psig (7-70 kPag)
4. Vent pressure: 11.6 to 15.9 psia (80-110 kPag)
5. Flow rate: 1-6 lpm
6. The Servomex 1420C/1415C can be plumbed together in a 19" rack mount (Model 1440C). The combined weight is 44 lbs. These units are compatible with the older 1400B series.
7. When renting, equipment must be returned in its original packaging.

Clean Air Engineering
500 W. Wood Street
Palatine, IL 60067
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Fax: (847) 934-8260
www.cleanair.com



Thermo Model 42CLS NO-NO₂-NO_x Analyzer



Model 42CLS NO-NO₂-NO_x Analyzer Includes:

- Analyzer
- Power Cord
- Signal Cable
- Drierite
- Ozone Scrubber
- Manual
- Shipping Carton

Specifications:

- Approximate Shipping Weight: 75lbs / 2 boxes
- Detection Method: Chemiluminescence
- Preset Ranges: 0-0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50ppm (plus custom ranges between 0-50ppm)
- Extended Ranges: 0.5, 1, 2, 5, 10, 20, 50, 100, 200ppm (plus custom ranges between 0-200ppm)
- Noise: 0.005ppm RMS (1 minute average time)
- Lower Detectable Limit: 0.01ppm (1 minute average time)
- Zero Drift (24 hour): ~0.005ppm
- Span Drift (24 hour): ± 1% full-scale
- Response Time:
 - 40 sec (10 second averaging time)
 - (in automatic mode) 80 sec (60 second averaging time)
 - 300 sec (300 second averaging time)
 - Response time: NO_x only mode <5 seconds
- Linearity: ± 1% full scale
- Sample Flow Rate: ~100 cc/min
- Operating Temperature: 15° - 35° C
- Power Requirements: 105-125 VAC, 60HZ; 300 WATTS
- Physical Dimensions: 16.75" (W) x 8.62" (H) x 23" (D)
- Outputs: Selectable voltages and RS-232 standard; 4-20mA
- Stainless Steel NO₂ Converter set between 600°C-675°C

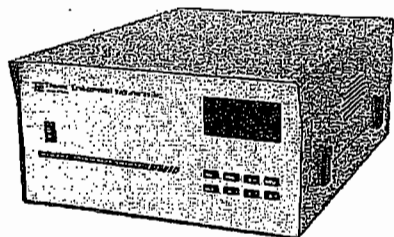
Rental/Application Notes:

1. User programmable software capabilities allow individual measurement range settings to be stored in memory for subsequent recall and NO, NO₂, NO_x hourly average storage for up to one month.
2. Instrument diagnostics can be performed locally and remotely
3. Troubleshooting diagnostics provide instant indication of instrument operating parameters including pressure, flow, DC supply voltages, internal temperature, reaction chamber temperature, PMT operating voltage, and converter temperature.
4. Includes an internal pump and proprietary ammonia scrubber for SCR and SNCR applications.
5. Low NO_x gases are available for rental at ranges below 20ppm.
6. When renting, equipment must be returned in its original packaging.

Clean Air Engineering
500 W. Wood Street
Palatine, IL 60067
(800) 553-5511
(847) 934-8668
Fax: (847) 934-8260
www.cleanair.com



Thermo Model 48C CO Analyzer



Model 48C Analyzer Includes:

- Analyzer
- Power Cord
- Signal Cable
- Manual with Quick Start Guide
- Instrument Rental Shipping Carton

Specifications:

- Approximate Shipping Weight: 50lbs Packaged
- Detection Method: Gas Filter Correlation
- Ranges: 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10,000ppm
- Zero Noise: 0.02 ppm RMS (30 second averaging time)
- Lower Detectable Limit: 0.04 ppm (30 second averaging time)
- Zero Drift (24 hour): <0.1 ppm
- Span Drift (24 hour): $\pm 1\%$ full-scale
- Response Time: 60 Seconds (30 Second averaging time)
- Precision: 1% of reading or 0.05 ppm
- Linearity: $\pm 1\%$ full scale up to 1000 ppm, $\pm 3\%$ full scale for higher ranges
- Sample Flow Rate: 1 liters/minute
- Operating Temperature: 20° - 30° C (may be safely operated over the range of 5° - 45°C)
- Power Requirements: 105-125 VAC, 60HZ; 100 WATTS
- Physical Dimensions: 16.75" (W) x 8.62" (H) x 23" (D)
- Outputs: Selectable voltages and RS-232 standard

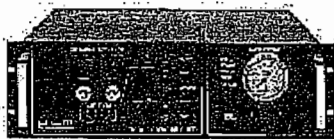
Rental/Application Notes:

1. Designed for EPA Designated Method RFCA-0981-054
2. Can be remotely controlled with bi-directional RS-232 Communication Port
3. Analog data outputs with selectable voltages
4. Analog status outputs (optional)
5. Instrument diagnostics can be performed locally and remotely
6. High and Low CO and Zero Air are available from Clean Air Instrument Rental.
7. When renting, equipment must be returned in its original packaging.

Clean Air Engineering
500 W. Wood Street
Palatine, IL 60067
(800) 553-5511
(847) 934-8668
Fax: (847) 934-8260
www.cleanair.com



J.U.M. Model 3-300A THC Analyzer



J.U.M. Model 3-300A Includes:

- Analyzer
- Power Cord
- Signal Cable
- Manual with QuickStart Guide
- Instrument Rental Shipping Carton

Specifications:

- Approximate Shipping Weight, 50 lbs.
- Detection Method: Flame Ionization Detector (FID)
- Voltage Requirement: 115 VAC/60Hz, 850 watts
- Fuel Requirement: 100% Hydrogen, Zero Grade (Normal), 60/40 FID Fuel (on request)
- Fuel Consumption: Hydrogen: ~20 cc/min. at 22 PSIG (1.5 bar), 40% H_2 /60%He: ~90 cc/min at 22 PSIG
- Air Consumption: None; Integral Air Generator
- Outputs Available: 0-10V, 4-20mA
- Sensitivity: Max: 1ppm CH_4
- Response Time: 0.2 seconds
- T_{90} time: 1.2 seconds
- Zero Drift: <1% of full scale per 24 hours
- Span Drift: <1% of full scale per 24 hours
- Linearity: Within 1%
- Oxygen Synergism: Less than 1.2% of selected range
- Ranges: 0-10 up to 0-100,000 ppm
- Display: 3.5" digital
- Zero/Span Adjust: Manual on front panel
- Zero/Span Gas: 3 PSIG (200 m Bar)
- Sample Pump: All stainless steel, heated, 2.5 liters per minute at operating temperature.
- Sample Pressure: By integral pump 3 PSIG (200 m Bar)
- Sample Filter: Permanent all stainless steel, 2 micron back-purged for cleaning
- Oven Temperature: 374° F (190° C)
- Ambient Temperature: 41° F to 110° F
- Dimensions: Width=19", Depth=18-1/8", Height=5-1/5"

Rental/Application Notes:

1. Designed for EPA Method 25A Testing
2. Direct reading in parts per million (ppm) - sensitive down to one ppm (as Methane)
3. Our in-house calibration is done using propane (C3) balanced in nitrogen unless requested otherwise. Methane is available. Specify air or nitrogen background also & fuel type.
4. Response factors can be generated for other compounds upon request. (Additional set-up fees will apply.)
5. When renting, equipment must be returned in its original packaging.

Clean Air Engineering
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INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

SAMPLE CALCULATIONS

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Indiantown Cogeneration, L.P.
 Clean Air Project No: 10199
 Auxiliary Boiler B

**USEPA Method 2 (Velocity & Flow Rate)
 Sampling, Velocity and Moisture Sample Calculations**

Sample data taken from Run 1

Note: The tables presenting the results are generated electronically from raw data. It may not be possible to exactly duplicate these results using a calculator. The reference method data, results, and all calculations are carried to sixteen decimal places throughout. The final table is formatted to an appropriate number of significant figures.

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1. Volume of water collected (wscf)

$$V_{wstd} = (0.04707)(V_{lc})$$

Where:

V_{lc}	= total volume of liquid collected in impingers and silica gel (ml)	=	127.0	ml
0.04707	= ideal gas conversion factor (ft ³ water vapor/ml or gm)	=	0.04707	ft ³ /ml
V_{wstd}	= volume of water vapor collected at standard conditions (ft ³)	=	5.98	ft ³

2. Volume of gas metered, standard conditions (dscf)

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

Where:

P_{bar}	= barometric pressure (in. Hg)	=	29.75	in. Hg
T_m	= average dry gas meter temperature (°F)	=	85.08	°F
V_m	= volume of gas sample through the dry gas meter at meter conditions (dcf)	=	34.49	dcf
Y_d	= gas meter correction factor (dimensionless)	=	1.0000	
ΔH	= average pressure drop across meter box orifice (in. H ₂ O)	=	1.00	in. H ₂ O
17.64	= standard temperature to pressure ratio (°R/in. Hg)	=	17.64	°R/in. Hg
13.6	= conversion factor (in. H ₂ O/in. Hg)	=	13.6	in. H ₂ O/in. Hg
460	= °F to °R conversion constant	=	460	
V_{msid}	= volume of gas sampled through the dry gas meter at standard conditions (dscf)	=	33.283	dscf

3. Sample gas pressure (in. Hg)

$$P_s = P_{bar} + \left(\frac{P_g}{13.6} \right)$$

Where:

P_{bar}	= barometric pressure (in. Hg)	=	29.75	in. Hg
P_g	= sample gas static pressure (in. H ₂ O)	=	-0.40	in. H ₂ O
13.6	= conversion factor (in. H ₂ O/in. Hg)	=	13.6	in. H ₂ O/in. Hg
P_s	= absolute sample gas pressure (in. Hg)	=	29.72	in. Hg

Indiantown Cogeneration, L.P.
 Clean Air Project No: 10199
 Auxiliary Boiler B

4. Actual water vapor pressure at sample gas temperature less than 212°F (in. Hg)

$$P_v = \frac{e^{\left(\frac{18.3036 - \frac{3816.44}{\frac{5}{9}(T_s - 32) + 273.15 - 46.13}}{25.4} \right)}}{25.4}$$

Where:

T_s	= average sample gas temperature (°F)	=	405.17	°F
18.3036	= Antoine coefficient	=	18.3036	°K
3816.44	= Antoine coefficient	=	3816.44	°K
273.15	= temperature conversion factor	=	273.15	°K
46.13	= Antoine coefficient	=	46.13	°K
25.4	= conversion factor	=	25.4	mm Hg/in. Hg
5/9	= Fahrenheit to Celsius conversion factor	=	5/9	°C/°F
32	= temperature conversion (°F)	=	32	°F
P_v	= vapor pressure, actual (in. Hg)	=	29.72	in. Hg

5. Water vapor pressure at gas temperature greater than 212°F (in. Hg)

$$P_v = P_s$$

Where:

P_s	= absolute sample gas pressure (in. Hg)	=	29.72	in. Hg
P_v	= water vapor pressure, actual (in. Hg)	=	29.72	in. Hg

6. Moisture measured in sample (% by volume)

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

Where:

V_{mstd}	= volume of gas sampled through the dry gas meter at standard conditions (dscf)	=	33.283	dscf
V_{wstd}	= volume of water collected at standard conditions (scf)	=	5.98	scf
B_{wo}	= proportion of water measured in the gas stream by volume	=	0.1523	
		=	15.23	%

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 Auxiliary Boiler B

7. Saturated moisture content (% by volume)

$$B_{ws} = \frac{P_v}{P_s}$$

Where:

P_s	= absolute sample gas pressure (in. Hg)	=	29.72	in. Hg
P_v	= water vapor pressure, actual (in. Hg)	=	29.72	in. Hg
B_{ws}	= proportion of water vapor in the gas stream by volume at saturated conditions	=	1.0000	
		=	100.00	%

8. Actual water vapor in gas (% by volume)

$$B_w = \text{MINIMUM} [B_{wo}, B_{ws}]$$

Where:

B_{ws}	= proportion of water vapor in the gas stream by volume at saturated conditions	=	1.0000	
B_{wo}	= proportion of water measured in the gas stream by volume	=	0.1523	
B_w	= actual water vapor in gas	=	0.1523	
		=	15.23	%

9. Nitrogen (plus carbon monoxide) in gas stream (% by volume, dry)

$$N_2 + CO = 100 - CO_2 - O_2$$

Where:

CO_2	= proportion of carbon dioxide in the gas stream by volume (%)	=	9.4	%
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.6	%
100	= conversion factor (%)	=	100	%
N_2+CO	= proportion of nitrogen and CO in the gas stream by volume (%)	=	85.99	%

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 Auxiliary Boiler B

10. Molecular weight of dry gas stream (lb/lb-mole)

$$M_d = (M_{CO_2}) \left(\frac{CO_2}{100} \right) + (M_{O_2}) \left(\frac{O_2}{100} \right) + (M_{N_2+CO}) \left(\frac{N_2 + CO}{100} \right)$$

Where:

M_{CO_2}	= molecular weight of carbon dioxide (lb/lb-mole)	=	44.00	lb/lb-mole
M_{O_2}	= molecular weight of oxygen (lb/lb-mole)	=	32.00	lb/lb-mole
M_{N_2+CO}	= molecular weight of nitrogen and carbon monoxide (lb/lb-mole)	=	28.00	lb/lb-mole
CO_2	= proportion of carbon dioxide in the gas stream by volume (%)	=	9.4	%
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.6	%
N_2+CO	= proportion of nitrogen and CO in the gas stream by volume (%)	=	86.0	%
100	= conversion factor (%)	=	100	%
M_d	= dry molecular weight of sample gas (lb/lb-mole)	=	29.69	lb/lb-mole

11. Molecular weight of sample gas (lb/lb-mole)

$$M_s = (M_d)(1 - B_w) + (M_{H_2O})(B_w)$$

Where:

B_w	= proportion of water vapor in the gas stream by volume	=	0.1523	
M_d	= dry molecular weight of sample gas (lb/lb-mole)	=	29.69	lb/lb-mole
M_{H_2O}	= molecular weight of water (lb/lb-mole)	=	18.00	lb/lb-mole
M_s	= molecular weight of sample gas, wet basis (lb/lb-mole)	=	27.91	lb/lb-mole

12. Velocity of sample gas (ft/sec)

$$V_s = (K_p)(C_p) \left(\sqrt{\Delta P} \right) \left(\sqrt{\frac{(T_s + 460)}{(M_s)(P_s)}} \right)$$

Where:

K_p	= velocity pressure constant	=	85.49	
C_p	= pitot tube coefficient	=	0.84	
M_s	= wet molecular weight of sample gas, wet basis (lb/lb-mole)	=	27.91	lb/lb-mole
P_s	= absolute sample gas pressure (in. Hg)	=	29.72	in. Hg
T_s	= average sample gas temperature (°F)	=	405.17	°F
$\sqrt{\Delta P}$	= average square roots of velocity heads of sample gas (in. H ₂ O)	=	0.435	√in. H ₂ O
460	= °F to °R conversion constant	=	460	
V_s	= sample gas velocity (ft/sec)	=	31.90	ft/sec

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 Auxiliary Boiler B

13. Volumetric flow rate of sample gas at actual gas conditions (acfm)

$$Q_a = (60)(A_s)(V_s)$$

Where:

A_s	= cross sectional area of sampling location (ft ²)	=	33.18	ft ²
V_s	= sample gas velocity (ft/sec)	=	31.90	ft/sec
60	conversion factor (sec/min)	=	60	sec/min
Q_a	= volumetric flow rate at actual conditions (acfm)	=	63,503	acfm

14. Total flow of sample gas (scfm)

$$Q_s = (Q_a) \left(\frac{P_s}{29.92} \right) \left(\frac{68+460}{T_s+460} \right)$$

Where:

Q_a	= volumetric flow rate at actual conditions (acfm)	=	63,503	acfm
P_s	= absolute sample gas pressure (in. Hg)	=	29.72	in. Hg
29.92	= standard pressure (in. Hg)	=	29.92	in. Hg
T_s	= average sample gas temperature (°F)	=	405.2	°F
68	= standard temperature (°F)	=	68	°F
460	= °F to °R conversion constant	=	460	
Q_s	= volumetric flow rate at standard conditions, wet basis (scfm)	=	38,497	scfm

15. Dry flow of sample gas (dscfm)

$$Q_{std} = (Q_s)(1 - B_w)$$

Where:

B_w	= proportion of water vapor in the gas stream by volume	=	0.1523	
Q_s	= volumetric flow rate at standard conditions, wet basis (scfm)	=	38,497	scfm
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32,635	dscfm

16. Dry flow of sample gas corrected to 7%O₂ (dscfm)

$$Q_{std7} = (Q_{std}) \left(\frac{20.9 - O_2}{20.9 - 7} \right)$$

Where:

Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32,635	dscfm
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.6	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
7	= oxygen content of corrected gas (%)	=	7.0	%
Q_{std7}	= volumetric flow rate at STP and 7%O ₂ , dry basis (dscfm)	=	38,226	dscfm

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17. Hourly time basis conversion of volumetric flow rate (Q_{std} example)

$$Q_{std-hr} = (Q_{std-min})(60)$$

Where

$Q_{std-min}$	= volumetric flow rate, english units (ft ³ /min)	= 32,635	dscfm
60	= conversion factor (min/hr)	= 60	min/hr

Q_{std-hr}	= volumetric flow rate, hourly basis (dscf/hr)	= 1,958,118	dscf/hr
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18. Metric Conversion of Gas Volumes (Q_{std} example)

$$Q_{std-metric} = (Q_{std-english}) \left(\frac{60}{35.31} \right)$$

Where:

$Q_{std-english}$	= volumetric flow rate, english units (ft ³ /min)	= 32,635	dscfm
35.31	= conversion factor (ft ³ /m ³)	= 35.31	ft ³ /m ³
60	= conversion factor (min/hr)	= 60	min/hr

$Q_{std-metric}$	= volumetric flow rate, metric units (m ³ /hr)	= 55,455	dry std m ³ /hr
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19. Standard to Normal Conversion of Gas Volumes (Q_{std} example)

$$Q_{Normal} = (Q_{std-metric}) \left(\frac{32 + 460}{68 + 460} \right)$$

Where:

$Q_{std-metric}$	= volumetric flow rate, metric units (dry std m ³ /hr)	= 55,455	dry std m ³ /hr
32	= normal temperature (°F)	= 32	°F
68	= standard temperature (°F)	= 68	°F
460	= standard temperature in Rankine (68°F)	= 460	

Q_{Normal}	= volumetric flow rate, metric units (dry Nm ³ /hr)	= 51,674	dry Nm ³ /hr
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**CEM Field Sample Calculations
 for NOX Auxiliary Boiler B**

Sample data taken from **Run 1**
 and Channel 1

Note: The tables presenting the results are generated electronically from raw data. It may not be possible to exactly duplicate these results using a calculator. The reference method data, results and all calculations are carried to sixteen decimal places throughout. The final table is formatted to an appropriate number of significant figures.

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1. Average of a calibration series

$$C_{mce} = \frac{(C_1 + C_2 + C_3)}{3}$$

Where:

C_1, C_2, C_3 = concentrations of 3 consecutive gas samples that are representative of the calibration gas

C_{mce} = average concentration of a calibration series = 116.361 ppmdv
 In this case the low cal series for channel 1

2a. Calibration Error Check for Hydrocarbons (5% of actual calibration gas value error allowed by Method 25A)

$$E_{HC} = abs \left| \frac{C_{mce} - C_{ma}}{C_{ma}} \right| \leq l_{cal}$$

Where:

C_{mce} = average concentration of a calibration series = 116.361 ppmdv
 In this case the low cal series for channel 1

C_{ma} = concentration of actual calibration gas value = 119.000 ppmdv

l_{cal} = limit for calibration error for hydrocarbons = 5.0%

E_{HC} = calibration error check value = NA

2b. Calibration Error Check for non-Hydrocarbons (2% of Instrument Span)

$$E = abs \left| \frac{C_{mce} - C_{ma}}{Span} \right| \leq l_{cal}$$

Where:

C_{mce} = average concentration of a calibration series = 116.361 ppmdv
 In this case the low cal series for channel 1

C_{ma} = concentration of actual calibration gas value = 119.000 ppmdv

Span = instrument span value = 250.900

l_{cal} = limit for calibration error for non-hydrocarbons = 2.0%

E = calibration error check value = 1.05% **Pass**

3. System Bias as Percent of Span Value (5% is allowed)

$$E_{Bias} = abs \left| \frac{C_{mf} - C_{mce}}{Span} \right| \leq l_{bias}$$

Where:

C_{mce} = average concentration of a calibration series = 116.361 ppmdv
 in this case the Low cal series for channel 1

C_{mf} = calibration error response concentration for Cal01 = 114.280 ppmdv

Span = instrument span value = 250.900 ppmdv

l_{bias} = limit for system bias error = 5.0%

E_{bias} = calibration bias error check value = 0.83% **Pass**

4. System Drift as Percent of Span Value (3%)

$$E_{Drift} = abs \left| \frac{C_{mf} - C_{mi}}{Span} \right| \leq l_{drift}$$

Where:

C_{mf}	= calibration error response concentration for Cal01 (final)	=	114.280	ppmdv
C_{mi}	= calibration error response concentration for Cal00 (initial)	=	113.963	ppmdv
Span	= Instrument span value	=	250.900	ppmdv
l_{drift}	= limit for system drift error	=	3.0%	
E_{drift}	= calibration drift error check value	=	0.13%	Pass

5. Average Concentration for an entire Run

$$C = \frac{\sum_{i=1}^N C_i}{N}$$

Where:

C_i	= All concentration readings for the entirety of Run 1 for the monitor looking for NOX on channel 1	=	27.548	ppmdv
N	= total number of readings in Run 1	=	60	
C	= average NOX concentration for Run 1	=	27.311	ppmdv

6. Drift-Corrected Average Concentration for an entire Run

$$C_{DC} = \left(C - \frac{C_{oi} + C_{of}}{2} \right) \left(\frac{C_{ma}}{\frac{C_{mi} + C_{mf}}{2} - \frac{C_{oi} + C_{of}}{2}} \right)$$

C_{ma}	= concentration of actual calibration gas value	=	119.000	ppmdv
C	= average NOX concentration for Run 1	=	27.311	ppmdv
C_{mf}	= calibration error response concentration for Cal01 (final)	=	114.280	ppmdv
C_{mi}	= calibration error response concentration for Cal00 (initial)	=	113.963	ppmdv
C_{of}	= calibration error response concentration for Cal01 (final) for zero gas	=	0.527	ppmdv
C_{oi}	= calibration error response concentration for Cal00 (initial) for zero gas	=	0.089	ppmdv
C_{DC}	= drift corrected average concentration for Run 1	=	28.234	ppmdv

**CEM Emissions Sample Calculations
 for NOX Auxiliary Boiler B**

Sample data taken from Run 1
 and Channel 1

Note: The tables presenting the results are generated electronically from raw data. It may not be possible to exactly duplicate these results using a calculator. The reference method data, results and all calculations are carried to sixteen decimal places throughout. The final table is formatted to an appropriate number of significant figures.

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1. NOX concentration (ppmdv)

$$C(\text{ppmdv}) = k_1 \times C_{DC} \quad \text{if dry gas}$$

$$C(\text{ppmdv}) = \frac{k_1 \times C_{DC}}{\left(1 - \frac{B_w}{100}\right)} \quad \text{if wet gas}$$

Where:

C_{DC}	= drift corrected average concentration	=	28.234	ppmdv
B_w	= actual water vapor in gas (% v/v)	=	15.226	% v/v
100	= conversion factor to change percentage to decimal	=	100	
k_1	= ppm/% to ppm conversion factor for diluent gases	=	1	
C (ppmdv)	= NOX concentration (ppmdv)	=	28.234	ppmdv

2. NOX concentration (ppmwv)

$$C(\text{ppmwv}) = k_1 \times C_{DC} \quad \text{if wet gas}$$

$$C(\text{ppmwv}) = k_1 \times C_{DC} \times \left(1 - \frac{B_w}{100}\right) \quad \text{if dry gas}$$

Where:

C_{DC}	= drift corrected average concentration	=	28.234	ppmdv
B_w	= actual water vapor in gas (% v/v)	=	15.226	% v/v
100	= conversion factor to change percentage to decimal	=	100	
k_1	= ppm/% to ppm conversion factor for diluent gases	=	1	
C (ppmwv)	= NOX concentration (ppmwv)	=	23.935	ppmwv

3. NOX concentration (lb/dscf)

$$C(\text{lb / dscf}) = \frac{C(\text{ppmdv}) \times MW(\text{gas})}{10^6 \text{ ppm} \times 385.3}$$

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.234	ppmdv
MW	= Molecular Weight of NOX gas	=	46.0055	lb/lb-mole
10^6	= conversion factor from decimal to ppm	=	1.00E+06	
385.3	= molar volume	=	385.3	dscf/lb-mole
C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf

4. NOX concentration (lb/scf)

$$C(\text{lb / scf}) = C(\text{lb / dscf}) \times \frac{Q_{std}}{Q_s}$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32635.30257	dscf/min
Q_s	= volumetric flow rate (standard cubic feet/min)	=	38496.82751	scf/min
C (lb/scf)	= NOX concentration (lb/scf)	=	2.858E-06	lb/scf

5. NOX concentration (lb/acf)

$$C(\text{lb / acf}) = C(\text{lb / dscf}) \times \frac{Q_{std}}{Q_a}$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32635.30257	dscf/min
Q_a	= volumetric flow rate (actual cubic feet/min)	=	63503.10861	acf/min
C (lb/acf)	= NOX concentration (lb/acf)	=	1.732E-06	lb/acf

6. NOX concentration (%dv)

$$C(\% \text{ dv}) = C(\text{ppmdv}) \times \frac{100}{10^6}$$

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.234	ppmdv
100	= conversion factor from decimal to percentage	=	1.00E+02	
10^6	= conversion factor from decimal to ppm	=	1.00E+06	
C (%dv)	= NOX concentration (%dv)	=	0.0028%	%dv

7. NOX concentration (mg/dscm)

$$C(\text{mg / dscm}) = C(\text{lb / dscf}) \times k_2 \times 35.31$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
k_2	= conversion factor from lb to mg	=	453515	mg/lb
35.31	= conversion factor from dscf to dscm	=	35.31	ft ³ /m ³
C (mg/dscm)	= NOX concentration (mg/dscm)	=	53.984	mg/dscm

8. NOX concentration (mg/Nm³ dry)

$$C \quad (mg / Nm^3 \text{ dry}) \quad = C(lb / dscf) \times k_2 \times 35.31 \times \left(\frac{68 + 460}{32 + 460} \right)$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
k ₂	= conversion factor from lb to mg	=	453515	mg/lb
35.31	= conversion factor from dscf to dscm	=	35.31	ft ³ /m ³
68	= standard temperature (°F)	=	68	°F
32	= normal temperature (°F)	=	32	°F
460	= °F to °R conversion constant	=	460	

C (mg/Nm ³ dry)	= NOX concentration (mg/Nm ³ dry)	=	57.934	mg/Nm ³ dry
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9. NOX concentration corrected to 3% O₂ (ppmdv example)

$$C(ppmdv @ x\%O_2) = C(ppmdv) \times \left(\frac{20.9 - x}{20.9 - O_2} \right)$$

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.234	ppmdv
x	= oxygen content of corrected gas (%)	=	3.00	%
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	4.619	%
20.9	= oxygen content of ambient air (%)	=	20.9	%

C (ppmdv - O ₂)	= NOX concentration corrected to 3% O ₂ (ppmdv example)	=	31.041	ppmdv @ 3%O ₂
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10. NOX concentration corrected to 12% CO₂ (ppmdv example)

$$C(ppmdv @ y\%CO_2) = C(ppmdv) \times \left(\frac{y}{CO_2} \right)$$

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.234	ppmdv
y	= carbon dioxide content of corrected gas (%)	=	12.00	%
CO ₂	= proportion of carbon dioxide in the gas stream by volume (%)	=	9.396	%

C (ppmdv - CO)	= NOX concentration corrected to 12% CO ₂ (ppmdv example)	=	36.059	ppmdv @ 12%CO ₂
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11. NOX emission rate (lb/hr)

$$E_{lb/hr} = C(lb / dscf) \times Q_{std} \times 60$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32635.30257	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
E _{lb/hr}	= NOX emission rate (lb/hr)	=	6.601	lb/hr

12. NOX emission rate (kg/hr)

$$E_{kg/hr} = C (lb / dscf) \times Q_{std} \times 60 \times 0.454$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32635.30257	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
0.454	= conversion factor (kg/lb)	=	0.454	kg/lb
E _{kg/hr}	= NOX emission rate (kg/hr)	=	2.994	kg/hr

13. NOX emission rate (gm/sec)

$$E_{gm/sec} = C (lb / dscf) \times Q_{std} \times \frac{454}{60}$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	32635.30257	dscfm
60	= conversion factor (sec/min)	=	60	sec/min
454	= conversion factor (g/lb)	=	453.515	kg/lb
E _{gm/sec}	= NOX emission rate (gm/sec)	=	0.832	gm/sec

14. NOX Fd-based emission rate (lb/MMBtu)

$$E_{Fd} = C (lb / dscf) \times F_d \times \left(\frac{20.9}{20.9 - O_2} \right)$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
F _d	= ratio of gas volume to heat content of fuel (dscf/MMBtu)	=	8710	dscf/MMBtu
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	4.619	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
E _{Fd}	= NOX Fd-based emission rate (lb/MMBtu)	=	0.038	lb/MMBtu

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Indiantown, FL

Auxiliary Boiler B

CEM Analyte Calculations

15. NOX Fc-based emission rate (lb/MMBtu)

$$E_{Fc} = C (\text{lb / dscf}) \times F_c \times \left(\frac{100}{CO_2} \right)$$

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.371E-06	lb/dscf
F _c	= ratio of gas volume to heat content of fuel (dscf/MMBtu)	=	1040	dscf/MMBtu
CO ₂	= proportion of oxygen in the gas stream by volume (%)	=	9.396	%
100	= conversion factor	=	100	
E _{Fc}	= NOX Fc-based emission rate (lb/MMBtu)	=	0.037	lb/MMBtu

**CEM Field Sample Calculations
 for CO Auxiliary Boiler B**

Sample data taken from **Run: 1**
 and Channel 3

Note: The tables presenting the results are generated electronically from raw data. It may not be possible to exactly duplicate these results using a calculator. The reference method data, results and all calculations are carried to sixteen decimal places throughout. The final table is formatted to an appropriate number of significant figures.

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1. Average of a calibration series

$$C_{mce} = \frac{(C_1 + C_2 + C_3)}{3}$$

Where:

C_1, C_2, C_3 = concentrations of 3 consecutive gas samples that are representative of the calibration gas

C_{mce} = average concentration of a calibration series = 51.678 ppmdv
 In this case the low cal series for channel 3

2a. Calibration Error Check for Hydrocarbons (5% of actual calibration gas value error allowed by Method 25A)

$$E_{HC} = \text{abs} \left| \frac{C_{mce} - C_{ma}}{C_{ma}} \right| \leq I_{cal}$$

Where:

C_{mce} = average concentration of a calibration series = 51.678 ppmdv
 In this case the low cal series for channel 3

C_{ma} = concentration of actual calibration gas value = 51.100 ppmdv

I_{cal} = limit for calibration error for hydrocarbons = 5.0%

E_{HC} = calibration error check value = NA

2b. Calibration Error Check for non-Hydrocarbons (2% of Instrument Span)

$$E = \text{abs} \left| \frac{C_{mce} - C_{ma}}{\text{Span}} \right| \leq I_{cal}$$

Where:

C_{mce} = average concentration of a calibration series = 51.678 ppmdv
 In this case the low cal series for channel 3

C_{ma} = concentration of actual calibration gas value = 51.100 ppmdv

Span = instrument span value = 111,000

I_{cal} = limit for calibration error for non-hydrocarbons = 2.0%

E = calibration error check value = 0.52% Pass

3. System Bias as Percent of Span Value (5% is allowed)

$$E_{Bias} = \text{abs} \left| \frac{C_{mf} - C_{mce}}{\text{Span}} \right| \leq I_{bias}$$

Where:

C_{mce} = average concentration of a calibration series = 51.678 ppmdv
 in this case the Low cal series for channel 3

C_{mf} = calibration error response concentration for Cal01 = 51.658 ppmdv

Span = instrument span value = 111,000 ppmdv

I_{bias} = limit for system bias error = 5.0%

E_{bias} = calibration bias error check value = 0.02% Pass

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4. System Drift as Percent of Span Value (3%)

$$E_{Drift} = \text{abs} \left| \frac{C_{mf} - C_{mi}}{\text{Span}} \right| \leq I_{drift}$$

Where:

C_{mf}	= calibration error response concentration for Cal01 (final)	= 51.658	ppmdv
C_{mi}	= calibration error response concentration for Cal00 (initial)	= 51.624	ppmdv
Span	= instrument span value	= 111.000	ppmdv
I_{drift}	= limit for system drift error	= 3.0%	
E_{drift}	= calibration drift error check value	= 0.03%	Pass

5. Average Concentration for an entire Run

$$C = \frac{\sum_{i=1}^N C_i}{N}$$

Where:

C_i	= All concentration readings for the entirety of Run 1 for the monitor looking for CO on channel 3	= 28.206	ppmdv
N	= total number of readings in Run 1	= 21	
C	= average CO concentration for Run 1	= 29.092	ppmdv

6. Drift-Corrected Average Concentration for an entire Run

$$C_{DC} = \left(C - \frac{C_{oi} + C_{of}}{2} \right) \left(\frac{C_{ma}}{\frac{C_{mi} + C_{mf}}{2} - \frac{C_{oi} + C_{of}}{2}} \right)$$

C_{ma}	= concentration of actual calibration gas value	= 51.100	ppmdv
C	= average CO concentration for Run 1	= 29.092	ppmdv
C_{mf}	= calibration error response concentration for Cal01 (final)	= 51.658	ppmdv
C_{mi}	= calibration error response concentration for Cal00 (initial)	= 51.624	ppmdv
C_{of}	= calibration error response concentration for Cal01 (final) for zero gas	= 1.368	ppmdv
C_{oi}	= calibration error response concentration for Cal00 (initial) for zero gas	= 1.368	ppmdv
C_{DC}	= drift corrected average concentration for Run 1	= 28.180	ppmdv

**CEM Emissions Sample Calculations
 for CO Auxiliary Boiler B**

Sample data taken from Run 1
 and Channel 3

Note: The tables presenting the results are generated electronically from raw data. It may not be possible to exactly duplicate these results using a calculator. The reference method data, results and all calculations are carried to sixteen decimal places throughout. The final table is formatted to an appropriate number of significant figures.

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1. CO concentration (ppmdv)

$$C(\text{ppmdv}) = k_1 \times C_{DC} \quad \text{if dry gas}$$

$$C(\text{ppmdv}) = \frac{k_1 \times C_{DC}}{\left(1 - \frac{B_w}{100}\right)} \quad \text{if wet gas}$$

Where:

C_{DC}	= drift corrected average concentration	=	28.180	ppmdv
B_w	= actual water vapor in gas (% v/v)	=	16.400	% v/v
100	= conversion factor to change percentage to decimal	=	100	
k_1	= ppm/% to ppm conversion factor for diluent gases	=	1	
C (ppmdv)	= CO concentration (ppmdv)	=	28.180	ppmdv

2. CO concentration (ppmwv)

$$C(\text{ppmwv}) = k_1 \times C_{DC} \quad \text{if wet gas}$$

$$C(\text{ppmwv}) = k_1 \times C_{DC} \times \left(1 - \frac{B_w}{100}\right) \quad \text{if dry gas}$$

Where:

C_{DC}	= drift corrected average concentration	=	28.180	ppmdv
B_w	= actual water vapor in gas (% v/v)	=	16.400	% v/v
100	= conversion factor to change percentage to decimal	=	100	
k_1	= ppm/% to ppm conversion factor for diluent gases	=	1	
C (ppmwv)	= CO concentration (ppmwv)	=	23.559	ppmwv

3. CO concentration (lb/dscf)

$$C(\text{lb / dscf}) = \frac{C(\text{ppmdv}) \times MW(\text{gas})}{10^6 \text{ ppm} \times 385.3}$$

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	28.180	ppmdv
MW	= Molecular Weight of CO gas	=	28.0106	lb/lb-mole
10^6	= conversion factor from decimal to ppm	=	1.00E+06	
385.3	= molar volume	=	385.3	dscf/lb-mole
C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf

4. CO concentration (lb/scf)

$$C (lb / scf) = C (lb / dscf) \times \frac{Q_{std}}{Q_s}$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscf/min
Q _s	= volumetric flow rate (standard cubic feet/min)	=	37427	scf/min

C (lb/scf)	= CO concentration (lb/scf)	=	1.713E-06	lb/scf
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5. CO concentration (lb/acf)

$$C (lb / acf) = C (lb / dscf) \times \frac{Q_{std}}{Q_a}$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscf/min
Q _a	= volumetric flow rate (actual cubic feet/min)	=	61763	acf/min

C (lb/acf)	= CO concentration (lb/acf)	=	1.038E-06	lb/acf
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6. CO concentration (%dv)

$$C (% dv) = C (ppmdv) \times \frac{100}{10^6}$$

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	28.180	ppmdv
100	= conversion factor from decimal to percentage	=	1.00E+02	
10 ⁶	= conversion factor from decimal to ppm	=	1.00E+06	

C (%dv)	= CO concentration (%dv)	=	0.0028%	%dv
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7. CO concentration (mg/dscm)

$$C (mg / dscm) = C (lb / dscf) \times k_2 \times 35.31$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
k ₂	= conversion factor from lb to mg	=	453515	mg/lb
35.31	= conversion factor from dscf to dscm	=	35.31	ft ³ /m ³

C (mg/dscm)	= CO concentration (mg/dscm)	=	32.806	mg/dscm
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8. CO concentration (mg/Nm³ dry)

$$C \quad \left(mg / Nm^3 \text{ dry} \right) = C(lb / dscf) \times k_2 \times 35.31 \times \left(\frac{68 + 460}{32 + 460} \right)$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
k ₂	= conversion factor from lb to mg	=	453515	mg/lb
35.31	= conversion factor from dscf to dscm	=	35.31	ft ³ /m ³
68	= standard temperature (°F)	=	68	°F
32	= normal temperature (°F)	=	32	°F
460	= °F to °R conversion constant	=	460	
C (mg/Nm ³ dry)	= CO concentration (mg/Nm ³ dry)	=	35.207	mg/Nm ³ dry

9. CO concentration corrected to 3% O₂ (ppmdv example)

$$C(ppmdv @ x\%O_2) = C(ppmdv) \times \left(\frac{20.9 - x}{20.9 - O_2} \right)$$

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	28.180	ppmdv
x	= oxygen content of corrected gas (%)	=	3.00	%
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	3.084	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
C (ppmdv - O ₂)	= CO concentration corrected to 3% O ₂ (ppmdv example)	=	28.313	ppmdv @ 3%O ₂

10. CO concentration corrected to 12% CO₂ (ppmdv example)

$$C(ppmdv @ y\%CO_2) = C(ppmdv) \times \left(\frac{y}{CO_2} \right)$$

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	28.180	ppmdv
y	= carbon dioxide content of corrected gas (%)	=	12.00	%
CO ₂	= proportion of carbon dioxide in the gas stream by volume (%)	=	10.301	%
C (ppmdv - CO)	= CO concentration corrected to 12% CO ₂ (ppmdv example)	=	32.828	ppmdv @ 12%CO ₂

11. CO emission rate (lb/hr)

$$E_{lb/hr} = C(lb / dscf) \times Q_{std} \times 60$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
E _{lb/hr}	= CO emission rate (lb/hr)	=	3.847	lb/hr

12. CO emission rate (kg/hr)

$$E_{kg/hr} = C (lb / dscf) \times Q_{std} \times 60 \times 0.454$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
0.454	= conversion factor (kg/lb)	=	0.454	kg/lb
E _{kg/hr}	= CO emission rate (kg/hr)	=	1.745	kg/hr

13. CO emission rate (gm/sec)

$$E_{gm/sec} = C (lb / dscf) \times Q_{std} \times \frac{454}{60}$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscfm
60	= conversion factor (sec/min)	=	60	sec/min
454	= conversion factor (g/lb)	=	453.515	kg/lb
E _{gm/sec}	= CO emission rate (gm/sec)	=	0.485	gm/sec

14. CO emission rate (Ton/yr)

$$E_{T/yr} = C (lb / dscf) \times Q_{std} \times 60 \times \left(\frac{Cap}{2000} \right)$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
Cap	= capacity factor for process (hours operated/year)	=	#N/A	hours/yr
2000	= conversion factor (lb/Ton)	=	2,000	lb/Ton
E _{T/yr}	= CO emission rate (Ton/yr)	=	0.000	Ton/yr

15. CO Fd-based emission rate (lb/MMBtu)

$$E_{Fd} = C (lb / dscf) \times F_d \times \left(\frac{20.9}{20.9 - O_2} \right)$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
F _d	= ratio of gas volume to heat content of fuel (dscf/MMBtu)	=	8710	dscf/MMBtu
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	3.084	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
E _{Fd}	= CO Fd-based emission rate (lb/MMBtu)	=	0.021	lb/MMBtu

16. CO Fc-based emission rate (lb/MMBtu)

$$E_{Fc} = C (lb / dscf) \times F_c \times \left(\frac{100}{CO_2} \right)$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
F _c	= ratio of gas volume to heat content of fuel (dscf/MMBtu)	=	1040	dscf/MMBtu
CO ₂	= proportion of oxygen in the gas stream by volume (%)	=	10.301	%
100	= conversion factor	=	100	
E _{Fc}	= CO Fc-based emission rate (lb/MMBtu)	=	0.021	lb/MMBtu

17. CO Heat Input-based emission rate (lb/MMBtu)

$$E_{HI} = C (lb / dscf) \times \left(\frac{Q_{std} \times 60}{H_i} \right)$$

Where:

C (lb/dscf)	= CO concentration (lb/dscf)	=	2.049E-06	lb/dscf
Q _{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	31299	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
H _i	= actual heat input (MMBtu/hr)	=	0	MMBtu/hr
E _{HI}	= CO Heat Input-based emission rate (lb/MMBtu)	=	N/A	lb/MMBtu

**CEM RATA Sample Calculations
 for NOx Auxiliary Boiler B**

Sample data taken from

Run 1
and Channel 1

Note: The tables presenting the results are generated electronically from raw data. It may not be possible to exactly duplicate these results using a calculator. The reference method data, results and all calculations are carried to sixteen decimal places throughout. The final table is formatted to an appropriate number of significant figures.

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1. lb/MMBtu value difference between Plant CEM Data and CleanAir RM Data lb/MMBtu

$$D = C_R - C_P$$

Where:

C_P	= lb/MMBtu value from Plant CEM Data	=	0.033	lb/MMBtu
C_R	= lb/MMBtu value from CleanAir RM Data	=	0.033	lb/MMBtu
D	= lb/MMBtu value difference between 2 methods	=	0.000	lb/MMBtu

2. Percent Value Difference (%)

$$D \% = \frac{D}{C_R}$$

Where:

C_R	= lb/MMBtu value from CleanAir RM Data	=	0.033	lb/MMBtu
D	= lb/MMBtu value difference between 2 methods	=	0.000	lb/MMBtu
$D\%$	= lb/MMBtu value difference as a percentage of RM Data	=	-0.5%	

3. Average lb/MMBtu Value (Plant CEM Data example) lb/MMBtu

$$C_{p,avg} = \frac{\sum_{i=1}^N C_{p,i}}{N}$$

Where:

$C_{p,i}$	= lb/MMBtu value from Plant CEM Data for ith run	=	0.033	lb/MMBtu
N	= total number of runs included in the CEM data	=	9	
$C_{p,avg}$	= Average lb/MMBtu value from Plant CEM Data	=	0.033	lb/MMBtu

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4. Standard Deviation of Plant CEM data and CleanAir RM data

$$STDEV = \sqrt{\frac{\sum_{i=1}^N (C_{R,i} - C_{P,i})^2 - \frac{\left(\sum_{i=1}^N (C_{R,i} - C_{P,i})\right)^2}{N}}{N - 1}}$$

Where:

$C_{R,i}$	= lb/MMBtu value from CleanAir RM Data for ith run	=	0.033	lb/MMBtu
$C_{P,i}$	= lb/MMBtu value from Plant CEM Data for ith run	=	0.033	lb/MMBtu
N	= total Number of RATA Runs	=	9	
STDEV	= standard deviation of plant CEM data and CleanAir RM data	=	0.00019	lb/MMBtu

5. Confidence Coefficient

$$CC = STDEV \times \frac{t}{\sqrt{N}}$$

Where:

STDEV	= standard deviation of plant CEM data and CleanAir RM data	=	0.000	lb/MMBtu
t	= confidence factor	=	2.306	
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	=	0.00015	lb/MMBtu

6. Relative Accuracy (as a percentage of the reference method)

$$RA = \frac{abs \left| \frac{\sum_{i=1}^N (C_{R,i} - C_{P,i})}{N} \right| + abs |CC|}{\frac{\sum_{i=1}^N C_{R,i}}{N}}$$

Where:

$C_{R,i}$	= lb/MMBtu value from CleanAir RM Data for ith run	=	0.033	lb/MMBtu
$C_{P,i}$	= lb/MMBtu value from Plant CEM Data for ith run	=	0.033	lb/MMBtu
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	=	0.00015	lb/MMBtu
RA	= relative accuracy (as a percentage of the reference method)	=	1.142%	
	Limit =		20.000%	

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INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

PARAMETERS

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Indiantown Cogeneration, L.P.
 Clean Air Project No: 10199
 Auxiliary Boiler B

**USEPA Method 2 (Velocity & Flow Rate)
 Sampling, Velocity and Moisture Parameters**

Run No.	1	2	3	Average
Date (2007)	Apr 25	Apr 25	Apr 25	
Start Time (approx.)	11:51	13:27	15:17	
Stop Time (approx.)	12:51	14:27	16:17	
Sampling Conditions				
Y _d Dry gas meter correction factor	1.0000	1.0000	1.0000	
C _p Pitot tube coefficient	0.84	0.84	0.84	
P _g Static pressure (in. H ₂ O)	-0.4000	-0.4000	-0.4000	
A _s Sample location area (ft ²)	33.1831	33.1831	33.1831	
P _{bar} Barometric pressure (in. Hg)	29.75	29.75	29.75	29.7500
O ₂ Oxygen (dry volume %)	4.6188	4.5604	4.3735	4.5176
CO ₂ Carbon dioxide (dry volume %)	9.3959	9.4539	9.5520	9.4673
N ₂ +CO Nitrogen plus carbon monoxide (dry volume %)	85.9853	85.9857	86.0745	86.0152
V _{lc} Total Liquid collected (ml)	127.00	145.00	136.00	
V _m Volume metered, meter conditions (ft ³)	34.4850	35.6250	35.2400	
T _m Dry gas meter temperature (°F)	85.0833	92.0000	95.7500	
T _s Sample temperature (°F)	405.1667	404.7500	402.0000	403.9722
ΔH Meter box orifice pressure drop (in. H ₂ O)	1.0000	1.0000	1.0000	
θ Total sampling time (min)	60.0	60.0	60.0	
Flow Results				
V _{wstd} Volume of water collected (ft ³)	5.9779	6.8252	6.4015	6.4015
V _{msid} Volume metered, standard (dscf)	33.2832	33.9526	33.3591	33.5316
P _s Sample gas pressure, absolute (in. Hg)	29.7206	29.7206	29.7206	29.7206
P _v Vapor pressure, actual (in. Hg)	29.7206	29.7206	29.7206	29.7206
B _{wo} Moisture measured in sample (% by volume)	15.2260	16.7374	16.1002	16.0212
B _{ws} Saturated moisture content (% by volume)	100.0000	100.0000	100.0000	100.0000
B _w Actual water vapor in gas (% by volume)	15.2260	16.7374	16.1002	16.0212
√ΔP Velocity head (√in. H ₂ O)	0.4349	0.4472	0.4291	0.4371
M _d MW of sample gas, dry (lb/lb-mole)	29.6881	29.6950	29.7033	29.6955
M _w MW of sample gas, wet (lb/lb-mole)	27.9085	27.7376	27.8190	27.8217
V _s Velocity of sample (ft/sec)	31.8953	32.8935	31.4671	32.0853
Q _a Volumetric flow rate, actual (acfm)	63,503	65,490	62,650	63,881
Q _s Volumetric flow rate, standard (scfm)	38,497	39,721	38,119	38,779
Q _{std} Volumetric flow rate, dry standard (dscfm)	32,635	33,072	31,982	32,563
Q _{std7} Volumetric flow rate, dry std@7%O ₂ (dscfm)	38,226	38,877	38,025	38,376
Q _a Volumetric flow rate, actual (acf/hr)	3,810,187	3,929,425	3,759,026	3,832,879
Q _s Volumetric flow rate, standard (scf/hr)	2,309,810	2,383,242	2,287,167	2,326,739
Q _{std} Volumetric flow rate, dry standard (dscf/hr)	1,958,118	1,984,349	1,918,929	1,953,799
Q _a Volumetric flow rate, actual (m ³ /hr)	107,907	111,284	106,458	108,549
Q _s Volumetric flow rate, standard (m ³ /hr)	65,415	67,495	64,774	65,895
Q _{std} Volumetric flow rate, dry standard (dry m ³ /hr)	55,455	56,198	54,345	55,333
Q _{std7} Volumetric flow rate, dry std@7%O ₂ (dry m ³ /hr)	64,955	66,061	64,614	65,210
Q _s Volumetric flow rate, normal (Nm ³ /hr)	60,955	62,893	60,358	61,402
Q _{std} Volumetric flow rate, dry normal (Nm ³ /hr)	51,674	52,366	50,640	51,560
Q _{std7} Volumetric flow rate, dry normal @7%O ₂ (Nm ³ /hr)	60,526	61,557	60,209	60,764

Comments:

Average includes 3 runs.

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Indiantown Cogeneration, L.P.
CleanAir Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	1 Compliance				
Date (2007)	Apr 25				
Start Time	11:51				
End Time	12:51				
Elapsed Time (hh:mm)	01:00				
Channel	1	3	4	5	6
Parameter	NOX	CO	THC	O2	CO2
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary
Measurement Units	Boiler B ppmdv	Boiler B ppmdv	Boiler B ppmwv	Boiler B %dv	Boiler B %dv
Measured Average (drift-corrected)	28.23	7.99	2.11	4.62	9.40
Concentration (ppmdv)	28.23	7.99	2.49		
Concentration (ppmwv)	23.93	6.77	2.11		
Concentration (lb/dscf)	3.371E-06	5.807E-07	2.854E-07		
Concentration (%dv)	0.003	0.001	0.000	4.619	9.396
Concentration (%wv)	0.002	0.001	0.000	3.916	7.965
Concentration @3%O2 (ppm)	31.04	8.78	2.74		
Mass Rate (lb/hr)	6.60	1.14	0.56		
Mass Rate (kg/hr)	2.99	0.52	0.25		
Mass Rate (lb/MMBtu) - Fd	3.769E-02	6.493E-03	3.191E-03		
Mass Rate (lb/MMBtu) - Fc	3.731E-02	6.427E-03	3.159E-03		

Indiantown Cogeneration, L.P.
CleanAir Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	2					Compliance
Date (2007)	Apr 25					
Start Time	13:21					
End Time	14:21					
Elapsed Time (hh:mm)	01:00					
Channel	1	3	4	5	6	
Parameter	NOX	CO	THC	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmwv	%dv	%dv	
Measured Average (drift-corrected)	27.68	11.03	2.08	4.56	9.45	
Concentration (ppmdv)	27.68	11.03	2.50			
Concentration (ppmwv)	23.05	9.18	2.08			
Concentration (lb/dscf)	3.305E-06	8.016E-07	2.865E-07			
Concentration (%dv)	0.003	0.001	0.000	4.560	9.454	
Concentration (%wv)	0.002	0.001	0.000	3.797	7.872	
Concentration @3%O2 (ppm)	30.33	12.08	2.74			
Mass Rate (lb/hr)	6.56	1.59	0.57			
Mass Rate (kg/hr)	2.97	0.72	0.26			
Mass Rate (lb/MMBtu) - Fd	3.682E-02	8.931E-03	3.192E-03			
Mass Rate (lb/MMBtu) - Fc	3.636E-02	8.819E-03	3.152E-03			

Indiantown Cogeneration, L.P.
CleanAir Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	3 Compliance				
Date (2007)	Apr 25				
Start Time	15:06				
End Time	16:06				
Elapsed Time (hh:mm)	01:00				
Channel	1	3	4	5	6
Parameter	NOX	CO	THC	O2	CO2
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary
Measurement Units	Boiler B ppmdv	Boiler B ppmdv	Boiler B ppmwv	Boiler B %dv	Boiler B %dv
Measured Average (drift-corrected)	27.27	18.52	2.06	4.37	9.55
Concentration (ppmdv)	27.27	18.52	2.45		
Concentration (ppmwv)	22.88	15.54	2.06		
Concentration (lb/dscf)	3.257E-06	1.347E-06	2.807E-07		
Concentration (%dv)	0.003	0.002	0.000	4.374	9.552
Concentration (%wv)	0.002	0.002	0.000	3.669	8.014
Concentration @3%O2 (ppm)	29.54	20.06	2.66		
Mass Rate (lb/hr)	6.25	2.58	0.54		
Mass Rate (kg/hr)	2.83	1.17	0.24		
Mass Rate (lb/MMBtu) - Fd	3.587E-02	1.483E-02	3.092E-03		
Mass Rate (lb/MMBtu) - Fc	3.546E-02	1.466E-02	3.056E-03		

Indiantown Cogeneration, L.P.
CleanAir Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	1	Relative Accuracy Test Audit (RATA)				
Date (2007)	Apr 26					
Start Time	11:28					
End Time	11:49					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	27.01	24.70	28.18	3.08	10.30	
Concentration (ppmdv)	27.01	24.70	28.18			
Concentration (ppmwv)	22.58	20.65	23.56			
Concentration (lb/dscf)	3.225E-06	1.988E-06	2.049E-06			
Concentration (%dv)	0.003	0.002	0.003	3.084	10.301	
Concentration (%wv)	0.002	0.002	0.002	2.578	8.612	
Concentration @3%O2 (ppm)	27.14	24.82	28.31			
Concentration @12%CO2 (ppm)	31.46	28.77	32.83			
Mass Rate (lb/MMBtu) - Fd	3.295E-02	2.031E-02	2.093E-02			
Mass Rate (lb/MMBtu) - Fc	3.256E-02	2.007E-02	2.068E-02			

Indiantown Cogeneration, L.P.
 Clean Air Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

	Relative Accuracy Test Audit (RATA)				
Run Number	2				
Date (2007)	Apr 26				
Start Time	12:08				
End Time	12:29				
Elapsed Time (hh:mm)	00:21				
Channel	1	2	3	5	6
Parameter	NOX	NO	CO	O2	CO2
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B
	ppmdv	ppmdv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	27.67	25.58	13.62	3.34	10.14
Concentration (ppmdv)	27.67	25.58	13.62		
Concentration (ppmwv)	23.05	21.30	11.34		
Concentration (lb/dscf)	3.304E-06	2.058E-06	9.900E-07		
Concentration (%dv)	0.003	0.003	0.001	3.335	10.144
Concentration (%wv)	0.002	0.002	0.001	2.778	8.450
Concentration @3%O2 (ppm)	28.20	26.06	13.88		
Concentration @12%CO2 (ppm)	32.74	30.25	16.11		
Mass Rate (lb/MMBtu) - Fd	3.425E-02	2.133E-02	1.026E-02		
Mass Rate (lb/MMBtu) - Fc	3.388E-02	2.110E-02	1.015E-02		

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	3					Relative Accuracy Test Audit (RATA)
Date (2007)	Apr 26					
Start Time	13:08					
End Time	13:29					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary Boiler B	Auxiliary Boiler B	Auxiliary Boiler B	Auxiliary Boiler B	Auxiliary Boiler B	
Measurement Units	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	27.30	25.07	17.90	3.27	10.16	
Concentration (ppmdv)	27.30	25.07	17.90			
Concentration (ppmwv)	22.90	21.03	15.02			
Concentration (lb/dscf)	3.259E-06	2.017E-06	1.301E-06			
Concentration (%dv)	0.003	0.003	0.002	3.273	10.164	
Concentration (%wv)	0.002	0.002	0.002	2.746	8.528	
Concentration @3%O2 (ppm)	27.72	25.46	18.18			
Concentration @12%CO2 (ppm)	32.23	29.60	21.13			
Mass Rate (lb/MMBtu) - Fd	3.366E-02	2.084E-02	1.344E-02			
Mass Rate (lb/MMBtu) - Fc	3.335E-02	2.064E-02	1.331E-02			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	4					Relative Accuracy Test Audit (RATA)
Date (2007)	Apr 26					
Start Time	13:50					
End Time	14:11					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
Measurement Units	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	27.06	24.84	23.77	3.16	10.24	
Concentration (ppmdv)	27.06	24.84	23.77			
Concentration (ppmwv)	27.06	24.84	23.77			
Concentration (lb/dscf)	3.231E-06	1.999E-06	1.728E-06			
Concentration (%dv)	0.003	0.002	0.002	3.163	10.236	
Concentration (%wv)	0.003	0.002	0.002	3.163	10.236	
Concentration @3%O2 (ppm)	27.31	25.07	23.99			
Concentration @12%CO2 (ppm)	31.73	29.12	27.86			
Mass Rate (lb/MMBtu) - Fd	3.316E-02	2.052E-02	1.773E-02			
Mass Rate (lb/MMBtu) - Fc	3.283E-02	2.031E-02	1.756E-02			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	5					Relative Accuracy Test Audit (RATA)
Date (2007)	Apr 26					
Start Time	14:28					
End Time	14:49					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	26.76	24.60	21.39	3.23	10.20	
Concentration (ppmdv)	26.76	24.60	21.39			
Concentration (ppmwv)	26.76	24.60	21.39			
Concentration (lb/dscf)	3.195E-06	1.980E-06	1.555E-06			
Concentration (%dv)	0.003	0.002	0.002	3.232	10.202	
Concentration (%wv)	0.003	0.002	0.002	3.232	10.202	
Concentration @3%O2 (ppm)	27.11	24.93	21.67			
Concentration @12%CO2 (ppm)	31.47	28.94	25.16			
Mass Rate (lb/MMBtu) - Fd	3.292E-02	2.040E-02	1.602E-02			
Mass Rate (lb/MMBtu) - Fc	3.257E-02	2.018E-02	1.585E-02			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	6					Relative Accuracy Test Audit (RATA)
Date (2007)	Apr 26					
Start Time	15:04					
End Time	15:25					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	26.99	24.85	15.44	3.36	10.14	
Concentration (ppmdv)	26.99	24.85	15.44			
Concentration (ppmwv)	26.99	24.85	15.44			
Concentration (lb/dscf)	3.222E-06	2.000E-06	1.122E-06			
Concentration (%dv)	0.003	0.002	0.002	3.357	10.139	
Concentration (%wv)	0.003	0.002	0.002	3.357	10.139	
Concentration @3%O2 (ppm)	27.54	25.36	15.75			
Concentration @12%CO2 (ppm)	31.94	29.41	18.27			
Mass Rate (lb/MMBtu) - Fd	3.344E-02	2.075E-02	1.164E-02			
Mass Rate (lb/MMBtu) - Fc	3.305E-02	2.051E-02	1.151E-02			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	7	Relative Accuracy Test Audit (RATA)				
Date (2007)	Apr 26					
Start Time	15:43					
End Time	16:04					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	26.27	24.01	22.64	3.42	10.11	
Concentration (ppmdv)	26.27	24.01	22.64			
Concentration (ppmwv)	26.27	24.01	22.64			
Concentration (lb/dscf)	3.136E-06	1.932E-06	1.646E-06			
Concentration (%dv)	0.003	0.002	0.002	3.420	10.111	
Concentration (%wv)	0.003	0.002	0.002	3.420	10.111	
Concentration @3%O2 (ppm)	26.90	24.59	23.18			
Concentration @12%CO2 (ppm)	31.17	28.50	26.87			
Mass Rate (lb/MMBtu) - Fd	3.266E-02	2.012E-02	1.714E-02			
Mass Rate (lb/MMBtu) - Fc	3.226E-02	1.988E-02	1.693E-02			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	8					Relative Accuracy Test Audit (RATA)
Date (2007)	Apr 26					
Start Time	16:19					
End Time	16:40					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	25.59	23.39	23.06	3.31	10.17	
Concentration (ppmdv)	25.59	23.39	23.06			
Concentration (ppmwv)	25.59	23.39	23.06			
Concentration (lb/dscf)	3.055E-06	1.882E-06	1.676E-06			
Concentration (%dv)	0.003	0.002	0.002	3.310	10.168	
Concentration (%wv)	0.003	0.002	0.002	3.310	10.168	
Concentration @3%O2 (ppm)	26.04	23.80	23.47			
Concentration @12%CO2 (ppm)	30.20	27.60	27.22			
Mass Rate (lb/MMBtu) - Fd	3.162E-02	1.948E-02	1.735E-02			
Mass Rate (lb/MMBtu) - Fc	3.125E-02	1.925E-02	1.715E-02			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	9					Relative Accuracy Test Audit (RATA)
Date (2007)	Apr 26					
Start Time	17:02					
End Time	17:23					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	21.37	19.66	10.53	7.22	7.98	
Concentration (ppmdv)	21.37	19.66	10.53			
Concentration (ppmwv)	21.37	19.66	10.53			
Concentration (lb/dscf)	2.551E-06	1.582E-06	7.655E-07			
Concentration (%dv)	0.002	0.002	0.001	7.222	7.984	
Concentration (%wv)	0.002	0.002	0.001	7.222	7.984	
Concentration @3%O2 (ppm)	27.96	25.73	13.78			
Concentration @12%CO2 (ppm)	32.12	29.55	15.83			
Mass Rate (lb/MMBtu) - Fd	3.395E-02	2.106E-02	1.019E-02			
Mass Rate (lb/MMBtu) - Fc	3.323E-02	2.061E-02	9.971E-03			

Indiantown Cogeneration, L.P.
Clean Air Project No. 10199
Indiantown, FL
Auxiliary Boiler B

Continuous Emissions Monitoring Parameters

Run Number	10	Relative Accuracy Test Audit (RATA)				
Date (2007)	Apr 26					
Start Time	17:42					
End Time	18:03					
Elapsed Time (hh:mm)	00:21					
Channel	1	2	3	5	6	
Parameter	NOX	NO	CO	O2	CO2	
Location	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	
Measurement Units	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	
Measurement Units	ppmdv	ppmdv	ppmdv	%dv	%dv	
Measured Average (drift-corrected)	27.16	23.93	21.38	4.84	9.31	
Concentration (ppmdv)	27.16	23.93	21.38			
Concentration (ppmwv)	27.16	23.93	21.38			
Concentration (lb/dscf)	3.243E-06	1.925E-06	1.554E-06			
Concentration (%dv)	0.003	0.002	0.002	4.836	9.306	
Concentration (%wv)	0.003	0.002	0.002	4.836	9.306	
Concentration @3%O2 (ppm)	30.26	26.66	23.82			
Concentration @12%CO2 (ppm)	35.02	30.85	27.57			
Mass Rate (lb/MMBtu) - Fd	3.675E-02	2.182E-02	1.761E-02			
Mass Rate (lb/MMBtu) - Fc	3.624E-02	2.152E-02	1.737E-02			

INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

QA/QC DATA

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Registered Environmental Laboratories Search Results

Search Results: 1 records found for the following search criteria:

Name like: Clean Air Engineering

County: ALLEGHENY

State: PA

2-760: Clean Air Engineering

Timothy D Rodak
1601 Parkway View Dr
Pittsburgh , PA 15205-1409
Allegheny County
(412) 787-9130

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State of New Jersey
Department of Environmental Protection

Certifies That

Clean Air Engineering, Inc.

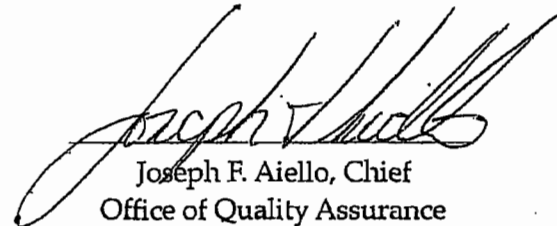
Laboratory Certification ID#: IL004

having duly met the requirements of the
Regulations Governing The Certification Of
Laboratories And Environmental Measurements N.J.A.C. 7:18 et. seq.

is hereby approved as a
State Certified Environmental Laboratory
to perform the analyses as indicated on the Annual Certified Parameter List
which must accompany this certificate to be valid

Expiration Date June 30, 2007




Joseph F. Aiello, Chief
Office of Quality Assurance

THIS CERTIFICATE IS TO BE CONSPICUOUSLY DISPLAYED AT THE LABORATORY WITH THE ANNUAL CERTIFIED PARAMETER LIST IN A LOCATION ON THE PREMISES VISIBLE TO THE PUBLIC



STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY



Is hereby granting a Louisiana Environmental Laboratory Accreditation to:

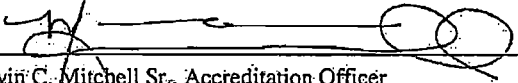
**Clean Air Engineering
500 West Wood Street
Palatine, IL 60067**

Agency Interest No. 85668

According to the Louisiana Administrative Code, Title 33, Part I, Subpart 3, LABORATORY ACCREDITATION, the State of Louisiana formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of accreditation detailed in the attachment.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part I, Subpart 3 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part I. Please contact the Department of Environmental Quality, Louisiana Environmental Laboratory Accreditation Program (LELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Louisiana is not an endorsement or a guarantee of validity of the data generated by the laboratory, and does not constitute an endorsement of the suitability of the listed methods for any specific application.

To be accredited initially and maintain accreditation, the laboratory agrees to participate in two single-blind, single-concentration PT studies, where available, per year for each field of testing for which it seeks accreditation or maintains accreditation as required in LAC 33:L4711.


Melvin C. Mitchell Sr., Accreditation Officer
Louisiana Environmental Laboratory Accreditation Program

**Certificate Number: 03099
Expiration Date: June 30, 2007
Issued On: July 1, 2006**

Indiantown Cogeneration, L.P.
 Clean Air Project No: 10199
 Auxiliary Boiler B

**USEPA Method 2 (Velocity & Flow Rate)
 QA/QC Results**

Run No.	1	2	3
Date (2007)	Apr 25	Apr 25	Apr 25
Start Time (approx.)	11:51	13:27	15:17
Stop Time (approx.)	12:51	14:27	16:17
Total Duration of Test Run (min.)	60	60	60
Net Sampling Time (min.)	60	60	60

Sampling System Calibration Summary

	Nozzle ID No:	N/A	N/A	N/A
D _n	Nozzle Diameter (in):	N/A	N/A	N/A
	Probe ID No:	67SP-95001	67SP-95001	67SP-95001
C _p	Pitot Coefficient:	0.840	0.840	0.840
	Meter Box ID. No:	84-M5	84-M5	84-M5
Y _d	Meter Box Yd - Field Sheet	1.0000	1.0000	1.0000
	Meter Box Yd - Database	1.0000	1.0000	1.0000
	Meter Box ΔH@ - Field Sheet	1.7433	1.7433	1.7433
	Meter Box ΔH@ - Database	1.7433	1.7433	1.7433

QA/QC

Final Leak Check

	(a) 4% of Sampling Rate (cfm)	0.0230	0.0238	0.0235
	(b) Allowable Rate from Method (cfm)	0.0200	0.0200	0.0200
	Allowable Limit - minimum of a and b (cfm)	0.0200	0.0200	0.0200
	Actual Final Leak Rate (cfm)	0.0010	0.0010	0.0010

Sample Volume

	Minimum Volume Required (dscf)	21.00	21.00	21.00
V _{mstd}	Actual Sample Volume (dscf)	33.283	33.953	33.359

Alternative Method 5 Post-Test Calibration (EPA ALT-009)

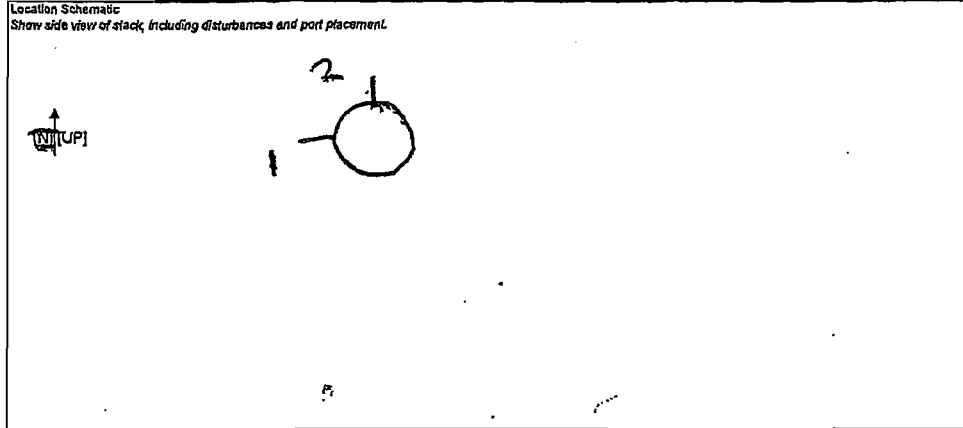
√ΔH _{avg}	Average of Square Root of ΔH (in. W.C.)	1.0000	1.0000	1.0000
Y _{qa}	Alternative Meter Calibration Factor	0.9938	0.9680	0.9817
	Variation from full-test Y _d (average ≤ ±5%)	-0.6%	-3.2%	-1.8%

051007 132734
 TJK@

METHOD 1 FIELD DATA SHEET

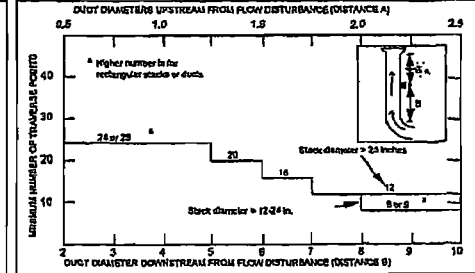
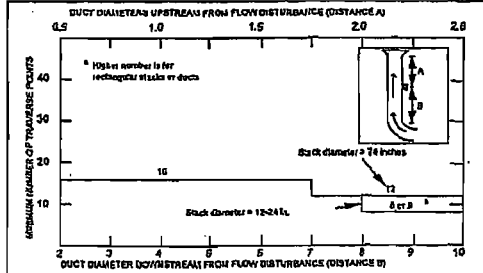
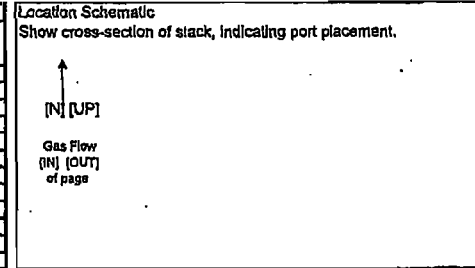
TEST LOCATION: STACK
 UNIT: Aux Boilers

Client:	FINDIANTOWN COGN	Project No.:	10199
Plant:	FINDIANTOWN PI	Date:	4-25-07
Source of dimensions:	<input type="checkbox"/> Field Meas. <input checked="" type="checkbox"/> Drawings <input type="checkbox"/> Other:		
Duct Dimensions:	78	(in)	Area: 339
Port Length:	10.0	(in)	Port Diameter: 4.0
Equivalent Diameter (Rectangular Duct):			
Distance to Port (in)	72		
Distance to Port (ft)	78		
Number of Points Required:	12		
Number of Points per Traverse:	6 / Port		



Point	Reading 1	Reading 2	Reading 3
1	95.6	74.6	84.6
2	85.6	166.6	76.6
3	70.4	54.9	64.9
4	29.6	23.1	33.1
5	14.6	11.4	21.4
6	4.4	3.4	13.4

Traverse point number	Number of traverse points on diameter					
	2	4	6	8	10	12
1	85.4	83.3	85.8	89.8	97.4	97.9
2	14.6	78.0	85.4	89.5	91.8	93.3
3	70.4	25.0	70.4	80.6	85.4	86.2
4	29.6	6.7	29.6	87.7	77.4	82.3
5	14.6		14.6	32.3	86.8	75.0
6	4.4		4.4	19.4	34.2	84.4
7				10.5	22.8	33.8
8				3.2	14.8	29.0
9					8.2	17.7
10					2.6	11.8
11						6.7
12						2.1



Circle correct bracketed directions on diagrams.

QA/QC ED
 Date 5/3/07

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Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Initial Stratification Check

	NOx	NO	CO	THC	O2	CO2
	(ppmdv)	(ppmdv)	(ppmdv)	(ppmwv)	(%dv)	(%dv)
11:52	27.55	25.49	14.32	1.96	4.58	9.35
11:53	27.42	25.41	12.55	2.02	4.63	9.33
11:54	27.55	25.39	11.63	2.16	4.60	9.34
11:55	27.50	24.92	11.42	2.10	4.66	9.31
11:56	27.51	25.29	8.30	2.05	4.70	9.28
11:57	27.44	25.16	9.44	2.09	4.66	9.31
11:58	27.31	25.07	7.86	2.12	4.75	9.26
11:59	27.34	25.27	6.83	2.09	4.73	9.26
12:00	27.33	25.21	8.91	2.20	4.70	9.28
12:01	27.39	24.90	7.64	2.11	4.69	9.30
12:02	27.31	25.29	7.20	2.29	4.71	9.28
12:03	27.19	25.07	6.35	2.16	4.73	9.26
12:04	27.74	25.44	6.50	2.06	4.74	9.26
12:05	27.81	25.67	7.45	2.25	4.76	9.24
12:06	27.75	25.66	9.32	2.16	4.76	9.25
12:07	27.75	25.74	8.30	2.28	4.79	9.23
12:08	27.70	25.49	6.36	2.23	4.84	9.21
12:09	27.75	25.68	6.88	2.19	4.78	9.24
12:10	27.61	25.58	7.26	2.24	4.76	9.24
12:11	27.53	25.47	8.24	2.14	4.71	9.27
12:12	27.40	25.32	8.34	2.16	4.76	9.23
12:13	27.52	25.19	7.70	2.02	4.78	9.22
12:14	27.52	25.27	6.35	2.06	4.70	9.27
12:15	27.20	24.97	6.78	2.05	4.68	9.28
12:16	27.15	24.78	7.59	2.10	4.64	9.31
12:17	27.53	25.17	10.00	1.87	4.62	9.32
12:18	27.63	25.31	11.18	2.06	4.58	9.34
12:19	27.55	24.84	10.02	1.90	4.65	9.31
12:20	27.25	24.55	7.70	2.14	4.69	9.28
12:21	27.12	24.43	9.17	2.07	4.63	9.32
12:22	27.21	24.48	7.86	2.00	4.63	9.31
12:23	27.02	24.21	7.97	2.14	4.62	9.32
12:24	26.85	24.17	6.67	2.09	4.68	9.29
12:25	27.21	24.42	7.33	2.07	4.70	9.28
12:26	27.20	24.20	9.63	2.11	4.66	9.30
12:27	27.08	24.31	8.18	1.98	4.64	9.31
12:28	27.15	24.46	10.20	1.90	4.65	9.31
12:29	27.09	24.24	8.39	2.02	4.70	9.28
12:30	27.01	24.11	7.49	1.96	4.67	9.30
12:31	27.08	24.20	7.75	1.96	4.68	9.30
12:32	27.12	24.25	8.12	1.91	4.68	9.29
12:33	27.21	24.41	8.15	2.19	4.60	9.33
12:34	27.13	24.30	8.49	2.29	4.67	9.29
12:35	27.22	24.57	7.33	2.14	4.68	9.28
12:36	27.25	24.28	10.53	1.82	4.62	9.32
12:37	27.45	25.05	9.09	1.96	4.66	9.30
12:38	27.25	24.46	8.20	2.06	4.69	9.28
12:39	27.40	24.57	7.27	2.03	4.68	9.29
12:40	27.06	24.40	8.22	2.04	4.76	9.23
12:41	27.14	24.30	8.08	2.25	4.70	9.26
12:42	27.01	24.22	7.39	2.10	4.71	9.26
12:43	27.02	24.20	7.90	2.24	4.75	9.25
12:44	27.09	24.32	8.16	2.23	4.76	9.23
12:45	27.23	24.33	7.88	2.02	4.67	9.29
12:46	27.27	24.57	6.98	2.16	4.65	9.31
12:47	27.10	24.56	7.49	2.20	4.67	9.29
12:48	27.32	24.55	7.16	2.06	4.64	9.31
12:49	27.24	24.35	7.71	2.32	4.77	9.24
12:50	26.98	24.19	7.19	2.19	4.74	9.25
12:51	26.93	24.14	7.06	2.11	4.74	9.24

Pt 1-1

Mean NOx	Mean NO	Mean CO	Mean THC	Mean O2	Mean CO2
27.31	24.80	8.29	2.10	4.69	9.28

Pt 1

Pt. Avg.	27.52	25.35	8.66	2.15	4.71	9.28
% diff	0.8%	2.2%	4.4%	2.2%	0.5%	-0.1%
actual diff	0.21	0.56	0.37	0.05	0.02	-0.01

Pt 2

Avg	27.26	24.68	8.39	2.04	4.67	9.29
% diff	-0.2%	-0.5%	1.2%	-2.7%	-0.5%	0.1%
actual diff	-0.05	-0.11	0.10	-0.06	-0.02	0.01

Pt 3

Avg	27.17	24.39	7.91	2.11	4.69	9.28
% diff	-0.5%	-1.6%	-4.6%	0.5%	0.0%	0.0%
actual diff	-0.14	-0.41	-0.38	0.01	0.00	0.00

Duct is unstratified

Pt 1-2

Pt 1-3

Sample Probe Calibration

Probe Type: S-Type Pitot I.D. Number: 67SP-095-001
 Project Number: N/A

~~Special calibration (not for use in sample calibration)~~

Reference Type: Thermocouple Reference I.D. No: 67-CP-1 Pyrometer I.D. No: 67-DHHp-3 Units: °F

Point No.	Target Temp.	Reference Temp.	Indicated Temp.	Temp. Difference	% Difference*	Specification
1	Ambient	70.8	72.0	-1.4	0.26%	%Difference ≤ 1.5
2	200°F-250°F	201.8	201.8	0.0	0.00%	

* Based on Absolute Temperature (Rankine)

Does thermocouple assembly meet specifications? → YES

~~Special calibration (not for use in wind tunnel method)~~

Reference Pitot I.D. No: 67STD-C1 Reference Pitot Cp: 0.99

Pitot Side 'A':				Abs. Deviation from Avg. C _{p(A)} **	Specification
Trial No.	Reference ΔP	Probe ΔP	Probe C _{p(A)} *		Avg. C _p Deviations ≤ 0.01
1	0.72	1.06	0.816	0.000	
2	0.72	1.06	0.816	0.000	
3	0.72	1.06	0.816	0.000	
Side 'A' Average Probe C _{p(A)} =			0.8159	0.0000	

Pitot Side 'B':				Abs. Deviation from Avg. C _{p(B)} **	Specification
Trial No.	Reference ΔP	Probe ΔP	Probe C _{p(B)} *		Avg. C _p Deviations ≤ 0.01
1	0.72	1.06	0.816	0.001	
2	0.72	1.06	0.816	0.001	
3	0.72	1.07	0.812	0.003	
Side 'B' Average Probe C _{p(B)} =			0.8146	0.0017	

'A' Average C _p 0.816	-	'B' Average C _p 0.815	=	Difference 0.001	Specification Difference ≤ 0.01
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Does assembly meet specifications? → YES

If "Yes", C_p = Average of Side 'A' and 'B' Cp values. If "No", Pitot must be replaced.

$$C_{p(S)} = C_{p(STD)} \sqrt{\frac{\Delta P_{(STD)}}{\Delta P_{(S)}}}$$

$$** \text{Deviation} = |C_{p(S)} - \overline{C_{p(A \text{ or } B)}}|$$

~~Special calibration (not for use in PA Probe/PG Probe section)~~

Probe Cp= 0.815 Calibrated by: Phil Collins Date: 8/1/2008



Meter Box Critical Orifice Post-Test Calibration Data

Project No. 10199 Meter No. 84-M5 Orifice N-1
 Location Palatine, IL - Warehouse Meter Y_d 0.9915 Orifice K' 0.267
 Test Date 5/16/2007 Meter $\Delta H_{@}$ 1.7212 Orifice Cal. Date 5/15/2007
 Operator KRO Full Test Cal. Date 3/27/2007

Leak Checks

Negative Pressure <small>No movement of Manometer in one minute</small>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Positive Pressure <small>No movement of Manometer in one minute</small>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Bar. Press. (P_b) 29.14 in. Hg

Important: All leak checks must pass in order for calibration to be valid.

Run	Elapsed Time (minutes)	Meter Volume (dfl)	Meter Temperature		Ambient Temp. (T_{amb}) (F)	Orifice ΔH (in. W.C.)	Vacuum (in. Hg)	Net Run Time (minutes)	Net Meter Volume for Run - V_d (dfl)	Avg Meter Temp. for Run - T_m (F)	DGM Calibration Factor (Y_i)	Percent Variation (ΔY)
			Inlet (F)	Outlet (F)								
	0	420.80	71	71								
1	5	422.63	71	71	77	0.34	23	5	1.83	71.0	0.9468	-0.3%
2	10	424.46	72	71	77	0.34	23	5	1.83	71.3	0.9473	-0.3%
3	15	426.27	72	71	80	0.34	23	5	1.81	71.5	0.9555	0.6%

Average Y_i	0.9499
Cal. Error	-4.2%

Calculations and Specifications

$$Y_i = \frac{K' \times P_b \times (T_m + 460) \times \theta}{17.64 \times V_m \times (P_b + \frac{\Delta H}{13.6}) \times \sqrt{T_{amb} + 460}}$$

$$\Delta Y_i = \frac{Y_i - \bar{Y}_i}{\bar{Y}_i} \times 100 \quad \text{Spec.: } \Delta Y_i \leq \pm 2\%$$

$$\text{Cal. Error} = \frac{\bar{Y}_i - Y_d}{Y_d} \times 100 \quad \text{Spec.: } \text{Cal. Error} \leq \pm 5\%$$



Meter Box Full Test Calibration

Meter Box No: 84-M5

Date of Calibration: 3/27/2007

Meter Box Y_d : 1.0000

Calibration conducted by: R. Anderson

Meter Box $\Delta H@$: 1.7433

Barometric Pressure: 30.33

Signature _____

				Standard Meter Gas Volume (ft ³)			Meter Box Gas Volume (ft ³)			Std. Meter Temperature (°F)			Meter Box Temperature (°F)			Time (min)	Calibration Results	
Q	ΔH	ΔP	Y_{ds}	Initial	Final	V_{ds} Net	Initial	Final	V_d Net	In	Out	T_{ds} Avg.	In	T_o Out	T_d Avg.	Θ	Y_d	$\Delta H@$
0.971	3.00	-0.60	1.0000	0.000	10.000	10.000	211.450	221.410	9.960	71.0	73.6	72.30	84.0	77.0	80.50	10.35	1.0106	1.7834
0.979	3.00	-0.60	1.0000	0.000	10.000	10.000	222.420	232.525	10.105	70.8	73.6	72.20	89.0	79.0	84.00	10.27	1.0028	1.7474
0.409	0.50	-0.20	1.0000	0.000	5.000	5.000	233.535	238.640	5.105	70.8	73.6	72.20	85.0	80.0	82.50	12.28	0.9987	1.6646
0.409	0.50	-0.30	1.0000	0.000	5.000	5.000	239.670	244.765	5.095	71.2	73.4	72.30	83.0	79.0	81.00	12.28	0.9955	1.6683
0.683	1.50	-0.40	1.0000	0.000	10.000	10.000	245.780	255.900	10.120	70.8	73.2	72.00	85.0	79.0	82.00	14.72	1.0021	1.7940
0.681	1.50	-0.40	1.0000	0.000	10.000	10.000	257.005	267.265	10.260	70.6	73.2	71.90	88.0	80.0	84.00	14.77	0.9923	1.8022
Averages																	0.99999	1.74334

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Nomenclature	Equations
<p>P_b Barometric Pressure (in. Hg)</p> <p>Q Flow Rate (cfm)</p> <p>ΔH Orifice Pressure differential (in. H₂O)</p> <p>ΔP Inlet Pressure Differential (in. H₂O)</p> <p>V_d Gas Meter Volume - Dry (ft³)</p> <p>V_{ds} Standard Meter Volume - Dry (ft³)</p> <p>T_d Average Meter Box Temperature (°F)</p> <p>T_o Outlet Meter Box Temperature (°F)</p> <p>T_{ds} Average Standard Meter Temperature (°F)</p> <p>Y_d Meter Correction Factor (unitless), $Y_1 \leq Y_{avg} \pm 0.02$</p> <p>$Y_{ds}$ Standard Meter Correction Factor (unitless)</p> <p>$\Delta H@$ Orifice Pressure Differential giving 0.75 cfm of air at 68°F and 29.92 in. Hg (in. H₂O)</p> <p>$\Delta H@_1 \leq \Delta H@_{avg} \pm 0.2$</p> <p>$\Theta$ Duration of Run (minutes)</p>	$Y_d = (Y_{ds}) \left[\frac{V_{ds}}{V_d} \right] \left[\frac{T_d + 460}{T_{ds} + 460} \right] \left[\frac{P_b + \Delta P / 13.6}{P_b + \Delta H / 13.6} \right]$ $\Delta H@ = \frac{(0.0319)(\Delta H)}{P_b(T_o + 460)} \left[\frac{(T_{ds} + 460)\Theta}{(V_{ds})(Y_{ds})} \right]^2$ $Q = \frac{17.64(V_{ds})(P_b)}{(T_{ds} + 460)(\Theta)}$

Standard (in. Hg)	Gauge (in. Hg)
5.0	5.2
10.0	10.1
15.0	15.2
20.0	20.5
25.0	24.9

Meter Box - Pyrometer Calibration Sheet

Meter Box No: 84-M5 Office: Houston
 Calibrated by: R. Anderson Client: NA
 Date: 3/27/07 Job No: NA
 Temperature Scale Used: Fahrenheit Type of Calibration: Full-Test

Calibration Reference Settings (°F)	Pyrometer Reading for each Channel (°F)						
	1 Stack	2 Probe	3 Filter	4 Imp Out	5 Aux	6 DGM In	7 DGM Out
50	51	51	49	51	51	51	50
100	101	100	99	101	101	101	100
150	151	150	149	151	151	150	150
200	201	200	199				
250	251	250	249				
300	301	300	299				
350	351	350	349				
400	401	400	399				
450	451	450	449				
500	501	500	499				
550	551	551	549				
600	601	600	599				

Tolerance = $\pm 2^{\circ}\text{F}$ difference from reference setting.

Calibration Reference Information

Reference Used: <u>Omega CL23A</u>	Serial No: <u>67-CP-1</u>
Calibrated By: <u>Precision Tools Calibration</u>	Date Calibrated: <u>2/1/2007</u>
Calibration Report No: <u>10005-20107-1</u>	



VISIBLE EMISSIONS EVALUATOR

This is to certify that

William Dimitroff

met the specifications of Federal Reference Method 9 and qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Eastern Technical Associates of Raleigh, North Carolina. This certificate is valid for six months from date of issue.

345291

Certificate Number

Pittsburgh, Pennsylvania

Location

October 10, 2006

Date of Issue

Thomas Hore

President

Michael W. Jansford

Director of Training

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Date: April 25, 2007
 Start Time 7:06
 Stop Time 9:58

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
	NOX	NO	CO	THC	O2	CO2
	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary
	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B
	ppmdv	ppmdv	ppmdv	ppmvv	%dv	%dv
Instrument Information						
Manufacturer:	T.E.I.	T.E.I.	T.E.I.	J.U.M	Servomex	Servomex
Model:	42I-HL	42I-HL	48C	3-300A	1440	1440
Detection:	Chemilum.	Chemilum.	GFC/NDIR	FID	Paramagn.	NDIR
Asset or Serial No:	205179	205179	203068	202747	4780	4771
Calibration Span Value (CS)						
	250.900	250.800	590.800	85.500	19.540	19.620
System Response Time (seconds)						
	110	110	105	37	50	55
Manufacturer Certified Cylinder Value (C_v)						
Zero	0.000	0.000	0.000	0.000	0.000	0.000
Low	119.000	118.800	294.900	25.710	10.010	10.180
Mid				44.500		
High	250.900	250.800	590.800	85.500	19.540	19.620
Actual gas to be used for bias checks						
	119.000	118.800	294.900	25.710	10.010	10.180
Cylinder ID						
Zero	ALM030070	ALM030070	ALM030070	ALM030070		
Low	ALM011426	ALM011426	ALM056808	ALM021357	ALM066568	ALM066568
Mid				ALM011339		
High	ALM034439	ALM034439	ALM042356	ALM004096	ALM059733	ALM059733
Analyzer Calibration Response (C_{DR})						
Zero	0.118	-0.470	-0.130	-0.019	0.022	-0.012
Low	116.351	114.388	297.756	25.695	10.046	10.286
Mid	NA	NA	NA	44.582	NA	NA
High	251.198	251.260	590.813	85.809	19.583	19.687
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)						
Zero	0.0%	-0.2%	0.0%	0.0%	0.1%	-0.1%
Low	-1.1%	-1.8%	0.5%	-0.1%	0.2%	0.5%
Mid	N/A	N/A	N/A	0.1%	N/A	N/A
High	0.1%	0.2%	0.0%	0.4%	0.2%	0.3%
Calibration Error Status						
Zero	OK	OK	OK	OK	OK	OK
Low	OK	OK	OK	OK	OK	OK
Mid	N/A	N/A	N/A	OK	N/A	N/A
High	OK	OK	OK	OK	OK	OK

Time	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
07:08:49	-1.970	-1.310	-1.221	1.203	20.298	0.033
07:07:04	-2.003	-1.302	-1.221	0.791	20.330	0.040
07:07:19	-1.995	-1.302	-2.198	0.498	20.331	0.024
07:07:34	-1.970	-1.302	-2.198	0.345	20.356	0.007
07:07:49	-1.962	-1.302	-1.547	0.192	20.357	0.044
07:08:04	-1.854	-1.294	-2.214	0.039	20.372	0.043
07:08:19	-1.854	-1.294	-2.198	0.020	20.384	0.032
07:08:34	-1.978	-1.288	-2.198	-0.052	20.394	0.037
07:08:49	-1.766	-1.310	-1.221	-0.078	20.406	0.046
07:09:04	-1.587	-1.294	-1.221	-0.130	20.411	0.042
07:09:19	-1.282	-1.288	-2.231	-0.168	20.417	0.040
07:09:34	-0.678	-1.286	-2.198	-0.194	20.421	0.029
07:09:49	0.082	-1.302	-2.214	-0.215	20.428	0.018
07:10:04	0.090	-1.245	-2.491	-0.234	20.431	0.039
07:10:19	0.073	-0.811	-1.872	-0.254	20.437	0.032
07:10:34	0.154	-0.586	-1.270	-0.267	20.438	0.035
07:10:49	0.122	-0.211	-2.198	-0.283	20.440	0.039
07:11:04	0.016	-0.130	-2.198	-0.298	20.445	0.023
07:11:19	-0.147	-0.122	-2.198	-0.308	20.452	0.038
07:11:34	0.057	-0.138	-2.198	-0.316	20.459	0.022
07:11:49	-0.277	-0.138	-1.351	-0.330	20.481	0.030
07:12:04	-0.293	-0.155	-1.042	-0.340	20.468	0.015
07:12:19	-0.025	-0.130	-0.505	-0.355	20.474	0.034
07:12:34	0.065	-0.155	-0.179	-0.365	20.475	0.028
07:12:49	0.049	-0.146	-0.098	-0.369	20.478	0.019
07:13:04	0.073	-0.155	-0.148	-0.383	20.513	0.021
07:13:19	0.073	-0.431	-0.195	-0.387	20.533	0.001
07:13:34	-0.163	-0.171	-0.179	-0.396	20.699	-0.017
07:13:49	0.065	-0.155	-0.211	-0.425	20.755	-0.005
07:14:04	-0.277	-0.171	-0.179	-0.397	20.771	-0.008
07:14:19	0.155	-0.171	-0.130	-0.397	20.773	-0.006
07:14:34	0.057	-0.155	-0.130	-0.386	20.774	-0.013
07:14:49	-0.041	-0.163	-0.146	-0.381	4.948	-0.017
07:15:04	26.455	13.993	-0.146	-0.383	3.889	-0.008
07:15:19	157.867	91.274	-0.163	-0.378	6.456	0.010
07:15:34	148.734	239.414	-0.130	-0.371	0.026	-0.007

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Date: ~~March 24~~ April 25, 2007
 Start Time 7:05
 Stop Time 9:58

CALIBRATION ERROR

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
07:15:49	157.289	234.620	-0.098	-0.366	0.032	0.000
07:16:04	250.240	250.908	-0.179	-0.368	0.044	-0.001
07:16:19	263.777	254.672	-0.098	-0.366	0.034	-0.017
07:16:34	268.773	265.535	-0.130	-0.381	0.040	0.004
07:16:49	260.545	268.137	-0.081	-0.383	0.035	0.005
07:17:04	240.334	255.490	-0.146	-0.366	0.034	-0.009
07:17:19	247.660	250.395	-0.146	-0.366	0.027	0.002
07:17:34	250.916	250.574	-0.163	-0.363	0.040	-0.009
07:17:49	250.794	250.582	-0.114	-0.365	0.031	-0.003
07:18:04	250.737	250.794	-0.114	-0.371	0.017	-0.003
07:18:19	251.014	250.753	-0.179	-0.384	0.033	0.010
07:18:34	250.664	250.891	-0.146	-0.383	0.028	-0.009
07:18:49	250.883	251.048	-0.130	-0.387	0.038	-0.001
07:19:04	251.038	251.306	-0.114	-0.397	0.055	-0.007
07:19:19	251.046	251.241	-0.081	-0.397	0.044	-0.001
07:19:34	251.192	251.184	-0.163	-0.401	0.186	-0.012
07:19:49	251.355	251.355	-0.146	-0.427	0.108	0.011
07:20:04	225.592	159.487	-0.130	-0.415	0.062	-0.007
07:20:19	97.827	70.419	-0.211	-0.388	0.054	-0.014
07:20:34	53.588	9.638	-0.114	-0.384	0.055	-0.009
07:20:49	51.763	8.398	-0.163	-0.378	0.049	-0.003
07:21:04	59.105	14.669	-0.179	-0.379	0.053	-0.004
07:21:19	69.784	29.841	-0.179	-0.410	0.057	0.004
07:21:34	83.899	53.374	-0.179	-0.379	0.056	0.003
07:21:49	95.987	73.154	-0.163	-0.371	0.039	-0.008
07:22:04	108.065	89.695	-0.130	-0.373	0.028	-0.014
07:22:19	111.268	99.674	-0.211	-0.376	0.048	-0.013
07:22:34	114.106	108.626	-0.146	-0.383	0.040	-0.007
07:22:49	115.645	110.224	-0.114	-0.409	0.034	-0.002
07:23:04	116.263	112.438	-0.163	-0.381	0.057	-0.014
07:23:19	116.378	113.423	-0.146	-0.401	0.054	-0.004
07:23:34	116.443	114.188	-0.114	-0.389	0.052	-0.028
07:23:49	116.345	114.432	-0.163	-0.409	0.035	0.002
07:24:04	116.298	114.538	-0.146	-0.438	0.053	-0.015
07:24:19	116.190	114.693	-0.130	-0.498	0.049	-0.005
07:24:34	116.141	114.571	0.016	-0.514	0.299	-0.014
07:24:49	115.344	114.709	7.819	-0.497	0.082	-0.002
07:25:04	99.349	55.222	70.738	-0.436	0.049	0.004
07:25:19	28.099	10.940	411.412	-0.428	0.048	-0.013
07:25:34	2.898	0.545	627.643	-0.404	0.050	0.005
07:25:49	0.749	-0.122	640.505	-0.402	0.052	-0.002
07:26:04	0.538	-0.057	522.434	-0.392	0.057	-0.023
07:26:19	0.350	-0.065	590.541	-0.438	0.037	-0.015
07:26:34	-0.098	-0.146	589.825	-0.379	0.036	-0.020
07:26:49	0.277	-0.187	590.541	-0.388	0.041	-0.009
07:27:04	-0.098	-0.171	589.857	-0.383	0.034	-0.003
07:27:19	0.000	-0.187	590.118	-0.373	0.046	-0.005
07:27:34	0.244	-0.146	590.313	-0.373	0.056	-0.015
07:27:49	0.252	-0.171	591.502	-0.379	0.048	-0.022
07:28:04	-0.106	-0.146	590.053	-0.378	0.050	-0.020
07:28:19	0.366	-0.179	589.955	-0.363	0.063	0.002
07:28:34	-0.472	-0.171	591.241	-0.381	0.058	0.004
07:28:49	-0.130	-0.185	591.551	-0.389	0.051	-0.013
07:29:04	0.366	-0.138	592.023	-0.401	0.052	0.005
07:29:19	0.130	-0.155	590.313	-0.431	0.046	-0.002
07:29:34	0.138	-0.187	590.558	-0.418	0.049	-0.012
07:29:49	-0.122	-0.171	592.218	-0.451	0.055	-0.009
07:30:04	0.252	-0.155	591.785	-0.451	0.060	-0.025
07:30:19	-0.309	-0.130	591.420	-0.428	0.054	-0.027
07:30:34	-0.163	-0.171	590.639	-0.449	0.037	-0.010
07:30:49	0.187	-0.163	590.378	-0.425	0.081	-0.010
07:31:04	0.065	-0.171	589.548	-0.482	0.048	0.002
07:31:19	-0.155	-0.171	589.125	-0.412	0.042	-0.010
07:31:34	0.106	-0.163	589.776	-0.428	0.056	-0.020
07:31:49	-0.057	-0.155	590.981	-0.441	0.061	-0.015
07:32:04	-0.863	-0.163	588.799	-0.422	0.043	-0.024
07:32:19	0.179	-0.171	589.288	-0.388	0.056	-0.004
07:32:34	-0.277	-0.171	591.127	-0.391	0.054	-0.014
07:32:49	-0.293	-0.163	588.897	-0.388	0.203	-0.008
07:33:04	0.195	-0.163	536.931	-0.388	0.010	0.003
07:33:19	0.187	-0.155	397.249	-0.420	0.044	0.002
07:33:34	-0.147	-0.171	319.023	-0.394	0.002	0.007
07:33:49	0.065	-0.163	298.217	-0.427	0.016	-0.011
07:34:04	-0.399	-0.179	297.273	-0.427	0.026	-0.010
07:34:19	-0.057	-0.171	297.908	-0.435	0.024	-0.016
07:34:34	-0.293	-0.163	298.087	-0.441	0.032	0.004
07:34:49	-0.399	-0.146	297.127	-0.490	5.382	0.041
07:35:04	0.049	-0.155	278.958	-0.479	20.794	0.008
07:35:19	-0.391	-0.155	160.912	-0.420	20.827	-0.005

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Date: ~~4/24/07~~ April 25, 2007
 Start Time 7:06
 Stop Time 9:58

CALIBRATION ERROR

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmvv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
07:35:34	-0.057	-0.187	54.245	-0.477	20.831	-0.008
07:35:49	-0.033	-0.171	8.024	-0.448	20.833	0.007
07:36:04	-0.171	-0.171	0.472	-0.477	20.832	0.050
07:36:19	-0.049	-0.146	-0.130	-0.446	20.783	0.858
07:36:34	-0.049	-0.163	-0.163	-0.414	20.604	3.692
07:36:49	-0.171	-0.163	-0.146	-0.417	20.390	7.838
07:37:04	-0.025	-0.148	-0.130	-0.401	20.235	10.716
07:37:19	0.171	-0.171	-0.130	-0.401	20.122	12.935
07:37:34	-0.155	-0.146	-0.163	-0.394	20.053	14.545
07:37:49	-0.179	-0.171	-0.098	-0.397	19.989	15.926
07:38:04	-0.033	-0.146	-0.146	-0.402	19.929	16.727
07:38:19	-0.057	-0.171	-0.130	-0.397	19.912	17.478
07:38:34	0.171	-0.146	-0.065	-0.430	19.892	18.045
07:38:49	0.155	-0.155	-0.130	-0.407	19.875	18.437
07:39:04	-0.025	-0.155	-0.195	-0.404	19.862	18.719
07:39:19	-0.147	-0.163	-0.163	-0.409	19.849	18.929
07:39:34	-0.049	-0.187	-0.114	-0.414	19.836	19.109
07:39:49	-0.057	-0.146	-0.114	-0.514	19.796	19.237
07:40:04	-0.513	-0.155	-0.130	-0.475	19.787	19.357
07:40:19	-0.147	-0.146	-0.114	-0.435	19.786	19.485
07:40:34	0.057	-0.195	-0.163	-0.555	19.764	19.623
07:40:49	-0.252	-0.155	-0.146	-0.484	19.635	19.650
07:41:04	-0.277	-0.179	-0.065	-0.456	19.596	19.691
07:41:19	-0.138	-0.155	-0.081	-0.554	19.594	19.713
07:41:34	-0.057	-0.155	-0.081	-0.458	19.582	19.733
07:41:49	-0.025	-0.146	-0.065	-0.449	19.588	19.693
07:42:04	-0.277	-0.171	-0.081	-0.488	19.580	19.680
07:42:19	-0.261	-0.171	-0.098	-0.479	19.583	19.687
07:42:34	-0.147	-0.146	-0.049	-0.430	19.531	19.580
07:42:49	-0.171	-0.146	-0.049	-0.402	11.206	12.211
07:43:04	-0.163	-0.146	-0.065	-0.401	10.043	10.262
07:43:19	-0.179	-0.155	-0.130	-0.422	10.045	10.286
07:43:34	-0.277	-0.146	-0.130	-0.420	10.043	10.271
07:43:49	-0.041	-0.146	-0.098	-0.394	10.045	10.274
07:44:04	-0.171	-0.138	-0.114	-0.396	10.045	10.274
07:44:19	-0.033	-0.138	-0.130	-0.386	10.046	10.280
07:44:34	-0.049	-0.155	-0.114	-0.386	10.047	10.287
07:44:49	0.065	-0.146	-0.114	-0.389	10.046	10.291
07:45:04	-0.065	-0.146	-0.146	-0.388	10.944	10.126
07:45:19	0.061	-0.163	-0.130	-0.539	20.867	0.361
07:45:34	-0.179	-0.171	-0.098	-0.697	20.885	0.092
07:45:49	-0.138	-0.146	-0.130	-0.692	20.876	0.090
09:44:51	34.994	34.090	10.370	5.540	15.028	4.523
09:45:06	31.168	33.195	7.017	-0.664	20.264	0.996
09:45:21	17.648	20.309	3.256	-0.050	20.335	0.466
09:45:36	5.161	1.034	0.993	-0.024	20.344	0.352
09:45:51	0.782	0.114	-0.114	-0.026	20.366	0.202
09:46:06	0.546	-0.049	-0.195	-0.059	20.372	0.151
09:46:21	0.521	-0.081	-0.163	-0.088	20.396	0.107
09:46:36	0.496	-0.065	-0.228	-0.098	20.408	0.085
09:46:51	0.374	-0.081	-0.244	-0.117	20.419	0.067
09:47:06	0.154	-0.138	-0.228	-0.122	20.425	0.022
09:47:21	0.171	-0.163	-0.179	-0.130	20.426	0.024
09:47:36	0.171	-0.171	-0.146	-0.134	20.429	0.018
09:47:51	-0.065	-0.155	-0.195	-0.127	20.429	0.008
09:48:06	0.122	-0.179	-0.179	-0.067	20.431	0.013
09:48:21	0.024	-0.163	-0.163	-0.016	20.430	0.000
09:48:36	0.008	-0.155	-0.195	0.018	20.428	-0.003
09:48:51	-0.106	-0.138	-0.195	0.020	20.429	-0.001
09:49:06	0.136	-0.163	-0.163	-0.033	20.429	0.015
09:49:21	0.016	-0.171	-0.179	-0.010	20.428	-0.007
09:49:36	0.374	-0.155	-0.195	-0.010	20.428	0.009
09:49:51	0.130	-0.155	-0.098	-0.036	20.424	0.008
09:50:06	0.244	-0.155	-0.195	-0.011	20.427	-0.001
09:50:21	0.122	-0.146	-0.195	0.011	20.427	0.008
09:50:36	0.018	-0.155	-0.146	38.370	20.398	0.001
09:50:51	0.146	-0.163	-0.130	83.222	20.375	0.254
09:51:06	-0.122	-0.138	-0.195	83.647	20.643	0.013
09:51:21	0.366	-0.155	-0.195	83.909	20.648	-0.007
09:51:36	0.366	-0.146	-0.244	84.990	20.644	0.010
09:51:51	0.366	-0.146	-0.179	85.610	20.645	-0.013
09:52:06	0.122	-0.146	-0.228	85.576	20.648	-0.003
09:52:21	-0.106	-0.179	-0.211	85.758	20.648	0.004
09:52:36	0.252	-0.163	-0.195	85.685	20.648	0.005
09:52:51	0.018	-0.163	-0.228	85.784	20.645	0.006
09:53:06	0.252	-0.138	-0.228	85.929	20.643	-0.011
09:53:21	0.122	-0.187	-0.228	85.784	20.643	-0.007
09:53:36	0.374	-0.138	-0.211	85.774	20.642	-0.001

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10189
 Indiantown, FL
 Auxiliary Boiler B

Date: April 25, 2007
 Start Time 7:08
 Stop Time 9:58

CALIBRATION ERROR

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
09:53:51	0.008	-0.155	-0.211	85.689	20.644	0.015
09:54:06	0.016	-0.138	-0.244	85.683	20.646	-0.002
09:54:21	-0.090	-0.146	-0.179	26.288	20.478	0.048
09:54:36	0.244	-0.179	-0.211	25.869	20.422	-0.001
09:54:51	0.252	-0.171	-0.195	25.763	20.423	0.003
09:55:06	0.290	-0.163	-0.211	25.758	20.421	0.003
09:55:21	0.366	-0.155	-0.244	25.744	20.422	-0.003
09:55:36	-0.098	-0.171	-0.244	25.709	20.424	-0.001
09:55:51	0.016	-0.155	-0.244	25.708	20.425	-0.013
09:56:06	0.146	-0.163	-0.244	25.698	20.422	0.010
09:56:21	-0.098	-0.179	-0.195	25.693	20.419	-0.009
09:56:36	-0.098	-0.155	-0.065	25.683	20.421	0.004
09:56:51	-0.212	-0.195	-0.081	26.215	20.428	0.012
09:57:06	-0.228	-0.163	0.000	45.242	20.524	0.014
09:57:21	0.130	-0.179	0.000	44.526	20.738	0.001
09:57:36	-0.098	-0.163	0.000	44.580	20.735	0.000
09:57:51	0.130	-0.195	0.000	44.552	20.744	-0.005
09:58:06	0.024	-0.179	0.000	44.570	20.744	0.007
09:58:21	0.260	-0.171	0.000	44.565	20.733	0.005
09:58:36	0.374	-0.195	0.000	44.549	20.739	-0.005
09:58:51	-0.122	-0.195	0.000	44.415	20.742	0.000

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Date: **April 26, 2007**
 Start Time 10:23
 Stop Time 10:37

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
	NOX	NO	CO	O2	CO2
	Auxiliary	Auxiliary	Auxiliary	Auxiliary	Auxiliary
	Boiler B	Boiler B	Boiler B	Boiler B	Boiler B
	ppmdv	ppmdv	ppmdv	%dv	%dv
Instrument Information					
Manufacturer:	T.E.I.	T.E.I.	T.E.I.	Servomex	Servomex
Model:	42I-HL	42I-HL	48C	1440	1440
Detection:	Chemlum.	Chemlum.	GFC/NDIR	Paramagn.	NDIR
Asset or Serial No:	205179	205179	203056	4780	4771
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Response Time (seconds)					
	110	110	105	50	55
Manufacturer Certified Cylinder Value (Cv)					
Zero	0.000	0.000	0.000	0.000	0.000
Low	76.600 ✓	76.600 ✓	51.100 ✓	10.010	10.180
Mid					
High	167.000 ✓	167.000 ✓	111.000 ✓	19.540	19.620
Actual gas to be used for bias checks					
	76.600	76.600	51.100	10.010	10.180
Cylinder ID					
Zero	ALM030070	ALM030070	ALM030070	SA5122	SA5122
Low	SA5122	SA5122	SA5122	ALM066568	ALM066568
Mid					
High	CC107864	CC107864	CC107864	ALM059733	ALM059733
Analyzer Calibration Response (C_{DR})					
Zero	0.000	-0.066	-0.041	-0.007	0.005
Low	75.498	75.186	51.678	9.993	10.209
Mid	NA	NA	NA	NA	NA
High	167.865	168.085	110.707	19.520	19.609
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)					
Zero	0.0%	0.0%	0.0%	0.0%	0.0%
Low	-0.7%	-0.8%	0.5%	-0.1%	0.1%
Mid	N/A	N/A	N/A	N/A	N/A
High	0.5%	0.6%	-0.3%	-0.1%	-0.1%
Calibration Error Status					
Zero	OK	OK	OK	OK	OK
Low	OK	OK	OK	OK	OK
Mid	N/A	N/A	N/A	N/A	N/A
High	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
10:23:09	75.914	73.214	42.875	0.009	-0.004
10:23:24	75.373	72.592	42.930	-0.009	-0.020
10:23:39	74.914	71.883	45.584	-0.001	0.009
10:23:54	74.602	71.873	50.891	0.006	-0.009
10:24:09	74.546	72.225	50.894	-0.003	-0.007
10:24:24	74.781	72.934	50.894	-0.004	0.008
10:24:39	74.953	73.459	51.009	0.008	0.009
10:24:54	75.139	73.934	51.038	-0.020	0.009
10:25:09	75.184	74.393	50.940	0.012	-0.002
10:25:24	75.286	74.815	51.038	0.006	-0.004
10:25:39	75.520	74.849	51.038	0.001	-0.003
10:25:54	75.682	76.093	52.959	-0.002	0.002
10:26:09	92.734	86.932	71.036	0.006	-0.004
10:26:24	142.434	126.492	96.479	0.004	-0.010
10:26:39	161.947	166.499	108.272	-0.003	-0.003
10:26:54	167.131	167.677	110.496	0.002	-0.003
10:27:09	167.629	167.987	110.769	0.003	0.010
10:27:24	167.678	168.020	110.720	0.004	-0.002
10:27:39	167.811	168.039	110.607	-0.006	0.011
10:27:54	167.873	168.127	110.698	-0.009	-0.002
10:28:09	167.912	168.088	110.818	-0.005	0.009
10:28:24	168.046	168.208	110.821	-0.006	0.008
10:28:39	167.961	168.183	109.272	14.320	8.542

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

Date: April 26, 2007
 Start Time 10:23
 Stop Time 10:37

CALIBRATION ERROR

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
10:28:54	159.460	158.138	89.804	19.522	19.476
10:29:09	116.376	61.093	48.251	19.516	19.507
10:29:24	20.777	11.986	19.406	19.517	19.527
10:29:39	2.234	0.254	6.121	19.512	19.525
10:29:54	0.381	-0.033	0.860	19.518	19.528
10:30:09	0.068	0.003	-0.273	19.521	19.518
10:30:24	0.120	-0.023	-0.437	19.520	19.537
10:30:39	0.091	-0.016	-0.437	19.520	19.548
10:30:54	0.053	-0.033	-0.437	19.521	19.583
10:31:09	-0.068	-0.049	-0.437	19.521	19.610
10:31:24	-0.055	-0.075	-0.430	19.519	19.607
10:31:39	-0.010	-0.072	-0.420	19.521	19.609
10:31:54	-0.023	-0.085	-0.430	19.515	19.614
10:32:09	-0.003	-0.072	-0.433	10.752	11.504
10:32:24	-0.052	-0.065	-0.335	9.976	10.217
10:32:39	-0.013	-0.069	-0.042	9.976	10.216
10:32:54	-0.059	-0.069	-0.104	9.992	10.221
10:33:09	-0.019	-0.069	-0.211	9.991	10.207
10:33:24	0.042	-0.072	-0.211	9.996	10.210
10:33:39	0.029	-0.072	-0.211	9.997	10.200
10:33:54	0.036	-0.072	-0.215	9.986	10.218
10:34:09	0.000	-0.078	-0.211	11.466	9.762
10:34:24	-0.046	-0.062	-0.218	20.475	0.188
10:34:39	0.000	-0.056	-0.052	20.551	0.007
10:34:54	0.000	-0.072	-0.022	20.551	0.022
10:35:09	0.000	-0.072	-0.048	20.549	0.012
10:35:24	-0.046	-0.065	0.000	20.548	0.011
10:35:39	-0.046	-0.069	-0.061	20.552	0.003
10:35:54	-0.137	-0.062	0.013	20.554	0.014
10:36:09	-0.046	-0.082	0.020	20.555	0.007
10:36:24	0.000	-0.078	0.062	20.548	0.014
10:36:39	0.000	-0.075	0.082	20.376	0.007
10:36:54	0.000	-0.069	0.003	20.086	-0.001
10:37:09	0.016	-0.078	0.059	20.084	0.027

RATA CLASS



Scott Specialty Gases

1290 COMBERMERE STREET, TROY, MI 48083

Dual-Analyzed Calibration Standard

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 55560-71-65000
Project No.: 05-52380-021

Customer

CLEAN AIR ENGINEERING
DON ALLEN
500 W. WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM066568 Certification Date: 15Mar2007 Exp. Date: 14Mar2010 ✓
Cylinder Pressure***: 1900 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
CARBON DIOXIDE	10.18 %	+/- 1%	Direct NIST and NMI
OXYGEN	10.01 %	+/- 1%	Direct NIST and NMI
NITROGEN	BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2300	01Nov2010	1D002807	23.04 %	CARBON DIOXIDE
NTRM 2350	01May2009	K026542	23.48 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/10693	20Feb2007	THERMAL CONDUCTIVITY
CALIFORNIA /110P/S02041	13Feb2007	PARAMAGNETIC

ANALYZER READINGS

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

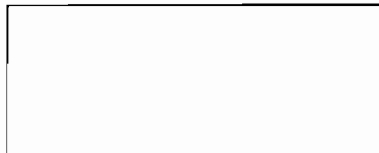
First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON DIOXIDE

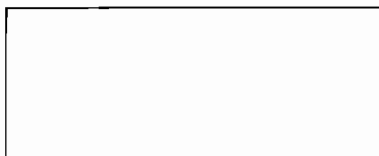
Date: 05Mar2007 Response Unit: AREA
Z1=0.00000 R1=1158644. T1=508335.0
R2=1158222. Z2=0.00000 T2=508738.0
Z3=0.00000 T3=508833.0 R3=1156941.
Avg. Concentration: 10.17 %



Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 0.999999
Constants: A = -0.018601
B = 0.000020 C = 0
D = 0 E = 0

OXYGEN

Date: 15Mar2007 Response Unit: %
Z1=0.00000 R1=23.48000 T1=10.02000
R2=23.47000 Z2=0.01000 T2=10.02000
Z3=0.01000 T3=10.02000 R3=23.47000
Avg. Concentration: 10.01 %



Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 0.999999
Constants: A = -0.005116
B = 0.999910 C = 0
D = 0 E = 0

APPROVED BY: _____

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 55560-71-65000
Project No.: 05-52380-022

Customer

CLEAN AIR ENGINEERING
DON ALLEN
500 W. WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997..

Cylinder Number: ALM059733 Certification Date: 15Mar2007 Exp. Date: 14Mar2010
Cylinder Pressure***: 1900 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
CARBON DIOXIDE	19.62	%	+/- 1%	Direct NIST and NMi
OXYGEN	19.54	%	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE			

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2300	01Nov2010	1D002807	23.04 %	CARBON DIOXIDE
NTRM 2350	01May2009	K026542	23.48 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/10693	20Feb2007	THERMAL CONDUCTIVITY
CALIFORNIA /110P/S02041	13Feb2007	PARAMAGNETIC

ANALYZER READINGS

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

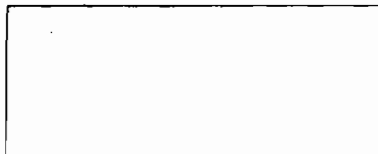
First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON DIOXIDE

Date: 12Mar2007 Response Unit: AREA
Z1 = 0.00000 R1 = 1172256. T1 = 996986.0
R2 = 1171743. Z2 = 0.00000 T2 = 998343.0
Z3 = 0.00000 T3 = 998267.0 R3 = 1168966.
Avg. Concentration: 19.62 %



Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 0.999999
Constants: A = -0.018601
B = 0.000020 C = 0
D = 0 E = 0

OXYGEN

Date: 15Mar2007 Response Unit: %
Z1 = 0.00000 R1 = 23.48000 T1 = 19.56000
R2 = 23.47000 Z2 = 0.01000 T2 = 19.54000
Z3 = 0.01000 T3 = 19.54000 R3 = 23.47000
Avg. Concentration: 19.54 %



Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 0.999999
Constants: A = -0.005116
B = 0.999910 C = 0
D = 0 E = 0

APPROVED BY: _____

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 54996-71-65000
Project No.: 05-44434-001

Customer

CLEAN AIR ENGINEERING
DON ALLEN
500 W. WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM011426 Certification Date: 28Jun2006 Exp. Date: 27Jun2008 ✓
Cylinder Pressure***: 1839 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	118.8 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	119.0 PPM		Reference Value Only

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1685	01Jan2010	AAL071058	246.1 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR/09286 21	08Jun2008	FTIR

ANALYZER READINGS

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

NITRIC OXIDE

Date: 19Jun2006	Response Unit: PPM
Z1 = -0.11745	R1 = 248.2863
T1 = 120.3197	
R2 = 248.8055	Z2 = -0.07368
T2 = 120.4389	
Z3 = -0.04273	T3 = 120.6169
R3 = 248.7018	
Avg. Concentration:	119.3 PPM

Date: 28Jun2006	Response Unit: PPM
Z1 = 0.02244	R1 = 247.7389
T1 = 118.7424	
R2 = 247.8053	Z2 = 0.09342
T2 = 119.1102	
Z3 = 0.23829	T3 = 119.5114
R3 = 247.8569	
Avg. Concentration:	118.2 PPM

Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴	
r = 9.99996E-1	
Constants:	A = 0.00000E+0
B = 7.30125E-1	C = 9.50000E-5
D = 0.00000E+0	E = 0.00000E+0

APPROVED BY: _____

JEFF GROTEAU

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 55302-71-65000
Project No.: 05-49082-018

Customer

CLEAN AIR ENGINEERING
DON ALLEN
500 W. WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM034439 Certification Date: 15Nov2006 Exp. Date: 14Nov2008 ✓
Cylinder Pressure***: 2015 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	250.8 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	250.9 PPM		Reference Value Only

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1685	01Jan2010	AAL071058	246.1 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//0928621	13Nov2006	FTIR

ANALYZER READINGS

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

First Triad Analysis

Second Triad Analysis


Calibration Curve

NITRIC OXIDE

Date: 08Nov2006	Response Unit: PPM		
Z1 = -0.31903	R1 = 246.3019	T1 = 250.7901	
R2 = 246.4396	Z2 = -0.10298	T2 = 251.0883	
Z3 = -0.07517	T3 = 251.6179	R3 = 246.6472	
Avg. Concentration:	250.8	PPM	

Date: 15Nov2006	Response Unit: PPM		
Z1 = 0.12076	R1 = 247.3150	T1 = 252.2316	
R2 = 247.9752	Z2 = 0.26079	T2 = 252.3646	
Z3 = 0.32405	T3 = 253.0786	R3 = 248.0871	
Avg. Concentration:	250.8	PPM	

Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴			
r = 9.99995E-1			
Constants:	A = 0.00000E+0		
B = 9.89054E-1	C = 1.81000E-4		
D = 0.00000E+0	E = 0.00000E+0		

APPROVED BY: 
JEFF CROTEAU



Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015

Tel: (610) 691-2474
Fax: (610) 758-9103

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST

P.O NUMBER 1668768-02

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
304.0 PPM NITRIC OXIDE GMIS VS	1686b	FP28031	490.5 PPM
149 PPM CARBON MONOXIDE GMIS VS	2636A	FF23213	247.1 PPM

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	304.0 PPM NITRIC OXIDE GMIS	ANALYZER MAKE-MODEL-S/N	ECOPHYSICS CLD 822 S/N 82250350
ANALYTICAL PRINCIPLE	CHEMILUMINESCENCE	LAST CALIBRATION DATE	02/28/07
FIRST ANALYSIS DATE	02/27/07	SECOND ANALYSIS DATE	03/06/07
Z 0	R 302.8	C 167.0	CONC. 167.4
R 303.4	Z 0	C 165.9	CONC. 166.4
Z 0	C 166.8	R 303.3	CONC. 167.2
U/M PPM	MEAN TEST ASSAY	167.0	U/M PPM
2. COMPONENT	149 PPM CARBON MONOXIDE GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E S/N B8-900
ANALYTICAL PRINCIPLE	NON-DISPERSIVE INFRARED	LAST CALIBRATION DATE	02/28/07
FIRST ANALYSIS DATE	03/06/07	SECOND ANALYSIS DATE	03/13/07
Z 0	R 203.7	C 112.5	CONC. 111.1
R 203.5	Z 0	C 112.7	CONC. 111.3
Z 0	C 112.5	R 203.4	CONC. 111.1
U/M PPM	MEAN TEST ASSAY	111.2	U/M PPM

VALUES NOT VALID BELOW 150 PSIG;BALANCE:NITROGEN
UNCERTAINTIES: NO±1.0PPM; CO±0.6PPM

THIS CYLINDER NO. CC107864
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 03/13/07
EXPIRATION DATE 03/13/09 TERM

CERTIFIED CONCENTRATION
NITRIC OXIDE 167.0PPM
CARBON MONOXIDE 111PPM
NITROGEN BALANCE
NOx (FOR REFERENCE ONLY) 167.0PPM

ANALYZED BY

KRISTEN BECK

CERTIFIED BY 3/15/09



Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015

Tel: (610) 691-2474
Fax: (610) 758-9103

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST

P.O NUMBER 566306-06

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
139.3 PPM NITRIC OXIDE GMS VS	1685b	FF28120	245.3PPM
CARBON MONOXIDE 101.0PPM GMS VS	82636	CC64020	249.4PPM

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT 139.3 PPM NITRIC OXIDE GMS		ANALYZER MAKE-MODEL-S/N Ecophysics CLD 822 S S/N 82250350	
ANALYTICAL PRINCIPLE	Chemiluminescence	LAST CALIBRATION DATE	06/30/06
FIRST ANALYSIS DATE	06/27/06	SECOND ANALYSIS DATE	07/06/06
Z 0 R 136.5 C 74.7	CONC. 76.12	Z 0 R 141.7 C 77.83	CONC. 79.56
R 136.5 Z 0 C 74.7	CONC. 76.3	R 141.6 Z 0 C 77.90	CONC. 76.55
Z 0 C 74.7 R 136.5	CONC. 76.3	Z 0 C 77.95 R 141.4	CONC. 76.70
U/M PPM	MEAN TEST ASSAY 76.3	U/M PPM	MEAN TEST ASSAY 76.65
2. COMPONENT CARBON MONOXIDE 101.0PPM GMS		ANALYZER MAKE-MODEL-S/N SIEMENS ULTRAMAT 5E S/N B8-900	
ANALYTICAL PRINCIPLE	NON-DISPERSIVE INFRARED	LAST CALIBRATION DATE	06/30/06
FIRST ANALYSIS DATE	06/27/06	SECOND ANALYSIS DATE	07/06/06
Z 0 R 99.5 C 50.5	CONC. 51.2	Z 0 R 99.5 C 50.0	CONC. 50.8
R 99.5 Z 0 C 50.5	CONC. 51.2	R 99.5 Z 0 C 50.0	CONC. 50.8
Z 0 C 50.5 R 99.5	CONC. 51.2	Z 0 C 50.5 R 99.5	CONC. 51.3
U/M PPM	MEAN TEST ASSAY 51.2	U/M PPM	MEAN TEST ASSAY 50.9

VALUES NOT VALID BELOW 150 PSIG; BALANCE: NITROGEN
UNCERTAINTIES: NO₂±0.4PPM; CO±0.6PPM

THIS CYLINDER NO. SA5122	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2	NITRIC OXIDE 76.6PPM
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121	CARBON MONOXIDE 51.1PPM
PROCEDURE G1	NITROGEN BALANCE
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE	NOX (FOR REFERENCE ONLY) 76.6PPM
CYLINDER PRESSURE 2000 PSIG	
CERTIFICATION DATE 07/06/06	
EXPIRATION DATE 07/06/08 TERM	

ANALYZED BY

CERTIFIED BY

TIM OSWALD



Scott Specialty Gases

1290 COMBERMERE STREET, TROY, MI 48083

Dual-Analyzed Calibration Standard

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 55302-71-65000
Project No.: 05-49082-010

Customer

CLEAN AIR ENGINEERING
DON ALLEN
500 W. WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM056808 Certification Date: 01Dec2006 Exp. Date: 30Nov2009 ✓
Cylinder Pressure***: 1806 PSIG

<u>COMPONENT</u>	<u>CERTIFIED CONCENTRATION (Moles)</u>	<u>ANALYTICAL ACCURACY**</u>	<u>TRACEABILITY</u>
CARBON MONOXIDE	294.9 PPM	+/- 1%	Direct NIST and NMI
NITROGEN	BALANCE		

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

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

REFERENCE STANDARD

<u>TYPE/SRM NO.</u>	<u>EXPIRATION DATE</u>	<u>CYLINDER NUMBER</u>	<u>CONCENTRATION</u>	<u>COMPONENT</u>
NTRM 2636	02Oct2008	AAL9839	248.5 PPM	CARBON MONOXIDE

INSTRUMENTATION

<u>INSTRUMENT/MODEL/SERIAL#</u>	<u>DATE LAST CALIBRATED</u>	<u>ANALYTICAL PRINCIPLE</u>
FTIR/0928621	27Nov2008	FTIR

ANALYZER READINGS

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON MONOXIDE

Date: 15Nov2006	Response Unit: PPM
Z1 = -0.00976	R1 = 254.6250 T1 = 302.2513
R2 = 255.2776	Z2 = 0.20086 T2 = 302.6786
Z3 = 0.32989	T3 = 303.4878 R3 = 255.2807
Avg. Concentration:	295.1 PPM

Date: 01Dec2006	Response Unit: PPM
Z1 = 0.15935	R1 = 253.4995 T1 = 300.4778
R2 = 253.5101	Z2 = 0.26856 T2 = 300.7474
Z3 = 0.33154	T3 = 301.2580 R3 = 253.8864
Avg. Concentration:	294.8 PPM

Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴
r = 9.99980E-1
Constants: A = 0.00000E+0
B = 5.78788E-1 C = 2.19000E-4
D = 0.00000E+0 E = 0.00000E+0

APPROVED BY: _____

JEFF CROTEAU

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 55010-71-65000
Project No.: 05-44537-008

Customer

CLEAN AIR INSTRUMENT RENTAL
GARY ZAPEL
500 WEST WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALMO42356 Certification Date: 12Jul2006 Exp. Date: 11Jul2009
Cylinder Pressure***: 1834 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
CARBON MONOXIDE	590.8	PPM	+/- 1%	Direct NIST and NMI
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1680	01Nov2008	AAL18386	498.0 PPM	CARBON MONOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR/0928621	26Jun2006	FTIR

ANALYZER READINGS

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON MONOXIDE

Date: 06Jul2006	Response Unit: PPM	
Z1 = 0.02338	R1 = 492.5281	T1 = 598.8735
R2 = 492.7639	Z2 = 0.05552	T2 = 599.5954
Z3 = 0.12164	T3 = 600.2511	R3 = 493.1142
Avg. Concentration:	591.7	PPM

Date: 12Jul2006	Response Unit: PPM	
Z1 = 0.04130	R1 = 506.6051	T1 = 600.0957
R2 = 506.7163	Z2 = 0.09648	T2 = 600.5183
Z3 = 0.13475	T3 = 600.5535	R3 = 507.0010
Avg. Concentration:	590.0	PPM

Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴	
r = 9.99988E-1	
Constants:	A = -3.61428E+3
B = 1.69257E+0	C = 0.00000E+0
D = 0.00000E+0	E = 0.00000E+0

APPROVED BY: Scott King

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 54685-71-65000
05-39648-010

Customer

CLEAN AIR INSTRUMENT RENTAL
GARY ZAPEL
500 WEST WOOD STREET
PALATINE IL 60067

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM021357 Certification Date: 01Feb2006 Exp. Date: 31Jan2009
Cylinder Pressure***: 1950 PSIG

COMPONENT

PROPANE
AIR

CERTIFIED CONCENTRATION (Moles)

25.71 PPM
BALANCE

ANALYTICAL

ACCURACY**

+/- 1%

TRACEABILITY

Direct NIST and NMI

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

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

REFERENCE STANDARD

Table with 5 columns: TYPE/SRM NO., EXPIRATION DATE, CYLINDER NUMBER, CONCENTRATION, COMPONENT. Row 1: NTRM 1668, 04Jul2008, ALM022966, 98.80 PPM, PROPANE

INSTRUMENTATION

Table with 3 columns: INSTRUMENT/MODEL/SERIAL#, DATE LAST CALIBRATED, ANALYTICAL PRINCIPLE. Row 1: VARIAN/3600/0455, 24Jan2006, FLAME IONIZATION

ANALYZER READINGS

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Table with 3 columns: Z, R, T. Row 1: Z1=0.00000, R1=103352.0, T1=26427.0. Row 2: R2=103172.0, Z2=0.00000, T2=26442.0. Row 3: Z3=0.00000, T3=26480.00, R3=102927.0. Avg. Concentration: 25.71 PPM

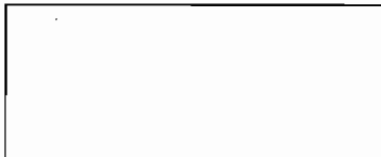


Table with 2 columns: Constants, Concentration. Row 1: Concentration = A + Bx + Cx2 + Dx3 + Ex4, r = 0.99967. Row 2: Constants: A = 0.364185, B = 0.000942, C = 0, D = 0, E = 0

APPROVED BY:

HILARY HATCHER

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD. PASADENA, TX 77507

Phone: 281-474-6800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 54266-71-65000
Project No.: 04-36332-025

Customer

CLEAN AIR INSTRUMENT RENTALS
NANCY DAVIS
321 CENTURY PLAZA
SUITE 110
HOUSTON TX 77073

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM011339 Certification Date: 28 Jul 2005 Exp. Date: 28 Jul 2008
Cylinder Pressure***: 1850 PSIG

COMPONENT
PROPANE
AIR

CERTIFIED CONCENTRATION (Moles)
44.5 PPM
BALANCE

ANALYTICAL ACCURACY**
+/- 1%

TRACEABILITY
Direct NIST and NMI

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1867	04 Jul 2008	ALM028378	49.80 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#
HP-Y/HP 8890/US00000974

DATE LAST CALIBRATED
11 Jul 2005

ANALYTICAL PRINCIPLE
GAS CHROMATOGRAPHY

ANALYZER READINGS

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

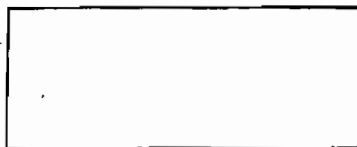
First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Date: 28 Jul 2005		
Z1 = 141539.0	R1 = 761364.0	T1 = 683672.0
R2 = 748789.0	Z2 = 142904.0	T2 = 677437.0
Z3 = 142085.0	T3 = 682998.0	R3 = 763801.0
Avg. Concentration: 44.78 PPM		



Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴	
r = 0.999894	
Constants:	A = 0.072816282
B = 6.4165E-05	C =
D =	E =

APPROVED BY: Leroy Jones
LEROY JONES

RATA CLASS



Scott Specialty Gases

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 54266-71-65000
Project No.: 04-36332-026

Customer

CLEAN AIR INSTRUMENT RENTALS
NANCY DAVIS
321 CENTURY PLAZA
SUITE 110
HOUSTON TX 77073

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM004096 Certification Date: 28Jul2005 Exp. Date: 28Jul2008
Cylinder Pressure***: 1800 PSIG

COMPONENT
PROPANE
AIR

CERTIFIED CONCENTRATION (Moles)
85.5 PPM
BALANCE

ANALYTICAL ACCURACY**
+/- 1%

TRACEABILITY
Direct NIST and NMI

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

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

REFERENCE STANDARD

<u>TYPE/SRM NO.</u>	<u>EXPIRATION DATE</u>	<u>CYLINDER NUMBER</u>	<u>CONCENTRATION</u>	<u>COMPONENT</u>
NTRM 1687	04Jul2008	ALM028376	49.80 PPM	PROPANE

INSTRUMENTATION

<u>INSTRUMENT/MODEL/SERIAL#</u>	<u>DATE LAST CALIBRATED</u>	<u>ANALYTICAL PRINCIPLE</u>
HP-Y/HP 8890/US00000974	11Jul2005	GAS CHROMATOGRAPHY

ANALYZER READINGS

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

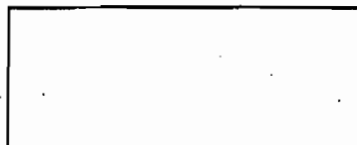
First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Date: 28Jul2005		
Z1 = 141539.0	R1 = 751364.0	T1 = 1310050.
R2 = 749789.0	Z2 = 142904.0	T2 = 1286830.
Z3 = 142065.0	T3 = 1305108.	R3 = 752801.0
Avg. Concentration: 88.51 PPM		



Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴	
r = 0.999989	
Constants:	A = 0.072816282
B = 6.42E-05	C =
D =	E =

APPROVED BY: Leroy Jones
LEROY JONES

Indiantown Cogeneration
Auxiliary Boiler
CleanAir Project 10199

NO_x CONVERTER EFFICIENCY

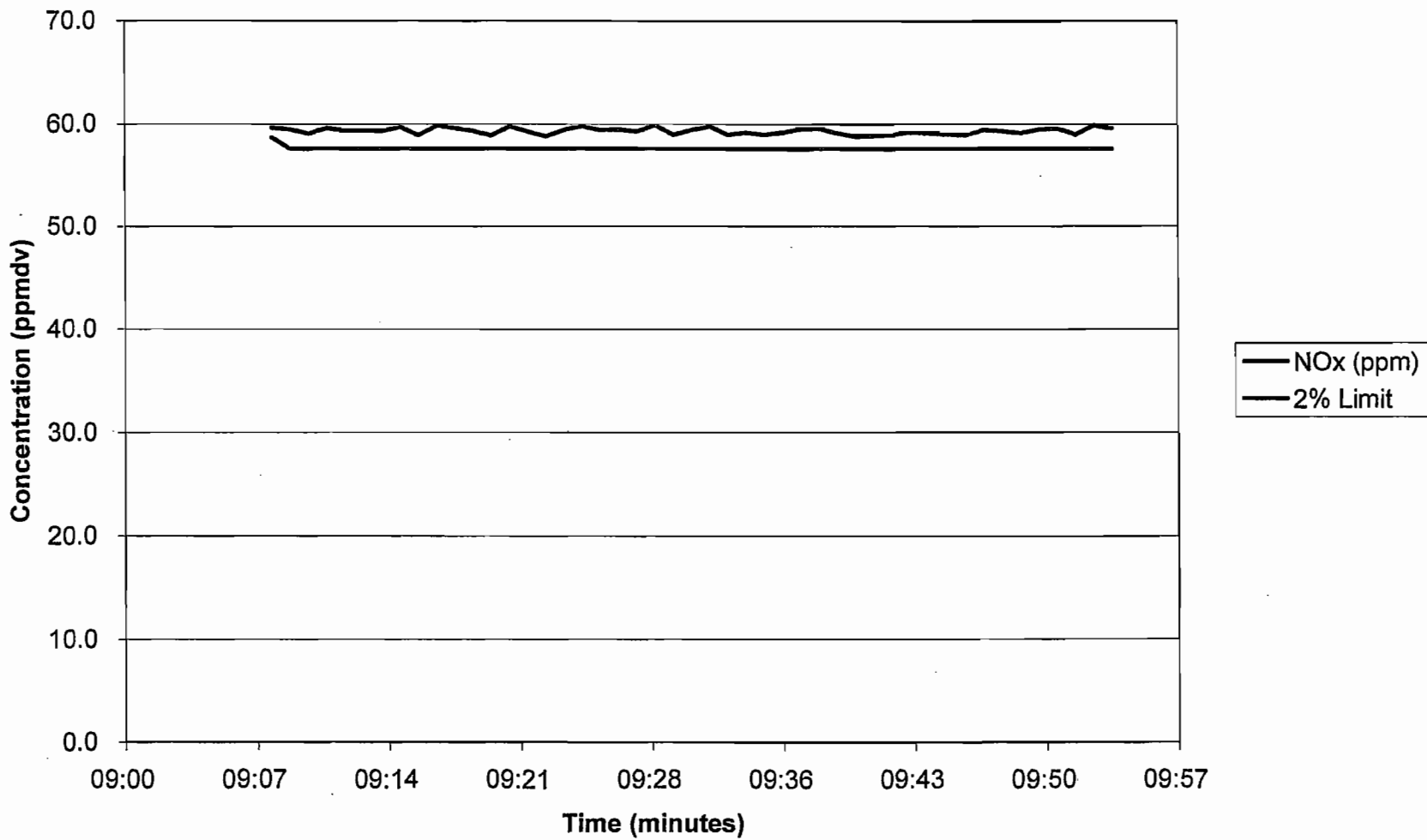
Time	NOx (ppm)	O2 (%)	CO2 (%)
09:08	59.6	9.8	9.8
09:09	59.5	9.8	9.9
09:10	59.1	9.8	9.9
09:11	59.6	9.8	9.9
09:12	59.4	9.8	9.8
09:13	59.4	9.8	9.9
09:14	59.3	9.8	9.9
09:15	59.7	9.8	9.8
09:16	58.9	9.8	9.9
09:17	59.9	9.9	9.9
09:18	59.6	9.8	9.9
09:19	59.4	9.8	9.9
09:20	58.9	9.8	9.9
09:21	59.8	9.8	9.9
09:22	59.3	9.8	9.9
09:23	58.8	9.8	9.9
09:24	59.5	9.8	9.8
09:25	59.8	9.8	9.9
09:26	59.4	9.8	9.9
09:27	59.5	9.8	9.9
09:28	59.3	9.8	9.9
09:29	59.9	9.9	9.8
09:30	58.9	9.8	9.8
09:31	59.4	9.8	9.9
09:32	59.8	9.8	9.9
09:33	59.0	9.8	9.9
09:34	59.2	9.8	9.9
09:35	59.0	9.8	9.9
09:36	59.2	9.8	9.9
09:37	59.5	9.8	9.9
09:38	59.6	9.8	9.9
09:39	59.1	9.8	9.9
09:40	58.8	9.8	9.9

Indiantown Cogeneration
Auxiliary Boiler
CleanAir Project 10199

NO_x CONVERTER EFFICIENCY

Time	NOx (ppm)	O2 (%)	CO2 (%)
09:41	58.9	9.8	9.9
09:42	59.0	9.8	9.9
09:43	59.2	9.8	9.9
09:44	59.1	9.8	9.9
09:45	59.0	9.8	9.9
09:46	59.0	9.8	9.8
09:47	59.4	9.8	9.9
09:48	59.3	9.9	9.8
09:49	59.1	9.9	9.9
09:50	59.5	9.8	9.9
09:51	59.6	9.8	9.9
09:52	59.0	9.8	9.9
09:53	59.9	9.8	9.9
09:54	59.6	9.8	9.9
Peak Value	59.9		

NOx Converter Efficiency



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INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

FIELD DATA

E

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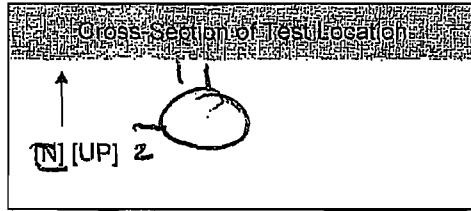
TEST LOCATION: STACK

VELOCITY DETERMINATION FIELD DATA SHEET

PAGE 1 OF 1

UNIT: Aut Boylen D

Client: <u>Indian Town CIP</u>	Project No: <u>10199</u>
Plant: <u>Indian Town</u>	Date: <u>4-25-07</u>
Meter Operator: <u>B. Dimitroff</u>	
Probe Operator: <u>B. Oak</u>	
Source of Moisture and Molecular Weight Data: <u>M4</u>	



Amb Temp: <u>81</u>	Bar Press: <u>29.73</u> In. Hg (mbar)
Pilot Op: <u>0816</u>	Probe ID: No <u>675A-9500</u>
Duct diameter from Disturbance	
Downstream: <u>> 8</u>	Upstream: <u>> 2</u>
Flap (In) (Out): <u>10</u>	
Gas Flow (In) (Out) Scfm	
Duct Diameter (In)	<u>78.0</u>

Run	Leak	Run	Leak	Run	Leak	Run	Leak								
1	Full	2	Full	3	Full										
Start Time: <u>1140</u>	Stop Time: <u>1144</u>	Start Time: <u>1328</u>	Stop Time:	Start Time: <u>1513</u>	Stop Time: <u>1518</u>	Start Time:	Stop Time:								
Stack Press (in H ₂ O): <u>240</u>		Stack Press (in H ₂ O): <u>-40</u>		Stack Press (in H ₂ O): <u>-40</u>		Stack Press (in H ₂ O):									
Post-Test Leak Check: Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>		Post-Test Leak Check: Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>		Post-Test Leak Check: Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>		Post-Test Leak Check: Pass <input type="checkbox"/> Fail <input type="checkbox"/>									
Traverse Point Number	Stack Temp (F)	Velocity Head (in H ₂ O)	Notes	Traverse Point Number	Stack Temp (F)	Velocity Head (in H ₂ O)	Notes	Traverse Point Number	Stack Temp (F)	Velocity Head (in H ₂ O)	Notes	Traverse Point Number	Stack Temp (F)	Velocity Head (in H ₂ O)	Notes
2-1	401	0.15		2-1	404	0.17		2-1	400	0.15					
2	402	0.15		2	403	0.21		2	400	0.16					
3	406	0.19		3	405	0.22		3	403	0.20					
4	407	0.20		4	406	0.20		4	404	0.20					
5	409	0.20		5	406	0.20		5	405	0.18					
6	407	0.17		6	404	0.18		6	402	0.15					
1-1	401	0.17		1-1	405	0.15		1-1	401	0.16					
2	402	0.18		2	404	0.20		2	402	0.19					
3	404	0.23		3	404	0.25		3	400	0.22					
4	407	0.22		4	405	0.22		4	400	0.21					
5	409	0.22		5	405	0.22		5	403	0.22					
6	407	0.20		6	406	0.19		6	404	0.18					
Total	<u>4862</u>	<u>5.2187</u>		Total	<u>4856</u>	<u>5.2668</u>		Total	<u>4840</u>	<u>5.1928</u>					
Average	<u>405.1667</u>	<u>0.349</u>		Average	<u>404.667</u>	<u>0.472</u>		Average	<u>402.000</u>	<u>0.4291</u>					

Sum of square roots.

Circle correct bracketed units on data sheet.

404.75
R

QA/QC EO
Date 5/3/07



E-3

TEST LOCATION: STACK
 UNIT: Aux Boiler B RUN: 1

MOISTURE DETERMINATION
 FIELD DATA SHEET

Client: INDIAN TOWN CLP Project No: 10185
 Plant: INDIAN TOWN FE Date: 4-25-07
 Meter Operator: BO
 Probe Operator: BO



Barometric Pressure: 81 [in. Hg] [mbar]
 Liner Material: 3.5 steel

Meter Box No: 84MS
 Meter ID: 1-0000

Probe Dimensions (mm): 78.0
 Static Pressure: 2.40
 Port Temp: 10.0
 Inlet: UP
 Flow: DOWN

Flow: 125 [m] [gpm] Silica Gel: 2
 Total Volume: 127

Leak Rate Before: 0.00 [cm] [in] 10 [in] [in] 10
 Leak Rate After: 0.001 [cm] [in] 12.5 [in] [in] 10

Start Time: 1151 Stop Time: 1251

Probe Point Number	Temperature (°C)	Probe Setting (in. Hg)	Gas Sample Volume (mL)	Static Pressure (in. Hg)	Cond Temp (°C)	Barometric Pressure (in. Hg)	Barometric Pressure (mbar)	Pump Vacuum (in. Hg)	Notes
2-1	5.0	1.00	284.440	NA	50	81	81	4.0	
1	10		290.16		50	82	81	4.0	
1	15		293.02		51	83	81	4.0	
1	20	<u>0.90</u>	295.87		51	84	81	4.0	
1	25		298.72		52	85	81	4.0	
1	30		301.59		52	86	81	4.5	
1	35		304.42		54	88	82	4.5	
1	40		307.28		54	90	82	4.5	
1	45		310.14		56	92	82	4.5	
1	50		313.06		58	94	83	4.5	
1	55		316.08		58	96	84	4.7	
1	60		318.925		60	97	85	4.7	
	Total	<u>12.000</u>	<u>31635</u>			1058	884		
	Average	<u>1.0000</u>					85.0833		

Circle correct bracketed units on data sheet.

34.485
 PR

QA/QC EA
 Date 4/25/07



E-4

TEST LOCATION: Stack
 UNIT: Aux Boiler RUN: 2

MOISTURE DETERMINATION
 FIELD DATA SHEET

Client: <u>INDIAN TOWN COAL</u>	Project No: <u>10185</u>
Plant: <u>INDIAN TOWN P1</u>	Date: <u>4-25-07</u>
Meter Operator: <u>BD</u>	
Probe Operator: <u>BD</u>	

Meter Box No: <u>64-m5</u>
Meter ID: <u>10000</u>

Leak Rate Before: <u>0.001</u> (cm ³ /s)	<u>10</u> (in. Hg)
Leak Rate After: <u>0.001</u> (cm ³ /s)	<u>15.5</u> (in. Hg)

Cross Section of Test Location

Probe Dimensions (in): 78.0

Stack Press (in. Hg)	Flue Gas Temp (°F)	Gas Flow (in. [Out])	Point No.
<u>2.40</u>	<u>10.0</u>	<u>100</u>	<u>100</u>

Amb. Temp (°F): <u>83</u>	Bar Press: <u>29.75</u> (in. Hg) (mbar)
Filter Material: <u>S. SPER1</u>	

H ₂ O: <u>1380</u> (mg) (gm)	Silica Gel (gm): <u>7.0</u>
Total Wt: <u>145.0</u>	

Start Time: <u>1327</u>	Stop Time: <u>1427</u>
-------------------------	------------------------

Traverse Point Number	Time Elapsed (min)	Orifice Setting (in. Hg)	Gas Sample Volume (ml) [L]	Stack Temp (°F)	Cond Temp (°F)	OC Inlet (°F)	OC Outlet (°F)	Pump Vacuum (in. Hg)	Note
2-1	5.0	1.00	323.000	NA	58	89	86	4	
1	10		329.03		58	90	86	4.5	
1	15		331.95		58	91	86	5.0	
1	20		334.87		56	93	86	5.0	
1	25		337.29		56	95	87	5.0	
1	30		340.71		56	97	87	5.0	
1	35		343.63		58	99	88	5.0	
1	40		346.77		58	99	89	5.0	
1	45		349.69		60	100	89	5.0	
1	50		352.61		60	100	89	5.0	
1	55		355.66		60	101	90	5.0	
1	60		358.625		62	101	90	5.0	
	Total	<u>17.000</u>	<u>35.625</u>			<u>165</u>	<u>1053</u>		
	Average	<u>1.000</u>				<u>920000</u>			

Circle correct bracketed units on data sheet.

E-5

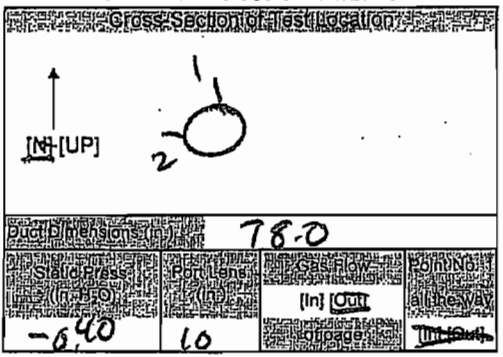
TEST LOCATION: STACK
 UNIT: Aux B RUN: 3

**MOISTURE DETERMINATION
 FIELD DATA SHEET**

Client: INDIC-TOWN CLP Project No: 10199
 Plant: INDIC-TOWN FEL Date: 4-25-07
 Meter Operator: AD
 Probe Operator: BD

Meter Box No: 84MS
 Meter No: 1.000

Leak Rate Before: 0.000 (cm) @ 10 (in. Hg)
 Leak Rate After: 100 (cm) @ 10 (in. Hg)



Amb Temp (C): 86 Bar Press: 29.75 (in. Hg) (mbar)
 Utility: 5. Steel

Flow: 131.0 (mm) (gm) Silica Gel (gm): 5
 Total Vol: 136.0

Start Time: 1517 Stop Time: 1617

Traverse Point Number	Min/Sec Elapsed Time	Orifice Setting (in. Hg)	Gas Sample Volume (ml)	Stack Temp (C)	Color Temp (C)	DGM Inlet (C)	DGM Outlet (C)	Pump Vacuum (in. Hg)	Notes
2-1	5.0	10	375.53	NA	58	93	90	5	
1	10		378.44		58	95	90	5	
1	15		381.30		56	98	90	5	
1	20		384.12		56	99	90	5	
1	25		387.09		54	100	90	5	
1	30		390.00		54	101	91	5	
1	35		392.96		54	101	91	5	
1	40		395.92		56	102	92	5	
1	45		398.90		56	103	92	5	
1	50		401.89		56	103	93	5	
1	55		404.98		56	104	93	5	
1	60		407.870		56	104	93	5	
	Total		<u>35.2400</u>			1203	1095		
	Average					95.7500			

Circle correct bracketed units on data sheet.



E-6

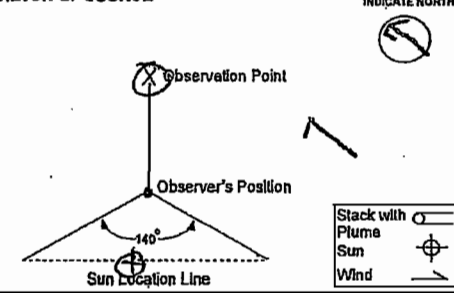
Visible Emissions Observation Form

CLIENT/OWNER		PROJECT NUMBER		OBSERVATION DATE				START TIME		END TIME			
INDIAN TOWN CLP		10199		4-25-07				1154		1254			
PLANT	UNIT	RUN		MIN	15	30	45	60	MIN	15	30	45	60
INDIAN TOWN	AUX B	1		0	0	0	0	0	30	0	0	0	0
PROCESS EQUIPMENT	OPERATING MODE			1	0	0	0	0	31	0	0	0	0
Aux Boiler B	NORMAL			2	0	0	0	0	32	0	0	0	0
CONTROL EQUIPMENT	OPERATING MODE			3	0	0	0	0	33	0	0	0	0
NA	NA			4	0	0	0	0	34	0	0	0	0
DESCRIBE EMISSION POINT				5	0	0	0	0	35	0	0	0	0
Silver colored STACK @ ~ NW side of PLANT				6	0	0	0	0	36	0	0	0	0
8	0	0	0	0	38	0	0	0	0	0	0	0	
HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER			9	0	0	0	0	39	0	0	0	0
~200'	~600'			10	0	0	0	0	40	0	0	0	0
HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER			11	0	0	0	0	41	0	0	0	0
~200'	45° E of N			12	0	0	0	0	42	0	0	0	0
DESCRIBE EMISSIONS				13	0	0	0	0	43	0	0	0	0
NONE				14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0	0	0	0	
16	0	0	0	0	46	0	0	0	0	0	0	0	
EMISSION COLOR	PLUME TYPE: CONTINUOUS <input checked="" type="checkbox"/>			17	0	0	0	0	47	0	0	0	0
clear	FUGITIVE <input type="checkbox"/> INTERMITTENT <input type="checkbox"/>			18	0	0	0	0	48	0	0	0	0
WATER DROPLETS PRESENT	IF WATER DROPLET PLUME			19	0	0	0	0	49	0	0	0	0
YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/>			20	0	0	0	0	50	0	0	0	0
POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED				21	0	0	0	0	51	0	0	0	0
~ 1' above STACK opening				22	0	0	0	0	52	0	0	0	0
DESCRIBE BACKGROUND				23	0	0	0	0	53	0	0	0	0
Blue sky w/ thin white clouds				24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0	0	0	0	
WIND SPEED	WIND DIRECTION			26	0	0	0	0	56	0	0	0	0
10-15	SW			27	0	0	0	0	57	0	0	0	0
AMBIENT TEMPERATURE	RELATIVE HUMIDITY			28	0	0	0	0	58	0	0	0	0
79°	60%			29	0	0	0	0	59	0	0	0	0
LAYOUT SKETCH OF SOURCE				RANGE OF OPACITY READINGS									
				MINIMUM		MAXIMUM							
				0		0							
				OBSERVER'S NAME (PRINT)									
				William Dimitroff									
				OBSERVER'S SIGNATURE		DATE							
						4-25-07							
				CERTIFIED BY		DATE							
				ETA		4-10-07							
COMMENTS													

Visible Emissions Observation Form

CLIENT/OWNER		PROJECT NUMBER		OBSERVATION DATE				START TIME		END TIME			
INDIANTOWN CIP		10199		4-25-07				1337		1437			
PLANT	UNIT	RUN	SEC	15	30	45	60	SEC	15	30	45	60	
			MIN					MIN					
INDIANTOWN FI	AUX B	2	0	0	0	0	0	30	0	0	0	0	
PROCESS EQUIPMENT		OPERATING MODE		1	0	0	0	0	31	0	0	0	0
AUX BOILER		NORMAL		2	0	0	0	0	32	0	0	0	0
CONTROL EQUIPMENT		OPERATING MODE		3	0	0	0	0	33	0	0	0	0
NA		NA		4	0	0	0	0	34	0	0	0	0
DESCRIBE EMISSION POINT				5	0	0	0	0	35	0	0	0	0
SILVER CROWN STACK				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
HEIGHT ABOVE GROUND LEVEL		DISTANCE FROM OBSERVER		9	0	0	0	0	39	0	0	0	0
~200'		~600'		10	0	0	0	0	40	0	0	0	0
HEIGHT RELATIVE TO OBSERVER		DIRECTION FROM OBSERVER		11	0	0	0	0	41	0	0	0	0
~200'		45° E of N		12	0	0	0	0	42	0	0	0	0
DESCRIBE EMISSIONS				13	0	0	0	0	43	0	0	0	0
NONE				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
EMISSION COLOR		PLUME TYPE: CONTINUOUS <input checked="" type="checkbox"/>		17	0	0	0	0	47	0	0	0	0
clear		FUGITIVE <input type="checkbox"/> INTERMITTENT <input type="checkbox"/>		18	0	0	0	0	48	0	0	0	0
WATER DROPLETS PRESENT		IF WATER DROPLET PLUME		19	0	0	0	0	49	0	0	0	0
YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/>		20	0	0	0	0	50	0	0	0	0
POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED				21	0	0	0	0	51	0	0	0	0
~1' above opening				22	0	0	0	0	52	0	0	0	0
DESCRIBE BACKGROUND				23	0	0	0	0	53	0	0	0	0
Blue sky w/ puffy white clouds				24	0	0	0	0	54	0	0	0	0
				25	0	0	0	0	55	0	0	0	0
WIND SPEED		WIND DIRECTION		26	0	0	0	0	56	0	0	0	0
5-10		SW		27	0	0	0	0	57	0	0	0	0
AMBIENT TEMPERATURE		RELATIVE HUMIDITY		28	0	0	0	0	58	0	0	0	0
82°		60%		29	0	0	0	0	59	0	0	0	0
LAYOUT SKETCH OF SOURCE				RANGE OF OPACITY READINGS									
				INDICATE NORTH		MINIMUM		MAXIMUM					
						0		0					
				OBSERVER'S NAME (PRINT)									
				William Dimitroff									
				OBSERVER'S SIGNATURE		DATE							
						4-25-07							
				CERTIFIED BY		DATE							
				ETA		4-10-07							
COMMENTS													

Visible Emissions Observation Form

CLIENT/TOWNER <i>IndianTown CCP</i>		PROJECT NUMBER <i>10199</i>		OBSERVATION DATE <i>4-25-07</i>				START TIME <i>1524</i>		END TIME <i>1624</i>			
PLANT <i>IndianTown P1</i>		UNIT <i>AUX B</i>	RUN <i>3</i>	SEC MIN	15	30	45	60	SEC MIN	15	30	45	60
PROCESS EQUIPMENT <i>Aux Boilers</i>		OPERATING MODE <i>NORMAL</i>		1	0	0	0	0	31	0	0	0	0
CONTROL EQUIPMENT <i>NA</i>		OPERATING MODE <i>NA</i>		2	0	0	0	0	32	0	0	0	0
DESCRIBE EMISSION POINT <i>Silver colonos stack</i>				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
HEIGHT ABOVE GROUND LEVEL <i>~200'</i>		DISTANCE FROM OBSERVER <i>~600'</i>		9	0	0	0	0	39	0	0	0	0
				10	0	0	0	0	40	0	0	0	0
HEIGHT RELATIVE TO OBSERVER <i>~200'</i>		DIRECTION FROM OBSERVER <i>45° E of N</i>		11	0	0	0	0	41	0	0	0	0
				12	0	0	0	0	42	0	0	0	0
DESCRIBE EMISSIONS <i>NONE</i>				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
EMISSION COLOR <i>clear</i>		PLUME TYPE: CONTINUOUS <input checked="" type="checkbox"/>		17	0	0	0	0	47	0	0	0	0
		FUGITIVE <input type="checkbox"/> INTERMITTENT <input type="checkbox"/>		18	0	0	0	0	48	0	0	0	0
WATER DROPLETS PRESENT YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		IF WATER DROPLET PLUME ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/>		19	0	0	0	0	49	0	0	0	0
				20	0	0	0	0	50	0	0	0	0
POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED <i>~1' above stack opening</i>				21	0	0	0	0	51	0	0	0	0
				22	0	0	0	0	52	0	0	0	0
DESCRIBE BACKGROUND <i>Blue sky w/ puffy clouds</i>				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
WIND SPEED <i>5-10</i>		WIND DIRECTION <i>SW</i>		26	0	0	0	0	56	0	0	0	0
				27	0	0	0	0	57	0	0	0	0
AMBIENT TEMPERATURE <i>83°</i>		RELATIVE HUMIDITY <i>60%</i>		28	0	0	0	0	58	0	0	0	0
				29	0	0	0	0	59	0	0	0	0
LAYOUT SKETCH OF SOURCE 				RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>									
				OBSERVER'S NAME (PRINT) <i>William Dimitroff</i>									
				OBSERVER'S SIGNATURE <i>[Signature]</i>		DATE <i>4-25-07</i>							
				CERTIFIED BY <i>ETA</i>		DATE <i>4-10-07</i>							
COMMENTS													

FD-200 (Rev. 10-19-99)
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QA/QC *EA*
Date *5/3/07*



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INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

FIELD DATA PRINTOUTS

F

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USEPA Method 3 Laboratory Data

Location: Auxiliary Boiler B
 Client: Indiantown Cogeneration, L.P.
 Project No: 10199
 Method: EPA Method 3A
 Fuel Type: Natural Gas
 F_o for Fuel: 1.6 to 1.836

Test Method: USEPA Method 2
 Analyte: Velocity & Flow Rate

Analyst: E. Doak
 Analyst Emp No: 349

Run Number	Trial	Percent CO ₂	Percent O ₂ +CO ₂	Percent O ₂	Percent N ₂	Dry Mol. Weight	F _o	Method of Analysis: CEM
1	1							
	2							
	3							
Avg.								
CEM or Other Avg:		9.39589		4.61877	85.98534	29.68809	1.73280	<input checked="" type="checkbox"/> Fo value within expected range.

Run Number	Trial	Percent CO ₂	Percent O ₂ +CO ₂	Percent O ₂	Percent N ₂	Dry Mol. Weight	F _o	Method of Analysis: CEM
2	1							
	2							
	3							
Avg.								
CEM or Other Avg:		9.45387		4.56042	85.98570	29.69504	1.72835	<input checked="" type="checkbox"/> Fo value within expected range.

Run Number	Trial	Percent CO ₂	Percent O ₂ +CO ₂	Percent O ₂	Percent N ₂	Dry Mol. Weight	F _o	Method of Analysis: CEM
3	1							
	2							
	3							
Avg.								
CEM or Other Avg:		9.55201		4.37352	86.07447	29.70326	1.73016	<input checked="" type="checkbox"/> Fo value within expected range.

Run Number	Trial	Percent CO ₂	Percent O ₂ +CO ₂	Percent O ₂	Percent N ₂	Dry Mol. Weight	F _o	Method of Analysis:
	1							
	2							
	3							
Avg.								
CEM or Other Avg:								<input type="checkbox"/> Fo value within expected range.

052407 114200
 TJK

USEPA Method 4 Laboratory Data

Location: Auxiliary Boiler B
 Client: Indiantown Cogeneration, L.P.
 Project No: 10199

Test Method: **USEPA Method 2**
 Analyte: **Velocity & Flow Rate**
 Analyst: _____
 Analyst Emp No: _____

Test Run: 1

Contents	Gross (gm)	Tare (gm)	Net (gm)	
Impinger 1	225.0	100.0	125.0	
Impinger 2	100.0	100.0	0.0	
Impinger 3	0.0	0.0	0.0	
Impinger 4	302.0	300.0	2.0	
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

125.0 Liquid (gm)		
0.0 less rinse (gm)		
125.0 Net Liquid (gm)	125.0	<input checked="" type="checkbox"/> QA/QC OK
+ 2.0 Silica Gel (gm)	2.0	<input checked="" type="checkbox"/> QA/QC OK
127.0 Total Vlc (gm)	127.0	<input checked="" type="checkbox"/> QA/QC OK

Rinse: _____ (ml or gm)

Test Run: 2

Contents	Gross (gm)	Tare (gm)	Net (gm)	
Impinger 1	238.0	100.0	138.0	
Impinger 2	100.0	100.0	0.0	
Impinger 3	0.0	0.0	0.0	
Impinger 4	307.0	300.0	7.0	
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

138.0 Liquid (gm)		
0.0 less rinse (gm)		
138.0 Net Liquid (gm)	138.0	<input checked="" type="checkbox"/> QA/QC OK
+ 7.0 Silica Gel (gm)	7.0	<input checked="" type="checkbox"/> QA/QC OK
145.0 Total Vlc (gm)	145.0	<input checked="" type="checkbox"/> QA/QC OK

Rinse: _____ (ml or gm)

Test Run: 3

Contents	Gross (gm)	Tare (gm)	Net (gm)	
Impinger 1	231.0	100.0	131.0	
Impinger 2	100.0	100.0	0.0	
Impinger 3	0.0	0.0	0.0	
Impinger 4	305.0	300.0	5.0	
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

131.0 Liquid (gm)		
0.0 less rinse (gm)		
131.0 Net Liquid (gm)	131.0	<input checked="" type="checkbox"/> QA/QC OK
+ 5.0 Silica Gel (gm)	5.0	<input checked="" type="checkbox"/> QA/QC OK
136.0 Total Vlc (gm)	136.0	<input checked="" type="checkbox"/> QA/QC OK

Rinse: _____ (ml or gm)

Test Run: _____

Contents	Gross (gm)	Tare (gm)	Net (gm)	
Impinger 1				
Impinger 2				
Impinger 3				
Impinger 4				
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Liquid (gm)		
less rinse (gm)		
Net Liquid (gm)		<input type="checkbox"/> QA/QC OK
Silica Gel (gm)		<input type="checkbox"/> QA/QC OK
Total Vlc (gm)		<input type="checkbox"/> QA/QC OK

Rinse: _____ (ml or gm)

051007 132734
 TJK

Field Data Printout

Test Method: USEPA Method 2
 Analyte: Velocity & Flow Rate

Location: Auxiliary Boiler B
 Test Run: 1
 Client: Indiantown Cogeneration, L.P.
 Project No: 10199
 Source Area (ft²): 33.18307
 Meter Operator: Bill Dimitroff 275
 Probe Operator: Eric Doak 349
 Test Date: 4/25/07
 Start Time: 11:51
 Stop Time: 12:51
 Leak Rate Before: 0.001 cfm @ 10 *Hg
 Leak Rate After: 0.001 cfm @ 13 *Hg

Bar. Press. (In. Hg): 29.75
 Static P: -0.4
 O₂ (dry volume %): 4.62
 CO₂ (dry volume %): 9.40
 N₂+CO (dry volume %): 85.99

Nozzle ID No: N/A
 Nozzle Diameter (D_n): N/A
 Probe ID No: 67SP-95001
 Pilot C_p: 0.84
 Pilot Leak Check: Pass Fail

H₂O (condensate, ml or gm): 125.0
 H₂O (silica, g): 2.0
 Actual Moisture (%): 15.23

Meter Box ID. No: 84-M5
 Meter ΔH@: 1.74330
 Meter Y_d: 1.00000

Traverse Point	Run Time 5.0 min/read	Pilot ΔP _s (in. H ₂ O)	Sample ΔH (in. H ₂ O)	Metered (dcf)	Stack T _s (°F)	Dry Gas Meter		√ΔP _s (calculated) (√in. H ₂ O)	Volume (calculated) (ft ³)	Isokinetics (calculated) (%)
						T _{m-in} (°F)	T _{m-out} (°F)			
2-01	0.0	0.15	1.00	284.440	401	81	81	0.39	2.85	
2-02	5.0	0.15	1.00	287.290	402	82	81	0.39	2.87	
2-03	10.0	0.19	1.00	293.020	406	83	81	0.44	2.86	
2-04	15.0	0.20	1.00	295.870	407	84	81	0.45	2.85	
2-05	20.0	0.20	1.00	298.720	409	85	81	0.45	2.85	
2-06	25.0	0.17	1.00	301.580	407	88	81	0.41	2.86	
1-01	30.0	0.17	1.00	304.420	401	88	82	0.41	2.84	
1-02	35.0	0.18	1.00	307.280	402	90	82	0.42	2.86	
1-03	40.0	0.23	1.00	310.140	404	92	82	0.48	2.86	
1-04	45.0	0.22	1.00	313.060	407	94	83	0.47	2.92	
1-05	50.0	0.22	1.00	316.080	409	96	84	0.47	3.02	
1-06	55.0	0.20	1.00	318.925	407	97	85	0.45	2.85	
1-06	60.0	0.20	1.00	318.925	407	97	85	0.45	2.85	
Final	60.0		1.00000	34.48500	405.16667	85.08333		0.43489	34.48500	

12 points sampled
 QC-Check: Field Averages
 Sq.RLΔP: 0.4349 1.0000 34.4850 405.1667 85.0833
 Avg. OK Avg. OK Avg. OK Avg. OK Avg. OK

051007 132734

Field Data Printout

Test Method: USEPA Method 2
Analyte: Velocity & Flow Rate

Location: Auxiliary Boiler B
 Test Run: 2
 Client: Indiantown Cogeneration, L.P.
 Project No: 10199
 Source Area (ft²): 33.18307
 Meter Operator: Bill Dimitroff 275
 Probe Operator: Eric Doak 349
 Test Date: 4/25/07
 Start Time: 13:27
 Stop Time: 14:27
 Leak Rate Before: 0.001 cfm @ 10 "Hg
 Leak Rate After: 0.001 cfm @ 16 "Hg

Bar. Press. (in. Hg): 29.75
 Static P: -0.4
 O₂ (dry volume %): 4.56
 CO₂ (dry volume %): 9.45
 N₂+CO (dry volume %): 85.99

Nozzle ID No: N/A
 Nozzle Diameter (D_n): N/A
 Probe ID No: 67SP-95001
 Pilot C_p: 0.84
 Pilot Leak Check: Pass Fail

H₂O (condensate, ml or gm): 138.0
 H₂O (silica, g): 7.0
 Actual Moisture (%): 16.74

Meter Box ID. No: 84-M5
 Meter ΔH@: 1.74330
 Meter Y_d: 1.00000

Traverse Point	Run Time 5.0 min/read	Pilot ΔP _s (in. H ₂ O)	Sample ΔH (in. H ₂ O)	Metered (dcf)	Stack T _s (°F)	Dry Gas Meter		√ΔP _s (calculated) (√in. H ₂ O)	Volume (calculated) (ft ³)	Isokinetics (calculated) (%)
						T _{m-in} (°F)	T _{m-out} (°F)			
	0.0			323.000						
2-01	5.0	0.17	1.00	326.110	404	89	86	0.41	3.11	
2-02	10.0	0.21	1.00	329.030	403	90	86	0.46	2.92	
2-03	15.0	0.22	1.00	331.950	405	91	86	0.47	2.92	
2-04	20.0	0.20	1.00	334.870	406	93	86	0.45	2.92	
2-05	25.0	0.20	1.00	337.780	406	95	87	0.45	2.92	
2-06	30.0	0.18	1.00	340.710	404	97	87	0.42	2.92	
1-01	35.0	0.15	1.00	343.630	405	99	88	0.39	2.92	
1-02	40.0	0.20	1.00	346.770	404	99	89	0.45	3.14	
1-03	45.0	0.25	1.00	349.690	404	100	89	0.50	2.92	
1-04	50.0	0.22	1.00	352.610	405	100	89	0.47	2.92	
1-05	55.0	0.22	1.00	355.660	405	101	90	0.47	3.05	
1-06	60.0	0.19	1.00	358.625	406	101	90	0.44	2.96	
Final	60.0		1.00000	35.62500	404.75000	92.00000		0.44723	35.62500	

12 points sampled
 QC-Check: Field Averages
 Sq.RLAP 0.4472 1.0000 35.6250 404.7500 92.0000

Avg. OK Avg. OK Avg. OK Avg. OK Avg. OK

051007 132734

Field Data Printout

Test Method: USEPA Method 2
 Analyte: Velocity & Flow Rate

Location: Auxiliary Boiler B
 Test Run: 3
 Client: Indiantown Cogeneration, L.P.
 Project No: 10199
 Source Area (ft²): 33.18307
 Meter Operator: Bill Dimitroff 275
 Probe Operator: Eric Doak 349
 Test Date: 4/25/07
 Start Time: 15:17
 Stop Time: 16:17
 Leak Rate Before: 0.001 cfm @ 10 "Hg
 Leak Rate After: 0.001 cfm @ 10 "Hg

Bar. Press. (in. Hg): 29.75
 Static P: -0.4
 O₂ (dry volume %): 4.37
 CO₂ (dry volume %): 9.55
 N₂+CO (dry volume %): 86.07

Nozzle ID No: N/A
 Nozzle Diameter (D_n): N/A
 Probe ID No: 67SP-95001
 Pilot C_p: 0.84
 Pilot Leak Check: Pass Fail

H₂O (condensate, ml or gm): 131.0
 H₂O (silica, g): 5.0
 Actual Moisture (%): 16.10

Meter Box ID. No: 84-M5
 Meter ΔH@: 1.74330
 Meter Y_d: 1.00000

Traverse Point	Run Time 5.0 min/read	Pilot ΔP _s (in. H ₂ O)	Sample ΔH (in. H ₂ O)	Metered (dcf)	Stack T _s (°F)	Dry Gas Meter		√ΔP _s (calculated) (√in. H ₂ O)	Volume (calculated) (ft ³)	Isokinetics (calculated) (%)
						T _{m-in} (°F)	T _{m-out} (°F)			
	0.0			372.630						
2-01	5.0	0.15	1.00	375.530	400	93	90	0.39	2.90	
2-02	10.0	0.16	1.00	378.440	400	95	90	0.40	2.91	
2-03	15.0	0.20	1.00	381.300	403	98	90	0.45	2.86	
2-04	20.0	0.20	1.00	384.120	404	99	90	0.45	2.82	
2-05	25.0	0.18	1.00	384.090	405	100	90	0.42	-0.03	
2-08	30.0	0.15	1.00	390.000	402	101	91	0.39	5.91	
1-01	35.0	0.16	1.00	392.960	401	101	91	0.40	2.96	
1-02	40.0	0.19	1.00	395.920	402	102	92	0.44	2.96	
1-03	45.0	0.22	1.00	398.900	400	103	92	0.47	2.98	
1-04	50.0	0.21	1.00	401.890	400	103	93	0.46	2.99	
1-05	55.0	0.22	1.00	404.980	403	104	93	0.47	3.09	
1-06	60.0	0.18	1.00	407.870	404	104	93	0.42	2.89	
Final	60.0		1.00000	35.24000	402.00000	95.75000		0.42915	35.24000	

12 points sampled
 QC-Check: Field Averages
 Sq.R/LAP

0.4291	1.0000	35.2400	402.0000	95.7500
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 Avg. OK
 Avg. OK
 Avg. OK
 Avg. OK
 Avg. OK

051007 132734
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Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 10:01
 Stop Time 10:19

CALIBRATION BIAS 00

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gases (C₁)						
C _{ref} Zero gas	0.089	-0.168	-0.005	0.039	0.186	0.000
C _{ref} Upscale gas	113.963	113.933	294.429	25.453	10.021	10.052
Analyzer Calibration Error Responses (C_{2a})						
C _{2a} Zero gas	0.116	-0.470	-0.130	-0.019	0.022	-0.012
C _{2a} Upscale gas	116.361	114.388	297.758	25.695	10.048	10.288
Actual Upscale Gas Value (C_{2a})						
C _{2a} Upscale gas	119.000	118.800	294.900	25.710	10.010	10.180
Calibration Span Value (CS)						
	250.900	250.800	590.800	85.500	19.540	18.620
System Bias as Percent of Calibration Span Value (SB) (5%)						
Zero gas	0.0%	0.1%	0.0%	0.1%	0.8%	0.1%
Upscale gas	-1.0%	-0.2%	-0.6%	-0.3%	-0.1%	-1.2%
System Bias Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C₃)						
C ₃ Zero gas	N/A	N/A	N/A	N/A	N/A	N/A
C ₃ Upscale gas	N/A	N/A	N/A	N/A	N/A	N/A
Drift Assessment as Percent of Calibration Span Value (D) (3%)						
Zero gas	N/A	N/A	N/A	N/A	N/A	N/A
Upscale gas	N/A	N/A	N/A	N/A	N/A	N/A
Drift Assessment Status						
Zero gas	N/A	N/A	N/A	N/A	N/A	N/A
Upscale gas	N/A	N/A	N/A	N/A	N/A	N/A

Time	NOX	NO	CO	THC	O2	CO2
10:01:51	27.538	32.886	11.738	0.197	20.325	0.138
10:02:06	10.216	10.932	4.385	0.163	20.357	0.107
10:02:21	2.780	0.464	-0.374	0.179	20.378	0.108
10:02:38	0.855	-0.098	-0.016	0.151	20.387	0.108
10:02:51	0.416	-0.057	0.000	0.085	20.397	0.084
10:03:06	0.163	-0.041	0.000	0.098	20.414	0.044
10:03:21	0.529	-0.041	0.000	0.088	20.422	0.033
10:03:38	0.301	-0.049	0.000	0.088	20.427	0.011
10:03:51	0.179	-0.138	-0.016	0.089	20.429	0.014
10:04:06	0.114	-0.179	0.000	0.060	20.434	-0.001
10:04:21	0.016	-0.163	0.000	0.016	20.430	0.016
10:04:36	0.138	-0.163	-0.018	0.039	20.428	0.013
10:04:51	-0.220	-0.171	0.000	0.104	20.343	0.017
10:05:06	-0.220	-0.179	-0.081	0.360	6.700	3.697
10:05:21	2.377	30.590	0.819	-0.065	1.180	2.232
10:05:38	44.925	88.824	1.351	-0.099	0.338	0.062
10:05:51	81.506	128.254	0.521	-0.112	0.312	0.026
10:06:06	108.311	115.710	0.033	-0.122	0.295	0.017
10:06:21	110.834	108.530	0.000	-0.132	0.270	-0.006
10:06:36	112.585	112.007	0.000	-0.137	0.267	0.012
10:06:51	113.195	112.869	0.000	-0.135	0.230	0.002
10:07:06	113.504	113.325	0.000	-0.145	0.232	0.002
10:07:21	113.749	113.569	0.000	-0.145	0.229	0.006
10:07:36	113.920	113.985	-0.016	-0.147	0.218	0.004
10:07:51	114.099	114.148	-0.049	-0.143	0.211	0.005
10:08:06	113.757	114.172	-0.049	-0.147	0.217	-0.002
10:08:21	114.025	113.830	0.000	-0.142	0.215	0.010
10:08:36	114.229	113.960	-0.098	-0.148	0.200	0.002
10:08:51	113.675	113.895	-0.016	-0.147	0.211	0.001
10:09:06	113.985	113.944	-0.033	-0.155	0.202	-0.021
10:09:21	114.172	113.895	2.279	-0.171	0.219	0.006
10:09:36	112.837	95.885	50.842	-0.173	0.217	-0.017
10:09:51	71.437	35.564	192.951	-0.176	0.208	0.000
10:10:06	8.669	7.741	267.790	-0.182	0.195	-0.001
10:10:21	2.898	0.651	290.828	-0.187	0.197	-0.009
10:10:38	1.262	0.244	293.268	-0.195	0.193	-0.005
10:10:51	0.944	-0.098	283.610	-0.208	0.206	-0.016
10:11:06	0.961	0.171	294.261	-0.210	0.192	-0.005
10:11:21	0.741	-0.228	293.593	-0.215	0.195	0.001
10:11:36	0.538	-0.244	294.310	-0.218	0.180	0.006
10:11:51	0.432	-0.057	295.238	-0.221	0.190	0.005
10:12:06	0.318	-0.033	294.505	-0.220	0.189	-0.012
10:12:21	0.635	-0.057	294.212	-0.212	0.181	-0.018
10:12:36	0.537	-0.073	294.570	0.015	4.328	0.958
10:12:51	0.407	-0.057	264.729	-0.239	10.006	9.350
10:13:06	0.521	-0.049	159.866	0.604	8.764	9.788
10:13:21	0.830	-0.073	53.138	0.677	5.379	8.967
10:13:36	11.575	6.984	16.996	0.607	5.421	8.844
10:13:51	24.705	30.240	7.679	0.671	5.210	8.956
10:14:06	37.501	36.427	6.124	0.614	5.187	8.979
10:14:21	38.608	37.737	8.107	0.422	5.253	8.970
10:14:36	38.999	37.835	7.798	-0.033	8.302	9.419
10:14:51	37.428	36.996	6.056	-0.081	9.989	10.020
10:15:06	27.538	13.846	3.077	-0.099	10.003	10.044

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 10:01
 Stop Time 10:19

CALIBRATION BIAS 00

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
10:15:21	7.033	2.922	0.098	-0.111	10.005	10.065
10:15:36	1.449	-0.155	-0.049	-0.122	9.985	10.067
10:15:51	0.708	-0.049	-0.098	-0.176	10.019	10.050
10:16:06	0.489	-0.057	-0.049	-0.230	9.996	10.048
10:16:21	0.328	-0.065	-0.065	-0.235	10.018	10.059
10:16:36	0.546	0.000	-0.049	-0.241	10.029	10.039
10:16:51	0.538	-0.057	-0.098	-0.244	10.016	10.059
10:17:06	0.390	-0.089	-0.163	-0.243	10.022	10.073
10:17:21	0.195	-0.114	-0.114	22.110	13.184	8.086
10:17:36	-0.179	-0.187	-0.163	25.148	20.210	0.429
10:17:51	0.293	-0.163	-0.179	25.280	20.303	0.173
10:18:06	0.179	-0.163	-0.081	25.397	20.338	0.129
10:18:21	-0.065	-0.163	-0.065	25.433	20.344	0.116
10:18:36	0.366	-0.155	-0.146	25.462	20.362	0.116
10:18:51	-0.098	-0.146	-0.114	25.464	20.366	0.108
10:19:06	-0.098	-0.163	-0.081	25.376	20.394	0.080

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 11:51
 Stop time 12:51

REFERENCE METHOD RUN 1

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmvv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks						
C ₀ Initial zero	0.089	-0.168	-0.005	0.039	0.166	0.000
C ₀ Initial upscale	113.963	113.933	294.429	25.453	10.021	10.052
C ₀ Final zero	0.527	-0.073	0.592	0.040	0.117	0.003
C ₀ Final upscale	114.280	113.868	296.671	24.706	9.959	10.062
C ₉₉₉ Actual gas value	119.000	118.800	294.900	25.710	10.010	10.180
Analyzer Averages (concentrations)						
C _{avg} Average conc.	27.311	24.797	8.290	2.098	4.691	9.283
C ₉₉₉ Bias adjusted	28.234	25.962	7.988	2.114	4.619	9.396

Clock Time (at end of sample period)

052407 180732	11:52	27.548	25.495	14.318	1.955	4.575	9.350
	11:53	27.418	25.409	12.548	2.024	4.627	9.327
	11:54	27.548	25.389	11.632	2.161	4.598	9.341
	11:55	27.501	24.621	11.418	2.096	4.662	9.309
	11:56	27.505	25.289	8.299	2.047	4.702	9.285
	11:57	27.440	25.169	9.442	2.092	4.661	9.315
	11:58	27.312	25.073	7.859	2.123	4.751	9.258
	11:59	27.343	25.269	8.830	2.095	4.730	9.264
	12:00	27.328	25.206	8.913	2.197	4.702	9.283
	12:01	27.393	24.896	7.639	2.112	4.686	9.303
	12:02	27.314	25.293	7.196	2.287	4.710	9.279
	12:03	27.190	25.072	8.350	2.162	4.734	9.262
	12:04	27.741	25.442	8.500	2.058	4.738	9.283
	12:05	27.810	25.672	7.448	2.252	4.760	9.242
	12:06	27.753	25.663	9.320	2.158	4.756	9.246
	12:07	27.751	25.745	8.299	2.280	4.787	9.229
	12:08	27.701	25.491	8.362	2.231	4.837	9.208
	12:09	27.753	25.678	8.883	2.194	4.777	9.238
	12:10	27.607	25.678	7.261	2.240	4.763	9.241
	12:11	27.528	25.466	8.242	2.144	4.708	9.269
	12:12	27.404	25.318	8.343	2.159	4.763	9.234
	12:13	27.524	25.185	7.701	2.019	4.784	9.224
	12:14	27.516	25.271	6.349	2.058	4.705	9.268
	12:15	27.200	24.988	6.777	2.047	4.682	9.279
	12:16	27.147	24.782	7.595	2.100	4.642	9.306
	12:17	27.532	25.185	10.004	1.870	4.621	9.322
	12:18	27.629	25.310	11.155	2.062	4.580	9.342
	12:19	27.548	24.837	10.020	1.902	4.853	9.312
	12:20	27.247	24.550	7.697	2.141	4.688	9.285
	12:21	27.120	24.428	9.166	2.070	4.628	9.318
	12:22	27.210	24.477	7.863	2.002	4.633	9.313
	12:23	27.021	24.206	7.973	2.140	4.624	9.319
	12:24	26.848	24.170	6.671	2.094	4.684	9.286
	12:25	27.206	24.418	7.326	2.067	4.695	9.282
	12:26	27.204	24.198	9.625	2.114	4.661	9.305
	12:27	27.084	24.312	8.185	1.981	4.637	9.314
	12:28	27.153	24.465	10.199	1.895	4.854	9.307
	12:29	27.086	24.245	8.388	2.022	4.702	9.280
	12:30	27.008	24.113	7.489	1.965	4.667	9.301
	12:31	27.082	24.204	7.749	1.960	4.677	9.302
	12:32	27.124	24.253	8.119	1.914	4.678	9.289
	12:33	27.214	24.408	8.148	2.188	4.599	9.329
	12:34	27.135	24.298	8.490	2.288	4.674	9.294
	12:35	27.222	24.570	7.326	2.142	4.679	9.284
	12:36	27.255	24.277	10.529	1.817	4.816	9.318
	12:37	27.448	25.047	9.088	1.964	4.657	9.304
	12:38	27.255	24.456	8.201	2.059	4.694	9.282
	12:39	27.395	24.568	7.269	2.035	4.682	9.290
	12:40	27.057	24.402	8.221	2.037	4.762	9.231
	12:41	27.145	24.300	8.083	2.245	4.704	9.258
	12:42	27.012	24.219	7.391	2.098	4.712	9.260
	12:43	27.019	24.198	7.896	2.243	4.751	9.247
	12:44	27.088	24.318	8.164	2.231	4.764	9.228
	12:45	27.230	24.328	7.879	2.022	4.667	9.291
	12:46	27.267	24.674	8.984	2.156	4.646	9.309
	12:47	27.104	24.560	7.489	2.203	4.667	9.287
	12:48	27.318	24.550	7.163	2.062	4.640	9.311
	12:49	27.236	24.353	7.713	2.322	4.767	9.240
	12:50	26.976	24.186	7.186	2.192	4.737	9.253
	12:51	26.929	24.141	7.057	2.112	4.738	9.243

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 13:00
 Stop Time 13:16

CALIBRATION BIAS 01

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gases (C_g)						
C _{ref} Zero gas	0.527	-0.073	0.592	0.040	0.117	0.003
C _{ref} Upscale gas	114.280	113.868	296.671	24.705	9.959	10.062
Analyzer Calibration Error Responses (C_{cal})						
C _{zero} Zero gas	0.116	-0.470	-0.130	-0.019	0.022	-0.012
C _{zero} Upscale gas	116.361	114.386	297.756	25.695	10.048	10.288
Actual Upscale Gas Value (C_{act})						
C _{act} Upscale gas	119.000	118.800	294.900	25.710	10.010	10.180
Calibration Span Value (CS)						
	250.800	250.800	590.800	85.500	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)						
Zero gas	0.2%	0.2%	0.1%	0.1%	0.5%	0.1%
Upscale gas	-0.8%	-0.2%	-0.2%	-1.2%	-0.4%	-1.1%
System Bias Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_p)						
C _p Zero gas	0.089	-0.168	-0.005	0.039	0.186	0.000
C _p Upscale gas	113.963	113.933	294.429	25.453	10.021	10.052
Drift Assessment as Percent of Calibration Span Value (D) (3%)						
Zero gas	0.2%	0.0%	0.1%	0.0%	-0.4%	0.0%
Upscale gas	0.1%	0.0%	0.4%	-0.9%	-0.3%	0.1%
Drift Assessment Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK

Time	NOX	NO	CO	THC	O2	CO2
13:00:33	0.985	-0.358	0.570	0.125	20.337	0.100
13:00:48	0.887	-0.179	0.521	0.184	20.333	0.085
13:01:03	0.806	-0.024	0.505	0.177	20.362	0.062
13:01:18	0.383	-0.073	0.293	0.125	20.354	0.078
13:01:33	0.977	-0.065	0.098	0.124	20.368	0.041
13:01:48	0.733	-0.089	0.733	0.117	20.396	0.035
13:02:03	0.627	-0.065	0.082	0.090	20.399	0.034
13:02:18	0.603	-0.065	0.098	0.077	20.403	0.026
13:02:33	0.358	-0.081	-0.358	0.112	20.402	0.021
13:02:48	0.708	-0.073	0.098	0.069	20.403	0.021
13:03:03	0.814	-0.073	0.521	0.039	20.405	0.017
13:03:18	0.570	-0.073	0.521	0.106	20.406	0.023
13:03:33	0.334	-0.073	0.733	0.011	20.399	-0.008
13:03:48	0.576	-0.073	0.521	0.003	10.785	0.005
13:04:03	0.798	6.838	2.882	-0.026	0.361	0.018
13:04:18	64.868	32.690	4.493	-0.037	0.237	0.007
13:04:33	99.943	81.823	1.774	-0.050	0.216	0.004
13:04:48	107.293	104.078	0.277	-0.063	0.201	-0.006
13:05:03	111.103	110.118	0.456	-0.065	0.195	0.014
13:05:18	112.772	112.299	0.000	-0.070	0.189	0.009
13:05:33	113.252	112.780	0.049	-0.072	0.181	-0.004
13:05:48	113.081	113.195	0.000	-0.065	0.159	-0.009
13:06:03	113.309	112.992	-0.016	-0.057	0.139	0.014
13:06:18	113.879	113.398	-0.033	-0.054	0.132	0.007
13:06:33	114.058	113.415	0.082	-0.044	0.128	-0.005
13:06:48	114.139	113.610	0.114	-0.042	0.118	0.014
13:07:03	113.805	113.797	0.000	-0.049	0.118	0.008
13:07:18	113.952	113.553	-0.033	-0.050	0.115	0.002
13:07:33	114.123	113.993	-0.098	-0.052	0.125	-0.005
13:07:48	114.074	113.692	-0.163	-0.052	0.125	0.012
13:08:03	114.644	113.920	-0.016	-0.042	0.120	0.012
13:08:18	114.530	113.830	1.139	-0.072	0.139	0.005
13:08:33	107.628	113.912	50.012	-0.075	0.114	-0.002
13:08:48	78.844	48.007	180.969	-0.085	0.118	0.016
13:09:03	21.050	8.425	267.546	-0.096	0.116	0.010
13:09:18	3.280	0.521	293.610	-0.104	0.115	-0.006
13:09:33	1.701	0.098	295.873	-0.112	0.116	0.016
13:09:48	0.993	0.333	295.681	-0.114	0.116	0.005
13:10:03	1.327	0.098	295.515	-0.121	0.119	0.004
13:10:18	0.920	-0.033	296.134	-0.124	0.120	0.005
13:10:33	0.814	-0.269	296.378	-0.129	0.112	0.000
13:10:48	0.904	-0.195	296.964	-0.122	0.112	0.012
13:11:03	0.668	-0.187	296.671	0.308	0.109	0.011
13:11:18	0.328	-0.439	294.701	-0.147	7.358	4.300
13:11:33	0.606	-0.065	238.858	-0.150	9.895	9.847
13:11:48	0.570	-0.065	114.058	-0.140	9.520	9.942
13:12:03	0.334	-0.081	36.402	-0.137	9.927	8.967
13:12:18	0.147	-0.057	6.951	-0.137	8.931	9.992
13:12:33	0.684	-0.081	1.400	-0.134	9.937	10.010
13:12:48	0.456	-0.081	0.521	-0.135	9.940	10.018
13:13:03	0.448	-0.081	0.310	-0.137	9.937	10.008
13:13:18	0.458	-0.081	0.733	-0.129	9.945	10.031
13:13:33	0.676	-0.081	0.293	-0.132	8.660	10.059
13:13:48	0.668	-0.073	-0.130	-0.134	9.957	10.061

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 13:00
 Stop Time 13:16

CALIBRATION BIAS 01

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
13:14:03	0.440	-0.065	-0.162	-0.139	9.961	10.067
13:14:18	0.554	-0.065	0.310	-0.057	9.966	10.068
13:14:33	0.328	-0.057	0.310	22.429	13.590	7.674
13:14:48	0.098	-0.065	0.733	24.562	20.180	0.383
13:15:03	0.562	-0.057	0.065	24.669	20.288	0.166
13:15:18	0.252	-0.167	-0.179	24.695	20.307	0.124
13:15:33	0.529	-0.171	0.098	24.705	20.318	0.114
13:15:48	0.163	-0.179	0.505	24.685	20.334	0.114
13:16:03	0.407	-0.187	0.082	24.726	20.335	0.105
13:16:18	0.146	-0.195	0.505	24.630	20.333	0.099

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 13:21
 Stop time 14:21

REFERENCE METHOD RUN 2

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks						
C _{id} Initial zero	0.527	-0.073	0.592	0.040	0.117	0.003
C _{id} Initial upscale	114.280	113.868	296.671	24.708	9.959	10.062
C _{if} Final zero	0.524	-0.078	0.022	0.002	0.116	0.001
C _{if} Final upscale	114.327	113.632	296.454	24.415	9.943	9.988
C _{ms} Actual gas value	119.000	118.800	294.900	25.710	10.010	10.180
Analyzer Averages (concentrations)						
C _{avg} Average conc.	26.992	24.180	11.384	2.011	4.597	9.309
C _{bas} Bias adjusted	27.682	25.315	11.027	2.084	4.560	9.454

Clock Time (at end of sample period)

Clock Time	NOX	NO	CO	THC	O2	CO2
13:22	26.899	24.493	7.843	2.112	4.671	9.271
13:23	27.092	24.393	6.765	2.023	4.682	9.263
13:24	26.801	24.312	6.451	2.105	4.690	9.265
13:25	27.127	24.841	9.784	2.113	4.628	9.304
13:26	27.231	25.039	8.692	2.055	4.685	9.269
13:27	27.224	24.735	6.773	1.972	4.747	9.227
13:28	27.195	24.536	5.405	2.091	4.715	9.253
13:29	27.092	24.410	6.675	2.170	4.733	9.235
13:30	27.065	24.438	6.565	2.187	4.720	9.239
13:31	26.935	24.214	6.691	2.172	4.722	9.237
13:32	27.088	24.159	9.292	2.103	4.692	9.261
13:33	26.949	24.393	6.878	2.124	4.787	9.207
13:34	26.775	24.129	6.830	2.070	4.733	9.236
13:35	26.996	24.442	6.244	1.995	4.717	9.244
13:36	27.122	24.412	7.533	2.183	4.652	9.290
13:37	27.258	24.568	6.417	2.047	4.674	9.272
13:38	27.173	24.475	10.301	1.930	4.689	9.260
13:39	27.096	24.882	8.543	2.115	4.643	9.297
13:40	27.159	24.554	6.764	2.089	4.741	9.225
13:41	27.171	24.349	7.163	2.129	4.701	9.232
13:42	27.071	24.188	7.196	2.005	4.672	9.263
13:43	27.163	24.365	7.765	2.151	4.678	9.275
13:44	27.216	24.251	6.354	2.048	4.719	9.235
13:45	27.173	24.469	11.750	2.007	4.674	9.274
13:46	27.092	24.450	8.360	1.896	4.648	9.289
13:47	27.210	24.381	8.030	1.889	4.601	9.319
13:48	26.992	24.330	8.469	2.062	4.581	9.327
13:49	27.149	24.418	8.026	2.083	4.641	9.297
13:50	27.008	23.970	7.904	2.129	4.652	9.294
13:51	26.742	23.840	8.421	2.084	4.603	9.315
13:52	26.775	23.922	7.521	1.917	4.565	9.330
13:53	26.585	23.956	8.213	2.155	4.622	9.309
13:54	26.644	23.675	7.094	1.980	4.637	9.294
13:55	26.768	23.798	12.194	1.977	4.583	9.324
13:56	26.931	24.027	9.910	2.103	4.569	9.325
13:57	26.988	24.168	11.428	1.954	4.606	9.312
13:58	27.031	24.188	12.328	1.947	4.638	9.336
13:59	27.224	24.320	10.419	1.888	4.567	9.324
14:00	26.909	24.042	10.611	1.906	4.593	9.317
14:01	27.063	24.178	10.525	1.921	4.523	9.347
14:02	26.880	24.023	19.288	1.700	4.459	9.378
14:03	26.996	24.080	20.815	1.810	4.488	9.369
14:04	27.167	24.243	26.492	1.695	4.432	9.390
14:05	27.206	24.092	20.387	1.805	4.403	9.410
14:06	27.033	24.152	22.275	1.862	4.445	9.382
14:07	26.827	23.712	16.622	1.950	4.489	9.356
14:08	26.714	23.712	15.682	1.809	4.460	9.373
14:09	26.775	23.690	15.657	2.053	4.505	9.355
14:10	26.699	23.718	15.197	1.923	4.509	9.347
14:11	26.775	23.620	16.475	2.166	4.483	9.363
14:12	26.836	23.801	17.236	2.252	4.525	9.343
14:13	26.697	23.409	14.831	1.860	4.468	9.366
14:14	26.805	23.720	16.191	1.949	4.461	9.378
14:15	27.153	24.064	16.251	2.060	4.486	9.365
14:16	26.868	23.877	15.515	2.066	4.493	9.362
14:17	26.939	23.869	19.357	2.083	4.465	9.362
14:18	26.956	23.614	17.342	2.029	4.510	9.347
14:19	26.817	23.909	16.146	1.801	4.506	9.350
14:20	27.080	24.428	15.735	1.839	4.461	9.377
14:21	27.139	24.312	13.744	2.038	4.464	9.373

CALIBRATION BIAS 02

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmw	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gases (C_g)						
C _{of} Zero gas	0.524	-0.076	0.022	0.002	0.116	0.001
C _{of} Upscale gas	114.327	113.632	296.454	24.415	8.943	9.986
Analyzer Calibration Error Responses (C_{ea})						
C _{ea} Zero gas	0.116	-0.470	-0.130	-0.019	0.022	-0.012
C _{ea} Upscale gas	118.381	114.388	297.758	25.695	10.046	10.286
Actual Upscale Gas Value (C_{ua})						
C _{ua} Upscale gas	119.000	118.800	294.900	25.710	10.010	10.180
Calibration Span Value (CS)						
	250.900	250.800	590.800	85.500	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)						
Zero gas	0.2%	0.2%	0.0%	0.0%	0.5%	0.1%
Upscale gas	-0.8%	-0.3%	-0.2%	-1.5%	-0.5%	-1.5%
System Bias Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_p)						
C _p Zero gas	0.527	-0.073	0.592	0.040	0.117	0.003
C _p Upscale gas	114.280	113.868	296.671	24.708	9.959	10.062
Drift Assessment as Percent of Calibration Span Value (D) (3%)						
Zero gas	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
Upscale gas	0.0%	-0.1%	0.0%	-0.3%	-0.1%	-0.4%
Drift Assessment Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK

Time	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
14:41:06	0.790	-0.073	0.082	0.067	20.360	0.034
14:41:21	0.326	-0.073	0.082	0.038	20.363	0.032
14:41:36	0.448	-0.065	0.521	0.070	20.353	0.029
14:41:51	0.692	-0.057	0.293	0.065	20.369	0.031
14:42:06	0.440	-0.081	0.082	0.054	20.361	0.027
14:42:21	0.548	-0.081	-0.114	0.013	20.344	0.021
14:42:36	0.586	-0.065	0.098	-0.060	7.813	0.018
14:42:51	7.562	-0.057	-0.148	-0.065	0.311	0.023
14:43:06	34.652	56.508	0.293	-0.054	0.233	0.009
14:43:21	89.434	89.202	0.505	-0.041	0.187	0.015
14:43:36	109.451	109.654	0.277	-0.039	0.182	0.012
14:43:51	112.576	112.104	0.098	-0.041	0.175	0.012
14:44:06	113.057	112.821	0.179	-0.039	0.179	-0.001
14:44:21	113.154	113.032	-0.195	-0.044	0.165	0.009
14:44:36	113.097	113.252	-0.130	-0.036	0.158	0.011
14:44:51	113.602	113.097	-0.163	-0.042	0.140	0.017
14:45:06	113.569	113.301	0.000	-0.039	0.134	0.010
14:45:21	114.009	113.463	-0.098	-0.041	0.128	0.001
14:45:36	113.969	113.244	-0.163	-0.070	0.115	-0.001
14:45:51	113.855	113.545	-0.179	-0.052	0.118	0.005
14:46:06	113.893	113.836	-0.032	-0.068	0.116	0.010
14:46:21	114.294	113.483	-0.085	-0.070	0.120	-0.001
14:46:36	114.506	113.724	-0.065	-0.085	0.119	0.009
14:46:51	114.180	113.708	0.040	-0.116	0.125	0.008
14:47:06	102.190	89.695	68.148	-0.124	0.114	-0.009
14:47:21	40.684	52.582	208.756	-0.127	0.112	0.014
14:47:36	10.037	4.680	277.818	-0.132	0.115	0.015
14:47:51	2.361	0.839	294.082	-0.132	0.115	-0.004
14:48:06	1.538	0.366	285.759	-0.135	0.112	-0.009
14:48:21	1.465	0.220	296.085	-0.127	0.118	-0.002
14:48:36	1.066	-0.130	296.117	-0.121	0.117	0.014
14:48:51	1.148	0.057	296.052	-0.122	0.112	0.015
14:49:06	1.018	-0.114	296.069	-0.116	0.108	-0.008
14:49:21	0.820	-0.080	296.899	-0.112	0.095	0.009
14:49:36	0.708	-0.008	296.394	-0.127	0.484	0.079
14:49:51	0.578	-0.081	286.610	-0.150	8.996	8.009
14:50:06	0.798	-0.081	210.061	-0.139	8.680	8.886
14:50:21	0.358	-0.073	84.868	-0.137	8.891	8.930
14:50:36	0.847	-0.057	24.143	-0.139	8.904	8.950
14:50:51	0.586	-0.065	4.705	-0.139	8.917	8.954
14:51:06	0.662	-0.073	1.140	-0.142	8.933	8.964
14:51:21	0.554	-0.073	0.277	-0.145	8.937	8.982
14:51:36	0.389	-0.073	-0.130	-0.150	8.941	8.972
14:51:51	0.530	-0.081	0.277	-0.158	8.951	10.002
14:52:06	0.538	-0.073	0.521	3.458	8.959	10.018
14:52:21	0.546	-0.081	-0.342	23.869	15.578	5.790
14:52:36	0.204	-0.081	0.521	24.247	20.221	0.257
14:52:51	0.538	-0.073	0.082	24.383	20.279	0.155
14:53:06	0.668	-0.171	0.505	24.387	20.294	0.119
14:53:21	0.489	-0.171	-0.146	24.474	20.299	0.112
14:53:36	0.171	-0.203	0.733	24.376	20.315	0.106

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007

Start Time 15:06
 Stop time 16:06

REFERENCE METHOD RUN 3

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks						
C _{cal} Initial zero	0.524	-0.076	0.022	0.002	0.116	0.001
C _{cal} Initial upscale	114.327	113.632	296.454	24.415	9.943	9.986
C _{cal} Final zero	0.486	-0.068	0.000	-0.024	0.168	0.002
C _{cal} Final upscale	113.230	112.940	296.079	25.126	9.872	10.006
C _{ma} Actual gas value	119.000	118.800	294.900	25.710	10.010	10.180
Analyzer Averages (concentrations)						
C _{avg} Average conc.	26.466	23.540	18.620	1.972	4.431	9.379
C _{gas} Bias adjusted	27.274	24.746	18.524	2.057	4.374	9.552

Clock Time (at end of sample period)

052407 150732	NOX	NO	CO	THC	O2	CO2
15:07	26.951	24.255	13.113	1.805	4.475	9.359
15:08	26.923	24.210	15.621	1.983	4.520	9.329
15:09	26.748	24.084	10.606	1.940	4.517	9.334
15:10	26.730	24.029	14.310	1.882	4.472	9.350
15:11	26.608	23.568	14.852	1.742	4.475	9.359
15:12	26.598	23.873	13.891	1.874	4.473	9.358
15:13	26.775	23.924	17.990	1.860	4.417	9.383
15:14	26.710	24.007	20.550	1.815	4.463	9.388
15:15	26.905	24.064	17.501	1.580	4.439	9.376
15:16	27.017	24.184	16.561	1.916	4.383	9.407
15:17	26.982	24.088	22.609	1.625	4.421	9.380
15:18	26.884	23.846	17.916	2.016	4.466	9.368
15:19	26.768	24.046	18.182	1.982	4.459	9.368
15:20	26.909	23.975	19.036	1.875	4.436	9.377
15:21	26.929	24.064	16.211	1.787	4.442	9.377
15:22	26.872	23.948	15.747	2.161	4.494	9.341
15:23	26.781	24.025	13.589	2.209	4.465	9.358
15:24	26.687	23.600	17.530	2.202	4.436	9.378
15:25	26.457	23.578	15.922	2.059	4.498	9.349
15:26	26.421	23.258	15.132	2.175	4.483	9.355
15:27	26.632	23.690	12.735	1.998	4.470	9.362
15:28	26.496	23.620	14.615	2.193	4.454	9.363
15:29	26.559	23.398	15.318	1.861	4.454	9.373
15:30	26.425	23.345	18.653	2.252	4.489	9.354
15:31	26.307	23.545	13.150	2.120	4.458	9.371
15:32	26.518	23.494	16.549	2.040	4.448	9.388
15:33	26.687	23.635	15.515	1.939	4.474	9.356
15:34	26.624	23.567	14.941	2.075	4.440	9.372
15:35	26.565	23.545	19.141	1.923	4.388	9.393
15:36	26.581	23.580	19.031	1.930	4.396	9.391
15:37	26.752	23.675	26.105	1.992	4.342	9.416
15:38	26.669	23.714	22.047	1.804	4.458	9.362
15:39	26.468	23.443	17.802	1.769	4.426	9.375
15:40	26.516	23.470	15.450	1.858	4.431	9.374
15:41	26.484	23.402	15.332	2.059	4.478	9.351
15:42	26.233	23.305	14.742	1.824	4.478	9.355
15:43	26.078	23.181	15.576	2.085	4.467	9.361
15:44	25.893	23.014	20.403	2.125	4.484	9.353
15:45	25.972	23.282	11.571	1.870	4.478	9.354
15:46	26.040	23.044	16.093	1.990	4.451	9.364
15:47	26.072	23.201	15.673	1.981	4.402	9.382
15:48	26.121	23.150	18.987	1.818	4.380	9.405
15:49	26.189	23.305	15.482	2.081	4.412	9.382
15:50	26.184	23.354	16.268	1.887	4.379	9.403
15:51	26.148	23.227	23.752	1.881	4.407	9.388
15:52	26.360	23.412	21.169	2.066	4.361	9.406
15:53	26.284	23.337	27.094	1.885	4.356	9.403
15:54	26.449	23.408	20.920	1.781	4.371	9.410
15:55	26.352	23.321	20.525	1.889	4.373	9.408
15:56	26.234	23.352	24.554	1.902	4.355	9.414
15:57	26.172	23.284	18.905	2.075	4.412	9.397
15:58	25.879	23.028	29.214	1.972	4.413	9.392
15:59	26.193	23.183	17.127	2.113	4.408	9.397
16:00	26.260	23.215	23.708	2.185	4.371	9.421
16:01	26.182	23.205	28.225	2.077	4.375	9.412
16:02	26.076	23.122	28.828	2.141	4.406	9.401
16:03	25.977	23.014	30.326	2.016	4.365	9.422
16:04	26.060	23.087	28.213	2.193	4.381	9.405
16:05	26.323	23.398	18.567	2.073	4.394	9.402
16:06	26.291	23.240	27.289	2.053	4.322	9.429

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 16:27
 Stop Time 16:52

CALIBRATION BIAS 03

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gases (C_s)						
C _{ref} Zero gas	0.486	-0.068	0.000	0.024	0.168	0.002
C _{ref} Upscale gas	113.230	112.940	296.079	25.126	9.972	10.008
Analyzer Calibration Error Responses (C_{ba})						
C _{ba} Zero gas	0.116	-0.470	-0.130	-0.019	0.022	-0.012
C _{ba} Upscale gas	118.361	114.388	297.756	25.695	10.046	10.286
Actual Upscale Gas Value (C_{act})						
C _{act} Upscale gas	119.000	118.800	294.900	25.710	10.010	10.180
Calibration Span Value (CS)						
	250.900	250.800	590.800	85.500	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)						
Zero gas	0.1%	0.2%	0.0%	0.0%	0.7%	0.1%
Upscale gas	-1.2%	-0.6%	-0.3%	-0.7%	-0.4%	-1.4%
System Bias Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_p)						
C _p Zero gas	0.524	-0.076	0.022	0.002	0.118	0.001
C _p Upscale gas	114.327	113.632	298.454	24.415	9.943	9.986
Drift Assessment as Percent of Calibration Span Value (D) (3%)						
Zero gas	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%
Upscale gas	-0.4%	-0.3%	-0.1%	0.8%	0.1%	0.1%
Drift Assessment Status						
Zero gas	OK	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK	OK

Time	NOX	NO	CO	THC	O2	CO2
16:27:20	0.749	-0.065	0.098	0.003	20.339	0.040
16:27:41	0.733	-0.073	0.521	0.021	20.326	0.025
16:27:56	0.985	-0.228	0.521	0.039	20.332	0.040
16:28:11	0.863	-0.065	0.521	-0.036	20.340	0.042
16:28:26	0.700	-0.073	-0.146	0.055	20.355	0.016
16:28:41	0.554	-0.073	0.521	-0.013	20.358	0.013
16:28:56	0.464	-0.057	-0.162	-0.019	20.358	0.023
16:29:11	0.432	-0.073	-0.146	-0.052	20.358	0.021
16:29:26	0.562	-0.073	0.310	0.008	20.355	0.032
16:29:41	0.432	-0.081	0.521	-0.098	14.249	0.026
16:29:56	0.684	3.565	1.807	-0.116	0.534	0.023
16:30:11	25.674	21.587	3.842	-0.111	0.304	0.029
16:30:26	85.136	74.652	2.181	-0.111	0.302	0.023
16:30:41	104.721	108.338	0.283	-0.112	0.278	0.006
16:30:56	110.721	111.127	0.538	-0.111	0.234	0.022
16:31:11	112.047	111.779	-0.049	-0.101	0.249	-0.001
16:31:26	112.503	112.072	-0.081	-0.111	0.185	0.008
16:31:41	112.723	112.291	-0.033	-0.101	0.238	0.011
16:31:56	112.992	112.535	-0.033	-0.098	0.201	0.014
16:32:11	113.220	112.641	-0.081	-0.104	0.186	0.008
16:32:26	112.983	112.804	-0.049	-0.109	0.185	0.007
16:32:41	113.252	112.967	-0.033	0.521	0.208	0.013
16:32:56	113.455	113.049	2.051	1.608	10.323	2.283
16:33:11	101.514	112.707	32.414	1.400	14.151	3.699
16:33:26	67.537	54.768	116.223	1.436	14.201	3.710
16:33:41	25.307	13.626	170.452	1.448	14.190	3.723
16:33:56	11.217	8.132	212.601	1.350	14.212	3.725
16:34:11	9.833	7.757	237.884	0.000	8.634	2.665
16:34:26	14.469	7.741	218.487	-0.063	0.365	0.117
16:34:41	38.014	57.094	170.258	-0.067	0.252	0.048
16:34:56	157.770	178.258	169.040	-0.075	0.219	0.038
16:35:11	240.651	239.878	169.475	-0.067	0.207	0.019
16:35:26	258.461	259.373	174.815	-0.062	0.269	0.020
16:35:41	281.262	281.164	175.889	-0.060	0.209	0.028
16:35:56	261.531	261.449	175.905	-0.062	0.193	0.026
16:36:11	262.059	261.718	175.905	-0.064	0.197	0.008
16:36:26	262.800	262.198	175.938	-0.060	0.178	0.009
16:36:41	263.110	262.882	175.889	-0.060	0.197	0.018
16:36:56	263.337	263.159	175.922	-0.060	0.175	0.015
16:37:11	263.435	263.466	175.954	-0.060	0.199	0.015
16:37:26	263.590	263.150	176.198	-0.062	0.181	0.013
16:37:41	263.606	262.955	176.264	-0.070	0.189	0.002
16:37:56	263.923	263.264	175.857	-0.077	0.183	0.018
16:38:11	263.899	262.855	175.889	-0.103	0.173	-0.005
16:38:26	263.370	262.866	177.094	-0.169	0.200	0.016
16:38:41	263.435	223.297	197.151	-0.176	0.192	0.017
16:38:56	130.045	118.404	250.875	-0.182	0.171	0.009
16:39:11	30.460	29.752	263.191	-0.179	0.187	0.010
16:39:26	5.503	2.674	294.115	-0.179	0.169	0.009
16:39:41	3.348	0.814	295.775	-0.184	0.197	0.005
16:39:56	2.822	0.529	296.150	-0.179	0.181	-0.001
16:40:11	2.710	0.529	296.166	-0.171	0.178	0.000
16:40:26	2.076	0.187	296.101	-0.182	0.195	0.005
16:40:41	1.587	0.097	296.085	-0.176	0.172	0.005
16:40:56	1.123	0.106	296.085	-0.171	0.194	0.010

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 25, 2007
 Start Time 16:27
 Stop Time 16:52

CALIBRATION BIAS 03

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 4 THC Auxiliary Boiler B ppmwv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
16:41:11	1.229	-0.228	295.069	-0.173	0.179	-0.012
16:41:26	0.808	-0.065	295.173	-0.173	0.161	0.015
16:41:41	0.952	0.024	295.727	-0.169	0.165	0.003
16:41:56	1.026	-0.277	294.473	-0.202	4.176	2.947
16:42:11	0.895	-0.415	264.127	-0.202	9.853	9.703
16:42:26	0.895	0.041	135.694	-0.197	9.825	9.877
16:42:41	0.570	-0.008	50.175	-0.200	9.839	9.919
16:42:56	0.855	-0.073	9.101	-0.202	9.948	9.829
16:43:11	0.863	-0.057	1.807	-0.205	9.957	9.933
16:43:26	0.855	-0.065	0.000	-0.210	9.957	9.951
16:43:41	0.635	-0.057	-0.097	-0.220	9.968	9.958
16:43:56	0.749	-0.089	0.521	-0.226	9.971	9.987
16:44:11	0.383	-0.065	0.521	-0.226	9.969	9.974
16:44:26	0.619	-0.041	0.293	-0.228	9.972	9.990
16:44:41	0.757	-0.065	-0.537	-0.236	9.987	9.996
16:44:56	0.440	-0.073	0.196	-0.234	9.986	9.983
16:45:11	0.456	-0.057	0.407	-0.238	9.967	9.988
16:45:26	0.588	-0.057	-0.244	-0.231	9.973	10.013
16:45:41	0.692	-0.057	-0.244	-0.225	9.975	10.004
16:45:56	0.562	-0.057	-0.228	-0.226	9.965	10.011
16:46:11	0.212	-0.081	-0.244	-0.212	9.970	10.000
16:46:26	0.334	-0.057	-0.211	-0.200	9.977	10.007
16:46:41	0.548	-0.073	-0.244	-0.207	9.970	10.009
16:46:56	0.588	-0.065	-0.244	18.715	11.784	9.158
16:47:11	0.578	-0.081	-0.226	24.820	19.979	0.780
16:47:26	0.448	-0.049	0.310	24.985	20.243	0.188
16:47:41	0.424	-0.073	0.521	25.009	20.276	0.148
16:47:56	0.570	-0.033	0.521	24.969	20.274	0.134
16:48:11	0.660	-0.057	0.082	25.047	20.292	0.108
16:48:26	-0.032	-0.065	0.310	25.081	20.300	0.108
16:48:41	0.416	-0.081	0.082	25.016	20.314	0.108
16:48:56	0.424	-0.163	0.521	25.094	20.322	0.061
16:49:11	0.179	-0.122	0.505	25.021	20.315	0.061
16:49:26	0.074	-0.179	-0.114	25.055	20.327	0.042
16:49:41	0.318	-0.146	-0.114	25.135	20.339	0.044
16:49:56	0.220	-0.155	0.293	25.107	20.336	0.033
16:50:11	0.554	-0.138	0.293	25.120	20.335	0.026
16:50:26	0.220	-0.155	0.521	25.112	20.337	0.034
16:50:41	0.424	-0.187	0.521	25.146	20.338	0.030
16:50:56	0.057	-0.171	0.733	25.130	20.338	0.022
16:51:11	0.057	-0.179	0.310	25.122	20.344	0.007
16:51:26	0.163	-0.179	-0.374	25.127	20.339	0.022
16:51:41	0.293	-0.179	0.293	24.943	20.342	0.026
16:51:56	-0.171	-0.179	0.505	7.648	15.926	1.747
16:52:11	0.163	-0.155	5.503	6.063	5.640	8.577

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 10:55
 Stop Time 11:12

CALIBRATION BIAS 00

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_s)					
C ₀₁ Zero gas	0.091	-0.081	1.368	0.104	0.040
C ₀₁ Upscale gas	74.652	74.367	51.624	9.938	10.062
Analyzer Calibration Error Responses (C₀₁)					
C ₀₀₀ Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C ₀₀₀ Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.1%	0.0%	1.3%	0.6%	0.2%
Upscale gas	-0.5%	-0.5%	0.0%	-0.3%	-0.7%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gasses (C_s)					
C ₀₁ Zero gas	N/A	N/A	N/A	N/A	N/A
C ₀₁ Upscale gas	N/A	N/A	N/A	N/A	N/A
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	N/A	N/A	N/A	N/A	N/A
Upscale gas	N/A	N/A	N/A	N/A	N/A
Drift Assessment Status					
Zero gas	N/A	N/A	N/A	N/A	N/A
Upscale gas	N/A	N/A	N/A	N/A	N/A

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10:55:42	0.071	-0.085	1.368	20.378	0.012
10:55:57	0.169	-0.078	1.371	20.365	0.025
10:56:12	0.218	-0.078	1.368	20.374	0.039
10:56:27	0.013	-0.082	1.368	20.376	0.037
10:56:42	0.208	-0.075	1.368	20.353	0.018
10:56:57	0.052	-0.085	1.368	20.358	0.037
10:57:12	0.166	-0.075	1.368	18.706	0.563
10:57:27	0.158	-0.085	1.914	10.489	1.304
10:57:42	0.983	7.215	16.817	0.435	0.071
10:57:57	73.742	44.216	56.078	0.265	0.040
10:58:12	126.404	134.478	94.900	1.616	3.577
10:58:27	150.108	159.280	97.032	3.178	9.816
10:58:42	114.452	118.925	64.642	1.047	3.903
10:58:57	59.624	51.784	58.459	0.182	0.160
10:59:12	75.018	115.363	81.937	0.166	0.110
10:59:27	153.853	153.120	101.965	0.155	0.108
10:59:42	161.813	164.396	109.714	0.155	0.089
10:59:57	164.206	165.174	110.427	0.148	0.069
11:00:12	164.565	165.193	110.821	0.155	0.051
11:00:27	164.825	165.206	110.828	0.140	0.046
11:00:42	164.731	165.249	110.834	0.134	0.032
11:00:57	164.894	165.246	110.870	0.133	0.046
11:01:12	164.949	165.265	110.747	0.134	0.038
11:01:27	164.871	165.206	110.769	0.136	0.030
11:01:42	164.877	165.144	110.818	0.385	0.326
11:01:57	164.767	163.201	107.556	2.951	8.578
11:02:12	135.433	155.897	77.708	3.171	9.941
11:02:27	69.607	72.938	44.575	1.671	6.820
11:02:42	38.561	36.578	34.569	0.158	0.280
11:02:57	83.090	51.214	48.593	0.128	0.123
11:03:12	98.647	74.328	55.287	0.123	0.110
11:03:27	76.601	76.041	53.294	0.119	0.108
11:03:42	75.035	73.706	51.767	0.116	0.077

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007

Start Time 10:55
 Stop Time 11:12

CALIBRATION BIAS 00

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
11:03:57	74.331	73.374	51.705	0.113	0.070
11:04:12	74.253	73.439	51.751	0.100	0.056
11:04:27	74.425	73.888	51.741	0.106	0.037
11:04:42	74.546	74.123	51.654	0.101	0.045
11:04:57	74.644	74.227	51.647	0.106	0.037
11:05:12	74.631	74.299	51.722	0.108	0.048
11:05:27	74.634	74.396	51.683	0.106	0.026
11:05:42	74.689	74.408	51.487	5.358	0.440
11:05:57	74.699	69.512	48.599	10.242	6.326
11:06:12	59.744	49.999	36.562	10.008	9.585
11:06:27	25.247	18.227	20.272	9.916	9.927
11:06:42	7.505	3.376	7.134	9.925	9.965
11:06:57	1.762	0.612	2.462	9.927	9.993
11:07:12	1.175	0.280	1.368	9.929	10.004
11:07:27	0.984	0.254	1.224	9.932	10.033
11:07:42	0.915	0.124	1.172	9.935	10.051
11:07:57	0.830	-0.017	1.172	9.935	10.055
11:08:12	0.775	-0.059	1.172	9.935	10.057
11:08:27	0.655	0.043	1.172	9.939	10.061
11:08:42	0.550	0.088	1.172	9.935	10.063
11:08:57	0.440	-0.058	1.172	9.939	10.064
11:09:12	0.550	0.020	1.165	10.183	10.028
11:09:27	0.586	-0.130	1.169	18.733	2.684

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 11:28
 Stop time 11:49

REFERENCE METHOD RUN 1

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{0i} Initial zero	0.091	-0.081	1.368	0.104	0.040
C _{0i} Initial upscale	74.652	74.367	51.624	9.938	10.062
C _{0f} Final zero	0.501	-0.069	1.368	0.116	0.034
C _{0f} Final upscale	74.363	74.316	51.658	9.926	10.043
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{Avg} Average conc.	26.461	23.921	29.092	3.136	10.172
C _{G00} Bias adjusted	27.008	24.700	28.180	3.084	10.301

Clock Time (at end of sample period)

051007:132947	11:29	26.549	24.041	28.206	3.077	10.214
	11:30	26.416	23.826	36.835	3.124	10.174
	11:31	26.359	23.781	31.589	3.092	10.209
	11:32	26.218	23.501	28.077	3.098	10.192
	11:33	28.356	23.928	29.345	3.093	10.203
	11:34	26.220	23.534	31.898	3.169	10.159
	11:35	26.285	23.704	23.194	3.212	10.129
	11:36	26.078	23.432	20.896	3.138	10.162
	11:37	26.218	23.635	32.781	3.070	10.208
	11:38	26.592	24.107	32.297	3.104	10.193
	11:39	26.738	24.232	34.442	3.022	10.250
	11:40	26.495	23.898	34.088	3.031	10.241
	11:41	26.450	23.620	38.158	3.114	10.177
	11:42	26.446	23.953	35.482	3.128	10.172
	11:43	26.702	24.285	30.878	3.149	10.156
	11:44	26.591	24.100	26.302	3.180	10.143
	11:45	26.527	24.152	26.463	3.152	10.154
	11:46	26.563	24.006	25.768	3.190	10.134
	11:47	26.565	24.263	24.011	3.229	10.121
	11:48	26.644	24.347	21.447	3.243	10.110
	11:49	26.697	23.991	18.799	3.251	10.110

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 11:52
 Stop Time 12:01

CALIBRATION BIAS 01

Channel 1	Channel 2	Channel 3	Channel 5	Channel 6
NOX	NO	CO	O2	CO2
Auxiliary Boiler B	Auxiliary Boiler B	Auxiliary Boiler B	Auxiliary Boiler B	Auxiliary Boiler B
ppmdv	ppmdv	ppmdv	%dv	%dv

System Response to Calibration Gasses (C_s)

C _{ref} Zero gas	0.501	-0.069	1.368	0.116	0.034
C _{ref} Upscale gas	74.363	74.316	51.658	9.926	10.043

Analyzer Calibration Error Responses (C_{DR})

C _{DR} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{DR} Upscale gas	75.496	75.188	51.678	9.993	10.209

Actual Upscale Gas Value (C_{MA})

C _{MA} Upscale gas	76.600	76.600	51.100	10.010	10.180
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Calibration Span Value (CS)

	167.000	167.000	111.000	19.540	19.620
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System Bias as Percent of Calibration Span Value (SB) (5%)

Zero gas	0.3%	0.0%	1.3%	0.6%	0.1%
Upscale gas	-0.7%	-0.5%	0.0%	-0.3%	-0.8%

System Bias Status

Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Previous System Response to Calibration Gasses (C_S)

C _{ref} Zero gas	0.091	-0.081	1.368	0.104	0.040
C _{ref} Upscale gas	74.652	74.367	51.624	9.938	10.062

Drift Assessment as Percent of Calibration Span Value (D) (3%)

Zero gas	0.2%	0.0%	0.0%	0.1%	0.0%
Upscale gas	-0.2%	0.0%	0.0%	-0.1%	-0.1%

Drift Assessment Status

Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

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11:52:07	0.752	-0.039	1.374	20.322	0.104
11:52:22	0.668	-0.124	1.368	20.325	0.103
11:52:37	0.658	-0.026	1.368	20.322	0.102
11:52:52	0.508	-0.111	1.368	20.324	0.096
11:53:07	0.495	0.003	1.368	20.319	0.101
11:53:22	0.505	-0.066	1.368	20.317	0.101
11:53:37	0.527	-0.068	1.368	20.339	0.081
11:53:52	0.537	-0.033	1.368	20.325	0.095
11:54:07	0.482	-0.117	1.368	20.331	0.089
11:54:22	0.485	-0.059	1.368	20.331	0.076
11:54:37	0.456	-0.033	1.374	20.347	0.045
11:54:52	0.501	-0.033	1.443	8.355	0.044
11:55:07	7.303	0.550	10.839	0.391	0.054
11:55:22	31.750	27.829	30.056	0.248	0.052
11:55:37	60.171	69.418	46.010	0.201	0.052
11:55:52	71.642	72.290	50.615	0.187	0.047
11:56:07	72.970	72.856	51.445	0.177	0.044
11:56:22	73.244	73.019	51.477	0.158	0.048
11:56:37	73.566	73.371	51.480	0.162	0.043
11:56:52	73.768	73.690	51.474	0.149	0.048
11:57:07	73.889	73.937	51.578	0.142	0.043
11:57:22	73.931	74.022	51.614	0.133	0.033
11:57:37	74.132	74.045	51.614	0.131	0.016
11:57:52	74.217	74.152	51.650	0.118	0.018
11:58:07	74.283	74.247	51.660	0.115	0.043
11:58:22	74.345	74.335	51.614	0.116	0.040
11:58:37	74.461	74.367	51.699	0.117	0.036
11:58:52	74.537	74.292	51.572	6.613	5.273
11:59:07	65.722	72.225	41.797	9.840	9.804
11:59:22	35.432	44.301	23.470	9.888	9.919
11:59:37	10.937	3.129	8.270	9.906	9.949
11:59:52	1.872	0.899	2.673	9.916	9.987
12:00:07	1.084	0.423	1.413	9.922	9.989
12:00:22	0.921	0.179	1.250	9.920	10.017
12:00:37	0.801	0.110	1.172	9.931	10.039
12:00:52	0.668	0.195	1.172	9.925	10.041
12:01:07	0.547	-0.036	1.172	9.926	10.039
12:01:22	0.599	0.000	1.172	9.927	10.050
12:01:37	0.485	0.023	1.172	9.635	10.046

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 12:08
 Stop time 12:29

REFERENCE METHOD RUN 2

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C ₀₁ Initial zero	0.501	-0.069	1.368	0.116	0.034
C ₀₁ Initial upscale	74.363	74.316	51.658	9.926	10.043
C ₀₁ Final zero	0.509	-0.040	1.368	0.112	0.037
C ₀₁ Final upscale	74.486	74.492	51.651	9.931	10.053
C _{ms} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{Av} Average conc.	27.210	24.806	14.770	3.384	10.013
C _{GAS} Bias adjusted	27.674	25.575	13.619	3.335	10.144

Clock Time (at end of sample period)

Clock Time	NOX	NO	CO	O2	CO2
12:09	26.189	23.724	18.986	3.261	10.105
12:10	26.380	23.902	22.895	3.209	10.130
12:11	26.312	23.871	23.429	3.222	10.122
12:12	26.597	24.256	21.401	3.311	10.065
12:13	27.167	24.929	17.431	3.441	9.985
12:14	27.954	25.688	13.939	3.438	9.970
12:15	27.547	25.328	14.440	3.360	10.025
12:16	27.342	25.101	13.520	3.381	10.010
12:17	27.583	25.118	14.989	3.284	10.093
12:18	26.913	24.500	17.871	3.308	10.070
12:19	27.199	24.754	17.553	3.389	10.011
12:20	27.243	24.799	13.374	3.431	9.984
12:21	27.354	24.836	11.508	3.447	9.972
12:22	27.332	25.109	9.807	3.429	9.972
12:23	27.453	25.087	11.863	3.492	9.941
12:24	27.348	24.917	10.713	3.453	9.965
12:25	27.164	24.830	12.154	3.361	10.012
12:26	27.590	24.887	13.639	3.357	10.022
12:27	27.531	25.023	12.742	3.469	9.959
12:28	27.923	25.637	9.517	3.514	9.924
12:29	27.295	24.646	8.394	3.512	9.930

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxillary Boiler B

April 26, 2007

Start Time 12:33
 Stop Time 12:42

CALIBRATION BIAS 02

	Channel 1 NOX Auxillary Boiler B ppmdv	Channel 2 NO Auxillary Boiler B ppmdv	Channel 3 CO Auxillary Boiler B ppmdv	Channel 5 O2 Auxillary Boiler B %dv	Channel 6 CO2 Auxillary Boiler B %dv
System Response to Calibration Gases (C_s)					
C _{off} Zero gas	0.509	-0.040	1.368	0.112	0.037
C _{off} Upscale gas	74.486	74.492	51.651	9.931	10.053
Analyzer Calibration Error Responses (C_{DR})					
C _{occ} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{occ} Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Callibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Callibration Span Value (SB) (5%)					
Zero gas	0.3%	0.0%	1.3%	0.6%	0.2%
Upscale gas	-0.6%	-0.4%	0.0%	-0.3%	-0.8%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_s)					
C _{off} Zero gas	0.501	-0.069	1.368	0.116	0.034
C _{off} Upscale gas	74.363	74.316	51.658	9.926	10.043
Drift Assessment as Percent of Callibration Span Value (D) (3%)					
Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%
Upscale gas	0.1%	0.1%	0.0%	0.0%	0.0%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

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12:33:39	0.564	0.000	1.368	20.307	0.104
12:33:54	0.508	0.016	1.371	20.304	0.104
12:34:09	0.648	-0.023	1.368	20.312	0.104
12:34:24	0.439	-0.026	1.368	20.324	0.098
12:34:39	0.439	-0.072	1.368	20.320	0.100
12:34:54	0.472	-0.068	1.371	20.315	0.100
12:35:09	0.361	-0.072	1.371	20.319	0.098
12:35:24	0.264	-0.062	1.368	20.318	0.093
12:35:39	0.459	-0.029	1.374	14.866	0.087
12:35:54	0.270	3.494	5.776	0.592	0.042
12:36:09	16.518	27.266	23.824	0.269	0.072
12:36:24	58.084	55.153	42.360	0.216	0.065
12:36:39	69.994	72.560	50.126	0.190	0.060
12:36:54	73.068	73.302	51.422	0.171	0.070
12:37:09	73.420	73.481	51.477	0.165	0.061
12:37:24	73.804	73.892	51.546	0.145	0.028
12:37:39	74.035	74.178	51.663	0.139	0.049
12:37:54	74.227	74.296	51.614	0.144	0.060
12:38:09	74.348	74.374	51.657	0.139	0.040
12:38:24	74.377	74.478	51.650	0.135	0.049
12:38:39	74.507	74.435	51.657	0.122	0.039
12:38:54	74.572	74.563	51.647	0.109	0.035
12:39:09	74.615	74.589	51.621	0.105	0.037
12:39:24	74.699	74.634	51.579	0.263	0.057
12:39:39	74.718	74.647	50.865	8.326	7.182
12:39:54	63.756	67.862	37.796	9.845	9.851
12:40:09	40.869	23.150	19.054	9.882	9.928
12:40:24	6.991	3.898	6.548	9.900	9.957
12:40:39	1.830	0.606	2.224	9.914	9.981
12:40:54	1.058	0.254	1.348	9.922	9.989
12:41:09	0.859	0.211	1.139	9.920	9.984
12:41:24	0.580	-0.023	1.156	9.928	10.018
12:41:39	0.668	0.065	1.159	9.931	10.025
12:41:54	0.394	0.101	1.159	9.931	10.052
12:42:09	0.397	-0.075	1.159	9.931	10.051
12:42:24	0.368	-0.055	1.159	9.932	10.056
12:42:39	0.361	-0.052	1.152	9.938	10.058

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 13:08
 Stop time 13:29

REFERENCE METHOD RUN 3

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{0t} Initial zero	0.509	-0.040	1.368	0.112	0.037
C _{0t} Initial upscale	74.486	74.492	51.651	9.931	10.053
C _{0t} Final zero	0.557	-0.097	1.368	0.124	0.046
C _{0t} Final upscale	74.106	74.067	51.532	9.920	10.051
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{Avg} Average conc.	26.820	24.265	18.961	3.325	10.037
C _{Gas} Bias adjusted	27.298	25.071	17.900	3.273	10.164

Clock Time (at end of sample period)

Clock Time	NOX	NO	CO	O2	CO2
051007 132947					
13:09	26.722	24.067	12.494	3.440	9.966
13:10	26.608	24.129	11.550	3.446	9.954
13:11	26.469	24.077	13.203	3.488	9.943
13:12	26.396	23.801	12.501	3.484	9.941
13:13	26.720	24.306	15.021	3.278	10.066
13:14	26.676	24.223	24.847	3.313	10.042
13:15	26.701	24.296	15.679	3.327	10.033
13:16	26.774	24.169	17.763	3.302	10.045
13:17	27.102	24.414	18.505	3.316	10.039
13:18	27.058	24.351	21.173	3.350	10.011
13:19	27.174	24.492	25.848	3.310	10.043
13:20	26.987	24.437	23.951	3.220	10.114
13:21	27.020	24.471	26.134	3.159	10.143
13:22	26.873	24.253	26.012	3.164	10.140
13:23	26.707	24.095	22.430	3.217	10.119
13:24	26.692	24.189	18.282	3.314	10.048
13:25	26.834	24.376	18.644	3.398	9.980
13:26	26.917	24.403	14.801	3.436	9.964
13:27	26.976	24.461	16.748	3.352	10.008
13:28	26.728	24.208	20.858	3.236	10.098
13:29	27.076	24.330	21.739	3.271	10.073

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 13:32
 Stop Time 13:40

CALIBRATION BIAS 03

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gases (C_s)					
C _{0f} Zero gas	0.557	-0.097	1.368	0.124	0.048
C _{0f} Upscale gas	74.106	74.067	51.532	9.920	10.051
Analyzer Calibration Error Responses (C_{Dir})					
C _{0ce} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{0ce} Upscale gas	75.486	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.3%	0.0%	1.3%	0.7%	0.2%
Upscale gas	-0.8%	-0.7%	-0.1%	-0.4%	-0.8%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_s)					
C _{0f} Zero gas	0.509	-0.040	1.368	0.112	0.037
C _{0f} Upscale gas	74.486	74.492	51.651	9.931	10.053
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	0.0%	0.0%	0.0%	0.1%	0.1%
Upscale gas	-0.2%	-0.3%	-0.1%	-0.1%	0.0%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
13:32:53	0.600	-0.028	1.368	20.302	0.110
13:33:07	0.554	-0.033	1.368	20.300	0.109
13:33:22	0.518	-0.111	1.368	20.303	0.106
13:33:37	0.599	-0.068	1.368	20.312	0.097
13:33:52	0.553	-0.111	1.368	14.646	1.573
13:34:08	1.109	-0.035	4.473	0.571	0.337
13:34:23	4.891	22.952	22.685	0.277	0.110
13:34:37	47.407	60.536	40.671	0.197	0.099
13:34:52	69.060	70.619	49.761	0.184	0.097
13:35:07	72.808	72.840	51.321	0.168	0.082
13:35:22	73.084	73.094	51.477	0.161	0.080
13:35:37	73.495	73.462	51.484	0.145	0.080
13:35:53	73.462	73.569	51.480	0.140	0.062
13:36:08	73.780	73.780	51.477	0.154	0.068
13:36:22	74.077	73.915	51.578	0.134	0.047
13:36:37	73.889	74.042	51.477	0.124	0.048
13:36:52	74.146	74.045	51.493	0.114	0.049
13:37:07	74.283	74.113	51.624	1.078	0.411
13:37:23	73.728	74.216	49.063	9.452	8.963
13:37:37	63.257	61.053	35.239	9.855	9.876
13:37:52	36.695	16.791	15.208	9.886	9.928
13:38:07	3.607	3.015	5.386	9.897	9.957
13:38:22	1.635	0.593	1.784	9.907	9.967
13:38:37	1.035	0.306	1.250	9.906	9.995
13:38:52	0.899	0.189	1.172	9.910	10.024
13:39:08	0.750	0.178	1.172	9.911	10.027
13:39:22	0.710	0.107	1.172	9.917	10.034
13:39:37	0.407	-0.062	1.172	9.921	10.036
13:39:52	0.453	-0.013	1.172	9.923	10.050
13:40:07	0.527	0.026	1.172	9.919	10.052
13:40:22	0.332	0.023	1.162	9.918	10.052
13:40:38	0.361	0.010	1.169	9.928	10.057

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start time 13:50
 Stop time 14:11

REFERENCE METHOD RUN 4

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{0i} Initial zero	0.557	-0.097	1.368	0.124	0.048
C _{0u} Initial upscale	74.106	74.067	51.532	9.920	10.051
C _{0f} Final zero	0.472	-0.063	1.368	0.123	0.046
C _{0r} Final upscale	74.407	74.329	51.557	9.908	10.010
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{Avg} Average conc.	26.567	24.007	24.707	3.217	10.085
C _{Gas} Bias adjusted	27.062	24.840	23.769	3.163	10.236

Clock Time (at end of sample period)

Clock Time	NOX	NO	CO	O2	CO2
05:007-132947					
13:51	26.826	24.300	26.058	3.206	10.101
13:52	26.780	24.171	24.494	3.261	10.059
13:53	26.616	24.132	21.342	3.198	10.099
13:54	26.530	24.114	22.507	3.213	10.101
13:55	26.526	24.045	17.414	3.283	10.051
13:56	26.553	23.988	15.814	3.316	10.016
13:57	26.427	23.850	15.566	3.304	10.026
13:58	26.442	23.843	16.421	3.424	9.959
13:59	26.292	23.673	15.528	3.343	9.996
14:00	26.255	23.731	19.270	3.177	10.118
14:01	26.381	23.709	24.230	3.172	10.119
14:02	26.488	23.925	30.071	3.000	10.209
14:03	26.653	24.043	35.785	3.110	10.152
14:04	26.720	24.001	30.217	3.139	10.133
14:05	26.705	24.248	24.359	3.348	9.994
14:06	26.526	24.008	22.739	3.314	10.018
14:07	26.535	24.110	18.677	3.213	10.085
14:08	26.629	24.083	32.812	3.118	10.144
14:09	26.507	23.757	40.009	3.138	10.140
14:10	26.816	24.332	29.189	3.143	10.139
14:11	26.696	24.085	36.343	3.148	10.134

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007

Start Time 14:14
 Stop Time 14:23

CALIBRATION BIAS 04

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_s)					
C ₀₁ Zero gas	0.472	-0.063	1.368	0.123	0.046
C ₀₁ Upscale gas	74.407	74.329	51.557	9.908	10.010
Analyzer Calibration Error Responses (C_{DI})					
C ₀₀₂ Zero gas	0.000	-0.068	-0.041	-0.007	0.005
C ₀₀₂ Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{MA} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Perce					
	3				
Zero gas	0.3%	0.0%	1.3%	0.7%	0.2%
Upscale gas	-0.7%	-0.5%	-0.1%	-0.4%	-1.0%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gasses (C_s)					
C ₀₁ Zero gas	0.557	-0.097	1.368	0.124	0.048
C ₀₁ Upscale gas	74.106	74.067	51.532	9.920	10.051
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	-0.1%	0.0%	0.0%	0.0%	0.0%
Upscale gas	0.2%	0.2%	0.0%	-0.1%	-0.2%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
14:14:47	0.508	-0.072	1.368	20.297	0.100
14:15:02	0.466	-0.075	1.368	20.290	0.096
14:15:17	0.541	-0.117	1.368	20.289	0.091
14:15:32	0.544	-0.085	1.368	20.287	0.098
14:15:47	0.391	-0.078	1.368	20.289	0.078
14:16:02	0.482	-0.026	1.368	15.987	0.090
14:16:17	0.475	2.201	3.829	0.719	0.089
14:16:32	21.030	11.461	23.150	0.262	0.059
14:16:47	55.954	52.916	40.739	0.204	0.053
14:17:02	69.366	71.899	50.211	0.174	0.060
14:17:17	72.954	73.338	51.406	0.157	0.053
14:17:32	73.455	73.426	51.474	0.144	0.046
14:17:47	73.716	73.722	51.582	0.132	0.059
14:18:02	73.934	73.990	51.650	0.124	0.029
14:18:17	74.136	74.097	51.654	0.122	0.033
14:18:32	74.195	74.162	51.644	0.121	0.035
14:18:47	74.302	74.181	51.689	0.124	0.051
14:19:02	74.367	74.224	51.618	0.123	0.033
14:19:17	74.374	74.276	51.605	0.122	0.054
14:19:32	74.380	74.306	51.533	0.112	0.041
14:19:47	74.468	74.406	51.533	4.865	3.626
14:20:02	72.778	70.518	44.630	9.806	9.698
14:20:17	38.105	52.376	27.487	9.869	9.902
14:20:32	14.333	10.986	9.797	9.877	9.932
14:20:47	1.804	1.120	3.536	9.888	9.948
14:21:02	1.110	0.345	1.498	9.900	9.964
14:21:17	0.895	0.202	1.368	9.900	9.974
14:21:32	0.775	0.153	1.172	9.901	10.004
14:21:47	0.560	0.153	1.172	8.899	9.994
14:22:02	0.612	-0.009	1.172	9.902	10.010
14:22:17	0.413	0.056	1.172	9.910	10.009
14:22:32	0.527	-0.052	1.172	9.907	10.001
14:22:47	0.355	-0.088	1.172	9.908	10.020
14:23:02	0.364	-0.150	1.172	9.906	10.010

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxillary Boiler B

April 26, 2007
 Start Time 14:28
 Stop time 14:49

REFERENCE METHOD RUN 5

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{oi} Initial zero	0.472	-0.063	1.368	0.123	0.046
C _{ui} Initial upscale	74.407	74.329	51.557	9.908	10.010
C _{of} Final zero	0.684	-0.015	1.368	0.130	0.041
C _{uf} Final upscale	74.585	74.495	51.803	9.921	10.005
C _{ms} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{AVG} Average conc.	26.397	23.873	22.430	3.286	10.029
C _{Gas} Bias adjusted	26.756	24.603	21.392	3.232	10.202

Clock Time (at end of sample period)

051007 132947	14:29	14:30	14:31	14:32	14:33	14:34	14:35	14:36	14:37	14:38	14:39	14:40	14:41	14:42	14:43	14:44	14:45	14:46	14:47	14:48	14:49
	26.217	26.160	25.955	26.120	26.204	26.223	26.324	26.236	26.485	26.453	26.456	26.513	26.680	26.616	26.383	26.330	26.192	26.486	26.448	26.947	26.936
	23.740	23.689	23.493	23.678	23.626	23.771	23.689	23.676	23.831	23.698	23.783	24.058	24.241	24.216	23.737	23.629	23.636	23.978	23.977	24.637	24.558
	25.147	20.999	30.069	30.809	27.566	19.485	20.350	21.578	29.993	27.540	24.912	22.372	21.616	16.578	15.305	17.952	21.618	20.498	21.135	15.504	20.002
	3.227	3.198	3.202	3.163	3.242	3.261	3.213	3.207	3.176	3.182	3.207	3.267	3.308	3.392	3.412	3.348	3.375	3.398	3.458	3.388	3.390
	10.072	10.088	10.082	10.115	10.060	10.037	10.076	10.079	10.095	10.096	10.081	10.046	10.003	9.949	9.949	9.984	9.978	9.954	9.939	9.956	9.963

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 14:52
 Stop Time 15:00

CALIBRATION BIAS 05

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gases (C_s)					
C _{ref} Zero gas	0.684	-0.015	1.368	0.130	0.041
C _{ref} Upscale gas	74.585	74.495	51.803	9.921	10.005
Analyzer Calibration Error Responses (C_{DR})					
C _{code} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{code} Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.4%	0.0%	1.3%	0.7%	0.2%
Upscale gas	-0.5%	-0.4%	0.1%	-0.4%	-1.0%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_s)					
C _{ref} Zero gas	0.472	-0.063	1.368	0.123	0.046
C _{ref} Upscale gas	74.407	74.329	51.557	9.908	10.010
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	0.1%	0.0%	0.0%	0.0%	0.0%
Upscale gas	0.1%	0.1%	0.2%	0.1%	0.0%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
14:52:09	0.788	-0.062	1.368	20.272	0.110
14:52:24	0.694	-0.016	1.368	20.278	0.108
14:52:39	0.661	-0.003	1.368	20.281	0.108
14:52:54	0.697	-0.026	1.368	20.284	0.104
14:53:09	0.544	-0.036	1.446	13.197	0.086
14:53:24	3.552	0.098	5.952	0.465	0.091
14:53:39	23.697	18.370	25.280	0.231	0.084
14:53:54	52.366	64.566	43.207	0.181	0.057
14:54:09	71.828	72.404	50.526	0.171	0.070
14:54:24	73.465	73.628	51.552	0.163	0.066
14:54:39	73.856	73.934	51.647	0.145	0.060
14:54:54	74.162	74.191	51.712	0.138	0.037
14:55:09	74.315	74.341	51.751	0.140	0.048
14:55:24	74.406	74.425	51.751	0.133	0.050
14:55:39	74.488	74.458	51.712	0.143	0.037
14:55:54	74.540	74.501	51.790	0.127	0.046
14:56:09	74.582	74.484	51.829	0.121	0.040
14:56:24	74.634	74.501	51.790	0.523	0.118
14:56:39	74.634	74.543	49.941	8.851	7.874
14:56:54	59.998	67.640	37.122	9.841	9.816
14:57:09	35.601	21.978	16.916	9.879	9.916
14:57:24	5.984	3.165	6.336	9.896	9.943
14:57:39	1.673	0.573	2.100	9.904	9.945
14:57:54	1.077	0.251	1.446	9.911	9.958
14:58:09	0.889	0.156	1.368	9.913	9.979
14:58:24	0.765	0.062	1.254	9.918	9.989
14:58:39	0.674	0.079	1.172	9.920	9.976
14:58:54	0.602	-0.042	1.175	9.919	9.989
14:59:09	0.413	-0.039	1.172	9.918	10.003
14:59:24	0.433	-0.055	1.172	9.921	10.005
14:59:39	0.446	-0.013	1.172	9.924	10.005
14:59:54	0.361	0.016	1.172	9.918	10.005
15:00:09	0.459	-0.081	1.436	5.291	9.971

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxilliary Boiler B

April 26, 2007
 Start Time 15:04
 Stop time 15:25

REFERENCE METHOD RUN 6

	Channel 1 NOX Auxilliary Boiler B ppmdv	Channel 2 NO Auxilliary Boiler B ppmdv	Channel 3 CO Auxilliary Boiler B ppmdv	Channel 5 O2 Auxilliary Boiler B %dv	Channel 6 CO2 Auxilliary Boiler B %dv
Calibration Checks					
C _{0i} Initial zero	0.684	-0.015	1.368	0.130	0.041
C _{0i} Initial upscale	74.585	74.495	51.803	9.921	10.005
C _{0f} Final zero	0.363	-0.029	1.368	0.116	0.049
C _{0f} Final upscale	74.144	74.103	51.816	9.900	9.963
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{AVG} Average conc.	26.538	24.088	16.605	3.405	9.944
C _{GAS} Bias adjusted	26.986	24.850	15.436	3.357	10.139

Clock Time (at end of sample period)

Clock Time	Channel 1 NOX ppmdv	Channel 2 NO ppmdv	Channel 3 CO ppmdv	Channel 5 O2 %dv	Channel 6 CO2 %dv
15:05	26.587	24.283	17.482	3.384	9.951
15:06	26.598	24.427	11.399	3.403	9.941
15:07	26.593	24.339	13.059	3.399	9.944
15:08	26.659	24.252	16.664	3.401	9.947
15:09	26.511	23.958	23.004	3.381	9.943
15:10	26.535	23.996	18.541	3.368	9.949
15:11	26.503	24.025	22.665	3.371	9.950
15:12	26.631	24.361	14.191	3.430	9.935
15:13	26.724	24.179	13.975	3.460	9.934
15:14	26.615	24.359	14.113	3.416	9.942
15:15	26.702	24.345	15.975	3.440	9.941
15:16	26.719	24.098	16.208	3.481	9.919
15:17	26.607	23.978	15.017	3.491	9.898
15:18	26.703	24.313	16.064	3.371	9.960
15:19	27.229	24.831	14.314	3.395	9.947
15:20	26.891	24.505	18.179	3.359	9.961
15:21	26.722	24.107	17.404	3.336	9.977
15:22	27.102	24.430	18.823	3.295	9.993
15:23	26.405	23.871	22.186	3.346	9.973
15:24	25.311	22.794	16.329	3.473	9.923
15:25	24.952	22.405	13.122	3.508	9.896

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 15:31
 Stop Time 15:39

CALIBRATION BIAS 06

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_S)					
C _{of} Zero gas	0.363	-0.029	1.368	0.116	0.049
C _{uf} Upscale gas	74.144	74.103	51.816	9.900	9.963
Analyzer Calibration Error Responses (C_{DLI})					
C _{oc} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{mca} Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.2%	0.0%	1.3%	0.6%	0.2%
Upscale gas	-0.8%	-0.6%	0.1%	-0.5%	-1.3%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gasses (C_S)					
C _{of} Zero gas	0.684	-0.015	1.368	0.130	0.041
C _{uf} Upscale gas	74.585	74.495	51.803	9.921	10.005
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	-0.2%	0.0%	0.0%	-0.1%	0.0%
Upscale gas	-0.3%	-0.2%	0.0%	-0.1%	-0.2%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6
15:31:50	0.361	-0.098	1.368	20.286	0.072
15:32:05	0.316	-0.029	1.368	20.293	0.059
15:32:20	0.462	-0.026	1.368	20.298	0.067
15:32:35	0.312	-0.033	1.368	20.298	0.061
15:32:50	0.381	-0.029	1.778	7.098	0.057
15:33:05	6.717	4.018	10.654	0.353	0.036
15:33:20	38.893	25.928	32.300	0.234	0.036
15:33:35	62.362	68.591	46.024	0.194	0.058
15:33:50	71.889	72.550	51.129	0.181	0.053
15:34:05	72.967	73.289	51.627	0.171	0.056
15:34:20	73.341	73.478	51.569	0.153	0.044
15:34:35	73.533	73.677	51.549	0.148	0.048
15:34:50	73.651	73.836	51.650	0.137	0.051
15:35:05	73.876	73.862	51.816	0.131	0.047
15:35:20	73.977	73.902	51.660	0.119	0.056
15:35:35	73.983	74.006	51.738	0.125	0.035
15:35:50	74.113	74.048	51.751	0.122	0.043
15:36:05	74.123	74.084	51.868	0.112	0.034
15:36:20	74.198	74.178	51.829	0.112	0.035
15:36:35	74.230	74.181	51.595	6.286	4.997
15:36:50	67.488	74.178	42.739	9.794	9.740
15:37:05	46.111	33.566	24.247	9.860	9.888
15:37:20	13.138	4.884	8.602	9.876	9.931
15:37:35	2.116	0.821	3.044	9.881	9.934
15:37:50	1.058	0.215	1.439	9.888	9.958
15:38:05	0.882	0.169	1.224	9.900	9.959
15:38:20	0.781	0.065	1.172	9.908	9.970
15:38:35	0.589	0.088	1.172	9.903	9.984
15:38:50	0.446	0.039	1.172	9.894	9.969
15:39:05	0.531	0.124	1.172	9.901	9.995
15:39:20	0.482	-0.003	1.172	9.905	9.994
15:39:35	0.322	-0.013	1.198	7.248	9.936

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 15:43
 Stop time 16:04

REFERENCE METHOD RUN 7

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{0i} Initial zero	0.363	-0.029	1.368	0.116	0.049
C _u Initial upscale	74.144	74.103	51.816	9.900	9.963
C _{0f} Final zero	0.316	-0.030	1.368	0.136	0.041
C _{uf} Final upscale	74.197	74.207	51.552	9.905	9.974
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{AVG} Average conc.	25.655	23.227	23.659	3.466	9.902
C _{GAS} Bias adjusted	26.265	24.014	22.639	3.420	10.111

Clock Time (at end of sample period)

051007-132947	15:44	24.568	22.369	17.612	3.594	9.811
	15:45	24.729	22.208	22.623	3.597	9.818
	15:46	24.838	22.439	19.263	3.557	9.834
	15:47	25.180	23.088	24.331	3.536	9.872
	15:48	25.509	23.024	28.322	3.550	9.845
	15:49	25.096	23.335	23.496	3.630	9.801
	15:50	24.981	22.809	24.121	3.615	9.820
	15:51	25.194	22.867	20.453	3.574	9.831
	15:52	25.593	23.258	19.300	3.492	9.906
	15:53	25.398	22.873	22.805	3.465	9.923
	15:54	25.462	22.973	25.644	3.399	9.943
	15:55	25.480	22.983	22.468	3.425	9.936
	15:56	26.106	23.487	24.643	3.365	9.957
	15:57	26.404	23.858	22.668	3.365	9.952
	15:58	26.137	23.372	28.534	3.339	9.967
	15:59	26.186	23.456	28.873	3.358	9.956
	16:00	26.484	23.889	26.200	3.326	9.976
	16:01	26.547	23.916	23.678	3.452	9.925
	16:02	26.380	24.136	23.766	3.414	9.936
	16:03	26.412	23.868	25.532	3.347	9.967
	16:04	26.086	23.564	24.507	3.377	9.956

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007

Start Time 16:08
 Stop Time 16:15

CALIBRATION BIAS 07

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_s)					
C _{of} Zero gas	0.316	-0.030	1.368	0.136	0.041
C _{uf} Upscale gas	74.197	74.207	51.552	9.905	9.974
Analyzer Calibration Error Responses (C_{dr})					
C _{oce} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{mce} Upscale gas	75.498	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.2%	0.0%	1.3%	0.7%	0.2%
Upscale gas	-0.8%	-0.6%	-0.1%	-0.5%	-1.2%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gasses (C_s)					
C _{of} Zero gas	0.363	-0.029	1.368	0.116	0.049
C _{uf} Upscale gas	74.144	74.103	51.816	9.900	9.963
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	0.0%	0.0%	0.0%	0.1%	0.0%
Upscale gas	0.0%	0.1%	-0.2%	0.0%	0.1%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
16:08:17	0.544	-0.033	1.368	20.272	0.093
16:08:32	0.495	0.016	1.368	20.279	0.096
16:08:47	0.426	-0.081	1.368	20.284	0.074
16:09:02	0.485	-0.078	1.368	20.288	0.080
16:09:17	0.456	-0.033	1.368	20.290	0.080
16:09:32	0.312	-0.029	1.368	20.285	0.067
16:09:47	0.316	-0.026	1.368	20.284	0.076
16:10:02	0.319	-0.036	1.368	9.189	0.065
16:10:17	0.309	7.915	9.374	0.375	0.036
16:10:32	24.872	35.432	28.125	0.239	0.050
16:10:47	63.850	62.626	46.352	0.197	0.046
16:11:02	71.170	72.843	50.839	0.174	0.056
16:11:17	73.163	73.390	51.477	0.158	0.037
16:11:32	73.537	73.618	51.546	0.143	0.046
16:11:47	73.748	73.908	51.702	0.137	0.051
16:12:02	73.794	74.061	51.588	0.135	0.033
16:12:17	73.896	74.136	51.553	0.135	0.038
16:12:32	74.152	74.175	51.618	0.140	0.050
16:12:47	74.178	74.198	51.533	0.125	0.039
16:13:02	74.260	74.247	51.504	1.234	0.460
16:13:17	74.293	73.495	49.465	9.370	8.746
16:13:32	56.117	68.900	36.187	9.843	9.829
16:13:47	23.557	23.580	15.222	9.863	9.918
16:14:02	5.805	2.071	5.812	9.872	9.935
16:14:17	1.458	0.456	1.667	9.889	9.945
16:14:32	0.977	0.296	1.237	9.892	9.964
16:14:47	0.794	0.182	1.172	9.905	9.970
16:15:02	0.619	0.013	1.172	9.902	9.969
16:15:17	0.498	0.088	1.172	9.907	9.984

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 28, 2007
 Start Time 18:19
 Stop time 16:40

REFERENCE METHOD RUN 8

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{oi} Initial zero	0.316	-0.030	1.368	0.136	0.041
C _{ui} Initial upscale	74.197	74.207	51.552	9.905	9.974
C _{of} Final zero	0.360	-0.033	1.281	0.135	0.046
C _{uf} Final upscale	74.221	74.151	51.611	9.904	9.987
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{AVG} Average conc.	25.012	22.626	24.005	3.366	9.969
C _{Gas} Bias adjusted	25.586	23.387	23.061	3.310	10.168

Clock Time (at end of sample period)

051007-132947	16:20	25.091	22.736	31.223	3.281	10.019
	18:21	25.013	22.607	32.873	3.340	9.970
	16:22	24.934	22.705	27.731	3.360	9.970
	16:23	25.221	22.778	20.953	3.409	9.946
	16:24	25.081	23.018	17.076	3.455	9.926
	16:25	24.898	22.511	17.194	3.423	9.932
	16:26	24.824	22.438	25.241	3.399	9.940
	16:27	25.121	22.802	24.921	3.430	9.932
	18:28	25.198	22.907	21.911	3.456	9.925
	16:29	25.028	22.505	19.304	3.458	9.929
	18:30	24.770	22.414	17.746	3.404	9.941
	16:31	24.716	22.415	18.028	3.371	9.956
	16:32	24.873	22.346	19.247	3.405	9.942
	16:33	24.833	22.331	23.113	3.399	9.951
	18:34	24.988	22.650	23.019	3.389	9.946
	16:35	25.356	22.854	20.702	3.373	9.959
	16:36	25.022	22.557	19.802	3.296	10.015
	16:37	24.941	22.597	25.244	3.271	10.026
	16:38	24.947	22.393	33.049	3.261	10.029
	16:39	25.133	22.893	30.728	3.241	10.048
	16:40	25.270	22.687	33.999	3.251	10.043

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 16:44
 Stop Time 16:51

CALIBRATION BIAS 08

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_s)					
C _{cf} Zero gas	0.360	-0.033	1.281	0.135	0.046
C _{uf} Upscale gas	74.221	74.151	51.611	9.904	9.987
Analyzer Calibration Error Responses (C_{dir})					
C _{oce} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{mca} Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.2%	0.0%	1.2%	0.7%	0.2%
Upscale gas	-0.8%	-0.6%	-0.1%	-0.5%	-1.1%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gases (C_s)					
C _{cf} Zero gas	0.316	-0.030	1.368	0.136	0.041
C _{uf} Upscale gas	74.197	74.207	51.552	9.905	9.974
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	0.0%	0.0%	-0.1%	0.0%	0.0%
Upscale gas	0.0%	0.0%	0.1%	0.0%	0.1%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
18:44:12	0.436	0.010	1.312	20.272	0.110
18:44:27	0.501	-0.160	1.283	20.277	0.108
18:44:42	0.361	-0.117	1.316	20.274	0.108
18:44:57	0.368	-0.026	1.368	20.284	0.099
18:45:12	0.407	-0.039	1.368	20.285	0.098
18:45:27	0.361	-0.029	1.290	20.287	0.077
18:45:42	0.313	-0.029	1.185	19.240	0.063
18:45:57	0.450	0.202	2.859	2.015	0.067
18:46:12	15.043	3.158	16.238	0.285	0.064
18:46:27	43.813	48.720	38.066	0.213	0.058
18:46:42	66.585	70.900	48.592	0.197	0.070
18:46:57	72.511	73.358	51.360	0.176	0.061
18:47:12	73.283	73.511	51.510	0.165	0.052
18:47:27	73.520	73.612	51.565	0.151	0.049
18:47:42	73.719	73.742	51.670	0.146	0.053
18:47:57	73.706	73.872	51.634	0.140	0.063
18:48:12	73.876	74.058	51.553	0.145	0.050
18:48:27	74.119	74.068	51.628	0.131	0.035
18:48:42	74.113	74.103	51.588	0.129	0.053
18:48:57	74.263	74.159	51.585	0.120	0.053
18:49:12	74.286	74.191	51.660	2.284	1.212
18:49:27	73.153	74.273	48.371	9.643	9.305
18:49:42	67.331	49.465	32.879	9.846	9.831
18:49:57	24.583	9.999	13.535	9.874	9.920
16:50:12	3.875	2.331	4.747	9.883	9.932
16:50:27	1.182	0.469	1.599	9.893	9.942
16:50:42	0.938	0.280	1.218	9.896	9.954
16:50:57	0.798	0.163	1.159	9.906	9.971
16:51:12	0.570	0.039	1.169	9.902	9.976
16:51:27	0.596	0.117	1.165	9.905	9.995
16:51:42	0.540	0.033	1.172	9.905	9.991
16:51:57	0.417	-0.101	1.172	9.905	9.985

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 17:02
 Stop time 17:23

REFERENCE METHOD RUN 9

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{of} Initial zero	0.360	-0.033	1.281	0.135	0.046
C _{uf} Initial upscale	74.221	74.151	51.811	9.904	9.987
C _{of} Final zero	0.254	-0.033	1.368	0.121	0.040
C _{uf} Final upscale	73.644	73.616	51.624	9.894	9.997
C _{ma} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{Avg} Average conc.	20.845	18.940	11.688	7.177	7.846
C _{Gas} Bias adjusted	21.368	19.662	10.530	7.222	7.984

Clock Time (at end of sample period)

051007 132947	17:03	25.377	23.075	21.701	3.523	9.883
	17:04	25.273	23.104	22.654	3.517	9.895
	17:05	24.960	22.623	26.588	3.494	9.828
	17:06	24.740	22.514	20.126	3.548	9.875
	17:07	25.043	22.635	19.170	3.564	9.864
	17:08	25.352	22.435	18.671	3.552	9.873
	17:09	25.301	22.965	20.447	3.588	9.838
	17:10	25.427	22.988	25.563	3.522	9.899
	17:11	25.213	22.053	24.912	6.447	8.345
	17:12	18.476	16.825	17.908	9.628	6.462
	17:13	18.359	16.790	2.603	9.666	6.447
	17:14	18.054	16.724	2.502	9.659	6.457
	17:15	17.717	16.125	2.745	9.586	6.464
	17:16	17.712	16.411	2.458	9.679	6.460
	17:17	17.132	15.713	2.603	9.686	6.457
	17:18	17.404	15.988	2.425	9.659	6.453
	17:19	17.118	15.167	2.652	9.680	6.452
	17:20	16.948	15.705	2.615	9.668	6.464
	17:21	17.297	15.896	2.486	9.708	6.447
	17:22	17.503	16.136	2.208	9.693	6.455
	17:23	17.343	15.870	2.412	9.659	6.452

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 17:27
 Stop Time 17:37

CALIBRATION BIAS 09

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_s)					
C _{of} Zero gas	0.254	-0.033	1.368	0.121	0.040
C _{uf} Upscale gas	73.644	73.616	51.624	9.894	9.997
Analyzer Calibration Error Responses (C_{DH})					
C _{ocb} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{mcb} Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.2%	0.0%	1.3%	0.7%	0.2%
Upscale gas	-1.1%	-0.9%	0.0%	-0.5%	-1.1%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gasses (C_s)					
C _{of} Zero gas	0.360	-0.033	1.281	0.135	0.046
C _{uf} Upscale gas	74.221	74.151	51.611	9.904	9.987
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	-0.1%	0.0%	0.1%	-0.1%	0.0%
Upscale gas	-0.3%	-0.3%	0.0%	-0.1%	0.1%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
17:29:05	0.277	-0.029	1.368	20.298	0.060
17:29:20	0.274	-0.033	1.368	20.300	0.047
17:29:35	0.225	-0.033	1.368	20.304	0.044
17:29:50	0.264	-0.033	1.368	19.269	0.055
17:30:05	0.400	-0.036	2.830	2.081	0.043
17:30:20	1.117	16.189	15.909	0.307	0.050
17:30:35	39.655	55.089	37.538	0.238	0.046
17:30:50	67.497	69.184	48.365	0.178	0.057
17:31:05	72.534	73.172	51.360	0.177	0.039
17:31:20	73.091	73.394	51.490	0.165	0.053
17:31:35	73.410	73.625	51.562	0.157	0.039
17:31:50	73.377	73.713	51.640	0.154	0.053
17:32:05	73.596	73.664	51.601	0.143	0.039
17:32:20	73.563	73.602	51.637	0.143	0.059
17:32:35	73.501	73.641	51.491	0.133	0.039
17:32:50	73.443	73.670	51.650	0.136	0.043
17:33:05	73.592	73.556	51.595	0.124	0.052
17:33:20	73.651	73.683	51.637	0.118	0.028
17:33:35	73.690	73.609	51.640	0.121	0.039
17:33:50	73.680	73.648	51.491	4.279	3.040
17:34:05	69.421	73.582	45.411	9.774	9.635
17:34:20	48.833	52.992	27.194	9.854	9.886
17:34:35	18.855	7.056	10.442	9.879	9.939
17:34:50	2.351	1.540	3.516	9.886	9.939
17:35:05	1.110	0.417	1.472	9.892	9.949
17:35:20	0.869	0.221	1.195	9.899	9.957
17:35:35	0.635	0.202	1.139	9.902	9.971
17:35:50	0.458	0.065	1.139	9.900	9.989
17:36:05	0.527	-0.045	1.156	9.904	9.988
17:36:20	0.430	0.082	1.165	9.900	10.004
17:36:35	0.254	-0.013	1.165	9.892	9.995
17:36:50	0.303	-0.058	1.146	9.895	9.992
17:37:05	0.404	-0.078	1.156	9.895	10.005

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 17:42
 Stop time 18:03

REFERENCE METHOD RUN 10

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
Calibration Checks					
C _{oi} Initial zero	0.254	-0.033	1.368	0.121	0.040
C _{ui} Initial upscale	73.644	73.616	51.624	9.894	9.997
C _{of} Final zero	0.519	-0.016	1.368	0.148	0.045
C _{uf} Final upscale	73.807	73.766	51.631	9.902	9.983
C _{ms} Actual gas value	76.600	76.600	51.100	10.010	10.180
Analyzer Averages (concentrations)					
C _{AVG} Average conc.	26.388	23.000	22.395	4.852	9.137
C _{Gas} Bias adjusted	27.158	23.926	21.379	4.836	9.306

Clock Time (at end of sample period)

051007-132947	17:43	28.595	25.146	24.303	4.980	9.053
	17:44	28.495	24.514	23.438	4.935	9.093
	17:45	29.014	25.562	25.765	4.904	9.111
	17:46	27.927	24.785	21.846	4.877	9.130
	17:47	28.214	25.049	21.468	4.873	9.135
	17:48	29.956	26.489	24.785	4.868	9.144
	17:49	28.336	25.251	20.644	4.864	9.130
	17:50	28.692	25.125	19.342	4.836	9.149
	17:51	28.733	24.765	20.038	4.823	9.152
	17:52	28.984	25.537	22.094	4.735	9.193
	17:53	27.327	23.451	20.682	4.799	9.159
	17:54	25.031	21.354	20.442	4.910	9.112
	17:55	23.434	20.219	21.669	5.074	9.006
	17:56	23.058	19.851	17.699	4.957	9.081
	17:57	23.506	20.176	24.717	4.881	9.136
	17:58	23.572	20.249	20.308	4.850	9.145
	17:59	23.364	20.107	24.059	4.793	9.166
	18:00	23.610	20.163	26.087	4.721	9.198
	18:01	24.126	20.713	24.108	4.605	9.261
	18:02	24.388	21.309	24.514	4.721	9.198
	18:03	25.785	23.188	22.286	4.879	9.115

Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler B

April 26, 2007
 Start Time 18:06
 Stop Time 18:14

CALIBRATION BIAS 10

	Channel 1 NOX Auxiliary Boiler B ppmdv	Channel 2 NO Auxiliary Boiler B ppmdv	Channel 3 CO Auxiliary Boiler B ppmdv	Channel 5 O2 Auxiliary Boiler B %dv	Channel 6 CO2 Auxiliary Boiler B %dv
System Response to Calibration Gasses (C_s)					
C _{of} Zero gas	0.519	-0.016	1.368	0.148	0.045
C _{ut} Upscale gas	73.807	73.766	51.631	9.902	9.983
Analyzer Calibration Error Responses (C_{dir})					
C _{occ} Zero gas	0.000	-0.066	-0.041	-0.007	0.005
C _{mcc} Upscale gas	75.496	75.186	51.678	9.993	10.209
Actual Upscale Gas Value (C_{MA})					
C _{ma} Upscale gas	76.600	76.600	51.100	10.010	10.180
Calibration Span Value (CS)					
	167.000	167.000	111.000	19.540	19.620
System Bias as Percent of Calibration Span Value (SB) (5%)					
Zero gas	0.3%	0.0%	1.3%	0.8%	0.2%
Upscale gas	-1.0%	-0.9%	0.0%	-0.5%	-1.2%
System Bias Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
Previous System Response to Calibration Gasses (C_s)					
C _{of} Zero gas	0.254	-0.033	1.368	0.121	0.040
C _{ut} Upscale gas	73.644	73.616	51.624	9.894	9.997
Drift Assessment as Percent of Calibration Span Value (D) (3%)					
Zero gas	0.2%	0.0%	0.0%	0.1%	0.0%
Upscale gas	0.1%	0.1%	0.0%	0.0%	-0.1%
Drift Assessment Status					
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK

Time	NOX	NO	CO	O2	CO2
18:06:22	0.830	0.030	1.368	20.267	0.110
18:06:37	0.791	0.023	1.368	20.258	0.110
18:06:52	0.703	-0.013	1.368	20.268	0.110
18:07:07	0.655	-0.058	1.368	20.269	0.110
18:07:22	0.642	0.016	1.368	20.274	0.109
18:07:37	0.446	0.016	1.368	20.279	0.108
18:07:52	0.642	0.010	1.368	20.281	0.100
18:08:07	0.469	-0.075	1.368	20.287	0.096
18:08:22	0.485	-0.033	1.452	10.234	0.090
18:08:37	0.527	7.753	7.154	0.397	0.074
18:08:52	28.239	32.801	29.483	0.261	0.062
18:09:07	62.844	61.659	44.435	0.215	0.084
18:09:22	70.932	72.475	50.758	0.190	0.063
18:09:37	72.879	73.201	51.412	0.174	0.060
18:09:52	73.273	73.312	51.552	0.166	0.073
18:10:07	73.452	73.354	51.559	0.158	0.052
18:10:22	73.501	73.595	51.474	0.157	0.056
18:10:37	73.729	73.761	51.595	0.145	0.035
18:10:52	73.774	73.745	51.667	0.143	0.044
18:11:07	73.918	73.791	51.631	0.150	0.054
18:11:22	73.833	73.863	50.846	7.589	6.284
18:11:37	73.162	61.044	42.061	9.816	9.767
18:11:52	42.638	22.932	20.155	9.863	9.900
18:12:07	6.339	5.698	7.841	9.878	9.928
18:12:22	2.041	0.759	2.273	9.880	9.936
18:12:37	1.133	0.316	1.410	9.890	9.961
18:12:52	0.951	0.137	1.172	9.894	9.964
18:13:07	0.859	0.140	1.172	9.899	9.988
18:13:22	0.768	0.003	1.172	9.902	9.978
18:13:37	0.635	-0.088	1.172	9.902	9.988
18:13:52	0.606	-0.048	1.172	9.901	9.986
18:14:07	0.498	0.072	1.172	9.911	10.003

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INDIANTOWN COGENERATION, L.P.
INDIANTOWN, FLORIDA

Client Reference No: I-10644
CleanAir Project No: 10199

PLANT DATA

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CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/25/07 11:52 AM thru 4/25/07 12:51 PM

Run # 1

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/25 11:52	28.93	0.0384	18.22	0.0242	4.56	2333.1	145.6
4/25 11:53	29.09	0.0385	16.60	0.0220	4.53	2332.5	145.6
4/25 11:54	28.78	0.0381	18.92	0.0251	4.53	2333.1	145.6
4/25 11:55	28.81	0.0383	16.46	0.0219	4.58	2333.1	145.6
4/25 11:56	28.66	0.0380	19.68	0.0261	4.56	2332.5	145.6
4/25 11:57	28.53	0.0380	13.22	0.0176	4.62	2332.5	145.6
4/25 11:58	28.46	0.0380	13.38	0.0179	4.66	2332.5	145.6
4/25 11:59	28.56	0.0380	13.43	0.0179	4.62	2332.5	145.6
4/25 12:00	28.58	0.0383	10.68	0.0143	4.70	2332.5	145.6
4/25 12:01	28.61	0.0383	11.17	0.0149	4.69	2332.5	145.6
4/25 12:02	28.61	0.0382	13.35	0.0178	4.66	2332.5	145.6
4/25 12:03	28.56	0.0381	11.70	0.0156	4.65	2332.5	145.6
4/25 12:04	28.66	0.0383	10.63	0.0142	4.66	2332.5	145.6
4/25 12:05	28.41	0.0380	9.38	0.0126	4.70	2332.5	145.6
4/25 12:06	28.86	0.0386	10.97	0.0147	4.69	2332.5	145.6
4/25 12:07	29.04	0.0389	13.13	0.0176	4.71	2331.9	145.5
4/25 12:08	29.04	0.0389	13.50	0.0181	4.71	2332.5	145.6
4/25 12:09	28.91	0.0388	11.07	0.0148	4.73	2331.9	145.5
4/25 12:10	28.78	0.0387	9.63	0.0130	4.78	2328.8	145.3
4/25 12:11	28.96	0.0388	11.08	0.0149	4.72	2329.4	145.4
4/25 12:12	28.94	0.0388	11.33	0.0152	4.72	2329.4	145.4
4/25 12:13	28.94	0.0386	12.87	0.0172	4.66	2328.8	145.3
4/25 12:14	28.71	0.0385	11.48	0.0154	4.72	2328.2	145.3
4/25 12:15	28.68	0.0385	11.03	0.0148	4.75	2328.8	145.3
4/25 12:16	28.58	0.0382	9.47	0.0127	4.68	2328.8	145.3
4/25 12:17	28.23	0.0377	11.33	0.0151	4.65	2328.8	145.3
4/25 12:18	28.23	0.0376	12.57	0.0167	4.61	2328.8	145.3
4/25 12:19	28.61	0.0380	14.75	0.0196	4.59	2330.7	145.4
4/25 12:20	28.68	0.0380	16.35	0.0217	4.53	2329.4	145.4
4/25 12:21	28.48	0.0379	15.18	0.0202	4.60	2329.4	145.4
4/25 12:22	28.41	0.0379	12.18	0.0162	4.64	2329.4	145.4

G-3

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/25 12:23	28.16	0.0374	13.47	0.0179	4.59	2329.4	145.4
4/25 12:24	28.36	0.0377	12.55	0.0167	4.60	2329.4	145.4
4/25 12:25	27.91	0.0371	11.87	0.0158	4.60	2331.3	145.5
4/25 12:26	27.78	0.0371	9.73	0.0130	4.65	2330.7	145.4
4/25 12:27	28.06	0.0375	11.55	0.0154	4.65	2331.3	145.5
4/25 12:28	27.93	0.0372	14.78	0.0197	4.61	2331.9	145.5
4/25 12:29	27.88	0.0371	13.97	0.0186	4.58	2331.3	145.5
4/25 12:30	28.11	0.0374	12.93	0.0172	4.61	2332.5	145.6
4/25 12:31	27.95	0.0373	12.20	0.0163	4.66	2332.5	145.6
4/25 12:32	27.96	0.0373	10.70	0.0143	4.63	2332.5	145.6
4/25 12:33	28.06	0.0374	11.88	0.0158	4.63	2332.5	145.6
4/25 12:34	28.01	0.0374	12.28	0.0164	4.65	2332.5	145.6
4/25 12:35	28.23	0.0375	12.68	0.0168	4.57	2332.5	145.6
4/25 12:36	28.01	0.0374	13.17	0.0176	4.65	2332.5	145.6
4/25 12:37	28.23	0.0377	10.22	0.0136	4.65	2332.5	145.6
4/25 12:38	27.96	0.0372	17.70	0.0235	4.59	2332.5	145.6
4/25 12:39	28.48	0.0379	13.12	0.0175	4.62	2332.5	145.6
4/25 12:40	28.23	0.0377	12.02	0.0160	4.64	2332.5	145.8
4/25 12:41	28.46	0.0380	11.98	0.0160	4.64	2331.9	145.5
4/25 12:42	28.13	0.0377	11.03	0.0148	4.72	2332.5	145.6
4/25 12:43	28.18	0.0377	11.85	0.0158	4.68	2332.5	145.6
4/25 12:44	28.13	0.0376	11.50	0.0154	4.69	2332.5	145.6
4/25 12:45	28.01	0.0375	12.52	0.0168	4.72	2332.5	145.6
4/25 12:46	28.03	0.0376	12.03	0.0161	4.74	2331.9	145.5
4/25 12:47	28.11	0.0375	11.32	0.0151	4.63	2332.5	145.6
4/25 12:48	28.28	0.0377	10.52	0.0140	4.62	2332.5	145.6
4/25 12:49	28.21	0.0376	10.70	0.0143	4.64	2333.8	145.6
4/25 12:50	28.28	0.0376	10.28	0.0137	4.60	2334.4	145.7
4/25 12:51	28.21	0.0378	11.87	0.0159	4.71	2333.8	145.6

G-4

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
Average (all)	28.41	0.0379	12.62	0.0168	4.65	2331.6	145.5
Total (all)	-	--	-	-	-	-	-
Minimum (all)	27.78	0.0371	9.38	0.0126	4.53	2328.2	145.3
Maximum (all)	29.09	0.0389	19.68	0.0261	4.78	2334.4	145.7
Average (valid values only)	28.41	0.0379	12.62	0.0168	4.65	2331.6	145.5
Total (valid values only)	-	--	-	-	-	-	-
Count (valid values only)	60	60	60	60	60	60	60

RUN 2

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/25/07 1:22 PM thru 4/25/07 2:21 PM

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/25 13:22	28.01	0.0375	11.12	0.0149	4.69	2335.0	145.7
4/25 13:23	28.28	0.0377	9.17	0.0122	4.65	2334.4	145.7
4/25 13:24	28.11	0.0375	12.30	0.0164	4.63	2335.0	145.7
4/25 13:25	28.18	0.0376	10.23	0.0137	4.66	2335.0	145.7
4/25 13:26	28.01	0.0374	9.73	0.0130	4.66	2335.7	145.7
4/25 13:27	28.21	0.0375	14.62	0.0194	4.59	2335.0	145.7
4/25 13:28	28.63	0.0382	12.47	0.0166	4.63	2335.0	145.7
4/25 13:29	28.38	0.0379	10.17	0.0136	4.68	2336.3	145.8
4/25 13:30	28.13	0.0376	8.28	0.0111	4.69	2335.7	145.7
4/25 13:31	28.11	0.0376	9.77	0.0131	4.70	2334.4	145.7
4/25 13:32	27.96	0.0374	11.10	0.0148	4.68	2335.0	145.7
4/25 13:33	27.88	0.0373	9.75	0.0131	4.70	2335.0	145.7
4/25 13:34	27.93	0.0373	14.62	0.0195	4.64	2333.8	145.6
4/25 13:35	27.96	0.0375	10.32	0.0138	4.72	2333.8	145.6
4/25 13:36	27.83	0.0373	9.82	0.0132	4.72	2333.8	145.6
4/25 13:37	27.98	0.0374	9.38	0.0125	4.68	2333.8	145.6
4/25 13:38	28.13	0.0375	11.77	0.0157	4.65	2333.8	145.6
4/25 13:39	28.33	0.0378	12.33	0.0164	4.63	2333.1	145.6
4/25 13:40	28.28	0.0378	14.87	0.0199	4.66	2333.1	145.6
4/25 13:41	28.43	0.0379	13.20	0.0176	4.61	2333.1	145.6
4/25 13:42	28.31	0.0379	10.08	0.0135	4.69	2335.0	145.7
4/25 13:43	27.98	0.0375	10.70	0.0143	4.70	2332.5	145.6
4/25 13:44	27.86	0.0372	10.92	0.0146	4.66	2333.1	145.6
4/25 13:45	27.91	0.0372	11.32	0.0151	4.63	2333.8	145.6
4/25 13:46	28.08	0.0375	9.47	0.0127	4.68	2333.1	145.6
4/25 13:47	28.18	0.0376	17.38	0.0232	4.65	2332.5	145.6
4/25 13:48	28.28	0.0377	12.28	0.0164	4.62	2333.1	145.6
4/25 13:49	28.31	0.0376	11.87	0.0158	4.58	2332.5	145.6
4/25 13:50	28.23	0.0374	12.93	0.0172	4.55	2332.5	145.6
4/25 13:51	28.21	0.0374	12.58	0.0167	4.56	2333.1	145.6
4/25 13:52	27.93	0.0372	11.65	0.0155	4.62	2332.5	145.6

9-G

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/25 13:53	27.78	0.0370	13.23	0.0176	4.60	2332.5	145.6
4/25 13:54	27.75	0.0368	11.27	0.0149	4.54	2332.5	145.6
4/25 13:55	27.60	0.0367	12.40	0.0165	4.58	2331.9	145.5
4/25 13:56	27.47	0.0366	10.33	0.0138	4.62	2332.5	145.6
4/25 13:57	27.50	0.0365	19.08	0.0253	4.56	2332.5	145.6
4/25 13:58	27.76	0.0367	14.75	0.0195	4.51	2331.9	145.5
4/25 13:59	27.73	0.0369	16.40	0.0218	4.58	2331.3	145.5
4/25 14:00	27.81	0.0368	17.23	0.0228	4.53	2332.5	145.6
4/25 14:01	27.98	0.0370	15.32	0.0203	4.51	2331.3	145.5
4/25 14:02	27.80	0.0369	16.23	0.0215	4.56	2332.5	145.6
4/25 14:03	27.80	0.0368	15.67	0.0207	4.51	2332.5	145.6
4/25 14:04	27.86	0.0367	28.08	0.0370	4.42	2332.5	145.6
4/25 14:05	28.03	0.0369	26.28	0.0346	4.43	2332.5	145.6
4/25 14:06	28.31	0.0372	37.93	0.0499	4.40	2332.5	145.6
4/25 14:07	28.26	0.0371	25.65	0.0337	4.38	2331.9	145.5
4/25 14:08	28.08	0.0369	29.05	0.0382	4.39	2332.5	145.6
4/25 14:09	27.78	0.0366	23.03	0.0303	4.44	2332.5	145.6
4/25 14:10	27.55	0.0363	21.27	0.0280	4.45	2331.3	145.5
4/25 14:11	27.63	0.0365	21.37	0.0282	4.47	2331.9	145.5
4/25 14:12	27.55	0.0364	21.63	0.0286	4.48	2331.3	145.5
4/25 14:13	27.58	0.0364	24.22	0.0319	4.45	2331.3	145.5
4/25 14:14	27.60	0.0365	22.58	0.0298	4.49	2331.3	145.5
4/25 14:15	27.42	0.0362	20.10	0.0265	4.46	2332.5	145.6
4/25 14:16	27.58	0.0363	23.85	0.0314	4.43	2332.5	145.6
4/25 14:17	27.78	0.0366	22.53	0.0297	4.44	2332.5	145.6
4/25 14:18	27.63	0.0364	21.05	0.0278	4.45	2332.5	145.6
4/25 14:19	27.65	0.0365	27.02	0.0356	4.46	2332.5	145.6
4/25 14:20	27.70	0.0366	23.45	0.0310	4.48	2331.9	145.5
4/25 14:21	27.60	0.0364	21.22	0.0280	4.46	2332.5	145.6

G-7

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
Average (all)	27.94	0.0371	15.97	0.0212	4.57	2333.1	145.6
Total (all)	-	-	-	-	-	-	-
Minimum (all)	27.42	0.0362	8.28	0.0111	4.38	2331.3	145.5
Maximum (all)	28.63	0.0382	37.93	0.0499	4.72	2336.3	145.8
Average (valid values only)	27.94	0.0371	15.97	0.0212	4.57	2333.1	145.6
Total (valid values only)	-	-	-	-	-	-	-
Count (valid values only)	60	60	60	60	60	60	60

20129

G-8

RUN 3.

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/25/07 3:08 PM thru 4/25/07 4:07 PM

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/25 15:08	27.83	0.0367	22.42	0.0296	4.46	2332.5	145.6
4/25 15:09	27.98	0.0369	19.10	0.0252	4.44	2332.5	145.6
4/25 15:10	27.80	0.0368	22.18	0.0293	4.50	2332.5	145.6
4/25 15:11	27.78	0.0367	15.30	0.0202	4.48	2332.5	145.6
4/25 15:12	27.70	0.0365	23.02	0.0303	4.42	2331.9	145.5
4/25 15:13	27.65	0.0364	20.27	0.0267	4.43	2330.0	145.4
4/25 15:14	27.65	0.0364	21.23	0.0280	4.44	2330.7	145.4
4/25 15:15	27.93	0.0367	26.85	0.0353	4.39	2330.7	145.4
4/25 15:16	27.73	0.0365	26.10	0.0344	4.43	2330.0	145.4
4/25 15:17	27.98	0.0368	25.62	0.0337	4.42	2331.3	145.5
4/25 15:18	28.06	0.0368	25.57	0.0335	4.36	2331.3	145.5
4/25 15:19	27.93	0.0367	27.58	0.0362	4.39	2331.9	145.5
4/25 15:20	27.88	0.0367	26.90	0.0354	4.42	2330.7	145.4
4/25 15:21	27.70	0.0365	25.03	0.0329	4.42	2329.4	145.4
4/25 15:22	27.68	0.0364	28.55	0.0375	4.41	2328.8	145.3
4/25 15:23	27.83	0.0366	21.93	0.0288	4.40	2328.8	145.3
4/25 15:24	27.60	0.0364	20.22	0.0267	4.46	2328.8	145.3
4/25 15:25	27.57	0.0363	19.75	0.0260	4.44	2328.8	145.3
4/25 15:26	27.42	0.0360	24.60	0.0323	4.39	2329.4	145.4
4/25 15:27	27.27	0.0360	22.52	0.0297	4.46	2331.3	145.5
4/25 15:28	27.32	0.0360	20.27	0.0267	4.43	2331.3	145.5
4/25 15:29	27.50	0.0362	18.23	0.0240	4.44	2330.7	145.4
4/25 15:30	27.55	0.0363	21.62	0.0285	4.42	2330.0	145.4
4/25 15:31	27.50	0.0362	23.32	0.0307	4.43	2329.4	145.4
4/25 15:32	27.32	0.0360	22.78	0.0301	4.46	2328.8	145.3
4/25 15:33	27.22	0.0358	19.30	0.0254	4.43	2328.8	145.3
4/25 15:34	27.32	0.0360	23.97	0.0315	4.42	2329.4	145.4
4/25 15:35	27.47	0.0362	18.88	0.0249	4.44	2328.8	145.3
4/25 15:36	27.42	0.0361	23.23	0.0306	4.41	2328.8	145.3
4/25 15:37	27.30	0.0358	27.08	0.0356	4.37	2328.8	145.3
4/25 15:38	27.37	0.0359	28.85	0.0379	4.38	2328.8	145.3

G-9

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/25 15:39	27.45	0.0359	35.05	0.0458	4.31	2328.8	145.3
4/25 15:40	27.40	0.0361	27.58	0.0363	4.43	2328.8	145.3
4/25 15:41	27.22	0.0358	23.10	0.0304	4.41	2328.8	145.3
4/25 15:42	27.30	0.0359	22.98	0.0302	4.40	2330.7	145.4
4/25 15:43	27.17	0.0358	19.40	0.0256	4.44	2331.9	145.5
4/25 15:44	26.97	0.0355	22.03	0.0290	4.43	2332.5	145.6
4/25 15:45	26.90	0.0354	24.97	0.0329	4.43	2332.5	145.6
4/25 15:46	26.80	0.0353	20.62	0.0272	4.45	2331.9	145.5
4/25 15:47	26.97	0.0356	16.37	0.0216	4.46	2332.5	145.6
4/25 15:48	26.82	0.0353	27.07	0.0356	4.43	2332.5	145.6
4/25 15:49	26.95	0.0354	21.47	0.0282	4.38	2331.3	145.5
4/25 15:50	26.95	0.0353	25.03	0.0328	4.36	2332.5	145.6
4/25 15:51	26.97	0.0354	20.90	0.0274	4.38	2332.5	145.6
4/25 15:52	27.10	0.0355	27.10	0.0355	4.36	2332.5	145.6
4/25 15:53	26.95	0.0354	29.93	0.0393	4.38	2333.1	145.6
4/25 15:54	27.20	0.0356	34.13	0.0447	4.34	2334.4	145.7
4/25 15:55	26.95	0.0353	32.90	0.0431	4.34	2335.7	145.7
4/25 15:56	27.30	0.0357	26.30	0.0344	4.33	2335.0	145.7
4/25 15:57	27.10	0.0355	28.23	0.0370	4.34	2335.7	145.7
4/25 15:58	27.07	0.0354	29.63	0.0388	4.33	2336.3	145.8
4/25 15:59	27.00	0.0354	33.50	0.0439	4.36	2336.3	145.8
4/25 16:00	26.80	0.0351	30.73	0.0403	4.36	2335.7	145.7
4/25 16:01	27.17	0.0356	24.65	0.0323	4.37	2336.3	145.8
4/25 16:02	27.12	0.0355	33.82	0.0443	4.33	2336.3	145.8
4/25 16:03	26.97	0.0353	39.02	0.0511	4.33	2336.3	145.8
4/25 16:04	26.90	0.0353	34.05	0.0446	4.35	2336.3	145.8
4/25 16:05	26.77	0.0350	40.03	0.0523	4.30	2335.0	145.7
4/25 16:06	26.80	0.0351	34.20	0.0448	4.33	2333.8	145.6
4/25 16:07	26.97	0.0354	26.22	0.0344	4.36	2333.8	145.6

G-10

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
Average (all)	27.34	0.0359	25.39	0.0334	4.40	2331.8	145.5
Total (all)	--	--	--	--	--	--	--
Minimum (all)	26.77	0.0350	15.30	0.0202	4.30	2328.8	145.3
Maximum (all)	28.06	0.0369	40.03	0.0523	4.50	2336.3	145.8
Average (valid values only)	27.34	0.0359	25.39	0.0334	4.40	2331.8	145.5
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	60	60	60	60	60	60	60

G-11

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 11:29 AM thru 4/26/07 11:49 AM

RUL 1

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 11:29	27.57	0.0334	34.32	0.0253	2.99	2315.7	144.5
4/26 11:30	27.59	0.0335	26.88	0.0199	3.03	2316.9	144.6
4/26 11:31	27.19	0.0330	34.52	0.0255	3.04	2316.3	144.6
4/26 11:32	27.02	0.0328	31.40	0.0232	3.04	2314.4	144.5
4/26 11:33	26.87	0.0326	28.10	0.0207	3.01	2314.4	144.5
4/26 11:34	27.04	0.0328	28.10	0.0208	3.04	2315.7	144.5
4/26 11:35	27.07	0.0329	30.78	0.0227	3.03	2315.0	144.5
4/26 11:36	26.99	0.0330	24.88	0.0185	3.16	2313.8	144.4
4/26 11:37	26.92	0.0329	18.38	0.0137	3.14	2315.0	144.5
4/26 11:38	26.77	0.0325	30.18	0.0223	3.04	2314.4	144.5
4/26 11:39	27.17	0.0330	31.77	0.0235	3.03	2314.4	144.5
4/26 11:40	27.59	0.0334	33.10	0.0244	2.99	2313.8	144.4
4/26 11:41	27.29	0.0330	33.98	0.0250	2.98	2315.7	144.5
4/26 11:42	27.07	0.0328	39.23	0.0289	3.01	2313.8	144.4
4/26 11:43	27.12	0.0329	33.28	0.0246	3.04	2314.4	144.5
4/26 11:44	27.34	0.0333	32.33	0.0240	3.08	2314.4	144.5
4/26 11:45	27.47	0.0335	25.07	0.0186	3.11	2313.8	144.4
4/26 11:46	27.47	0.0335	25.20	0.0187	3.11	2315.0	144.5
4/26 11:47	27.24	0.0332	27.88	0.0207	3.10	2315.0	144.5
4/26 11:48	27.54	0.0337	23.98	0.0178	3.16	2315.7	144.5
4/26 11:49	27.62	0.0338	19.53	0.0145	3.18	2316.9	144.6
Average (all)	27.24	0.0331	29.19	0.0216	3.06	2315.0	144.5
Total (all)	--	--	--	--	--	--	--
Minimum (all)	26.77	0.0325	18.38	0.0137	2.98	2313.8	144.4
Maximum (all)	27.62	0.0338	39.23	0.0289	3.18	2316.9	144.6
Average (valid values only)	27.24	0.0331	29.19	0.0216	3.06	2315.0	144.5
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	21	21	21	21	21	21	21

G-12

CeDAR 1-Minute Data

RUN 2

Indiantown CoGen

Data for 4/26/07 12:09 PM thru 4/26/07 12:29 PM

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 12:09	27.39	0.0336	19.18	0.0143	3.21	2311.3	144.2
4/26 12:10	27.57	0.0339	16.30	0.0122	3.27	2310.0	144.1
4/26 12:11	26.99	0.0331	18.25	0.0136	3.19	2310.6	144.1
4/26 12:12	27.07	0.0332	20.83	0.0155	3.21	2310.6	144.1
4/26 12:13	27.17	0.0332	23.17	0.0172	3.15	2310.0	144.1
4/26 12:14	27.24	0.0334	20.95	0.0156	3.21	2311.3	144.2
4/26 12:15	27.62	0.0341	17.78	0.0133	3.31	2313.8	144.4
4/26 12:16	28.87	0.0359	12.97	0.0098	3.48	2313.8	144.4
4/26 12:17	28.24	0.0348	14.35	0.0108	3.32	2311.9	144.2
4/26 12:18	28.57	0.0353	12.52	0.0094	3.33	2314.4	144.5
4/26 12:19	28.19	0.0346	14.40	0.0108	3.25	2313.2	144.4
4/26 12:20	28.27	0.0347	17.03	0.0127	3.23	2313.8	144.4
4/26 12:21	28.07	0.0346	17.90	0.0134	3.31	2313.2	144.4
4/26 12:22	28.04	0.0347	13.60	0.0102	3.36	2313.8	144.4
4/26 12:23	28.24	0.0350	10.92	0.0082	3.40	2313.2	144.4
4/26 12:24	28.07	0.0348	8.90	0.0067	3.39	2313.8	144.4
4/26 12:25	28.24	0.0350	12.00	0.0091	3.41	2313.2	144.4
4/26 12:26	28.14	0.0349	10.32	0.0078	3.43	2313.8	144.4
4/26 12:27	27.87	0.0345	10.42	0.0078	3.37	2313.8	144.4
4/26 12:28	28.07	0.0346	13.18	0.0099	3.30	2313.8	144.4
4/26 12:29	28.04	0.0347	12.50	0.0094	3.37	2313.2	144.4
Average (all)	27.90	0.0344	15.12	0.0113	3.31	2312.7	144.3
Total (all)	--	--	--	--	--	--	--
Minimum (all)	26.99	0.0331	8.90	0.0087	3.15	2310.0	144.1
Maximum (all)	28.87	0.0359	23.17	0.0172	3.48	2314.4	144.5
Average (valid values only)	27.90	0.0344	15.12	0.0113	3.31	2312.7	144.3
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	21	21	21	21	21	21	21

G-13

CeDAR 1-Minute Data

Indiantown CoGen
Data for 4/26/07 1:09 PM thru 4/26/07 1:29 PM

RUN 3

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 13:09	27.12	0.0337	11.83	0.0089	3.44	2315.0	144.5
4/26 13:10	27.44	0.0341	10.53	0.0080	3.43	2315.0	144.5
4/26 13:11	27.37	0.0339	10.90	0.0082	3.38	2314.4	144.5
4/26 13:12	27.37	0.0339	11.57	0.0087	3.39	2315.0	144.5
4/26 13:13	27.39	0.0340	11.88	0.0090	3.43	2313.8	144.4
4/26 13:14	27.02	0.0336	11.53	0.0087	3.44	2313.8	144.4
4/26 13:15	27.64	0.0339	18.65	0.0139	3.24	2313.8	144.4
4/26 13:16	27.54	0.0339	20.15	0.0151	3.27	2313.8	144.4
4/26 13:17	27.47	0.0338	14.30	0.0107	3.29	2313.8	144.4
4/26 13:18	27.39	0.0337	17.42	0.0130	3.26	2313.8	144.4
4/26 13:19	27.82	0.0342	16.25	0.0122	3.27	2311.9	144.2
4/26 13:20	27.59	0.0340	28.90	0.0217	3.31	2311.3	144.2
4/26 13:21	27.82	0.0342	20.12	0.0151	3.26	2310.0	144.1
4/26 13:22	27.79	0.0340	23.97	0.0178	3.16	2311.9	144.2
4/26 13:23	27.89	0.0340	27.92	0.0207	3.12	2310.6	144.1
4/26 13:24	27.64	0.0337	23.45	0.0174	3.12	2311.9	144.2
4/26 13:25	27.52	0.0336	20.07	0.0149	3.16	2311.9	144.2
4/26 13:26	27.44	0.0337	18.58	0.0139	3.26	2311.9	144.2
4/26 13:27	27.59	0.0341	15.88	0.0119	3.35	2311.9	144.2
4/26 13:28	27.59	0.0342	13.40	0.0101	3.39	2313.2	144.4
4/26 13:29	27.72	0.0342	18.20	0.0137	3.32	2313.8	144.4
Average (all)	27.53	0.0339	17.40	0.0130	3.30	2313.0	144.3
Total (all)	--	--	--	--	--	--	--
Minimum (all)	27.02	0.0336	10.53	0.0080	3.12	2310.0	144.1
Maximum (all)	27.89	0.0342	28.90	0.0217	3.44	2315.0	144.5
Average (valid values only)	27.53	0.0339	17.40	0.0130	3.30	2313.0	144.3
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	21	21	21	21	21	21	21

G-14

CeDAR 1-Minute Data

Indiantown CoGen
Data for 4/26/07 1:51 PM thru 4/26/07 2:11 PM

RUN 4

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 13:51	27.87	0.0341	20.02	0.0149	3.17	2317.5	144.7
4/26 13:52	27.89	0.0339	29.50	0.0218	3.05	2318.1	144.7
4/26 13:53	27.67	0.0338	20.92	0.0156	3.16	2313.1	144.4
4/26 13:54	27.47	0.0337	23.70	0.0177	3.23	2306.9	143.9
4/26 13:55	27.39	0.0335	22.88	0.0170	3.17	2305.7	143.8
4/26 13:56	27.29	0.0334	18.72	0.0139	3.17	2306.9	143.9
4/26 13:57	27.24	0.0335	15.85	0.0118	3.24	2306.3	143.9
4/26 13:58	27.22	0.0335	15.10	0.0113	3.28	2306.3	143.9
4/26 13:59	26.92	0.0331	15.20	0.0114	3.25	2307.5	144.0
4/26 14:00	27.09	0.0335	13.95	0.0105	3.36	2306.3	143.9
4/26 14:01	26.89	0.0331	17.32	0.0130	3.30	2306.3	143.9
4/26 14:02	27.04	0.0330	20.57	0.0153	3.13	2306.3	143.9
4/26 14:03	27.27	0.0333	25.27	0.0188	3.14	2311.9	144.2
4/26 14:04	27.32	0.0330	35.22	0.0259	2.97	2316.9	144.6
4/26 14:05	27.47	0.0334	29.98	0.0222	3.06	2313.8	144.4
4/26 14:06	27.37	0.0333	32.12	0.0238	3.10	2313.8	144.4
4/26 14:07	27.37	0.0338	18.45	0.0139	3.32	2313.8	144.4
4/26 14:08	27.22	0.0335	23.70	0.0178	3.28	2313.8	144.4
4/26 14:09	27.14	0.0332	21.03	0.0157	3.18	2313.8	144.4
4/26 14:10	27.29	0.0332	36.02	0.0267	3.07	2313.8	144.4
4/26 14:11	27.22	0.0331	37.47	0.0278	3.09	2313.8	144.4
Average (all)	27.32	0.0334	23.48	0.0175	3.18	2311.0	144.2
Total (all)	--	--	--	--	--	--	--
Minimum (all)	26.89	0.0330	13.95	0.0105	2.97	2305.7	143.8
Maximum (all)	27.89	0.0341	37.47	0.0278	3.36	2318.1	144.7
Average (valid values only)	27.32	0.0334	23.48	0.0175	3.18	2311.0	144.2
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	21	21	21	21	21	21	21

G-15

CeDAR 1-Minute Data

Indiantown CoGen

RUN 5

Data for 4/26/07 2:29 PM thru 4/26/07 2:49 PM

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 14:29	27.42	0.0334	33.83	0.0251	3.09	2313.2	144.4
4/26 14:30	27.39	0.0334	30.47	0.0226	3.11	2306.9	143.9
4/26 14:31	27.27	0.0334	17.87	0.0132	3.17	2306.3	143.9
4/26 14:32	27.09	0.0331	29.08	0.0216	3.15	2306.9	143.9
4/26 14:33	27.04	0.0331	26.85	0.0200	3.16	2308.2	144.0
4/26 14:34	27.22	0.0332	27.48	0.0204	3.12	2308.2	144.0
4/26 14:35	27.07	0.0332	25.12	0.0187	3.20	2308.2	144.0
4/26 14:36	27.12	0.0333	16.83	0.0126	3.24	2306.3	143.9
4/26 14:37	26.99	0.0330	19.77	0.0147	3.17	2307.5	144.0
4/26 14:38	26.94	0.0330	21.32	0.0159	3.17	2308.2	144.0
4/26 14:39	27.07	0.0331	32.90	0.0245	3.14	2309.4	144.1
4/26 14:40	27.07	0.0331	23.72	0.0176	3.14	2308.8	144.0
4/26 14:41	27.07	0.0331	22.95	0.0171	3.16	2310.0	144.1
4/26 14:42	27.39	0.0336	20.02	0.0149	3.21	2310.0	144.1
4/26 14:43	27.44	0.0338	19.40	0.0145	3.28	2310.0	144.1
4/26 14:44	27.24	0.0337	16.82	0.0127	3.37	2310.0	144.1
4/26 14:45	26.99	0.0334	12.72	0.0096	3.35	2310.0	144.1
4/26 14:46	26.89	0.0331	19.32	0.0145	3.30	2310.0	144.1
4/26 14:47	26.94	0.0332	19.35	0.0145	3.32	2310.0	144.1
4/26 14:48	27.37	0.0338	22.53	0.0169	3.35	2310.0	144.1
4/26 14:49	27.47	0.0341	16.90	0.0128	3.42	2310.0	144.1
Average (all)	27.17	0.0333	22.62	0.0169	3.22	2309.0	144.0
Total (all)	-	-	-	-	-	-	-
Minimum (all)	26.89	0.0330	12.72	0.0096	3.09	2306.3	143.9
Maximum (all)	27.47	0.0341	33.83	0.0251	3.42	2313.2	144.4
Average (valid values only)	27.17	0.0333	22.62	0.0169	3.22	2309.0	144.0
Total (valid values only)	-	-	-	-	-	-	-
Count (valid values only)	21	21	21	21	21	21	21

G-16

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 3:05 PM thru 4/26/07 3:25 PM

RUN 6

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 15:05	27.42	0.0339	15.42	0.0116	3.38	2309.4	144.1
4/26 15:06	27.72	0.0342	16.47	0.0124	3.31	2309.4	144.1
4/26 15:07	27.64	0.0342	15.70	0.0118	3.35	2309.4	144.1
4/26 15:08	27.67	0.0342	10.85	0.0082	3.37	2308.8	144.0
4/26 15:09	27.54	0.0341	13.10	0.0099	3.37	2308.8	144.0
4/26 15:10	27.47	0.0340	17.72	0.0133	3.37	2310.0	144.1
4/26 15:11	27.17	0.0336	20.63	0.0155	3.36	2308.8	144.0
4/26 15:12	27.22	0.0336	18.00	0.0135	3.34	2308.8	144.0
4/26 15:13	27.24	0.0336	19.87	0.0149	3.34	2308.2	144.0
4/26 15:14	27.44	0.0340	12.92	0.0097	3.39	2308.2	144.0
4/26 15:15	27.37	0.0339	13.23	0.0100	3.41	2310.0	144.1
4/26 15:16	27.44	0.0339	13.40	0.0101	3.36	2309.4	144.1
4/26 15:17	27.59	0.0342	14.65	0.0110	3.38	2309.4	144.1
4/26 15:18	27.44	0.0340	17.17	0.0130	3.41	2310.0	144.1
4/26 15:19	27.42	0.0341	14.23	0.0108	3.48	2308.8	144.0
4/26 15:20	27.57	0.0341	15.38	0.0116	3.34	2308.8	144.0
4/26 15:21	28.14	0.0348	12.85	0.0097	3.37	2308.8	144.0
4/26 15:22	27.74	0.0342	20.57	0.0155	3.33	2308.2	144.0
4/26 15:23	27.49	0.0339	15.30	0.0115	3.31	2308.2	144.0
4/26 15:24	27.77	0.0342	19.00	0.0142	3.28	2306.9	143.9
4/26 15:25	26.94	0.0332	20.95	0.0157	3.30	2301.9	143.6
Average (all)	27.50	0.0340	16.07	0.0121	3.36	2308.6	144.0
Total (all)	--	--	--	--	--	--	--
Minimum (all)	26.94	0.0332	10.85	0.0082	3.28	2301.9	143.6
Maximum (all)	28.14	0.0348	20.95	0.0157	3.48	2310.0	144.1
Average (valid values only)	27.50	0.0340	16.07	0.0121	3.36	2308.6	144.0
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	21	21	21	21	21	21	21

G-17

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 3:44 PM thru 4/26/07 4:04 PM

RAN 7

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 15:44	25.59	0.0321	14.15	0.0108	3.63	2308.2	144.0
4/26 15:45	25.24	0.0316	15.83	0.0121	3.60	2312.5	144.4
4/26 15:46	25.39	0.0318	19.53	0.0149	3.56	2313.2	144.4
4/26 15:47	25.39	0.0317	18.78	0.0143	3.55	2313.8	144.4
4/26 15:48	25.62	0.0319	21.32	0.0162	3.48	2315.0	144.5
4/26 15:49	26.42	0.0329	25.88	0.0195	3.51	2314.4	144.5
4/26 15:50	25.99	0.0325	25.93	0.0197	3.53	2315.0	144.5
4/26 15:51	26.29	0.0329	23.12	0.0176	3.58	2314.4	144.5
4/26 15:52	25.79	0.0323	21.33	0.0162	3.57	2316.3	144.6
4/26 15:53	26.19	0.0327	20.58	0.0156	3.52	2317.5	144.7
4/26 15:54	26.54	0.0330	17.88	0.0135	3.45	2317.5	144.7
4/26 15:55	26.24	0.0326	23.10	0.0174	3.42	2318.1	144.7
4/26 15:56	26.32	0.0325	25.20	0.0190	3.36	2317.5	144.7
4/26 15:57	26.44	0.0327	21.32	0.0161	3.38	2318.1	144.7
4/26 15:58	26.92	0.0332	23.80	0.0177	3.34	2320.0	144.8
4/26 15:59	26.89	0.0332	21.40	0.0161	3.33	2320.7	144.8
4/26 16:00	26.97	0.0333	30.12	0.0226	3.32	2321.9	144.9
4/26 16:01	26.69	0.0329	23.95	0.0180	3.30	2321.3	144.9
4/26 16:02	27.39	0.0338	27.13	0.0203	3.30	2321.3	144.9
4/26 16:03	27.19	0.0337	21.63	0.0163	3.41	2321.9	144.9
4/26 16:04	26.97	0.0333	24.70	0.0186	3.35	2321.3	144.9
Average (all)	26.31	0.0327	22.20	0.0168	3.45	2317.1	144.6
Total (all)	-	-	-	-	-	-	-
Minimum (all)	25.24	0.0316	14.15	0.0108	3.30	2308.2	144.0
Maximum (all)	27.39	0.0338	30.12	0.0226	3.63	2321.9	144.9
Average (valid values only)	26.31	0.0327	22.20	0.0168	3.45	2317.1	144.6
Total (valid values only)	-	-	-	-	-	-	-
Count (valid values only)	21	21	21	21	21	21	21

G-18

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 4:20 PM thru 4/26/07 4:40 PM

RUN 8

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
4/26 16:20	26.52	0.0325	30.08	0.0225	3.22	2321.3	144.9
4/26 16:21	26.19	0.0322	27.42	0.0205	3.26	2321.3	144.9
4/26 16:22	26.12	0.0320	36.62	0.0273	3.22	2321.3	144.9
4/26 16:23	26.07	0.0321	28.08	0.0211	3.31	2320.0	144.8
4/26 16:24	25.99	0.0320	22.75	0.0171	3.31	2316.3	144.6
4/26 16:25	26.17	0.0324	18.42	0.0139	3.38	2316.9	144.6
4/26 16:26	26.04	0.0323	15.90	0.0120	3.40	2316.3	144.6
4/26 16:27	25.52	0.0316	16.50	0.0124	3.37	2315.7	144.5
4/26 16:28	25.62	0.0317	27.45	0.0206	3.35	2315.7	144.5
4/26 16:29	25.82	0.0320	24.77	0.0187	3.38	2316.9	144.6
4/26 16:30	25.99	0.0322	17.40	0.0131	3.40	2316.9	144.6
4/26 16:31	25.57	0.0317	20.10	0.0152	3.40	2316.9	144.6
4/26 16:32	25.74	0.0318	17.68	0.0133	3.36	2316.9	144.6
4/26 16:33	25.77	0.0318	18.52	0.0139	3.35	2317.5	144.7
4/26 16:34	25.74	0.0318	17.92	0.0135	3.36	2317.5	144.7
4/26 16:35	25.72	0.0318	24.13	0.0182	3.35	2317.5	144.7
4/26 16:36	25.94	0.0321	20.22	0.0152	3.36	2317.5	144.7
4/26 16:37	26.32	0.0325	18.43	0.0138	3.33	2320.7	144.8
4/26 16:38	25.72	0.0316	20.77	0.0155	3.24	2325.0	145.1
4/26 16:39	25.89	0.0315	30.30	0.0226	3.21	2325.0	145.1
4/26 16:40	25.89	0.0317	28.18	0.0210	3.21	2324.4	145.1
Average (all)	25.91	0.0320	22.94	0.0172	3.32	2318.9	144.7
Total (all)	-	-	-	-	-	-	-
Minimum (all)	25.52	0.0315	15.90	0.0120	3.21	2315.7	144.5
Maximum (all)	26.52	0.0325	36.62	0.0273	3.40	2325.0	145.1
Average (valid values only)	25.91	0.0320	22.94	0.0172	3.32	2318.9	144.7
Total (valid values only)	-	-	-	-	-	-	-
Count (valid values only)	21	21	21	21	21	21	21

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CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 5:03 PM thru 4/26/07 5:23 PM

RUN 9

Timestamp	(Aux Boiler A) NOx ppm 1-Min	(Aux Boiler A) NOx lb/mmBtu 1-Min	(Aux Boiler A) CO ppm 1-Min	(Aux Boiler A) CO lb/mmBtu 1-Min	(Aux Boiler A) O2% 1-Min	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
4/26 17:03	26.14	0.0325	26.30	0.0199	3.47	1569.4	98.0
4/26 17:04	25.92	0.0323	21.38	0.0162	3.49	1568.8	97.9
4/26 17:05	26.34	0.0328	20.75	0.0157	3.48	1568.1	97.9
4/26 17:06	26.14	0.0325	27.63	0.0209	3.48	1568.1	97.9
4/26 17:07	26.02	0.0324	21.97	0.0167	3.49	1567.5	97.9
4/26 17:08	25.67	0.0320	17.23	0.0131	3.52	1568.8	97.9
4/26 17:09	26.04	0.0325	19.68	0.0150	3.54	1568.1	97.9
4/26 17:10	26.32	0.0328	18.15	0.0138	3.51	1566.9	97.8
4/26 17:11	26.37	0.0330	21.73	0.0165	3.55	1567.5	97.9
4/26 17:12	25.87	0.0322	24.40	0.0185	3.48	1566.9	97.8
4/26 17:13	24.79	0.0362	29.28	0.0274	6.81	1566.3	97.8
4/26 17:14	18.38	0.0356	3.77	0.0044	9.69	1568.1	97.9
4/26 17:15	18.73	0.0363	1.80	0.0021	9.71	1567.5	97.9
4/26 17:16	18.48	0.0358	2.03	0.0024	9.69	1568.1	97.9
4/26 17:17	18.03	0.0347	1.73	0.0020	9.64	1568.1	97.9
4/26 17:18	17.68	0.0342	1.82	0.0021	9.70	1568.1	97.9
4/26 17:19	17.88	0.0347	1.62	0.0019	9.73	1568.1	97.9
4/26 17:20	18.06	0.0349	1.65	0.0019	9.69	1569.4	98.0
4/26 17:21	17.16	0.0333	2.03	0.0024	9.73	1568.2	97.9
4/26 17:22	17.78	0.0345	1.70	0.0020	9.71	1568.1	97.9
4/26 17:23	18.01	0.0351	1.73	0.0021	9.76	1567.5	97.9
Average (all)	22.18	0.0339	12.78	0.0103	6.61	1568.0	97.9
Total (all)	--	--	--	--	--	--	--
Minimum (all)	17.16	0.0320	1.62	0.0019	3.47	1566.3	97.8
Maximum (all)	26.37	0.0362	29.28	0.0274	9.76	1569.4	98.0
Average (valid values only)	22.18	0.0339	12.78	0.0103	6.61	1568.0	97.9
Total (valid values only)	--	--	--	--	--	--	--
Count (valid values only)	21	21	21	21	21	21	21

G-20

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 5:43 PM thru 4/26/07 6:03 PM

Rw ID

Timestamp	(Aux Boiler B) NOx ppm 1-Min	(Aux Boiler B) NOx lb/mmBtu 1-Min	(Aux Boiler B) CO ppm 1-Min	(Aux Boiler B) CO lb/mmBtu 1-Min	(Aux Boiler B) O2% 1-Min	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Gas Heat Input Rate mmBtu/hr 1-Min
4/26 17:43	29.74	0.0405	24.00	0.0199	4.98	501.3	31.3
4/26 17:44	29.69	0.0404	24.80	0.0206	4.98	502.5	31.4
4/26 17:45	30.37	0.0414	23.07	0.0191	4.99	502.5	31.4
4/26 17:46	29.47	0.0400	23.28	0.0192	4.93	502.5	31.4
4/26 17:47	30.47	0.0413	24.58	0.0203	4.89	502.5	31.4
4/26 17:48	29.89	0.0404	21.30	0.0175	4.87	502.5	31.4
4/26 17:49	29.42	0.0398	20.67	0.0170	4.85	502.5	31.4
4/26 17:50	31.77	0.0429	23.58	0.0194	4.84	501.9	31.3
4/26 17:51	30.12	0.0407	19.67	0.0162	4.85	502.5	31.4
4/26 17:52	29.34	0.0396	18.16	0.0149	4.82	502.5	31.4
4/26 17:53	29.77	0.0401	19.60	0.0161	4.81	504.4	31.5
4/26 17:54	30.39	0.0408	21.85	0.0178	4.73	506.3	31.6
4/26 17:55	28.67	0.0386	19.43	0.0159	4.78	506.3	31.6
4/26 17:56	25.74	0.0348	19.82	0.0163	4.84	506.3	31.6
4/26 17:57	24.79	0.0338	21.15	0.0175	4.99	506.9	31.6
4/26 17:58	23.91	0.0327	16.53	0.0137	5.02	505.7	31.5
4/26 17:59	24.52	0.0331	23.57	0.0194	4.85	506.3	31.6
4/26 18:00	24.87	0.0333	19.42	0.0160	4.84	506.3	31.6
4/26 18:01	24.29	0.0327	23.45	0.0192	4.79	508.2	31.7
4/26 18:02	24.47	0.0328	24.82	0.0203	4.72	524.4	32.8
4/26 18:03	24.97	0.0333	22.95	0.0186	4.64	556.3	34.7
Average (all)	27.93	0.0378	21.70	0.0179	4.86	507.6	31.7
Total (all)	-	-	-	-	-	-	-
Minimum (all)	23.91	0.0327	16.53	0.0137	4.64	501.3	31.3
Maximum (all)	31.77	0.0429	24.82	0.0206	5.02	556.3	34.7
Average (valid values only)	27.93	0.0378	21.70	0.0179	4.86	507.6	31.7
Total (valid values only)	-	-	-	-	-	-	-
Count (valid values only)	21	21	21	21	21	21	21

G-21

CeDAR 1-Minute Data

Indiantown CoGen

Data for 4/26/07 5:43 PM thru 4/26/07 6:03 PM

Run 10

Timestamp	(Aux Boiler A) NOx ppm 1-Min	(Aux Boiler A) NOx lb/mmBtu 1-Min	(Aux Boiler A) CO ppm 1-Min	(Aux Boiler A) CO lb/mmBtu 1-Min	(Aux Boiler A) O2% 1-Min	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Gas Heat Input Rate mmBtu/hr 1-Min
4/26 17:43	29.74	0.0405	24.00	0.0199	4.98	2224.4	138.8
4/26 17:44	29.69	0.0404	24.80	0.0206	4.98	2225.7	138.8
4/26 17:45	30.37	0.0414	23.07	0.0191	4.99	2223.8	138.7
4/26 17:46	29.47	0.0400	23.28	0.0192	4.93	2226.3	138.9
4/26 17:47	30.47	0.0413	24.58	0.0203	4.89	2223.8	138.7
4/26 17:48	29.89	0.0404	21.30	0.0175	4.87	2223.8	138.7
4/26 17:49	29.42	0.0398	20.67	0.0170	4.85	2225.7	138.8
4/28 17:50	31.77	0.0429	23.58	0.0194	4.84	2224.4	138.8
4/26 17:51	30.12	0.0407	19.67	0.0162	4.85	2223.8	138.7
4/26 17:52	29.34	0.0396	18.15	0.0149	4.82	2223.8	138.7
4/26 17:53	29.77	0.0401	19.60	0.0161	4.81	2217.6	138.4
4/26 17:54	30.39	0.0408	21.85	0.0178	4.73	2136.9	133.3
4/26 17:55	28.67	0.0386	19.43	0.0159	4.78	2014.4	125.7
4/26 17:56	25.74	0.0348	19.82	0.0163	4.84	1875.0	117.0
4/26 17:57	24.79	0.0338	21.15	0.0175	4.99	1850.0	115.4
4/26 17:58	23.91	0.0327	16.53	0.0137	5.02	1853.8	115.6
4/26 17:59	24.52	0.0331	23.57	0.0194	4.85	1853.8	115.6
4/26 18:00	24.67	0.0333	19.42	0.0160	4.84	1853.1	115.6
4/26 18:01	24.29	0.0327	23.45	0.0192	4.79	1853.1	115.6
4/26 18:02	24.47	0.0328	24.82	0.0203	4.72	1854.4	115.8
4/26 18:03	24.87	0.0333	22.95	0.0186	4.64	1853.8	115.6
Average (all)	27.93	0.0378	21.70	0.0179	4.86	2069.6	129.1
Total (all)	-	-	-	-	-	-	-
Minimum (all)	23.91	0.0327	16.53	0.0137	4.64	1850.0	115.4
Maximum (all)	31.77	0.0429	24.82	0.0206	5.02	2226.3	138.9
Average (valid values only)	27.93	0.0378	21.70	0.0179	4.86	2069.6	129.1
Total (valid values only)	-	-	-	-	-	-	-
Count (valid values only)	21	21	21	21	21	21	21

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Indiantown Cogeneration, L.P.
 CleanAir Project No. 10199
 Indiantown, FL
 Auxiliary Boiler Common CEMS

CEMS Response Time Test

	Downscale			Upscale		
	Start	Stop	Response Time	Start	Stop	Response Time
NOx	9:05:20	9:07:20	0:02:00	9:10:20	9:13:20	0:03:00
(ppmdv)	9:16:20	9:19:20	0:03:00	9:22:20	9:25:20	0:03:00
	9:28:20	9:31:00	0:02:40	9:34:20	9:37:20	0:03:00
Maximum Response			0:03:00			0:03:00
CO - Low	9:05:20	9:07:20	0:02:00	9:10:20	9:13:20	0:03:00
(ppmdv)	9:16:20	9:19:20	0:03:00	9:22:20	9:25:20	0:03:00
	9:28:20	9:31:00	0:02:40	9:34:20	9:37:20	0:03:00
Maximum Response			0:03:00			0:03:00
CO - High	11:06:20	11:09:20	0:03:00	11:12:20	11:15:20	0:03:00
(ppmdv)	11:18:20	11:22:20	0:04:00	11:25:20	11:28:20	0:03:00
	11:31:20	11:34:20	0:03:00	11:37:20	11:40:20	0:03:00
Maximum Response			0:04:00			0:03:00
O2	9:05:20	9:07:20	0:02:00	9:40:20	9:43:20	0:03:00
(%dv)	9:16:20	9:19:20	0:03:00	9:46:20	9:49:20	0:03:00
	9:28:20	9:31:00	0:02:40	9:52:20	9:55:20	0:03:00
Maximum Response			0:03:00			0:03:00

CEMS Response Time Test
 For NOx (0-300 ppm Range), CO (0-200 ppm)
 O₂ (0-25%)

Audit Data

Indiantown CoGen

Data for 4/25/07 9:03:20 AM thru 4/25/07 9:03:19 AM from '2007-04-25 09.03.cea'

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O ₂ %	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
<i>Start</i> 9:03:20 AM	8	34.47	13.00	4.33	1597.5	99.7
9:03:30 AM	8	34.47	10.80	4.41	1582.5	98.8
9:03:40 AM	8	34.77	9.60	4.50	1567.5	97.9
9:03:50 AM	8	34.93	7.20	4.55	1560.0	97.3
9:04:00 AM	8	34.93	7.10	4.57	1548.8	96.6
9:04:10 AM	8	34.77	6.80	4.57	1537.5	96.0
9:04:20 AM	8	34.62	6.60	4.47	1518.8	94.7
9:04:30 AM	8	34.62	8.70	4.41	1515.0	94.5
9:04:40 AM	8	34.47	10.50	4.41	1526.3	95.3
9:04:50 AM	8	34.17	9.60	4.44	1530.0	95.5
9:05:00 AM	8	34.17	8.10	4.42	1545.0	96.4
9:05:10 AM	8	33.87	9.50	4.39	1545.0	96.4
<i>Zero on</i> 9:05:20 AM	8	33.72	9.50	17.20	1556.3	97.1
9:05:30 AM	8	33.72	26.30	2.69	1567.5	97.9
9:05:40 AM	8	28.13	7.80	0.53	1590.0	99.2
9:05:50 AM	8	3.81	2.30	0.11	1616.3	100.9
9:06:00 AM	8	0.94	0.80	0.04	1638.8	102.2
9:06:10 AM	8	0.64	0.50	0.03	1657.5	103.5
9:06:20 AM	8	0.64	0.00	0.03	1672.5	104.4
9:06:30 AM	8	0.49	0.00	0.03	1676.3	104.6
9:06:40 AM	8	0.34	0.00	0.03	1676.3	104.6
9:06:50 AM	8	0.34	0.10	0.01	1672.5	104.4
9:07:00 AM	8	0.34	-0.10	0.03	1665.0	103.9
9:07:10 AM	8	0.19	0.10	0.03	1646.3	102.8
<i>Zero off</i> 9:07:20 AM	8	0.19	0.00	0.01	1635.0	102.0
9:07:30 AM	8	0.19	1.90	3.07	1612.5	100.7
9:07:40 AM	8	0.04	6.20	4.25	1590.0	99.2
9:07:50 AM	8	11.82	8.50	4.33	1563.8	97.6
9:08:00 AM	8	32.81	14.70	4.27	1541.3	96.2
9:08:10 AM	8	33.87	16.90	4.25	1518.8	94.7
9:08:20 AM	4	33.72	13.60	4.31	1500.0	93.6
9:08:30 AM	4	33.41	11.10	4.39	1473.8	91.9
9:08:40 AM	4	33.57	11.50	4.35	1455.0	90.8
9:08:50 AM	4	33.72	9.20	4.41	1440.0	89.9
9:09:00 AM	4	34.02	9.10	4.38	1425.0	88.9
9:09:10 AM	4	33.87	8.10	4.41	1421.3	88.7
9:09:20 AM	4	33.72	7.80	4.42	1413.8	88.2
9:09:30 AM	4	33.41	8.80	4.38	1410.0	88.0
9:09:40 AM	4	33.41	7.40	4.36	1410.0	88.0
9:09:50 AM	4	33.11	9.10	4.28	1413.8	88.2
9:10:00 AM	4	33.26	8.80	4.28	1421.3	88.7
9:10:10 AM	4	33.11	7.70	4.28	1432.5	89.4
<i>NOx, CO Span on</i> 9:10:20 AM	4	33.11	7.70	4.30	1443.8	90.1
9:10:30 AM	4	32.96	4.40	0.90	1458.8	91.0
9:10:40 AM	4	33.26	116.60	0.25	1473.8	91.9

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
9:10:50 AM	4	14.99	172.60	0.06	1488.8	92.9
9:11:00 AM	8	140.34	178.80	0.04	1511.3	94.3
9:11:10 AM	8	259.96	181.00	0.03	1563.8	97.6
9:11:20 AM	8	264.64	181.80	0.03	1601.3	99.9
9:11:30 AM	8	265.85	182.20	0.03	1642.5	102.5
9:11:40 AM	8	266.45	182.20	0.03	1683.8	105.0
9:11:50 AM	8	266.90	182.40	0.03	1710.0	106.7
9:12:00 AM	8	267.36	182.40	0.03	1728.8	107.8
9:12:10 AM	8	267.81	182.40	0.03	1725.0	107.6
9:12:20 AM	8	268.11	182.50	0.03	1702.5	106.3
9:12:30 AM	8	268.57	182.50	0.03	1680.0	104.8
9:12:40 AM	8	268.72	182.70	0.03	1653.8	103.2
9:12:50 AM	8	268.57	182.70	0.03	1623.8	101.3
9:13:00 AM	8	268.87	182.70	0.03	1597.5	99.7
9:13:10 AM	8	269.02	182.70	0.03	1567.5	97.9
<i>Not CO Span off</i> 9:13:20 AM	8	268.87	182.80	0.01	1545.0	96.4
9:13:30 AM	8	269.32	160.50	2.20	1518.8	94.7
9:13:40 AM	4	269.17	38.00	4.08	1500.0	93.6
9:13:50 AM	4	237.76	14.60	4.42	1477.5	92.2
9:14:00 AM	4	61.81	9.70	4.47	1455.0	90.8
9:14:10 AM	4	39.91	7.60	4.52	1443.8	90.1
9:14:20 AM	4	38.10	6.90	4.47	1447.5	90.4
9:14:30 AM	4	37.04	6.70	4.47	1455.0	90.8
9:14:40 AM	4	36.59	6.30	4.42	1470.0	91.7
9:14:50 AM	4	36.13	7.30	4.41	1477.5	92.2
9:15:00 AM	4	35.38	7.30	4.36	1488.8	92.9
9:15:10 AM	4	34.93	8.20	4.33	1503.8	93.8
9:15:20 AM	8	34.47	9.60	4.24	1522.5	95.1
9:15:30 AM	8	34.32	9.70	4.27	1560.0	97.3
9:15:40 AM	8	34.47	10.10	4.28	1597.5	99.7
9:15:50 AM	8	34.32	9.50	4.38	1623.8	101.3
9:16:00 AM	8	34.32	8.30	4.46	1642.5	102.5
9:16:10 AM	8	34.77	7.30	4.50	1672.5	104.4
<i>Zero on</i> 9:16:20 AM	8	34.93	10.70	3.61	1695.0	105.8
9:16:30 AM	8	35.38	127.80	0.56	1710.0	106.7
9:16:40 AM	8	38.55	39.20	0.09	1702.5	106.3
9:16:50 AM	8	198.04	6.90	0.03	1691.3	105.6
9:17:00 AM	8	52.75	2.70	0.01	1683.8	105.0
9:17:10 AM	8	3.06	1.20	0.01	1661.3	103.7
9:17:20 AM	8	1.70	0.70	0.01	1635.0	102.0
9:17:30 AM	8	1.25	0.40	0.01	1612.5	100.7
9:17:40 AM	8	1.09	0.40	0.01	1593.8	99.4
9:17:50 AM	8	0.94	0.30	0.01	1575.0	98.3
9:18:00 AM	8	0.79	0.40	0.01	1552.5	96.9
9:18:10 AM	8	0.79	0.30	0.01	1530.0	95.5
9:18:20 AM	8	0.49	0.40	0.01	1503.8	93.8
9:18:30 AM	4	0.49	0.10	0.01	1492.5	93.2
9:18:40 AM	4	0.34	0.30	0.01	1470.0	91.7
9:18:50 AM	4	0.34	0.30	0.01	1458.8	91.0

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
9:19:00 AM	4	0.34	0.10	0.01	1451.3	90.6
9:19:10 AM	4	0.19	0.10	0.01	1440.0	89.9
<i>Zero Off</i> 9:19:20 AM	4	0.19	0.00	0.01	1440.0	89.9
9:19:30 AM	4	0.04	2.70	3.35	1443.8	90.1
9:19:40 AM	4	0.04	5.60	4.24	1440.0	89.9
9:19:50 AM	4	16.05	7.10	4.25	1451.3	90.6
9:20:00 AM	4	32.36	9.60	4.17	1455.0	90.8
9:20:10 AM	4	32.96	11.20	4.17	1462.5	91.3
9:20:20 AM	4	32.96	11.70	4.22	1481.3	92.5
9:20:30 AM	4	32.96	10.60	4.22	1492.5	93.2
9:20:40 AM	4	32.96	10.60	4.20	1496.3	93.4
9:20:50 AM	8	33.41	11.10	4.16	1518.8	94.7
9:21:00 AM	8	33.41	20.20	4.08	1567.5	97.9
9:21:10 AM	8	33.57	22.00	4.09	1601.3	99.9
9:21:20 AM	8	33.11	18.90	4.16	1627.5	101.6
9:21:30 AM	8	33.57	11.70	4.42	1665.0	103.9
9:21:40 AM	8	33.57	8.00	4.50	1698.8	106.0
9:21:50 AM	8	34.02	7.80	4.50	1710.0	106.7
9:22:00 AM	8	34.77	6.90	4.53	1713.8	106.9
9:22:10 AM	8	34.77	7.10	4.53	1713.8	106.9
<i>NOx CO Span Off</i> 9:22:20 AM	8	35.08	10.00	4.08	1698.8	106.0
9:22:30 AM	8	35.38	6.20	0.60	1680.0	104.8
9:22:40 AM	8	35.23	127.00	0.11	1653.8	103.2
9:22:50 AM	8	13.18	173.80	0.04	1635.0	102.0
9:23:00 AM	8	190.94	179.00	0.03	1612.5	100.7
9:23:10 AM	8	262.37	181.00	0.04	1597.5	99.7
9:23:20 AM	8	265.24	181.60	0.03	1582.5	98.8
9:23:30 AM	8	266.30	182.00	0.03	1563.8	97.6
9:23:40 AM	8	266.90	181.80	0.03	1545.0	96.4
9:23:50 AM	8	267.81	182.20	0.04	1530.0	95.5
9:24:00 AM	8	268.11	182.20	0.03	1518.8	94.7
9:24:10 AM	8	268.11	182.40	0.03	1507.6	94.1
9:24:20 AM	8	268.87	182.50	0.03	1511.3	94.3
9:24:30 AM	8	268.87	182.50	0.03	1522.5	95.1
9:24:40 AM	8	269.32	182.50	0.03	1541.3	96.2
9:24:50 AM	8	269.47	182.70	0.03	1548.8	96.6
9:25:00 AM	8	269.17	182.70	0.03	1552.5	96.9
<i>NOx CO Span Off</i> 9:25:10 AM	8	269.62	182.80	0.03	1571.3	98.1
9:25:20 AM	8	269.47	183.00	0.03	1608.8	100.4
9:25:30 AM	8	269.62	135.00	2.64	1638.8	102.2
9:25:40 AM	8	270.08	40.80	3.90	1650.0	103.0
9:25:50 AM	8	208.31	17.90	4.25	1668.8	104.1
9:26:00 AM	8	50.48	11.60	4.41	1672.5	104.4
9:26:10 AM	8	39.46	18.50	4.39	1661.3	103.7
9:26:20 AM	8	38.40	14.70	4.39	1657.5	103.5
9:26:30 AM	8	37.95	11.50	4.38	1646.3	102.8
9:26:40 AM	8	37.64	9.50	4.39	1638.8	102.2
9:26:50 AM	8	37.19	8.80	4.42	1620.0	101.1
9:27:00 AM	8	36.59	8.80	4.38	1616.3	100.9

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
9:27:10 AM	8	36.44	9.30	4.28	1623.8	101.3
9:27:20 AM	8	36.44	10.00	4.25	1631.3	101.8
9:27:30 AM	8	36.13	10.30	4.25	1638.8	102.2
9:27:40 AM	8	35.68	12.20	4.19	1657.5	103.5
9:27:50 AM	8	35.53	30.50	4.11	1672.5	104.4
9:28:00 AM	8	35.53	30.90	4.11	1680.0	104.8
9:28:10 AM	8	34.93	19.80	4.09	1695.0	105.8
<i>Zero on</i> 9:28:20 AM	8	34.93	18.80	4.09	1702.5	106.3
9:28:30 AM	8	35.08	17.10	4.11	1710.0	106.7
9:28:40 AM	8	35.38	18.30	3.29	1721.3	107.4
9:28:50 AM	8	35.53	129.50	0.55	1732.5	108.2
9:29:00 AM	8	39.46	37.70	0.09	1751.3	109.3
9:29:10 AM	8	200.75	6.40	0.03	1758.8	109.7
9:29:20 AM	8	49.88	2.30	0.03	1773.8	110.7
9:29:30 AM	8	2.91	1.00	0.03	1777.5	111.0
9:29:40 AM	8	1.70	0.50	0.01	1792.5	111.9
9:29:50 AM	8	1.25	0.40	0.01	1815.0	113.3
9:30:00 AM	8	1.09	0.30	0.01	1830.0	114.2
9:30:10 AM	8	0.94	0.10	0.01	1863.8	116.3
9:30:20 AM	8	0.79	0.30	0.01	1908.8	119.1
9:30:30 AM	8	0.64	0.30	0.01	1946.3	121.5
9:30:40 AM	8	0.49	0.30	0.01	1983.8	123.8
9:30:50 AM	8	0.34	0.30	0.01	2002.5	125.0
<i>Zero off</i> 9:31:00 AM	8	0.49	0.30	0.01	2017.5	125.9
9:31:10 AM	8	0.34	0.10	0.01	2017.5	125.9
9:31:20 AM	8	0.34	0.10	0.01	2013.8	125.6
9:31:30 AM	8	0.19	3.90	2.52	2002.5	125.0
9:31:40 AM	8	0.19	12.70	3.98	1987.5	124.1
9:31:50 AM	8	7.89	14.60	4.16	1961.3	122.4
9:32:00 AM	8	32.96	15.00	4.17	1931.3	120.5
9:32:10 AM	8	35.23	14.20	4.20	1908.8	119.1
9:32:20 AM	8	35.53	14.20	4.19	1890.0	117.9
9:32:30 AM	8	35.68	13.40	4.25	1871.3	116.8
9:32:40 AM	8	35.98	15.40	4.28	1856.3	115.9
9:32:50 AM	8	36.13	15.00	4.28	1833.8	114.4
9:33:00 AM	8	35.98	13.10	4.27	1815.0	113.3
9:33:10 AM	8	36.13	13.70	4.28	1822.5	113.8
9:33:20 AM	8	35.98	12.20	4.27	1833.8	114.4
9:33:30 AM	8	35.98	13.20	4.25	1837.5	114.7
9:33:40 AM	8	36.13	15.40	4.20	1852.5	115.6
9:33:50 AM	8	35.98	15.00	4.17	1871.3	116.8
9:34:00 AM	8	35.83	17.60	4.12	1890.0	117.9
9:34:10 AM	8	35.83	20.30	4.16	1916.3	119.6
<i>NOx, Calc Spm on</i> 9:34:20 AM	8	35.53	24.60	4.19	1938.8	121.0
9:34:30 AM	8	35.68	21.00	4.19	1953.8	121.9
9:34:40 AM	8	35.83	20.30	4.05	1968.8	122.8
9:34:50 AM	8	35.98	8.00	0.66	1998.8	124.7
9:35:00 AM	8	35.98	123.00	0.12	2006.3	125.2
9:35:10 AM	8	13.48	173.30	0.04	2021.3	126.2

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
9:35:20 AM	8	177.65	178.90	0.03	2040.0	127.3
9:35:30 AM	8	262.07	180.80	0.03	2028.8	126.6
9:35:40 AM	8	264.94	181.80	0.03	2040.0	127.3
9:35:50 AM	8	266.15	181.80	0.03	2021.3	126.2
9:36:00 AM	8	266.90	182.20	0.03	2013.8	125.6
9:36:10 AM	8	267.36	182.20	0.03	1998.8	124.7
9:36:20 AM	8	268.11	182.40	0.03	1976.3	123.3
9:36:30 AM	8	268.11	182.40	0.03	1950.0	121.7
9:36:40 AM	8	268.11	182.40	0.03	1923.8	120.0
9:36:50 AM	8	268.57	182.20	0.03	1893.8	118.1
9:37:00 AM	8	268.87	182.50	0.03	1871.3	116.8
9:37:10 AM	8	268.87	182.70	0.03	1852.5	115.6
9:37:20 AM	8	269.32	182.70	0.03	1830.0	114.2
9:37:30 AM	8	269.32	128.30	2.75	1811.3	113.0
9:37:40 AM	8	269.32	35.10	3.97	1800.0	112.3
9:37:50 AM	8	204.53	23.90	4.14	1792.5	111.9
9:38:00 AM	8	51.84	19.00	4.17	1785.0	111.4
9:38:10 AM	8	41.42	17.00	4.17	1781.3	111.2
9:38:20 AM	8	40.21	16.00	4.22	1758.8	109.7
9:38:30 AM	8	39.46	15.40	4.24	1755.0	109.5
9:38:40 AM	8	38.55	18.50	4.16	1755.0	109.5
9:38:50 AM	8	37.95	22.20	3.05	1747.5	109.1
9:39:00 AM	8	37.79	129.80	13.64	1747.5	109.1
9:39:10 AM	8	43.08	34.90	19.94	1755.0	109.5
9:39:20 AM	8	201.81	6.20	20.78	1755.0	109.5
9:39:30 AM	8	44.44	2.70	20.89	1770.0	110.4
9:39:40 AM	8	3.21	1.40	20.90	1770.0	110.4
9:39:50 AM	8	1.85	1.30	20.92	1766.3	110.2
9:40:00 AM	8	1.55	0.90	20.93	1785.0	111.4
9:40:10 AM	8	1.40	0.80	20.93	1792.5	111.9
9:40:20 AM	8	1.25	0.70	20.95	1796.3	112.1
9:40:30 AM	8	0.94	0.70	20.95	1845.0	115.1
9:40:40 AM	8	0.79	0.50	20.95	1867.5	116.6
9:40:50 AM	8	0.64	0.70	20.95	1882.5	117.5
9:41:00 AM	8	0.64	0.50	20.95	1893.8	118.1
9:41:10 AM	8	0.49	0.70	20.95	1901.3	118.7
9:41:20 AM	8	0.34	0.50	20.97	1908.8	119.1
9:41:30 AM	8	0.34	0.50	20.97	1901.3	118.7
9:41:40 AM	8	0.34	0.40	20.97	1890.0	117.9
9:41:50 AM	8	0.19	0.30	20.97	1882.5	117.5
9:42:00 AM	8	0.34	0.30	20.97	1867.5	116.6
9:42:10 AM	8	0.19	0.40	20.97	1866.3	115.9
9:42:20 AM	8	0.04	0.30	20.98	1845.0	115.1
9:42:30 AM	8	0.19	0.30	20.97	1833.8	114.4
9:42:40 AM	8	0.04	0.30	20.98	1826.3	114.0
9:42:50 AM	8	0.04	0.30	20.97	1822.5	113.8
9:43:00 AM	8	0.04	0.50	20.98	1822.5	113.8
9:43:10 AM	8	0.04	0.40	20.98	1815.0	113.3
9:43:20 AM	8	0.04	0.40	20.98	1815.0	113.3

ox Calc Span off

O2 Span on

O2 Span off

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
9:43:30 AM	8	0.04	0.40	13.14	1822.5	113.8
9:43:40 AM	8	0.04	10.50	5.27	1830.0	114.2
9:43:50 AM	8	0.79	13.00	4.44	1845.0	115.1
9:44:00 AM	8	26.17	20.80	4.24	1878.8	117.2
9:44:10 AM	8	35.38	25.30	4.17	1905.0	118.9
9:44:20 AM	8	35.68	23.10	4.17	1920.0	119.8
9:44:30 AM	8	35.83	18.00	4.30	1935.0	120.7
9:44:40 AM	8	35.98	15.50	4.35	1938.8	121.0
9:44:50 AM	8	36.28	16.10	4.24	1946.3	121.5
9:45:00 AM	8	36.28	21.70	4.22	1953.8	121.9
9:45:10 AM	8	36.74	20.50	4.17	1957.5	122.2
9:45:20 AM	8	36.74	17.60	4.22	1968.8	122.8
9:45:30 AM	8	36.89	13.90	4.35	1968.8	122.8
9:45:40 AM	8	36.89	12.90	4.31	1957.5	122.2
9:45:50 AM	8	36.74	24.70	4.20	1946.3	121.5
9:46:00 AM	8	37.04	27.30	4.16	1935.0	120.7
9:46:10 AM	8	36.74	21.70	4.17	1923.8	120.0
<i>On Span On</i> 9:46:20 AM	8	36.74	17.40	4.24	1912.5	119.4
9:46:30 AM	8	36.89	10.10	19.12	1893.8	118.1
9:46:40 AM	8	37.04	3.50	20.63	1882.5	117.5
9:46:50 AM	8	20.43	1.30	20.92	1867.5	116.6
9:47:00 AM	8	2.00	0.70	20.95	1852.5	115.6
9:47:10 AM	8	0.79	0.30	20.95	1837.5	114.7
9:47:20 AM	8	0.64	0.50	20.98	1826.3	114.0
9:47:30 AM	8	0.49	-0.40	20.98	1818.8	113.5
9:47:40 AM	8	0.34	0.10	20.98	1807.5	112.8
9:47:50 AM	8	0.34	0.10	20.98	1796.3	112.1
9:48:00 AM	8	0.19	0.30	20.98	1800.0	112.3
9:48:10 AM	8	0.19	0.40	21.00	1800.0	112.3
9:48:20 AM	8	0.04	1.30	21.01	1807.5	112.8
9:48:30 AM	8	0.04	1.20	21.00	1818.8	113.5
9:48:40 AM	8	0.04	0.50	21.01	1826.3	114.0
9:48:50 AM	8	0.04	0.40	21.00	1841.3	114.9
9:49:00 AM	8	0.04	0.40	21.01	1878.8	117.2
9:49:10 AM	8	0.04	0.40	21.01	1905.0	118.9
<i>On Span Off</i> 9:49:20 AM	8	0.04	0.30	21.01	1946.3	121.6
9:49:30 AM	8	0.04	0.30	21.01	1983.8	123.8
9:49:40 AM	8	0.04	3.40	7.31	2028.8	126.6
9:49:50 AM	8	-0.11	10.50	5.57	2085.0	130.1
9:50:00 AM	8	9.10	11.60	5.34	2148.8	134.1
9:50:10 AM	8	34.32	16.50	5.31	2201.3	137.4
9:50:20 AM	8	36.44	20.00	5.31	2250.0	140.4
9:50:30 AM	8	36.74	14.60	5.34	2295.0	143.2
9:50:40 AM	8	37.04	12.50	5.31	2340.0	146.0
9:50:50 AM	8	36.74	10.30	5.31	2377.5	148.4
9:51:00 AM	8	37.04	9.00	5.43	2415.0	150.7
9:51:10 AM	8	37.34	7.30	5.48	2433.8	151.8
9:51:20 AM	8	37.49	6.60	5.42	2456.3	153.3
9:51:30 AM	8	37.64	5.30	5.39	2452.5	153.1

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) NOx ppm	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
9:51:40 AM	8	37.49	5.30	5.35	2452.5	153.1
9:51:50 AM	8	37.64	5.30	5.56	2437.5	152.2
9:52:00 AM	8	37.95	6.70	5.67	2426.3	151.4
9:52:10 AM	8	37.95	6.70	5.76	2411.3	150.5
<i>O₂ Spm On</i> 9:52:20 AM	8	37.64	6.90	5.81	2400.0	149.8
9:52:30 AM	8	37.95	6.90	8.71	2385.0	148.8
9:52:40 AM	8	37.79	3.80	19.88	2366.3	147.7
9:52:50 AM	8	37.34	1.40	20.81	2358.8	147.2
9:53:00 AM	8	12.12	0.50	20.95	2370.0	147.9
9:53:10 AM	8	1.25	0.30	20.97	2388.8	149.0
9:53:20 AM	8	0.79	0.30	20.98	2407.5	150.3
9:53:30 AM	8	0.49	0.10	20.98	2415.0	150.7
9:53:40 AM	8	0.34	0.30	20.98	2426.3	151.4
9:53:50 AM	8	0.34	0.10	21.00	2433.8	151.8
9:54:00 AM	8	0.34	0.10	21.00	2441.3	152.4
9:54:10 AM	8	0.19	0.30	21.00	2456.3	153.3
9:54:20 AM	8	0.34	0.10	21.00	2463.8	153.7
9:54:30 AM	8	0.04	0.10	21.00	2475.0	154.4
9:54:40 AM	8	0.04	0.10	21.00	2493.8	155.6
9:54:50 AM	8	0.19	0.40	21.00	2493.8	155.6
9:55:00 AM	8	0.04	0.10	21.01	2497.5	155.9
9:55:10 AM	8	0.04	0.40	21.01	2493.8	155.6
<i>O₂ Spm Off</i> 9:55:20 AM	8	0.04	0.10	21.01	2482.5	155.0
9:55:30 AM	8	0.04	2.70	7.23	2471.3	154.2
9:55:40 AM	8	0.04	7.20	5.53	2452.5	153.1
9:55:50 AM	8	13.78	9.10	5.32	2433.8	151.8
9:56:00 AM	8	36.89	8.10	5.29	2407.5	150.3
9:56:10 AM	8	38.10	7.30	5.27	2377.5	148.4
9:56:20 AM	8	38.40	8.80	5.34	2351.3	146.7
9:56:30 AM	8	38.70	10.20	5.39	2328.8	145.3
9:56:40 AM	8	38.85	8.00	5.42	2306.3	143.9
9:56:50 AM	8	38.85	7.10	5.39	2283.8	142.5
9:57:00 AM	8	39.00	7.80	5.39	2265.0	141.3
9:57:10 AM	8	38.85	8.20	5.43	2250.0	140.4
9:57:20 AM	8	38.55	7.30	5.45	2235.0	139.5
9:57:30 AM	8	38.70	9.00	5.40	2235.0	139.5
9:57:40 AM	8	38.55	9.00	5.39	2220.0	138.5
9:57:50 AM	8	38.55	11.90	5.34	2208.8	137.8
9:58:00 AM	8	38.70	16.60	5.26	2212.5	138.1
9:58:10 AM	8	38.55	20.30	5.24	2212.5	138.1
9:58:20 AM	8	38.40	18.00	5.24	2220.0	138.5
9:58:30 AM	8	38.25	22.30	5.21	2231.3	139.3
9:58:40 AM	8	38.25	36.10	5.15	2246.3	140.2
9:58:50 AM	8	38.25	31.10	5.27	2250.0	140.4
9:59:00 AM	8	38.25	43.60	5.21	2276.3	142.1
Average	--	60.86	35.87	6.35	1818.6	113.5
Minimum	--	-0.11	-0.40	0.01	1410.0	88.0
Maximum	--	270.08	183.00	21.01	2497.5	155.9

*CEMS Response Time Test
for CO High (0-1000ppm)*

Audit Data

Indiantown CoGen

Data for 4/25/07 11:04:00 AM thru 4/25/07 11:03:59 AM from '2007-04-25 11.03.cea'

Start

Zero on

Zero off

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
11:04:00 AM	8	6.60	4.94	2557.5	159.6
11:04:10 AM	8	8.70	4.90	2557.5	159.6
11:04:20 AM	8	9.50	4.98	2557.5	159.6
11:04:30 AM	8	8.80	4.91	2557.5	159.6
11:04:40 AM	8	8.50	5.02	2561.3	159.8
11:04:50 AM	8	12.00	5.02	2565.0	160.1
11:05:00 AM	8	13.50	5.02	2565.0	160.1
11:05:10 AM	8	9.70	5.09	2557.5	159.6
11:05:20 AM	8	7.20	5.10	2553.8	159.3
11:05:30 AM	8	7.70	5.04	2535.0	158.2
11:05:40 AM	8	8.60	5.04	2535.0	158.2
11:05:50 AM	8	8.70	5.05	2523.8	157.5
11:06:00 AM	8	8.90	4.98	2527.5	157.8
11:06:10 AM	8	11.40	4.91	2527.5	157.8
11:06:20 AM	8	10.80	4.90	2520.0	157.2
11:06:30 AM	8	8.30	19.04	2527.5	157.8
11:06:40 AM	8	3.30	1.43	2527.5	157.8
11:06:50 AM	8	1.50	0.28	2531.3	158.0
11:07:00 AM	8	0.20	0.09	2531.3	158.0
11:07:10 AM	8	0.20	0.06	2520.0	157.2
11:07:20 AM	8	0.20	0.04	2531.3	158.0
11:07:30 AM	8	0.20	0.04	2531.3	158.0
11:07:40 AM	8	0.20	0.03	2512.5	156.8
11:07:50 AM	8	0.20	0.03	2505.0	156.3
11:08:00 AM	8	-0.40	0.03	2505.0	156.3
11:08:10 AM	8	-0.40	0.03	2501.3	156.1
11:08:20 AM	8	0.20	0.03	2505.0	156.3
11:08:30 AM	8	0.20	0.03	2501.3	156.1
11:08:40 AM	8	0.20	0.03	2501.3	156.1
11:08:50 AM	8	0.20	0.03	2505.0	156.3
11:09:00 AM	8	-0.10	0.01	2501.3	156.1
11:09:10 AM	8	-0.10	0.03	2497.5	155.9
11:09:20 AM	8	0.00	0.03	2493.8	155.6
11:09:30 AM	8	0.00	0.19	2493.8	155.6
11:09:40 AM	8	3.00	4.24	2486.3	155.2
11:09:50 AM	8	5.30	4.88	2475.0	154.4
11:10:00 AM	8	6.70	4.98	2463.8	153.7
11:10:10 AM	8	8.60	4.83	2460.0	153.5
11:10:20 AM	8	8.60	5.01	2448.8	152.8
11:10:30 AM	8	11.30	4.87	2456.3	153.3
11:10:40 AM	8	13.50	4.85	2456.3	153.3
11:10:50 AM	8	10.30	4.85	2456.3	153.3
11:11:00 AM	8	7.30	4.91	2456.3	153.3
11:11:10 AM	8	6.40	4.88	2452.5	153.1
11:11:20 AM	8	6.40	4.96	2456.3	153.3

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat input Total mmBtu/hr
11:11:30 AM	8	6.60	4.98	2452.5	153.1
11:11:40 AM	8	5.90	4.94	2452.5	153.1
11:11:50 AM	8	10.80	5.02	2460.0	153.5
11:12:00 AM	8	10.20	4.96	2463.8	153.7
11:12:10 AM	8	8.30	5.01	2460.0	153.5
11:12:20 AM	8	7.10	4.99	2452.5	153.1
11:12:30 AM	8	12.10	1.67	2456.3	153.3
11:12:40 AM	8	168.70	0.56	2452.5	153.1
11:12:50 AM	8	673.50	0.11	2452.5	153.1
11:13:00 AM	8	784.60	0.04	2441.3	152.4
11:13:10 AM	8	798.30	0.03	2422.5	151.2
11:13:20 AM	8	802.70	0.03	2418.8	150.9
11:13:30 AM	8	803.90	0.03	2418.8	150.9
11:13:40 AM	8	805.80	0.03	2426.3	151.4
11:13:50 AM	8	806.40	0.01	2418.8	150.9
11:14:00 AM	8	807.00	0.01	2415.0	150.7
11:14:10 AM	8	807.00	0.01	2422.5	151.2
11:14:20 AM	8	807.70	0.01	2418.8	150.9
11:14:30 AM	8	807.00	0.03	2418.8	150.9
11:14:40 AM	8	807.70	0.01	2422.5	151.2
11:14:50 AM	8	808.30	0.01	2422.5	151.2
11:15:00 AM	8	808.30	0.01	2422.5	151.2
11:15:10 AM	8	808.30	0.01	2422.5	151.2
11:15:20 AM	8	808.90	0.01	2418.8	150.9
11:15:30 AM	8	809.50	0.01	2400.0	149.8
11:15:40 AM	8	808.90	0.01	2392.5	149.3
11:15:50 AM	8	453.90	3.70	2392.5	149.3
11:16:00 AM	8	76.90	4.80	2388.8	149.0
11:16:10 AM	8	22.30	4.91	2388.8	149.0
11:16:20 AM	8	17.30	4.94	2388.8	149.0
11:16:30 AM	8	14.00	4.99	2392.5	149.3
11:16:40 AM	8	12.50	5.02	2392.5	149.3
11:16:50 AM	8	12.10	5.06	2392.5	149.3
11:17:00 AM	8	11.00	5.04	2388.8	149.0
11:17:10 AM	8	11.90	5.07	2392.5	149.3
11:17:20 AM	8	10.50	5.05	2392.5	149.3
11:17:30 AM	8	9.80	5.04	2388.8	149.0
11:17:40 AM	8	9.30	5.04	2388.8	149.0
11:17:50 AM	8	9.60	5.01	2388.8	149.0
11:18:00 AM	8	9.60	5.04	2370.0	147.9
11:18:10 AM	8	8.30	5.09	2362.5	147.5
11:18:20 AM	8	67.00	2.22	2355.0	147.0
11:18:30 AM	8	522.50	0.45	2362.5	147.5
11:18:40 AM	8	109.40	0.09	2351.3	146.7
11:18:50 AM	8	15.80	0.04	2362.5	147.5
11:19:00 AM	8	5.80	0.04	2355.0	147.0
11:19:10 AM	8	3.30	0.03	2362.5	147.5
11:19:20 AM	8	2.10	0.03	2362.5	147.5
11:19:30 AM	8	2.10	0.03	2362.5	147.5

off Span on

off Span off

Zero on

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
11:19:40 AM	8	1.50	0.03	2362.5	147.5
11:19:50 AM	8	1.50	0.03	2358.8	147.2
11:20:00 AM	8	1.50	0.03	2340.0	146.0
11:20:10 AM	8	1.50	0.03	2325.0	145.1
11:20:20 AM	8	0.80	0.01	2325.0	145.1
11:20:30 AM	8	0.80	0.03	2325.0	145.1
11:20:40 AM	8	0.80	0.03	2317.5	144.7
11:20:50 AM	8	0.80	0.01	2325.0	145.1
11:21:00 AM	8	0.80	0.01	2321.3	144.9
11:21:10 AM	8	0.80	0.01	2328.8	145.3
11:21:20 AM	8	0.80	0.01	2332.5	145.6
11:21:30 AM	8	0.80	0.01	2325.0	145.1
11:21:40 AM	8	0.80	0.01	2325.0	145.1
11:21:50 AM	8	0.80	0.01	2332.5	145.6
11:22:00 AM	8	0.80	0.01	2332.5	145.6
11:22:10 AM	8	0.70	0.03	2336.3	145.8
11:22:20 AM	8	0.50	0.01	2332.5	145.6
11:22:30 AM	8	0.90	2.64	2336.3	145.8
11:22:40 AM	8	4.40	4.64	2336.3	145.8
11:22:50 AM	8	6.30	4.96	2336.3	145.8
11:23:00 AM	8	5.70	5.01	2332.5	145.6
11:23:10 AM	8	5.70	5.04	2336.3	145.8
11:23:20 AM	8	5.70	5.01	2336.3	145.8
11:23:30 AM	8	5.70	4.96	2336.3	145.8
11:23:40 AM	8	5.30	5.01	2336.3	145.8
11:23:50 AM	8	6.10	5.02	2336.3	145.8
11:24:00 AM	8	6.80	4.88	2336.3	145.8
11:24:10 AM	8	10.20	4.96	2332.5	145.6
11:24:20 AM	8	8.20	4.93	2332.5	145.6
11:24:30 AM	8	6.70	4.99	2336.3	145.8
11:24:40 AM	8	6.40	4.99	2332.5	145.6
11:24:50 AM	8	5.80	4.99	2336.3	145.8
11:25:00 AM	8	5.80	4.96	2332.5	145.6
11:25:10 AM	8	6.40	4.90	2336.3	145.8
11:25:20 AM	8	5.20	1.89	2332.5	145.6
11:25:30 AM	8	145.60	0.38	2332.5	145.6
11:25:40 AM	8	663.50	0.08	2332.5	145.6
11:25:50 AM	8	784.00	0.04	2336.3	145.8
11:26:00 AM	8	798.90	0.03	2336.3	145.8
11:26:10 AM	8	802.70	0.03	2332.5	145.6
11:26:20 AM	8	803.90	0.03	2336.3	145.8
11:26:30 AM	8	805.20	0.03	2336.3	145.8
11:26:40 AM	8	805.80	0.03	2336.3	145.8
11:26:50 AM	8	806.40	0.03	2336.3	145.8
11:27:00 AM	8	807.00	0.03	2336.3	145.8
11:27:10 AM	8	807.70	0.01	2336.3	145.8
11:27:20 AM	8	808.30	0.01	2336.3	145.8
11:27:30 AM	8	808.30	0.01	2336.3	145.8
11:27:40 AM	8	808.30	0.01	2332.5	145.6

Zer: off

1/1 Span on

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
11:27:50 AM	8	809.50	0.01	2336.3	145.8
11:28:00 AM	8	808.90	0.01	2332.5	145.6
11:28:10 AM	8	808.90	0.01	2336.3	145.8
11:28:20 AM	8	808.90	0.01	2336.3	145.8
11:28:30 AM	8	476.30	3.42	2336.3	145.8
11:28:40 AM	8	85.20	4.49	2332.5	145.6
11:28:50 AM	8	25.20	4.66	2336.3	145.8
11:29:00 AM	8	22.60	4.63	2336.3	145.8
11:29:10 AM	8	22.60	4.60	2332.5	145.6
11:29:20 AM	8	19.20	4.68	2332.5	145.6
11:29:30 AM	8	16.50	4.71	2332.5	145.6
11:29:40 AM	8	13.40	4.72	2336.3	145.8
11:29:50 AM	8	15.00	4.64	2332.5	145.6
11:30:00 AM	8	13.90	4.68	2332.5	145.6
11:30:10 AM	8	13.40	4.63	2336.3	145.8
11:30:20 AM	8	13.60	4.66	2332.5	145.6
11:30:30 AM	8	12.10	4.68	2332.5	145.6
11:30:40 AM	8	11.70	4.74	2336.3	145.8
11:30:50 AM	8	18.90	4.69	2336.3	145.8
11:31:00 AM	8	18.30	4.69	2336.3	145.8
11:31:10 AM	8	13.30	4.64	2336.3	145.8
11:31:20 AM	8	191.80	1.71	2332.5	145.6
11:31:30 AM	8	428.90	0.30	2332.5	145.6
11:31:40 AM	8	70.70	0.06	2332.5	145.6
11:31:50 AM	8	10.20	0.04	2332.5	145.6
11:32:00 AM	8	4.60	0.03	2336.3	145.8
11:32:10 AM	8	2.70	0.03	2332.5	145.6
11:32:20 AM	8	2.10	0.03	2332.5	145.6
11:32:30 AM	8	1.50	0.03	2332.5	145.6
11:32:40 AM	8	1.50	0.01	2332.5	145.6
11:32:50 AM	8	1.50	0.01	2332.5	145.6
11:33:00 AM	8	1.50	0.01	2332.5	145.6
11:33:10 AM	8	1.50	0.01	2332.5	145.6
11:33:20 AM	8	0.80	0.01	2332.5	145.6
11:33:30 AM	8	0.80	0.01	2332.5	145.6
11:33:40 AM	8	0.80	0.01	2332.5	145.6
11:33:50 AM	8	0.90	0.01	2332.5	145.6
11:34:00 AM	8	1.00	0.01	2332.5	145.6
11:34:10 AM	8	0.70	0.01	2332.5	145.6
11:34:20 AM	8	0.70	0.01	2332.5	145.6
11:34:30 AM	8	3.00	3.56	2332.5	145.6
11:34:40 AM	8	6.20	4.61	2332.5	145.6
11:34:50 AM	8	7.40	4.72	2332.5	145.6
11:35:00 AM	8	9.50	4.61	2332.5	145.6
11:35:10 AM	8	17.80	4.50	2332.5	145.6
11:35:20 AM	8	17.80	4.55	2332.5	145.6
11:35:30 AM	8	15.90	4.57	2332.5	145.6
11:35:40 AM	8	14.00	4.55	2332.5	145.6
11:35:50 AM	8	14.50	4.57	2332.5	145.6

off. Spn off

Zero on

Zero off

Timestamp	(Aux Boiler B) Process Code	(Aux Boiler B) CO ppm	(Aux Boiler B) O2%	(Aux Boiler B) Gas Flow scf/min	(Aux Boiler B) Heat Input Total mmBtu/hr
11:36:00 AM	8	18.00	4.57	2332.5	145.6
11:36:10 AM	8	23.80	4.52	2332.5	145.6
11:36:20 AM	8	17.30	4.53	2332.5	145.6
11:36:30 AM	8	17.40	4.47	2332.5	145.6
11:36:40 AM	8	15.80	4.52	2332.5	145.6
11:36:50 AM	8	13.30	4.57	2332.5	145.6
11:37:00 AM	8	15.20	4.55	2328.8	145.3
11:37:10 AM	8	12.10	4.55	2332.5	145.6
11:37:20 AM	8	8.30	1.56	2332.5	145.6
11:37:30 AM	8	213.60	0.30	2332.5	145.6
11:37:40 AM	8	694.10	0.08	2332.5	145.6
11:37:50 AM	8	788.30	0.04	2332.5	145.6
11:38:00 AM	8	798.90	0.03	2332.5	145.6
11:38:10 AM	8	802.70	0.03	2332.5	145.6
11:38:20 AM	8	804.60	0.03	2332.5	145.6
11:38:30 AM	8	805.80	0.03	2332.5	145.6
11:38:40 AM	8	806.40	0.03	2328.8	145.3
11:38:50 AM	8	806.40	0.03	2332.5	145.6
11:39:00 AM	8	806.40	0.03	2332.5	145.6
11:39:10 AM	8	807.70	0.03	2332.5	145.6
11:39:20 AM	8	808.30	0.01	2332.5	145.6
11:39:30 AM	8	808.30	0.01	2332.5	145.6
11:39:40 AM	8	808.30	0.03	2332.5	145.6
11:39:50 AM	8	808.90	0.01	2332.5	145.6
11:40:00 AM	8	808.90	0.01	2332.5	145.6
11:40:10 AM	8	808.90	0.01	2332.5	145.6
11:40:20 AM	8	809.50	0.01	2332.5	145.6
11:40:30 AM	8	808.90	0.01	2332.5	145.6
11:40:40 AM	8	809.50	0.01	2328.8	145.3
11:40:50 AM	8	749.60	1.86	2332.5	145.6
11:41:00 AM	8	179.30	4.00	2328.8	145.3
11:41:10 AM	8	51.50	4.36	2332.5	145.6
11:41:20 AM	8	49.70	4.44	2332.5	145.6
11:41:30 AM	8	36.90	4.41	2332.5	145.6
11:41:40 AM	8	32.40	4.38	2332.5	145.6
11:41:50 AM	8	30.90	4.39	2332.5	145.6
11:42:00 AM	8	30.40	4.44	2332.5	145.6
11:42:10 AM	8	26.30	4.49	2332.5	145.6
11:42:20 AM	8	26.10	4.47	2328.8	145.3
11:42:30 AM	8	22.60	4.49	2332.5	145.6
11:42:40 AM	8	21.20	4.44	2332.5	145.6
11:42:50 AM	8	30.00	4.49	2332.5	145.6
11:43:00 AM	8	26.80	4.49	2328.8	145.3
11:43:10 AM	8	24.70	4.47	2332.5	145.6
11:43:20 AM	8	23.80	4.44	2332.5	145.6
Average	--	205.18	2.41	2382.1	148.7
Minimum	--	-0.40	0.01	2317.5	144.7
Maximum	--	809.50	19.04	2565.0	160.1

4th Span on

50th Span off

Indiantown Cogeneration, L.L.P.
Auxiliary Boiler CEMS
Seven-Day Zero and Calibration Drift
Oxygen (%dv)

Data Set No.	Date	Time	Zero Reading		Zero Drift	High-Range Reading		Span Drift	Calibration Drift
			Initial	Final		Initial	Final		
			A	B	C=B-A	D	E	F=E-D	G=F-C
1	01-May-07	6:25	0.03	0.03	0.00	20.82	20.95	0.13	0.13
2	02-May-07	7:25	0.03	0.03	0.00	20.95	20.94	-0.01	-0.01
3	03-May-07	8:25	0.03	0.03	0.00	20.94	20.94	0.00	0.00
4	04-May-07	9:25	0.03	0.03	0.00	20.94	20.96	0.02	0.02
5	05-May-07	10:25	0.03	0.03	0.00	20.96	20.98	0.02	0.02
6	06-May-07	11:25	0.03	0.02	-0.01	20.98	20.98	0.00	0.01
7	07-May-07	12:25	0.02	0.02	0.00	20.98	20.88	-0.10	-0.10
					0.00				0.01
					0.00				0.06
Span Value	25	Maximum Zero Drift			0.00%	Maximum Calibration Drift			0.07%

$$\text{Arithmetic Mean } (\bar{x}) = \frac{1}{n} \sum_{i=1}^n X_i$$

$$\text{Confidence Interval } (CI_{95}) = \frac{t_{.975}}{n\sqrt{n-1}} \sqrt{n \sum x_i^2 - (\sum x_i)^2}$$

$$\text{Drift} = (|\bar{x}| + |CI_{95}|)$$

Indiantown Cogeneration, L.L.P.
Auxiliary Boiler CEMS
Seven-Day Zero and Calibration Drift
Nitrogen Oxides (ppmdv)

Data Set No.	Date	Time	Zero Reading		Zero Drift	High-Range Reading		Span Drift	Calibration Drift	
			Initial	Final		Initial	Final			
			A	B	C=B-A	D	E	F=E-D	G=F-C	
1	01-May-07	6:25	-0.71	-0.50	0.21	274.05	273.73	-0.32	-0.53	
2	02-May-07	6:25	-0.50	-0.56	-0.06	273.73	270.64	-3.09	-3.03	
3	03-May-07	6:25	-0.56	-0.59	-0.03	270.64	271.30	0.66	0.69	
4	04-May-07	6:25	-0.59	-0.60	-0.01	271.30	274.38	3.08	3.09	
5	05-May-07	6:25	-0.60	-0.55	0.05	274.38	274.43	0.05	0.00	
6	06-May-07	6:25	-0.55	-0.46	0.09	274.43	273.89	-0.54	-0.63	
7	07-May-07	6:25	-0.46	-0.44	0.02	273.89	273.26	-0.63	-0.65	
Arithmetic Mean					0.04	Arithmetic Mean				
Confidence Interval					0.08	Confidence Interval				
Span Value					300	Calibration Drift				
Zero Drift					0.04%	0.62%				

$$\text{Arithmetic Mean } (\bar{x}) = \frac{1}{n} \sum_{i=1}^n X_i$$

$$\text{Confidence Interval } (CI_{95}) = \frac{t_{.975}}{n\sqrt{n-1}} \sqrt{n \sum x_i^2 - (\sum x_i)^2}$$

$$\text{Drift} = \frac{(|\bar{x}| + |CI_{95}|)}{\text{SpanValue}}$$

Indiantown Cogeneration, L.L.P.
Auxiliary Boiler CEMS
Seven-Day Zero and Calibration Drift
Carbon Monoxide (ppmdv)

Data Set No.	Date	Time	Zero Reading		Zero Drift	High-Range Reading		Span Drift	Calibration Drift	
			Initial	Final		Initial	Final			
			A	B	C=B-A	D	E	F=E-D	G=F-C	
1	01-May-07	6:25	-0.11	-0.20	-0.09	184.10	183.19	-0.91	-0.82	
2	02-May-07	6:25	-0.20	-0.25	-0.05	183.19	184.48	1.29	1.34	
3	03-May-07	6:25	-0.25	-0.31	-0.06	184.48	184.40	-0.08	-0.02	
4	04-May-07	6:25	-0.31	-0.11	0.20	184.40	182.88	-1.52	-1.72	
5	05-May-07	6:25	-0.11	0.10	0.21	182.88	183.10	0.22	0.01	
6	06-May-07	6:25	0.10	0.13	0.03	183.10	183.00	-0.10	-0.13	
7	07-May-07	6:25	0.13	0.41	0.28	183.00	182.76	-0.24	-0.52	
Arithmetic Mean					0.07	Arithmetic Mean				
Confidence Interval					0.14	Confidence Interval				
Span Value	200	Zero Drift			0.11%	Calibration Drift			0.56%	

$$\text{Arithmetic Mean } (\bar{x}) = \frac{1}{n} \sum_{i=1}^n X_i$$

$$\text{Confidence Interval } (CI_{95}) = \frac{t_{.975}}{n\sqrt{n-1}} \sqrt{n \sum x_i^2 - (\sum x_i)^2}$$

$$\text{Drift} = \frac{(|\bar{x}| + |CI_{95}|)}{\text{SpanValue}}$$

Indiantown Cogeneration, L.L.P.
Auxiliary Boiler CEMS
Seven-Day Zero and Calibration Drift
Carbon Monoxide (ppmdv)

Data Set No.	Date	Time	Zero Reading		Zero Drift	High-Range Reading		Span Drift	Calibration Drift	
			Initial	Final		Initial	Final			
			A	B	C=B-A	D	E	F=E-D	G=F-C	
1	01-May-07	6:25	0.20	0.10	-0.10	826.10	824.00	-2.10	-2.00	
2	02-May-07	6:25	0.10	0.10	0.00	824.00	825.80	1.80	1.80	
3	03-May-07	6:25	0.10	0.10	0.00	825.80	826.90	1.10	1.10	
4	04-May-07	6:25	0.10	0.20	0.10	826.90	825.20	-1.70	-1.80	
5	05-May-07	6:25	0.20	0.50	0.30	825.20	824.90	-0.30	-0.60	
6	06-May-07	6:25	0.50	0.50	0.00	824.90	825.20	0.30	0.30	
7	07-May-07	6:25	0.50	0.60	0.10	825.20	825.00	-0.20	-0.30	
Arithmetic Mean					0.06	Arithmetic Mean				-0.21
Confidence Interval					0.12	Confidence Interval				1.30
Span Value	1000	Zero Drift			0.02%	Calibration Drift				0.15%

$$\text{Arithmetic Mean } (\bar{x}) = \frac{1}{n} \sum_{i=1}^n X_i$$

$$\text{Confidence Interval } (CI_{95}) = \frac{t_{.975}}{n\sqrt{n-1}} \sqrt{n \sum x_i^2 - (\sum x_i)^2}$$

$$\text{Drift} = \frac{(|\bar{x}| + |CI_{95}|)}{\text{SpanValue}}$$

Aux Boiler B Calibration Checks

Indiantown CoGen

Cal Checks for 5/1/2007 thru 5/12/2007, in Order by Parameter

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/1/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.710 ppm	-0.71 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/1/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.050 ppm	4.05 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/2/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.500 ppm	-0.5 ppm	±15 ppm	300 ppm	Unit online; Passed
5/2/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	273.730 ppm	3.73 ppm	±15 ppm	300 ppm	Unit online; Passed
5/3/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.560 ppm	-0.56 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/3/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	270.640 ppm	0.64 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/4/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.590 ppm	-0.59 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/4/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	271.300 ppm	1.3 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/5/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.600 ppm	-0.6 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/5/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.380 ppm	4.38 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/6/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.550 ppm	-0.55 ppm	±15 ppm	300 ppm	Unit online; Passed
5/6/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.430 ppm	4.43 ppm	±15 ppm	300 ppm	Unit online; Passed
5/7/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.460 ppm	-0.46 ppm	±15 ppm	300 ppm	Unit online; Passed
5/7/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	273.890 ppm	3.89 ppm	±15 ppm	300 ppm	Unit online; Passed
5/8/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.440 ppm	-0.44 ppm	±15 ppm	300 ppm	Unit online; Passed
5/8/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	273.260 ppm	3.26 ppm	±15 ppm	300 ppm	Unit online; Passed
5/9/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.470 ppm	-0.47 ppm	±15 ppm	300 ppm	Unit online; Passed
5/9/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.110 ppm	4.11 ppm	±15 ppm	300 ppm	Unit online; Passed
5/10/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.450 ppm	-0.45 ppm	±15 ppm	300 ppm	Unit online; Passed
5/10/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	271.280 ppm	1.28 ppm	±15 ppm	300 ppm	Unit online; Passed
5/11/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.570 ppm	-0.57 ppm	±15 ppm	300 ppm	Unit online; Passed
5/11/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	270.460 ppm	0.46 ppm	±15 ppm	300 ppm	Unit online; Passed
5/12/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.450 ppm	-0.45 ppm	±15 ppm	300 ppm	Unit online; Passed
5/12/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	270.710 ppm	0.71 ppm	±15 ppm	300 ppm	Unit online; Passed

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Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/1/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.110 ppm	-0.11 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/1/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	184.100 ppm	1.1 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/1/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/1/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	826.100 ppm	15.1 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/2/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.200 ppm	-0.2 ppm	±20 ppm	200 ppm	Unit online; Passed
5/2/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.190 ppm	0.19 ppm	±20 ppm	200 ppm	Unit online; Passed
5/2/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/2/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	824.000 ppm	13 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/3/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.250 ppm	-0.25 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/3/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	184.480 ppm	1.48 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/3/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/3/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.800 ppm	14.8 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.310 ppm	-0.31 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	184.400 ppm	1.4 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	826.900 ppm	15.9 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.110 ppm	-0.11 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.880 ppm	-0.12 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.200 ppm	14.2 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/6/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±20 ppm	200 ppm	Unit online; Passed
5/6/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.100 ppm	0.1 ppm	±20 ppm	200 ppm	Unit online; Passed
5/6/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.500 ppm	0.5 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/6/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	824.900 ppm	13.9 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/7/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.130 ppm	0.13 ppm	±20 ppm	200 ppm	Unit online; Passed
5/7/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.000 ppm	0 ppm	±20 ppm	200 ppm	Unit online; Passed
5/7/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.500 ppm	0.5 ppm	±100 ppm	1000 ppm	Unit online; Passed

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Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/7/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.200 ppm	14.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.410 ppm	0.41 ppm	±20 ppm	200 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.760 ppm	-0.24 ppm	±20 ppm	200 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.600 ppm	0.6 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.000 ppm	14 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±20 ppm	200 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.690 ppm	-0.31 ppm	±20 ppm	200 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.200 ppm	14.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.140 ppm	-0.14 ppm	±20 ppm	200 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.670 ppm	-0.33 ppm	±20 ppm	200 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.900 ppm	14.9 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.270 ppm	-0.27 ppm	±20 ppm	200 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.680 ppm	0.68 ppm	±20 ppm	200 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.300 ppm	0.3 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.600 ppm	14.6 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.310 ppm	0.31 ppm	±20 ppm	200 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.660 ppm	0.66 ppm	±20 ppm	200 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.600 ppm	0.6 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.700 ppm	14.7 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/1/2007 6:25 AM	O2%	Single	Zero	0.000%	0.040%	0.04%	±1%	25%	Unit offline; Passed
5/1/2007 6:25 AM	O2%	Single	Span	20.950%	20.820%	-0.13%	±1%	25%	Unit offline; Passed
5/2/2007 6:25 AM	O2%	Single	Zero	0.000%	0.020%	0.02%	±1%	25%	Unit online; Passed
5/2/2007 6:25 AM	O2%	Single	Span	20.950%	20.870%	-0.08%	±1%	25%	Unit online; Passed
5/3/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit offline; Passed
5/3/2007 6:25 AM	O2%	Single	Span	20.950%	20.810%	-0.14%	±1%	25%	Unit offline; Passed

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Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/4/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit offline; Passed
5/4/2007 6:25 AM	O2%	Single	Span	20.950%	20.820%	-0.13%	±1%	25%	Unit offline; Passed
5/5/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit offline; Passed
5/5/2007 6:25 AM	O2%	Single	Span	20.950%	20.950%	0%	±1%	25%	Unit offline; Passed
5/6/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/6/2007 6:25 AM	O2%	Single	Span	20.950%	20.940%	-0.01%	±1%	25%	Unit online; Passed
5/7/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/7/2007 6:25 AM	O2%	Single	Span	20.950%	20.940%	-0.01%	±1%	25%	Unit online; Passed
5/8/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/8/2007 6:25 AM	O2%	Single	Span	20.950%	20.960%	0.01%	±1%	25%	Unit online; Passed
5/9/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/9/2007 6:25 AM	O2%	Single	Span	20.950%	20.980%	0.03%	±1%	25%	Unit online; Passed
5/10/2007 6:25 AM	O2%	Single	Zero	0.000%	0.020%	0.02%	±1%	25%	Unit online; Passed
5/10/2007 6:25 AM	O2%	Single	Span	20.950%	20.980%	0.03%	±1%	25%	Unit online; Passed
5/11/2007 6:25 AM	O2%	Single	Zero	0.000%	0.020%	0.02%	±1%	25%	Unit online; Passed
5/11/2007 6:25 AM	O2%	Single	Span	20.950%	20.880%	-0.07%	±1%	25%	Unit online; Passed
5/12/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/12/2007 6:25 AM	O2%	Single	Span	20.950%	20.880%	-0.07%	±1%	25%	Unit online; Passed

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Aux Boiler A Calibration Checks

Indiantown CoGen

Cal Checks for 5/1/2007 thru 5/12/2007, in Order by Parameter

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/1/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.710 ppm	-0.71 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/1/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.050 ppm	4.05 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/2/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.500 ppm	-0.5 ppm	±15 ppm	300 ppm	Unit online; Passed
5/2/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	273.730 ppm	3.73 ppm	±15 ppm	300 ppm	Unit online; Passed
5/3/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.560 ppm	-0.56 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/3/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	270.640 ppm	0.64 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/4/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.590 ppm	-0.59 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/4/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	271.300 ppm	1.3 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/5/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.600 ppm	-0.6 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/5/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.380 ppm	4.38 ppm	±15 ppm	300 ppm	Unit offline; Passed
5/6/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.550 ppm	-0.55 ppm	±15 ppm	300 ppm	Unit online; Passed
5/6/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.430 ppm	4.43 ppm	±15 ppm	300 ppm	Unit online; Passed
5/7/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.460 ppm	-0.46 ppm	±15 ppm	300 ppm	Unit online; Passed
5/7/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	273.890 ppm	3.89 ppm	±15 ppm	300 ppm	Unit online; Passed
5/8/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.440 ppm	-0.44 ppm	±15 ppm	300 ppm	Unit online; Passed
5/8/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	273.260 ppm	3.26 ppm	±15 ppm	300 ppm	Unit online; Passed
5/9/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.470 ppm	-0.47 ppm	±15 ppm	300 ppm	Unit online; Passed
5/9/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	274.110 ppm	4.11 ppm	±15 ppm	300 ppm	Unit online; Passed
5/10/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.450 ppm	-0.45 ppm	±15 ppm	300 ppm	Unit online; Passed
5/10/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	271.280 ppm	1.28 ppm	±15 ppm	300 ppm	Unit online; Passed
5/11/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.570 ppm	-0.57 ppm	±15 ppm	300 ppm	Unit online; Passed
5/11/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	270.460 ppm	0.46 ppm	±15 ppm	300 ppm	Unit online; Passed
5/12/2007 6:25 AM	NOx ppm	Single	Zero	0.000 ppm	-0.450 ppm	-0.45 ppm	±15 ppm	300 ppm	Unit online; Passed
5/12/2007 6:25 AM	NOx ppm	Single	Span	270.000 ppm	270.710 ppm	0.71 ppm	±15 ppm	300 ppm	Unit online; Passed

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Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/1/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.110 ppm	-0.11 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/1/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	184.100 ppm	1.1 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/1/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/1/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	826.100 ppm	15.1 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/2/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.200 ppm	-0.2 ppm	±20 ppm	200 ppm	Unit online; Passed
5/2/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.190 ppm	0.19 ppm	±20 ppm	200 ppm	Unit online; Passed
5/2/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/2/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	824.000 ppm	13 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/3/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.250 ppm	-0.25 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/3/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	184.480 ppm	1.48 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/3/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/3/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.800 ppm	14.8 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.310 ppm	-0.31 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	184.400 ppm	1.4 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/4/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	826.900 ppm	15.9 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.110 ppm	-0.11 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.880 ppm	-0.12 ppm	±20 ppm	200 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/5/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.200 ppm	14.2 ppm	±100 ppm	1000 ppm	Unit offline; Passed
5/6/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±20 ppm	200 ppm	Unit online; Passed
5/6/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.100 ppm	0.1 ppm	±20 ppm	200 ppm	Unit online; Passed
5/6/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.500 ppm	0.5 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/6/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	824.900 ppm	13.9 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/7/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.130 ppm	0.13 ppm	±20 ppm	200 ppm	Unit online; Passed
5/7/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.000 ppm	0 ppm	±20 ppm	200 ppm	Unit online; Passed
5/7/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.500 ppm	0.5 ppm	±100 ppm	1000 ppm	Unit online; Passed

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/7/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.200 ppm	14.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.410 ppm	0.41 ppm	±20 ppm	200 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.760 ppm	-0.24 ppm	±20 ppm	200 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.600 ppm	0.6 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/8/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.000 ppm	14 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.100 ppm	0.1 ppm	±20 ppm	200 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.690 ppm	-0.31 ppm	±20 ppm	200 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/9/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.200 ppm	14.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.140 ppm	-0.14 ppm	±20 ppm	200 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	182.670 ppm	-0.33 ppm	±20 ppm	200 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.200 ppm	0.2 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/10/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.900 ppm	14.9 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	-0.270 ppm	-0.27 ppm	±20 ppm	200 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.680 ppm	0.68 ppm	±20 ppm	200 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.300 ppm	0.3 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/11/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.600 ppm	14.6 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	Low	Zero	0.000 ppm	0.310 ppm	0.31 ppm	±20 ppm	200 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	Low	Span	183.000 ppm	183.660 ppm	0.66 ppm	±20 ppm	200 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	High	Zero	0.000 ppm	0.600 ppm	0.6 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/12/2007 6:25 AM	CO ppm	High	Span	811.000 ppm	825.700 ppm	14.7 ppm	±100 ppm	1000 ppm	Unit online; Passed
5/1/2007 6:25 AM	O2%	Single	Zero	0.000%	0.040%	0.04%	±1%	25%	Unit offline; Passed
5/1/2007 6:25 AM	O2%	Single	Span	20.950%	20.820%	-0.13%	±1%	25%	Unit offline; Passed
5/2/2007 6:25 AM	O2%	Single	Zero	0.000%	0.020%	0.02%	±1%	25%	Unit online; Passed
5/2/2007 6:25 AM	O2%	Single	Span	20.950%	20.870%	-0.08%	±1%	25%	Unit online; Passed
5/3/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit offline; Passed
5/3/2007 6:25 AM	O2%	Single	Span	20.950%	20.810%	-0.14%	±1%	25%	Unit offline; Passed

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
5/4/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit offline; Passed
5/4/2007 6:25 AM	O2%	Single	Span	20.950%	20.820%	-0.13%	±1%	25%	Unit offline; Passed
5/5/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit offline; Passed
5/5/2007 6:25 AM	O2%	Single	Span	20.950%	20.950%	0%	±1%	25%	Unit offline; Passed
5/6/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/6/2007 6:25 AM	O2%	Single	Span	20.950%	20.940%	-0.01%	±1%	25%	Unit online; Passed
5/7/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/7/2007 6:25 AM	O2%	Single	Span	20.950%	20.940%	-0.01%	±1%	25%	Unit online; Passed
5/8/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/8/2007 6:25 AM	O2%	Single	Span	20.950%	20.960%	0.01%	±1%	25%	Unit online; Passed
5/9/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/9/2007 6:25 AM	O2%	Single	Span	20.950%	20.980%	0.03%	±1%	25%	Unit online; Passed
5/10/2007 6:25 AM	O2%	Single	Zero	0.000%	0.020%	0.02%	±1%	25%	Unit online; Passed
5/10/2007 6:25 AM	O2%	Single	Span	20.950%	20.980%	0.03%	±1%	25%	Unit online; Passed
5/11/2007 6:25 AM	O2%	Single	Zero	0.000%	0.020%	0.02%	±1%	25%	Unit online; Passed
5/11/2007 6:25 AM	O2%	Single	Span	20.950%	20.880%	-0.07%	±1%	25%	Unit online; Passed
5/12/2007 6:25 AM	O2%	Single	Zero	0.000%	0.030%	0.03%	±1%	25%	Unit online; Passed
5/12/2007 6:25 AM	O2%	Single	Span	20.950%	20.880%	-0.07%	±1%	25%	Unit online; Passed

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