Indiantown Cogeneration, L.P.

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September 20, 2007

Lee C. Hoefert
Florida Department of Environmental Protection
400 North Congress Avenue,
Suite 200
West Palm Beach, FL 33401

Subject: **Re- Submission of Auxiliary Boilers 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 Boilers 1 & 2**

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 Boilers 1 & 2 and the common CEMS.

In accordance to Chapter 62-213-440(1)(b)3-c, F.A.C., I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.
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
EPA Region IV
File

CleanAir.

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CleanAir.

Report on the Initial Compliance Determination of the Auxiliary Boilers
Performed for:
Indiantown Cogeneration, L.P.
Indiantown Cogeneration, L.P.
Indiantown, FL
CleanAir Project No: 10293
Client Reference No: I-10644
CleanAir Submittal Date: September 18, 2007
CleanAir Revision No: 0

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Indiantown Cogeneration, L.P.
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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: 10293
Revision 0: September 18, 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,

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Reviewed by,

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REVISION HISTORY

REPORT ON THE INITIAL COMPLIANCE DETERMINATION OF THE AUXILIARY BOILERS

Revision History

Revision No:	Date	Pages	Comments
0	09/18/2007	All	Final version of original document.

CONTENTS

PROJECT OVERVIEW

Indiantown Cogeneration, L.P. contracted Clean Air Engineering (CleanAir) to perform a series of air emission measurements at their Indiantown, Florida facility.

PROJECT OBJECTIVE

The objective of the test program was to demonstrate initial compliance of the two (2) Victory Energy Model 23M Keystone boilers while firing propane and natural gas with the Florida Department of Environmental Protection ARMS Permit No. 0850102-008-AC and 40 CFR 63 Subpart DDDD requirements.

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., O_2, CO_2, H_2O)
- flue gas temperature and volumetric flow

PROJECT CONTACTS

Indiantown Cogeneration (ICLP)	Clean Air Engineering – Project Manager
Nicholas Laryea Indiantown Cogeneration, L.P. 13303 SW Silver Fox Lane Indiantown, Florida 34956 (772) 597-6500 ext. 19: Office (772) 597-6524: Facsimile NicholasLaryea@Cogentrix.com: email	Bob Preksta Clean Air Engineering 404 Stockbridge Way Mt. Juliet, Tennessee 37122 (615) 773-7177: Office (412) 787-9130: Mobile (615) 773-7177: Facsimile bpreksta@cleanair.com: email

The testing took place at the Auxiliary Boiler Common Steel Stack on August 17 through 20, 2007. Coordinating the field testing were:

N. Laryea – Indiantown Cogeneration, L.P.
J. Reppert – Clean Air Engineering

PROJECT OVERVIEW

Table 1-1 outlines the schedule adhered to during the test program. Table 1-2 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- 4 on pages 2-1 through 2-4.

Table 1-1:
Schedule of Activities

Run Number	Location	EPA Methods	Analyte	Date	Start Time	End Time
1	Aux Boiler A Propane	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/17/07	12:59	13:59
2	Aux Boiler A Propane	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/17/07	14:34	15:34
3	Aux Boiler A Propane	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/17/07	15:49	16:49
1	Aux Boiler A Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/18/07	09:33	10:33
2	Aux Boiler A Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/18/07	11:59	12:59
3	Aux Boiler A Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/18/07	13:19	14:19
4	Aux Boiler A Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/18/07	15:16	16:16
1	Aux Boiler B Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/18/07	17:48	18:48
2	Aux Boiler B Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/18/07	19:02	20:02
3	Aux Boiler B Natural Gas	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/20/07	09:03	10:03
1	Aux Boiler B Propane	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/19/07	08:39	09:39
2	Aux Boiler B Propane	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/19/07	09:54	10:54
3	Aux Boiler B Propane	1, 2, 3A, 4, 7E, 9, 10 25A	O2, CO2, NOx, Opacity, CO, THC	8/19/07	11:18	12:18

Table 1-2:
Summary of Compliance Testing

Source Parameter	Sampling Method	Average Emission	Permit Limit[1]
Auxiliary Boiler A (Natural Gas)			
NO_x (lb/MMBtu, based of Fd Factor)	EPA M7E,19	0.0387	0.04
Opacity (%)	EPA M9	0	20
CO (lb/MMBtu, based on Fd Factor)	EPA M10,19	0.0079	0.04
THC (lb/hr)	EPA M25A	0.15	0.70
Auxiliary Boiler A (Propane)			
NO_x (lb/MMBtu, based of Fd Factor)	EPA M7E,19	0.0395	0.04
Opacity (%)	EPA M9	0	20
CO (lb/MMBtu, based on Fd Factor)	EPA M10,19	0.0031	0.04
THC (lb/hr)	EPA M25A	0.08	0.70
Auxiliary Boiler B (Natural Gas)			
NO_x (lb/MMBtu, based of Fd Factor)	EPA M7E,19	0.0343	0.04
Opacity (%)	EPA M9	0	20
CO (lb/MMBtu, based on Fd Factor)	EPA M10,19	0.0192	0.04
THC (lb/hr)	EPA M25A	0.17	0.70
Auxiliary Boiler B (Propane)			
NO_x (lb/MMBtu, based of Fd Factor)	EPA M7E,19	0.0347	0.04
Opacity (%)	EPA M9	0	20
CO (lb/MMBtu, based on Fd Factor)	EPA M10,19	0.0018	0.04
THC (lb/hr)	EPA M25A	0.04	0.70

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

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 A and B while operating at full load. Testing was performed while each unit was fired with natural gas and with propane. A series of three (3) 60-minute test runs were performed on each unit while firing both fuels. 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.

The instrumental methods (NO_x, CO, THC) were converted into the applicable permit limits (lb/MMBtu) using the Dry Fuel Factor (F_d) of 8,710 dscf/MMBtu and Carbon Based Fuel Factor (F_c) of 1,040 scf/MMBtu for natural gas and 1,190 scf/MMBtu for propane. These factors as referenced in EPA Method 19 Table 19-2 "F Factors for Various Fuels".

The first test run performed on Auxiliary Boiler A while firing natural gas was below the permit limit but slightly higher than expected. An additional three test runs were performed and the results of all four test runs are presented and used in the reported average.

Process Data

Process data was collected for each test runs. The test times reported in the report are Eastern Daylight Savings Time (EDT) while the plant's CEM system remains on Eastern Standard Time (EST) the entire year. Therefore, there is a one-hour time period difference between the process data test period and reference method run period. The correction factor for the time differential is as follows. EST + 1 Hour = EDT.

DISCUSSION OF TEST PROGRAM (CONTINUED)

O_2, CO_2, NO_x, CO and THC

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

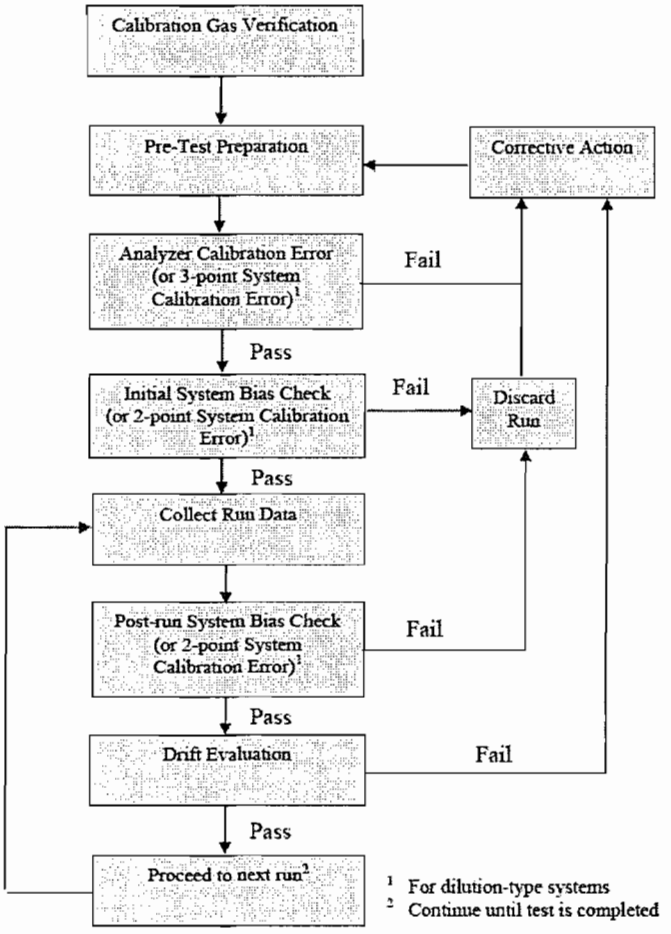


Figure 1-1: Testing Flow Chart (EPA Method 7E)

DISCUSSION OF TEST PROGRAM (CONTINUED)

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 ± 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 ± 5% of the calibration gas value.
- NO_2 to NO conversion efficiency test in which a calibration gas containing 40 to 60 ppm of NO_2 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 ± 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.

DISCUSSION OF TEST PROGRAM (CONTINUED)

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 were collected from a single point that most closely matched the mean.

Sample Collection: The sampling probe was positioned at the sample point and a minimum system purge of twice the system response time was required prior to the collection of test data. 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 ± 5% of the calibration span value.

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).

DISCUSSION OF TEST PROGRAM (CONTINUED)

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.

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

DISCUSSION OF TEST PROGRAM (CONTINUED)

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.

RESULTS

Table 2-1:
Auxiliary Boiler A – NO_x, CO, Opacity and THC – Propane

Run No.		1	2	3	Average
Date (2007)		Aug 17	Aug 17	Aug 17	
Start Time (approx.)		12:59	14:34	15:49	
Stop Time (approx.)		13:59	15:34	16:49	
Operational Parameters					
C_1	Heat Input (MMBtu/hr)	123.6	123.6	123.6	**123.6**
C_2	Propane Flow (scfm)	816.4	816.3	816.4	**816.4**
C_3	Dry Fuel Factor (F_d)	8,710	8,710	8,710	**8,710**
C_4	Carbon Based Fuel Factor (F_c)	1,190	1,190	1,190	**1,190**
Gas Conditions					
O_2	Oxygen (dry volume %)	4.5	4.5	4.5	**4.5**
CO_2	Carbon dioxide (dry volume %)	10.8	10.7	10.7	**10.7**
T_s	Sample temperature (°F)	404	408	406	**406**
B_{wo}	Moisture measured in sample (% by volume)	12.72	13.96	14.35	**13.68**
Gas Flow Rate					
Q_a	Volumetric flow rate, actual (acfm)	48,826	50,283	49,368	**49,492**
Q_s	Volumetric flow rate, standard (scfm)	29,813	30,548	30,042	**30,134**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	26,020	26,285	25,730	**26,012**
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)	30.1	28.9	30.4	**29.8**
E_{Fd}	NOx Rate - Fd-based (lb/MMBtu)	3.99E-02	3.83E-02	4.02E-02	**3.95E-02**
F_{Fc}	NOx Rate - Fc-based (lb/MMBtu)	3.98E-02	3.83E-02	4.04E-02	**3.95E-02**
$E_{lb/hr}$	NO_x Rate (lb/hr)	5.61	5.44	5.60	**5.55**
Carbon Monoxide (CO) Results					
C_{sd}	CO Concentration (ppmdv)	4.27	3.59	3.53	**3.80**
E_{Fd}	CO Rate - Fd-based (lb/MMBtu)	3.45E-03	2.90E-03	2.85E-03	**3.06E-03**
F_{Fc}	CO Rate - Fc-based (lb/MMBtu)	3.44E-03	2.90E-03	2.86E-03	**3.06E-03**
$E_{lb/hr}$	CO Rate (lb/hr)	0.48	0.41	0.40	**0.43**
Total Hydrocarbons (THC) Results, propane basis					
C_{sw}	THC Concentration (ppmdw)	0.79	0.18	0.26	**0.41**
C_{sd}	THC Concentration (ppmdv)	0.91	0.21	0.31	**0.48**
E_{Fd}	THC Rate - Fd-based (lb/MMBtu)	1.16E-03	2.66E-04	3.91E-04	**6.05E-04**
F_{Fc}	THC Rate - Fc-based (lb/MMBtu)	1.15E-03	2.66E-04	3.92E-04	**6.04E-04**
$E_{lb/hr}$	THC Rate (lb/hr)	0.14	0.04	0.05	**0.08**

RESULTS

Table 2-2:
Auxiliary Boiler A – NO_x, CO, Opacity and THC – Natural Gas

Run No.		1	2	3	4	Average
Date (2007)		Aug 18	Aug 18	Aug 18	Aug 18	
Start Time (approx.)		09:33	11:59	13:19	15:16	
Stop Time (approx.)		10:33	12:59	14:19	16:16	
Operational Parameters						
C_1	Heat Input (MMBtu/hr)	147.4	155.4	156.2	157.6	**154.2**
C_2	Natural Gas Flow (scfm)	2,361.5	2,490.4	2,503.2	2,524.6	**2,469.9**
C_3	Dry Fuel Factor (F_d)	8,710	8,710	8,710	8,710	**8,710**
C_4	Carbon Based Fuel Factor (F_c)	1,040	1,040	1,040	1,040	**1,040**
Gas Conditions						
O_2	Oxygen (dry volume %)	4.3	4.4	4.4	4.2	**4.3**
CO_2	Carbon dioxide (dry volume %)	9.3	9.2	9.2	9.4	**9.3**
T_s	Sample temperature (°F)	414	438	435	433	**430**
B_{wo}	Moisture measured in sample (% by volume)	18.19	17.70	17.34	17.52	**17.69**
Gas Flow Rate						
Q_a	Volumetric flow rate, actual (acfm)	60,176	65,118	64,517	64,743	**63,638**
Q_s	Volumetric flow rate, standard (scfm)	36,253	38,183	37,957	38,186	**37,645**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	29,658	31,424	31,375	31,497	**30,988**
Visible Emissions (Opacity) Results						
C_{sd}	Opacity (%)	0.0	0.0	0.0	0.0	**0.0**
Nitrogen Oxides (NO_x) Results						
C_{sd}	NO_x Concentration (ppmdv)	28.5	29.6	30.0	29.9	**29.5**
E_{Fd}	NOx Rate - Fd-based (lb/MMBtu)	3.74E-02	3.90E-02	3.95E-02	3.90E-02	**3.87E-02**
F_{Fc}	NOx Rate - Fc-based (lb/MMBtu)	3.81E-02	4.01E-02	4.05E-02	3.97E-02	**3.96E-02**
$E_{lb/hr}$	NO_x Rate (lb/hr)	6.06	6.67	6.75	6.75	**6.56**
Carbon Monoxide (CO) Results						
C_{sd}	CO Concentration (ppmdv)	14.40	7.38	8.57	9.36	**9.93**
E_{Fd}	CO Rate - Fd-based (lb/MMBtu)	1.15E-02	5.91E-03	6.87E-03	7.42E-03	**7.92E-03**
F_{Fc}	CO Rate - Fc-based (lb/MMBtu)	1.17E-02	6.07E-03	7.03E-03	7.57E-03	**8.09E-03**
$E_{lb/hr}$	CO Rate (lb/hr)	1.86	1.01	1.17	1.17	**1.30**
Total Hydrocarbons (THC) Results, propane basis						
C_{sw}	THC Concentration (ppmdw)	1.49	0.40	0.40	0.44	**0.68**
C_{sd}	THC Concentration (ppmdv)	1.82	0.48	0.48	0.54	**0.83**
E_{Fd}	THC Rate - Fd-based (lb/MMBtu)	2.29E-03	6.11E-04	6.09E-04	6.69E-04	**1.05E-03**
F_{Fc}	THC Rate - Fc-based (lb/MMBtu)	2.33E-03	6.28E-04	6.24E-04	6.82E-04	**1.07E-03**
$E_{lb/hr}$	THC Rate (lb/hr)	0.30	0.10	0.10	0.10	**0.15**

RESULTS

Table 2-3:
Auxiliary Boiler B – NO_x, CO, Opacity and THC – Natural Gas

Run No.		1	2	3	Average
Date (2007)		Aug 18	Aug 18	Aug 20	
Start Time (approx.)		17:48	19:02	09:03	
Stop Time (approx.)		18:48	20:02	10:03	
Operational Parameters					
C_1	Heat Input (MMBtu/hr)	146.1	147.4	163.4	**152.3**
C_2	Natural Gas Flow (scfm)	2,340.3	2,361.1	2,617.9	**2,439.8**
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	4.1	**4.4**
CO_2	Carbon dioxide (dry volume %)	9.1	9.1	9.4	**9.2**
T_s	Sample temperature (°F)	393	402	403	**400**
B_{wo}	Moisture measured in sample (% by volume)	14.10	13.87	14.72	**14.23**
Gas Flow Rate					
Q_a	Volumetric flow rate, actual (acfm)	56,685	57,246	57,095	**57,009**
Q_s	Volumetric flow rate, standard (scfm)	34,940	34,928	34,775	**34,881**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	30,012	30,084	29,657	**29,918**
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)	26.2	25.4	26.3	**25.9**
E_{Fd}	NOx Rate - Fd-based (lb/MMBtu)	3.50E-02	3.39E-02	3.40E-02	**3.43E-02**
F_{Fc}	NOx Rate - Fc-based (lb/MMBtu)	3.57E-02	3.45E-02	3.46E-02	**3.49E-02**
$E_{lb/hr}$	NO_x Rate (lb/hr)	5.62	5.47	5.58	**5.56**
Carbon Monoxide (CO) Results					
C_{sd}	CO Concentration (ppmdv)	21.83	20.73	29.22	**23.93**
E_{Fd}	CO Rate - Fd-based (lb/MMBtu)	1.78E-02	1.68E-02	2.30E-02	**1.92E-02**
F_{Fc}	CO Rate - Fc-based (lb/MMBtu)	1.81E-02	1.72E-02	2.34E-02	**1.96E-02**
$E_{lb/hr}$	CO Rate (lb/hr)	2.86	2.72	3.78	**3.12**
Total Hydrocarbons (THC) Results, propane basis					
C_{sw}	THC Concentration (ppmdw)	0.87	0.70	0.73	**0.77**
C_{sd}	THC Concentration (ppmdv)	1.01	0.82	0.86	**0.90**
E_{Fd}	THC Rate - Fd-based (lb/MMBtu)	1.29E-03	1.05E-03	1.07E-03	**1.13E-03**
F_{Fc}	THC Rate - Fc-based (lb/MMBtu)	1.32E-03	1.07E-03	1.09E-03	**1.16E-03**
$E_{lb/hr}$	THC Rate (lb/hr)	0.18	0.17	0.18	**0.17**

RESULTS

Table 2-4:
Auxiliary Boiler B – NO_x, CO, Opacity and THC – Propane

Run No.		1	2	3	Average
Date (2007)		Aug 19	Aug 19	Aug 19	
Start Time (approx.)		08:39	09:54	11:18	
Stop Time (approx.)		09:39	10:54	12:18	
Operational Parameters					
C_1	Heat Input (MMBtu/hr)	122.7	124.7	125.2	**124.2**
C_2	Propane Flow (scfm)	809.9	823.2	826.8	**820.0**
C_3	Dry Fuel Factor (F_d)	8,710	8,710	8,710	**8,710**
C_4	Carbon Based Fuel Factor (F_c)	1,190	1,190	1,190	**1,190**
Gas Conditions					
O_2	Oxygen (dry volume %)	5.5	5.4	5.3	**5.4**
CO_2	Carbon dioxide (dry volume %)	10.1	10.1	10.2	**10.1**
T_s	Sample temperature (°F)	393	402	403	**400**
B_{wo}	Moisture measured in sample (% by volume)	14.10	13.87	14.72	**14.23**
Gas Flow Rate					
Q_a	Volumetric flow rate, actual (acfm)	56,685	57,246	57,095	**57,009**
Q_s	Volumetric flow rate, standard (scfm)	34,940	34,928	34,775	**34,881**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	30,012	30,084	29,657	**29,918**
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)	23.7	25.0	25.5	**24.7**
E_{Fd}	NOx Rate - Fd-based (lb/MMBtu)	3.34E-02	3.49E-02	3.57E-02	**3.47E-02**
F_{Fc}	NOx Rate - Fc-based (lb/MMBtu)	3.34E-02	3.50E-02	3.57E-02	**3.47E-02**
$E_{lb/hr}$	NO_x Rate (lb/hr)	5.10	5.38	5.43	**5.30**
Carbon Monoxide (CO) Results					
C_{sd}	CO Concentration (ppmdv)	2.21	2.05	1.90	**2.05**
E_{Fd}	CO Rate - Fd-based (lb/MMBtu)	1.89E-03	1.75E-03	1.61E-03	**1.75E-03**
F_{Fc}	CO Rate - Fc-based (lb/MMBtu)	1.89E-03	1.75E-03	1.61E-03	**1.75E-03**
$E_{lb/hr}$	CO Rate (lb/hr)	0.29	0.27	0.25	**0.27**
Total Hydrocarbons (THC) Results, propane basis					
C_{sw}	THC Concentration (ppmdw)	0.16	0.19	0.12	**0.16**
C_{sd}	THC Concentration (ppmdv)	0.19	0.22	0.14	**0.18**
E_{Fd}	THC Rate - Fd-based (lb/MMBtu)	2.57E-04	2.90E-04	1.90E-04	**2.46E-04**
F_{Fc}	THC Rate - Fc-based (lb/MMBtu)	2.57E-04	2.90E-04	1.90E-04	**2.46E-04**
$E_{lb/hr}$	THC Rate (lb/hr)	0.03	0.04	0.03	**0.04**

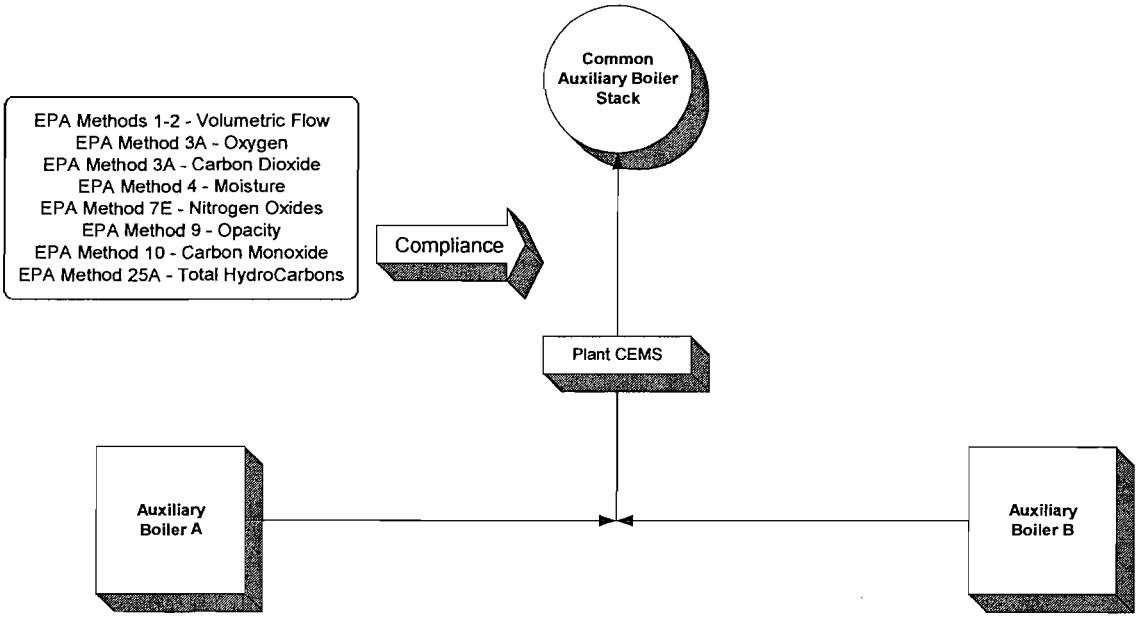
DESCRIPTION OF INSTALLATION

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 and single fuel being fired.

Figure 3-1: Process Schematic

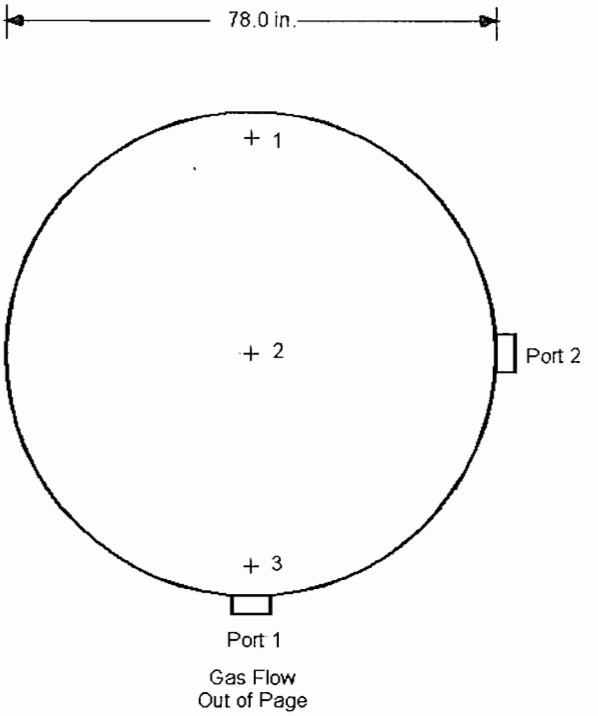
DESCRIPTION OF SAMPLING LOCATION

Compliance Test Program

The velocity traverse (volumetric flow) sampling point locations were determined according to EPA Method 1 (Figure 3-3).

The instrumental methods (O_2, CO_2, NO_x, CO and THC) initial stratification check traverse points were located at 16.7, 50.0 and 83.3% of the stack diameter (Figure 3-2). The stratification check indicated all points were within 5% of the mean value therefore sampling was performed at a single point.

DESCRIPTION OF SAMPLING LOCATION (CONTINUED)

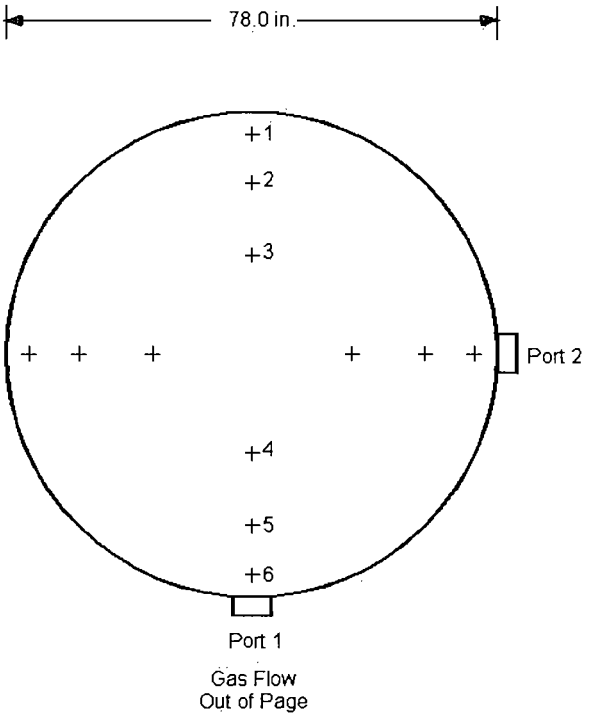


Sampling Point	Port to Point Distance (in.)
1	65.0 in. (83.3% of Diameter)
2	39.0 in. (50.0 % of Diameter)
3	13.0 in. (16.7% of Diameter)

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 Initial Stratification Point Determination (Performance Specification 2)

DESCRIPTION OF SAMPLING LOCATION (CONTINUED)



Sampling Point	Port to Point Distance (in.)
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

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. 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"

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.

Clean Air Engineering 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 Clean Air's internal Quality Manual will also be followed.

APPENDIX

TEST METHOD SPECIFICATIONS

A

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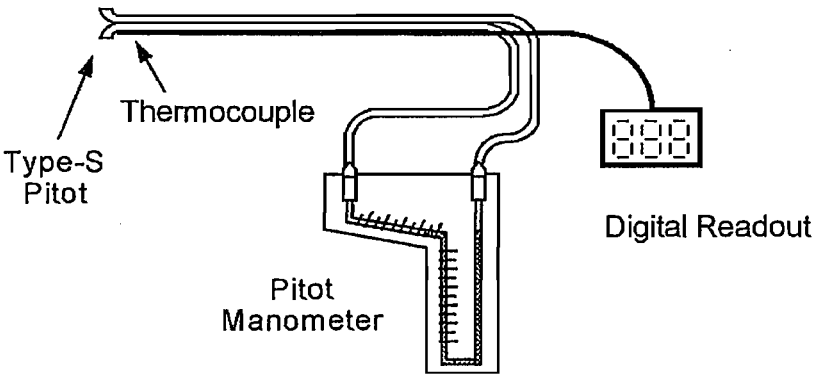
EPA Method 2
Sampling Train Configuration



Specification Sheet for EPA Method 4

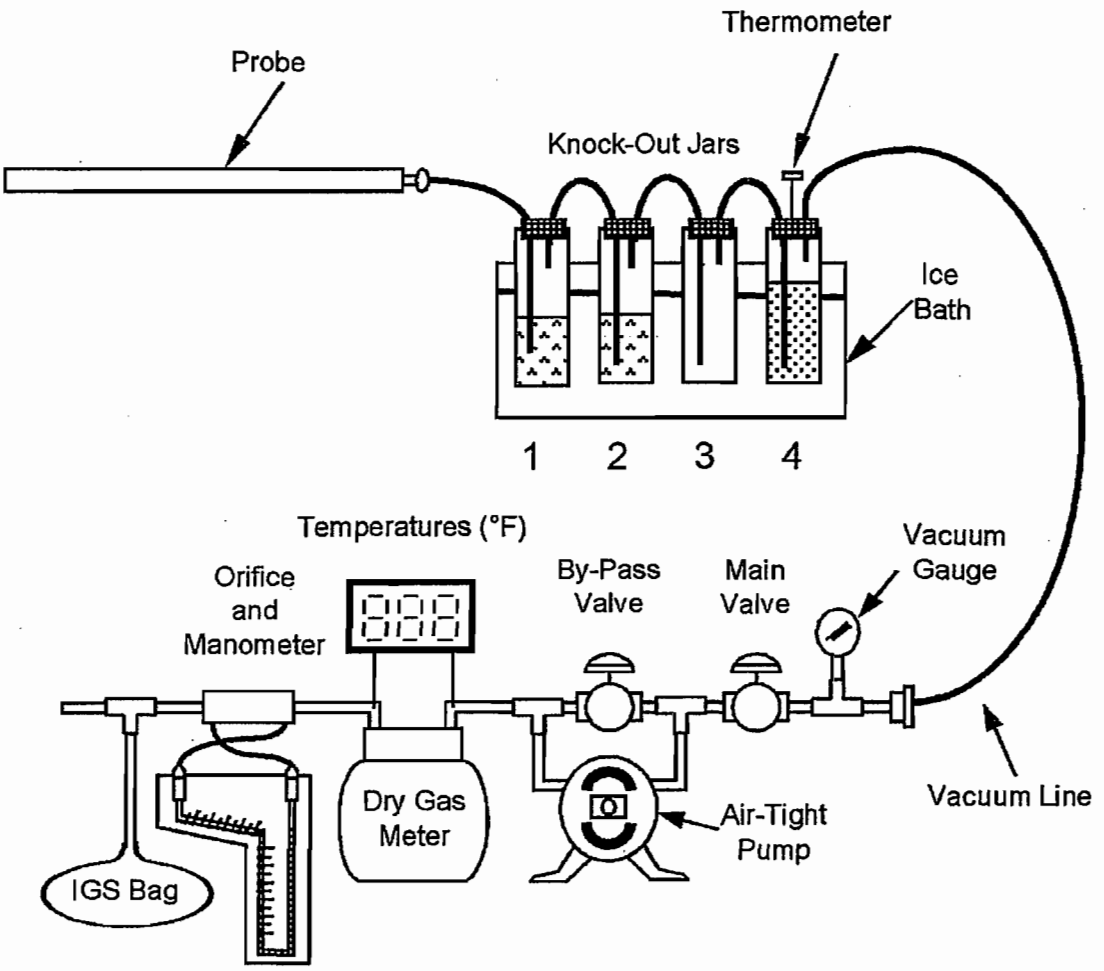
Source Location Name(s)	Auxiliary Boilers A & B
Pollutant(s) to be Determined	None
Other Parameters to be Determined from Train	Moisture

	Standard Method Specification	Actual Specification Used
Pollutant Sampling Information		
Duration of Run	N/A	60 minutes
No. of Sample Traverse Points	N/A	1
Sample Time per Point	N/A	60 minutes
Sampling Rate	Within 10% of Constant Rate	Constant Rate (±10%)
Sampling Probe		
Nozzle Material	N/A	None
Nozzle Design	N/A	N/A
Probe Liner Material	Stainless Steel, Glass, Other Metals, Plastic Tubing	Stainless Steel
Effective Probe Length	N/A	6 feet
Probe Temperature Set-Point	Prevent water condensation	None
Velocity Measuring Equipment		
Pitot Tube Design	N/A	None
Pitot Tube Coefficient	N/A	N/A
Pitot Tube Calibration by	N/A	N/A
Pitot Tube Attachment	N/A	N/A
Metering System Console		
Meter Type	Dry Gas Meter	Dry Gas Meter
Meter Accuracy	±2%	±1%
Meter Resolution	N/A	0.01 cubic feet
Meter Size	N/A	0.1 dcf/revolution
Meter Calibrated Against	Wet Test Meter or Standard DGM	Wet Test Meter
Pump Type	N/A	Rotary Vane
Temperature Measurements	N/A	Type K Thermocouple/Pyrometer
Temperature Resolution	5.4°F	1.0°F
ΔP Differential Pressure Gauge	Inclined Manometer or Equivalent	Inclined Manometer
ΔH Differential Pressure Gauge	Inclined Manometer or Equivalent	Inclined Manometer
Barometer	Mercury or Aneroid	Digital Barometer calibrated w/Mercury Aneroid
Filter Description		
Filter Location	In Stack or Exit of Probe	In-Stack
Filter Holder Material	Borosilicate Glass (for probe exit location)	Borosilicate Glass
Filter Support Material	Glass Frit	Teflon
Cyclone Material	N/A	None
Filter Heater Set-Point	Prevent condensation	248°F±25°F
Filter Material	Glass Wool (in-stack) or Fiberglass Mat (out of stack)	Glass Fiber
Other Components		
Description	N/A	N/A
Location	N/A	N/A
Operating Temperature	N/A	N/A

Specification Sheet for EPA Method 4

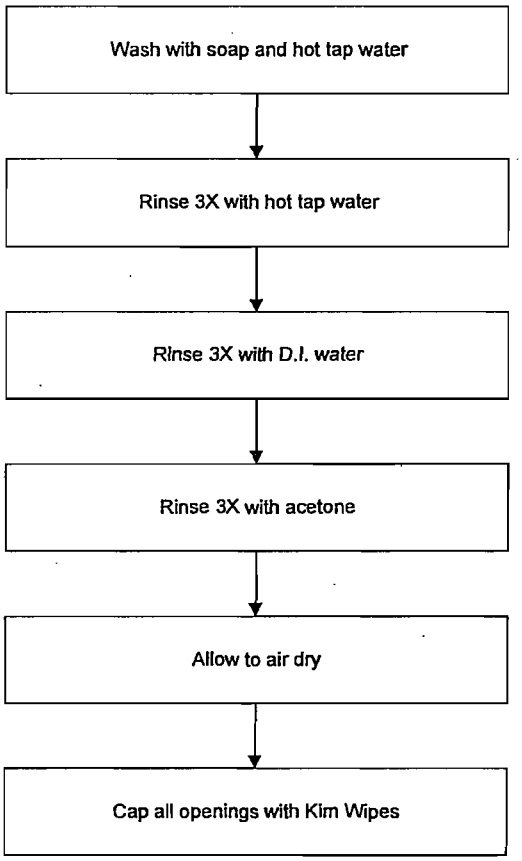
	Standard Method Specification	Actual Specification Used
Impinger Train Description		
Type of Glassware Connections	Ground Glass or Equivalent	Rubber Hose to Metal Hardware
Connection to Probe or Filter by	Flexible Line	Flexible Rubber Line
Number of Impingers	4	4
Impinger Stem Types		
Impinger 1	Modified-Greenburg Smith	Knock Out Jars
Impinger 2	Greenburg-Smith	Knock Out Jars
Impinger 3	Modified Greenburg-Smith	Knock Out Jars
Impinger 4	Modified Greenburg-Smith	Knock Out Jars
Impinger 5		
Impinger 6		
Impinger 7		
Impinger 8		
Gas Density Determination		
Sample Collection	N/A	N/A
Sample Collection Medium	N/A	N/A
Sample Analysis	N/A	N/A
Sample Recovery Information		
Probe Brush Material	N/A	N/A
Probe Rinse Reagent	N/A	N/A
Probe Rinse Wash Bottle Material	N/A	N/A
Probe Rinse Storage Container	N/A	N/A
Filter Recovered?	No	No
Filter Storage Container	N/A	N/A
Impinger Contents Recovered?	No	No
Impinger Rinse Reagent	N/A	N/A
Impinger Wash Bottle	N/A	N/A
Impinger Storage Container	N/A	N/A
Analytical Information		
Method 4 H_2O Determination by	Volumetric or Gravimetric	Gravimetric and Volumetric
Filter Preparation Conditions	N/A	N/A
Front-Half Rinse Preparation	N/A	N/A
Back-Half Analysis	N/A	N/A
Additional Analysis	N/A	None

EPA Method 4
Sampling Train Configuration

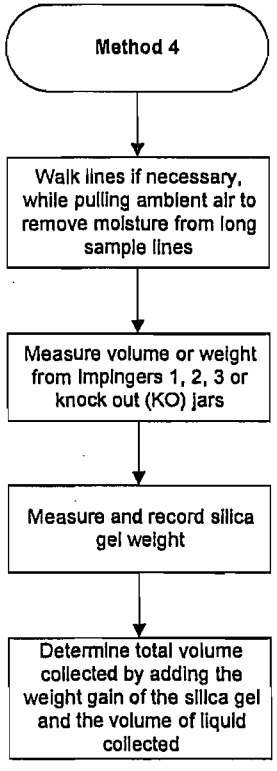


Knock Out Jar Contents	
Knock Out Jar 1	100 ml H2O
Knock Out Jar 2	100 ml H2O
Knock Out Jar 3	Empty
Knock Out Jar 4	300 g Silica Gel

EPA Method 4
Glassware Preparation Procedures



EPA Method 4
Analytical Recovery Flowchart



Specification Sheet for EPA Methods 7E, 10 and 25A

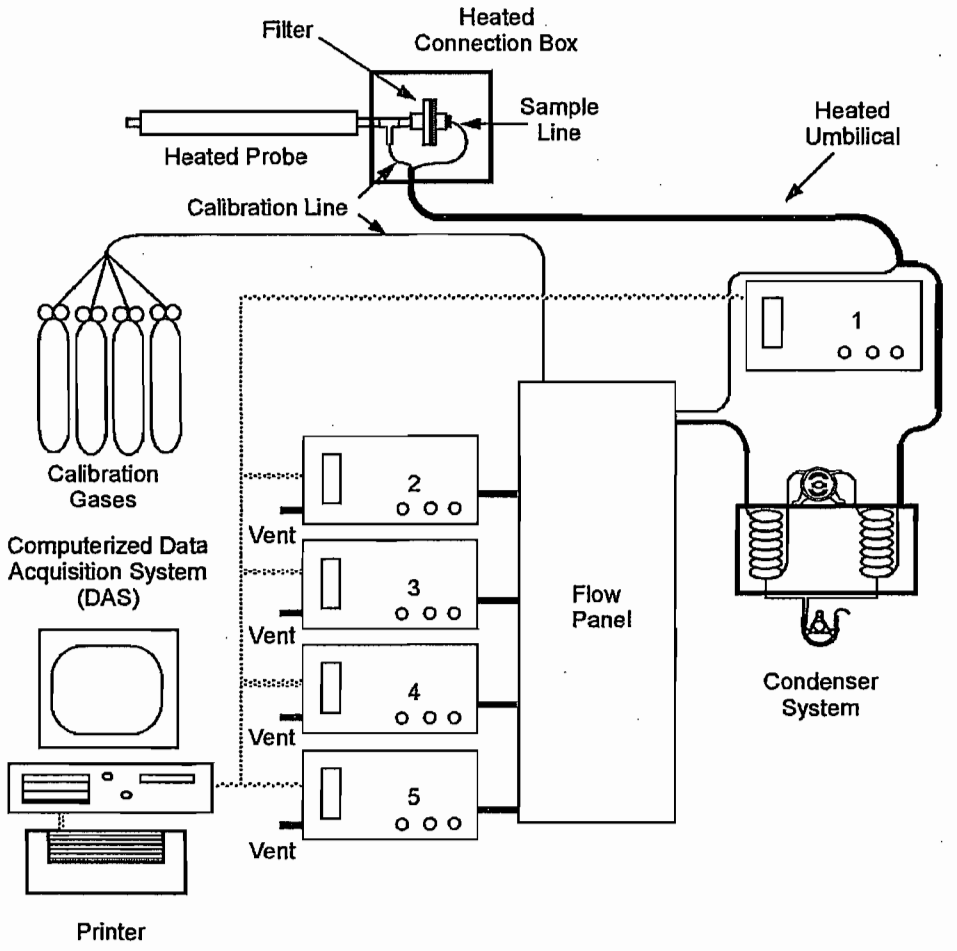
Source Location Name(s)	Auxiliary Boilers A & B
Pollutant(s) to be Determined	Nitrogen Oxides (NO_x), Carbon Monoxide (CO) and Total Hydrocarbon (THC)
Other Parameters to be Determined from Train	O2 and CO2 (EPA Method 3A)

	Standard Method Specification	Actual Specification Used
Pollutant Sampling Information		
Duration of Run	N/A	60 minutes
No. of Sample Traverse Points	N/A	1
Sample Time per Point	N/A	60 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	8 feet
Probe Temperature Set-Point	Prevent Condensation	248°F±25°F
Particulate Filter		
In-Stack Filter	Yes	Yes
In-Stack Filter Material	Non-reactive to gas	Fritted Stainless Steel
External Filter	Yes	Yes
External Filter Material	Borosilicate, Quartz Glass Wool or Fiber Mat	Borosilicate Glass Fiber Mat
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	Yes
Additional Filter Type	N/A	Particulate Removal
Additional Filter Location	Optional	Entrance to Sample Manifold
Filter Material	Non-reactive to sample gases	Glass Fiber
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)	N/A
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

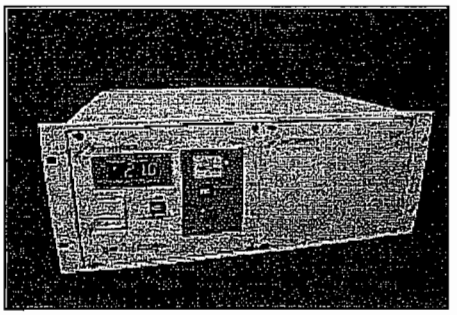
	Standard Method Specification	Actual Specification Used
Instrument Span Range		
Oxygen (O_2)	≤ 1.33 x Expected Maximum	0-14
Carbon Dioxide (CO_2)	≤ 1.33 x Expected Maximum	0-13.98%
Sulfur Dioxide (SO_2)	≤ 1.33 x Expected Maximum	N/A
Nitrogen Oxides (NO_x)	≤ 1.33 x Expected Maximum	0-51.4 PPM
Carbon Monoxide (CO)	1000 ppm maximum	0-43.72 PPM
Total Hydrocarbon (THC)	1.5 to 2.5 x Expected Maximum	0-21.0 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	21.0 PPM	7.51, 12.5, 21.0 PPM
2	O2	Servomex 1420C	14.0 %	6.04, 14.0%
3	CO2	Servomex 1415C	13.98 %	6.01, 13.98%
4	NOx	TEI 42	51.4 PPM	26.44, 51.4 PPM
5	CO	TEI 48	43.72 PPM	18.5, 43.72 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% O_2.
- Accuracy: +/- 0.1%
- Linearity: +/- 0.1% O_2
- Repeatability: +/- 0.1% O_2
- Response time (T_{90}): 2.5 seconds at 200 ml/min; 2.0 seconds at 250 ml/min
- Zero Drift: <+/- .002% O_2/hour
- Span Drift: <+/- .002% O_2/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% O_2/°C zero; <+/- 0.10% O_2/°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.

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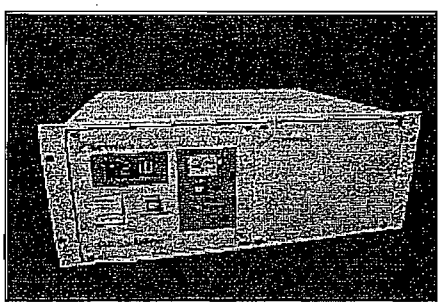
INSTRUMENT RENTAL

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% CO_2.
- Accuracy: 1% of selected range
- Linearity: 1% of selected range
- Repeatability: 1% of selected range
- Response time (T_{90}): <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.
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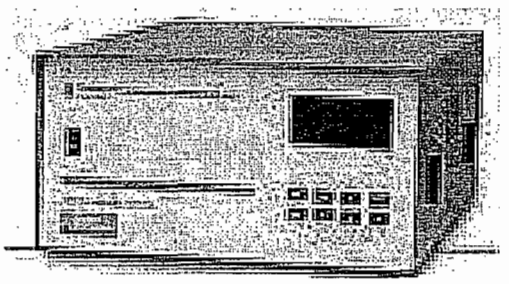
INSTRUMENT RENTAL

Thermo Model 42CLS NO-NO_2-NO_x Analyzer



Model 42CLS NO-NO_2-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: (in automatic mode) 40 sec (10 second averaging time); 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 NO_2 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, NO_2, 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
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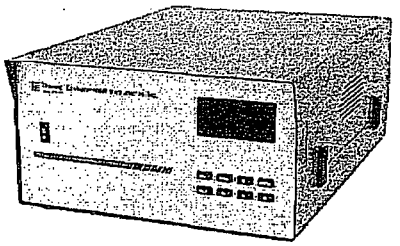
Thermo Model 48C CO Analyzer



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): ± 1% full-scale
- Response Time: 60 Seconds (30 Second averaging time)
- Precision: 1% of reading or 0.05 ppm
- Linearity: ± 1% full scale up to 1000 ppm, ±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.

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500 W. Wood Street
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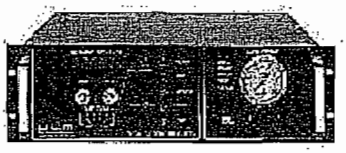
J.U.M. Model 3-300A THC Analyzer



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.

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SAMPLE CALCULATIONS

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Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler A - Natural Gas

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)	=	133.1	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)	=	6.27	ft^3

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

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

Where:

P_{bar}	= barometric pressure (in. Hg)	=	29.89	in. Hg
T_m	= average dry gas meter temperature (°F)	=	93.63	°F
V_m	= volume of gas sample through the dry gas meter at meter conditions (dcf)	=	29.31	dcf
Y_d	= gas meter correction factor (dimensionless)	=	1.0075	
ΔH	= average pressure drop across meter box orifice (in. H_2O)	=	0.70	in. H_2O
17.64	= standard temperature to pressure ratio (°R/in. Hg)	=	17.64	°R/in. Hg
13.6	= conversion factor (in. H_2O/in. Hg)	=	13.6	in.H_2O/in. Hg
460	= °F to °R conversion constant	=	460	
V_{mstd}	= volume of gas sampled through the dry gas meter at standard conditions (dscf)	=	28.172	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)	=	29.89	in. Hg
P_g	= sample gas static pressure (in. H_2O)	=	-0.52	in. H_2O
13.6	= conversion factor (in. H_2O/in. Hg)	=	13.6	in. H_2O/in. Hg
P_s	= absolute sample gas pressure (in. Hg)	=	29.85	in. Hg

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

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

Where:

T_s	= average sample gas temperature (°F)	=	414.42	°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)	=	29.85	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)	=	29.85	in. Hg
P_v	= water vapor pressure, actual (in. Hg)	=	29.85	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)	=	28.172	dscf
V_{wstd}	= volume of water collected at standard conditions (scf)	=	6.27	scf
B_{wo}	= proportion of water measured in the gas stream by volume	=	0.1819	
		=	18.19	%

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7. Saturated moisture content (% by volume)

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

Where:

P_s	= absolute sample gas pressure (in. Hg)	=	29.85	in. Hg
P_v	= water vapor pressure, actual (in. Hg)	=	29.85	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)

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

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	=	0.1819	
B_w	= actual water vapor in gas	=	0.1819	
		=	18.19	%

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 (%)	=	9.3	%
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.3	%
100	= conversion factor (%)	=	100	%
N_2+CO	= proportion of nitrogen and CO in the gas stream by volume (%)	=	86.37	%

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Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler A - Natural Gas

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

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

Where:

M_{CO2}	= molecular weight of carbon dioxide (lb/lb·mole)	=	44.00	lb/lb·mole
M_{O2}	= molecular weight of oxygen (lb/lb·mole)	=	32.00	lb/lb·mole
M_{N2+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 (%)	=	9.3	%
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.3	%
N_2+CO	= proportion of nitrogen and CO in the gas stream by volume (%)	=	86.4	%
100	= conversion factor (%)	=	100	%
M_d	= dry molecular weight of sample gas (lb/lb·mole)	=	29.66	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	=	0.1819	
M_d	= dry molecular weight of sample gas (lb/lb·mole)	=	29.66	lb/lb·mole
M_{H2O}	= molecular weight of water (lb/lb·mole)	=	18.00	lb/lb·mole
M_s	= molecular weight of sample gas, wet basis (lb/lb·mole)	=	27.54	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)	=	27.54	lb/lb·mole
P_s	= absolute sample gas pressure (in. Hg)	=	29.85	in. Hg
T_s	= average sample gas temperature (°F)	=	414.42	°F
$\sqrt{\Delta P}$	= average square roots of velocity heads of sample gas (in. H_2O)	=	0.408	$\sqrt{in.}$ H_2O
460	= °F to °R conversion constant	=	460	
V_s	= sample gas velocity (ft/sec)	=	30.22	ft/sec

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Auxiliary Boiler A - Natural Gas

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)	=	30.22	ft/sec
60	conversion factor (sec/min)	=	60	sec/min
Q_a	= volumetric flow rate at actual conditions (acfm)	=	60,176	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)	=	60,176	acfm
P_s	= absolute sample gas pressure (in. Hg)	=	29.85	in. Hg
29.92	= standard pressure (in. Hg)	=	29.92	in. Hg
T_s	= average sample gas temperature (°F)	=	414.4	°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)	=	36,253	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	=	0.1819	
Q_s	= volumetric flow rate at standard conditions, wet basis (scfm)	=	36,253	scfm
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29,658	dscfm

16. Dry flow of sample gas corrected to 7%O_2 (dscfm)

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

Where:

Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29,658	dscfm
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.3	%
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)	=	35,355	dscfm

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Clean Air Project No: 10293
Auxiliary Boiler A - Natural Gas

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)	=	29,658	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
Q_{std-hr}	= volumetric flow rate, hourly basis (dscf/hr)	=	1,779,470	dscf/hr

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)	=	29,658	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)	=	50,396	dry std m^3/hr

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)	=	50,396	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)	=	46,960	dry Nm^3/hr

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CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

CEM Field Sample Calculations for NOX Aux Boiler A Natural Gas

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 In this case the low cal series for channel 1	=	0.000	ppmdv

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

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

Where:

C_{mce}	= average concentration of a calibration series In this case the low cal series for channel 1	=	7.534	ppmdv
C_{ma}	= concentration of actual calibration gas value	=		ppmdv
l_{cal}	= limit for calibration error for hydrocarbons	=	5.0%	
E_{HC}	= calibration error check value	=	0.32%	Pass

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

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

Where:

C_{mce}	= average concentration of a calibration series In this case the low cal series for channel 1	=	26.715	ppmdv
C_{ma}	= concentration of actual calibration gas value	=		ppmdv
Span	= instrument span value	=	51.400	
l_{cal}	= limit for calibration error for non-hydrocarbons	=	2.0%	
E	= calibration error check value	=	0.54%	Pass

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

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

Where:

C_{mce}	= average concentration of a calibration series in this case the Mid cal series for channel 1	=	26.715	ppmdv
C_{mf}	= calibration error response concentration for Cal01	=	26.287	ppmdv
Span	= instrument span value	=	51.400	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%)

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

Where:

C_{mf}	= calibration error response concentration for Cal01 (final)	=	26.287	ppmdv
C_{mi}	= calibration error response concentration for Cal00 (initial)	=	26.716	ppmdv
Span	= instrument span value	=	51.400	ppmdv
I_{drift}	= limit for system drift error	=	3.0%	
E_{drift}	= calibration drift error check value	=	0.83%	Pass

5. Average Concentration for an entire Run

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

Where: i=1

C_i	= All concentration readings for the entirety of Run 1 for the monitor looking for NOX on channel 1	=	28.390	ppmdv
N	= total number of readings in Run 1	=	60	
C	= average NOX concentration for Run 1	=	28.566	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	=	26.440	ppmdv
C	= average NOX concentration for Run 1	=	28.566	ppmdv
C_{mf}	= calibration error response concentration for Cal01 (final)	=	26.287	ppmdv
C_{mi}	= calibration error response concentration for Cal00 (initial)	=	26.716	ppmdv
C_{of}	= calibration error response concentration for Cal01 (final) for zero gas	=	0.488	ppmdv
C_{oi}	= calibration error response concentration for Cal00 (initial) for zero gas	=	0.583	ppmdv
C_{DC}	= drift corrected average concentration for Run 1	=	28.542	ppmdv

CEM Emissions Sample Calculations for NOX Aux Boiler A Natural Gas

Sample data taken from Run 1 and Channel 1

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1. NOX concentration (ppmdv)

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

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

Where:

C_{DC}	= drift corrected average concentration	=	28.542	ppmdv
B_w	= actual water vapor in gas (% v/v)	=	18.193	% 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)	=	28.542	ppmdv

2. NOX concentration (ppmwv)

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

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

Where:

C_{DC}	= drift corrected average concentration	=	28.542	ppmdv
B_w	= actual water vapor in gas (% v/v)	=	18.193	% 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)	=	23.349	ppmwv

3. NOX concentration (lb/dscf)

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

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.542	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)	=	3.408E-06	lb/dscf

4. NOX concentration (lb/scf)

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

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.408E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29657.84124	dscf/min
Q_s	= volumetric flow rate (standard cubic feet/min)	=	36253.29837	scf/min
C (lb/scf)	= NOX concentration (lb/scf)	=	2.788E-06	lb/scf

5. NOX concentration (lb/acf)

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

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.408E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29657.84124	dscf/min
Q_a	= volumetric flow rate (actual cubic feet/min)	=	60176.04059	acf/min
C (lb/acf)	= NOX concentration (lb/acf)	=	1.680E-06	lb/acf

6. NOX concentration (%dv)

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

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.542	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)	=	0.0029%	%dv

7. NOX concentration (mg/dscm)

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

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.408E-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)	=	54.573	mg/dscm

8. NOX concentration (mg/Nm3 dry)

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

Where:

C (lb/dscf)	= NOX concentration (lb/dscf)	=	3.408E-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/Nm3 dr	= NOX concentration (mg/Nm3 dry)	=	58.567	mg/Nm^3 dry

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

$$C(ppmdv@x\%02) = C(ppmdv) \times \left(\frac{20.9-x}{20.9-O_2}\right)$$

Where:

C (ppmdv)	= NOX concentration (ppmdv)	=	28.542	ppmdv
x	= oxygen content of corrected gas (%)	=	3.00	%
O_2	= proportion of oxygen in the gas stream by volume (%)	=	4.327	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
C (ppmdv - O2	= NOX concentration corrected to 3% O2 (ppmdv example)	=	30.828	ppmdv @ 3%O2

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)	=	28.542	ppmdv
y	= carbon dioxide content of corrected gas (%)	=	12.00	%
CO_2	= proportion of carbon dioxide in the gas stream by volume (%)	=	9.304	%
C (ppmdv -CO	= NOX concentration corrected to 12% CO2 (ppmdv example)	=	36.814	ppmdv @ 12%CO2

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)	=	3.408E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29657.84124	dscfm
60	= conversion factor (min/hr)	=	60	min/hr
$E_{lb/hr}$	= NOX emission rate (lb/hr)	=	6.064	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)	=	3.408E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29657.84124	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)	=	2.750	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)	=	3.408E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29657.84124	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)	=	0.764	gm/sec

14. NOX 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)	= NOX concentration (lb/dscf)	=	3.408E-06	lb/dscf
Q_{std}	= volumetric flow rate at standard conditions, dry basis (dscfm)	=	29657.84124	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
$E_{T/yr}$	= NOX emission rate (Ton/yr)	=	0.000	Ton/yr

15. 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)	=	3.408E-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 (%)	=	4.327	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
E_{Fd}	= NOX Fd-based emission rate (lb/MMBtu)	=	0.037	lb/MMBtu

16. NOX 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)	= NOX concentration (lb/dscf)	=	3.408E-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 (%)	=	9.304	%
100	= conversion factor	=	100	
E_{Fc}	= NOX Fc-based emission rate (lb/MMBtu)	=	0.038	lb/MMBtu

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PARAMETERS	C

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TEST LOG

Client: Indiantown Cogeneration, L.P.
Project No: 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Auxiliary Boiler A - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/18/07	09:34	10:34	
2	Auxiliary Boiler A - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/18/07	12:00	13:00	
3	Auxiliary Boiler A - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/18/07	13:20	14:20	
4	Auxiliary Boiler A - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/18/07	15:17	16:17	

Notes:
None

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QA/QC TW
Date 9-12-07

TEST LOG

Client: Indiantown Cogeneration, L.P.
Project No: 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Auxiliary Boiler A - Propane	USEPA Method 2	Velocity & Flow Rate	08/17/07	13:00	14:00	
2	Auxiliary Boiler A - Propane	USEPA Method 2	Velocity & Flow Rate	08/17/07	14:35	15:35	
3	Auxiliary Boiler A - Propane	USEPA Method 2	Velocity & Flow Rate	08/17/07	15:50	16:50	

Notes:
None

091207 124448

QA/QC TW
Date 9-12-07

TEST LOG

Client: Indiantown Cogeneration, L.P.
Project No: 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Auxiliary Boiler B - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/18/07	17:49	18:49	
2	Auxiliary Boiler B - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/18/07	19:03	20:03	
3	Auxiliary Boiler B - Natural Gas	USEPA Method 2	Velocity & Flow Rate	08/20/07	09:04	10:04	

Notes:
None

091207 124448

QA/QC TW
Date 9-12-07

TEST LOG

Client: Indiantown Cogeneration, L.P.
Project No: 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Auxiliary Boiler B - Propane	USEPA Method 2	Velocity & Flow Rate	08/19/07	08:40	09:40	
2	Auxiliary Boiler B - Propane	USEPA Method 2	Velocity & Flow Rate	08/19/07	09:55	10:55	
3	Auxiliary Boiler B - Propane	USEPA Method 2	Velocity & Flow Rate	08/19/07	11:19	12:19	

Notes:
None

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QA/QC TCV
Date 9-12-07

TEST LOG

Client: Indiantown Indiantown Cogeneration, Fl
CleanAir Project No. 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Aux Boiler A Propane	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/17/07	12:59	13:59	
2	Aux Boiler A Propane	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/17/07	14:34	15:34	
3	Aux Boiler A Propane	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/17/07	15:49	16:49	

Notes:
None

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TEST LOG

Client: Indiantown Indiantown Cogeneration, FI
CleanAir Project No. 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Aux Boiler A Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/18/07	09:33	10:33	
2	Aux Boiler A Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/18/07	11:59	12:59	
3	Aux Boiler A Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/18/07	13:19	14:19	
4	Aux Boiler A Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/18/07	15:16	16:16	

Notes:
None

091207 140754

TEST LOG

Client: Indiantown Indiantown Cogeneration, Fl
CleanAir Project No. 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Aux Boiler B Propane	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/19/07	08:39	09:39	
2	Aux Boiler B Propane	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/19/07	09:54	10:54	
3	Aux Boiler B Propane	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/19/07	11:18	12:18	

Notes:
None

091207 144135

TEST LOG

Client: Indiantown Indiantown Cogeneration, Fl
CleanAir Project No. 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
1	Aux Boiler B Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/18/07	17:48	18:48	
2	Aux Boiler B Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/18/07	19:02	20:02	

Notes:
None

091207 144135

TEST LOG

Client: Indiantown Indiantown Cogeneration, Fl
CleanAir Project No. 10293

Run Number	Location	Method	Analyte	Date	Start Time	End Time	Notes
3	Aux Boiler B Natural Gas	USEPA Methods 3A, 7E, 10, 25A	O_2, CO_2, NO_x, CO, THC	8/20/07	09:04	10:04	

Notes:
None

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Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler A - Propane

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

Run No.		1	2	3	Average
Date (2007)		Aug 17	Aug 17	Aug 17	
Start Time (approx.)		13:00	14:35	15:50	
Stop Time (approx.)		14:00	15:35	16:50	
Sampling Conditions					
Y_d	Dry gas meter correction factor	1.0075	1.0075	1.0075	
C_p	Pitot tube coefficient	0.84	0.84	0.84	
P_g	Static pressure (in. H_2O)	-0.4500	-0.4500	-0.4500	
A_s	Sample location area (ft^2)	33.1831	33.1831	33.1831	
P_{bar}	Barometric pressure (in. Hg)	29.91	29.91	29.91	**29.9100**
O_2	Oxygen (dry volume %)	4.5000	4.5000	4.5000	**4.5000**
CO_2	Carbon dioxide (dry volume %)	10.8000	10.7000	10.7000	**10.7333**
N_2+CO	Nitrogen plus carbon monoxide (dry volume %)	84.7000	84.8000	84.8000	**84.7667**
V_{lc}	Total Liquid collected (ml)	86.20	95.40	99.10	
V_m	Volume metered, meter conditions (ft^3)	29.2500	29.2400	29.5050	
T_m	Dry gas meter temperature (°F)	99.4583	102.4167	104.3750	
T_s	Sample temperature (°F)	403.5000	407.8333	406.4167	**405.9167**
ΔH	Meter box orifice pressure drop (in. H_2O)	0.7000	0.7000	0.7000	
θ	Total sampling time (min)	60.0	60.0	60.0	
Flow Results					
V_{wstd}	Volume of water collected (ft^3)	4.0574	4.4905	4.6646	**4.4042**
V_{mstd}	Volume metered, standard (dscf)	27.8397	27.6838	27.8378	**27.7871**
P_s	Sample gas pressure, absolute (in. Hg)	29.8769	29.8769	29.8769	**29.8769**
P_v	Vapor pressure, actual (in. Hg)	29.8769	29.8769	29.8769	**29.8769**
B_{wo}	Moisture measured in sample (% by volume)	12.7204	13.9567	14.3517	**13.6763**
B_{ws}	Saturated moisture content (% by volume)	100.0000	100.0000	100.0000	**100.0000**
B_w	Actual water vapor in gas (% by volume)	12.7204	13.9567	14.3517	**13.6763**
$\sqrt{\Delta P}$	Velocity head ($\sqrt{}$in. H_2O)	0.3385	0.3467	0.3404	**0.3419**
M_d	MW of sample gas, dry (lb/lb-mole)	29.9080	29.8920	29.8920	**29.8973**
M_s	MW of sample gas, wet (lb/lb-mole)	28.3933	28.2323	28.1853	**28.2703**
V_s	Velocity of sample (ft/sec)	24.5238	25.2551	24.7957	**24.8582**
Q_a	Volumetric flow rate, actual (acfm)	48,826	50,283	49,368	**49,492**
Q_s	Volumetric flow rate, standard (scfm)	29,813	30,548	30,042	**30,134**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	26,020	26,285	25,730	**26,012**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dscfm)	30,700	31,012	30,358	**30,690**
Q_a	Volumetric flow rate, actual (acf/hr)	2,929,589	3,016,953	2,962,067	**2,969,536**
Q_s	Volumetric flow rate, standard (scf/hr)	1,788,761	1,832,907	1,802,503	**1,808,057**
Q_{std}	Volumetric flow rate, dry standard (dscf/hr)	1,561,224	1,577,093	1,543,814	**1,560,710**
Q_a	Volumetric flow rate, actual (m^3/hr)	82,968	85,442	83,887	**84,099**
Q_s	Volumetric flow rate, standard (m^3/hr)	50,659	51,909	51,048	**51,205**
Q_{std}	Volumetric flow rate, dry standard (dry m^3/hr)	44,215	44,664	43,722	**44,200**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dry m^3/hr)	52,167	52,697	51,585	**52,150**
Q_s	Volumetric flow rate, normal (Nm^3/hr)	47,205	48,370	47,567	**47,714**
Q_{std}	Volumetric flow rate, dry normal (Nm^3/hr)	41,200	41,619	40,741	**41,187**
Q_{std7}	Volumetric flow rate, dry normal @7%O_2 (Nm^3/hr)	48,610	49,104	48,068	**48,594**

Comments:
Average includes 3 runs.

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QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Continuous Emissions Monitoring Parameters

Run Number	1				
Date (2007)	Aug 17				
Start Time	12:59				
End Time	13:59				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	30.09	0.69	4.27	10.75	4.50
Concentration (ppmdv)	30.09	0.79	4.27		
Concentration (ppmwv)	26.26	0.69	3.73		
Concentration (lb/dscf)	3.593E-06	9.099E-08	3.106E-07		
Concentration (lb/scf)	3.136E-06	7.941E-08	2.711E-07		
Concentration (lb/acf)	1.915E-06	4.849E-08	1.655E-07		
Concentration (%dv)	0.003	0.000	0.000	10.755	4.500
Concentration (%wv)	0.003	0.000	0.000	9.387	3.927
Concentration (mg/dscm)	57.53	1.46	4.97		
Concentration (mg/scm)	50.21	1.27	4.34		
Concentration (mg/acm)	30.66	0.78	2.65		
Concentration (mg/Nm3)	61.74	1.56	5.34		
Concentration @3%O2 (ppm)	32.84	0.87	4.66		
Concentration @3%O2 (lb/scf)	3.921E-06	9.931E-08	3.390E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.000		
Concentration @3%O2 (mg/scm)	62.79	1.59	5.43		
Concentration @3%O2 (mg/Nm3)	67.39	1.71	5.83		
Mass Rate (lb/hr)	5.61	0.14	0.48		
Mass Rate (kg/hr)	2.54	0.06	0.22		
Mass Rate (gm/sec)	0.71	0.02	0.06		
Mass Rate (lb/MMBtu) - Fd	3.988E-02	1.010E-03	3.448E-03		
Mass Rate (lb/MMBtu) - Fc	3.975E-02	1.007E-03	3.437E-03		
Mass Rate (ng/J) - Fd	1.716E+01	4.345E-01	1.483E+00		
Mass Rate (ng/J) - Fc	1.710E+01	4.331E-01	1.479E+00		

QA/QC TR
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, Fl
Aux Boiler A Propane

Continuous Emissions Monitoring Parameters

Run Number	2				
Date (2007)	Aug 17				
Start Time	14:34				
End Time	15:34				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	28.89	0.18	3.59	10.72	4.51
Concentration (ppmdv)	28.89	0.21	3.59		
Concentration (ppmwv)	24.86	0.18	3.09		
Concentration (lb/dscf)	3.449E-06	2.393E-08	2.607E-07		
Concentration (lb/scf)	2.968E-06	2.059E-08	2.243E-07		
Concentration (lb/acf)	1.803E-06	1.251E-08	1.363E-07		
Concentration (%dv)	0.003	0.000	0.000	10.715	4.512
Concentration (%wv)	0.002	0.000	0.000	9.220	3.882
Concentration (mg/dscm)	55.24	0.38	4.17		
Concentration (mg/scm)	47.53	0.33	3.59		
Concentration (mg/acm)	28.87	0.20	2.18		
Concentration (mg/Nm3)	59.28	0.41	4.48		
Concentration @3%O2 (ppm)	31.55	0.23	3.92		
Concentration @3%O2 (lb/scf)	3.767E-06	2.614E-08	2.847E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.000		
Concentration @3%O2 (mg/scm)	60.33	0.42	4.56		
Concentration @3%O2 (mg/Nm3)	64.75	0.45	4.89		
Mass Rate (lb/hr)	5.44	0.04	0.41		
Mass Rate (kg/hr)	2.47	0.02	0.19		
Mass Rate (gm/sec)	0.69	0.00	0.05		
Mass Rate (lb/MMBtu) - Fd	3.831E-02	2.658E-04	2.896E-03		
Mass Rate (lb/MMBtu) - Fc	3.831E-02	2.657E-04	2.895E-03		
Mass Rate (ng/J) - Fd	1.648E+01	1.143E-01	1.246E+00		
Mass Rate (ng/J) - Fc	1.648E+01	1.143E-01	1.246E+00		

QA/QC TE
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Continuous Emissions Monitoring Parameters

Run Number	3				
Date (2007)	Aug 17				
Start Time	15:49				
End Time	16:49				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane	Aux Boiler A Propane
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	30.36	0.26	3.53	10.68	4.49
Concentration (ppmdv)	30.36	0.31	3.53		
Concentration (ppmwv)	26.01	0.26	3.02		
Concentration (lb/dscf)	3.625E-06	3.521E-08	2.565E-07		
Concentration (lb/scf)	3.105E-06	3.015E-08	2.197E-07		
Concentration (lb/acf)	1.890E-06	1.835E-08	1.337E-07		
Concentration (%dv)	0.003	0.000	0.000	10.685	4.494
Concentration (%wv)	0.003	0.000	0.000	9.151	3.849
Concentration (mg/dscm)	58.06	0.56	4.11		
Concentration (mg/scm)	49.72	0.48	3.52		
Concentration (mg/acm)	30.26	0.29	2.14		
Concentration (mg/Nm3)	62.31	0.61	4.41		
Concentration @3%O2 (ppm)	33.13	0.34	3.85		
Concentration @3%O2 (lb/scf)	3.956E-06	3.841E-08	2.799E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.000		
Concentration @3%O2 (mg/scm)	63.34	0.62	4.48		
Concentration @3%O2 (mg/Nm3)	67.98	0.66	4.81		
Mass Rate (lb/hr)	5.60	0.05	0.40		
Mass Rate (kg/hr)	2.54	0.02	0.18		
Mass Rate (gm/sec)	0.71	0.01	0.05		
Mass Rate (lb/MMBtu) - Fd	4.023E-02	3.906E-04	2.846E-03		
Mass Rate (lb/MMBtu) - Fc	4.038E-02	3.921E-04	2.857E-03		
Mass Rate (ng/J) - Fd	1.731E+01	1.680E-01	1.224E+00		
Mass Rate (ng/J) - Fc	1.737E+01	1.687E-01	1.229E+00		

QA/QC TR
Date 9/10

Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler A - Natural Gas

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

Run No.		1	2	3	4	Average
Date (2007)		Aug 18	Aug 18	Aug 18	Aug 18	
Start Time (approx.)		09:34	12:00	13:20	15:17	
Stop Time (approx.)		10:34	13:00	14:20	16:17	
Sampling Conditions						
Y_d	Dry gas meter correction factor	1.0075	1.0075	1.0075	1.0075	
C_p	Pitot tube coefficient	0.84	0.84	0.84	0.84	
P_g	Static pressure (in. H_2O)	-0.5200	-0.5200	-0.5200	-0.5200	
A_s	Sample location area (ft^2)	33.1831	33.1831	33.1831	33.1831	
P_{bar}	Barometric pressure (in. Hg)	29.89	29.89	29.89	29.89	**29.8900**
O_2	Oxygen (dry volume %)	4.3300	4.3800	4.4000	4.2000	**4.3275**
CO_2	Carbon dioxide (dry volume %)	9.3000	9.1800	9.2100	9.3500	**9.2600**
N_2+CO	Nitrogen plus carbon monoxide (dry volume %)	86.3700	86.4400	86.3900	86.4500	**86.4125**
V_{lc}	Total Liquid collected (ml)	133.10	127.50	124.30	126.10	
V_m	Volume metered, meter conditions (ft^3)	29.3100	29.3750	29.4450	29.2850	
T_m	Dry gas meter temperature (°F)	93.6250	100.1667	101.7917	97.5833	
T_s	Sample temperature (°F)	414.4167	438.4167	435.4167	433.1667	**430.3542**
ΔH	Meter box orifice pressure drop (in. H_2O)	0.7000	0.7000	0.7000	0.7000	
θ	Total sampling time (min)	60.0	60.0	60.0	60.0	
Flow Results						
V_{wstd}	Volume of water collected (ft^3)	6.2650	6.0014	5.8508	5.9355	**6.0132**
V_{mstd}	Volume metered, standard (dscf)	28.1719	27.9047	27.8903	27.9481	**27.9788**
P_s	Sample gas pressure, absolute (in. Hg)	29.8518	29.8518	29.8518	29.8518	**29.8518**
P_v	Vapor pressure, actual (in. Hg)	29.8518	29.8518	29.8518	29.8518	**29.8518**
B_{wo}	Moisture measured in sample (% by volume)	18.1927	17.7001	17.3403	17.5174	**17.6876**
B_{ws}	Saturated moisture content (% by volume)	100.0000	100.0000	100.0000	100.0000	**100.0000**
B_w	Actual water vapor in gas (% by volume)	18.1927	17.7001	17.3403	17.5174	**17.6876**
$\sqrt{\Delta P}$	Velocity head ($\sqrt{}$in. H_2O)	0.4081	0.4360	0.4331	0.4351	**0.4281**
M_d	MW of sample gas, dry (lb/lb-mole)	29.6612	29.6440	29.6496	29.6640	**29.6547**
M_s	MW of sample gas, wet (lb/lb-mole)	27.5397	27.5830	27.6295	27.6208	**27.5933**
V_s	Velocity of sample (ft/sec)	30.2243	32.7064	32.4045	32.5181	**31.9633**
Q_a	Volumetric flow rate, actual (acfm)	60,176	65,118	64,517	64,743	**63,638**
Q_s	Volumetric flow rate, standard (scfm)	36,253	38,183	37,957	38,186	**37,645**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	29,658	31,424	31,375	31,497	**30,988**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dscfm)	35,355	37,347	37,244	37,841	**36,947**
Q_a	Volumetric flow rate, actual (acf/hr)	3,610,562	3,907,082	3,871,005	3,884,587	**3,818,309**
Q_s	Volumetric flow rate, standard (scf/hr)	2,175,198	2,290,957	2,277,408	2,291,156	**2,258,680**
Q_{std}	Volumetric flow rate, dry standard (dscf/hr)	1,779,470	1,885,455	1,882,499	1,889,805	**1,859,308**
Q_a	Volumetric flow rate, actual (m^3/hr)	102,253	110,651	109,629	110,014	**108,137**
Q_s	Volumetric flow rate, standard (m^3/hr)	61,603	64,881	64,498	64,887	**63,967**
Q_{std}	Volumetric flow rate, dry standard (dry m^3/hr)	50,396	53,397	53,313	53,520	**52,657**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dry m^3/hr)	60,076	63,462	63,286	64,301	**62,781**
Q_s	Volumetric flow rate, normal (Nm^3/hr)	57,403	60,458	60,100	60,463	**59,606**
Q_{std}	Volumetric flow rate, dry normal (Nm^3/hr)	46,960	49,756	49,678	49,871	**49,066**
Q_{std7}	Volumetric flow rate, dry normal @7%O_2 (Nm^3/hr)	55,980	59,135	58,971	59,917	**58,501**

Comments:
Average includes 4 runs.

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QA/QC
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	1				
Date (2007)	Aug 18				
Start Time	9:33				
End Time	10:33				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	28.54	1.22	14.40	9.30	4.33
Concentration (ppmdv)	28.54	1.49	14.40		
Concentration (ppmwv)	23.35	1.22	11.78		
Concentration (lb/dscf)	3.408E-06	1.708E-07	1.047E-06		
Concentration (lb/scf)	2.788E-06	1.397E-07	8.562E-07		
Concentration (lb/acf)	1.680E-06	8.417E-08	5.158E-07		
Concentration (%dv)	0.003	0.000	0.001	9.304	4.327
Concentration (%wv)	0.002	0.000	0.001	7.611	3.540
Concentration (mg/dscm)	54.57	2.73	16.76		
Concentration (mg/scm)	44.65	2.24	13.71		
Concentration (mg/acm)	26.90	1.35	8.26		
Concentration (mg/Nm3)	58.57	2.93	17.99		
Concentration @3%O2 (ppm)	30.83	1.61	15.55		
Concentration @3%O2 (lb/scf)	3.681E-06	1.845E-07	1.130E-06		
Concentration @3%O2 (%v)	0.003	0.000	0.002		
Concentration @3%O2 (mg/scm)	58.94	2.95	18.10		
Concentration @3%O2 (mg/Nm3)	63.26	3.17	19.43		
Mass Rate (lb/hr)	6.06	0.30	1.86		
Mass Rate (kg/hr)	2.75	0.14	0.84		
Mass Rate (gm/sec)	0.76	0.04	0.23		
Mass Rate (lb/MMBtu) - Fd	3.743E-02	1.876E-03	1.150E-02		
Mass Rate (lb/MMBtu) - Fc	3.810E-02	1.909E-03	1.170E-02		
Mass Rate (ng/J) - Fd	1.610E+01	8.070E-01	4.946E+00		
Mass Rate (ng/J) - Fc	1.639E+01	8.213E-01	5.033E+00		

QA/QC IK
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, Fl
Aux Boiler A Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	2				
Date (2007)	Aug 18				
Start Time	11:59				
End Time	12:59				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	29.64	0.40	7.38	9.18	4.38
Concentration (ppmdv)	29.64	0.48	7.38		
Concentration (ppmwv)	24.40	0.40	6.07		
Concentration (lb/dscf)	3.539E-06	5.543E-08	5.364E-07		
Concentration (lb/scf)	2.913E-06	4.562E-08	4.415E-07		
Concentration (lb/acf)	1.708E-06	2.675E-08	2.589E-07		
Concentration (%dv)	0.003	0.000	0.001	9.185	4.376
Concentration (%wv)	0.002	0.000	0.001	7.559	3.602
Concentration (mg/dscm)	56.68	0.89	8.59		
Concentration (mg/scm)	46.65	0.73	7.07		
Concentration (mg/acm)	27.35	0.43	4.15		
Concentration (mg/Nm3)	60.82	0.95	9.22		
Concentration @3%O2 (ppm)	32.11	0.52	7.99		
Concentration @3%O2 (lb/scf)	3.834E-06	6.005E-08	5.811E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.001		
Concentration @3%O2 (mg/scm)	61.40	0.96	9.31		
Concentration @3%O2 (mg/Nm3)	65.89	1.03	9.99		
Mass Rate (lb/hr)	6.67	0.10	1.01		
Mass Rate (kg/hr)	3.03	0.05	0.46		
Mass Rate (gm/sec)	0.84	0.01	0.13		
Mass Rate (lb/MMBtu) - Fd	3.899E-02	6.107E-04	5.909E-03		
Mass Rate (lb/MMBtu) - Fc	4.008E-02	6.277E-04	6.074E-03		
Mass Rate (ng/J) - Fd	1.677E+01	2.627E-01	2.542E+00		
Mass Rate (ng/J) - Fc	1.724E+01	2.700E-01	2.613E+00		

QA/QC TR
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	3				
Date (2007)	Aug 18				
Start Time	13:19				
End Time	14:19				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	30.02	0.40	8.57	9.21	4.40
Concentration (ppmdv)	30.02	0.48	8.57		
Concentration (ppmwv)	24.81	0.40	7.08		
Concentration (lb/dscf)	3.584E-06	5.524E-08	6.230E-07		
Concentration (lb/scf)	2.963E-06	4.566E-08	5.150E-07		
Concentration (lb/acf)	1.743E-06	2.687E-08	3.030E-07		
Concentration (%dv)	0.003	0.000	0.001	9.212	4.398
Concentration (%wv)	0.002	0.000	0.001	7.615	3.636
Concentration (mg/dscm)	57.40	0.88	9.98		
Concentration (mg/scm)	47.44	0.73	8.25		
Concentration (mg/acm)	27.91	0.43	4.85		
Concentration (mg/Nm3)	61.60	0.95	10.71		
Concentration @3%O2 (ppm)	32.56	0.52	9.30		
Concentration @3%O2 (lb/scf)	3.888E-06	5.993E-08	6.758E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.001		
Concentration @3%O2 (mg/scm)	62.26	0.96	10.82		
Concentration @3%O2 (mg/Nm3)	66.82	1.03	11.61		
Mass Rate (lb/hr)	6.75	0.10	1.17		
Mass Rate (kg/hr)	3.06	0.05	0.53		
Mass Rate (gm/sec)	0.85	0.01	0.15		
Mass Rate (lb/MMBtu) - Fd	3.954E-02	6.094E-04	6.873E-03		
Mass Rate (lb/MMBtu) - Fc	4.046E-02	6.237E-04	7.034E-03		
Mass Rate (ng/J) - Fd	1.701E+01	2.622E-01	2.957E+00		
Mass Rate (ng/J) - Fc	1.741E+01	2.683E-01	3.026E+00		

QA/QC TR
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	4				
Date (2007)	Aug 18				
Start Time	15:16				
End Time	16:16				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas	Aux Boiler A Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	29.93	0.44	9.36	9.35	4.20
Concentration (ppmdv)	29.93	0.54	9.36		
Concentration (ppmwv)	24.69	0.44	7.72		
Concentration (lb/dscf)	3.574E-06	6.133E-08	6.804E-07		
Concentration (lb/scf)	2.948E-06	5.059E-08	5.612E-07		
Concentration (lb/acf)	1.739E-06	2.984E-08	3.310E-07		
Concentration (%dv)	0.003	0.000	0.001	9.351	4.199
Concentration (%wv)	0.002	0.000	0.001	7.713	3.463
Concentration (mg/dscm)	57.23	0.98	10.90		
Concentration (mg/scm)	47.20	0.81	8.99		
Concentration (mg/acm)	27.84	0.48	5.30		
Concentration (mg/Nm3)	61.42	1.05	11.69		
Concentration @3%O2 (ppm)	32.08	0.57	10.03		
Concentration @3%O2 (lb/scf)	3.830E-06	6.573E-08	7.292E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.001		
Concentration @3%O2 (mg/scm)	61.34	1.05	11.68		
Concentration @3%O2 (mg/Nm3)	65.83	1.13	12.53		
Mass Rate (lb/hr)	6.75	0.12	1.29		
Mass Rate (kg/hr)	3.06	0.05	0.58		
Mass Rate (gm/sec)	0.85	0.01	0.16		
Mass Rate (lb/MMBtu) - Fd	3.895E-02	6.685E-04	7.416E-03		
Mass Rate (lb/MMBtu) - Fc	3.975E-02	6.821E-04	7.567E-03		
Mass Rate (ng/J) - Fd	1.676E+01	2.876E-01	3.191E+00		
Mass Rate (ng/J) - Fc	1.710E+01	2.934E-01	3.256E+00		

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Date 9/10

Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler B - Natural Gas

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

Run No.		1	2	3	Average
Date (2007)		Aug 18	Aug 18	Aug 20	
Start Time (approx.)		17:49	19:03	09:04	
Stop Time (approx.)		18:49	20:03	10:04	
Sampling Conditions					
Y_d	Dry gas meter correction factor	1.0075	1.0075	1.0075	
C_p	Pitot tube coefficient	0.84	0.84	0.84	
P_g	Static pressure (in. H_2O)	-0.5500	-0.5500	-0.6000	
A_s	Sample location area (ft^2)	33.1831	33.1831	33.1831	
P_{bar}	Barometric pressure (in. Hg)	29.89	29.89	29.86	**29.8800**
O_2	Oxygen (dry volume %)	4.6400	4.6100	4.0800	**4.4433**
CO_2	Carbon dioxide (dry volume %)	9.1000	9.1300	9.4400	**9.2233**
N_2+CO	Nitrogen plus carbon monoxide (dry volume %)	86.2600	86.2600	86.4800	**86.3333**
V_{lc}	Total Liquid collected (ml)	122.10	122.60	123.80	
V_m	Volume metered, meter conditions (ft^3)	29.5300	29.6200	29.1250	
T_m	Dry gas meter temperature (°F)	99.8750	102.1250	97.6250	
T_s	Sample temperature (°F)	404.0833	416.8333	416.4167	**412.4444**
ΔH	Meter box orifice pressure drop (in. H_2O)	0.7000	0.7000	0.7000	
θ	Total sampling time (min)	60.0	60.0	60.0	
Flow Results					
V_{wstd}	Volume of water collected (ft^3)	5.7472	5.7708	5.8273	**5.7818**
V_{mstd}	Volume metered, standard (dscf)	28.0666	28.0394	27.7655	**27.9571**
P_s	Sample gas pressure, absolute (in. Hg)	29.8496	29.8496	29.8159	**29.8383**
P_v	Vapor pressure, actual (in. Hg)	29.8496	29.8496	29.8159	**29.8383**
B_{wo}	Moisture measured in sample (% by volume)	16.9967	17.0682	17.3468	**17.1372**
B_{ws}	Saturated moisture content (% by volume)	100.0000	100.0000	100.0000	**100.0000**
B_w	Actual water vapor in gas (% by volume)	16.9967	17.0682	17.3468	**17.1372**
$\sqrt{\Delta P}$	Velocity head ($\sqrt{}$in. H_2O)	0.4314	0.4323	0.4738	**0.4458**
M_d	MW of sample gas, dry (lb/lb-mole)	29.6416	29.6452	29.6736	**29.6535**
M_s	MW of sample gas, wet (lb/lb-mole)	27.6629	27.6576	27.6486	**27.6564**
V_s	Velocity of sample (ft/sec)	31.6941	31.9901	35.0844	**32.9229**
Q_a	Volumetric flow rate, actual (acfm)	63,102	63,692	69,852	**65,549**
Q_s	Volumetric flow rate, standard (scfm)	38,468	38,263	41,936	**39,556**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	31,930	31,732	34,662	**32,775**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dscfm)	37,351	37,188	41,943	**38,827**
Q_a	Volumetric flow rate, actual (acf/hr)	3,786,147	3,821,512	4,191,148	**3,932,936**
Q_s	Volumetric flow rate, standard (scf/hr)	2,308,087	2,295,770	2,516,184	**2,373,347**
Q_{std}	Volumetric flow rate, dry standard (dscf/hr)	1,915,787	1,903,924	2,079,706	**1,966,472**
Q_a	Volumetric flow rate, actual (m^3/hr)	107,226	108,227	118,696	**111,383**
Q_s	Volumetric flow rate, standard (m^3/hr)	65,366	65,018	71,260	**67,215**
Q_{std}	Volumetric flow rate, dry standard (dry m^3/hr)	54,256	53,920	58,899	**55,692**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dry m^3/hr)	63,468	63,191	71,271	**65,977**
Q_s	Volumetric flow rate, normal (Nm^3/hr)	60,910	60,585	66,401	**62,632**
Q_{std}	Volumetric flow rate, dry normal (Nm^3/hr)	50,557	50,244	54,883	**51,895**
Q_{std7}	Volumetric flow rate, dry normal @7%O_2 (Nm^3/hr)	59,141	58,883	66,412	**61,479**

Comments:
Average includes 3 runs.

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QA/QC TLC
Date 7/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	1				
Date (2007)	Aug 18				
Start Time	17:48				
End Time	18:48				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	26.16	0.74	21.83	9.10	4.64
Concentration (ppmdv)	26.16	0.87	21.83		
Concentration (ppmwv)	22.47	0.74	18.75		
Concentration (lb/dscf)	3.123E-06	9.905E-08	1.587E-06		
Concentration (lb/scf)	2.683E-06	8.508E-08	1.363E-06		
Concentration (lb/acf)	1.654E-06	5.244E-08	8.402E-07		
Concentration (%dv)	0.003	0.000	0.002	9.095	4.638
Concentration (%wv)	0.002	0.000	0.002	7.812	3.984
Concentration (mg/dscm)	50.02	1.59	25.41		
Concentration (mg/scm)	42.96	1.36	21.83		
Concentration (mg/acm)	26.48	0.84	13.46		
Concentration (mg/Nm3)	53.68	1.70	27.27		
Concentration @3%O2 (ppm)	28.79	0.95	24.03		
Concentration @3%O2 (lb/scf)	3.438E-06	1.090E-07	1.747E-06		
Concentration @3%O2 (%v)	0.003	0.000	0.002		
Concentration @3%O2 (mg/scm)	55.06	1.75	27.97		
Concentration @3%O2 (mg/Nm3)	59.08	1.87	30.02		
Mass Rate (lb/hr)	5.62	0.18	2.86		
Mass Rate (kg/hr)	2.55	0.08	1.30		
Mass Rate (gm/sec)	0.71	0.02	0.36		
Mass Rate (lb/MMBtu) - Fd	3.496E-02	1.109E-03	1.777E-02		
Mass Rate (lb/MMBtu) - Fc	3.571E-02	1.133E-03	1.815E-02		
Mass Rate (ng/J) - Fd	1.504E+01	4.770E-01	7.643E+00		
Mass Rate (ng/J) - Fc	1.536E+01	4.872E-01	7.807E+00		

QA/QC TR
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	2				
Date (2007)	Aug 18				
Start Time	19:02				
End Time	20:02				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	25.38	0.70	20.73	9.13	4.61
Concentration (ppmdv)	25.38	0.82	20.73		
Concentration (ppmwv)	21.86	0.70	17.86		
Concentration (lb/dscf)	3.030E-06	9.354E-08	1.507E-06		
Concentration (lb/scf)	2.610E-06	8.057E-08	1.298E-06		
Concentration (lb/acf)	1.593E-06	4.916E-08	7.920E-07		
Concentration (%dv)	0.003	0.000	0.002	9.131	4.610
Concentration (%wv)	0.002	0.000	0.002	7.864	3.971
Concentration (mg/dscm)	48.53	1.50	24.13		
Concentration (mg/scm)	41.80	1.29	20.79		
Concentration (mg/acm)	25.50	0.79	12.68		
Concentration (mg/Nm3)	52.08	1.61	25.90		
Concentration @3%O2 (ppm)	27.89	0.90	22.78		
Concentration @3%O2 (lb/scf)	3.330E-06	1.028E-07	1.656E-06		
Concentration @3%O2 (%v)	0.003	0.000	0.002		
Concentration @3%O2 (mg/scm)	53.33	1.65	26.52		
Concentration @3%O2 (mg/Nm3)	57.23	1.77	28.46		
Mass Rate (lb/hr)	5.47	0.17	2.72		
Mass Rate (kg/hr)	2.48	0.08	1.23		
Mass Rate (gm/sec)	0.69	0.02	0.34		
Mass Rate (lb/MMBtu) - Fd	3.387E-02	1.045E-03	1.684E-02		
Mass Rate (lb/MMBtu) - Fc	3.452E-02	1.065E-03	1.717E-02		
Mass Rate (ng/J) - Fd	1.457E+01	4.497E-01	7.246E+00		
Mass Rate (ng/J) - Fc	1.485E+01	4.584E-01	7.385E+00		

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Continuous Emissions Monitoring Parameters

Run Number	3				
Date (2007)	Aug 20				
Start Time	9:03				
End Time	10:03				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas	Aux Boiler B Natural Gas
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	26.29	0.73	29.22	9.44	4.08
Concentration (ppmdv)	26.29	0.86	29.22		
Concentration (ppmwv)	22.42	0.73	24.92		
Concentration (lb/dscf)	3.139E-06	9.861E-08	2.124E-06		
Concentration (lb/scf)	2.677E-06	8.410E-08	1.812E-06		
Concentration (lb/acf)	1.630E-06	5.122E-08	1.103E-06		
Concentration (%dv)	0.003	0.000	0.003	9.445	4.075
Concentration (%wv)	0.002	0.000	0.002	8.055	3.476
Concentration (mg/dscm)	50.26	1.58	34.02		
Concentration (mg/scm)	42.86	1.35	29.01		
Concentration (mg/acm)	26.11	0.82	17.67		
Concentration (mg/Nm3)	53.94	1.69	36.51		
Concentration @3%O2 (ppm)	27.97	0.92	31.09		
Concentration @3%O2 (lb/scf)	3.339E-06	1.049E-07	2.260E-06		
Concentration @3%O2 (%v)	0.003	0.000	0.003		
Concentration @3%O2 (mg/scm)	53.47	1.68	36.19		
Concentration @3%O2 (mg/Nm3)	57.38	1.80	38.84		
Mass Rate (lb/hr)	5.58	0.18	3.78		
Mass Rate (kg/hr)	2.53	0.08	1.71		
Mass Rate (gm/sec)	0.70	0.02	0.48		
Mass Rate (lb/MMBtu) - Fd	3.396E-02	1.067E-03	2.298E-02		
Mass Rate (lb/MMBtu) - Fc	3.456E-02	1.086E-03	2.339E-02		
Mass Rate (ng/J) - Fd	1.461E+01	4.590E-01	9.888E+00		
Mass Rate (ng/J) - Fc	1.487E+01	4.671E-01	1.006E+01		

QA/QC TR.
Date 9/10

Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler B - Propane

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

Run No.		1	2	3	Average
Date (2007)		Aug 19	Aug 19	Aug 19	
Start Time (approx.)		08:40	09:55	11:19	
Stop Time (approx.)		09:40	10:55	12:19	
Sampling Conditions					
Y_d	Dry gas meter correction factor	1.0075	1.0075	1.0075	
C_p	Pitot tube coefficient	0.84	0.84	0.84	
P_g	Static pressure (in. H_2O)	-0.5400	-0.5400	-0.5400	
A_s	Sample location area (ft^2)	33.1831	33.1831	33.1831	
P_{bar}	Barometric pressure (in. Hg)	29.84	29.84	29.84	**29.8400**
O_2	Oxygen (dry volume %)	5.4700	5.3600	5.3300	**5.3867**
CO_2	Carbon dioxide (dry volume %)	10.1000	10.1400	10.1800	**10.1400**
N_2+CO	Nitrogen plus carbon monoxide (dry volume %)	84.4300	84.5000	84.4900	**84.4733**
V_{lc}	Total Liquid collected (ml)	98.50	95.70	101.30	
V_m	Volume metered, meter conditions (ft^3)	29.1850	29.4200	29.2000	
T_m	Dry gas meter temperature (°F)	89.1250	98.5833	101.5000	
T_s	Sample temperature (°F)	393.1667	401.9167	403.4167	**399.5000**
ΔH	Meter box orifice pressure drop (in. H_2O)	0.7000	0.7000	0.7000	
θ	Total sampling time (min)	60.0	60.0	60.0	
Flow Results					
V_{wstd}	Volume of water collected (ft^3)	4.6364	4.5046	4.7682	**4.6364**
V_{mstd}	Volume metered, standard (dscf)	28.2345	27.9799	27.6264	**27.9469**
P_s	Sample gas pressure, absolute (in. Hg)	29.8003	29.8003	29.8003	**29.8003**
P_v	Vapor pressure, actual (in. Hg)	29.8003	29.8003	29.8003	**29.8003**
B_{wo}	Moisture measured in sample (% by volume)	14.1049	13.8669	14.7191	**14.2303**
B_{ws}	Saturated moisture content (% by volume)	100.0000	100.0000	100.0000	**100.0000**
B_w	Actual water vapor in gas (% by volume)	14.1049	13.8669	14.7191	**14.2303**
$\sqrt{\Delta P}$	Velocity head ($\sqrt{}$in. H_2O)	0.3932	0.3953	0.3933	**0.3939**
M_d	MW of sample gas, dry (lb/lb-mole)	29.8348	29.8368	29.8420	**29.8379**
M_s	MW of sample gas, wet (lb/lb-mole)	28.1655	28.1954	28.0990	**28.1533**
V_s	Velocity of sample (ft/sec)	28.4706	28.7526	28.6769	**28.6334**
Q_a	Volumetric flow rate, actual (acfm)	56,685	57,246	57,095	**57,009**
Q_s	Volumetric flow rate, standard (scfm)	34,940	34,928	34,775	**34,881**
Q_{std}	Volumetric flow rate, dry standard (dscfm)	30,012	30,084	29,657	**29,918**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dscfm)	33,315	33,634	33,220	**33,390**
Q_a	Volumetric flow rate, actual (acf/hr)	3,401,073	3,434,758	3,425,713	**3,420,514**
Q_s	Volumetric flow rate, standard (scf/hr)	2,096,404	2,095,674	2,086,524	**2,092,867**
Q_{std}	Volumetric flow rate, dry standard (dscf/hr)	1,800,709	1,805,068	1,779,406	**1,795,061**
Q_a	Volumetric flow rate, actual (m^3/hr)	96,320	97,274	97,018	**96,871**
Q_s	Volumetric flow rate, standard (m^3/hr)	59,371	59,351	59,092	**59,271**
Q_{std}	Volumetric flow rate, dry standard (dry m^3/hr)	50,997	51,121	50,394	**50,837**
Q_{std7}	Volumetric flow rate, dry std@7%O_2 (dry m^3/hr)	56,610	57,152	56,448	**56,737**
Q_s	Volumetric flow rate, normal (Nm^3/hr)	55,323	55,304	55,063	**55,230**
Q_{std}	Volumetric flow rate, dry normal (Nm^3/hr)	47,520	47,635	46,958	**47,371**
Q_{std7}	Volumetric flow rate, dry normal @7%O_2 (Nm^3/hr)	52,751	53,255	52,600	**52,869**

Comments:
Average includes 3 runs.

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QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Continuous Emissions Monitoring Parameters

Run Number	1				
Date (2007)	Aug 19				
Start Time	8:39				
End Time	9:39				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	23.73	0.14	2.21	10.10	5.47
Concentration (ppmdv)	23.73	0.16	2.21		
Concentration (ppmwv)	20.38	0.14	1.90		
Concentration (lb/dscf)	2.834E-06	1.874E-08	1.606E-07		
Concentration (lb/scf)	2.434E-06	1.610E-08	1.379E-07		
Concentration (lb/acf)	1.500E-06	9.922E-09	8.502E-08		
Concentration (%dv)	0.002	0.000	0.000	10.103	5.472
Concentration (%wv)	0.002	0.000	0.000	8.678	4.700
Concentration (mg/dscm)	45.37	0.30	2.57		
Concentration (mg/scm)	38.97	0.26	2.21		
Concentration (mg/acm)	24.02	0.16	1.36		
Concentration (mg/Nm3)	48.69	0.32	2.76		
Concentration @3%O2 (ppm)	27.53	0.19	2.56		
Concentration @3%O2 (lb/scf)	3.288E-06	2.174E-08	1.863E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.000		
Concentration @3%O2 (mg/scm)	52.64	0.35	2.98		
Concentration @3%O2 (mg/Nm3)	56.50	0.37	3.20		
Mass Rate (lb/hr)	5.10	0.03	0.29		
Mass Rate (kg/hr)	2.31	0.02	0.13		
Mass Rate (gm/sec)	0.64	0.00	0.04		
Mass Rate (lb/MMBtu) - Fd	3.343E-02	2.211E-04	1.895E-03		
Mass Rate (lb/MMBtu) - Fc	3.337E-02	2.207E-04	1.891E-03		
Mass Rate (ng/J) - Fd	1.438E+01	9.512E-02	8.151E-01		
Mass Rate (ng/J) - Fc	1.436E+01	9.495E-02	8.136E-01		

QA/QC TR
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Continuous Emissions Monitoring Parameters

Run Number	2				
Date (2007)	Aug 19				
Start Time	9:54				
End Time	10:54				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	24.95	0.19	2.05	10.14	5.36
Concentration (ppmdv)	24.95	0.22	2.05		
Concentration (ppmwv)	21.49	0.19	1.77		
Concentration (lb/dscf)	2.979E-06	2.473E-08	1.494E-07		
Concentration (lb/scf)	2.566E-06	2.130E-08	1.286E-07		
Concentration (lb/acf)	1.566E-06	1.300E-08	7.849E-08		
Concentration (%dv)	0.002	0.000	0.000	10.142	5.356
Concentration (%wv)	0.002	0.000	0.000	8.735	4.614
Concentration (mg/dscm)	47.71	0.40	2.39		
Concentration (mg/scm)	41.09	0.34	2.06		
Concentration (mg/acm)	25.07	0.21	1.26		
Concentration (mg/Nm3)	51.20	0.42	2.57		
Concentration @3%O2 (ppm)	28.73	0.25	2.37		
Concentration @3%O2 (lb/scf)	3.431E-06	2.848E-08	1.720E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.000		
Concentration @3%O2 (mg/scm)	54.94	0.46	2.75		
Concentration @3%O2 (mg/Nm3)	58.96	0.49	2.96		
Mass Rate (lb/hr)	5.38	0.04	0.27		
Mass Rate (kg/hr)	2.44	0.02	0.12		
Mass Rate (gm/sec)	0.68	0.01	0.03		
Mass Rate (lb/MMBtu) - Fd	3.489E-02	2.896E-04	1.749E-03		
Mass Rate (lb/MMBtu) - Fc	3.496E-02	2.902E-04	1.753E-03		
Mass Rate (ng/J) - Fd	1.501E+01	1.246E-01	7.525E-01		
Mass Rate (ng/J) - Fc	1.504E+01	1.248E-01	7.539E-01		

QA/QC TR
Date 9/10

Indiantown
Clean Air Project No. 10293
Indiantown Cogeneration, Fl
Aux Boiler B Propane

Continuous Emissions Monitoring Parameters

Run Number	3				
Date (2007)	Aug 19				
Start Time	11:18				
End Time	12:18				
Elapsed Time (hh:mm)	01:00				
Channel	1	2	3	5	8
Parameter	NOX	THC	CO	CO2	O2
Location	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane	Aux Boiler B Propane
Measurement Units	ppmdv	ppmwv	ppmdv	%dv	%dv
Measured Average (drift-corrected)	25.55	0.12	1.90	10.18	5.33
Concentration (ppmdv)	25.55	0.14	1.90		
Concentration (ppmwv)	21.79	0.12	1.62		
Concentration (lb/dscf)	3.050E-06	1.628E-08	1.381E-07		
Concentration (lb/scf)	2.601E-06	1.388E-08	1.178E-07		
Concentration (lb/acf)	1.584E-06	8.455E-09	7.175E-08		
Concentration (%dv)	0.003	0.000	0.000	10.179	5.327
Concentration (%wv)	0.002	0.000	0.000	8.681	4.543
Concentration (mg/dscm)	48.84	0.26	2.21		
Concentration (mg/scm)	41.65	0.22	1.89		
Concentration (mg/acm)	25.37	0.14	1.15		
Concentration (mg/Nm3)	52.42	0.28	2.37		
Concentration @3%O2 (ppm)	29.36	0.16	2.18		
Concentration @3%O2 (lb/scf)	3.506E-06	1.871E-08	1.588E-07		
Concentration @3%O2 (%v)	0.003	0.000	0.000		
Concentration @3%O2 (mg/scm)	56.14	0.30	2.54		
Concentration @3%O2 (mg/Nm3)	60.25	0.32	2.73		
Mass Rate (lb/hr)	5.43	0.03	0.25		
Mass Rate (kg/hr)	2.46	0.01	0.11		
Mass Rate (gm/sec)	0.68	0.00	0.03		
Mass Rate (lb/MMBtu) - Fd	3.565E-02	1.903E-04	1.615E-03		
Mass Rate (lb/MMBtu) - Fc	3.566E-02	1.903E-04	1.615E-03		
Mass Rate (ng/J) - Fd	1.534E+01	8.186E-02	6.946E-01		
Mass Rate (ng/J) - Fc	1.534E+01	8.186E-02	6.947E-01		

QA/QC TR
Date 9/10

QA/QC DATA

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Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler A - Natural Gas

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

Run No.		1	2	3	4	
Date (2007)		Aug 18	Aug 18	Aug 18	Aug 18	
Start Time (approx.)		09:34	12:00	13:20	15:17	
Stop Time (approx.)		10:34	13:00	14:20	16:17	
Total Duration of Test Run (min.)		60	60	60	60	
Net Sampling Time (min.)		60	60	60	60	
Sampling System Calibration Summary						
	Nozzle ID No:	N/A	N/A	N/A	N/A	
D_n	Nozzle Diameter (in):	N/A	N/A	N/A	N/A	
	Probe ID No:	TP-96-2	TP-96-2	TP-96-2	TP-96-2	
C_p	Pitot Coefficient:	0.840	0.840	0.840	0.840	
	Meter Box ID. No:	68-F	68-F	68-F	68-F	
Y_d	Meter Box Yd - Field Sheet	1.0075	1.0075	1.0075	1.0075	
	Meter Box Yd - Database	1.0075	1.0075	1.0075	1.0075	
	Meter Box ΔH@ - Field Sheet	1.6925	1.6925	1.6925	1.6925	
	Meter Box ΔH@ - Database	1.6925	1.6925	1.6925	1.6925	
QA/QC						
	Final Leak Check					
	(a) 4% of Sampling Rate (cfm)	0.0195	0.0196	0.0196	0.0195	
	(b) Allowable Rate from Method (cfm)	0.0200	0.0200	0.0200	0.0200	
	Allowable Limit - minimum of a and b (cfm)	0.0195	0.0196	0.0196	0.0195	
	Actual Final Leak Rate (cfm)	0.0010	0.0010	0.0020	0.0010	
	Sample Volume					
	Minimum Volume Required (dscf)	21.00	21.00	21.00	21.00	
V_{msid}	Actual Sample Volume (dscf)	28.172	27.905	27.890	27.948	
	Alternative Method 5 Post-Test Calibration (EPA ALT-009)					
$\sqrt{\Delta H_{avg}}$	Average of Square Root of ΔH (in. W.C.)	0.8367	0.8367	0.8367	0.8367	
Y_{qa}	Alternative Meter Calibration Factor	0.9991	1.0030	1.0020	1.0034	Average
	Variation from full-test Y_d (average ≤ ±5%)	-0.8%	-0.4%	-0.5%	-0.4%	-0.6%

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QA/QC TR
Date 9/10

Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler A - Propane

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

	Run No.	1	2	3	
	Date (2007)	Aug 17	Aug 17	Aug 17	
	Start Time (approx.)	13:00	14:35	15:50	
	Stop Time (approx.)	14:00	15:35	16:50	
	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:	TP-96-2	TP-96-2	TP-96-2	
C_p	Pitot Coefficient:	0.840	0.840	0.840	
	Meter Box ID. No:	68-F	68-F	68-F	
Y_d	Meter Box Yd - Field Sheet	1.0075	1.0075	1.0075	
	Meter Box Yd - Database	1.0075	1.0075	1.0075	
	Meter Box ΔH@ - Field Sheet	1.6925	1.6925	1.6925	
	Meter Box ΔH@ - Database	1.6925	1.6925	1.6925	
	QA/QC				
	Final Leak Check				
	(a) 4% of Sampling Rate (cfm)	0.0195	0.0195	0.0197	
	(b) Allowable Rate from Method (cfm)	0.0200	0.0200	0.0200	
	Allowable Limit - minimum of a and b (cfm)	0.0195	0.0195	0.0197	
	Actual Final Leak Rate (cfm)	0.0010	0.0020	0.0020	
	Sample Volume				
	Minimum Volume Required (dscf)	21.00	21.00	21.00	
V_{mstd}	Actual Sample Volume (dscf)	27.840	27.684	27.838	
	Alternative Method 5 Post-Test Calibration (EPA ALT-009)				
$\sqrt{\Delta H_{avg}}$	Average of Square Root of ΔH (in. W.C.)	0.8367	0.8367	0.8367	
Y_{qa}	Alternative Meter Calibration Factor	1.0019	1.0051	0.9978	**Average**
	Variation from full-test Y_d (average ≤ ±5%)	-0.6%	-0.2%	-1.0%	**-0.6%**

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Date 9/10

Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler B - Natural Gas

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

Run No.		1	2	3	
Date (2007)		Aug 18	Aug 18	Aug 20	
Start Time (approx.)		17:49	19:03	09:04	
Stop Time (approx.)		18:49	20:03	10:04	
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:	TP-96-2	TP-96-2	TP-96-2	
C_p	Pitot Coefficient:	0.840	0.840	0.840	
	Meter Box ID. No:	68-F	68-F	68-F	
Y_d	Meter Box Yd - Field Sheet	1.0075	1.0075	1.0075	
	Meter Box Yd - Database	1.0075	1.0075	1.0075	
	Meter Box ΔH@ - Field Sheet	1.6925	1.6925	1.6925	
	Meter Box ΔH@ - Database	1.6925	1.6925	1.6925	
QA/QC					
	Final Leak Check				
	(a) 4% of Sampling Rate (cfm)	0.0197	0.0197	0.0194	
	(b) Allowable Rate from Method (cfm)	0.0200	0.0200	0.0200	
	Allowable Limit - minimum of a and b (cfm)	0.0197	0.0197	0.0194	
	Actual Final Leak Rate (cfm)	0.0020	0.0030	0.0020	
	Sample Volume				
	Minimum Volume Required (dscf)	21.00	21.00	21.00	
V_{mstd}	Actual Sample Volume (dscf)	28.067	28.039	27.765	
	Alternative Method 5 Post-Test Calibration (EPA ALT-009)				
$\sqrt{\Delta H_{avg}}$	Average of Square Root of ΔH (in. W.C.)	0.8367	0.8367	0.8367	
Y_{qa}	Alternative Meter Calibration Factor	0.9975	0.9964	1.0093	**Average**
	Variation from full-test Y_d (average ≤ ±5%)	-1.0%	-1.1%	0.2%	**-0.6%**

090407 100745
NKN@

QA/QC TR
Date 9/10

Indiantown Cogeneration, L.P.
Clean Air Project No: 10293
Auxiliary Boiler B - Propane

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

	Run No.	1	2	3	
	Date (2007)	Aug 19	Aug 19	Aug 19	
	Start Time (approx.)	08:40	09:55	11:19	
	Stop Time (approx.)	09:40	10:55	12:19	
	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:	TP-96-2	TP-96-2	TP-96-2	
C_p	Pitot Coefficient:	0.840	0.840	0.840	
	Meter Box ID. No:	68-F	68-F	68-F	
Y_d	Meter Box Yd - Field Sheet	1.0075	1.0075	1.0075	
	Meter Box Yd - Database	1.0075	1.0075	1.0075	
	Meter Box ΔH@ - Field Sheet	1.6925	1.6925	1.6925	
	Meter Box ΔH@ - Database	1.6925	1.6925	1.6925	
	QA/QC				
	Final Leak Check				
	(a) 4% of Sampling Rate (cfm)	0.0195	0.0196	0.0195	
	(b) Allowable Rate from Method (cfm)	0.0200	0.0200	0.0200	
	Allowable Limit - minimum of a and b (cfm)	0.0195	0.0196	0.0195	
	Actual Final Leak Rate (cfm)	0.0020	0.0020	0.0020	
	Sample Volume				
	Minimum Volume Required (dscf)	21.00	21.00	21.00	
V_{mstd}	Actual Sample Volume (dscf)	28.234	27.980	27.626	
	Alternative Method 5 Post-Test Calibration (EPA ALT-009)				
$\sqrt{\Delta H_{avg}}$	Average of Square Root of ΔH (in. W.C.)	0.8367	0.8367	0.8367	
Y_{qa}	Alternative Meter Calibration Factor	0.9972	0.9977	1.0077	Average
	Variation from full-test Y_d (average ≤ ±5%)	-1.0%	-1.0%	0.0%	-0.7%

090407 100920
MRR@

Prepared by Clean Air Engineering Proprietary Software
SS ISOKINETIC Version 2006-13a

QA/QC TR
Date 9/10

Sample Probe Calibration

Probe Type: S-Type Pitot **I.D. Number:** TP-96-2

Project Number:

Thermocouple Calibration

Reference Type: Thermometer Reference I.D. No: T119130 Pyrometer I.D. No: 68-P-6 Units: °F

Point No.	Target Temp.	Reference Temp.	Indicated Temp.	Temp. Difference	% Difference*	Within spec?
1	Ambient	71.2	71.8	-0.6	0.11%	YES
2	200°F-250°F	245.6	245.9	-0.3	0.04%	YES

* Based on Absolute Temperature (Rankine) %Difference ≤ 1.5

YES

Geometric Pitot Calibration

Is pitot assembly in good repair? ◉ Yes ○ No If no, explain:

"S" Pitot

	Dimensions		Dimensions	Specifications	Within Spec?
α1=	1	α2=	1	<=10 °	YES
β1=	3	β2=	1	<=5°	YES
γ=	2	θ=	1	None	N/A
A=	0.704			None	N/A
Dt=	0.250			0.1875"<=Dt<=0.375"	YES

	Calculations	Specifications	Within Spec?
A/2=Pa=Pb=	0.352 inches	None	N/A
Pa/Dt=Pb/Dt=	1.408 inches	1.05<P/Dt<1.5	YES
z = A sin γ =	0.025 inches	<=0.125"	YES
w = A sin θ =	0.012 inches	<=0.03125"	YES

Pitot Cp= 0.84 according to 40 CFR 60 section 10.1

Standard Pitot

	Measurement	Specification	Calculation	Within Spec?
Tube O.D.		None		
Static Hole I.D.		within 10% of (0.1*O.D.)		
Tip to Static		>=6*O.D.		
Static to Bend		>=8*O.D.		

Pitot Cp=

Calibrated by: Bill Dimitroff Date: 1/10/2007

CleanAir ENGINEERING

CDS002D-Pitot_Geo, Feb 2004

Meter Box Critical Orifice Post-Test Calibration Data

Project No.	10293	Meter No.	68-F	Orifice	63-G
Location	Office	Meter Yd	1.0075	Orifice K'	0.5776
Test Date	09/10/07	Meter ΔH@	1.6925	Orifice Cal. Date	03/23/06
Operator	Bill Dimitroff	Full Test Cal. Date	05/14/07		

Leak Checks

Negative Pressure
No movement of manometer in one-minute ☑ Pass

Positive Pressure
No movement of manometer in one-minute ☑ Pass

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

Barom. Press. (P_b) 28.89 in. Hg

Run	Elapsed Time (minutes)	Meter Volume (dcf)	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Ambient Temp. T_{amb} (°F)	Orifice ΔH (in. W.C.)	Vacuum (in. Hg)	Net Run Time Θ (minutes)	Net Meter Volume for Run V_m (dcf)	Avg Meter Temp. for Run T_m (°F)	DGM Calibration Factor Y_i	Percent Variation ΔY_i
	0.0	373.00	81	78								
1	6.0	377.59	83	79	75	1.60	17	6.0	4.59	80.3	0.9957	-0.3%
2	13.0	382.94	84	79	75	1.60	17	7.0	5.35	81.3	0.9985	-0.1%
3	28.0	394.37	85	80	75	1.60	17	15.0	11.43	82.0	1.0028	0.4%
										Average Y_i	0.9990	
										Cal. Error	-0.8%	

Calculations and Specifications

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

$$\Delta Y_i = \frac{Y_i - \overline{Y_i}}{\overline{Y_i}} \times 100 \qquad \text{Spec.: } \Delta Y_i \le \pm 2\%$$

$$Cal.Error = \frac{\overline{Y_i} - Y_d}{Y_d} \times 100 \qquad \text{Spec.: } Cal.Error \le \pm 5\%$$

CleanAir ENGINEERING

Meter Box Full Test Calibration

Meter Box No: 68-F

Date of Calibration: 5/14/2007

Meter Box Y_d: 1.0075

Calibration conducted by: Bill Dimitroff

Meter Box ΔH@: 1.6925

Barometric Pressure: 29.09

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	ΔH@
0.396	0.50	-0.20	1.0000	71.000	82.000	11.000	385.200	396.120	10.920	71.0	71.0	71.00	80.0	76.0	78.00	26.82	1.0188	1.7142
0.395	0.50	-0.20	1.0000	82.000	93.000	11.000	396.120	407.120	11.000	71.0	71.0	71.00	80.5	77.5	79.00	26.93	1.0133	1.7243
0.689	1.50	-0.40	1.0000	98.000	109.000	11.000	412.140	423.260	11.120	71.0	71.0	71.00	85.5	79.0	82.25	15.43	1.0053	1.6938
0.690	1.50	-0.40	1.0000	109.000	121.000	12.000	423.260	435.420	12.160	71.0	71.0	71.00	86.0	79.5	82.75	16.80	1.0039	1.6850
0.980	3.00	-0.60	1.0000	126.000	137.000	11.000	440.480	451.630	11.150	71.0	71.0	71.00	90.0	80.5	85.25	10.85	1.0039	1.6697
0.980	3.00	-0.60	1.0000	137.000	148.000	11.000	451.630	462.840	11.210	71.0	71.0	71.00	91.0	81.0	86.00	10.85	0.9999	1.6681
																Averages	1.00750	1.69253

Nomenclature

- P_b Barometric Pressure (in. Hg)
- Q Flow Rate (cfm)
- ΔH Orifice Pressure differential (in. H_2O)
- ΔP Inlet Pressure Differential (in. H_2O)
- V_d Gas Meter Volume - Dry (ft^3)
- V_{ds} Standard Meter Volume - Dry (ft^3)
- T_d Average Meter Box Temperature (°F)
- T_o Outlet Meter Box Temperature (°F)
- T_{ds} Average Standard Meter Temperature (°F)
- Y_d Meter Correction Factor (unitless), $Y_i \leq Y_{avg} \pm 0.02$
- Y_{ds} Standard Meter Correction Factor (unitless)
- ΔH@ Orifice Pressure Differential giving 0.75 cfm of air at 68°F and 29.92 in. Hg (in. H_2O) $\Delta H@_i \leq \Delta H@_{avg} \pm 0.2$
- Θ Duration of Run (minutes)

Equations

$$Y_d = (Y_{ds})\left[\frac{V_{ds}}{V_d}\right]\left[\frac{T_d + 460}{T_{ds} + 460}\right]\left[\frac{P_b + \Delta P/13.6}{P_b + \Delta H/13.6}\right]$$

$$\Delta H@ = \frac{(0.0319)(\Delta H)}{P_b(T_o + 460)}\left[\frac{(T_{ds} + 460)\Theta}{(V_{ds})(Y_{ds})}\right]^2$$

$$Q = \frac{17.64(V_{ds})(P_b)}{(T_{ds} + 460)(\Theta)}$$

Vacuum Gauge

Standard (in.Hg)	Gauge (in.Hg)
5.0	5.0
10.0	10.0
15.0	15.0
20.0	20.0
25.0	25.0

CleanAir ENGINEERING

Meter Box - Pyrometer Calibration Sheet

Meter Box No: 68-F

Office: Pittsburgh

Calibrated by: Bill Dimitroff

Client: NA

Date: 5/14/07

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	50	49	49	50	50	50	50
100	100	99	99	100	100	100	100
150	150	149	149	150	150	150	150
200	200	199	199				
250	250	249	249				
300	299	299	299				
350	349	349	349				
400	399	399	399				
450	449	449	449				
500	499	499	499				
550	549	549	549				
600	599	599	599				

Tolerance = ±2°F difference from reference setting.

Calibration Reference Information

Reference Used: Digimite

Serial No: T119130

Calibrated By: Omega

Date Calibrated: 5/26/2006

Calibration Report No: 503977790

CleanAir ENGINEERING

CleanAir ENGINEERING

Indiantown Cogeneration, L.P.

Clean Air Engineering Project No. 10293
Plant Location: Indiantown, Fl

Stratification Test

Line Diameter	78	inches
Port Length	10	inches

Point 1	
23.026	inches

Time(min)	NOx
1	32.897
2	32.859
3	32.900
4	32.881
5	32.915
Average	32.89
% Check	0.58

Point 2	
49	inches

Time(min)	NOx
1	33.046
2	33.527
3	33.294
4	33.017
5	33.106
Average	33.20
% Check	0.35

Point 3	
74.974	inches

Time(min)	NOx
1	33.114
2	33.027
3	33.212
4	33.248
5	33.173
Average	33.15
% Check	0.22

Overall Mean	33.08

CleanAir ENGINEERING

Indiantown Cogeneration, L.P.

Clean Air Engineering Project No. 10293
Plant Location: Indiantown, FI

Converter Efficiency Check

Manufacturer certified concentration of a calibration gas (ppmv)

NO_2	48.6	ppmv
Cylinder #	AAL021592	

	NOx
	48.047
	48.247
	48.458
	48.586
Average	48.33

$$Eff_{NO2} = \frac{C_{Dir}}{C_V} x100$$

48.33	C_{Dir}	Measured Concentration of calibration gas when introduced in direct calibration mode, (ppmv)
48.6	C_V	Manufacturer certified concentration of a calibration gas (ppmv)

99.5% Eff_{NO2}

Key

Failed Converter Effiency Check

Passed Converter Effiency Check

COMPLIANCE CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: 55731-71-65000
Project No.: 01-25041-002

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: AAL021592 **Certification Date:** 23May2007 **Exp. Date:** 21Nov2007
Cylinder Pressure*:** 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
NITROGEN DIOXIDE	48.6	PPM	+/- 2%	GMIS
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
GMIS NO2/N2	22Dec2008	ALM049849	48.30 PPM	NITROGEN DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
HORIBA/CLA220/5708850810	12May2007	CHEMILUMINESCENCE

Special Notes: ADD 1% OXYGEN TO THE BLEND

APPROVED BY: James L. McHale
JAMES L. MCHALE

SUPERVISOR: Donna M. McClain
DONNA M. MCCLAIN

Airgas

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

Customer:	CREIGHTON		
Part Number:	E03NI80E15A01E2	Reference Number:	32-112534012-3
Cylinder Number:	XC034281B	Cylinder Volume:	149 Cu.Ft.
Laboratory:	MIC - Royal Oak - MI	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 12, 2007	Valve Outlet:	

Expiration Date: Feb 12, 2010

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	6.000 %	6.010 %	G1	+/- 1% NIST Traceable
OXYGEN	14.00 %	14.00 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	00060414	XC018728B	6.89% CARBON DIOXIDE/NITROGEN	Jan 01, 2008
NTRM	03060215	XC024387B	22.60% OXYGEN/NITROGEN	May 01, 2007

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
E/N 136, 10%FS CO2, Horiba VIA-510	Nondispersive Infrared (NDIR)	Feb 12, 2007
E/N 51, 25%FS O2, Rosemont 755R	Paramagnetic (Para)	Jan 12, 2007

Triad Data Available Upon Request

Notes:

J. Ortiz

QA Approval

Airgas

Certificate of Analysis: EPA Protocol Gas Mixture

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

Cylinder Number: SG9134098BAL
Cylinder Pressure: 2000.6 PSIG
Certification Date: 9/19/2006
Reference Number: 32-112503706-4
Expiration Date: 9/19/2009
Laboratory: MIC - Royal Oak - MI

Certified Concentrations

Component	Concentration	Accuracy	Analytical Principle	Procedure
OXYGEN	6.040 %	+/- 1%	Paramagnetic (Para)	G1
CARBON DIOXIDE	13.98 %	+/- 1%	Nondispersive Infrared (NDIR)	G1
NITROGEN	Balance			

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences.

Notes: CREIGHTON

Do not use cylinder below 150 psig.

Approval Signature Cathy D Stewart

Reference Standard Information

Type	Balance Gas	Component	Cyl.Number	Concentration
NTRM 82745	NITROGEN	CARBON DIOXIDE	SG9183197BAL	15.862 %
NTRM 82658x	NITROGEN	OXYGEN	SG9160230BAL	7.015 %

Analytical Results

1st Component OXYGEN

1st Analysis Date: 09/19/2006

R 3.51	S 3.02	Z 0.00	Conc 6.040 %
S 3.02	Z 0.00	R 3.51	Conc 6.040 %
Z 0.00	R 3.51	S 3.02	Conc 6.040 %
			AVG: 6.040 %

2nd Component CARBON DIOXIDE

1st Analysis Date: 09/19/2006

R 7.93	S 6.99	Z 0.00	Conc 13.98 %
S 6.99	Z 0.00	R 7.93	Conc 13.98 %
Z 0.00	R 7.93	S 6.99	Conc 13.98 %
			AVG: 13.98 %

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.: 05-49082-015

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: AAL9485 **Certification Date:** 06Dec2006 **Exp. Date:** 05Dec2008
Cylinder Pressure*:** 1962 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	26.24	PPM	+/- 1%	Direct NIST and NMi
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	26.44	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 2629	15Aug2009	KAL003050	19.83 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)

NITRIC OXIDE

First Triad Analysis			Second Triad Analysis			Calibration Curve	
Date: 29Nov2006	Response Unit:PPM		Date: 06Dec2006	Response Unit: PPM		Concentration = A+Bx+Cx2+Dx3+Ex4	
Z1=0.03721	R1=19.81003	T1=26.12775	Z1=-0.05535	R1=19.84779	T1=26.46309	r=9.99986E-1	
R2=19.90783	Z2=0.17508	T2=26.15382	R2=19.91036	Z2=0.00480	T2=26.49034	Constants:	A=0.00000E+0
Z3=0.19746	T3=26.31748	R3=20.06381	Z3=0.06901	T3=26.50642	R3=19.96019	B=9.97137E-1	C=2.46000E-4
Avg. Concentration:	26.21	PPM	Avg. Concentration:	26.27	PPM	D=0.00000E+0	E=0.00000E+0

APPROVED BY: _____
JEFF CROTEAU

INDIANTOWN 10293

Airgas.

Certificate of Analysis: EPA Protocol Gas Mixture

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

Cylinder Number:	CC39564	Reference Number:	32-112462638-5
Cylinder Pressure:	2000.6 PSIG	Expiration Date:	3/17/2008
Certification Date:	3/17/2006	Laboratory:	MIC - Royal Oak - MI

Certified Concentrations

Component	Concentration	Accuracy	Analytical Principle	Procedure
NITRIC OXIDE	51.06 PPM	+/- 1%	Chemiluminescence (Chemi)	G1
NITROGEN	Balance			

Total oxides of nitrogen 51.40 PPM

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences.

Notes: Cleveland

Do not use cylinder below 150 psig.

Approval Signature [signature]

Reference Standard Information

Type	Balance Gas	Component	Cyl.Number	Concentration
NTRM 81684	NITROGEN	NITRIC OXIDE	CC208064	93.2 PPM

Analytical Results

1st Component NITRIC OXIDE

1st Analysis Date: 03/10/2006

R 4.66	S 2.55	Z 0.00	Conc 51.00 PPM
S 2.56	Z 0.00	R 4.66	Conc 51.20 PPM
Z 0.00	R 4.66	S 2.56	Conc 51.20 PPM
			AVG: 51.13 PPM

2nd Analysis Date: 03/17/2006

R 4.66	S 2.55	Z 0.00	Conc 51.00 PPM
S 2.55	Z 0.00	R 4.66	Conc 51.00 PPM
Z 0.00	R 4.66	S 2.55	Conc 51.00 PPM
			AVG: 51.00 PPM

Airgas

Certificate of Analysis: EPA Protocol Gas Mixture

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

Cylinder Number:	XC017922B	Reference Number:	32-112423274-3
Cylinder Pressure:	2000.6 PSIG	Expiration Date:	9/13/2008
Certification Date:	9/13/2005	Laboratory:	MIC - Royal Oak - MI

Certified Concentrations

Component	Concentration	Accuracy	Analytical Principle	Procedure
CARBON MONOXIDE	18.50 PPM	+/- 1%	Nondispersive Infrared (NDIR)	G1
NITROGEN	Balance			

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences.

Notes:CLEVELAND

Do not use cylinder below 150 psig.

Approval Signature L. Yocarelli

Reference Standard Information

Type	Balance Gas	Component	Cyl.Number	Concentration
SRM 2635a	NITROGEN	CARBON MONOXIDE	CAL010496	25.05 PPM

Analytical Results

1st Component CARBON MONOXIDE

1st Analysis Date:	09/06/2005		
R 5.01	S 3.70	Z 0.0	Conc 18.50 PPM
S 3.70	Z 0.0	R 5.01	Conc 18.50 PPM
Z 0.0	R 5.01	S 3.70	Conc 18.50 PPM
			AVG: 18.50 PPM
2nd Analysis Date:	09/13/2005		
R 5.01	S 3.70	Z 0.00	Conc 18.50 PPM
S 3.70	Z 0.00	R 5.01	Conc 18.50 PPM
Z 0.00	R 5.01	S 3.70	Conc 18.50 PPM
			AVG: 18.50 PPM

Airgas

Certificate of Analysis: EPA Protocol Gas Mixture

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

Cylinder Number:	SG9107542BAL	Reference Number:	32-112462132-2
Cylinder Pressure:	2000.6 PSIG	Expiration Date:	3/20/2009
Certification Date:	3/20/2006	Laboratory:	MIC - Royal Oak - MI

Certified Concentrations

Component	Concentration	Accuracy	Analytical Principle	Procedure
CARBON MONOXIDE	43.72 PPM	+/- 1%	Nondispersive Infrared (NDIR)	G1
NITROGEN	Balance			

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences.

Notes:CLEVELAND

Do not use cylinder below 150 psig. Approval Signature

Reference Standard Information

Type	Balance Gas	Component	Cyl.Number	Concentration
NTRM 81678	NITROGEN	CARBON MONOXIDE	XC012235B	49.59 PPM

Analytical Results

1st Component **CARBON MONOXIDE**

1st Analysis Date:	03/13/2006		
R 9.93	S 8.76	Z 0.0	Conc 43.75 PPM
S 8.76	Z 0.0	R 9.93	Conc 43.75 PPM
Z 0.0	R 9.93	S 8.76	Conc 43.75 PPM
			AVG: 43.75 PPM
2nd Analysis Date:	03/20/2006		
R 9.93	S 8.75	Z 0.00	Conc 43.7 PPM
S 8.75	Z 0.00	R 9.93	Conc 43.7 PPM
Z 0.00	R 9.93	S 8.75	Conc 43.7 PPM
			AVG: 43.7 PPM

Airgas

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Customer:	AIRGAS - CREIGHTON		
Part Number:	E02NI99E15A00V3	Reference Number:	32-112531795-3
Cylinder Number:	XC022914B	Cylinder Volume:	144 Cu.Ft.
Laboratory:	MIC - Royal Oak - MI	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 01, 2007	Valve Outlet:	350

Expiration Date: Feb 01, 2010

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
PROPANE	7.500 PPM	7.51 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	99060108	XC003553B	9.54PPM PROPANE/NITROGEN	Jun 01, 2007

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
E/N 54, 10ppmFS C3H8, Nicolet 6700	*Fourier Transform Infrared (FTIR)*	*Feb 01, 2007*

Triad Data Available Upon Request

Notes:ORDER # 092392

QA Approval

Airgas

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Customer:	AIRGAS - CREIGHTON		
Part Number:	E02NI99E15A00V2	Reference Number:	32-112531795-2
Cylinder Number:	XC032455B	Cylinder Volume:	144 Cu.Ft.
Laboratory:	MIC - Royal Oak - MI	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 01, 2007	Valve Outlet:	350

Expiration Date: Feb 01, 2010

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.I.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
PROPANE	12.500 PPM	12.5 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	00060613	XC003504B	30.0PPM PROPANE/AIR	Sep 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
E/N 54, 50ppmFS C3H8, Nicolet 6700	Fourier Transform Infrared (FTIR)	Feb 01, 2007

Triad Data Available Upon Request

Notes:ORDER # 092392

QA Approval

Airgas

Airgas Great Lakes, Inc.
2009 Bellaire Ave.
Royal Oak, MI 48067
Ph: (248) 399-9150
Fax: (248) 584-2540
http://www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Customer:	AIRGAS - CREIGHTON		
Part Number:	E02NI99E15A00E6	Reference Number:	32-112531795-1
Cylinder Number:	CC129105	Cylinder Volume:	144 Cu.Ft.
Laboratory:	MIC - Royal Oak - MI	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 01, 2007	Valve Outlet:	350

Expiration Date: Feb 01, 2010

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
PROPANE	21.250 PPM	21.0 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	00060613	XC003504B	30.0PPM PROPANE/AIR	Sep 02, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
E/N 54, 50ppmFS C3H8, Nicolet 6700	Fourier Transform Infrared (FTIR)	Feb 01, 2007

Triad Data Available Upon Request

Notes:ORDER # 092392

QA Approval

VISIBLE EMISSIONS EVALUATOR

This is to certify that

William Dimitroff

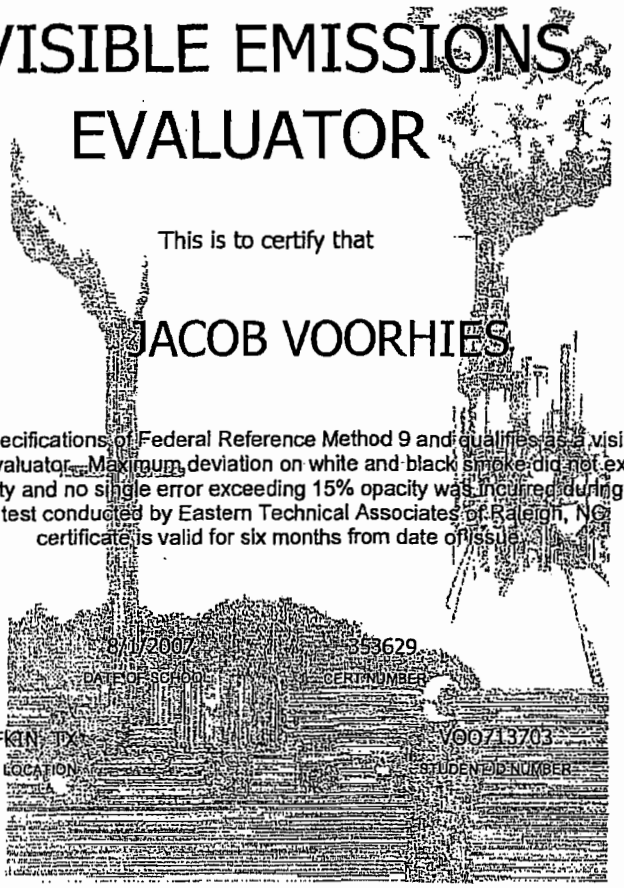
met the specifications of Federal Reference Method 9 and qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Eastern Technical Associates of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

350636	*Pittsburgh, Pennsylvania*	*April 10, 2007*
Certificate Number	Location	Date of Issue

Thomas Hoke
President

Michael W. Sandford
Director of Training

VISIBLE EMISSIONS EVALUATOR



This is to certify that

JACOB VOORHIES

met the specifications of Federal Reference Method 9 and qualifies 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, NC. This certificate is valid for six months from date of issue.

8/1/2007	353629
DATE OF SCHOOL	CERT NUMBER
LUFKIN, TX	VOO713703
SCHOOL LOCATION	STUDENT ID NUMBER

EASTERN TECHNICAL ASSOCIATES

JACOB VOORHIES

VOO713703 STUDENT ID NUMBER

met the specifications of Federal Reference Method 9 and qualifies 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, NC. This certificate is valid for six months from date of issue and expires on the date below.

LUFKIN, TX	8/1/2007	353629
SCHOOL LOCATION	DATE OF SCHOOL	CERT NUMBER
LUFF07	1/31/2008	
LAST LECTURE	EXPIRATION DATE	BEARER

Customer Support
Debbie or Sheila
919-878-3188
www.eta-is-opacity.com

Visible Emissions Evaluation

This certifies that...

JACOB VOORHIES

...successfully completed a course in the methods of measurement of visible emissions from sources as specified by Federal Reference Methods 9 and 22 conducted by Eastern Technical Associates of Raleigh, North Carolina.

LUFKIN, TX
Course Location

July 31, 2007
Date

President

Michael W. Smuford
Director of Training

Curtis Donatelli
Instructor

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Date: August 17, 2007
Start Time 8:02
Stop Time 9:04

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX Aux Boiler A Propane ppmdv	THC Aux Boiler A Propane ppmwv	CO Aux Boiler A Propane ppmdv	CO2 Aux Boiler A Propane %dv			O2 Aux Boiler A Propane %dv
Instrument Information							
Manufacturer:		J.U.M	T.E.I.				Servomex
Model:	T.E.I. 42C	3-300A	48CHL	Servomex 1415B			1420B
Detection:	Chemilumi.	FID	GFC/NDIR	NDIR			Paramagn.
Asset or Serial No:	201109	204567	204433	68-A			68-A
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Response Time (seconds)							
	60	60	60	60			60
Manufacturer Certified Cylinder Value (C_V)							
Zero	0.000	0.000	0.000	0.000			0.000
Low		7.510					
Mid	26.440	12.500	18.500	6.010			6.040
High	51.400	21.000	43.720	13.980			14.000
Actual gas to be used for bias checks							
	26.440	7.510	18.500	13.980			6.040
Cylinder ID							
Zero	SG9134098BAL	AAL9485	AAL9485	AAL9485			AAL9485
Low		XC022914B					
Mid	AAL9485	XC032455B	XC017922B	XC034281B			SG9134098BAL
High	CC39564	CC129105	SG9107542BAL	SG9134098BAL			XC034281B
Analyzer Calibration Response (C_{Dir})							
Zero	0.488	0.197	0.000	-0.003			0.001
Low		7.445					
Mid	26.416	12.506	19.244	6.018			6.064
High	51.786	21.244	43.698	14.044			13.998
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)							
Zero	0.9%	0.9%	0.0%	0.0%			0.0%
Low	N/A	-0.9%	N/A	N/A			N/A
Mid	0.0%	0.0%	1.7%	0.1%			0.2%
High	0.8%	1.2%	0.0%	0.5%			0.0%
Calibration Error Status							
Zero	OK	OK	OK	OK			OK
Low	N/A	OK	N/A	N/A			N/A
Mid	OK	OK	OK	OK			OK
High	OK	OK	OK	OK			OK

091807 141530

08:02:14	11.876	-2.149	0.000	0.097	-0.078
08:02:29	40.581	-2.159	0.000	0.095	-0.106
08:02:44	48.301	-2.196	0.000	0.094	-0.105
08:02:59	49.734	-2.211	-0.001	0.095	-0.107
08:03:14	50.170	-2.206	-0.022	0.095	-0.109
08:03:29	50.315	-2.139	-0.024	0.094	-0.119
08:03:44	50.330	-2.206	-0.002	0.094	-0.130
08:03:59	50.245	-2.219	-0.002	0.091	-0.134
08:04:14	51.339	-2.190	-0.023	0.092	-0.142
08:04:29	51.673	-2.181	-0.024	0.092	-0.141
08:04:44	51.699	-2.164	-0.024	0.092	-0.140
08:04:59	51.727	-2.222	-0.024	0.080	-0.006
08:05:14	51.743	-2.260	-0.024	-0.002	0.004
08:05:29	51.746	-2.269	-0.014	-0.003	0.000
08:05:44	51.774	-2.235	-0.019	-0.003	0.000
08:05:59	51.795	-2.237	-0.044	-0.003	0.003
08:06:14	51.790	-2.268	-0.049	0.012	0.689
08:06:29	46.778	-2.261	-0.049	3.640	11.320
08:06:44	13.291	-2.248	-0.096	5.783	13.714
08:06:59	1.050	-2.229	-0.074	5.918	13.842
08:07:14	0.611	-2.273	-0.161	5.930	13.846
08:07:29	0.625	-2.292	-0.183	5.932	13.850
08:07:44	0.635	-2.312	-0.183	5.933	13.854
08:07:59	0.635	-2.256	-0.183	5.935	13.916

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Date: August 17, 2007
Start Time 8:02
Stop Time 9:04

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
08:08:14	0.635	-2.216	-0.186	5.965			13.993
08:08:29	0.508	-2.219	-0.195	6.017			14.000
08:08:44	0.488	-2.244	-0.179	6.018			14.000
08:08:59	0.488	-2.260	-0.178	6.019			13.994
08:09:14	0.488	-2.250	-0.183	6.018			13.996
08:09:29	0.488	-2.217	-0.183	6.018			13.999
08:09:44	0.488	-2.201	-0.180	5.989			13.825
08:09:59	0.967	-2.193	-0.171	9.559			8.428
08:10:14	1.154	-2.152	-0.174	13.731			6.261
08:10:29	0.545	-2.102	-0.212	14.141			6.083
08:10:44	0.486	-2.048	-0.246	14.184			6.067
08:10:59	0.477	-2.117	-0.256	14.187			6.064
08:11:14	0.466	-2.116	-0.290	14.103			6.065
08:11:29	0.464	-2.091	-0.291	14.040			6.063
08:11:44	0.464	-2.113	-0.271	14.044			6.064
08:11:59	0.506	-2.105	-0.273	14.048			6.064
08:12:14	0.578	-2.072	-0.279	12.168			5.435
08:12:29	1.166	-2.077	-0.265	2.169			1.171
08:12:44	4.996	-2.059	-0.214	0.229			0.188
08:12:59	8.394	-2.035	-0.115	0.046			0.084
08:13:14	10.797	-2.041	0.018	0.020			0.061
08:13:29	12.661	-2.064	0.098	0.012			0.045
08:13:44	14.990	-2.079	0.160	0.008			0.038
08:13:59	18.522	-2.049	0.171	0.006			0.031
08:14:14	21.928	-2.017	0.171	0.003			0.028
08:14:29	24.169	-2.040	0.178	0.002			0.027
08:14:44	25.395	-2.079	0.172	0.001			0.026
08:14:59	26.172	-2.066	0.171	0.000			0.024
08:15:14	26.499	-2.035	0.168	0.001			0.025
08:15:29	26.577	-2.033	0.159	0.000			0.022
08:15:44	26.724	-2.063	0.158	0.000			0.022
08:15:59	26.717	-2.066	0.166	-0.001			0.025
08:16:14	25.686	-2.030	0.244	0.058			0.687
08:16:29	21.210	-2.025	1.636	0.006			0.111
08:16:44	5.876	-2.059	7.753	-0.002			0.032
08:16:59	0.660	-2.086	15.386	-0.003			0.020
08:17:14	0.564	-2.099	23.090	-0.004			0.011
08:17:29	0.573	-2.040	26.388	-0.004			0.007
08:17:44	0.583	-2.053	27.510	-0.004			0.000
08:17:59	0.586	-2.063	27.671	-0.004			-0.002
08:18:14	0.586	-2.094	27.740	-0.004			-0.002
08:18:29	0.586	-2.090	27.939	-0.004			-0.007
08:18:44	0.586	-2.081	29.796	-0.004			0.000
08:18:59	0.581	-2.103	32.479	-0.004			0.003
08:19:14	0.584	-2.135	36.102	-0.006			0.002
08:19:29	0.589	-2.115	39.682	-0.005			0.002
08:19:44	0.606	-2.126	43.036	-0.006			-0.003
08:19:59	0.608	-2.099	44.851	-0.006			0.000
08:20:14	0.606	-2.090	45.991	-0.005			-0.006
08:20:29	0.599	-2.077	44.899	-0.004			-0.008
08:20:44	0.582	-2.100	43.977	-0.006			-0.017
08:20:59	0.503	-2.152	43.770	-0.006			-0.013
08:21:14	0.502	-2.113	43.642	-0.005			-0.012
08:21:29	0.464	-2.077	43.683	-0.006			-0.011
08:21:44	0.464	-2.089	43.716	-0.006			0.004
08:21:59	0.474	-2.108	43.724	-0.005			0.547
08:22:14	0.526	-2.081	42.264	-0.005			0.255
08:22:29	0.562	-2.019	36.116	-0.006			0.064
08:22:44	0.599	-1.989	28.585	-0.005			0.041
08:22:59	0.604	-2.022	22.781	-0.006			0.030
08:23:14	0.609	-2.032	21.442	-0.007			0.023
08:23:29	0.604	-2.024	21.389	-0.007			0.018
08:23:44	0.599	-1.983	21.475	-0.006			0.018
08:23:59	0.586	-2.022	21.514	-0.002			0.074
08:24:14	12.751	-2.022	20.952	0.003			0.086
08:24:29	34.640	-2.004	17.365	0.010			0.059
08:24:44	10.110	-1.999	13.722	-0.007			0.016

QA/QC JRI
Date 9/13

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Date: August 17, 2007
Start Time 8:02
Stop Time 9:04

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
08:24:59	1.294	-1.973	14.816	-0.008			0.014
08:25:14	0.586	-2.030	19.074	-0.009			0.014
08:25:29	0.586	-2.092	22.141	-0.008			0.014
08:25:44	0.586	-2.103	22.858	-0.009			0.016
08:25:59	0.586	-2.061	22.882	-0.002			0.033
08:26:14	14.914	-2.005	20.795	-0.008			0.020
08:26:29	47.202	-1.967	14.200	-0.009			0.018
08:26:44	50.720	-1.964	6.814	-0.010			0.018
08:26:59	51.452	-1.989	1.926	-0.010			0.018
08:27:14	51.616	-2.005	0.417	-0.009			0.017
08:27:29	50.644	-1.991	0.144	-0.006			0.026
08:27:44	45.553	-2.005	2.544	-0.008			0.017
08:27:59	18.128	-2.048	13.982	-0.010			0.015
08:28:14	0.612	-2.077	29.995	-0.010			0.005
08:28:29	0.562	-2.054	42.978	-0.010			0.004
08:28:44	0.562	-2.006	46.616	-0.011			0.000
08:28:59	0.562	-1.997	47.535	-0.010			0.000
08:29:14	0.562	-2.023	44.240	-0.010			-0.010
08:29:29	0.562	-2.045	43.866	-0.010			-0.012
08:29:44	0.562	-2.053	43.698	-0.010			-0.014
08:29:59	0.564	-2.049	43.717	-0.010			-0.011
08:30:14	0.583	-2.051	43.714	-0.009			-0.011
08:30:29	0.586	-2.084	43.667	-0.009			-0.008
08:30:44	0.586	-2.112	43.651	-0.010			-0.005
08:30:59	0.586	-2.071	43.585	-0.008			-0.002
08:31:14	0.586	-2.046	41.582	-0.009			-0.009
08:31:29	0.586	-2.061	34.375	-0.009			-0.012
08:31:44	0.586	-2.090	26.149	-0.009			-0.016
08:31:59	0.598	-2.100	20.984	-0.008			-0.017
08:32:14	0.609	-2.102	19.700	-0.009			-0.018
08:32:29	0.601	-2.108	19.494	-0.009			-0.018
08:32:44	0.603	-2.128	19.509	-0.008			-0.027
08:32:59	0.578	-2.147	19.535	-0.009			-0.030
08:33:14	0.537	-2.131	19.534	-0.009			-0.017
08:33:29	0.464	-2.102	19.494	-0.008			-0.009
08:33:44	0.466	-2.107	19.343	-0.010			-0.015
08:33:59	0.464	-2.123	19.269	-0.009			-0.011
08:34:14	0.464	-2.133	19.275	-0.010			-0.012
08:34:29	0.464	-2.143	19.246	-0.009			-0.008
08:34:44	0.464	-2.122	19.210	-0.007			0.553
08:34:59	8.731	-2.059	18.353	-0.002			1.244
08:35:14	15.599	-2.053	14.891	0.000			1.334
08:35:29	18.556	-2.053	9.850	0.000			1.392
08:35:44	20.182	-2.012	7.098	0.001			1.433
08:35:59	22.468	-1.952	5.359	0.001			1.462
08:36:14	24.337	-1.879	4.323	0.002			1.484
08:36:29	25.926	-1.897	3.321	0.003			1.497
08:36:44	26.749	-1.887	2.686	0.004			1.506
08:36:59	27.199	-1.814	2.183	0.004			1.516
08:37:14	27.264	-1.791	1.906	0.004			1.518
08:37:29	27.251	-1.841	1.643	0.006			1.520
08:37:44	27.399	-1.879	1.490	0.005			1.522
08:37:59	28.304	-1.871	1.312	0.006			1.524
08:38:14	44.837	-1.804	0.935	0.006			1.525
08:38:29	73.216	-1.809	0.416	0.006			1.525
08:38:44	58.812	-1.842	0.060	0.007			1.524
08:38:59	50.004	-1.827	-0.112	0.007			1.525
08:39:14	47.483	-1.779	-0.144	0.006			1.524
08:39:29	47.517	-1.742	-0.141	0.007			1.520
08:39:44	47.736	-1.757	-0.132	0.008			1.514
Conv. Eff 08:39:59	48.047	-1.814	-0.139	0.008			1.513
08:40:14	48.247	-1.842	-0.147	0.007			1.512
08:40:29	48.458	-1.806	-0.147	0.007			1.503
08:40:44	48.586	-1.770	-0.147	0.008			1.492
08:40:59	40.970	-1.819	-0.157	0.008			1.488
08:41:14	27.927	1.607	-0.140	0.010			2.696
08:41:29	6.935	1.096	-0.015	0.029			17.572

QA/QC JiRi
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Date: August 17, 2007
Start Time 8:02
Stop Time 9:04

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
08:41:44	2.561	-1.091	0.381	0.038			21.671
08:41:59	1.345	-1.508	0.992	0.035			21.189
08:42:14	1.345	5.648	1.103	0.037			20.983
08:42:29	1.356	1.202	0.816	0.049			19.728
08:42:44	1.433	-2.341	2.483	0.072			11.181
08:42:59	20.456	-2.473	6.147	0.016			7.693
08:43:14	31.990	-2.548	7.534	0.009			7.357
08:43:29	35.126	-2.615	4.905	0.009			7.370
08:43:44	35.316	-2.667	1.971	0.008			7.436
08:43:59	35.441	-2.670	0.413	0.007			7.614
08:44:14	34.888	-2.673	0.186	0.009			8.226
08:44:29	33.631	-2.676	0.171	0.010			8.320
08:44:44	33.286	-2.704	0.184	0.010			8.322
08:44:59	33.143	-2.792	0.165	0.010			8.361
08:45:14	33.063	-3.137	0.149	0.007			6.232
08:45:29	35.888	-3.157	0.152	0.000			2.211
08:45:44	47.249	-2.300	0.158	0.000			1.945
08:45:59	50.160	0.028	0.142	0.000			2.028
08:46:14	50.147	0.036	0.135	0.000			2.118
08:46:29	50.043	0.008	0.147	0.000			2.168
08:46:44	49.859	0.003	0.147	0.000			2.194
08:46:59	49.551	0.000	0.147	0.000			2.185
08:47:14	49.556	0.003	0.149	0.000			2.275
08:47:29	49.512	-0.018	0.153	0.002			2.686
08:47:44	48.651	-0.088	0.157	0.000			2.109
08:47:59	49.992	-0.200	0.159	-0.001			0.727
08:48:14	52.384	-0.189	0.150	-0.002			0.051
08:48:29	55.741	-0.034	0.147	-0.003			0.039
08:48:44	55.915	-0.003	0.147	-0.003			0.041
08:48:59	56.142	-0.006	0.147	-0.002			0.036
08:49:14	56.215	-0.003	0.148	-0.003			0.039
08:49:29	56.161	10.968	0.163	-0.002			0.714
08:49:44	55.656	19.354	0.173	0.001			2.016
08:49:59	19.996	19.378	0.205	0.000			1.878
08:50:14	1.864	19.497	0.230	0.000			1.884
08:50:29	0.936	20.756	0.255	-0.001			1.895
08:50:44	0.858	21.377	0.254	0.000			1.906
08:50:59	0.781	21.387	0.255	0.000			1.924
08:51:14	0.781	21.475	0.239	0.000			1.954
08:51:29	0.739	21.542	0.242	0.000			2.560
08:51:44	0.659	21.446	0.253	-0.002			2.512
08:51:59	0.659	21.553	0.232	-0.002			1.907
08:52:14	0.659	21.347	0.234	-0.001			1.789
08:52:29	0.661	21.280	0.255	-0.001			1.841
08:52:44	0.659	21.291	0.255	-0.002			1.872
08:52:59	0.661	21.451	0.255	-0.002			1.885
08:53:14	0.662	21.509	0.238	0.000			1.832
08:53:29	0.662	21.455	0.227	-0.001			1.810
08:53:44	0.646	21.418	0.231	-0.001			1.836
08:53:59	0.635	21.385	0.242	-0.002			1.873
08:54:14	0.635	21.470	0.252	-0.002			1.885
08:54:29	0.635	21.511	0.232	-0.002			1.854
08:54:44	0.635	21.397	0.234	-0.001			1.821
08:54:59	0.635	20.910	0.232	-0.001			1.857
08:55:14	0.624	19.572	0.234	0.000			2.291
08:55:29	0.643	19.010	0.246	0.192			2.654
08:55:44	0.685	13.270	0.230	0.041			1.781
08:55:59	0.832	13.201	0.208	0.002			1.487
08:56:14	0.807	13.141	0.208	-0.001			1.532
08:56:29	0.684	13.162	0.214	-0.001			1.581
08:56:44	0.630	13.167	0.211	-0.002			1.581
08:56:59	0.611	13.213	0.203	-0.002			1.562
08:57:14	0.611	13.174	0.194	-0.002			1.529
08:57:29	0.606	14.322	0.194	-0.002			1.411
08:57:44	0.591	14.630	0.191	-0.003			0.286
08:57:59	0.586	14.633	0.195	-0.003			0.077
08:58:14	0.586	14.483	0.177	-0.003			0.071

QA/QC J.R.
Date 9/13

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

Date: August 17, 2007
Start Time 8:02
Stop Time 9:04

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
08:58:29	0.586	0.817	0.171	0.003			0.107
08:58:44	2.465	0.223	0.161	0.000			0.077
08:58:59	38.689	0.212	0.142	-0.004			0.092
08:59:14	55.396	0.208	0.133	-0.004			0.069
08:59:29	55.930	0.195	0.122	-0.003			0.067
08:59:44	56.088	0.189	0.132	-0.004			0.066
08:59:59	56.134	17.786	0.142	-0.003			0.067
09:00:14	45.333	24.391	0.132	-0.002			0.067
09:00:29	23.639	24.472	0.122	-0.004			0.061
09:00:44	4.744	24.500	0.134	-0.005			0.065
09:00:59	0.817	22.157	0.165	-0.004			0.063
09:01:14	0.702	21.335	0.169	-0.004			0.061
09:01:29	0.679	21.309	0.154	-0.004			0.066
09:01:44	0.671	21.265	0.137	-0.004			0.071
09:01:59	0.562	21.158	0.139	-0.006			0.066
09:02:14	0.562	21.027	0.148	-0.004			0.091
09:02:29	0.562	16.161	0.154	-0.003			0.103
09:02:44	0.562	12.548	0.148	-0.002			0.094
09:02:59	0.568	12.505	0.159	-0.004			0.068
09:03:14	0.576	12.466	0.156	-0.002			0.054
09:03:29	0.586	12.420	0.134	-0.002			0.058
09:03:44	0.586	12.389	0.134	-0.002			0.082
09:03:59	0.586	12.371	0.139	-0.002			0.096
09:04:14	0.586	8.723	0.147	-0.003			0.225
09:04:29	0.586	7.461	0.147	-0.002			0.207
09:04:44	0.586	7.438	0.158	-0.003			0.039
09:04:59	0.586	7.435	0.193	-0.003			0.037
09:05:14	0.586	7.422	0.190	-0.002			0.024

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX Aux Boiler A Natural Gas ppmdv	THC Aux Boiler A Natural Gas ppmwv	CO Aux Boiler A Natural Gas ppmdv	CO2 Aux Boiler A Natural Gas %dv			O2 Aux Boiler A Natural Gas %dv
Instrument Information							
Manufacturer:	T.E.I.		T.E.I.				Servomex
Model:	42C	J.U.M 3-300A	48CHL	Servomex 1415B			1420B
Detection:	Chemiluml.	FID	GFC/NDIR	NDIR			Paramagn.
Asset or Serial No:	201109	204567	204433	68-A			68-A
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Response Time (seconds)	60	60	60	60			60
Manufacturer Certified Cylinder Value (C_V)							
Zero	0.000	0.000	0.000	0.000			0.000
Low		7.510					
Mid	26.440	12.500	18.500	6.010			6.040
High	51.400	21.000	43.720	13.980			14.000
Actual gas to be used for bias checks	26.440	7.510	18.500	13.980			6.040
Cylinder ID							
Zero	SG9134098BAL	SG9134098BAL	SG9134098BAL	CC39564			CC39564
Low		XC022914B					
Mid	AAL9485	XC032455B	XC017922B	XC034281B			SG9134098BAL
High	CC39564	CC129105	SG9107542BAL	SG9134098BAL			XC034281B
Analyzer Calibration Response (C_{Dir})							
Zero	0.464	0.089	0.001	0.001			0.059
Low		7.534					
Mid	26.715	12.675	18.633	5.965			6.067
High	51.551	21.125	43.418	13.985			13.991
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)							
Zero	0.9%	0.4%	0.0%	0.0%			0.4%
Low	N/A	0.3%	N/A	N/A			N/A
Mid	0.5%	1.4%	0.3%	-0.3%			0.2%
High	0.3%	0.6%	-0.7%	0.0%			-0.1%
Calibration Error Status							
Zero	OK	OK	OK	OK			OK
Low	N/A	OK	N/A	N/A			N/A
Mid	OK	OK	OK	OK			OK
High	OK	OK	OK	OK			OK

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07:39:22	0.725	1.553	-0.099	0.002		0.194
07:39:37	0.681	1.353	-0.146	0.005		0.175
07:39:52	0.622	1.236	-0.106	0.004		0.186
07:40:07	0.562	1.156	-0.010	0.003		0.189
07:40:22	0.562	1.104	-0.018	0.003		0.189
07:40:37	0.562	1.082	-0.088	0.002		0.189
07:40:52	0.341	0.877	-0.292	-0.108		0.220
07:41:07	0.562	1.009	-0.202	0.002		0.188
07:41:22	0.554	0.970	-0.174	0.002		0.187
07:41:37	0.544	0.954	-0.176	0.001		0.106
07:41:52	0.537	1.162	-0.209	0.002		0.085
07:42:07	0.537	1.688	-0.195	0.003		0.083
07:42:22	0.537	1.633	-0.164	0.003		0.083
07:42:37	0.537	1.576	-0.177	0.001		0.076
07:42:52	0.537	1.581	-0.038	0.002		0.063
07:43:07	0.537	1.587	-0.003	0.001		0.053
07:43:22	0.539	1.604	0.000	0.000		0.055
07:43:37	0.552	1.625	0.002	0.000		0.059
07:43:52	0.562	1.675	0.000	0.005		0.442
07:44:07	0.562	1.648	-0.012	3.681		11.468
07:44:22	0.562	1.605	-0.098	5.840		13.930
07:44:37	0.562	1.551	-0.261	5.910		13.995
07:44:52	0.562	1.548	-0.376	5.933		14.001
07:45:07	0.562	1.512	-0.469	5.953		13.997

QA/QC JR
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler A Natural Gas ppmdv	Channel 2 THC Aux Boiler A Natural Gas ppmwv	Channel 3 CO Aux Boiler A Natural Gas ppmdv	Channel 5 CO2 Aux Boiler A Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural Gas %dv
07:45:22	0.567	1.482	-0.476	5.956			13.991
07:45:37	0.580	1.438	-0.159	5.954			13.985
07:45:52	0.586	1.451	0.003	5.958			13.982
07:46:07	0.586	1.469	0.002	5.983			13.288
07:46:22	0.584	1.437	0.002	11.498			7.200
07:46:37	0.576	1.421	0.014	13.891			6.142
07:46:52	0.578	1.397	-0.029	14.003			6.098
07:47:07	0.581	1.360	-0.100	14.009			6.099
07:47:22	0.572	1.314	-0.144	13.995			6.099
07:47:37	0.495	1.304	-0.142	13.981			6.079
07:47:52	0.474	1.304	-0.143	13.985			6.065
07:48:07	0.464	1.283	-0.134	13.989			6.056
07:48:22	0.464	1.270	-0.019	8.996			3.669
07:48:37	0.498	1.250	3.901	0.289			0.135
07:48:52	0.635	1.245	15.395	0.031			0.048
07:49:07	0.487	1.240	33.730	0.020			0.053
07:49:22	0.464	1.207	44.785	0.016			0.071
07:49:37	0.464	1.198	49.710	0.014			0.078
07:49:52	0.464	1.211	50.455	0.012			0.079
07:50:07	0.464	1.223	50.492	0.010			0.079
07:50:22	0.464	1.197	49.546	0.008			0.079
07:50:37	0.484	1.205	43.414	0.007			0.079
07:50:52	0.511	1.190	43.422	0.006			0.079
07:51:07	0.523	1.179	43.408	0.005			0.079
07:51:22	0.590	1.161	43.424	0.004			0.078
07:51:37	0.575	1.164	43.442	0.006			0.433
07:51:52	0.591	1.203	42.244	0.006			0.159
07:52:07	0.596	1.221	35.508	0.004			0.073
07:52:22	0.576	1.198	26.939	0.003			0.073
07:52:37	0.575	1.189	20.614	0.003			0.072
07:52:52	0.580	1.197	18.931	0.002			0.072
07:53:07	0.581	1.215	18.628	0.002			0.072
07:53:22	0.579	1.195	18.618	0.001			0.073
07:53:37	0.586	1.164	18.641	0.003			0.071
07:53:52	0.586	1.154	18.641	0.002			0.072
07:54:07	0.734	1.158	18.624	0.013			0.613
07:54:22	1.786	1.167	17.920	0.004			0.133
07:54:37	12.143	1.184	13.541	0.002			0.069
07:54:52	23.699	1.215	7.180	0.002			0.065
07:55:07	31.140	1.200	2.131	0.002			0.065
07:55:22	36.630	1.202	0.689	0.002			0.064
07:55:37	41.348	1.203	0.466	0.002			0.064
07:55:52	44.746	1.171	0.435	0.001			0.063
07:56:07	47.178	1.120	0.416	0.002			0.059
07:56:22	47.800	1.115	0.415	0.002			0.042
07:56:37	48.234	1.130	0.407	0.002			0.035
07:56:52	48.417	1.143	0.415	0.002			0.035
07:57:07	48.420	1.151	0.415	0.002			0.032
07:57:22	51.241	1.151	0.401	0.001			0.032
07:57:37	51.891	1.156	0.394	0.001			0.033
07:57:52	51.632	1.153	0.417	0.002			0.029
07:58:07	51.505	1.179	0.442	0.002			0.032
07:58:22	51.515	1.194	0.434	0.002			0.032
07:58:37	51.653	1.172	0.405	0.003			0.034
07:58:52	51.648	1.171	0.406	0.006			0.355
07:59:07	47.241	1.177	0.438	0.006			0.323
07:59:22	25.128	1.156	0.505	0.003			0.078
07:59:37	19.206	1.207	0.589	0.002			0.075
07:59:52	21.848	1.210	0.633	0.003			0.068
08:00:07	26.004	1.192	0.658	0.002			0.038
08:00:22	28.293	1.179	0.652	0.001			0.038
08:00:37	29.286	1.151	0.639	0.002			0.033
08:00:52	29.379	1.167	0.640	0.002			0.035
08:01:07	26.962	1.200	0.643	0.002			0.026
08:01:22	26.791	1.252	0.625	0.002			0.031
08:01:37	26.683	1.232	0.613	0.002			0.026
08:01:52	26.672	1.210	0.625	0.002			0.038

QA/QC J.R.
Date 9/19

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

		Channel 1 NOX Aux Boiler A Natural Gas ppmdv	Channel 2 THC Aux Boiler A Natural Gas ppmwv	Channel 3 CO Aux Boiler A Natural Gas ppmdv	Channel 5 CO2 Aux Boiler A Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural Gas %dv
	08:02:07	26.654	1.227	0.638	0.001			0.055
	08:02:22	26.685	1.216	0.659	0.003			0.804
	08:02:37	22.587	1.194	0.577	0.002			1.044
	08:02:52	20.711	1.162	0.420	0.002			0.995
	08:03:07	23.584	1.229	0.332	0.002			0.991
	08:03:22	25.590	1.278	0.291	0.001			0.990
	08:03:37	26.803	1.262	0.242	0.002			0.989
	08:03:52	27.500	1.265	0.232	0.001			0.989
	08:04:07	30.772	1.273	0.217	0.001			0.989
	08:04:22	43.419	1.208	0.207	0.002			1.001
	08:04:37	51.936	1.219	0.185	0.002			1.006
	08:04:52	49.275	1.265	0.183	0.001			0.990
	08:05:07	36.674	1.273	0.184	0.002			0.991
	08:05:22	41.495	1.253	0.183	0.002			0.994
	08:05:37	50.064	1.301	0.183	0.002			0.998
	08:05:52	53.932	1.314	0.176	0.002			0.997
	08:06:07	51.562	1.314	0.174	0.002			0.992
	08:06:22	48.308	1.337	0.183	0.002			0.991
Convert Eff.	08:06:37	47.448	1.338	0.183	0.002			0.980
	08:06:52	47.448	1.363	0.183	0.002			0.975
	08:07:07	47.494	1.394	0.172	0.002			0.977
	08:07:22	47.559	1.459	0.178	0.001			0.975
	08:07:37	47.713	1.495	0.183	0.002			2.057
	08:07:52	34.342	1.464	0.216	0.038			17.209
	08:08:07	4.243	2.146	0.282	0.053			20.514
	08:08:22	1.514	1.504	0.470	0.059			20.587
	08:08:37	1.051	1.506	0.826	0.052			20.612
	08:08:52	0.972	2.536	0.980	0.052			20.600
	08:09:07	0.955	4.695	0.890	0.132			18.221
	08:09:22	0.952	-0.137	1.865	6.494			6.849
	08:09:37	0.884	-0.185	4.433	13.498			5.983
stop for regulator switch								
	08:11:43	0.682	0.322	0.138	14.028			5.906
	08:11:58	0.682	0.312	0.122	14.031			5.902
	08:12:13	0.679	0.247	0.123	14.036			5.910
	08:12:28	0.653	0.202	0.151	14.042			5.910
	08:12:43	0.611	0.190	0.159	14.043			5.912
	08:12:58	0.611	0.185	0.159	14.042			5.922
	08:13:13	0.611	0.205	0.157	14.049			5.927
	08:13:28	0.611	0.093	0.134	14.049			5.925
	08:13:43	0.611	0.090	0.124	14.053			5.928
	08:13:58	0.611	0.085	0.140	14.049			5.928
	08:14:13	0.611	0.091	0.143	14.051			5.926
	08:14:28	0.611	0.091	0.146	14.050			5.924
	08:14:43	0.609	0.090	0.140	14.051			5.923
	08:14:58	0.601	16.308	0.122	13.478			5.391
	08:15:13	0.660	20.892	0.125	2.901			0.755
	08:15:28	0.684	20.961	0.200	0.262			0.000
	08:15:43	0.612	21.047	0.302	0.138			-0.028
	08:15:58	0.586	21.131	0.414	0.107			-0.032
	08:16:13	0.586	21.198	0.485	0.088			-0.035
	08:16:28	0.586	21.245	0.530	0.074			-0.037
	08:16:43	0.586	21.273	0.536	0.063			-0.042
	08:16:58	0.586	21.311	0.525	0.055			-0.042
	08:17:13	0.586	13.757	0.526	0.050			-0.027
	08:17:28	0.583	12.801	0.532	0.044			-0.038
	08:17:43	0.568	12.780	0.524	0.039			-0.044
	08:17:58	0.562	12.736	0.511	0.036			-0.046
	08:18:13	0.562	12.687	0.526	0.033			-0.045
	08:18:28	0.562	12.687	0.532	0.032			-0.047
	08:18:43	0.562	12.674	0.525	0.026			-0.045
	08:18:58	0.562	12.663	0.525	0.025			-0.047
	08:19:13	0.562	12.653	0.514	0.023			-0.051
	08:19:28	0.562	12.601	0.511	0.021			-0.066
	08:19:43	0.562	7.941	0.512	0.020			-0.058
	08:19:58	0.562	7.578	0.525	0.020			-0.065
	08:20:13	0.562	7.547	0.523	0.019			-0.072

QA/QC J.R
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler A Natural Gas ppmdv	Channel 2 THC Aux Boiler A Natural Gas ppmwv	Channel 3 CO Aux Boiler A Natural Gas ppmdv	Channel 5 CO2 Aux Boiler A Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural Gas %dv
08:20:28	0.562	7.538	0.519	0.018			-0.070
08:20:43	0.562	7.516	0.547	0.017			-0.072
08:20:58	0.562	7.489	0.550	0.017			-0.071

QA/QC J. R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX Aux Boiler B Natural Gas ppmdv	THC Aux Boiler B Natural Gas ppmwv	CO Aux Boiler B Natural Gas ppmdv	CO2 Aux Boiler B Natural Gas %dv			O2 Aux Boiler B Natural Gas %dv
Instrument Information							
Manufacturer:	T.E.I.		T.E.I.	Servomex			Servomex
Model:	42C	J.U.M 3	48CHL	1415B			1420B
Detection:	Chemiluml.	300A FID	GFC/NDIR	NDIR			Paramagn.
Asset or Serial No:	201109	204567	204433	68-A			68-A
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Response Time (seconds)							
	60	60	60	60			60
Manufacturer Certified Cylinder Value (C_V)							
Zero	0.000	0.000	0.000	0.000			0.000
Low		7.510					
Mid	26.440	12.500	18.500	6.010			6.040
High	51.400	21.000	43.720	13.980			14.000
Actual gas to be used for bias checks							
	26.440	7.510	18.500	13.980			6.040
Cylinder ID							
Zero	SG9134098BAL	SG9134098BAL	SG9134098BAL	CC39564			CC39564
Low		XC022914B					
Mid	AAL9485	XC032455B	XC017922B	XC034281B			SG9134098BAL
High	CC39564	CC129105	SG9107542BAL	SG9134098BAL			XC034281B
Analyzer Calibration Response (C_{Dir})							
Zero	0.464	0.089	0.001	0.001			0.059
Low		7.534					
Mid	26.715	12.675	18.633	5.985			6.067
High	51.551	21.125	43.418	13.985			13.991
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)							
Zero	0.9%	0.4%	0.0%	0.0%			0.4%
Low	N/A	0.3%	N/A	N/A			N/A
Mid	0.5%	1.4%	0.3%	-0.3%			0.2%
High	0.3%	0.6%	-0.7%	0.0%			-0.1%
Calibration Error Status							
Zero	OK	OK	OK	OK			OK
Low	N/A	OK	N/A	N/A			N/A
Mid	OK	OK	OK	OK			OK
High	OK	OK	OK	OK			OK

091807 142723

07:39:22	0.725	1.553	-0.099	0.002	0.194
07:39:37	0.681	1.353	-0.146	0.005	0.175
07:39:52	0.622	1.236	-0.108	0.004	0.186
07:40:07	0.562	1.156	-0.010	0.003	0.189
07:40:22	0.562	1.104	-0.018	0.003	0.189
07:40:37	0.562	1.082	-0.088	0.002	0.189
07:40:52	0.341	0.877	-0.292	-0.108	0.220
07:41:07	0.562	1.009	-0.202	0.002	0.188
07:41:22	0.554	0.970	-0.174	0.002	0.187
07:41:37	0.544	0.954	-0.176	0.001	0.106
07:41:52	0.537	1.162	-0.209	0.002	0.085
07:42:07	0.537	1.688	-0.195	0.003	0.083
07:42:22	0.537	1.633	-0.164	0.003	0.083
07:42:37	0.537	1.576	-0.177	0.001	0.076
07:42:52	0.537	1.581	-0.038	0.002	0.063
07:43:07	0.537	1.587	-0.003	0.001	0.063
07:43:22	0.539	1.604	0.000	0.000	0.055
07:43:37	0.552	1.625	0.002	0.000	0.059
07:43:52	0.562	1.675	0.000	0.005	0.442
07:44:07	0.562	1.648	-0.012	3.681	11.468
07:44:22	0.562	1.605	-0.098	5.840	13.930
07:44:37	0.562	1.551	-0.261	5.910	13.995
07:44:52	0.562	1.548	-0.376	5.933	14.001
07:45:07	0.562	1.512	-0.469	5.953	13.997

QA/QC J.R.
Date 9/19

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Natural Gas ppmdv	Channel 2 THC Aux Boiler B Natural Gas ppmwv	Channel 3 CO Aux Boiler B Natural Gas ppmdv	Channel 5 CO2 Aux Boiler B Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural Gas %dv
07:45:22	0.567	1.482	-0.476	5.956			13.991
07:45:37	0.580	1.438	-0.159	5.954			13.985
07:45:52	0.586	1.451	0.003	5.958			13.982
07:46:07	0.586	1.469	0.002	5.983			13.288
07:46:22	0.584	1.437	0.002	11.498			7.200
07:46:37	0.576	1.421	0.014	13.891			6.142
07:46:52	0.578	1.397	-0.029	14.003			6.098
07:47:07	0.581	1.360	-0.100	14.009			6.099
07:47:22	0.572	1.314	-0.144	13.995			6.099
07:47:37	0.495	1.304	-0.142	13.981			6.079
07:47:52	0.474	1.304	-0.143	13.985			6.065
07:48:07	0.484	1.283	-0.134	13.989			6.056
07:48:22	0.464	1.270	-0.019	8.996			3.669
07:48:37	0.498	1.250	3.901	0.289			0.135
07:48:52	0.635	1.245	15.395	0.031			0.048
07:49:07	0.487	1.240	33.730	0.020			0.053
07:49:22	0.464	1.207	44.785	0.016			0.071
07:49:37	0.464	1.198	49.710	0.014			0.078
07:49:52	0.464	1.211	50.455	0.012			0.079
07:50:07	0.464	1.223	50.492	0.010			0.079
07:50:22	0.464	1.197	49.546	0.008			0.079
07:50:37	0.484	1.205	43.414	0.007			0.079
07:50:52	0.511	1.190	43.422	0.006			0.079
07:51:07	0.523	1.179	43.408	0.005			0.079
07:51:22	0.590	1.161	43.424	0.004			0.078
07:51:37	0.575	1.164	43.442	0.006			0.433
07:51:52	0.591	1.203	42.244	0.006			0.159
07:52:07	0.596	1.221	35.508	0.004			0.073
07:52:22	0.576	1.198	26.939	0.003			0.073
07:52:37	0.575	1.189	20.614	0.003			0.072
07:52:52	0.580	1.197	18.931	0.002			0.072
07:53:07	0.581	1.215	18.628	0.002			0.072
07:53:22	0.579	1.195	18.618	0.001			0.073
07:53:37	0.586	1.164	18.641	0.003			0.071
07:53:52	0.586	1.154	18.641	0.002			0.072
07:54:07	0.734	1.158	18.624	0.013			0.613
07:54:22	1.786	1.167	17.920	0.004			0.133
07:54:37	12.143	1.184	13.541	0.002			0.069
07:54:52	23.699	1.215	7.180	0.002			0.065
07:55:07	31.140	1.200	2.131	0.002			0.065
07:55:22	36.630	1.202	0.689	0.002			0.064
07:55:37	41.348	1.203	0.466	0.002			0.064
07:55:52	44.746	1.171	0.435	0.001			0.063
07:56:07	47.178	1.120	0.416	0.002			0.059
07:56:22	47.800	1.115	0.415	0.002			0.042
07:56:37	48.234	1.130	0.407	0.002			0.035
07:56:52	48.417	1.143	0.415	0.002			0.035
07:57:07	48.420	1.151	0.415	0.002			0.032
07:57:22	51.241	1.151	0.401	0.001			0.032
07:57:37	51.891	1.156	0.394	0.001			0.033
07:57:52	51.632	1.153	0.417	0.002			0.029
07:58:07	51.505	1.179	0.442	0.002			0.032
07:58:22	51.515	1.194	0.434	0.002			0.032
07:58:37	51.653	1.172	0.405	0.003			0.034
07:58:52	51.648	1.171	0.406	0.006			0.355
07:59:07	47.241	1.177	0.438	0.006			0.323
07:59:22	25.128	1.156	0.505	0.003			0.078
07:59:37	19.206	1.207	0.589	0.002			0.075
07:59:52	21.848	1.210	0.633	0.003			0.068
08:00:07	26.004	1.192	0.658	0.002			0.038
08:00:22	28.293	1.179	0.652	0.001			0.038
08:00:37	29.286	1.151	0.639	0.002			0.033
08:00:52	29.379	1.167	0.640	0.002			0.035
08:01:07	26.962	1.200	0.643	0.002			0.026
08:01:22	26.791	1.252	0.625	0.002			0.031
08:01:37	26.683	1.232	0.613	0.002			0.026
08:01:52	26.672	1.210	0.625	0.002			0.038

QA/QC JR
Date 9/19

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

		Channel 1 NOX Aux Boiler B Natural Gas ppmdv	Channel 2 THC Aux Boiler B Natural Gas ppmwv	Channel 3 CO Aux Boiler B Natural Gas ppmdv	Channel 5 CO2 Aux Boiler B Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural Gas %dv
	08:02:07	26.654	1.227	0.638	0.001			0.055
	08:02:22	26.685	1.216	0.659	0.003			0.804
	08:02:37	22.587	1.194	0.577	0.002			1.044
	08:02:52	20.711	1.162	0.420	0.002			0.995
	08:03:07	23.584	1.229	0.332	0.002			0.991
	08:03:22	25.590	1.278	0.291	0.001			0.990
	08:03:37	26.803	1.252	0.242	0.002			0.989
	08:03:52	27.500	1.265	0.232	0.001			0.989
	08:04:07	30.772	1.273	0.217	0.001			0.989
	08:04:22	43.419	1.208	0.207	0.002			1.001
	08:04:37	51.936	1.219	0.185	0.002			1.006
	08:04:52	49.275	1.265	0.183	0.001			0.990
	08:05:07	36.674	1.273	0.184	0.002			0.991
	08:05:22	41.496	1.253	0.183	0.002			0.994
	08:05:37	50.064	1.301	0.183	0.002			0.998
	08:05:52	53.932	1.314	0.176	0.002			0.997
	08:06:07	51.562	1.314	0.174	0.002			0.992
	08:06:22	48.308	1.337	0.183	0.002			0.991
Convert Eff.	08:06:37	47.448	1.338	0.183	0.002			0.980
	08:06:52	47.448	1.363	0.183	0.002			0.975
	08:07:07	47.494	1.394	0.172	0.002			0.977
	08:07:22	47.559	1.459	0.178	0.001			0.975
	08:07:37	47.713	1.495	0.183	0.002			2.057
	08:07:52	34.342	1.464	0.216	0.038			17.209
	08:08:07	4.243	2.146	0.282	0.053			20.514
	08:08:22	1.514	1.504	0.470	0.059			20.587
	08:08:37	1.051	1.506	0.826	0.052			20.612
	08:08:52	0.972	2.536	0.980	0.052			20.600
	08:09:07	0.955	4.695	0.890	0.132			18.221
	08:09:22	0.952	-0.137	1.865	6.494			6.849
	08:09:37	0.884	-0.185	4.433	13.498			5.983
stop for regulator switch								
	08:11:43	0.682	0.322	0.138	14.028			5.906
	08:11:58	0.682	0.312	0.122	14.031			5.902
	08:12:13	0.679	0.247	0.123	14.036			5.910
	08:12:28	0.653	0.202	0.151	14.042			5.910
	08:12:43	0.611	0.190	0.159	14.043			5.912
	08:12:58	0.611	0.185	0.159	14.042			5.922
	08:13:13	0.611	0.205	0.157	14.049			5.927
	08:13:28	0.611	0.093	0.134	14.049			5.925
	08:13:43	0.611	0.090	0.124	14.053			5.928
	08:13:58	0.611	0.085	0.140	14.049			5.928
	08:14:13	0.611	0.091	0.143	14.051			5.926
	08:14:28	0.611	0.091	0.146	14.050			5.924
	08:14:43	0.609	0.090	0.140	14.051			5.923
	08:14:58	0.601	16.308	0.122	13.478			5.391
	08:15:13	0.660	20.892	0.125	2.901			0.755
	08:15:28	0.684	20.961	0.200	0.262			0.000
	08:15:43	0.612	21.047	0.302	0.138			-0.028
	08:15:58	0.586	21.131	0.414	0.107			-0.032
	08:16:13	0.586	21.198	0.485	0.088			-0.035
	08:16:28	0.586	21.245	0.530	0.074			-0.037
	08:16:43	0.586	21.273	0.536	0.063			-0.042
	08:16:58	0.586	21.311	0.525	0.055			-0.042
	08:17:13	0.586	13.757	0.526	0.050			-0.027
	08:17:28	0.583	12.801	0.532	0.044			-0.038
	08:17:43	0.568	12.780	0.524	0.039			-0.044
	08:17:58	0.562	12.736	0.511	0.036			-0.046
	08:18:13	0.562	12.687	0.526	0.033			-0.045
	08:18:28	0.562	12.687	0.532	0.032			-0.047
	08:18:43	0.562	12.674	0.525	0.026			-0.045
	08:18:58	0.562	12.663	0.525	0.025			-0.047
	08:19:13	0.562	12.653	0.514	0.023			-0.051
	08:19:28	0.562	12.601	0.511	0.021			-0.066
	08:19:43	0.562	7.941	0.512	0.020			-0.058
	08:19:58	0.562	7.578	0.525	0.020			-0.065
	08:20:13	0.562	7.547	0.523	0.019			-0.072

QA/QC JR
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 18, 2007
Start Time 7:39
Stop Time 8:20

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX	THC	CO	CO2			O2
	Aux Boiler B	Aux Boiler B	Aux Boiler B	Aux Boiler B			Aux Boiler B
	Natural Gas	Natural Gas	Natural Gas	Natural Gas			Natural Gas
	ppmdv	ppmwv	ppmdv	%dv			%dv
08:20:28	0.562	7.538	0.519	0.018			-0.070
08:20:43	0.562	7.516	0.547	0.017			-0.072
08:20:58	0.562	7.489	0.550	0.017			-0.071

QA/QC J.R.
Date 9/4/8

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 20, 2007
Start Time 7:32
Stop Time 8:03

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX Aux Boiler B Natural Gas ppmdv	THC Aux Boiler B Natural Gas ppmwv	CO Aux Boiler B Natural Gas ppmdv	CO2 Aux Boiler B Natural Gas %dv			O2 Aux Boiler B Natural Gas %dv
Instrument Information							
Manufacturer:	T.E.I.		T.E.I.				Servomex
Model:	42C	J.U.M 3-	48CHL	Servomex			1420B
Detection:	Chemilumi.	300A FID	GFC/NDIR	1415B NDIR			Paramagn.
Asset or Serial No:	201109	204567	204433	68-A			68-A
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Response Time (seconds)							
	60	60	60	60			60
Manufacturer Certified Cylinder Value (C_V)							
Zero	0.000	0.000	0.000	0.000			0.000
Low		7.510					
Mid	26.440	12.500	18.500	6.010			6.040
High	51.400	21.000	43.720	13.980			14.000
Actual gas to be used for bias checks							
	26.440	7.510	18.500	13.980			6.040
Cylinder ID							
Zero	SG9134098BAL	SG9134098BAL	SG9134098BAL	CC39564			CC39564
Low		XC022914B					
Mid	AAL9485	XC032455B	XC017922B	XC034281B			SG9134098BAL
High	CC39564	CC129105	SG9107542BAL	SG9134098BAL			XC034281B
Analyzer Calibration Response (C_{Dir})							
Zero	0.561	0.023	0.095	0.003			0.051
Low		7.263					
Mid	26.789	12.244	18.260	5.967			6.010
High	51.673	21.017	43.348	13.997			13.999
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)							
Zero	1.1%	0.1%	0.2%	0.0%			0.4%
Low	N/A	-3.3%	N/A	N/A			N/A
Mid	0.7%	-2.0%	-0.5%	-0.3%			-0.2%
High	0.5%	0.1%	-0.9%	0.1%			0.0%
Calibration Error Status							
Zero	OK	OK	OK	OK			OK
Low	N/A	OK	N/A	N/A			N/A
Mid	OK	OK	OK	OK			OK
High	OK	OK	OK	OK			OK

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07:32:03	0.544	0.925	0.366	1.940		17.572
07:32:18	0.628	0.925	0.338	5.705		14.129
07:32:33	0.572	0.915	0.200	5.955		13.996
07:32:48	0.516	0.933	0.044	5.970		13.999
07:33:03	0.513	0.936	-0.010	5.975		14.002
07:33:18	0.511	0.939	-0.013	5.978		14.005
07:33:33	0.513	0.931	-0.015	5.436		11.939
07:33:48	14.709	0.926	-0.035	0.601		0.959
07:34:03	50.449	0.931	0.030	0.026		0.017
07:34:18	55.246	0.941	0.161	0.010		-0.010
07:34:33	55.477	0.991	0.266	0.008		-0.015
07:34:48	53.570	1.407	0.312	0.007		0.055
07:35:03	49.442	1.347	0.337	0.005		0.064
07:35:18	49.076	1.293	0.350	0.005		0.061
07:35:33	50.820	1.228	0.360	0.004		0.056
07:35:48	52.326	1.293	0.352	0.003		0.054
07:36:03	51.103	1.252	0.352	0.004		0.048
07:36:18	51.600	1.219	0.349	0.003		0.051
07:36:33	51.699	1.286	0.347	0.004		0.051
07:36:48	51.720	1.311	0.343	0.003		0.049
07:37:03	51.717	5.294	0.347	0.003		0.042
07:37:18	51.709	35.487	0.366	0.715		1.679
07:37:33	30.068	36.375	0.342	10.257		5.627
07:37:48	8.332	70.914	0.195	13.540		6.080

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 20, 2007
Start Time 7:32
Stop Time 8:03

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Natural Gas ppmdv	Channel 2 THC Aux Boiler B Natural Gas ppmwv	Channel 3 CO Aux Boiler B Natural Gas ppmdv	Channel 5 CO2 Aux Boiler B Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural Gas %dv
07:38:03	1.265	81.595	0.057	13.916			6.118
07:38:18	0.557	77.783	0.034	13.983			6.083
07:38:33	0.559	76.352	0.434	14.015			6.035
07:38:48	0.562	72.210	1.966	14.006			6.000
07:39:03	0.562	70.159	4.134	13.970			5.996
07:39:18	0.562	69.380	6.388	13.977			5.992
07:39:33	0.562	66.439	7.654	8.230			3.765
07:39:48	0.562	62.665	11.735	0.676			0.314
07:40:03	0.575	65.861	21.114	0.115			0.029
07:40:18	0.570	62.773	34.835	0.069			0.002
07:40:33	0.567	59.458	42.515	0.061			-0.007
07:40:48	0.573	64.934	45.566	0.058			-0.008
07:41:03	0.586	61.815	46.018	0.058			0.000
07:41:18	0.581	60.656	44.687	0.053			0.010
07:41:33	0.586	59.775	43.443	0.053			0.020
07:41:48	0.581	59.538	43.349	0.052			0.020
07:42:03	0.568	61.568	43.253	0.052			0.019
07:42:18	0.562	58.608	43.150	0.056			0.471
07:42:33	0.562	57.175	41.794	0.047			0.121
07:42:48	0.562	54.556	35.159	0.043			0.004
07:43:03	0.560	53.569	28.070	0.042			0.000
07:43:18	0.562	55.907	22.980	0.042			0.000
07:43:33	0.562	57.413	21.909	0.041			0.000
07:43:48	0.562	54.128	21.691	0.041			0.000
07:44:03	0.562	52.373	21.640	0.041			0.000
07:44:18	0.564	47.831	19.259	0.042			0.000
07:44:33	0.564	52.521	18.389	0.042			0.000
07:44:48	0.567	46.323	18.360	0.042			0.000
07:45:03	0.572	42.450	18.322	0.041			0.000
07:45:18	0.567	45.999	18.250	0.041			0.000
07:45:33	0.565	45.249	18.209	0.075			0.477
07:45:48	9.224	44.897	17.422	0.059			0.190
07:46:03	28.189	45.970	14.628	0.043			0.016
07:46:18	27.767	46.737	9.249	0.042			0.007
07:46:33	27.089	42.123	6.156	0.042			0.002
07:46:48	26.860	38.756	4.775	0.042			-0.003
07:47:03	26.792	42.050	4.579	0.042			-0.007
07:47:18	26.714	42.266	4.477	0.042			-0.012
07:47:33	26.716	40.671	4.436	0.042			-0.012
07:47:48	27.072	37.724	4.496	0.038			0.586
07:48:03	30.569	37.491	4.622	0.018			0.991
07:48:18	44.156	36.244	3.975	0.017			0.984
07:48:33	48.096	35.280	3.065	0.016			0.979
07:48:48	48.612	39.077	2.501	0.017			0.977
07:49:03	50.069	35.448	2.447	0.017			0.978
07:49:18	50.818	37.696	2.453	0.017			0.976
07:49:33	53.429	37.421	2.466	0.018			0.979
07:49:48	57.866	35.647	2.479	0.018			0.979
07:50:03	65.973	39.678	2.491	0.018			0.977
07:50:18	76.400	34.585	2.485	0.016			0.969
07:50:33	55.518	33.431	2.509	0.020			0.990
07:50:48	38.944	32.708	2.486	0.033			1.026
07:51:03	37.463	29.584	2.718	0.035			1.026
07:51:18	38.436	35.362	3.441	0.036			1.030
07:51:33	40.583	33.695	3.874	0.035			1.033
07:51:48	42.087	29.293	3.989	0.037			1.031
07:52:03	42.750	30.050	3.933	0.036			1.026
07:52:18	42.865	31.824	3.864	0.037			1.028
07:52:33	43.214	30.219	3.808	0.037			1.036
07:52:48	43.438	31.124	3.757	0.037			1.035
07:53:03	43.518	34.190	3.683	0.037			1.034
07:53:18	44.259	31.210	3.591	0.037			1.034
07:53:33	44.467	29.436	3.547	0.037			1.028
07:53:48	44.532	30.782	3.484	0.037			1.031
07:54:03	44.597	30.847	3.435	0.037			1.050
07:54:18	44.528	30.587	3.411	0.037			1.056
07:54:33	44.524	32.462	3.419	0.039			1.062

Convert Efficiency

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

Date: August 20, 2007
Start Time 7:32
Stop Time 8:03

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Natural Gas ppmdv	Channel 2 THC Aux Boiler B Natural Gas ppmwv	Channel 3 CO Aux Boiler B Natural Gas ppmdv	Channel 5 CO2 Aux Boiler B Natural Gas %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural Gas %dv
07:54:48	44.415	28.451	3.446	0.371			3.401
07:55:03	39.982	30.025	9.311	3.711			12.761
07:55:18	19.067	17.773	43.002	4.058			13.472
07:55:33	12.104	0.591	55.105	1.696			9.180
07:55:48	23.420	0.295	55.104	0.144			0.501
07:56:03	49.752	0.168	55.110	0.043			-0.009
07:56:18	52.193	0.101	45.018	0.031			-0.040
07:56:33	52.991	0.062	14.668	0.026			-0.052
07:56:48	53.311	0.037	2.718	0.022			-0.057
07:57:03	53.377	0.021	1.285	0.020			-0.061
07:57:18	53.467	0.011	1.020	0.019			-0.062
07:57:33	53.524	0.000	0.944	0.018			-0.067
07:57:48	53.516	-0.006	0.876	0.016			-0.068
07:58:03	53.493	15.209	0.850	0.016			0.048
07:58:18	53.490	20.915	0.811	0.017			0.067
07:58:33	19.324	20.970	0.794	0.012			-0.061
07:58:48	1.910	21.009	0.773	0.012			-0.067
07:59:03	1.343	21.032	0.781	0.011			-0.072
07:59:18	1.291	21.008	0.777	0.011			-0.087
07:59:33	1.294	20.933	0.752	0.011			-0.095
07:59:48	1.156	20.586	0.721	0.011			-0.097
08:00:03	1.077	12.514	0.721	0.012			0.161
08:00:18	1.221	12.335	0.720	0.011			-0.027
08:00:33	1.032	12.300	0.704	0.010			-0.096
08:00:48	0.952	12.275	0.689	0.010			-0.101
08:01:03	0.952	12.233	0.688	0.009			-0.101
08:01:18	0.892	12.224	0.690	0.010			-0.101
08:01:33	0.855	12.251	0.677	0.009			-0.104
08:01:48	0.855	12.233	0.666	0.009			-0.103
08:02:03	0.855	9.420	0.674	0.009			-0.043
08:02:18	0.806	7.287	0.675	0.009			0.230
08:02:33	0.781	7.274	0.664	0.010			-0.094
08:02:48	0.778	7.263	0.659	0.009			-0.114
08:03:03	0.778	7.251	0.685	0.009			-0.108
08:03:18	0.775	7.246	0.708	0.009			-0.106

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Date: August 19, 2007
Start Time 7:34
Stop Time 8:02

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX Aux Boiler B Propane ppmdv	THC Aux Boiler B Propane ppmwv	CO Aux Boiler B Propane ppmdv	CO2 Aux Boiler B Propane %dv			O2 Aux Boiler B Propane %dv
Instrument Information							
Manufacturer:	T.E.I.	J.U.M	T.E.I.				Servomex
Model:	42C	3-300A	48CHL	Servomex			1420B
Detection:	Chemiluml.	FID	GFC/NDIR	1415B NDIR			Paramagn.
Asset or Serial No:	201109	204567	204433	68-A			68-A
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Response Time (seconds)							
	60	60	60	60			60
Manufacturer Certified Cylinder Value (C_V)							
Zero	0.000	0.000	0.000	0.000			0.000
Low		7.510					
Mid	26.440	12.500	18.500	6.010			6.040
High	51.400	21.000	43.720	13.980			14.000
Actual gas to be used for bias checks							
	26.440	7.510	18.500	13.980			6.040
Cylinder ID							
Zero	SG9134098BAL	AAL9485	AAL9485	AAL9485			AAL9485
Low		XC022914B					
Mid	AAL9485	XC032455B	XC017922B	XC034281B			SG9134098BAL
High	CC39564	CC129105	SG9107542BAL	SG9134098BAL			XC034281B
Analyzer Calibration Response (C_{DN})							
Zero	0.586	-0.002	0.000	0.010			0.001
Low		7.488					
Mid	25.916	12.505	18.430	6.004			5.986
High	51.526	21.037	43.464	14.012			14.010
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)							
Zero	1.1%	0.0%	0.0%	0.1%			0.0%
Low	N/A	-0.3%	N/A	N/A			N/A
Mid	-1.0%	0.0%	-0.2%	0.0%			-0.4%
High	0.2%	0.2%	-0.6%	0.2%			0.1%
Calibration Error Status							
Zero	OK	OK	OK	OK			OK
Low	N/A	OK	N/A	N/A			N/A
Mid	OK	OK	OK	OK			OK
High	OK	OK	OK	OK			OK

091807 143042

07:34:36	0.554	0.713	0.217	5.917		13.831
07:34:51	0.527	0.718	0.072	5.953		13.845
07:35:06	0.536	0.726	-0.036	5.960		13.935
07:35:21	0.521	0.731	-0.056	6.001		14.007
07:35:36	0.524	0.747	-0.045	6.006		14.010
07:35:51	0.510	0.747	0.000	6.006		14.013
07:36:06	0.508	0.757	0.000	6.005		14.014
07:36:21	0.490	0.768	0.000	5.445		11.836
07:36:36	7.888	0.763	0.006	0.548		0.901
07:36:51	19.181	0.765	0.061	0.031		0.047
07:37:06	31.590	0.765	0.199	0.017		0.030
07:37:21	40.500	0.788	0.298	0.013		0.002
07:37:36	46.253	0.860	0.350	0.012		0.001
07:37:51	49.407	14.129	0.374	0.010		0.002
07:38:06	50.673	77.507	0.390	0.010		0.001
07:38:21	51.272	13.480	0.391	0.009		0.001
07:38:36	51.601	6.084	0.380	0.009		0.001
07:38:51	51.705	4.804	0.379	0.010		-0.002
07:39:06	51.647	4.205	0.445	0.020		-0.022
07:39:21	51.720	2.856	0.637	0.045		0.282
07:39:36	39.360	1.965	0.954	0.048		0.027
07:39:51	27.767	1.947	1.268	0.048		-0.016
07:40:06	25.940	1.989	1.565	0.050		-0.026
07:40:21	25.913	2.165	1.663	0.052		-0.036

QA/QC JHB
Date 9/19

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Date: August 19, 2007
Start Time 7:34
Stop Time 8:02

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
07:40:36	25.895	2.523	1.543	0.053			-0.051
07:40:51	25.903	2.133	1.342	0.051			-0.055
07:41:06	24.412	1.874	1.168	3.668			2.913
07:41:21	14.475	1.879	1.066	12.838			5.762
07:41:36	5.426	1.998	0.935	14.009			5.961
07:41:51	0.676	1.835	0.823	14.048			5.973
07:42:06	0.585	1.646	0.721	13.993			5.986
07:42:21	0.570	1.944	0.622	13.997			5.997
07:42:36	0.568	1.695	0.576	14.004			5.987
07:42:51	0.568	1.237	0.573	13.804			5.794
07:43:06	0.568	0.791	1.471	3.006			0.976
07:43:21	0.635	0.627	7.263	0.150			-0.057
07:43:36	0.589	0.529	21.074	0.067			-0.077
07:43:51	0.570	0.534	32.815	0.060			-0.080
07:44:06	0.570	0.609	39.231	0.057			-0.083
07:44:21	0.567	0.581	40.686	0.056			-0.087
07:44:36	0.564	0.630	40.878	0.056			-0.088
07:44:51	0.567	0.679	42.432	0.054			-0.087
07:45:06	0.565	0.616	43.445	0.053			-0.090
07:45:21	0.565	0.607	43.455	0.053			-0.087
07:45:36	0.562	0.625	43.472	0.052			-0.092
07:45:51	0.565	0.653	43.465	0.052			-0.091
07:46:06	0.565	0.579	43.388	0.052			0.144
07:46:21	0.611	0.653	42.040	0.047			-0.050
07:46:36	0.611	0.604	35.244	0.047			-0.067
07:46:51	0.611	0.611	26.986	0.047			-0.061
07:47:06	0.611	0.599	21.216	0.047			-0.061
07:47:21	0.606	0.754	19.680	0.046			-0.061
07:47:36	0.586	0.708	19.452	0.045			-0.061
07:47:51	0.586	0.625	19.420	0.045			-0.060
07:48:06	0.586	0.632	19.398	0.045			-0.061
07:48:21	0.586	0.545	18.746	0.044			-0.061
07:48:36	0.586	0.526	18.435	0.044			-0.060
07:48:51	0.586	0.705	18.436	0.043			-0.061
07:49:06	0.586	0.593	18.420	0.045			0.040
07:49:21	0.575	0.583	18.301	0.053			1.123
07:49:36	14.758	0.469	15.791	0.045			1.031
07:49:51	25.787	0.570	10.362	0.045			1.024
07:50:06	29.573	0.493	4.068	0.045			1.025
07:50:21	31.414	0.480	1.295	0.043			1.025
07:50:36	34.947	0.532	0.557	0.045			1.027
07:50:51	37.594	0.518	0.483	0.045			1.027
07:51:06	39.031	0.453	0.465	0.043			1.028
07:51:21	39.749	0.401	0.450	0.044			1.025
07:51:36	41.374	0.347	0.435	0.044			1.025
07:51:51	42.474	0.436	0.438	0.044			1.026
07:52:06	43.187	0.384	0.413	0.044			1.022
07:52:21	43.844	0.361	0.403	0.045			1.014
07:52:36	44.264	0.373	0.403	0.043			1.003
07:52:51	44.894	0.410	0.396	0.043			0.995
07:53:06	45.903	0.443	0.380	0.044			1.000
07:53:21	46.032	0.365	0.386	0.044			1.000
07:53:36	46.081	0.379	0.404	0.455			2.394
07:53:51	37.439	0.817	0.942	5.950			9.575
07:54:06	18.341	2.621	4.737	6.776			10.285
07:54:21	16.589	3.818	10.614	5.718			10.644
07:54:36	10.828	0.041	17.963	1.208			3.613
07:54:51	20.850	-0.050	22.965	0.115			0.073
07:55:06	51.272	0.010	19.318	0.057			-0.057
07:55:21	53.732	-0.016	10.251	0.043			-0.081
07:55:36	54.232	0.005	3.016	0.039			-0.084
07:55:51	54.400	-0.002	0.951	0.031			-0.092
07:56:06	54.481	-0.008	0.662	0.029			-0.094
07:56:21	54.483	-0.008	0.640	0.026			-0.094
07:56:36	54.518	0.979	0.635	0.025			-0.094
07:56:51	54.606	19.976	0.635	0.026			-0.062
07:57:06	47.579	20.272	0.646	0.022			-0.088

Convert Eff

Prepared by Clean Air Engineering Proprietary Software
SS CEM Version 05-2004a

QA/QC
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Date: August 19, 2007
Start Time 7:34
Stop Time 8:02

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
07:57:21	12.398	20.412	0.647	0.019			-0.082
07:57:36	1.392	20.554	0.639	0.020			-0.075
07:57:51	1.076	20.716	0.654	0.018			-0.075
07:58:06	1.001	20.856	0.659	0.016			-0.074
07:58:21	0.912	20.956	0.652	0.015			-0.074
07:58:36	0.855	21.011	0.647	0.013			-0.077
07:58:51	0.855	21.040	0.654	0.014			-0.077
07:59:06	0.781	21.050	0.659	0.014			-0.078
07:59:21	0.781	21.085	0.652	0.014			-0.077
07:59:36	0.781	14.908	0.644	0.014			0.014
07:59:51	0.825	12.575	0.635	0.014			0.033
08:00:06	1.019	12.509	0.635	0.013			-0.067
08:00:21	0.904	12.501	0.642	0.012			-0.074
08:00:36	0.786	12.503	0.644	0.011			-0.076
08:00:51	0.723	12.514	0.635	0.010			-0.076
08:01:06	0.684	9.761	0.638	0.011			-0.033
08:01:21	0.674	7.526	0.640	0.011			0.182
08:01:36	0.659	7.494	0.629	0.008			-0.064
08:01:51	0.675	7.478	0.627	0.011			-0.073
08:02:06	0.674	7.494	0.641	0.010			-0.074
08:02:21	0.659	7.492	0.659	0.010			-0.073

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Date: August 19, 2007
Start Time 7:34
Stop Time 8:02

CALIBRATION ERROR

	Channel 1	Channel 2	Channel 3	Channel 5	Channel 6	Channel 7	Channel 8
	NOX Aux Boiler B Propane ppmdv	THC Aux Boiler B Propane ppmwv	CO Aux Boiler B Propane ppmdv	CO2 Aux Boiler B Propane %dv			O2 Aux Boiler B Propane %dv
Instrument Information							
Manufacturer:	T.E.I.	J.U.M	T.E.I.				Servomex
Model:	42C	3-300A	48CHL	Servomex			1420B
Detection:	Chemiluml.	FID	GFC/NDIR	1415B NDIR			Paramagn.
Asset or Serial No:	201109	204567	204433	68-A			68-A
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Response Time (seconds)							
	60	60	60	60			60
Manufacturer Certified Cylinder Value (C_V)							
Zero	0.000	0.000	0.000	0.000			0.000
Low		7.510					
Mid	26.440	12.500	18.500	6.010			6.040
High	51.400	21.000	43.720	13.980			14.000
Actual gas to be used for bias checks							
	26.440	7.510	18.500	13.980			6.040
Cylinder ID							
Zero	SG9134098BAL	AAL9485	AAL9485	AAL9485			AAL9485
Low		XC022914B					
Mid	AAL9485	XC032455B	XC017922B	XC034281B			SG9134098BAL
High	CC39564	CC129105	SG9107542BAL	SG9134098BAL			XC034281B
Analyzer Calibration Response (C_{blk})							
Zero	0.586	-0.002	0.000	0.010			0.001
Low		7.488					
Mid	25.916	12.505	18.430	6.004			5.986
High	51.526	21.037	43.464	14.012			14.010
Analyzer Calibration Error (ACE) (Limit = 2%, Method 25A limit = 5% of gas value)							
Zero	1.1%	0.0%	0.0%	0.1%			0.0%
Low	N/A	-0.3%	N/A	N/A			N/A
Mid	-1.0%	0.0%	-0.2%	0.0%			-0.4%
High	0.2%	0.2%	-0.6%	0.2%			0.1%
Calibration Error Status							
Zero	OK	OK	OK	OK			OK
Low	N/A	OK	N/A	N/A			N/A
Mid	OK	OK	OK	OK			OK
High	OK	OK	OK	OK			OK
091807 143042							
07:34:36	0.554	0.713	0.217	5.917			13.831
07:34:51	0.527	0.718	0.072	5.953			13.845
07:35:06	0.536	0.726	-0.036	5.960			13.935
07:35:21	0.521	0.731	-0.056	6.001			14.007
07:35:36	0.524	0.747	-0.045	6.006			14.010
07:35:51	0.510	0.747	0.000	6.006			14.013
07:36:06	0.508	0.757	0.000	6.005			14.014
07:36:21	0.490	0.768	0.000	5.445			11.836
07:36:36	7.888	0.763	0.006	0.548			0.901
07:36:51	19.181	0.765	0.061	0.031			0.047
07:37:06	31.590	0.765	0.199	0.017			0.030
07:37:21	40.500	0.788	0.298	0.013			0.002
07:37:36	46.253	0.860	0.350	0.012			0.001
07:37:51	49.407	14.129	0.374	0.010			0.002
07:38:06	50.673	77.507	0.390	0.010			0.001
07:38:21	51.272	13.480	0.391	0.009			0.001
07:38:36	51.601	6.084	0.380	0.009			0.001
07:38:51	51.705	4.804	0.379	0.010			-0.002
07:39:06	51.647	4.205	0.445	0.020			-0.022
07:39:21	51.720	2.856	0.637	0.045			0.282
07:39:36	39.360	1.965	0.954	0.048			0.027
07:39:51	27.767	1.947	1.268	0.048			-0.016
07:40:06	25.940	1.989	1.565	0.050			-0.026
07:40:21	25.913	2.165	1.663	0.052			-0.036

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Date: August 19, 2007
Start Time 7:34
Stop Time 8:02

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
07:40:36	25.895	2.523	1.543	0.053			-0.051
07:40:51	25.903	2.133	1.342	0.051			-0.055
07:41:06	24.412	1.874	1.168	3.668			2.913
07:41:21	14.475	1.879	1.066	12.838			5.762
07:41:36	5.426	1.996	0.935	14.009			5.961
07:41:51	0.676	1.835	0.823	14.048			5.973
07:42:06	0.585	1.646	0.721	13.993			5.986
07:42:21	0.570	1.944	0.622	13.997			5.997
07:42:36	0.568	1.695	0.576	14.004			5.987
07:42:51	0.568	1.237	0.573	13.804			5.794
07:43:06	0.568	0.791	1.471	3.006			0.976
07:43:21	0.635	0.627	7.263	0.150			-0.057
07:43:36	0.589	0.529	21.074	0.067			-0.077
07:43:51	0.570	0.534	32.815	0.060			-0.080
07:44:06	0.570	0.609	39.231	0.057			-0.083
07:44:21	0.567	0.581	40.686	0.056			-0.087
07:44:36	0.564	0.630	40.878	0.056			-0.088
07:44:51	0.567	0.679	42.432	0.054			-0.087
07:45:06	0.565	0.616	43.445	0.053			-0.090
07:45:21	0.565	0.607	43.455	0.053			-0.087
07:45:36	0.562	0.625	43.472	0.052			-0.092
07:45:51	0.565	0.653	43.465	0.052			-0.091
07:46:06	0.565	0.679	43.388	0.052			0.144
07:46:21	0.611	0.653	42.040	0.047			-0.050
07:46:36	0.611	0.604	35.244	0.047			-0.067
07:46:51	0.611	0.611	26.986	0.047			-0.061
07:47:06	0.611	0.599	21.216	0.047			-0.061
07:47:21	0.606	0.754	19.680	0.046			-0.061
07:47:36	0.586	0.708	19.452	0.045			-0.061
07:47:51	0.586	0.625	19.420	0.045			-0.060
07:48:06	0.586	0.632	19.398	0.045			-0.061
07:48:21	0.586	0.545	18.746	0.044			-0.061
07:48:36	0.586	0.526	18.435	0.044			-0.060
07:48:51	0.586	0.705	18.436	0.043			-0.061
07:49:06	0.586	0.593	18.420	0.045			0.040
07:49:21	0.575	0.583	18.301	0.053			1.123
07:49:36	14.758	0.469	15.791	0.045			1.031
07:49:51	25.787	0.570	10.362	0.045			1.024
07:50:06	29.573	0.493	4.068	0.045			1.025
07:50:21	31.414	0.480	1.295	0.043			1.025
07:50:36	34.947	0.532	0.557	0.045			1.027
07:50:51	37.594	0.518	0.483	0.045			1.027
07:51:06	39.031	0.453	0.465	0.043			1.028
07:51:21	39.749	0.401	0.450	0.044			1.025
07:51:36	41.374	0.347	0.435	0.044			1.025
07:51:51	42.474	0.436	0.438	0.044			1.026
07:52:06	43.187	0.384	0.413	0.044			1.022
07:52:21	43.844	0.361	0.403	0.045			1.014
Convert Eff 07:52:36	44.264	0.373	0.403	0.043			1.003
07:52:51	44.894	0.410	0.396	0.043			0.995
07:53:06	45.903	0.443	0.380	0.044			1.000
07:53:21	46.032	0.365	0.386	0.044			1.000
07:53:36	46.081	0.379	0.404	0.455			2.394
07:53:51	37.439	0.817	0.942	5.950			9.575
07:54:06	18.341	2.621	4.737	6.776			10.285
07:54:21	16.589	3.818	10.614	5.718			10.644
07:54:36	10.828	0.041	17.963	1.208			3.613
07:54:51	20.850	-0.050	22.965	0.115			0.073
07:55:06	51.272	0.010	19.318	0.057			-0.057
07:55:21	53.732	-0.016	10.251	0.043			-0.081
07:55:36	54.232	0.005	3.016	0.039			-0.084
07:55:51	54.400	-0.002	0.961	0.031			-0.092
07:56:06	54.481	-0.008	0.662	0.029			-0.094
07:56:21	54.483	-0.008	0.640	0.026			-0.094
07:56:36	54.518	0.979	0.635	0.025			-0.094
07:56:51	54.606	19.976	0.635	0.026			-0.062
07:57:06	47.579	20.272	0.646	0.022			-0.088

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

Date: August 19, 2007
Start Time 7:34
Stop Time 8:02

CALIBRATION ERROR

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
07:57:21	12.398	20.412	0.647	0.019			-0.082
07:57:36	1.392	20.554	0.639	0.020			-0.075
07:57:51	1.076	20.716	0.654	0.018			-0.075
07:58:06	1.001	20.856	0.659	0.016			-0.074
07:58:21	0.912	20.956	0.652	0.015			-0.074
07:58:36	0.855	21.011	0.647	0.013			-0.077
07:58:51	0.855	21.040	0.654	0.014			-0.077
07:59:06	0.781	21.060	0.659	0.014			-0.078
07:59:21	0.781	21.086	0.652	0.014			-0.077
07:59:36	0.781	14.908	0.644	0.014			0.014
07:59:51	0.825	12.575	0.635	0.014			0.033
08:00:06	1.019	12.509	0.635	0.013			-0.057
08:00:21	0.904	12.501	0.642	0.012			-0.074
08:00:36	0.786	12.503	0.644	0.011			-0.076
08:00:51	0.723	12.514	0.635	0.010			-0.076
08:01:06	0.684	9.761	0.638	0.011			-0.033
08:01:21	0.674	7.526	0.640	0.011			0.182
08:01:36	0.659	7.494	0.629	0.008			-0.064
08:01:51	0.675	7.478	0.627	0.011			-0.073
08:02:06	0.674	7.494	0.641	0.010			-0.074
08:02:21	0.659	7.492	0.659	0.010			-0.073

QA/QC J.B.
Date 9/18

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FIELD DATA

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ORSAT READINGS

TEST LOCATION: Aux Boiler STACK A **PAGE** 1 **OF** 1

Client: INDIANTOWN COGEN	Project Number: 10293	$Fo = \frac{20.9 - \%O_2}{\%CO_2}$	
Plant: INDIANTOWN, FL	Unit: A		
Orsat ID: CEM	Fuel Type: Propane	Leak Check Passed: ☑	

Run Number	Method Number	Trial	Percent CO_2	Percent O_2+CO_2	Percent O_2	Fo	Analyst	Analysis Date	Analysis Time
1	M4	1	10.8	15.3	4.5	1.52	Jeff Reppert	8-17-07	14:20
		2							J.R.
		3							
		Avg.	10.8	15.3	4.5				
2	M4	1	10.7	15.2	4.5	1.53	J.R.	8-17-07	15:40
		2							
		3							
		Avg.	10.7	15.2	4.5				
3	M4	1	10.7	15.2	4.5	1.53	J.R.	8-17-07	17:00
		2							
		3							
		Avg.	10.7	15.2	4.5				
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							

Repeat the analysis procedure until the results of any three analyses differ by no more than 0.2 percent by volume. Average the three acceptable values and report the results to the nearest 0.1 percent. Calculate Fo to verify results.

Acceptable ranges for Fo:

Coal:	Anthracite and lignite	1.016-1.130	Gas:	Natural	1.600-1.836
	Bituminous	1.083-1.230		Propane	1.434-1.586
Oil:	Distillate	1.260-1.413		Butane	1.405-1.553
	Residual	1.210-1.370	Wood:		1.000-1.120

QA/QC J.R.
Date 8/19/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler A (Propane) RUN: 1

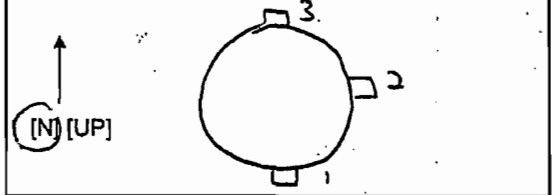
MOISTURE DETERMINATION FIELD DATA SHEET

Client: Indiantown Cogeneration	Project No: 10292
Plant: Indiantown, FL	Date: 8/17/07
Meter Operator: JM	
Probe Operator: J.M	

Meter Box No: 65-F	
Meter Y$_d$: 1.0075	

Leak Rate Before: 0.001	(cfm) @	16	(in. Hg)
Leak Rate After: 0.001	(cfm) @	7.5	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] (Out) of page	Point No. 1 all the way [in] [out]
-.45	10		[in] [out]

Amb. Temp. (°F): ~~81~~ 99	Bar. Press: 29.91	[in. Hg] [mbar]	
Liner Material: S.S			

H_2O: 79	(ml) [gm]	Silica Gel (gm): 7.2	
Total V_{lc}: 86.2			

Start Time: 13:00	Stop Time: 14:00

Traverse Point Number	Min/pt 60/pt Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol. [ft³] [L] 755.005	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in. Hg)	Notes
1-1	5	0.70	757.56	410	48	97	96	1.0	
	10	0.70	759.97	411	50	98	96	1.0	
	15	0.70	762.40	411	50	98	96	1.0	
	20	0.70	764.80	412	52	99	97	1.0	
	25	0.70	767.21	411	52	101	98	1.0	
↓	30	0.70	769.62	411	52	102	98	1.0	
	35	0.70	772.06	412	53	102	98	1.0	
	40	0.70	774.49	412	53	103	98	1.0	
	45	0.70	776.94	413	53	103	99	1.0	
	50	0.70	779.37	413	54	103	99	1.0	
	55	0.70	781.83	413	54	104	99	1.0	
↓	60	0.70	784.255	412	54	104	99	1.0	
	Total	8.4000	29.2500	4941.000		1214	1173		
	Average	0.7000		411.7500		99.4583			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/17/07

CleanAir ENGINEERING

MOISTURE DETERMINATION FIELD DATA SHEET

TEST LOCATION: Stack

UNIT: Aux Boiler (Propane) RUN: 2

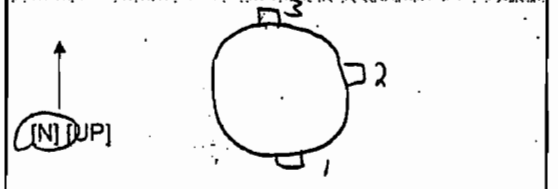
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293		
Plant: Indiantown FL	Date: 8/17/07		
Meter Operator: JM			
Probe Operator: JM			

Meter Box No:	68-F
Meter Y_d:	1.0075

Leak Rate Before:	0.002	(cfm) @	15	(in. Hg)	
Leak Rate After:	0.002	(cfm) @	8	(in. Hg)	

Cross-Section of Test Location



Duct Dimensions (in.):	78		
Static Press. ($in. H_2O$):	Port Lens. (in.):	Gas Flow: [In] [Out] of page	Point No.: 1 all the way [in] [out]
-.45	10		

Amb. Temp. (°F):	102	Bar. Press.: 29.91	[In. Hg] [mbar]
Liner Material:	SS		

H_2O:	90 [ml] ~~[gm]~~	Silica Gel (gm):	5.4
Total Y_d:	95.4		

Start Time:	14:35	Stop Time:	15:35

Traverse Point Number	Min/pt: 60/24 Elapsed Time	Orifice Setting ΔH ($in. H_2O$)	Gas Sample Volume V_m Init. Vol. (ft³) 784.350	Stack Temp. Ts (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in.Hg)	Notes
1-1	5	0.70	786.81	411	48	101	100	2.0	
	10	0.70	789.24	416	48	101	100	2.0	
	15	0.70	791.68	410	49	103	100	2.0	
	20	0.70	794.10	410	50	103	100	2.0	
	25	0.70	796.55	410	50	103	101	2.0	
	30	0.70	798.94	409	51	104	101	2.0	
	35	0.70	801.40	410	52	105	101	2.0	
	40	0.70	803.84	410	52	105	101	2.0	
	45	0.70	806.28	409	53	105	101	2.0	
	50	0.70	808.72	409	53	106	101	2.0	
	55	0.70	811.15	410	53	106	102	2.0	
	60	0.70	813.590	409	53	106	102	2.0	
	Total	8.4	29.2400	4917.000		1248	1210		
	Average	0.7000		409.7500		104.0000	100.8333		

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/17/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler A (Propane) RUN: 3

MOISTURE DETERMINATION FIELD DATA SHEET

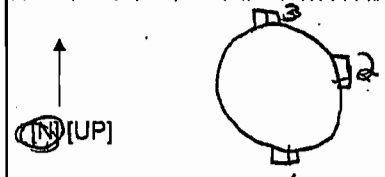
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown, FL	Date: 5/17/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No:	66-F
Meter Y_d:	1.0075

Leak Rate Before:	0.001 (cfm) @	15	(in. Hg)
Leak Rate After:	0.002 (cfm) @	7.5	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78

Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] [Out] of page	Point No. 1 all the way [In] [Out]
-.45	10	[In] [Out]	

Amb. Temp. (°F):	103	Bar. Press.: 29.91	(in. Hg) [mbar]
Liner Material:	S.S.		

H_2O:	92 (ml) [g]	Silica Gel (gm):	7.1
Total V_{lc}:	99.1		

Start Time:	15:50	Stop Time:	16:50

Traverse Point Number	Min/pt / Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol. (ft³) 813.700	Stack Temp. Ts (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in. Hg)	Notes
1-1	5	0.70	816.13	410	46	105	102	2.0	
	10	0.70	818.60	410	47	105	103	2.0	
	15	0.70	821.05	410	48	105	103	2.0	
	20	0.70	823.48	410	49	105	102	2.0	
	25	0.70	825.95	409	51	105	102	2.0	
	30	0.70	828.40	409	51	106	102	2.0	
	35	0.70	830.86	411	53	107	103	2.0	
	40	0.70	833.34	411	53	107	103	2.0	
	45	0.70	835.82	412	54	107	103	2.0	
	50	0.70	838.28	411	54	107	103	2.0	
	55	0.70	840.74	412	54	107	103	2.0	
	60	0.70	843.205	412	55	107	103	2.0	
	Total:	8.4000	29.5050	4927.000		1273	1232		
	Average:	0.7000		410.5833		106.3750			

Circle correct bracketed units on data sheet.

QA/QC: JM

Date: 5/17/07

FDS004A-EPA4, Feb 2002

CleanAir ENGINEERING

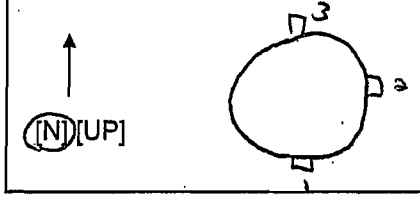
TEST LOCATION: Stack

UNIT: Aux Boiler A (Propane)

VELOCITY DETERMINATION FIELD DATA SHEET

Client Indiantown Cogeneration	Project No. 10293
Plant Indiantown FL	Date 5/17/07
Meter Operator JM	
Probe Operator BD	
Source of Moisture and Molecular Weight Data	

Cross-Section of Test Location



Amb. Temp. (°F) 100	Bar. Press. 29.91 (in. Hg) [mbar]
Pitot Cp 0.84	Probe I.D. No. TP-96-2
Duct Diameters from Disturbance	
Downstream > 8.0	Upstream > 2.0
First point all the way (In) [Out]	Port Len. (in.) 10
Gas Flow [In] (Out) of page	
Duct Dimensions (in.) 78	

Run 1	Load Full	Run 2	Load Full	Run 3	Load Full	Run ~~4~~	Load
Start Time 12:51	Stop Time 12:55	Start Time 14:09	Stop Time 14:14	Start Time 15:43	Stop Time 15:47	Start Time	Stop Time
Static Press. (in. H_2O) -.45		Static Press. (in. H_2O) -.45		Static Press. (in. H_2O) -.45		Static Press. (in. H_2O)	
Post-Test Leak Check: Pass ☑ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☐ Fail ☐	

Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes
2-1	398	0.09		3-1	408	.11		2-1	408	0.09		~~2-1~~			
2	400	.15		2	409	.15		2	407	.12		2			
3	407	.16		3	410	.16		3	407	.13		3			
4	409	.14		4	410	.14		4	409	.14		4			
5	408	.10		5	410	.10		5	408	.13		5			
6	401	.09		6	406	.08		6	403	.09		6			
3-1	401	.1		2-1	400	.09		3-1	406	.12		3-1			
2	403	.12		2	404	.12		2	407	.13		2			
3	405	.13		3	409	.14		3	407	.13		3			
4	406	.12		4	410	.15		4	407	.12		4			
5	404	.11		5	410	.13		5	405	.12		5			
6	400	.08		6	408	.09		6	403	.08		6			
Total	~~4842~~	*9.0618			4894	*4.1606			~~4877~~	*4.0849				*	
Average	~~403.500~~	0.3385			407.8333	0.3467			~~406.4167~~	0.3404					

406.4167

* Sum of square roots. Circle correct bracketed units on data sheet.

QA/QC JM

Date 5/17/07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown Cogen	10293	8-17-07	1300	1400

PLANT	UNIT	RUN
Indiantown	A	1

PROCESS EQUIPMENT	OPERATING MODE
AUX Boiler	Normal

CONTROL EQUIPMENT	OPERATING MODE
NA	NA

DESCRIBE EMISSION POINT
~ 6' Diameter STACK

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	

DESCRIBE EMISSIONS
No emissions

EMISSION COLOR	PLUME TYPE
NA	CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED
~ 1' above STACK opening

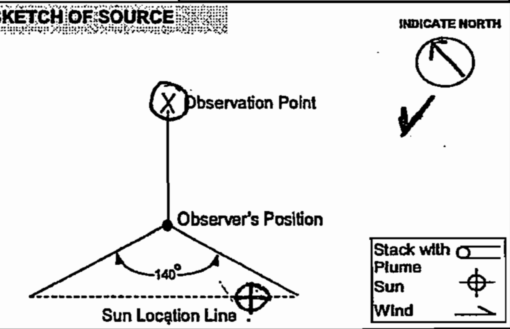
DESCRIBE BACKGROUND
Blue sky, with white clouds

WIND SPEED	WIND DIRECTION
0-5	Easterly

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
89°	72%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)
William Dimitroff

OBSERVER'S SIGNATURE	DATE
[signature]	8/17/07

CERTIFIED BY	DATE
ETA	4/07

COMMENTS

QA/QC [initials]
Date 9/10

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER
Indiantown Cogen	10293

PLANT	UNIT	RUN
Indiantown	A	2

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal

CONTROL EQUIPMENT	OPERATING MODE
NA	NA

DESCRIBE EMISSION POINT

~ 6" Diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	

DESCRIBE EMISSIONS

No emissions

EMISSION COLOR	PLUME TYPE: CONTINUOUS ☒
NA	FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

DESCRIBE BACKGROUND

Mostly cloudy sky

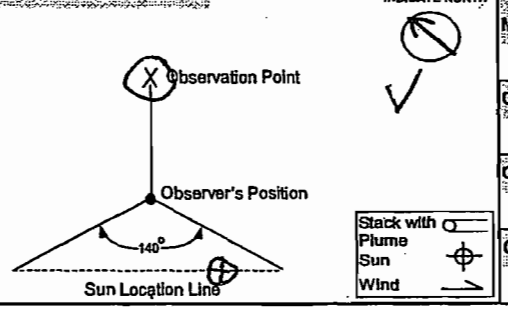
WIND SPEED	WIND DIRECTION
0-5	easterly

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
89°	72%

OBSERVATION DATE	START TIME	END TIME
8-17-07	1435	1535

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS	
MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)	
William Dimitroff	
OBSERVER'S SIGNATURE	DATE
	8-17-07
CERTIFIED BY	DATE
ETA	9-07

COMMENTS

QA/QC Date 9/10

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
INDIANTOWN	10293	8-17-07	1550	1650

PLANT	UNIT	RUN
INDIANTOWN	A	3

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal

CONTROL EQUIPMENT	OPERATING MODE
NA	NA

DESCRIBE EMISSION POINT
~6' Diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	

DESCRIBE EMISSIONS
No Emissions

EMISSION COLOR	PLUME TYPE: CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
NA	

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

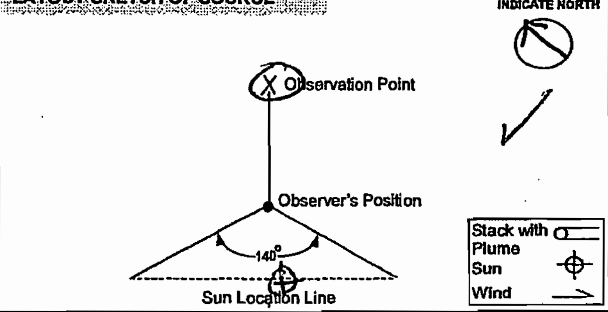
POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED
~1' above stack opening

DESCRIBE BACKGROUND
Blue sky

WIND SPEED	WIND DIRECTION
5-10	easterly

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
90%	70%

LAYOUT SKETCH OF SOURCE



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

RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)
William Dimitroff

OBSERVER'S SIGNATURE	DATE
[signature]	8-17-07

CERTIFIED BY	DATE
ETA	9-07

COMMENTS

QA/QC [initials]
Date 9/7/07

CleanAir ENGINEERING

ORSAT READINGS

TEST LOCATION: Aux Boiler Stack A **PAGE** 1 **OF** 1

Client: INDIANTOWN COGEN	Project Number: 10293	$Fo = \frac{20.9 - \%O_2}{\%CO_2}$	
Plant: INDIANTOWN, FL	Unit: A		
Orsat ID: CEM	Fuel Type: Natural Gas	Leak Check Passed: ☑	

Run Number	Method Number	Trial	Percent CO_2	Percent O_2+CO_2	Percent O_2	Fo	Analyst	Analysis Date	Analysis Time
1	M4	1	9.3	13.63	4.33	1.78	Jeff Heppert	8-18-07	10:40
		2							
		3							
		Avg.	9.3	13.63	4.33				
2	M4	1	9.18	13.56	4.38	1.80	J.R.	8-18-07	13:20
		2							
		3							
		Avg.	9.18	13.56	4.38				
3	M4	1	9.21	13.61	4.4	1.79	J.R.	8-18-07	14:50
		2							
		3							
		Avg.	9.21	13.61	4.4				
4	M4	1	9.35	13.55	4.2	1.79	J.R.	8-18-07	16:25
		2							
		3							
		Avg.	9.35	13.55	4.2				
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							

Repeat the analysis procedure until the results of any three analyses differ by no more than 0.2 percent by volume. Average the three acceptable values and report the results to the nearest 0.1 percent. Calculate Fo to verify results.

Acceptable ranges for Fo:

Coal:	Anthracite and lignite	1.016-1.130	Gas:	Natural	1.600-1.836
	Bituminous	1.083-1.230		Propane	1.434-1.586
Oil:	Distillate	1.260-1.413		Butane	1.405-1.553
	Residual	1.210-1.370	Wood:		1.000-1.120

QA/QC J.R.
Date 9/19/07

CleanAir ENGINEERING

TEST LOCATION: Stock

UNIT: Aux Boiler A RUN: 1

Natural Gas

MOISTURE DETERMINATION FIELD DATA SHEET

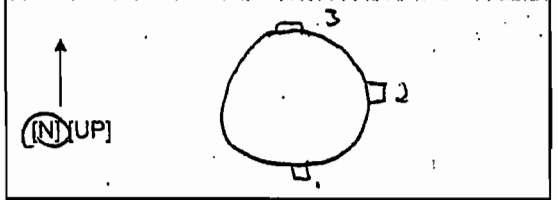
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown FL	Date: 8/18/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No: 6F-F	
Meter Y_d: 1.0075	

Leak Rate Before: 0.001	(cfm) @	15	(in. Hg)
Leak Rate After: 0.001	(cfm) @	8	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.)	78		
Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] (Out) of page	Point No. 1 all the way [In] [Out]
-.52	10		

Amb. Temp. (°F): 91	Bar. Press: 29.89	[in. Hg] [mbar]	
Liner Material: SS			

H_2O: 120	[ml] [gm]	Silica Gel (gm): 13.1	
Total V_{lc}: 133.1			

Start Time: 09:34	Stop Time: 10:34

Traverse Point Number	Min/pt. 60/p+ Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol. (m³) [L] 843.320	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in. Hg)	Notes
1-1	5	0.70	845.73	430	41	90	90	2.0	
	10	0.70	848.15	430	41	90	90	2.0	
	15	0.70	850.61	429	44	91	91	2.0	
	20	0.70	853.05	434	46	93	91	2.0	
	25	0.70	855.48	435	47	95	92	2.0	
	30	0.70	857.94	434	47	96	92	2.0	
	35	0.70	860.37	435	49	97	92	2.0	
	40	0.70	862.83	433	49	97	92	2.0	
	45	0.70	865.31	433	50	98	93	2.0	
	50	0.70	867.73	434	50	98	93	2.0	
	55	0.70	870.18	433	51	99	94	2.0	
	60	0.70	872.636	434	51	99	94	2.0	
	Total:	8.4000	29.3100	5194.000		1143	1104		
	Average:	0.7000		432.8333		93.6250			

Circle correct bracketed units on data sheet.

QA/QC JM

Date 8/18/07

CleanAir ENGINEERING

MOISTURE DETERMINATION FIELD DATA SHEET

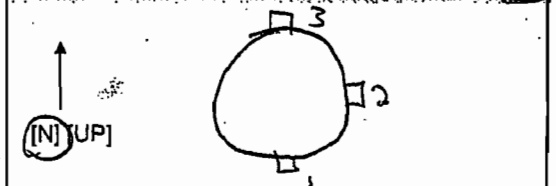
TEST LOCATION: Stack

UNIT: Aux Boiler A (Natural Gas) RUN: 2

PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293		
Plant: Indiantown, FL	Date: 8/18/07		
Meter Operator: JM			
Probe Operator: JM			
Meter Box No: 68-F			
Meter Y_d: 1.0075			
Leak Rate Before: 0.00 (cfm) @ 15 (in. Hg)			
Leak Rate After: 0.00 (cfm) @ 7.5 (in. Hg)			

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. ($in. H_2O$): -.52	Port Lens. (in.): 10	Gas Flow [In] (Out) of page	Point No. 1 all the way (In) (Out) Mod

Amb. Temp. (°F): 96	Bar. Press.: 29.89 (in. Hg) [mbar]		
Liner Material: SS			
H_2O: 119 (ml) ~~(gm)~~	Silica Gel (gm): 8.5		
Total V_s: 127.5			
Start Time: 12:00	Stop Time: 13:00		

Traverse Point Number	Min/pt 6.0 / pt Elapsed Time	Orifice Setting ΔH ($in. H_2O$)	Gas Sample Volume V_m Init. Vol. (ft³) 872.725	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m,in}$ (°F)	DGM Outlet $T_{m,out}$ (°F)	Pump Vacuum ($in. Hg$)	Notes
1-1	5	0.70	875.20	440	36	99	98	2.0	
	10	0.70	877.64	440	38	99	98	2.0	
	15	0.70	880.09	440	42	99	98	2.0	
	20	0.70	882.54	439	43	101	98	2.0	
	25	0.70	884.98	440	45	102	99	2.0	
	30	0.70	887.43	440	45	103	98	2.0	
	35	0.70	889.85	442	46	103	98	2.0	
	40	0.70	892.29	441	46	103	98	2.0	
	45	0.70	894.74	440	48	103	99	2.0	
	50	0.70	897.21	440	49	103	99	2.0	
	55	0.70	899.65	440	50	104	99	2.0	
↓	60	0.70	902.100	441	50	104	99	2.0	
	Total	8.400	29.3750	5283.000		1223	1181		
	Average	0.7000		440.2500		100.1667			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/18/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler A (Natural Gas) RUN: 3

MOISTURE DETERMINATION FIELD DATA SHEET

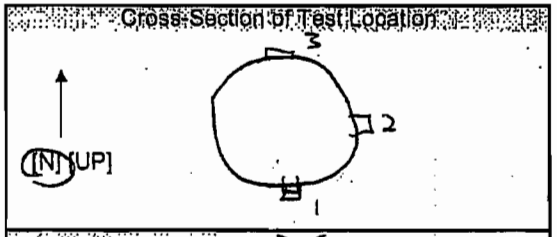
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown, FL	Date: 8/18/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No: 68-F	
Meter Y_d: 1.0075	

Leak Rate Before: 0.002	(cfm) @	15	(In. Hg)
Leak Rate After: 0.002	(cfm) @	6.5	(In. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] (Out) of page	Point No. 1 all the way [In] [Out]
-.52	10		

Amb. Temp. (°F): 101	Bar. Press.: 29.89	(In. Hg) [mbar]	
Liner Material: S.S			

H_2O: 118	(ml) [gm]	Silica Gel (gm): 6.3	
Total V_s: 124.3			

Start Time: 13:20		Stop Time: 14:20	

Traverse Point Number	Min/pt (60 pt) Elapsed Time	Orifice Setting ΔH (In. H_2O)	Gas Sample Volume V_m Init. Vol. (ft³) 902.130	Stack Temp. Ts (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (In. Hg)	Notes
1-1	5	0.70	904.58	442	47	102	101	2.0	
	10	0.70	907.02	442	48	103	101	2.0	
	15	0.70	909.47	440	49	103	101	2.0	
	20	0.70	911.94	441	49	103	100	2.0	
	25	0.70	914.37	440	51	103	100	2.0	
	30	0.70	916.82	440	51	103	100	2.0	
	35	0.70	919.27	439	51	103	100	2.0	
	40	0.70	921.73	440	52	103	100	2.0	
	45	0.70	924.20	440	53	103	100	2.0	
	50	0.70	926.64	441	53	104	100	2.0	
	55	0.70	929.10	446	52	104	101	2.0	
	60	0.70	931.575	440	51	104	101	2.0	
	Total:	8.4000	29.4450	5285.00		1238	1205		
	Average:	0.7000		440.4167		101.7917			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/18/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler A RUN: 4

MOISTURE DETERMINATION FIELD DATA SHEET

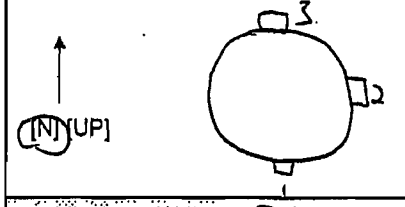
PAGE 1 OF 1

Client	Indiantown Cogeneration	Project No.	10293
Plant	Indiantown, FL	Date	5/1/2007
Meter Operator	JM		
Probe Operator	JM		

Meter Box No.	68=F
Meter Y_d	1.0075

Leak Rate Before	0.001	(cfm) @	15	(In. Hg)
Leak Rate After	0.001	(cfm) @	7	(In. Hg)

Cross-Section of Test Location



Duct Dimensions (In.)	78		
Static Press. ($In. H_2O$)	Port Lens. (In.)	Gas Flow [In] [Out] of page	Point No. 1 all the way mid [In] [Out]
-.52	10		

Amb. Temp. (°F)	98	Bar. Press.	29.89 [In. Hg] [mbar]
Liner Material	SS		

H_2O	126 [ml] [gm]	Silica Gel (gm)	6.1
Total V_{lc}	126.1		

Start Time	15:17	Stop Time	16:17

Traverse Point Number	Min/pt / Elapsed Time	Orifice Setting ΔH ($In. H_2O$)	Gas Sample Volume V_m Init. Vol. [ft^3] [m^3]	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (In.Hg)	Notes
			931.720						
1-1	5	0.70	934.17	434	39	98	98	2.0	
	10	0.70	936.60	435	40	98	98	2.0	
	15	0.70	939.06	436	40	98	97	2.0	
	20	0.70	941.48	438	42	98	97	2.0	
	25	0.70	943.95	437	42	99	96	2.0	
	30	0.70	946.38	438	44	99	96	2.0	
	35	0.70	948.83	440	45	99	96	2.0	
	40	0.70	951.24	441	46	99	96	2.0	
	45	0.70	953.69	441	46	99	96	2.0	
	50	0.70	956.11	442	48	99	96	2.0	
	55	0.70	958.57	442	48	99	96	2.0	
	60	0.70	961.005	441	49	99	96	2.0	
	Total	8.4000	29.2850	5265.0000		1184	1158		
	Average	0.7000		438.7500		97.5833			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 5/1/2007

CleanAir ENGINEERING

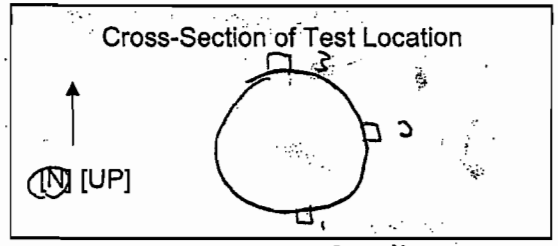
TEST LOCATION: Stack

UNIT: Aux Boiler A (Natural Gas)

VELOCITY DETERMINATION FIELD DATA SHEET

Client Indiantown Cogeneration	Project No. 10293
Plant Indiantown FL	Date 8/18/07
Meter Operator J.M	
Probe Operator J.V	
Source of Moisture and Molecular Weight Data	

Cross-Section of Test Location



Amb. Temp. (°F) 95	Bar. Press. 29.89 [in. Hg] [mbar]
Pitot Cp 0.84	Probe I.D. No. TP-96-3
Duct Diameters from Disturbance	
Downstream > 8.0	Upstream > 2.0
First point all the way [In] [Out]	Port Len. (in.) 10
Gas Flow [In] [Out] of page	
Duct Dimensions (in.) 78	

Run 1	Load Full	Run 2	Load Full	Run 3	Load Full
Start Time 9:19	Stop Time 9:23	Start Time 10:43	Stop Time 10:47	Start Time 11:45	Stop Time 11:49	Start Time 13:08	Stop Time 13:12
Static Press. (in. H_2O) -.52		Static Press. (in. H_2O) -.52		Static Press. (in. H_2O) -.52		Static Press. (in. H_2O) -.52	
Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐	

Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes
2-1	407	.12		2-1	414	.13		3-1	437	.17		2-1	429	.12	
2	409	.16		2	416	.14		2	438	.20		2	434	.20	
3	416	.19		3	423	.20		3	442	.22		3	435	.22	
4	418	.18		4	426	.22		4	443	.2		4	440	.23	
5	420	.23		5	428	.20		5	444	.19		5	441	.23	
6	423	.22		6	428	.15		6	443	.17		6	440	.19	
3-1	407	.14		3-1	410	.15		2-1	423	.14		3-1	425	.14	
2	415	.17		2	416	.18		2	431	.18		2	432	.19	
3	419	.18		3	423	.18		3	436	.21		3	437	.22	
4	421	.17		4	424	.21		4	440	.22		4	440	.19	
5	418	.15		5	424	.18		5	443	.21		5	437	.18	
6	400	.11		6	425	.16		6	441	.18		6	435	.16	
Total	4973	*4.8972			5057	*5.0838			5261	*5.2322			5225	*5.1970	
Average	414.4167	0.4081			421.4167	0.4170			438.4167	0.4360			435.4167	0.4331	

VOID

*Sum of square roots.

Circle correct bracketed units on data sheet.

QA/QC TR

Date 8/18

CleanAir ENGINEERING

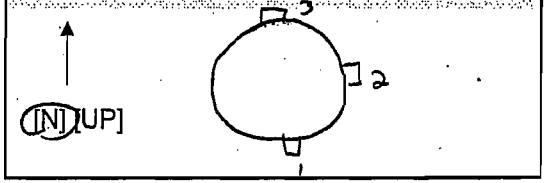
TEST LOCATION: Stack

UNIT: Aux Boiler A (Natural Gas)

VELOCITY DETERMINATION FIELD DATA SHEET

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown FL	Date: 8/16/07
Meter Operator: JM	
Probe Operator: JV	
Source of Moisture and Molecular Weight Data:	

Cross-Section of Test Location



Amb. Temp (°F): 98	Bar. Press: 29.89 (in. Hg) ~~mbar~~
Pitot Cp: 0.84	Probe I.D. No:
Duct Diameters from Disturbance	
Downstream: >8.0	Upstream: >2.0
First point all the way (In) [Out]	Port Len. (in.): 10
Gas Flow [In] (Out) of page	
Duct Dimensions (in.): 78	

Run: 5 A	Load: Full	Run:	Load:	Run:	Load:	Run:	Load:
Start Time: 15:08	Stop Time: 15:13	Start Time:	Stop Time:	Start Time:	Stop Time:	Start Time:	Stop Time:
Static Press. (in. H_2O): -.52		Static Press. (in. H_2O):		Static Press. (in. H_2O):		Static Press. (in. H_2O):	
Post-Test Leak Check: Pass ☑ Fail ☐		Post-Test Leak Check: Pass ☐ Fail ☐		Post-Test Leak Check: Pass ☐ Fail ☐		Post-Test Leak Check: Pass ☐ Fail ☐	

Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in. H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in. H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in. H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in. H_2O)	Notes
3-1	434	.18													
2	436	.20													
3	438	.21													
4	439	.20													
5	437	.19													
6	430	.14													
2-1	420	.17													
2	425	.17													
3	432	.20													
4	436	.21													
5	437	.23													
6	434	.18													
Total	5198.000	* 5.2209				*				*				*	
Average	433.1667	0.4351													

Sum of square roots.

Circle correct bracketed units on data sheet.

QA/QC: JR

Date: 9/10

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
INDIANTOWN	10293	8-18-07	9:34	10:34

PLANT	UNIT	RUN
INDIANTOWN	A	34 of 1

PROCESS EQUIPMENT	OPERATING MODE
AUX Boiler	NORMAL - Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
NA	NA

DESCRIBE EMISSION POINT

~6' Diameter STACK

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

NO emissions

EMISSION COLOR	PLUME TYPE: CONTINUOUS ☑
NA	FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above STACK OPENING

DESCRIBE BACKGROUND

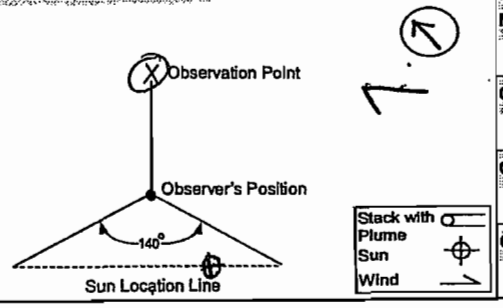
Blue sky - Partly cloudy

WIND SPEED	WIND DIRECTION
0-5	SE

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
91	80%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)	
Jacob Voorhis	
OBSERVER'S SIGNATURE	**DATE**
	8-18-07
CERTIFIED BY	**DATE**
ETA	7-07

COMMENTS

QA/QC JV
Date 8-18-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10293	8-18-07	12:00	13:00

PLANT	UNIT	RUN
Indiantown	A	2

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal - Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
NA	NA

DESCRIBE EMISSION POINT

~ 6' Diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~ 200'	~ 600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

NO Emissions

EMISSION COLOR	PLUME TYPE
NA	CONTINUOUS ☑ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☑	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~ 1' above stack opening

DESCRIBE BACKGROUND

Blue sky - ~~partly~~ mostly cloudy - white clouds

WIND SPEED	WIND DIRECTION
0-5	SE

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
91	80%

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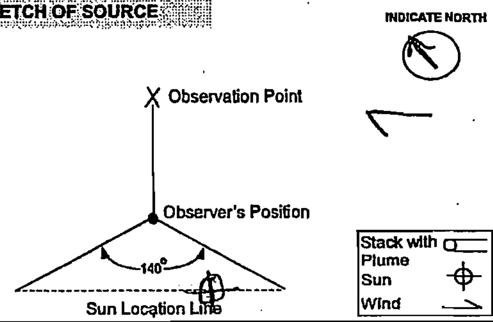
29	0	0	0	0	59	0	0	0	0

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)	
Jacob Voorhies	

OBSERVER'S SIGNATURE	DATE
[signature]	8-18-07

CERTIFIED BY	DATE
ETA	7-07

COMMENTS

QA/QC JV
Date 8-18-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER
Indiantown	10293

PLANT	UNIT	RUN
Indiantown	A	3

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal - Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
NA	NA

DESCRIBE EMISSION POINT

~~no emissions~~ JV
~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

no emissions
~~overcast - white clouds~~ JV

EMISSION COLOR	PLUME TYPE: CONTINUOUS ☑
NA	FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☑	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

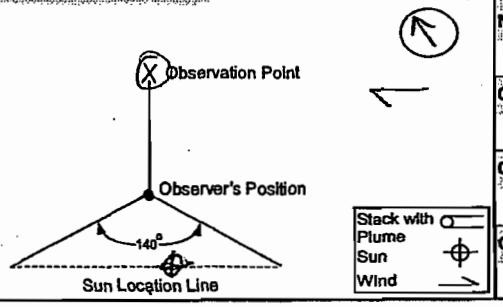
DESCRIBE BACKGROUND

overcast - white clouds

WIND SPEED	WIND DIRECTION
5-10 mph	SE

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
91	80%

LAYOUT SKETCH OF SOURCE



OBSERVATION DATE	START TIME	END TIME
8-18-07	13:20	14:20

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

RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)

Jacob Voorhies

OBSERVER'S SIGNATURE	DATE
	8-18-07

CERTIFIED BY	DATE
ETA	7-07

COMMENTS

QA/QC JV
Date 8-18-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10293	8-18-07	15:17	16:17

PLANT	UNIT	RUN
Indiantown	A	4

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal - Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT
~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS
NO emissions

EMISSION COLOR	PLUME TYPE
N/A	CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED
~1' above stack opening

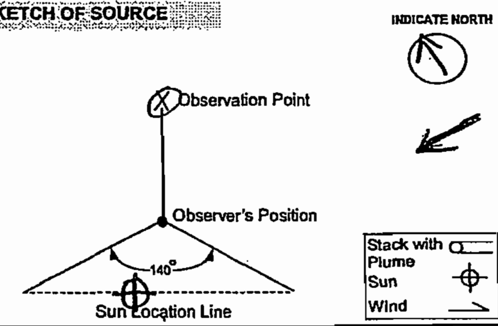
DESCRIBE BACKGROUND
50% blue sky / 50% cloudy

WIND SPEED	WIND DIRECTION
5-10 mph	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
91	80%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)
Jacob Voorhies

OBSERVER'S SIGNATURE	DATE
[signature]	8-18-07

CERTIFIED BY	DATE
ETA	7-07

COMMENTS

FD0008-EPA8, Oct 2002
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QA/QC JV
Date 8-18-07

CleanAir ENGINEERING

ORSAT READINGS

TEST LOCATION: Aux Boiler Stack B **PAGE** 1 **OF** 1

Client: INDIANTOWN COGEN	Project Number: 10293	$Fo = \frac{20.9 - \%O_2}{\%CO_2}$	
Plant: INDIANTOWN, FL	Unit: B		
Orsat ID: CEM	Fuel Type: Natural Gas	Leak Check Passed: ☑	

Run Number	Method Number	Trial	Percent CO_2	Percent O_2+CO_2	Percent O_2	Fo	Analyst	Analysis Date	Analysis Time
1	M4	1	9.1	13.74	4.64	1.79	Jeff Reppert	8/18/07	18:58
		2							
		3							
		Avg.	9.1	13.74	4.64				
2	M4	1	9.13	13.74	4.61	1.79	J.R.	8/18/07	20:10
		2							
		3							
		Avg.	9.13	13.74	4.61				
3	M4	1	9.44	13.52	4.08	1.78	J.R.	~~8/19/07~~ J.R. 8/20/07	10:10
		2							
		3							
		Avg.	9.44	13.52	4.08				
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							

Repeat the analysis procedure until the results of any three analyses differ by no more than 0.2 percent by volume. Average the three acceptable values and report the results to the nearest 0.1 percent. Calculate Fo to verify results.

Acceptable ranges for Fo:

Coal:	Anthracite and lignite	1.016-1.130	Gas:	Natural	1.600-1.836
	Bituminous	1.083-1.230		Propane	1.434-1.586
Oil:	Distillate	1.260-1.413		Butane	1.405-1.553
	Residual	1.210-1.370	Wood:		1.000-1.120

QA/QC J.R. Date 8/20/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler B RUN: 1
Natural Gas

MOISTURE DETERMINATION FIELD DATA SHEET

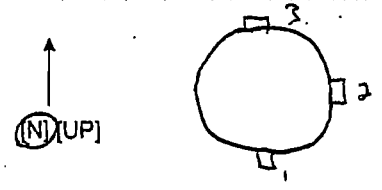
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown FL	Date: 8/18/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No: G5-F	
Meter Y_d: 1.0075	

Leak Rate Before: 0.001	(cfm) @	15	(in. Hg)
Leak Rate After: 0.002	(cfm) @	7.5	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. ($in. H_2O$): -.55	Port Lens. (in.): 10	Gas Flow: [in] (Out) of page	Point No.: 1 all the way Mid [In] [Out]

Amb. Temp. (°F): 98	Bar. Press: 29.89	(in. Hg) [mbar]	
Liner Material: SS			

H_2O: 116	(ml) [gm]	Silica Gel (gm): 6.1	
Total V_{lc}: 122.1			

Start Time: 17:49	Stop Time: 18:49

Traverse Point Number	Min/pt / Elapsed Time	Orifice Setting ΔH ($in. H_2O$)	Gas Sample Volume V_m Init. Vol. (ft³) [m³] 961.120	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in.Hg)	Notes
1-1	5	0.70	963.59	412	42	100	99	2.0	
	10	0.70	966.02	414	42	100	99	2.0	
	15	0.70	968.48	415	45	99	98	2.0	
	20	0.70	970.96	416	46	100	99	2.0	
	25	0.70	973.43	416	48	100	99	2.0	
	30	0.70	975.88	417	49	106	99	2.0	
	35	0.70	978.34	420	52	101	98	2.0	
	40	0.70	980.77	423	53	101	99	2.0	
	45	0.70	983.23	422	55	102	99	2.0	
	50	0.70	985.71	421	57	102	99	2.0	
	55	0.70	988.18	421	56	103	99	2.0	
	60	0.70	990.650	420	55	103	99	2.0	
	Total	8.4000	29.5300	5017.0000		1211	1186		
	Average	0.7000		418.0833		99.8750			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/18/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler B RUN: 2
natural Gas

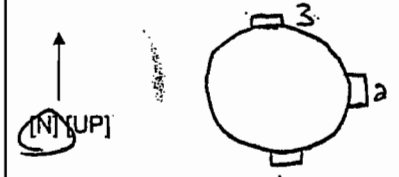
MOISTURE DETERMINATION FIELD DATA SHEET

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown, FL	Date: 8/18/07
Meter Operator: J.M	
Probe Operator: J.M	

Meter Box No:	68-F
Meter Y_d:	1.0075

Leak Rate Before:	0.002 (cfm) @	15	(in. Hg)
Leak Rate After:	0.003 (cfm) @	8	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. ($in. H_2O$)	Port Lens (in.)	Gas Flow [In] (Out) of page	Point No. 1 all the way mid [In] [Out]
-.55	10		

Amb. Temp. (°F):	101	Bar. Press:	29.89 [In. Hg] ~~(mmHg)~~
Liner Material:	SS		

H_2O:	117 [ml] ~~[gm]~~	Silica Gel (gm):	5.6
Total V_s:	122.6		

Start Time:	19:03	Stop Time:	20:03

Traverse Point Number	Min/pt 60/P → Elapsed Time	Orifice Setting ΔH ($in. H_2O$)	Gas Sample Volume V_m Init. Vol. 990.700 [ft³] ~~[m³]~~	Stack Temp. Ts (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in.Hg)	Notes
1-1	5	0.70	993.16	420	42	103	100	2.0	
	10	0.70	995.62	421	44	103	100	2.0	
	15	0.70	998.10	421	45	103	100	2.0	
	20	0.70	0.58	421	46	103	100	2.0	
	25	0.70	3.03	422	46	104	100	2.0	
	30	0.70	5.49	422	48	104	100	2.0	
	35	0.70	7.96	421	49	104	100	2.0	
	40	0.70	10.43	421	51	104	100	2.0	
	45	0.70	12.89	421	51	105	101	2.0	
	50	0.70	15.36	422	53	105	101	2.0	
	55	0.70	17.84	422	54	105	101	2.0	
↓	60	0.70	20.320	421	54	105	100	2.0	
	Total	8.4000	29.6200	5055.0000		1248	1203		
	Average	0.7000		421.2500		104.0000			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/18/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler B (Natural Gas) RUN: 3

MOISTURE DETERMINATION FIELD DATA SHEET

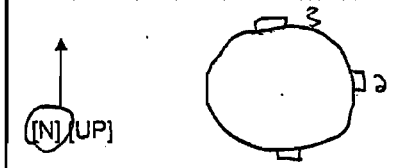
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown FL	Date: 8/20/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No: 68-F	
Meter Y_d: 1.0075	

Leak Rate Before: 0.001	(cfm) @	15	(in. Hg)
Leak Rate After: 0.002	(cfm) @	8	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. (in H_2O): -.60	Port Lens. (in.): 10	Gas Flow: [In] (Out) of page	Point No: 1 all the way ~~in~~ ~~out~~ and

Amb. Temp. (°F): 97	Bar. Press.: 29.86 (in. Hg) ~~(mbar)~~		
Liner Material: SS			
H_2O: 118 ~~(ml) (gm)~~	Silica Gel (gm): 5.8		
Total V_s: 123.8			
Start Time: 09:04	Stop Time: 10:04		

Traverse Point Number	Min/pt 60/pt Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol. (ft³) 108.710	Stack Temp. Ts (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m,in}$ (°F)	DGM Outlet $T_{m,out}$ (°F)	Pump Vacuum (in. Hg)	Notes
1-1	5	0.70	111.12	422	42	95	94	2.0	
|	10	0.70	113.53	422	45	95	95	2.0	
|	15	0.70	115.96	424	46	96	95	2.0	
|	20	0.70	118.36	424	47	96	95	2.0	
|	25	0.70	120.79	423	47	98	95	2.0	
|	30	0.70	123.22	424	49	98	95	2.0	
|	35	0.70	125.65	425	51	100	97	2.0	
|	40	0.70	128.09	424	51	100	97	2.0	
|	45	0.70	130.51	424	52	101	98	2.0	
|	50	0.70	132.96	425	52	102	98	2.0	
|	55	0.70	135.38	425	54	102	99	2.0	
↓	60	0.70	137.835	425	54	103	99	2.0	
	Total	8.4000	29.1250	5087.0000		1186	1157		
	Average	0.7000		423.9167		97.6250			

Circle correct bracketed units on data sheet.

QA/QC: JM
Date: 8/20/07

CleanAir ENGINEERING

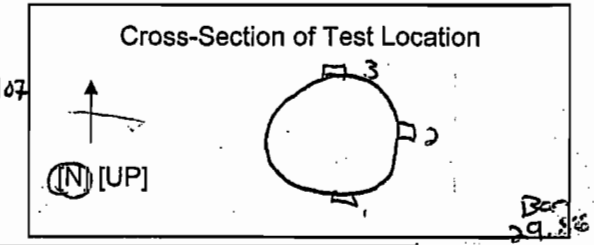
TEST LOCATION: Stack

UNIT: Aux Boiler ~~2M~~ B (Natural Gas)

VELOCITY DETERMINATION FIELD DATA SHEET

Client Indiantown Cogeneration	Project No. 10293
Plant Indiantown FL	Date 8/18/07 + 8/20/07
Meter Operator J.M	
Probe Operator J.V	
Source of Moisture and Molecular Weight Data	

Cross-Section of Test Location



Bar 29.86

Amb. Temp. (°F) 97		Bar. Press. 29.89 ([In. Hg] mbar)	
Pitot Cp C1.84		Probe I.D. No. TP-96-2	
Duct Diameters from Disturbance			
Downstream > 8.0	Upstream > 2.0		
First point all the way ([In]) [Out]		Port Len. (in.) 10	
Gas Flow [In] ([Out]) of page			
Duct Dimensions (in.) 78			

Run 1	Load Full	Run 2	Load Full	Run 3 / 8/20/07	Load Full	Run	Load
Start Time 17:43	Stop Time 17:47	Start Time 18:56	Stop Time 18:59	Start Time 8:53	Stop Time 8:56	Start Time	Stop Time
Static Press. (in. H_2O) −.55		Static Press. (in. H_2O) −.55		Static Press. (in. H_2O) −.60		Static Press. (in. H_2O)	
Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☐ Fail ☐	

Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes
2-1	404	.22		3-1	414	.16		2-1	414	.22					
2	405	.19		2	415	.21		2	417	.25					
3	407	.22		3	419	.20		3	419	.26					
4	408	.18		4	421	.20		4	419	.24					
5	406	.18		5	418	.18		5	418	.22					
6	403	.16		6	416	.14		6	415	.21					
3-1	397	.18		2-1	415	.22		3-1	413	.21					
2	400	.19		2	416	.18		2	415	.23					
3	405	.20		3	418	.20		3	418	.24					
4	406	.18		4	418	.20		4	417	.23					
5	405	.19		5	420	.19		5	417	.21					
6	403	.15		6	412	.17		6	415	.15					
Total	4849	5.1773			5002	5.1870			4997	5.6860					
Average	(404.0833)	0.4314			(416.8333)	(0.4323)			(416.4167)	(0.4738)					

Sum of square roots.

Circle correct bracketed units on data sheet.

QA/QC RG
Date 9/10

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10293	8-18-07	17:49	18:49

PLANT	UNIT	RUN
Indiantown	B	1

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal - Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT

~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

No Emissions

EMISSION COLOR	PLUME TYPE
N/A	CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

DESCRIBE BACKGROUND

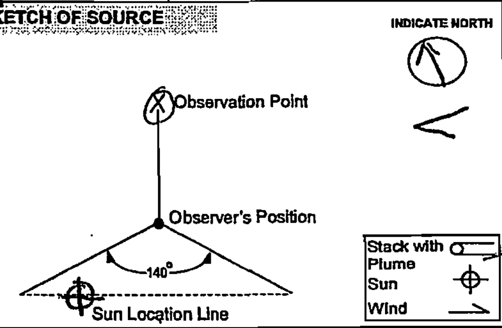
50% blue sky/50% cloudy

WIND SPEED	WIND DIRECTION
5-10 mph	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
90	80%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)

Jacob Voorhies

OBSERVER'S SIGNATURE	DATE
[signature]	8-18-07

CERTIFIED BY	DATE
ETA	7-07

COMMENTS

QA/QC JV
Date 8-18-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10223	8-18-07	19:03	20:03

PLANT	UNIT	RUN
Indiantown	B	2

PROCESS EQUIPMENT	OPERATING MODE
Aux. Boiler	Normal - Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT
~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS
NO Emissions

EMISSION COLOR	PLUME TYPE
N/A	CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED
~1' above stack opening

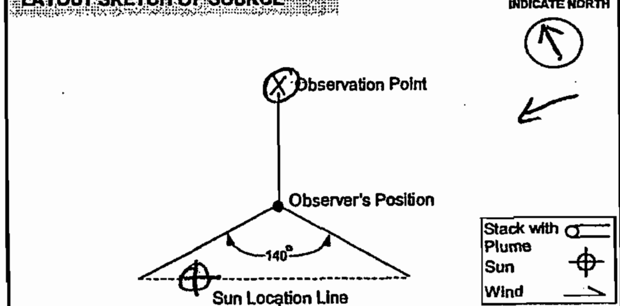
DESCRIBE BACKGROUND
Blue sky - clear

WIND SPEED	WIND DIRECTION
0-5	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
90	80%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)
Jacob Voorhies

OBSERVER'S SIGNATURE	DATE
[signature]	8-18-07

CERTIFIED BY	DATE
ETA -	7-07

COMMENTS

QA/QC JV
Date 8-18-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10293	8-20-07	9:04	10:04

PLANT	UNIT	RUN
Indiantown	B	3

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal-Natural Gas

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT

~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

NO Emissions visible

EMISSION COLOR	PLUME TYPE
N/A	CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

DESCRIBE BACKGROUND

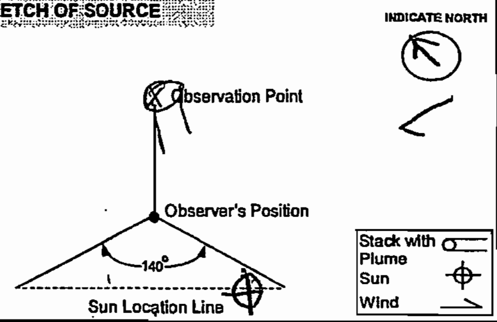
clear blue sky

WIND SPEED	WIND DIRECTION
0-5mph	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
85	70%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)

Jacob Voorhies

OBSERVER'S SIGNATURE	DATE
[signature]	8-20-07

CERTIFIED BY	DATE
ETA	7-07

COMMENTS

QA/QC JV
Date 8-20-07

CleanAir ENGINEERING

ORSAT READINGS

TEST LOCATION: Aux Boiler Stack B **PAGE** 1 **OF** 1

Client: INDIANTOWN COGEN	Project Number: 10293	$Fo = \frac{20.9 - \%O_2}{\%CO_2}$	
Plant: INDIANTOWN, FL	Unit: B		
Orsat ID: CEM	Fuel Type: Propane	Leak Check Passed ☑	

Run Number	Method Number	Trial	Percent CO_2	Percent O_2+CO_2	Percent O_2	Fo	Analyst	Analysis Date	Analysis Time
1	M4	1	10.1	15.57	5.47	1.53	Jeff Rippert	8-19-03	9:55
		2							
		3							
		Avg.	10.1	15.57	5.47				
2	M4	1	10.14	15.50	5.36	1.53	J.R.	8-19-03	11:00
		2							
		3							
		Avg.	10.14	15.50	5.36				
3	M4	1	~~10.14~~	JR 15.51	~~5.36~~	JR 1.53	J.R.	8-19-03	12:20
		2	10.18		5.33				
		3	10.18		5.33				
		Avg.	~~10.14~~ JR	15.51	~~5.36~~ JR				
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							
		1							
		2							
		3							
		Avg.							

Repeat the analysis procedure until the results of any three analyses differ by no more than 0.2 percent by volume. Average the three acceptable values and report the results to the nearest 0.1 percent. Calculate Fo to verify results.

Acceptable ranges for Fo:

Coal:	Anthracite and lignite	1.016-1.130	Gas:	Natural	1.600-1.836
	Bituminous	1.083-1.230		Propane	1.434-1.586
Oil:	Distillate	1.260-1.413		Butane	1.405-1.553
	Residual	1.210-1.370	Wood:		1.000-1.120

FO5203-Orsat, Feb 2002

QA/QC J.R. Date 9/19/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler B (Propane) RUN: JM 1

MOISTURE DETERMINATION FIELD DATA SHEET

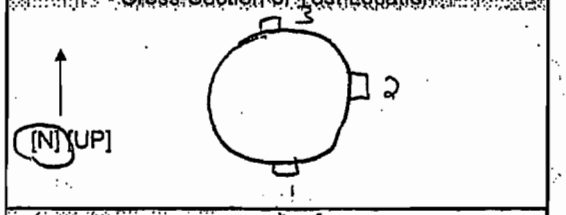
PAGE 1 OF 1

Client	Indiantown Cogeneration	Project No.	10293
Plant	Indiantown FL	Date	8/19/07
Meter Operator	JM		
Probe Operator	JM		

Meter Box No.	68-F
Meter Y_d	1.0075

Leak Rate Before	0.001 (cfm) @	15	(in. Hg)
Leak Rate After	0.002 (cfm) @	7	(in. Hg)

Cross-Section of Test Location



Duct Dimensions (in.)	78		
Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] (Out) of page	Point No. 1 all the way MED [In] [Out]
-.54	10		

Amb. Temp. (°F)	92	Bar. Press. ~~29.91~~ 29.84 (in. Hg) ~~(mbar)~~ JM	
Liner Material	SS		

H_2O	94 (ml) ~~(gm)~~	Silica Gel (gm)	4.5
Total V_c	98.5		

Start Time	08:40	Stop Time	09:40

Traverse Point Number	Min/pt 60/pt Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol. 20.350 (ft^3) ~~(m³)~~	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\text{-}in}$ (°F)	DGM Outlet $T_{m\text{-}out}$ (°F)	Pump Vacuum (in.Hg)	Notes
1-1	5	0.70	22.78	398	42	86	86	2.0	
	10	0.70	25.21	398	44	86	86	2.0	
	15	0.70	27.62	400	45	87	86	2.0	
	20	0.70	30.08	402	45	88	86	2.0	
	25	0.70	32.50	402	46	88	87	2.0	
	30	0.70	34.93	404	47	90	87	2.0	
	35	0.70	37.34	404	48	91	88	2.0	
	40	0.70	39.77	404	49	93	89	2.0	
	45	0.70	42.22	405	49	93	89	2.0	
	50	0.70	44.65	404	50	94	89	2.0	
	55	0.70	47.10	406	52	95	90	2.0	
↓	60	0.70	49.535	406	53	95	90	2.0	
	Total	8.4000	29.1850	4833.0000		1086	1053		
	Average	0.7000		402.7500		89.1250			

Circle correct bracketed units on data sheet.

QA/QC JM

Date 8/19/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler B (Propane) RUN: 2

MOISTURE DETERMINATION FIELD DATA SHEET

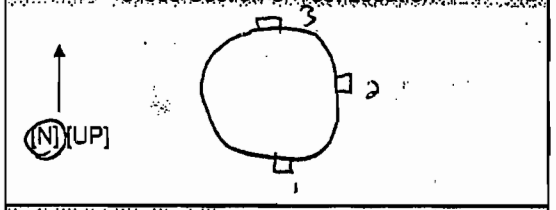
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown FL	Date: 8/19/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No: 68-F	
Meter Y_d: 1.0075	

Leak Rate Before: 0.001	(cfm) @	15	(In. Hg)
Leak Rate After: 0.002	(cfm) @	6.5	(In. Hg)

Cross-Section of Test Location



Duct Dimensions (in.): 78

Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] (Out) of page	Point No. 1 all the way mid [In] [Out]
-.54	10		

Amb. Temp. (°F): 94	Bar. Press: 29.84	(In. Hg) [mbar]	
Liner Material: SS			

H_2O: 91	(ml) [gm]	Silica Gel (gm): 4.7	
Total V_lc: 95.7			

Start Time: 09:55	Stop Time: 10:55

Traverse Point Number	Min/pt 60/pt Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol: 49.585 (ft³) [m³]	Stack Temp. Ts (°F)	Cond. Temp. T_c (°F)	DGM Inlet T_{min} (°F)	DGM Outlet T_{mout} (°F)	Pump Vacuum (in. Hg)	Notes:
1-1	5	0.70	52.01	403	41	98	95	2.0	
2	10	0.70	54.45	403	43	98	95	2.0	
3	15	0.70	56.90	404	45	99	95	2.0	
	20	0.70	59.36	404	46	99	96	2.0	
	25	0.70	61.84	403	46	100	96	2.0	
	30	0.70	64.27	403	48	101	96	2.0	
	35	0.70	66.72	403	49	101	96	2.0	
	40	0.70	69.19	403	51	101	97	2.0	
	45	0.70	71.63	403	51	102	97	2.0	
	50	0.70	74.09	404	53	103	98	2.0	
	55	0.70	76.55	404	54	103	98	2.0	
	60	0.70	79.005	404	54	103	99	2.0	
	Total	8.4000	29.4200	4841.0000		1208	1158		
	Average	0.7000		403.4167		98.5833			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/19/07

CleanAir ENGINEERING

TEST LOCATION: Stack

UNIT: Aux Boiler B (Propane) RUN: 3

MOISTURE DETERMINATION FIELD DATA SHEET

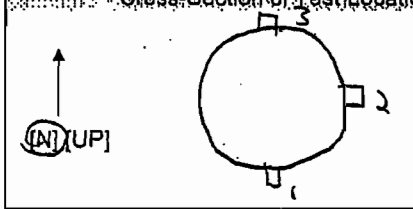
PAGE 1 OF 1

Client: Indiantown Cogeneration	Project No: 10293
Plant: Indiantown FL	Date: 8/19/07
Meter Operator: JM	
Probe Operator: JM	

Meter Box No: G8-F	
Meter Y_d: 1.0075	

Leak Rate Before: 0.001	(cfm) @: 15	(in. Hg)	
Leak Rate After: 0.003	(cfm) @: 8	(in. Hg)	

Cross-Section of Test Location



Duct Dimensions (in.): 78			
Static Press. (in. H_2O)	Port Lens. (in.)	Gas Flow [In] [Out] of page	Point No. 1 all the way In Out
-.54	10		

Amb. Temp. (°F): 96	Bar. Press: 29.84	(in. Hg) (mmHg)	
Liner Material: S.S			

H_2O: 97 (ml) (gm)	Silica Gel (gm): 4.3		
Total V_s: 101.3			

Start Time: 11:19	Stop Time: 12:19		

Traverse Point Number	Min/pt 60/pt Elapsed Time	Orifice Setting ΔH (in. H_2O)	Gas Sample Volume V_m Init. Vol. (ft³) 79.200	Stack Temp. T_s (°F)	Cond. Temp. T_c (°F)	DGM Inlet $T_{m\,in}$ (°F)	DGM Outlet $T_{m\,out}$ (°F)	Pump Vacuum (in. Hg)	Notes
1-1	5	0.70	81.61	405	41	101	100	2.0	
	10	0.70	84.04	404	43	101	100	2.0	
	15	0.70	86.47	404	45	101	100	2.0	
	20	0.70	88.89	404	46	102	100	2.0	
	25	0.70	91.33	405	46	102	100	2.0	
	30	0.70	93.77	405	48	102	100	2.0	
	35	0.70	96.21	405	49	104	100	2.0	
	40	0.70	98.65	405	51	104	100	2.0	
	45	0.70	101.09	405	52	105	99	2.0	
	50	0.70	103.52	404	52	105	99	2.0	
	55	0.70	105.96	404	54	106	99	2.0	
	60	0.70	108.400	404	55	106	100	2.0	
	Total	8.400	29.2000	4854.000		1239	1197		
	Average	0.7000		404.5000		101.5000			

Circle correct bracketed units on data sheet.

QA/QC JM
Date 8/19/07

CleanAir ENGINEERING

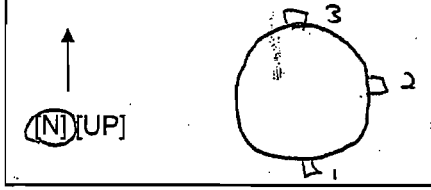
TEST LOCATION: Stack

UNIT: Aux Boiler B (Propane)

VELOCITY DETERMINATION FIELD DATA SHEET

Client Indiantown Cogeneration	Project No. 10293
Plant Indiantown FL	Date ~~5/18/07~~ 8/19/07
Meter Operator JM	
Probe Operator ~~BD~~ JV	
Source of Moisture and Molecular Weight Data	

Cross-Section of Test Location



Amb. Temp. (°F) 92	Bar. Press. ~~29.91~~ 29.84	(in. Hg) [mbar]
Pitot Cp 0.84	Probe I.D. No. P-96-2	
Duct Diameters from Disturbance		
Downstream >8.0	Upstream >2.0	
First point all the way [In] (Out)	Port Len. (in.) 10	
Gas Flow [In] (Out) of page		
Duct Dimensions (in.) 78		

Run 1	Load Full	Run 2	Load Full	Run 3	Load Full	Run	Load
Start Time 8:31	Stop Time 8:36	Start Time 9:50	Stop Time 9:53	Start Time 11:02	Stop Time 11:06	Start Time	Stop Time
Static Press. (in. H_2O) −.54		Static Press. (in. H_2O) −.54		Static Press. (in. H_2O) −.54		Static Press. (in. H_2O)	
Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☒ Fail ☐		Post-Test Leak Check: Pass ☐ Fail ☐	

Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes	Traverse Point Number	Stack Temp. T_s (°F)	Velocity Head ΔP (in.H_2O)	Notes
2-1	390	.16		3-1	400	.15		2-1	400	.16					
2	392	.14		2	402	.16		2	404	.18					
3	395	.15		3	404	.16		3	405	.16					
4	396	.17		4	404	.18		4	405	.15					
5	396	.18		5	403	.15		5	405	.16					
6	392	.14		6	401	.13		6	402	.14					
3-1	393	.15		2-1	400	.15		3-1	398	.13					
2	394	.17		2	401	.16		2	404	.16					
3	394	.17		3	404	.18		3	405	.17					
4	394	.16		4	402	.17		4	406	.16					
5	392	.14		5	402	.16		5	405	.16					
6	390	.13		6	400	.13		6	402	.13					
Total	4718	*4.7188			4823	*4.7438			4841	*4.7191					
Average	393.1667	0.3934			401.9167	0.3953			403.4167	0.3933					

* Sum of square roots.

Circle correct ~~bracketed~~ units on data sheet.

QA/QC JM

Date ~~5/18/07~~ 8/19/07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indian Town	10293	8-19-07	8:40	9:40

PLANT	UNIT	RUN
IndianTown	B	~~2~~ 1

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal - ~~Natural Gas~~ Propane

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT

~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

NO emissions visible

EMISSION COLOR	PLUME TYPE
N/A	CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

DESCRIBE BACKGROUND

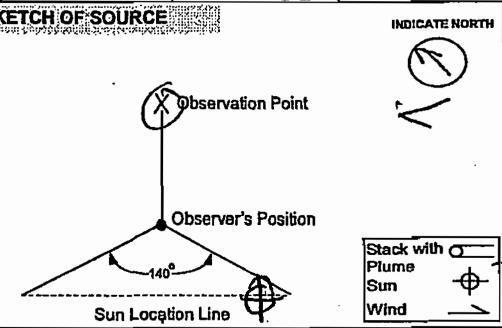
Blue sky - clear

WIND SPEED	WIND DIRECTION
0-5mph	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
89	60%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT): Jacob Voorhies

OBSERVER'S SIGNATURE	DATE
[signature]	8-19-07

CERTIFIED BY	DATE
ETA	7-07

COMMENTS

QA/QC JV
Date 8-19-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10293	8-14-07	9:55	10:55

PLANT	UNIT	RUN
Indiantown	B	2

PROCESS EQUIPMENT	OPERATING MODE
Aux Boiler	Normal - Propane

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT

~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

No Emissions

EMISSION COLOR	PLUME TYPE: CONTINUOUS ☒
N/A	FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

DESCRIBE BACKGROUND

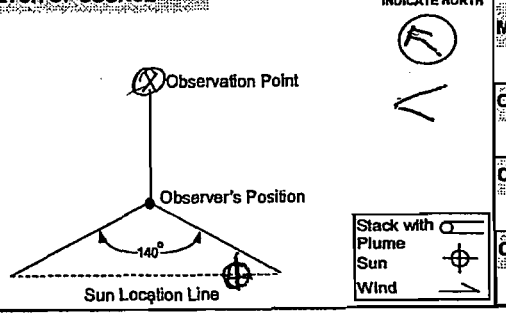
50% blue sky / 50% white clouds

WIND SPEED	WIND DIRECTION
5-10	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
90	60%

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

LAYOUT SKETCH OF SOURCE



RANGE OF OPACITY READINGS

MINIMUM	MAXIMUM
0	0

OBSERVER'S NAME (PRINT)	
Jacob Voorhies	
OBSERVER'S SIGNATURE	**DATE**
	8-19-07
CERTIFIED BY	**DATE**
ETA	7-06

COMMENTS

QA/QC SV
Date 8-19-07

CleanAir ENGINEERING

Visible Emissions Observation Form

CLIENT/OWNER	PROJECT NUMBER	OBSERVATION DATE	START TIME	END TIME
Indiantown	10293	7-19-07	11:19	12:19

PLANT	UNIT	RUN
Indiantown	B	3

PROCESS EQUIPMENT	OPERATING MODE
Aux. Boiler	Normal - Propane

CONTROL EQUIPMENT	OPERATING MODE
N/A	N/A

DESCRIBE EMISSION POINT

~6' diameter stack

HEIGHT ABOVE GROUND LEVEL	DISTANCE FROM OBSERVER
~200'	~600'

HEIGHT RELATIVE TO OBSERVER	DIRECTION FROM OBSERVER
~200'	NW

DESCRIBE EMISSIONS

No emissions visible

EMISSION COLOR	PLUME TYPE: CONTINUOUS ☒
N/A	FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT	IF WATER DROPLET PLUME
YES ☐ NO ☒	ATTACHED ☐ DETACHED ☐

POINT IN PLUME AT WHICH EMISSIONS WERE DETERMINED

~1' above stack opening

DESCRIBE BACKGROUND

50% blue sky / 50% white clouds

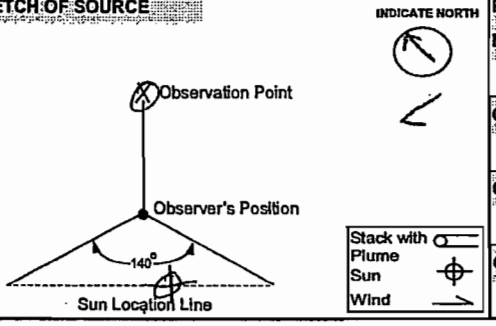
WIND SPEED	WIND DIRECTION
5-10 mph	E

AMBIENT TEMPERATURE	RELATIVE HUMIDITY
93	60%

MIN \ SEC	15	30	45	60
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0

MIN \ SEC	15	30	45	60
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	0	0	0	0
52	0	0	0	0
53	0	0	0	0
54	0	0	0	0
55	0	0	0	0
56	0	0	0	0
57	0	0	0	0
58	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) Jacob Voorhies

OBSERVER'S SIGNATURE [signature] **DATE** 7-19-07

CERTIFIED BY ETA **DATE** 7-08

COMMENTS

QA/QC JV
Date 8-14-07

CleanAir ENGINEERING

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FIELD DATA PRINTOUTS

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USEPA Method 3 Laboratory Data

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

Location: Auxiliary Boiler A - Propane
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Method: EPA Method 3A
Fuel Type: Propane
F_o for Fuel: 1.434 to 1.586

Analyst: J. Reppert
Analyst Emp No: 537

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:		10.80000		4.50000	84.70000	29.90800	1.51852	☑ 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:		10.70000		4.50000	84.80000	29.89200	1.53271	☑ 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:		10.70000		4.50000	84.80000	29.89200	1.53271	☑ 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:								☐ Fo value within expected range.

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QA/QC RP
Date 9/10

USEPA Method 4 Laboratory Data

Location: Auxiliary Boiler A - Propane
Client: Indiantown Cogeneration, L.P.
Project No: 10293

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	DI Water	179.0	100.0	79.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	307.2	300.0	7.2
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
79.0	Liquid (gm)		
0.0	less rinse (gm)		
79.0	Net Liquid (gm)	79.0	☑ QA/QC OK
+ 7.2	Silica Gel (gm)	7.2	☑ QA/QC OK
86.2	Total Vlc (gm)	86.2	☑ QA/QC OK

Test Run: 2

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	190.0	100.0	90.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	305.4	300.0	5.4
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
90.0	Liquid (gm)		
0.0	less rinse (gm)		
90.0	Net Liquid (gm)	90.0	☑ QA/QC OK
+ 5.4	Silica Gel (gm)	5.4	☑ QA/QC OK
95.4	Total Vlc (gm)	95.4	☑ QA/QC OK

Test Run: 3

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	192.0	100.0	92.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	307.1	300.0	7.1
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
92.0	Liquid (gm)		
0.0	less rinse (gm)		
92.0	Net Liquid (gm)	92.0	☑ QA/QC OK
+ 7.1	Silica Gel (gm)	7.1	☑ QA/QC OK
99.1	Total Vlc (gm)	99.1	☑ QA/QC OK

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				

Rinse: (ml or gm)

		Field Data Check	
	Liquid (gm)		
	less rinse (gm)		
	Net Liquid (gm)		☐ QA/QC OK
	Silica Gel (gm)		☐ QA/QC OK
	Total Vlc (gm)		☐ QA/QC OK

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QA/QC Date 9/16

Field Data Printout

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

Location: Auxiliary Boiler A - Propane
Test Run: 1
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever 535
Probe Operator: Jason McKeever 535
Test Date: 8/17/07
Start Time: 13:00
Stop Time: 14:00
Leak Rate Before: 0.001 cfm @ 16 "Hg
Leak Rate After: 0.001 cfm @ 8 "Hg

Bar. Press. (in. Hg): 29.91
Static P: -0.5
O_2 (dry volume %): 4.50
CO_2 (dry volume %): 10.80
N_2+CO (dry volume %): 84.70
H_2O (condensate, ml or gm): 79.0
H_2O (silica, g): 7.2
Actual Moisture (%): 12.72

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pilot C_p: 0.84
Pilot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pilot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.}$ H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			755.005						
2-01	5.0	0.09	0.70	757.560	398	97	96	0.30	2.55	
2-02	10.0	0.15	0.70	759.970	400	98	96	0.39	2.41	
2-03	15.0	0.16	0.70	762.400	407	98	96	0.40	2.43	
2-04	20.0	0.14	0.70	764.800	409	99	97	0.37	2.40	
2-05	25.0	0.10	0.70	767.210	408	101	98	0.32	2.41	
2-06	30.0	0.09	0.70	769.620	401	102	98	0.30	2.41	
3-01	35.0	0.10	0.70	772.060	401	102	98	0.32	2.44	
3-02	40.0	0.12	0.70	774.490	403	103	98	0.35	2.43	
3-03	45.0	0.13	0.70	776.940	405	103	99	0.36	2.45	
3-04	50.0	0.12	0.70	779.370	406	103	99	0.35	2.43	
3-05	55.0	0.11	0.70	781.830	404	104	99	0.33	2.46	
3-06	60.0	0.08	0.70	784.255	400	104	99	0.28	2.42	
Final	60.0		0.70000	29.25000	403.50000	99.45833		0.33848	29.25000	
18 points sampled		Sq.Rt.ΔP								
QC-Check: Field Averages		0.3385	0.7000	29.2500	403.5000	99.4583				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TR
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler A - Propane
Test Run: 2
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307

Meter Operator:	Jason McKeever	535
Probe Operator:	Jason McKeever	535

Test Date: 8/17/07
Start Time: 14:35
Stop Time: 15:35

Leak Rate Before:	0.002	cfm	@ 15 "Hg
Leak Rate After:	0.002	cfm	@ 8 "Hg

Bar. Press. (in. Hg): 29.91
Static P: -0.5
O_2 (dry volume %): 4.50
CO_2 (dry volume %): 10.70
N_2+CO (dry volume %): 84.80

H_2O (condensate, ml or gm): 90.0
H_2O (silica, g): 5.4
Actual Moisture (%): 13.98

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail

Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{}$in. H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			784.350						
3-01	5.0	0.11	0.70	786.810	408	101	100	0.33	2.46	
3-02	10.0	0.15	0.70	789.240	409	101	100	0.39	2.43	
3-03	15.0	0.16	0.70	791.680	410	103	100	0.40	2.44	
3-04	20.0	0.14	0.70	794.100	410	103	100	0.37	2.42	
3-05	25.0	0.10	0.70	796.550	410	103	101	0.32	2.45	
3-06	30.0	0.08	0.70	798.940	406	104	101	0.28	2.39	
2-01	35.0	0.09	0.70	801.400	400	105	101	0.30	2.46	
2-02	40.0	0.12	0.70	803.840	404	105	101	0.35	2.44	
2-03	45.0	0.14	0.70	808.280	409	105	101	0.37	2.44	
2-04	50.0	0.15	0.70	808.720	410	106	101	0.39	2.44	
2-05	55.0	0.13	0.70	811.150	410	106	102	0.36	2.43	
2-06	60.0	0.09	0.70	813.590	408	106	102	0.30	2.44	
Final	60.0		0.70000	29.24000	407.83333	102.41667		0.34672	29.24000	
18 points sampled		Sq.RLΔP								
QC-Check: Field Averages		0.3467	0.7000	29.2400	407.8333	102.4167				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler A - Propane
Test Run: 3
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever | 535
Probe Operator: Jason McKeever | 535
Test Date: 8/17/07
Start Time: 15:50
Stop Time: 16:50
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 8 "Hg

Bar. Press. (in. Hg): 29.91
Static P: -0.5
O_2 (dry volume %): 4.50
CO_2 (dry volume %): 10.70
N_2+CO (dry volume %): 84.80
H_2O (condensate, ml or gm): 92.0
H_2O (silica, g): 7.1
Actual Moisture (%): 14.35

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pilot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.}$ H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			813.700						
2-01	5.0	0.09	0.70	816.130	408	105	102	0.30	2.43	
2-02	10.0	0.12	0.70	818.600	407	105	103	0.35	2.47	
2-03	15.0	0.13	0.70	821.050	407	105	103	0.36	2.45	
2-04	20.0	0.14	0.70	823.480	409	105	102	0.37	2.43	
2-05	25.0	0.13	0.70	825.950	408	105	102	0.36	2.47	
2-06	30.0	0.09	0.70	828.400	403	108	102	0.30	2.45	
3-01	35.0	0.12	0.70	830.860	406	107	103	0.35	2.46	
3-02	40.0	0.13	0.70	833.340	407	107	103	0.36	2.48	
3-03	45.0	0.13	0.70	835.820	407	107	103	0.36	2.48	
3-04	50.0	0.12	0.70	838.280	407	107	103	0.35	2.46	
3-05	55.0	0.12	0.70	840.740	405	107	103	0.35	2.46	
3-06	60.0	0.08	0.70	843.205	403	107	103	0.28	2.47	
Final	60.0		0.70000	29.50500	406.41667	104.37500		0.34041	29.50500	
18 points sampled		Sq.RtΔP								
QC-Check: Field Averages		0.3404	0.7000	29.5050	406.4167	104.3750				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 9:05
Stop Time 9:16

CALIBRATION BIAS 00

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
System Response to Calibration Gasses (C_s)							
C_{of} Zero gas	0.611	0.005	0.189	-0.004			0.018
C_{uf} Upscale gas	28.380	7.349	17.202	13.928			6.045
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oca} Zero gas	0.488	0.197	0.000	-0.003			0.001
C_{uca} Upscale gas	26.416	7.445	19.244	14.044			6.064
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.2%	-0.9%	0.4%	0.0%			0.1%
Upscale gas	3.8%	-0.5%	-4.7%	-0.8%			-0.1%
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_{of} Zero gas	N/A	N/A	N/A	N/A			N/A
C_{uf} 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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09:05:54	0.611	7.380	0.187	-0.004		0.027
09:06:09	0.611	7.355	0.193	-0.004		0.031
09:06:24	0.611	7.347	0.180	-0.004		0.026
09:06:39	0.611	7.344	0.181	-0.004		0.022
09:06:54	0.611	7.337	0.205	-0.004		0.018
09:07:09	0.611	5.890	0.215	-0.004		0.018
09:07:24	1.226	0.085	0.194	-0.003		0.045
09:07:39	13.535	0.036	0.207	-0.003		0.026
09:07:54	22.896	0.014	0.245	-0.003		0.024
09:08:09	28.785	0.003	0.300	-0.005		0.025
09:08:24	28.957	-0.003	0.311	-0.005		0.024
09:08:39	29.016	-0.011	0.293	-0.003		0.020
09:08:54	29.029	-0.016	0.293	-0.003		0.019
09:09:09	29.068	-0.024	0.311	-0.003		0.018
09:09:24	29.114	-0.029	0.322	-0.004		0.018
09:09:39	29.119	-0.005	0.309	-0.003		0.459
09:09:54	28.066	0.032	0.306	0.000		2.254
09:10:09	26.256	0.039	0.315	0.000		2.423
09:10:24	25.853	0.042	0.317	0.001		2.442
09:10:39	25.592	0.002	0.316	0.000		2.480
09:10:54	25.620	-0.052	0.330	-0.001		0.864
09:11:09	26.414	-0.047	0.324	-0.004		0.092
09:11:24	28.496	-0.039	0.311	-0.004		0.060
09:11:39	28.989	-0.002	0.295	-0.004		0.060
09:11:54	27.655	0.011	0.432	-0.002		0.072
09:12:09	20.645	0.026	2.747	-0.003		0.056
09:12:24	4.171	0.042	7.770	-0.004		0.055
09:12:39	0.742	0.049	13.819	-0.004		0.053
09:12:54	0.679	0.049	16.449	-0.004		0.055
09:13:09	0.611	0.054	17.119	-0.004		0.054
09:13:24	0.611	0.065	17.179	-0.003		0.054
09:13:39	0.606	0.076	17.199	-0.004		0.053
09:13:54	0.588	0.086	17.232	-0.004		0.055
09:14:09	0.588	0.085	17.234	-0.004		0.054
09:14:24	0.586	0.158	17.200	-0.004		0.053
09:14:39	0.586	0.274	17.173	1.840		1.566
09:14:54	0.586	0.086	16.547	12.085		5.648
09:15:09	0.586	0.044	12.679	13.744		6.021
09:15:24	0.586	0.032	7.148	13.857		6.041
09:15:39	0.586	0.022	2.291	13.891		6.046
09:15:54	0.586	0.019	0.292	13.914		6.049
09:16:09	0.586	0.016	-0.326	13.928		6.050
09:16:24	0.576	0.021	-0.390	13.942		6.052
09:16:39	0.565	0.617	-0.401	13.949		6.062

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 12:59
Stop time 13:59

REFERENCE METHOD RUN 1

		Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
Calibration Checks								
C_{zi}	Initial zero	0.611	0.005	0.189	-0.004			0.018
C_{ui}	Initial upscale	28.380	7.349	17.202	13.928			6.045
C_{zf}	Final zero	0.562	0.019	-0.159	0.036			0.022
C_{uf}	Final upscale	27.109	7.068	17.464	13.908			6.027
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	31.492	0.677	4.015	10.711			4.502
C_{Gas}	Bias adjusted	30.088	0.694	4.273	10.755			4.500

Clock Time (at end of sample period) 091007 101749						
13:00	31.650	0.928	3.650	10.647		4.532
13:01	31.929	1.117	4.024	10.680		4.556
13:02	31.761	1.012	4.130	10.662		4.513
13:03	31.734	1.034	3.900	10.672		4.550
13:04	31.858	0.980	3.828	10.700		4.501
13:05	31.729	0.938	4.203	10.687		4.527
13:06	31.738	0.913	4.225	10.722		4.471
13:07	32.219	0.880	4.377	10.691		4.523
13:08	32.094	0.836	4.355	10.727		4.451
13:09	31.795	0.800	4.426	10.704		4.494
13:10	31.938	0.803	4.070	10.748		4.428
13:11	31.819	0.794	4.580	10.721		4.634
13:12	31.221	0.834	4.483	10.773		4.420
13:13	30.943	0.844	4.691	10.722		5.072
13:14	30.722	0.861	4.141	10.773		4.829
13:15	31.204	0.862	4.640	10.714		4.511
13:16	31.096	0.887	4.177	10.767		4.429
13:17	31.318	0.881	4.592	10.728		4.464
13:18	31.656	0.862	4.512	10.745		4.432
13:19	31.283	0.789	4.175	10.714		4.483
13:20	31.610	0.771	3.967	10.723		4.466
13:21	31.468	0.735	4.568	10.759		4.407
13:22	31.229	0.711	4.431	10.771		4.393
13:23	31.622	0.679	4.347	10.753		4.414
13:24	31.102	0.665	4.798	10.814		4.330
13:25	31.314	0.651	4.628	10.763		4.394
13:26	31.813	0.611	5.108	10.742		4.457
13:27	31.782	0.636	4.347	10.746		4.505
13:28	31.735	0.660	4.416	10.729		4.486
13:29	31.623	0.682	4.357	10.749		4.439
13:30	31.284	0.690	4.578	10.707		4.513
13:31	31.292	0.718	4.031	10.744		4.449
13:32	30.878	0.729	4.066	10.751		4.430
13:33	31.313	0.699	3.733	10.681		4.527
13:34	31.287	0.667	3.650	10.718		4.464
13:35	31.044	0.629	4.195	10.691		4.516
13:36	31.371	0.605	3.580	10.714		4.471
13:37	30.927	0.583	3.785	10.724		4.455
13:38	31.598	0.555	3.900	10.714		4.463
13:39	31.579	0.540	3.946	10.685		4.507
13:40	31.102	0.517	3.779	10.781		4.373
13:41	31.066	0.499	4.095	10.668		4.529
13:42	31.747	0.499	3.620	10.709		4.458
13:43	31.056	0.468	3.853	10.695		4.510
13:44	30.833	0.477	3.611	10.673		4.544
13:45	31.015	0.511	3.368	10.683		4.519
13:46	30.868	0.514	3.770	10.714		4.484
13:47	30.973	0.546	3.582	10.673		4.541
13:48	31.560	0.549	3.461	10.615		4.631
13:49	31.709	0.565	3.316	10.620		4.601
13:50	31.687	0.541	3.353	10.662		4.526
13:51	31.698	0.514	3.349	10.669		4.524
13:52	31.766	0.486	3.215	10.652		4.549
13:53	31.754	0.475	3.529	10.707		4.468
13:54	31.769	0.444	3.771	10.708		4.461
13:55	31.671	0.419	3.841	10.689		4.494

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 12:59
Stop time 13:59

REFERENCE METHOD RUN 1

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
13:56	31.804	0.388	3.307	10.653			4.540
13:57	31.874	0.378	3.515	10.706			4.457
13:58	32.098	0.368	3.495	10.690			4.500
13:59	31.863	0.370	3.435	10.697			4.499

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 14:01
Stop Time 14:12

CALIBRATION BIAS 01

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
System Response to Calibration Gasses (C_s)							
C_{zf} Zero gas	0.562	0.019	-0.159	0.036			0.022
C_{uf} Upscale gas	27.109	7.068	17.464	13.908			6.027
Analyzer Calibration Error Reponses (C_{plr})							
C_{zca} Zero gas	0.488	0.197	0.000	-0.003			0.001
C_{mca} Upscale gas	26.416	7.445	19.244	14.044			6.064
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.1%	-0.9%	-0.4%	0.3%			0.2%
Upscale gas	1.3%	-1.8%	-4.1%	-1.0%			-0.3%
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_{zf} Zero gas	0.611	0.005	0.189	-0.004			0.018
C_{uf} Upscale gas	28.380	7.349	17.202	13.928			6.045
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	-0.1%	0.1%	-0.8%	0.3%			0.0%
Upscale gas	-2.5%	-1.3%	0.6%	-0.1%			-0.1%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

091007 101749

14:01:41	1.571	0.037	2.977	13.905		6.030
14:01:56	1.149	0.055	0.543	13.922		6.031
14:02:11	0.916	0.041	-0.172	13.912		6.019
14:02:26	1.252	0.016	-0.265	13.905		6.013
14:02:41	1.343	0.000	-0.209	13.906		6.011
14:02:56	1.343	-0.014	-0.147	13.915		6.015
14:03:11	1.343	0.130	-0.152	13.915		6.011
14:03:26	1.325	-0.134	-0.177	12.319		4.899
14:03:41	0.986	-0.177	0.607	1.983		0.587
14:03:56	0.715	-0.181	4.453	0.238		0.096
14:04:11	0.562	-0.181	10.423	0.135		0.072
14:04:26	0.562	-0.194	15.173	0.103		0.063
14:04:41	0.562	-0.205	17.003	0.085		0.049
14:04:56	0.562	-0.181	17.468	0.072		0.039
14:05:11	0.562	-0.165	17.489	0.064		0.037
14:05:26	0.562	-0.152	17.464	0.058		0.031
14:05:41	0.562	-0.145	17.439	0.052		0.032
14:05:56	0.562	-0.119	17.448	0.049		0.061
14:06:11	4.822	-0.158	17.085	0.055		0.077
14:06:26	18.737	-0.165	14.278	0.041		0.022
14:06:41	26.812	-0.168	8.548	0.038		0.022
14:06:56	29.338	-0.177	3.124	0.035		0.026
14:07:11	29.499	0.042	0.811	0.033		0.018
14:07:26	29.589	0.588	0.265	0.534		0.334
14:07:41	29.971	0.500	0.292	1.968		0.889
14:07:56	30.200	0.450	0.567	2.450		1.050
14:08:11	30.151	0.404	0.941	2.550		1.091
14:08:26	29.603	0.415	1.224	2.770		1.222
14:08:41	29.327	0.383	1.370	3.377		1.435
14:08:56	29.356	0.350	1.487	3.481		1.479
14:09:11	29.113	0.324	1.571	3.490		1.467
14:09:26	28.213	0.303	1.617	3.490		1.445
14:09:41	28.148	0.288	1.639	3.480		1.447
14:09:56	27.184	0.277	1.679	3.482		1.457
14:10:11	27.195	0.261	1.700	3.484		1.459
14:10:26	27.231	0.283	1.673	3.473		1.438
14:10:41	26.902	0.171	1.603	3.513		1.515
14:10:56	25.777	6.317	1.538	2.500		0.952
14:11:11	24.037	7.046	1.424	0.194		0.102
14:11:26	4.317	7.054	1.103	0.049		0.032
14:11:41	0.837	7.072	0.596	0.035		0.025
14:11:56	0.676	7.077	0.149	0.028		0.020
14:12:11	0.643	7.044	0.100	0.026		0.021
14:12:26	0.889	1.651	0.122	0.741		0.675

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 14:34
Stop time 15:34

REFERENCE METHOD RUN 2

		Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
Calibration Checks								
C_{zi}	Initial zero	0.562	0.019	-0.159	0.036			0.022
C_{ui}	Initial upscale	27.109	7.068	17.464	13.908			6.027
C_{zf}	Final zero	0.499	0.007	-0.040	0.034			0.020
C_{uf}	Final upscale	27.488	7.090	17.482	13.967			6.029
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			8.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	29.778	0.182	3.307	10.691			4.508
C_{Gas}	Bias adjusted	28.888	0.180	3.586	10.715			4.512
Clock Time (at end of sample period)								
091007 101749								
	14:35	29.420	0.291	3.392	10.666			4.500
	14:36	29.389	0.292	3.217	10.674			4.502
	14:37	29.521	0.278	3.350	10.669			4.512
	14:38	29.519	0.180	3.257	10.673			4.507
	14:39	29.562	0.174	3.454	10.633			4.538
	14:40	29.743	0.210	3.196	10.682			4.484
	14:41	29.728	0.206	3.565	10.723			4.433
	14:42	29.381	0.177	3.364	10.678			4.499
	14:43	29.414	0.173	3.186	10.675			4.522
	14:44	29.302	0.185	3.409	10.666			4.534
	14:45	29.414	0.221	3.297	10.670			4.528
	14:46	29.254	0.232	3.477	10.664			4.535
	14:47	29.021	0.265	3.040	10.680			4.516
	14:48	29.252	0.261	3.329	10.681			4.517
	14:49	29.304	0.285	3.331	10.691			4.500
	14:50	29.447	0.291	3.233	10.686			4.489
	14:51	29.335	0.274	3.079	10.673			4.507
	14:52	29.415	0.248	3.190	10.716			4.445
	14:53	29.643	0.244	3.319	10.701			4.468
	14:54	29.907	0.214	3.362	10.674			4.511
	14:55	29.974	0.193	3.215	10.655			4.532
	14:56	29.981	0.184	3.210	10.701			4.460
	14:57	29.894	0.167	3.373	10.700			4.465
	14:58	30.074	0.163	3.203	10.715			4.465
	14:59	30.057	0.172	3.777	10.746			4.421
	15:00	29.748	0.194	3.686	10.691			4.506
	15:01	29.835	0.205	3.216	10.671			4.532
	15:02	29.581	0.228	3.709	10.711			4.472
	15:03	29.770	0.245	3.520	10.688			4.488
	15:04	29.753	0.234	3.163	10.659			4.524
	15:05	30.170	0.207	3.346	10.680			4.493
	15:06	30.068	0.186	3.466	10.724			4.433
	15:07	29.978	0.170	3.479	10.694			4.472
	15:08	30.252	0.158	3.541	10.686			4.487
	15:09	30.308	0.147	3.257	10.682			4.485
	15:10	30.053	0.137	3.422	10.686			4.501
	15:11	29.834	0.146	3.343	10.739			4.426
	15:12	30.217	0.162	3.295	10.726			4.445
	15:13	29.876	0.172	3.394	10.691			4.501
	15:14	29.721	0.185	3.357	10.695			4.496
	15:15	29.574	0.200	3.240	10.709			4.459
	15:16	29.711	0.207	3.355	10.712			4.452
	15:17	29.515	0.193	3.218	10.688			4.484
	15:18	29.624	0.162	3.559	10.782			4.357
	15:19	30.122	0.148	3.537	10.726			4.461
	15:20	30.095	0.142	3.310	10.710			4.497
	15:21	29.893	0.128	3.460	10.693			4.538
	15:22	29.554	0.123	3.256	10.645			4.608
	15:23	29.697	0.104	3.176	10.605			4.661
	15:24	30.214	0.106	3.098	10.656			4.614
	15:25	30.022	0.089	3.256	10.649			4.643
	15:26	30.097	0.068	3.082	10.660			5.246
	15:27	29.827	0.088	3.020	10.672			4.629
	15:28	30.189	0.101	3.146	10.665			4.540
	15:29	30.309	0.104	3.068	10.729			4.450
	15:30	30.158	0.126	2.997	10.730			4.443

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 14:34
Stop time 15:34

REFERENCE METHOD RUN 2

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
15:31	30.103	0.141	3.413	10.705			4.469
15:32	29.841	0.119	3.115	10.718			4.441
15:33	30.094	0.115	2.984	10.714			4.448
15:34	29.905	0.110	3.108	10.757			4.382

QA/QC
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 15:35
Stop Time 15:44

CALIBRATION BIAS 02

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
System Response to Calibration Gasses (C_s)							
C_{sf} Zero gas	0.499	0.007	-0.040	0.034			0.020
C_{sf} Upscale gas	27.488	7.090	17.482	13.967			6.029
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oce} Zero gas	0.488	0.197	0.000	-0.003			0.001
C_{mce} Upscale gas	26.416	7.445	19.244	14.044			6.064
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.0%	-0.9%	-0.1%	0.3%			0.1%
Upscale gas	2.1%	-1.7%	-4.0%	-0.5%			-0.2%
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_{sl} Zero gas	0.562	0.019	-0.159	0.036			0.022
C_{sl} Upscale gas	27.109	7.068	17.464	13.908			6.027
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	-0.1%	-0.1%	0.3%	0.0%			0.0%
Upscale gas	0.7%	0.1%	0.0%	0.4%			0.0%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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15:35:23	20.651	-0.109	3.696	11.901		5.728
15:35:38	6.245	-0.174	3.619	13.819		6.014
15:35:53	1.045	-0.208	2.356	13.921		6.027
15:36:08	0.646	-0.233	0.590	13.945		6.027
15:36:23	0.635	-0.254	-0.239	13.954		6.023
15:36:38	0.635	-0.272	-0.470	13.962		6.028
15:36:53	0.635	-0.275	-0.478	13.967		6.029
15:37:08	0.653	-0.288	-0.488	13.974		6.031
15:37:23	0.659	-0.317	-0.455	9.165		3.270
15:37:38	0.659	-0.329	1.112	0.789		0.200
15:37:53	0.659	-0.327	5.652	0.173		0.039
15:38:08	0.659	-0.317	12.223	0.116		0.033
15:38:23	0.659	-0.307	15.829	0.093		0.026
15:38:38	0.659	-0.298	17.301	0.079		0.025
15:38:53	0.509	-0.275	17.502	0.067		0.019
15:39:08	0.485	-0.243	17.481	0.059		0.018
15:39:23	0.482	-0.223	17.463	0.053		0.018
15:39:38	0.480	3.728	17.485	0.049		0.023
15:39:53	0.472	6.960	17.321	0.053		0.062
15:40:08	0.478	6.966	14.980	0.041		0.018
15:40:23	0.480	7.007	9.772	0.038		0.035
15:40:38	0.488	7.046	3.690	0.037		0.044
15:40:53	0.495	7.095	0.992	0.034		0.048
15:41:08	0.501	7.131	0.198	0.031		0.051
15:41:23	0.500	5.454	0.138	0.121		0.168
15:41:38	0.488	5.068	0.171	2.022		1.031
15:41:53	5.566	2.882	0.340	2.631		1.188
15:42:08	10.929	0.076	0.703	2.887		1.248
15:42:23	15.013	0.041	0.970	2.940		1.301
15:42:38	25.724	0.014	1.122	2.950		1.306
15:42:53	27.461	0.005	1.194	2.990		1.317
15:43:08	27.497	0.002	1.216	2.982		1.307
15:43:23	27.507	0.003	1.226	2.960		1.316
15:43:38	28.879	-0.003	1.290	2.976		1.295
15:43:53	28.755	-0.005	1.317	2.986		1.275
15:44:08	29.174	0.033	1.265	2.930		1.254
15:44:23	30.033	0.261	1.232	4.574		2.270

QA/QC RP
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, Fl
Aux Boiler A Propane

August 17, 2007
Start Time 15:49
Stop time 16:49

REFERENCE METHOD RUN 3

		Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
Calibration Checks								
C_{zi}	Initial zero	0.499	0.007	-0.040	0.034			0.020
C_{ui}	Initial upscale	27.488	7.090	17.482	13.967			6.029
C_{zf}	Final zero	0.464	-0.211	-0.268	0.020			0.014
C_{uf}	Final upscale	28.866	7.043	17.746	13.942			6.005
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	32.288	0.149	3.235	10.672			4.481
C_{Gas}	Bias adjusted	30.364	0.263	3.529	10.685			4.494

Clock Time (at end of sample period) 091007 101749						
15:50	32.007	0.103	3.338	10.652		4.539
15:51	32.013	0.081	3.187	10.627		4.552
15:52	31.559	0.345	3.081	10.623		4.487
15:53	31.704	0.033	3.158	10.628		4.487
15:54	31.939	0.040	3.280	10.616		4.469
15:55	32.277	0.049	3.442	10.738		4.389
15:56	32.999	0.028	3.154	10.724		4.406
15:57	32.797	0.030	3.294	10.710		4.447
15:58	32.575	0.047	3.380	10.722		4.437
15:59	32.505	0.175	2.511	10.731		4.428
16:00	32.264	0.262	3.091	10.568		4.479
16:01	32.398	0.063	3.304	10.628		4.510
16:02	32.472	0.235	3.165	10.642		4.543
16:03	32.149	0.235	3.229	10.680		4.480
16:04	32.184	0.221	3.530	10.676		4.485
16:05	32.026	0.205	3.379	10.673		4.499
16:06	31.915	0.208	3.305	10.695		4.465
16:07	31.822	0.190	3.406	10.673		4.492
16:08	32.117	0.175	3.212	10.685		4.470
16:09	32.773	0.173	3.115	10.672		4.482
16:10	32.840	0.156	3.126	10.687		4.455
16:11	32.771	0.159	3.141	10.720		4.413
16:12	32.710	0.146	3.321	10.700		4.467
16:13	32.394	0.161	3.155	10.696		4.475
16:14	32.381	0.174	3.291	10.710		4.455
16:15	31.439	0.276	3.163	10.371		4.489
16:16	31.931	0.151	2.962	10.609		4.557
16:17	31.938	0.244	3.012	10.655		4.508
16:18	31.944	0.228	3.209	10.685		4.466
16:19	31.853	0.220	2.885	10.638		4.528
16:20	31.488	0.230	3.244	10.766		4.345
16:21	32.076	0.210	3.532	10.722		4.411
16:22	32.507	0.190	3.449	10.705		4.439
16:23	32.051	0.167	3.215	10.676		4.476
16:24	32.215	0.147	3.278	10.718		4.410
16:25	32.240	0.140	3.314	10.652		4.515
16:26	32.460	0.141	3.092	10.695		4.448
16:27	31.975	0.178	3.218	10.675		4.478
16:28	32.159	0.123	3.578	10.626		4.574
16:29	31.506	0.163	3.157	10.676		4.502
16:30	31.616	0.151	3.324	10.678		4.519
16:31	31.488	0.171	3.371	10.682		4.510
16:32	31.487	0.165	3.708	10.742		4.399
16:33	31.417	0.143	4.051	10.798		4.328
16:34	32.177	0.132	3.564	10.727		4.413
16:35	32.341	0.141	3.774	10.804		4.314
16:36	32.338	0.119	3.669	10.740		4.401
16:37	32.413	0.124	3.257	10.724		4.427
16:38	32.829	0.111	3.160	10.660		4.518
16:39	32.995	0.102	3.149	10.696		4.463
16:40	33.198	0.101	3.140	10.612		4.598
16:41	33.261	0.092	2.865	10.636		4.546
16:42	32.927	0.105	2.984	10.664		4.505
16:43	32.893	0.099	2.864	10.632		4.598
16:44	32.811	0.089	3.144	10.615		4.585
16:45	32.710	0.101	3.076	10.625		4.568

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 15:49
Stop time 16:49

REFERENCE METHOD RUN 3

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
16:46	32.767	0.116	2.998	10.630			4.560
16:47	32.763	0.124	3.031	10.633			4.555
16:48	32.940	0.132	2.999	10.637			4.544
16:49	32.513	0.148	3.075	10.629			4.538

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Propane

August 17, 2007
Start Time 16:50
Stop Time 17:00

CALIBRATION BIAS 03

	Channel 1 NOX Aux Boiler A Propane ppmdv	Channel 2 THC Aux Boiler A Propane ppmwv	Channel 3 CO Aux Boiler A Propane ppmdv	Channel 5 CO2 Aux Boiler A Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Propane %dv
System Response to Calibration Gasses (C_s)							
C_{zf} Zero gas	0.464	-0.211	-0.268	0.020			0.014
C_{uf} Upscale gas	28.866	7.043	17.746	13.942			6.005
Analyzer Calibration Error Reponses (C_{Dir})							
C_{zce} Zero gas	0.488	0.197	0.000	-0.003			0.001
C_{mce} Upscale gas	26.416	7.445	19.244	14.044			6.064
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.0%	-1.9%	-0.6%	0.2%			0.1%
Upscale gas	4.8%	-1.9%	-3.4%	-0.7%			-0.4%
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_{zl} Zero gas	0.499	0.007	-0.040	0.034			0.020
C_{ul} Upscale gas	27.486	7.090	17.482	13.967			6.029
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	-0.1%	-1.0%	-0.5%	-0.1%			0.0%
Upscale gas	2.7%	-0.2%	0.6%	-0.2%			-0.2%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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16:50:45	34.146	1.436	2.964	9.896		4.278
16:51:00	31.439	0.010	3.077	7.017		4.342
16:51:15	17.254	-0.063	3.335	13.354		5.918
16:51:30	5.719	-0.099	2.807	13.877		5.996
16:51:45	0.708	-0.122	1.305	13.918		6.004
16:52:00	0.659	-0.143	0.042	13.932		8.000
16:52:15	0.659	-0.161	-0.377	13.942		6.010
16:52:30	0.659	-0.160	-0.469	13.950		6.020
16:52:45	0.659	-0.202	-0.478	13.748		5.709
16:53:00	0.659	-0.223	-0.131	3.747		1.053
16:53:15	0.659	-0.225	2.545	0.286		0.062
16:53:30	0.552	-0.378	8.762	-0.003		-0.045
16:53:45	0.474	-0.598	14.096	-0.097		-0.041
16:54:00	0.508	-1.299	17.054	-3.392		-0.144
16:54:15	0.586	-0.977	17.648	-0.005		0.022
16:54:30	0.433	-0.244	17.748	-0.033		0.027
16:54:45	0.676	-0.179	17.752	0.053		0.025
16:55:00	0.466	-0.169	17.743	0.049		0.030
16:55:15	0.464	4.870	17.745	0.050		0.049
16:55:30	0.895	7.030	17.379	0.053		0.038
16:55:45	0.943	7.044	14.755	0.039		0.027
16:56:00	0.611	7.043	8.467	0.036		0.021
16:56:15	0.464	7.039	3.073	0.033		0.024
16:56:30	0.464	7.047	0.643	0.031		0.028
16:56:45	0.464	7.051	0.230	0.028		0.022
16:57:00	0.464	6.748	0.165	0.032		0.039
16:57:15	0.464	0.019	0.148	0.304		0.168
16:57:30	12.122	-0.185	0.173	0.051		0.033
16:57:45	21.699	-0.203	0.216	0.025		0.016
16:58:00	26.597	-0.212	0.261	0.021		0.014
16:58:15	27.659	-0.218	0.278	0.021		0.010
16:58:30	27.740	-0.225	0.276	0.020		0.010
16:58:45	28.874	-0.226	0.260	0.020		0.020
16:59:00	28.925	-0.231	0.269	0.020		0.036
16:59:15	28.800	-0.236	0.268	0.016		0.043
16:59:30	28.815	-0.238	0.256	0.017		0.047
16:59:45	28.812	-0.132	0.266	0.017		0.046
17:00:00	30.002	0.339	0.269	2.491		2.085

QA/QC TR
Date 7/10

USEPA Method 3 Laboratory Data

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

Location: Auxiliary Boiler A - Natural Gas
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Method: EPA Method 3A
Fuel Type: Natural Gas
F_o for Fuel: 1.6 to 1.836

Analyst: J. Reppert
Analyst Emp No: 537

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:		9.30000		4.33000	86.37000	29.66120	1.78172	☑ Fo value within expected range.
2	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		9.18000		4.38000	86.44000	29.64400	1.79956	☑ Fo value within expected range.
3	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		9.21000		4.40000	86.39000	29.64960	1.79153	☑ Fo value within expected range.
4	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		9.35000		4.20000	86.45000	29.66400	1.78610	☑ Fo value within expected range.

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QA/QC TC
Date 9/10

USEPA Method 4 Laboratory Data

Location: Auxiliary Boiler A - Natural Gas
Client: Indiantown Cogeneration, L.P.
Project No: 10293

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	DI Water	220.0	100.0	120.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	313.1	300.0	13.1
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
120.0 Liquid (gm)		
0.0 less rinse (gm)		
120.0 Net Liquid (gm)	120.0	☑ QA/QC OK
+ 13.1 Silica Gel (gm)	13.1	☑ QA/QC OK
133.1 Total Vlc (gm)	133.1	☑ QA/QC OK

Test Run: 2

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	219.0	100.0	119.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	308.5	300.0	8.5
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
119.0 Liquid (gm)		
0.0 less rinse (gm)		
119.0 Net Liquid (gm)	119.0	☑ QA/QC OK
+ 8.5 Silica Gel (gm)	8.5	☑ QA/QC OK
127.5 Total Vlc (gm)	127.5	☑ QA/QC OK

Test Run: 3

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	218.0	100.0	118.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	306.3	300.0	6.3
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
118.0 Liquid (gm)		
0.0 less rinse (gm)		
118.0 Net Liquid (gm)	118.0	☑ QA/QC OK
+ 6.3 Silica Gel (gm)	6.3	☑ QA/QC OK
124.3 Total Vlc (gm)	124.3	☑ QA/QC OK

Test Run: 4

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	220.0	100.0	120.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	306.1	300.0	6.1
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
120.0 Liquid (gm)		
0.0 less rinse (gm)		
120.0 Net Liquid (gm)	120.0	☑ QA/QC OK
+ 6.1 Silica Gel (gm)	6.1	☑ QA/QC OK
126.1 Total Vlc (gm)	126.1	☑ QA/QC OK

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QA/QC TR
Date 9/16

Field Data Printout

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

Location: Auxiliary Boiler A - Natural Gas
Test Run: 1
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever 535
Probe Operator: Jason McKeever 535
Test Date: 8/18/07
Start Time: 09:34
Stop Time: 10:34
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.001 cfm @ 8 "Hg

Bar. Press. (In. Hg): 29.89
Static P: -0.5
O_2 (dry volume %): 4.33
CO_2 (dry volume %): 9.30
N_2+CO (dry volume %): 86.37
H_2O (condensate, ml or gm): 120.0
H_2O (silica, g): 13.1
Actual Moisture (%): 18.19

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.}$ H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			843.320						
2-01	5.0	0.12	0.70	845.730	407	90	90	0.35	2.41	
2-02	10.0	0.16	0.70	848.150	409	90	90	0.40	2.42	
2-03	15.0	0.19	0.70	850.610	416	91	91	0.44	2.46	
2-04	20.0	0.18	0.70	853.050	418	93	91	0.42	2.44	
2-05	25.0	0.23	0.70	855.480	420	95	92	0.48	2.43	
2-06	30.0	0.22	0.70	857.940	423	96	92	0.47	2.46	
3-01	35.0	0.14	0.70	860.370	407	97	92	0.37	2.43	
3-02	40.0	0.17	0.70	862.830	415	97	92	0.41	2.46	
3-03	45.0	0.18	0.70	865.310	419	98	93	0.42	2.48	
3-04	50.0	0.17	0.70	867.730	421	98	93	0.41	2.42	
3-05	55.0	0.15	0.70	870.180	418	99	94	0.39	2.45	
3-06	60.0	0.11	0.70	872.630	400	99	94	0.33	2.45	
Final	60.0		0.70000	29.31000	414.41667	93.62500		0.40810	29.31000	
18 points sampled		Sq.RLΔP								
QC-Check: Field Averages		0.4081	0.7000	29.3100	414.4167	93.6250				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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Prepared by Clean Air Engineering Proprietary Software
SS ISOKINETIC Version 2006-13a

QA/QC TE
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler A - Natural Gas
Test Run: 2
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever 535
Probe Operator: Jason McKeever 535
Test Date: 8/18/07
Start Time: 12:00
Stop Time: 13:00
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.001 cfm @ 8 "Hg

Bar. Press. (In. Hg): 29.89
Static P: -0.5
O_2 (dry volume %): 4.38
CO_2 (dry volume %): 8.18
N_2+CO (dry volume %): 88.44
H_2O (condensate, ml or gm): 119.0
H_2O (silica, g): 8.5
Actual Moisture (%): 17.70

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.\ H_2O}$)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			872.725						
3-01	5.0	0.17	0.70	875.200	437	99	98	0.41	2.48	
3-02	10.0	0.20	0.70	877.640	438	99	98	0.45	2.44	
3-03	15.0	0.22	0.70	880.090	442	99	98	0.47	2.45	
3-04	20.0	0.20	0.70	882.540	443	101	98	0.45	2.45	
3-05	25.0	0.19	0.70	884.980	444	102	99	0.44	2.44	
3-06	30.0	0.17	0.70	887.430	443	103	98	0.41	2.45	
2-01	35.0	0.14	0.70	889.850	423	103	98	0.37	2.42	
2-02	40.0	0.18	0.70	892.290	431	103	98	0.42	2.44	
2-03	45.0	0.21	0.70	894.740	436	103	99	0.46	2.45	
2-04	50.0	0.22	0.70	897.210	440	103	99	0.47	2.47	
2-05	55.0	0.21	0.70	899.650	443	104	99	0.46	2.44	
2-06	60.0	0.18	0.70	902.100	441	104	99	0.42	2.45	
Final	60.0		0.70000	29.37500	438.41667	100.16667		0.43602	29.37500	
18 points sampled		Sq.Rt.ΔP								
QC-Check: Field Averages		0.4360	0.7000	29.3750	438.4167	100.1667				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TR
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler A - Natural Gas
Test Run: 3
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever | 535
Probe Operator: Jason McKeever | 535
Test Date: 8/18/07
Start Time: 13:20
Stop Time: 14:20
Leak Rate Before: 0.002 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 7 "Hg

Bar. Press. (In. Hg): 29.89
Static P: -0.5
O_2 (dry volume %): 4.40
CO_2 (dry volume %): 9.21
N_2+CO (dry volume %): 86.39
H_2O (condensate, ml or gm): 118.0
H_2O (silica, g): 6.3
Actual Moisture (%): 17.34

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (In. H_2O)	Sample ΔH (In. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{}$In. H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			902.130						
2-01	5.0	0.12	0.70	904.580	429	102	101	0.35	2.45	
2-02	10.0	0.20	0.70	907.020	434	103	101	0.45	2.44	
2-03	15.0	0.22	0.70	909.470	435	103	101	0.47	2.45	
2-04	20.0	0.23	0.70	911.940	440	103	100	0.48	2.47	
2-05	25.0	0.23	0.70	914.370	441	103	100	0.48	2.43	
2-06	30.0	0.19	0.70	916.820	440	103	100	0.44	2.45	
3-01	35.0	0.14	0.70	919.270	425	103	100	0.37	2.45	
3-02	40.0	0.19	0.70	921.730	432	103	100	0.44	2.46	
3-03	45.0	0.22	0.70	924.200	437	103	100	0.47	2.47	
3-04	50.0	0.19	0.70	926.640	440	104	100	0.44	2.44	
3-05	55.0	0.18	0.70	929.100	437	104	101	0.42	2.46	
3-06	60.0	0.16	0.70	931.575	435	104	101	0.40	2.48	
Final	60.0		0.70000	29.44500	435.41667	101.79167		0.43308	29.44500	
18 points sampled		Sq.RLΔP								
QC-Check: Field Averages		0.4331	0.7000	29.4450	435.4167	101.7917				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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Prepared by Clean Air Engineering Proprietary Software
SS ISOKINETIC Version 2006-13e

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 8:21
Stop Time 8:33

CALIBRATION BIAS 00

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
System Response to Calibration Gasses (C_S)							
C_{zf} Zero gas	0.583	0.130	0.228	0.016			-0.073
C_{uf} Upscale gas	26.716	7.393	18.383	13.989			5.867
Analyzer Calibration Error Reponses (C_{DU})							
C_{zce} Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mce} Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.2%	0.2%	0.5%	0.1%			-0.9%
Upscale gas	0.0%	-0.7%	-0.6%	0.0%			-1.4%
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_{zf} Zero gas	N/A	N/A	N/A	N/A			N/A
C_{uf} 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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08:21:40	0.586	7.417	0.543	0.016		-0.073
08:21:55	0.579	7.402	0.571	0.016		-0.073
08:22:10	0.586	7.393	0.566	0.016		-0.072
08:22:25	0.586	7.383	0.539	0.016		-0.075
08:22:40	0.584	7.377	0.554	0.016		-0.073
08:22:55	0.578	2.891	0.552	0.150		0.220
08:23:10	0.586	0.233	0.526	9.701		4.824
08:23:25	0.583	0.166	0.436	13.743		5.837
08:23:40	0.583	0.140	0.330	13.929		5.868
08:23:55	0.596	0.127	0.222	13.969		5.866
08:24:10	0.563	0.122	0.133	13.991		5.868
08:24:25	0.562	0.122	0.102	14.007		5.873
08:24:40	0.501	0.094	0.116	13.271		5.178
08:24:55	0.511	0.062	0.447	2.519		0.559
08:25:10	0.477	0.104	2.819	0.216		-0.042
08:25:25	0.506	0.221	7.146	0.109		-0.049
08:25:40	0.531	0.399	11.427	0.082		-0.045
08:25:55	0.555	0.505	13.377	0.065		-0.046
08:26:10	0.590	0.537	13.922	0.054		-0.048
08:26:25	0.590	0.554	13.974	0.046		-0.051
08:26:40	0.586	0.534	14.000	0.040		-0.049
08:26:55	0.589	0.521	14.133	0.035		-0.050
08:27:10	0.578	0.498	14.561	0.033		-0.052
08:27:25	0.579	0.485	15.221	0.027		-0.053
08:27:40	0.575	0.470	15.728	0.025		-0.054
08:27:55	0.579	0.456	16.016	0.022		-0.053
08:28:10	0.586	0.440	16.186	0.022		-0.053
08:28:25	0.586	0.435	16.282	0.020		-0.052
08:28:40	0.583	0.425	16.620	0.019		-0.053
08:28:55	0.575	0.420	18.330	0.017		-0.052
08:29:10	0.565	0.420	18.335	0.016		-0.051
08:29:25	0.562	0.423	18.356	0.016		-0.052
08:29:40	0.562	0.442	18.370	0.016		-0.052
08:29:55	0.562	0.461	18.386	0.015		-0.051
08:30:10	0.562	0.500	18.388	0.015		-0.051
08:30:25	0.803	0.366	18.375	0.029		-0.030
08:30:40	2.143	0.271	17.633	0.021		-0.056
08:30:55	16.867	0.299	13.604	0.014		-0.069
08:31:10	26.376	0.330	7.497	0.014		-0.073

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 8:21
Stop Time 8:33

CALIBRATION BIAS 00

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
08:31:25	26.563	0.350	3.124	0.012			-0.075
08:31:40	26.730	0.360	1.216	0.011			-0.080
08:31:55	26.732	0.361	0.912	0.010			-0.083
08:32:10	26.706	0.361	0.867	0.011			-0.081
08:32:25	26.709	0.749	0.865	0.010			-0.080
08:32:40	26.707	5.421	0.906	0.679			4.123
08:32:55	18.238	5.108	8.555	3.405			13.258
08:33:10	11.775	4.923	41.032	3.752			13.893

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 9:33
Stop time 10:33

REFERENCE METHOD RUN 1

		Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
Calibration Checks								
C_{ol}	Initial zero	0.583	0.130	0.228	0.016			-0.073
C_{ul}	Initial upscale	26.716	7.393	18.383	13.989			5.867
C_{of}	Final zero	0.488	0.004	0.189	0.037			-0.040
C_{uf}	Final upscale	26.287	7.215	18.403	14.023			6.081
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	28.566	1.243	14.360	9.330			4.264
C_{Gas}	Bias adjusted	28.542	1.221	14.397	9.304			4.327

Clock Time (at end of sample period)

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09:34	28.390	1.210	16.081	9.402			4.011
09:35	28.479	1.510	15.482	9.393			4.097
09:36	28.501	1.425	16.246	9.395			4.094
09:37	28.502	1.468	15.849	9.399			4.085
09:38	28.520	1.324	15.841	9.341			4.197
09:39	28.588	1.411	15.267	9.378			4.132
09:40	28.827	1.376	15.180	9.370			4.152
09:41	28.711	1.464	15.172	9.382			4.132
09:42	28.440	1.440	15.512	9.381			4.134
09:43	28.519	1.400	15.258	9.415			4.067
09:44	28.549	1.307	15.273	9.379			4.130
09:45	28.359	1.320	15.377	9.386			4.116
09:46	28.474	1.348	14.854	9.370			4.126
09:47	28.522	1.370	15.279	9.384			4.108
09:48	28.912	1.266	15.062	9.370			4.127
09:49	29.001	1.409	15.107	9.349			4.180
09:50	29.011	1.379	15.466	9.403			4.103
09:51	29.006	1.388	15.583	9.368			4.165
09:52	28.864	1.323	15.518	9.349			4.192
09:53	28.822	1.311	15.180	9.401			4.114
09:54	28.788	1.277	14.705	9.302			4.265
09:55	28.700	1.317	14.497	9.314			4.228
09:56	28.764	1.290	14.015	9.304			4.241
09:57	28.782	1.262	13.753	9.275			4.284
09:58	28.725	1.299	14.534	9.341			4.165
09:59	28.827	1.212	14.748	9.360			4.143
10:00	28.656	1.447	14.838	9.371			4.115
10:01	28.829	1.255	15.570	9.369			4.138
10:02	28.693	1.316	14.744	9.383			4.134
10:03	28.746	1.362	15.428	9.386			4.130
10:04	28.653	1.278	15.206	9.311			4.253
10:05	28.522	1.202	13.985	9.263			4.318
10:06	28.598	1.271	13.723	9.273			4.294
10:07	28.425	1.202	14.324	9.294			4.254
10:08	28.469	1.191	13.810	9.239			4.336
10:09	28.756	1.169	14.108	9.297			4.243
10:10	28.636	1.115	13.801	9.211			4.368
10:11	28.736	1.135	13.864	9.257			4.289
10:12	28.634	1.137	13.736	9.270			4.280
10:13	28.689	1.019	13.712	9.232			4.362
10:14	28.543	1.139	12.855	9.253			4.320
10:15	28.288	1.232	13.583	9.320			4.225
10:16	28.408	1.118	14.124	9.272			4.300
10:17	28.419	1.136	13.636	9.297			4.268
10:18	28.665	1.057	13.309	9.246			4.324
10:19	28.832	1.064	12.854	9.252			4.365
10:20	28.484	1.060	13.175	9.253			4.737
10:21	28.513	1.097	13.102	9.253			4.581
10:22	28.425	1.133	13.482	9.307			4.650
10:23	28.278	1.074	13.589	9.311			4.655
10:24	28.238	1.106	13.540	9.364			4.592

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 9:33
Stop time 10:33

REFERENCE METHOD RUN 1

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
10:25	28.221	1.164	13.098	9.356			4.488
10:26	28.453	1.197	13.471	9.355			4.457
10:27	27.964	1.178	14.026	9.401			4.319
10:28	27.895	1.181	13.021	9.352			4.338
10:29	27.931	1.105	13.218	9.398			4.297
10:30	27.962	1.111	12.489	9.290			4.425
10:31	28.441	1.104	12.813	9.266			4.433
10:32	28.662	1.119	13.315	9.306			4.337
10:33	28.694	0.987	13.192	9.271			4.436

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 10:34
Stop Time 10:40

CALIBRATION BIAS 01

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
System Response to Calibration Gasses (C_S)							
C_{of} Zero gas	0.488	0.004	0.189	0.037			-0.040
C_{uf} Upscale gas	26.287	7.215	18.403	14.023			6.081
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oce} Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mce} Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.0%	-0.4%	0.4%	0.3%			-0.7%
Upscale gas	-0.8%	-1.5%	-0.5%	0.3%			0.1%
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_{ol} Zero gas	0.583	0.130	0.228	0.016			-0.073
C_{ul} Upscale gas	26.716	7.393	18.383	13.989			5.867
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	-0.2%	-0.6%	-0.1%	0.1%			0.2%
Upscale gas	-0.8%	-0.8%	0.0%	0.2%			1.5%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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10:34:14	16.734	0.215	12.525	13.250		6.047
10:34:29	5.968	0.168	9.340	13.956		6.060
10:34:44	0.712	0.125	5.119	14.007		6.069
10:34:59	0.638	0.103	1.667	14.025		6.115
10:35:14	0.635	0.100	0.464	14.038		6.146
10:35:29	0.635	5.226	0.184	13.714		5.748
10:35:44	0.643	7.199	0.159	3.391		0.880
10:35:59	0.657	7.199	0.224	0.273		-0.037
10:36:14	0.659	7.210	0.354	0.136		-0.067
10:36:29	0.659	7.236	0.546	0.104		-0.069
10:36:44	0.659	1.481	0.672	0.093		-0.049
10:36:59	0.659	0.031	1.284	0.082		-0.058
10:37:14	0.659	0.014	4.409	0.063		-0.079
10:37:29	0.518	0.008	11.107	0.054		-0.085
10:37:44	0.503	0.003	15.963	0.049		-0.068
10:37:59	0.508	0.000	18.050	0.045		-0.061
10:38:14	0.503	0.003	18.373	0.042		-0.059
10:38:29	0.500	0.008	18.401	0.039		-0.058
10:38:44	0.491	0.013	18.399	0.036		-0.056
10:38:59	0.488	0.026	18.408	0.035		-0.055
10:39:14	0.488	0.060	18.396	0.032		-0.056
10:39:29	0.488	0.013	18.355	0.045		-0.013
10:39:44	8.856	-0.002	17.422	0.034		-0.050
10:39:59	25.665	0.000	12.747	0.029		-0.056
10:40:14	26.199	0.000	6.842	0.027		-0.056
10:40:29	26.331	0.000	2.397	0.027		-0.055
10:40:44	26.331	0.277	1.110	0.025		-0.049
10:40:59	26.499	1.444	0.930	2.426		1.665

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 11:59
Stop time 12:59

REFERENCE METHOD RUN 2

		Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
Calibration Checks								
C_{zf}	Initial zero	0.488	0.004	0.189	0.037			-0.040
C_{uf}	Initial upscale	26.287	7.215	18.403	14.023			6.081
C_{zf}	Final zero	0.464	-0.105	0.132	0.035			-0.059
C_{uf}	Final upscale	26.747	7.093	17.609	14.031			5.908
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	29.671	0.332	7.278	9.228			4.329
C_{Gas}	Bias adjusted	29.642	0.399	7.379	9.185			4.376

Clock Time (at end of sample period)

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12:00	29.683	0.261	7.338	9.243		4.297
12:01	29.985	0.409	7.644	9.273		4.283
12:02	29.736	0.413	7.663	9.272		4.279
12:03	29.950	0.400	7.514	9.269		4.274
12:04	29.740	0.396	7.295	9.240		4.310
12:05	29.563	0.377	7.038	9.273		4.258
12:06	29.468	0.405	7.109	9.285		4.243
12:07	29.409	0.368	7.257	9.256		4.283
12:08	29.322	0.364	6.801	9.256		4.287
12:09	29.216	0.379	6.917	9.271		4.251
12:10	29.504	0.362	6.991	9.274		4.269
12:11	29.576	0.384	7.134	9.260		4.297
12:12	29.754	0.325	7.297	9.184		4.413
12:13	29.583	0.330	6.590	9.158		4.455
12:14	29.402	0.359	7.017	9.213		4.365
12:15	29.352	0.359	6.933	9.229		4.328
12:16	28.982	0.393	6.927	9.286		4.231
12:17	29.276	0.378	7.119	9.305		4.203
12:18	29.384	0.406	7.163	9.292		4.231
12:19	29.410	0.354	7.041	9.272		4.248
12:20	29.448	0.344	7.121	9.221		4.324
12:21	29.521	0.368	7.162	9.266		4.251
12:22	29.654	0.345	7.405	9.236		4.305
12:23	29.900	0.326	7.183	9.199		4.382
12:24	29.978	0.332	7.270	9.205		4.366
12:25	29.866	0.326	7.262	9.197		4.383
12:26	29.562	0.362	7.353	9.189		4.399
12:27	29.672	0.364	7.639	9.274		4.262
12:28	29.728	0.384	7.670	9.254		4.282
12:29	29.803	0.383	7.455	9.221		4.332
12:30	30.091	0.365	7.526	9.232		4.316
12:31	29.773	0.313	7.460	9.205		4.351
12:32	29.932	0.262	7.103	9.217		4.340
12:33	29.590	0.330	7.303	9.234		4.307
12:34	29.734	0.349	7.378	9.217		4.338
12:35	29.605	0.339	7.554	9.198		4.389
12:36	29.746	0.308	7.378	9.216		4.358
12:37	29.934	0.325	7.300	9.200		4.388
12:38	29.991	0.313	7.414	9.219		4.359
12:39	29.849	0.361	7.136	9.227		4.352
12:40	29.808	0.361	7.505	9.209		4.359
12:41	29.650	0.223	7.360	9.085		4.308
12:42	29.290	0.221	7.491	9.247		4.261
12:43	29.682	0.274	7.301	9.190		4.365
12:44	29.825	0.226	7.314	9.216		4.354
12:45	30.157	0.307	7.533	9.245		4.311
12:46	30.105	0.289	7.436	9.249		4.330
12:47	29.889	0.282	7.207	9.218		4.375
12:48	29.829	0.269	7.054	9.207		4.390
12:49	29.600	0.312	6.822	9.229		4.355
12:50	29.571	0.315	7.222	9.198		4.388

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 11:59
Stop time 12:59

REFERENCE METHOD RUN 2

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
12:51	29.610	0.302	7.299	9.198			4.391
12:52	29.575	0.281	7.371	9.190			4.401
12:53	29.741	0.262	6.975	9.201			4.379
12:54	29.743	0.304	7.075	9.210			4.361
12:55	29.900	0.282	7.362	9.235			4.328
12:56	29.894	0.265	7.291	9.202			4.374
12:57	29.788	0.278	7.302	9.204			4.376
12:58	29.415	0.300	7.908	9.193			4.403
12:59	29.524	0.301	7.994	9.208			4.373

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 13:01
Stop Time 13:07

CALIBRATION BIAS 02

		Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
System Response to Calibration Gases (C_S)								
C_{zf}	Zero gas	0.464	-0.105	0.132	0.035			-0.059
C_{sf}	Upscale gas	26.747	7.093	17.609	14.031			5.908
Analyzer Calibration Error Reponses (C_{Dir})								
C_{zce}	Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mce}	Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})								
C_{ma}	Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)								
		51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)								
	Zero gas	0.0%	-0.9%	0.3%	0.2%			-0.8%
	Upscale gas	0.1%	-2.1%	-2.3%	0.3%			-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_{zf}	Zero gas	0.488	0.004	0.189	0.037			-0.040
C_{sf}	Upscale gas	26.287	7.215	18.403	14.023			6.081
Drift Assessment as Percent of Calibration Span Value (D) (3%)								
	Zero gas	0.0%	-0.5%	-0.1%	0.0%			-0.1%
	Upscale gas	0.9%	-0.6%	-1.8%	0.1%			-1.2%
Drift Assessment Status								
	Zero gas	OK	OK	OK	OK			OK
	Upscale gas	OK	OK	OK	OK			OK

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13:01:27	0.630	-0.096	1.663	14.008		5.908
13:01:42	0.611	-0.109	0.390	14.022		5.908
13:01:57	0.611	-0.111	0.160	14.031		5.910
13:02:12	0.608	-0.122	0.120	14.038		5.905
13:02:27	0.606	-0.132	0.117	14.043		5.896
13:02:42	0.608	-0.181	0.185	9.631		3.351
13:02:57	0.611	-0.200	1.349	0.774		0.098
13:03:12	0.611	-0.205	6.194	0.172		-0.050
13:03:27	0.611	-0.203	11.910	0.118		-0.062
13:03:42	0.573	-0.217	16.062	0.095		-0.066
13:03:57	0.490	-0.220	17.368	0.078		-0.066
13:04:12	0.466	-0.205	17.625	0.067		-0.067
13:04:27	0.464	-0.190	17.631	0.061		-0.074
13:04:42	0.464	-0.174	17.609	0.054		-0.075
13:04:57	0.464	-0.160	17.587	0.050		-0.076
13:05:12	3.224	-0.182	17.436	0.064		-0.033
13:05:27	11.938	-0.195	15.883	0.044		-0.072
13:05:42	22.613	-0.192	10.604	0.040		-0.074
13:05:57	26.515	-0.202	5.187	0.037		-0.076
13:06:12	26.634	-0.202	1.771	0.035		-0.079
13:06:27	26.782	-0.205	0.957	0.032		-0.083
13:06:42	26.826	1.303	0.822	0.032		-0.085
13:06:57	26.823	7.094	0.818	0.047		-0.020
13:07:12	20.804	7.095	0.831	0.031		-0.076
13:07:27	3.528	7.090	0.796	0.028		-0.084
13:07:42	0.719	6.093	0.757	0.025		-0.079

QA/QC IR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 13:19
Stop time 14:19

REFERENCE METHOD RUN 3

		Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
Calibration Checks								
C_{zi}	Initial zero	0.464	-0.105	0.132	0.035			-0.059
C_{ui}	Initial upscale	26.747	7.093	17.609	14.031			5.908
C_{zf}	Final zero	0.562	-0.094	0.226	0.031			-0.058
C_{uf}	Final upscale	26.499	7.128	17.604	14.016			5.904
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	30.157	0.283	8.252	9.252			4.285
C_{Gas}	Bias adjusted	30.018	0.399	8.570	9.212			4.398

Clock Time (at end of sample period)						
060407 100452						
13:20	30.727	0.131	9.669	9.457		3.974
13:21	30.835	0.303	10.119	9.427		4.035
13:22	30.540	0.326	10.059	9.431		4.011
13:23	30.769	0.474	10.090	9.539		3.842
13:24	31.027	0.473	9.884	9.570		3.793
13:25	30.859	0.392	9.380	9.513		3.889
13:26	30.852	0.142	9.098	9.397		4.010
13:27	30.217	0.350	8.940	9.216		4.160
13:28	30.416	0.383	9.180	9.345		4.134
13:29	30.647	0.364	9.095	9.305		4.199
13:30	30.646	0.374	8.867	9.318		4.184
13:31	30.718	0.359	9.089	9.311		4.212
13:32	30.915	0.363	8.897	9.309		4.209
13:33	30.543	0.265	8.371	9.170		4.422
13:34	30.450	0.285	7.626	9.153		4.440
13:35	30.307	0.282	7.622	9.151		4.437
13:36	30.383	0.260	7.465	9.176		4.392
13:37	30.395	0.278	7.468	9.175		4.403
13:38	30.126	0.223	7.671	9.119		4.426
13:39	29.937	0.249	7.807	9.154		4.431
13:40	30.079	0.257	7.529	9.176		4.417
13:41	29.882	0.278	7.780	9.210		4.361
13:42	30.160	0.291	8.158	9.273		4.261
13:43	30.314	0.279	8.037	9.257		4.291
13:44	30.158	0.287	7.893	9.270		4.275
13:45	30.093	0.293	7.981	9.284		4.255
13:46	30.083	0.324	8.502	9.212		4.370
13:47	29.874	0.314	8.135	9.222		4.352
13:48	29.824	0.294	8.058	9.211		4.375
13:49	30.040	0.301	7.663	9.223		4.343
13:50	30.258	0.272	7.951	9.199		4.378
13:51	30.263	0.284	7.822	9.216		4.363
13:52	30.235	0.293	8.208	9.211		4.356
13:53	30.181	0.256	8.303	9.262		4.274
13:54	30.121	0.250	7.886	9.246		4.295
13:55	29.853	0.275	8.068	9.213		4.343
13:56	29.980	0.233	8.145	9.227		4.352
13:57	29.959	0.288	8.440	9.208		4.381
13:58	30.207	0.245	8.255	9.207		4.379
13:59	30.199	0.246	7.995	9.225		4.355
14:00	30.294	0.276	7.815	9.268		4.295
14:01	30.234	0.284	7.984	9.236		4.354
14:02	30.088	0.288	7.986	9.174		4.424
14:03	29.991	0.250	7.970	9.188		4.400
14:04	30.172	0.265	7.837	9.208		4.357
14:05	29.972	0.166	7.755	8.977		4.287
14:06	30.124	0.230	7.699	9.258		4.283
14:07	30.012	0.240	7.595	9.228		4.329
14:08	30.030	0.268	7.793	9.248		4.302
14:09	29.717	0.251	8.095	9.205		4.388
14:10	29.576	0.271	7.831	9.228		4.349

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 13:19
Stop time 14:19

REFERENCE METHOD RUN 3

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
14:11	29.543	0.228	7.923	9.242			4.331
14:12	29.769	0.260	7.831	9.303			4.238
14:13	29.866	0.302	8.080	9.262			4.307
14:14	29.421	0.282	7.872	9.203			4.372
14:15	29.488	0.275	8.036	9.240			4.309
14:16	29.708	0.247	8.095	9.240			4.319
14:17	29.446	0.263	7.987	9.206			4.372
14:18	29.418	0.256	7.795	9.218			4.352
14:19	29.496	0.252	7.963	9.221			4.346

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler A Natural Gas

August 18, 2007
Start Time 14:25
Stop Time 14:32

CALIBRATION BIAS 03

	Channel 1 NOX Aux Boiler A Natural ppmdv	Channel 2 THC Aux Boiler A Natural ppmwv	Channel 3 CO Aux Boiler A Natural ppmdv	Channel 5 CO2 Aux Boiler A Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler A Natural %dv
System Response to Calibration Gasses (C_S)							
C_{of} Zero gas	0.562	-0.094	0.226	0.031			-0.058
C_{uf} Upscale gas	26.499	7.128	17.604	14.016			5.904
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oca} Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mca} Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.2%	-0.9%	0.5%	0.2%			-0.8%
Upscale gas	-0.4%	-1.9%	-2.4%	0.2%			-1.2%
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_{of} Zero gas	0.464	-0.105	0.132	0.035			-0.059
C_{uf} Upscale gas	26.747	7.093	17.609	14.031			5.908
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	0.2%	0.1%	0.2%	0.0%			0.0%
Upscale gas	-0.5%	0.2%	0.0%	-0.1%			0.0%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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14:25:37	29.499	2.585	8.165	9.197		4.401
14:25:52	29.510	1.983	8.221	6.227		3.545
14:26:07	24.159	-0.057	8.191	10.471		5.324
14:26:22	5.942	-0.101	7.303	13.826		5.878
14:26:37	1.159	-0.125	4.728	13.994		5.899
14:26:52	0.595	-0.139	2.048	14.018		5.901
14:27:07	0.562	-0.158	0.512	14.036		5.905
14:27:22	0.562	-0.165	0.123	14.046		5.908
14:27:37	0.562	-0.210	0.043	13.590		5.398
14:27:52	0.562	-0.231	0.511	2.983		0.728
14:28:07	0.562	-0.239	3.628	0.254		-0.016
14:28:22	0.562	-0.238	9.398	0.132		-0.059
14:28:37	0.562	-0.231	14.653	0.103		-0.065
14:28:52	0.562	-0.230	16.909	0.084		-0.065
14:29:07	0.562	-0.236	17.559	0.072		-0.067
14:29:22	0.562	-0.225	17.617	0.064		-0.074
14:29:37	0.562	-0.215	17.600	0.058		-0.074
14:29:52	0.562	-0.179	17.595	0.053		-0.067
14:30:07	4.381	-0.218	17.426	0.073		-0.045
14:30:22	17.431	-0.223	15.310	0.048		-0.072
14:30:37	24.537	-0.218	9.901	0.042		-0.073
14:30:52	26.411	-0.222	4.446	0.040		-0.075
14:31:07	26.520	-0.228	1.502	0.040		-0.073
14:31:22	26.567	5.947	0.847	0.043		-0.045
14:31:37	24.712	7.114	0.752	0.042		-0.055
14:31:52	14.647	7.137	0.709	0.033		-0.074
14:32:07	0.728	7.132	0.666	0.031		-0.080
14:32:22	0.612	5.845	0.648	0.030		-0.073
14:32:37	0.586	0.457	0.641	2.686		1.821
14:32:52	12.697	0.397	1.140	8.652		4.298

QA/QC TR
Date 9/10

USEPA Method 3 Laboratory Data

Location: Auxiliary Boiler B - Natural Gas
Client: Indiantown Cogeneration, L.P.
Project No: 10293
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: J. Reppert
Analyst Emp No: 537

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:		9.10000		4.64000	86.26000	29.64160	1.78681	☑ Fo value within expected range.
2	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		9.13000		4.61000	86.26000	29.64520	1.78423	☑ Fo value within expected range.
3	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		9.44000		4.08000	86.48000	29.67360	1.78178	☑ Fo value within expected range.
	1							
	2							
	3							
	Avg.							
CEM or Other Avg:								☐ Fo value within expected range.

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NKN

QA/QC TR
Date 9/10

USEPA Method 4 Laboratory Data

Location: Auxiliary Boiler B - Natural Gas
Client: Indiantown Cogeneration, L.P.
Project No: 10293

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	DI Water	216.0	100.0	116.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	306.1	300.0	6.1
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
116.0 Liquid (gm)		
0.0 less rinse (gm)		
116.0 Net Liquid (gm)	116.0	☑ QA/QC OK
+ 6.1 Silica Gel (gm)	6.1	☑ QA/QC OK
122.1 Total Vlc (gm)	122.1	☑ QA/QC OK

Test Run: 2

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	217.0	100.0	117.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	305.6	300.0	5.6
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
117.0 Liquid (gm)		
0.0 less rinse (gm)		
117.0 Net Liquid (gm)	117.0	☑ QA/QC OK
+ 5.6 Silica Gel (gm)	5.6	☑ QA/QC OK
122.6 Total Vlc (gm)	122.6	☑ QA/QC OK

Test Run: 3

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	218.0	100.0	118.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	305.8	300.0	5.8
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
118.0 Liquid (gm)		
0.0 less rinse (gm)		
118.0 Net Liquid (gm)	118.0	☑ QA/QC OK
+ 5.8 Silica Gel (gm)	5.8	☑ QA/QC OK
123.8 Total Vlc (gm)	123.8	☑ QA/QC OK

Test Run:

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water			
Impinger 2	DI Water			
Impinger 3	Empty			
Impinger 4	Silica Gel			
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

	Field Data Check	
Liquid (gm)		
less rinse (gm)		
Net Liquid (gm)		☐ QA/QC OK
Silica Gel (gm)		☐ QA/QC OK
Total Vlc (gm)		☐ QA/QC OK

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QA/QC TR
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler B - Natural Gas
Test Run: 1
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever | 535
Probe Operator: Jason McKeever | 535
Test Date: 8/18/07
Start Time: 17:49
Stop Time: 18:49
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 8 "Hg

Bar. Press. (in. Hg): 29.89
Static P: -0.6
O_2 (dry volume %): 4.64
CO_2 (dry volume %): 9.10
N_2+CO (dry volume %): 86.26
H_2O (condensate, ml or gm): 116.0
H_2O (silica, g): 6.1
Actual Moisture (%): 17.00

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{}$in. H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			961.120						
2-01	5.0	0.22	0.70	963.590	404	100	99	0.47	2.47	
2-02	10.0	0.19	0.70	966.020	405	100	99	0.44	2.43	
2-03	15.0	0.22	0.70	968.480	407	99	98	0.47	2.46	
2-04	20.0	0.18	0.70	970.960	408	100	99	0.42	2.48	
2-05	25.0	0.18	0.70	973.430	406	100	99	0.42	2.47	
2-06	30.0	0.16	0.70	975.880	403	100	99	0.40	2.45	
3-01	35.0	0.18	0.70	978.340	397	101	98	0.42	2.46	
3-02	40.0	0.19	0.70	980.770	400	101	99	0.44	2.43	
3-03	45.0	0.20	0.70	983.230	405	102	99	0.45	2.46	
3-04	50.0	0.18	0.70	985.710	406	102	99	0.42	2.48	
3-05	55.0	0.19	0.70	988.160	405	103	99	0.44	2.47	
3-06	60.0	0.15	0.70	990.650	403	103	99	0.39	2.47	
Final	60.0		0.70000	29.53000	404.08333	99.87500		0.43144	29.53000	
18 points sampled		Sq.RLΔP								
QC-Check: Field Averages		0.4314	0.7000	29.5300	404.0833	99.8750				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TP
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler B - Natural Gas
Test Run: 2
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever 535
Probe Operator: Jason McKeever 535
Test Date: 6/18/07
Start Time: 19:03
Stop Time: 20:03
Leak Rate Before: 0.002 cfm @ 15 "Hg
Leak Rate After: 0.003 cfm @ 8 "Hg

Bar. Press. (in. Hg): 29.89
Static P: -0.6
O_2 (dry volume %): 4.61
CO_2 (dry volume %): 9.13
N_2+CO (dry volume %): 86.26
H_2O (condensate, ml or gm): 117.0
H_2O (silica, g): 5.6
Actual Moisture (%): 17.07

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pilot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.\ H_2O}$)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			990.700						
3-01	5.0	0.16	0.70	993.160	414	103	100	0.40	2.46	
3-02	10.0	0.21	0.70	995.620	415	103	100	0.46	2.46	
3-03	15.0	0.20	0.70	998.100	419	103	100	0.45	2.48	
3-04	20.0	0.20	0.70	1000.580	421	103	100	0.45	2.48	
3-05	25.0	0.18	0.70	1003.030	418	104	100	0.42	2.45	
3-06	30.0	0.14	0.70	1005.490	416	104	100	0.37	2.46	
2-01	35.0	0.22	0.70	1007.960	415	104	100	0.47	2.47	
2-02	40.0	0.18	0.70	1010.430	416	104	100	0.42	2.47	
2-03	45.0	0.20	0.70	1012.890	418	105	101	0.45	2.46	
2-04	50.0	0.20	0.70	1015.360	418	105	101	0.45	2.47	
2-05	55.0	0.19	0.70	1017.840	420	105	101	0.44	2.48	
2-06	60.0	0.17	0.70	1020.320	412	105	100	0.41	2.48	
Final	60.0		0.70000	29.62000	416.83333	102.12500		0.43225	29.62000	
18 points sampled		Sq.RLΔP								
QC-Check: Field Averages		0.4323	0.7000	29.6200	416.8333	102.1250				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TR
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler B - Natural Gas
Test Run: 3
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever | 535
Probe Operator: Jason McKeever | 535
Test Date: 8/20/07
Start Time: 09:04
Stop Time: 10:04
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 8 "Hg

Bar. Press. (in. Hg): 29.86
Static P: -0.6
O_2 (dry volume %): 4.08
CO_2 (dry volume %): 9.44
N_2+CO (dry volume %): 86.48
H_2O (condensate, ml or gm): 118.0
H_2O (silica, g): 5.8
Actual Moisture (%): 17.35

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2.
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.\ H_2O}$)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			108.710						
2-01	5.0	0.22	0.70	111.120	414	95	94	0.47	2.41	
2-02	10.0	0.25	0.70	113.530	417	95	95	0.50	2.41	
2-03	15.0	0.26	0.70	115.960	419	96	95	0.51	2.43	
2-04	20.0	0.24	0.70	118.360	419	96	95	0.49	2.40	
2-05	25.0	0.22	0.70	120.790	418	98	95	0.47	2.43	
2-06	30.0	0.21	0.70	123.220	415	98	95	0.46	2.43	
3-01	35.0	0.21	0.70	125.650	413	100	97	0.46	2.43	
3-02	40.0	0.23	0.70	128.090	415	100	97	0.48	2.44	
3-03	45.0	0.24	0.70	130.510	418	101	98	0.49	2.42	
3-04	50.0	0.23	0.70	132.960	417	102	98	0.48	2.45	
3-05	55.0	0.21	0.70	135.380	417	102	99	0.46	2.42	
3-06	60.0	0.18	0.70	137.835	415	103	99	0.42	2.46	
Final	60.0		0.70000	29.12500	416.41667	97.62500		0.47383	29.12500	
18 points sampled		Sq.Rt.ΔP								
QC-Check: Field Averages		0.4738	0.7000	29.1250	416.4167	97.6250				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 16:18
Stop Time 16:25

CALIBRATION BIAS 00

		Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
System Response to Calibration Gasses (C_s)								
C_{cf}	Zero gas	0.684	-0.137	0.328	0.030			-0.048
C_{uf}	Upscale gas	26.498	7.263	17.329	13.987			5.868
Analyzer Calibration Error Reponses (C_{Dir})								
C_{oca}	Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mca}	Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})								
C_{ma}	Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)								
		51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)								
	Zero gas	0.4%	-1.1%	0.7%	0.2%			-0.8%
	Upscale gas	-0.4%	-1.3%	-3.0%	0.0%			-1.4%
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_{zl}	Zero gas	N/A	N/A	N/A	N/A			N/A
C_{ul}	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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	16:18:19	7.163	-0.086	9.092	13.164		5.767
	16:18:34	2.154	-0.117	7.589	13.916		5.865
	16:18:49	0.760	-0.130	4.056	13.970		5.867
	16:19:04	0.684	-0.137	1.573	13.989		5.866
	16:19:19	0.684	-0.144	0.378	14.002		5.870
	16:19:34	0.684	-0.181	0.177	13.945		5.726
	16:19:49	0.684	-0.213	0.428	4.736		1.273
	16:20:04	0.684	-0.223	2.968	0.339		-0.024
	16:20:19	0.684	-0.226	8.282	0.144		-0.056
	16:20:34	0.684	-0.226	13.423	0.108		-0.050
	16:20:49	0.684	-0.228	16.498	0.088		-0.047
	16:21:04	0.684	-0.230	17.225	0.077		-0.049
	16:21:19	0.684	-0.225	17.338	0.067		-0.060
	16:21:34	0.661	-0.212	17.329	0.060		-0.125
	16:21:49	0.615	-0.212	17.319	0.054		-0.130
	16:22:04	0.488	-0.195	17.311	0.055		-0.085
	16:22:19	3.818	-0.212	17.018	0.067		-0.064
	16:22:34	20.348	-0.217	14.676	0.045		-0.127
	16:22:49	25.944	-0.218	9.079	0.041		-0.129
	16:23:04	26.395	-0.220	4.154	0.041		-0.122
	16:23:19	26.445	-0.215	1.419	0.037		-0.126
	16:23:34	26.506	-0.220	0.906	0.035		-0.119
	16:23:49	26.543	6.220	0.812	0.042		-0.036
	16:24:04	19.049	7.266	0.806	0.042		-0.066
	16:24:19	2.901	7.274	0.794	0.031		-0.095
	16:24:34	1.123	7.249	0.742	0.030		-0.121
	16:24:49	0.635	5.413	0.681	0.029		-0.150
	16:25:04	0.720	0.440	0.676	2.963		2.995

QA/QC
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 17:48
Stop time 18:48

REFERENCE METHOD RUN 1

		Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
Calibration Checks								
C_{ol}	Initial zero	0.684	-0.137	0.328	0.030			-0.048
C_{ul}	Initial upscale	26.498	7.263	17.329	13.987			5.868
C_{of}	Final zero	0.562	-0.168	0.664	0.043			-0.065
C_{uf}	Final upscale	26.281	7.052	17.179	13.982			5.939
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	26.115	0.571	20.270	9.111			4.520
C_{Gas}	Bias adjusted	26.158	0.743	21.830	9.095			4.638

Clock Time (at end of sample period)

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17:49	25.679	0.613	19.908	9.009		4.681
17:50	25.952	0.620	20.843	9.054		4.607
17:51	25.785	0.572	19.515	9.048		4.632
17:52	25.829	0.513	17.728	9.009		4.726
17:53	25.980	0.574	17.937	9.055		4.627
17:54	26.102	0.564	19.525	9.045		4.650
17:55	26.150	0.552	19.443	9.034		4.681
17:56	26.105	0.523	18.267	9.000		4.738
17:57	26.009	0.588	18.333	9.030		4.668
17:58	26.124	0.577	19.509	9.076		4.564
17:59	26.055	0.576	20.054	9.075		4.563
18:00	25.945	0.538	19.741	9.060		4.590
18:01	26.224	0.513	18.883	9.071		4.571
18:02	25.945	0.544	19.667	9.060		4.598
18:03	25.907	0.497	19.209	9.037		4.647
18:04	25.910	0.545	18.919	9.055		4.605
18:05	26.080	0.511	18.887	9.054		4.630
18:06	26.217	0.512	18.320	9.106		4.528
18:07	26.190	0.478	18.474	9.050		4.640
18:08	26.206	0.589	18.514	9.079		4.579
18:09	26.194	0.512	19.827	9.086		4.609
18:10	26.269	0.510	18.539	9.043		4.655
18:11	26.115	0.554	18.592	9.038		4.640
18:12	26.010	0.536	19.378	9.074		4.566
18:13	26.221	0.547	19.593	9.146		4.440
18:14	26.219	0.473	20.060	9.117		4.483
18:15	26.273	0.486	19.899	9.107		4.503
18:16	26.294	0.407	19.754	9.086		4.538
18:17	26.333	0.485	18.702	9.120		4.471
18:18	26.240	0.654	21.472	9.187		4.359
18:19	26.273	0.654	22.220	9.206		4.361
18:20	26.386	0.560	22.382	9.152		4.449
18:21	26.329	0.687	21.469	9.190		4.385
18:22	26.330	0.612	22.691	9.156		4.449
18:23	26.351	0.569	20.454	9.124		4.504
18:24	26.268	0.587	20.078	9.152		4.446
18:25	26.072	0.637	21.274	9.140		4.444
18:26	26.114	0.551	21.698	9.158		4.451
18:27	26.143	0.572	20.428	9.162		4.409
18:28	26.345	0.671	22.092	9.195		4.375
18:29	26.183	0.607	21.378	9.144		4.456
18:30	26.202	0.602	21.538	9.167		4.419
18:31	26.211	0.631	21.801	9.164		4.424
18:32	26.241	0.579	22.477	9.168		4.439
18:33	26.131	0.668	22.348	9.170		4.434
18:34	26.135	0.595	22.422	9.132		4.509
18:35	26.226	0.702	22.032	9.186		4.405
18:36	26.078	0.640	23.195	9.172		4.436
18:37	26.060	0.606	20.639	9.148		4.469
18:38	26.054	0.600	20.779	9.157		4.432
18:39	26.096	0.633	20.790	9.127		4.487

QA/QC TP
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 17:48
Stop time 18:48

REFERENCE METHOD RUN 1

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
18:40	26.041	0.611	22.485	9.194			4.365
18:41	26.062	0.576	21.960	9.148			4.453
18:42	26.093	0.464	20.018	9.130			4.493
18:43	26.148	0.469	19.448	9.105			4.545
18:44	25.990	0.626	19.251	9.130			4.494
18:45	26.094	0.520	20.914	9.167			4.432
18:46	25.978	0.517	21.252	9.146			4.489
18:47	25.894	0.534	20.039	9.146			4.492
18:48	25.827	0.810	19.361	9.145			4.490

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 18:48
Stop Time 18:55

CALIBRATION BIAS 01

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
System Response to Calibration Gasses (C_S)							
C_{of} Zero gas	0.562	-0.168	0.664	0.043			-0.065
C_{uf} Upscale gas	26.281	7.052	17.179	13.982			5.939
Analyzer Calibration Error Reponses (C_{DIr})							
C_{oce} Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mce} Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			8.040
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.2%	-1.2%	1.5%	0.3%			-0.9%
Upscale gas	-0.8%	-2.3%	-3.3%	0.0%			-0.9%
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_{of} Zero gas	0.684	-0.137	0.328	0.030			-0.048
C_{uf} Upscale gas	26.498	7.263	17.329	13.987			5.868
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	-0.2%	-0.1%	0.8%	0.1%			-0.1%
Upscale gas	-0.4%	-1.0%	-0.3%	0.0%			0.5%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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18:48:59	13.232	-0.108	19.734	12.581		5.811
18:49:14	1.797	-0.149	15.516	13.894		5.934
18:49:29	0.838	-0.171	7.868	13.977		5.941
18:49:44	0.674	-0.185	2.877	13.998		5.942
18:49:59	0.426	-0.207	0.565	13.972		5.883
18:50:14	0.698	-0.252	0.146	7.998		2.652
18:50:29	0.663	-0.257	1.924	0.587		0.077
18:50:44	0.562	-0.272	6.452	0.159		-0.039
18:50:59	0.562	-0.275	12.579	0.110		-0.053
18:51:14	0.562	-0.275	15.796	0.088		-0.061
18:51:29	0.562	-0.277	16.995	0.076		-0.066
18:51:44	0.562	-0.274	17.157	0.066		-0.080
18:51:59	0.562	-0.272	17.187	0.059		-0.085
18:52:14	0.562	-0.267	17.189	0.053		-0.079
18:52:29	0.601	-0.233	17.162	0.085		-0.027
18:52:44	0.887	-0.275	16.724	0.082		-0.061
18:52:59	14.235	-0.275	13.349	0.044		-0.085
18:53:14	26.004	-0.272	7.936	0.041		-0.083
18:53:29	26.212	-0.274	2.959	0.037		-0.077
18:53:44	26.284	-0.269	1.128	0.036		-0.079
18:53:59	26.347	4.186	0.739	0.044		-0.060
18:54:14	22.112	7.049	0.720	0.064		-0.033
18:54:29	10.317	7.062	0.714	0.033		-0.081
18:54:44	2.939	7.046	0.667	0.031		-0.080
18:54:59	0.661	5.376	0.611	0.030		-0.075
18:55:14	1.015	0.739	0.627	3.209		2.059

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 19:02
Stop time 20:02

REFERENCE METHOD RUN 2

		Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
Calibration Checks								
C_{ol}	Initial zero	0.562	-0.168	0.664	0.043			-0.065
C_{ol}	Initial upscale	26.281	7.052	17.179	13.982			5.939
C_{of}	Final zero	0.611	-0.214	0.618	0.034			-0.055
C_{uf}	Final upscale	26.244	7.261	17.188	13.997			5.909
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	25.234	0.498	19.179	9.150			4.508
C_{Gas}	Bias adjusted	25.381	0.704	20.731	9.131			4.610

Clock Time (at end of sample period)

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19:03	25.606	0.577	19.972	9.145			4.535
19:04	25.538	0.480	19.180	9.136			4.547
19:05	25.690	0.553	18.846	9.138			4.518
19:06	25.694	0.561	20.167	9.120			4.534
19:07	25.578	0.499	20.116	9.133			4.508
19:08	25.534	0.447	19.005	9.109			4.556
19:09	25.458	0.478	18.082	9.131			4.517
19:10	25.532	0.475	18.914	9.111			4.559
19:11	25.446	0.595	19.166	9.156			4.474
19:12	25.175	0.438	20.556	9.123			4.455
19:13	25.402	0.472	19.272	9.151			4.544
19:14	25.374	0.456	17.476	9.114			4.618
19:15	25.397	0.534	17.779	9.138			5.169
19:16	25.324	0.539	20.114	9.144			4.720
19:17	25.327	0.473	18.442	9.124			4.568
19:18	25.392	0.494	18.256	9.155			4.488
19:19	25.287	0.543	19.529	9.164			4.446
19:20	25.132	0.482	19.392	9.184			4.401
19:21	25.195	0.530	19.631	9.191			4.399
19:22	25.189	0.527	20.031	9.172			4.421
19:23	25.377	0.645	20.225	9.223			4.332
19:24	25.324	0.495	22.115	9.175			4.412
19:25	25.191	0.514	19.789	9.182			4.399
19:26	25.213	0.497	20.405	9.168			4.468
19:27	25.222	0.539	20.115	9.151			4.501
19:28	25.155	0.623	19.826	9.157			4.503
19:29	25.084	0.493	21.135	9.174			4.469
19:30	25.127	0.559	19.429	9.179			4.467
19:31	25.019	0.529	20.117	9.196			4.433
19:32	25.021	0.507	20.045	9.202			4.391
19:33	24.960	0.574	19.925	9.187			4.400
19:34	25.097	0.482	20.085	9.185			4.404
19:35	25.065	0.474	19.142	9.179			4.408
19:36	25.241	0.499	19.182	9.187			4.402
19:37	25.140	0.536	19.140	9.154			4.453
19:38	25.105	0.471	19.446	9.161			4.448
19:39	25.155	0.442	19.560	9.149			4.501
19:40	25.158	0.407	18.321	9.138			4.512
19:41	25.278	0.415	18.274	9.141			4.516
19:42	25.168	0.459	17.952	9.114			4.572
19:43	25.080	0.454	18.194	9.134			4.532
19:44	25.057	0.544	18.476	9.150			4.488
19:45	25.067	0.572	19.766	9.143			4.484
19:46	25.087	0.419	19.189	9.155			4.454
19:47	25.029	0.429	18.268	9.138			4.500
19:48	25.199	0.486	18.191	9.137			4.503
19:49	25.287	0.537	18.952	9.117			4.543
19:50	25.166	0.508	19.265	9.151			4.476
19:51	25.277	0.473	18.560	9.123			4.537
19:52	25.073	0.511	18.535	9.141			4.521
19:53	25.196	0.479	19.228	9.167			4.507

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 19:02
Stop time 20:02

REFERENCE METHOD RUN 2

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
19:54	25.214	0.406	18.200	9.122			4.596
19:55	25.214	0.535	18.878	9.163			4.522
19:56	25.060	0.397	19.441	9.123			4.611
19:57	25.080	0.507	16.908	9.131			4.604
19:58	25.084	0.514	18.781	9.158			4.526
19:59	25.048	0.396	19.577	9.126			4.541
20:00	25.139	0.447	17.289	9.125			4.530
20:01	25.118	0.495	17.995	9.131			4.510
20:02	25.190	0.442	18.865	9.131			4.519

QA/QC TP
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 18, 2007
Start Time 20:02
Stop Time 20:09

CALIBRATION BIAS 02

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
System Response to Calibration Gasses (C_S)							
C_{of} Zero gas	0.611	-0.214	0.618	0.034			-0.055
C_{uf} Upscale gas	26.244	7.261	17.188	13.997			5.909
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oca} Zero gas	0.464	0.089	0.001	0.001			0.059
C_{mca} Upscale gas	26.715	7.534	18.633	13.985			6.067
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.3%	-1.4%	1.4%	0.2%			-0.8%
Upscale gas	-0.9%	-1.3%	-3.3%	0.1%			-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_{of} Zero gas	0.562	-0.168	0.664	0.043			-0.065
C_{uf} Upscale gas	26.281	7.052	17.179	13.982			5.939
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	0.1%	-0.2%	-0.1%	-0.1%			0.1%
Upscale gas	-0.1%	1.0%	0.0%	0.1%			-0.2%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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20:02:53	9.473	-0.234	14.726	13.559		5.853
20:03:08	1.212	-0.202	9.389	13.966		5.907
20:03:23	0.759	-0.215	4.028	14.003		5.910
20:03:38	0.684	-0.225	1.226	14.021		5.912
20:03:53	0.677	-0.252	0.195	14.031		5.907
20:04:08	0.655	-0.287	0.172	6.614		1.994
20:04:23	0.611	-0.298	2.346	0.449		0.007
20:04:38	0.611	-0.293	7.260	0.155		-0.059
20:04:53	0.611	-0.304	13.263	0.113		-0.052
20:05:08	0.611	-0.303	16.083	0.092		-0.051
20:05:23	0.611	-0.306	17.120	0.080		-0.050
20:05:38	0.611	-0.307	17.225	0.070		-0.053
20:05:53	0.611	-0.306	17.218	0.063		-0.054
20:06:08	0.611	-0.287	17.191	0.070		-0.034
20:06:23	1.434	-0.293	16.761	0.074		-0.039
20:06:38	18.243	-0.301	14.059	0.051		-0.053
20:06:53	26.050	-0.295	7.997	0.047		-0.055
20:07:08	26.221	-0.303	3.406	0.043		-0.056
20:07:23	26.299	-0.299	1.104	0.042		-0.055
20:07:38	26.213	-0.407	0.698	-0.016		-0.064
20:07:53	26.315	4.291	0.685	0.009		-0.117
20:08:08	21.939	7.267	0.694	0.052		-0.028
20:08:23	7.264	7.266	0.654	0.036		-0.067
20:08:38	1.827	7.249	0.621	0.033		-0.076
20:08:53	0.676	6.670	0.580	0.033		-0.072
20:09:08	0.562	0.794	0.555	0.038		6.278

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 20, 2007
Start Time 8:04
Stop Time 8:14

CALIBRATION BIAS 02 B

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
System Response to Calibration Gasses (C_S)							
C_{cf} Zero gas	0.566	0.004	0.112	0.020			-0.093
C_{uf} Upscale gas	27.408	7.265	17.892	13.996			5.910
Analyzer Calibration Error Reponses (C_{DIr})							
C_{oca} Zero gas	0.561	0.023	0.095	0.003			0.051
C_{mca} Upscale gas	26.789	7.263	18.260	13.997			6.010
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.0%	-0.1%	0.0%	0.1%			-1.0%
Upscale gas	1.2%	0.0%	-0.8%	0.0%			-0.7%
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	N/A	N/A	N/A	N/A			N/A
C_{uf} 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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08:04:01	0.694	7.276	0.676	0.008		-0.108
08:04:16	0.684	7.276	0.693	0.008		-0.111
08:04:31	0.684	7.267	0.696	0.007		-0.124
08:04:46	0.681	7.251	0.666	0.007		-0.122
08:05:01	0.682	7.240	0.659	0.007		-0.118
08:05:16	0.682	10.157	0.677	0.007		-0.040
08:05:31	0.770	5.336	1.810	0.938		2.476
08:05:46	1.180	3.655	10.242	9.867		6.234
08:06:01	2.069	3.697	26.164	12.435		6.819
08:06:16	2.107	3.562	40.455	12.664		6.790
08:06:31	1.988	3.486	43.779	12.672		6.820
08:06:46	1.968	0.052	42.075	13.009		6.493
08:07:01	1.866	0.029	38.039	13.913		5.933
08:07:16	1.005	0.014	26.048	14.007		5.900
08:07:31	0.684	0.010	12.550	14.017		5.902
08:07:46	0.684	0.010	3.871	14.007		5.911
08:08:01	0.682	0.002	0.721	14.000		5.917
08:08:16	0.632	0.000	0.212	13.989		5.924
08:08:31	0.586	-0.002	0.158	13.998		5.922
08:08:46	0.586	0.000	0.123	14.001		5.923
08:09:01	0.586	0.002	0.104	14.002		5.926
08:09:16	0.586	-0.020	0.108	14.006		5.918
08:09:31	0.586	-0.055	0.234	6.888		2.126
08:09:46	0.586	-0.029	2.282	0.455		0.014
08:10:01	0.573	0.065	7.011	0.146		-0.063
08:10:16	0.562	0.254	12.272	0.102		-0.071
08:10:31	0.562	0.391	15.118	0.080		-0.086
08:10:46	0.567	0.496	16.057	0.066		-0.088
08:11:01	0.575	0.547	16.189	0.057		-0.104
08:11:16	0.583	0.554	16.636	0.048		-0.105
08:11:31	0.586	0.549	17.908	0.043		-0.106
08:11:46	0.586	0.519	17.898	0.039		-0.104
08:12:01	0.586	0.493	17.888	0.035		-0.110
08:12:16	0.586	0.472	17.890	0.032		-0.107
08:12:31	0.586	0.461	17.900	0.029		-0.115
08:12:46	0.586	0.309	17.887	0.034		-0.097
08:13:01	3.204	0.075	17.446	0.038		-0.099
08:13:16	20.674	0.054	14.140	0.024		-0.109
08:13:31	27.145	0.036	8.309	0.020		-0.115
08:13:46	27.316	0.027	3.277	0.020		-0.115

QA/QC J.R
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 20, 2007
Start Time 8:04
Stop Time 8:14

CALIBRATION BIAS 02 B

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
08:14:01	27.404	0.016	1.239	0.019			-0.112
08:14:16	27.412	0.005	0.882	0.018			-0.110
08:14:31	27.407	-0.002	0.853	0.018			-0.114
08:14:46	27.397	13.867	0.857	0.039			0.328

QA/QC J.R.
Date 9/18

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 20, 2007
Start Time 9:03
Stop time 10:03

REFERENCE METHOD RUN 3

		Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
Calibration Checks								
C_{oi}	Initial zero	0.566	0.004	0.112	0.020			-0.093
C_{if}	Initial upscale	27.408	7.265	17.892	13.996			5.910
C_{of}	Final zero	0.578	0.031	0.660	0.029			-0.092
C_{uf}	Final upscale	27.001	7.347	17.698	14.019			5.925
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	27.049	0.730	27.884	9.471			3.963
C_{Gas}	Bias adjusted	26.285	0.735	29.221	9.445			4.075

Clock Time (at end of sample period) 090407 100929						
09:04	26.508	0.867	30.278	9.453		3.876
09:05	26.471	0.853	31.918	9.495		3.897
09:06	26.734	0.882	32.076	9.466		3.947
09:07	26.599	0.772	28.359	9.467		3.938
09:08	26.630	0.748	30.743	9.478		3.927
09:09	26.930	0.868	28.887	9.464		3.921
09:10	27.069	0.820	30.781	9.512		3.855
09:11	26.821	0.845	30.027	9.479		3.912
09:12	26.795	0.797	30.905	9.471		3.921
09:13	26.898	0.705	28.123	9.370		4.078
09:14	26.952	0.838	25.959	9.420		3.989
09:15	26.958	0.866	29.569	9.519		3.842
09:16	26.802	0.745	30.251	9.436		4.000
09:17	26.932	0.815	28.831	9.462		3.959
09:18	26.855	0.720	27.299	9.376		4.085
09:19	26.705	0.737	26.989	9.470		3.947
09:20	26.879	0.569	25.362	9.337		4.159
09:21	27.032	0.736	22.710	9.355		4.100
09:22	26.822	0.814	25.894	9.451		3.942
09:23	27.139	0.750	31.082	9.539		3.821
09:24	27.223	0.742	30.732	9.506		3.882
09:25	27.190	0.798	29.964	9.550		3.834
09:26	27.203	0.777	29.324	9.492		3.921
09:27	27.067	0.639	27.943	9.425		4.032
09:28	27.033	0.800	26.096	9.462		3.964
09:29	26.947	0.744	30.311	9.486		3.918
09:30	27.017	0.784	28.459	9.492		3.901
09:31	27.115	0.793	28.897	9.523		3.858
09:32	27.249	0.678	27.193	9.419		4.018
09:33	27.504	0.643	24.662	9.447		3.973
09:34	27.386	0.639	27.239	9.400		4.044
09:35	27.088	0.727	25.522	9.487		3.933
09:36	27.069	0.820	28.004	9.453		3.993
09:37	27.020	0.682	27.968	9.473		3.967
09:38	26.940	0.695	26.492	9.436		4.017
09:39	26.835	0.666	27.537	9.474		3.964
09:40	26.989	0.739	26.969	9.456		3.989
09:41	26.804	0.786	27.208	9.493		3.938
09:42	26.998	0.790	28.550	9.514		3.902
09:43	26.935	0.724	28.105	9.531		4.061
09:44	27.184	0.750	28.416	9.507		4.024
09:45	27.396	0.652	28.291	9.498		3.917
09:46	27.091	0.742	27.690	9.498		3.927
09:47	27.225	0.821	27.957	9.560		3.851
09:48	27.133	0.777	30.471	9.558		3.965
09:49	27.338	0.701	28.982	9.531		3.874
09:50	27.269	0.624	29.494	9.485		3.953
09:51	27.228	0.683	27.682	9.461		4.009
09:52	27.098	0.668	27.157	9.470		3.990
09:53	27.037	0.665	28.583	9.479		3.975
09:54	27.340	0.594	26.715	9.508		3.944

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 20, 2007
Start Time 9:03
Stop time 10:03

REFERENCE METHOD RUN 3

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
09:55	27.182	0.690	26.240	9.452			4.026
09:56	27.467	0.670	25.828	9.485			3.974
09:57	27.401	0.547	25.374	9.449			4.025
09:58	27.278	0.672	24.505	9.492			4.117
09:59	27.233	0.590	25.149	9.421			4.081
10:00	27.321	0.691	24.373	9.466			3.981
10:01	27.315	0.619	27.016	9.409			4.065
10:02	27.178	0.581	24.462	9.485			3.946
10:03	27.066	0.697	25.412	9.517			3.897

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Natural Gas

August 20, 2007
Start Time 10:04
Stop Time 10:12

CALIBRATION BIAS 01

	Channel 1 NOX Aux Boiler B Natural ppmdv	Channel 2 THC Aux Boiler B Natural ppmwv	Channel 3 CO Aux Boiler B Natural ppmdv	Channel 5 CO2 Aux Boiler B Natural %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Natural %dv
System Response to Calibration Gasses (C_S)							
C_{of} Zero gas	0.578	0.031	0.660	0.029			-0.092
C_{uf} Upscale gas	27.001	7.347	17.698	14.019			5.925
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oce} Zero gas	0.561	0.023	0.095	0.003			0.051
C_{mce} Upscale gas	26.789	7.263	18.260	13.997			6.010
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)							
	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.0%	0.0%	1.3%	0.2%			-1.0%
Upscale gas	0.4%	0.4%	-1.3%	0.2%			-0.6%
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_{of} Zero gas	0.566	0.004	0.112	0.020			-0.093
C_{uf} Upscale gas	27.408	7.265	17.892	13.998			5.910
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	0.0%	0.1%	1.3%	0.1%			0.0%
Upscale gas	-0.8%	0.4%	-0.4%	0.2%			0.1%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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10:04:48	27.131	1.486	28.392	9.511		3.937
10:05:03	27.129	0.778	28.436	6.936		3.647
10:05:18	22.098	0.093	27.499	9.543		5.253
10:05:33	7.108	0.062	21.468	13.757		5.896
10:05:48	1.979	0.028	12.648	13.978		5.924
10:06:03	0.768	0.003	4.640	14.007		5.924
10:06:18	0.674	-0.003	1.320	14.021		5.927
10:06:33	0.684	-0.002	0.203	14.029		5.925
10:06:48	0.687	-0.073	0.079	11.879		4.365
10:07:03	0.659	-0.085	1.088	1.451		0.273
10:07:18	0.659	-0.095	5.001	0.200		-0.055
10:07:33	0.648	-0.096	11.454	0.119		-0.073
10:07:48	0.573	-0.098	15.460	0.093		-0.077
10:08:03	0.573	-0.101	17.368	0.077		-0.079
10:08:18	0.578	-0.103	17.712	0.067		-0.081
10:08:33	0.578	-0.100	17.730	0.059		-0.084
10:08:48	0.578	-0.073	17.698	0.053		-0.084
10:09:03	0.576	-0.042	17.666	0.047		-0.085
10:09:18	0.899	-0.072	17.625	0.057		-0.047
10:09:33	3.573	-0.081	16.391	0.044		-0.079
10:09:48	20.094	-0.083	12.249	0.038		-0.086
10:10:03	26.826	-0.080	5.851	0.035		-0.086
10:10:18	27.007	-0.073	2.221	0.033		-0.088
10:10:33	26.994	-0.078	0.864	0.031		-0.090
10:10:48	26.999	-0.075	0.727	0.029		-0.099
10:11:03	27.011	-0.075	0.728	0.027		-0.106
10:11:18	27.059	6.593	0.715	0.033		-0.067
10:11:33	25.408	7.357	0.686	0.031		-0.094
10:11:48	8.103	7.345	0.682	0.024		-0.114
10:12:03	0.921	7.339	0.633	0.021		-0.113
10:12:18	0.706	7.310	0.601	0.021		-0.118
10:12:33	0.344	6.924	0.553	-1.696		-0.173
10:12:48	0.573	1.068	0.578	0.025		5.328

QA/QC TB
Date 9/10

USEPA Method 3 Laboratory Data

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

Location: Auxiliary Boiler B - Propane
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Method: EPA Method 3A
Fuel Type: Propane
F_o for Fuel: 1.434 to 1.586

Analyst: J. Reppert
Analyst Emp No: 537

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:		10.10000		5.47000	84.43000	29.83480	1.52772	☑ Fo value within expected range.
2	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		10.14000		5.36000	84.50000	29.83680	1.53254	☑ Fo value within expected range.
3	1							
	2							
	3							
	Avg.							
CEM or Other Avg:		10.18000		5.33000	84.49000	29.84200	1.52947	☑ Fo value within expected range.
	1							
	2							
	3							
	Avg.							
CEM or Other Avg:								☐ Fo value within expected range.

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QA/QC TP
Date 9/10

USEPA Method 4 Laboratory Data

Location: Auxiliary Boiler B - Propane
Client: Indiantown Cogeneration, L.P.
Project No: 10293

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	DI Water	194.0	100.0	94.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	304.5	300.0	4.5
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
94.0	Liquid (gm)		
0.0	less rinse (gm)		
94.0	Net Liquid (gm)	94.0	☑ QA/QC OK
+ 4.5	Silica Gel (gm)	4.5	☑ QA/QC OK
98.5	Total Vlc (gm)	98.5	☑ QA/QC OK

Test Run: 2

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	191.0	100.0	91.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	304.7	300.0	4.7
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
91.0	Liquid (gm)		
0.0	less rinse (gm)		
91.0	Net Liquid (gm)	91.0	☑ QA/QC OK
+ 4.7	Silica Gel (gm)	4.7	☑ QA/QC OK
95.7	Total Vlc (gm)	95.7	☑ QA/QC OK

Test Run: 3

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water	197.0	100.0	97.0
Impinger 2	DI Water	100.0	100.0	0.0
Impinger 3	Empty	0.0	0.0	0.0
Impinger 4	Silica Gel	304.3	300.0	4.3
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
97.0	Liquid (gm)		
0.0	less rinse (gm)		
97.0	Net Liquid (gm)	97.0	☑ QA/QC OK
+ 4.3	Silica Gel (gm)	4.3	☑ QA/QC OK
101.3	Total Vlc (gm)	101.3	☑ QA/QC OK

Test Run:

	Contents	Gross (gm)	Tare (gm)	Net (gm)
Impinger 1	DI Water			
Impinger 2	DI Water			
Impinger 3	Empty			
Impinger 4	Silica Gel			
Impinger 5				
Impinger 6				
Impinger 7				
Impinger 8				

Rinse: (ml or gm)

		Field Data Check	
	Liquid (gm)		
	less rinse (gm)		
	Net Liquid (gm)		☐ QA/QC OK
	Silica Gel (gm)		☐ QA/QC OK
	Total Vlc (gm)		☐ QA/QC OK

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QA/QC TR
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler B - Propane
Test Run: 1
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever | 535
Probe Operator: Jason McKeever | 535
Test Date: 8/19/07
Start Time: 08:40
Stop Time: 09:40
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 7 "Hg

Bar. Press. (in. Hg): 29.84
Static P: -0.5
O_2 (dry volume %): 5.47
CO_2 (dry volume %): 10.10
N_2+CO (dry volume %): 84.43
H_2O (condensate, ml or gm): 94.0
H_2O (silica, g): 4.5
Actual Moisture (%): 14.10

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s	Sample ΔH	Metered	Stack	Dry Gas Meter		$\sqrt{\Delta P_s}$	Volume	Isokinetics
				(dcf)	T_s	$T_{m\text{-}in}$	$T_{m\text{-}out}$	(calculated)	(calculated)	(calculated)
	0.0	(in. H_2O)	(in. H_2O)	20.350	(°F)	(°F)	(°F)	($\sqrt{}$in. H_2O)	(ft^3)	(%)
2-01	5.0	0.18	0.70	22.780	390	86	86	0.40	2.43	
2-02	10.0	0.14	0.70	25.210	392	86	86	0.37	2.43	
2-03	15.0	0.15	0.70	27.620	395	87	86	0.39	2.41	
2-04	20.0	0.17	0.70	30.080	396	88	86	0.41	2.46	
2-05	25.0	0.18	0.70	32.500	396	88	87	0.42	2.42	
2-06	30.0	0.14	0.70	34.930	392	90	87	0.37	2.43	
3-01	35.0	0.15	0.70	37.340	393	91	88	0.39	2.41	
3-02	40.0	0.17	0.70	39.770	394	93	89	0.41	2.43	
3-03	45.0	0.17	0.70	42.220	394	93	89	0.41	2.45	
3-04	50.0	0.16	0.70	44.650	394	94	89	0.40	2.43	
3-05	55.0	0.14	0.70	47.100	392	95	90	0.37	2.45	
3-06	60.0	0.13	0.70	49.535	390	95	90	0.36	2.44	
Final	60.0		0.70000	29.18500	393.16667	89.12500		0.39324	29.18500	
18 points sampled		Sq.RLΔP								
QC-Check: Field Averages		0.3932	0.7000	29.1850	393.1667	89.1250				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TR
Date 9/10

Field Data Printout

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

Location: Auxiliary Boiler B - Propane
Test Run: 2
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever 535
Probe Operator: Jason McKeever 535
Test Date: 8/19/07
Start Time: 09:55
Stop Time: 10:55
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 7 "Hg

Bar. Press. (in. Hg): 29.84
Static P: -0.5
O_2 (dry volume %): 5.36
CO_2 (dry volume %): 10.14
N_2+CO (dry volume %): 84.50
H_2O (condensate, ml or gm): 91.0
H_2O (silica, g): 4.7
Actual Moisture (%): 13.87

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pilot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pitot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{}$in. H_2O)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			49.585						
3-01	5.0	0.15	0.70	52.010	400	98	95	0.39	2.43	
3-02	10.0	0.16	0.70	54.450	402	98	95	0.40	2.44	
3-03	15.0	0.16	0.70	56.900	404	99	95	0.40	2.45	
3-04	20.0	0.18	0.70	59.360	404	99	96	0.42	2.46	
3-05	25.0	0.15	0.70	61.840	403	100	96	0.39	2.48	
3-06	30.0	0.13	0.70	64.270	401	101	96	0.36	2.43	
2-01	35.0	0.15	0.70	66.720	400	101	98	0.39	2.45	
2-02	40.0	0.16	0.70	69.190	401	101	97	0.40	2.47	
2-03	45.0	0.18	0.70	71.630	404	102	97	0.42	2.44	
2-04	50.0	0.17	0.70	74.090	402	103	98	0.41	2.46	
2-05	55.0	0.16	0.70	76.550	402	103	98	0.40	2.46	
2-06	60.0	0.13	0.70	79.005	400	103	99	0.36	2.46	
Final	60.0		0.70000	29.42000	401.91667	98.58333		0.39532	29.42000	
18 points sampled		Sq.Rt.ΔP								
QC-Check: Field Averages		0.3953	0.7000	29.4200	401.9167	98.5833				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC Date TP 9/10

Field Data Printout

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

Location: Auxiliary Boiler B - Propane
Test Run: 3
Client: Indiantown Cogeneration, L.P.
Project No: 10293
Source Area (ft^2): 33.18307
Meter Operator: Jason McKeever 535
Probe Operator: Jason McKeever 535
Test Date: 8/19/07
Start Time: 11:19
Stop Time: 12:19
Leak Rate Before: 0.001 cfm @ 15 "Hg
Leak Rate After: 0.002 cfm @ 8 "Hg

Bar. Press. (in. Hg): 29.84
Static P: -0.5
O_2 (dry volume %): 5.33
CO_2 (dry volume %): 10.18
N_2+CO (dry volume %): 84.49
H_2O (condensate, ml or gm): 97.0
H_2O (silica, g): 4.3
Actual Moisture (%): 14.72

Nozzle ID No: N/A
Nozzle Diameter (D_n): N/A
Probe ID No: TP-96-2
Pitot C_p: 0.84
Pitot Leak Check: ☑ Pass ☐ Fail
Meter Box ID. No: 68-F
Meter ΔH@: 1.69250
Meter Y_d: 1.00750

Traverse Point	Run Time 5.0 min/read	Pilot ΔP_s (in. H_2O)	Sample ΔH (in. H_2O)	Metered (dcf)	Stack T_s (°F)	Dry Gas Meter $T_{m\text{-}in}$ (°F)	Dry Gas Meter $T_{m\text{-}out}$ (°F)	$\sqrt{\Delta P_s}$ (calculated) ($\sqrt{in.\ H_2O}$)	Volume (calculated) (ft^3)	Isokinetics (calculated) (%)
	0.0			79.200						
2-01	5.0	0.16	0.70	81.610	400	101	100	0.40	2.41	
2-02	10.0	0.18	0.70	84.040	404	101	100	0.42	2.43	
2-03	15.0	0.16	0.70	86.470	405	101	100	0.40	2.43	
2-04	20.0	0.15	0.70	88.890	405	102	100	0.39	2.42	
2-05	25.0	0.16	0.70	91.330	405	102	100	0.40	2.44	
2-06	30.0	0.14	0.70	93.770	402	102	100	0.37	2.44	
3-01	35.0	0.13	0.70	96.210	398	104	100	0.36	2.44	
3-02	40.0	0.16	0.70	98.650	404	104	100	0.40	2.44	
3-03	45.0	0.17	0.70	101.090	405	105	99	0.41	2.44	
3-04	50.0	0.16	0.70	103.520	406	105	99	0.40	2.43	
3-05	55.0	0.16	0.70	105.960	405	106	99	0.40	2.44	
3-06	60.0	0.13	0.70	108.400	402	106	100	0.36	2.44	
Final	60.0		0.70000	29.20000	403.41667	101.50000		0.39326	29.20000	
18 points sampled		Sq.Rt.ΔP								
QC-Check: Field Averages		0.3933	0.7000	29.2000	403.4167	101.5000				
		☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK	☑ Avg. OK				

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QA/QC TP
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 8:03
Stop Time 8:11

CALIBRATION BIAS 00

		Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
System Response to Calibration Gasses (C_S)								
C_{cf}	Zero gas	0.571	0.033	0.087	0.011			-0.074
C_{uf}	Upscale gas	27.826	7.498	17.740	13.978			5.989
Analyzer Calibration Error Reponses (C_{Dir})								
C_{oce}	Zero gas	0.586	-0.002	0.000	0.010			0.001
C_{mce}	Upscale gas	25.916	7.488	18.430	14.012			5.986
Actual Upscale Gas Value (C_{MA})								
C_{ma}	Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)								
		51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)								
	Zero gas	0.0%	0.2%	0.2%	0.0%			-0.5%
	Upscale gas	3.7%	0.0%	-1.6%	-0.2%			0.0%
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_{cl}	Zero gas	N/A	N/A	N/A	N/A			N/A
C_{ul}	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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08:03:01	0.583	7.476	0.647	0.012		-0.074
08:03:16	0.575	7.499	0.647	0.012		-0.074
08:03:31	0.567	7.503	0.654	0.011		-0.073
08:03:46	0.573	7.492	0.656	0.011		-0.075
08:04:01	0.573	7.492	0.640	0.011		-0.075
08:04:16	0.581	7.007	0.646	0.012		-0.060
08:04:31	1.034	0.790	0.654	2.002		1.852
08:04:46	1.879	0.182	0.628	11.850		5.652
08:05:01	1.475	0.125	0.508	13.570		5.988
08:05:16	1.216	0.106	0.348	13.731		5.990
08:05:31	1.203	0.096	0.231	13.939		5.991
08:05:46	1.128	0.083	0.120	13.997		5.990
08:06:01	0.985	0.070	0.090	13.998		5.989
08:06:16	0.955	0.062	0.085	13.998		5.988
08:06:31	0.972	0.125	0.085	13.817		6.024
08:06:46	1.078	0.000	0.238	7.608		2.549
08:07:01	0.752	-0.011	1.856	0.529		0.039
08:07:16	0.569	0.019	7.241	0.144		-0.056
08:07:31	0.572	0.086	12.826	0.099		-0.066
08:07:46	0.599	0.186	16.492	0.077		-0.079
08:08:01	0.591	0.256	17.573	0.064		-0.147
08:08:16	0.572	0.283	17.754	0.054		-0.165
08:08:31	0.591	0.285	17.731	0.047		-0.192
08:08:46	0.596	0.283	17.735	0.043		-0.238
08:09:01	0.590	0.300	17.739	0.039		-0.250
08:09:16	0.575	0.075	17.687	0.045		-0.183
08:09:31	9.446	0.046	16.730	0.036		-0.225
08:09:46	27.469	0.031	12.158	0.031		-0.110
08:10:01	27.754	0.022	6.418	0.030		-0.102
08:10:16	27.827	0.016	2.189	0.028		-0.101
08:10:31	27.896	0.011	0.972	0.026		-0.118
08:10:46	27.943	0.005	0.744	0.024		-0.111
08:11:01	27.934	0.527	0.733	0.262		0.361
08:11:16	27.456	0.466	0.756	7.215		5.079

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 8:39
Stop time 9:39

REFERENCE METHOD RUN 1

		Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
Calibration Checks								
C_{zi}	Initial zero	0.571	0.033	0.087	0.011			-0.074
C_{si}	Initial upscale	27.826	7.498	17.740	13.978			5.989
C_{zf}	Final zero	0.562	0.009	0.109	0.037			-0.072
C_{sf}	Final upscale	27.913	7.251	17.707	14.092			5.937
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	25.072	0.158	2.202	10.150			5.395
C_{Gas}	Bias adjusted	23.731	0.141	2.209	10.103			5.472

Clock Time (at end of sample period)						
050407 100951						
	08:40	24.500	0.117	2.113	10.044	5.539
	08:41	24.508	0.172	2.217	10.089	5.512
	08:42	24.671	0.179	2.314	10.083	5.506
	08:43	24.658	0.178	2.171	10.085	5.491
	08:44	24.630	0.169	2.139	10.078	5.505
	08:45	24.816	0.162	2.168	10.085	5.503
	08:46	24.650	0.163	2.205	10.082	5.487
	08:47	24.725	0.154	2.211	10.079	5.489
	08:48	24.723	0.145	2.079	10.056	5.549
	08:49	24.722	0.163	2.092	10.059	5.541
	08:50	24.672	0.165	2.191	10.061	5.543
	08:51	24.736	0.156	2.178	10.043	5.552
	08:52	24.865	0.156	2.040	10.062	5.518
	08:53	24.863	0.158	2.069	10.026	5.566
	08:54	24.872	0.130	2.143	10.042	5.550
	08:55	25.219	0.142	1.989	10.009	5.590
	08:56	25.415	0.141	2.069	9.989	5.614
	08:57	25.405	0.152	1.996	9.983	5.617
	08:58	25.468	0.151	2.057	9.962	5.652
	08:59	25.553	0.145	1.949	9.959	5.670
	09:00	25.329	0.147	2.073	9.989	5.832
	09:01	24.958	0.152	2.046	10.061	5.657
	09:02	25.014	0.188	2.127	10.110	5.842
	09:03	24.794	0.185	2.269	10.159	5.385
	09:04	24.699	0.234	2.314	10.174	5.360
	09:05	24.822	0.219	2.319	10.147	5.404
	09:06	25.108	0.202	2.223	10.123	5.433
	09:07	25.348	0.170	2.204	10.082	5.499
	09:08	25.241	0.168	2.151	10.146	5.386
	09:09	25.100	0.172	2.252	10.167	5.353
	09:10	25.185	0.163	2.291	10.154	5.373
	09:11	25.380	0.142	2.190	10.114	5.426
	09:12	25.463	0.138	2.164	10.157	5.360
	09:13	25.277	0.132	2.250	10.192	5.313
	09:14	25.482	0.136	2.253	10.176	5.331
	09:15	25.262	0.161	2.293	10.221	5.269
	09:16	25.128	0.165	2.277	10.171	5.344
	09:17	24.972	0.167	2.266	10.229	5.280
	09:18	24.991	0.166	2.296	10.218	5.277
	09:19	25.190	0.181	2.238	10.190	5.313
	09:20	25.253	0.184	2.228	10.225	5.272
	09:21	25.042	0.186	2.186	10.184	5.331
	09:22	25.057	0.181	2.165	10.206	5.286
	09:23	25.233	0.190	2.236	10.203	5.283
	09:24	25.477	0.173	2.121	10.164	5.327
	09:25	25.230	0.162	2.239	10.243	5.229
	09:26	25.168	0.154	2.241	10.214	5.259
	09:27	25.048	0.158	2.244	10.261	5.215
	09:28	24.990	0.151	2.365	10.263	5.199
	09:29	25.151	0.127	2.208	10.260	5.219
	09:30	25.154	0.131	2.275	10.296	5.172

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 8:39
Stop time 9:39

REFERENCE METHOD RUN 1

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
09:31	25.185	0.154	2.441	10.320			5.116
09:32	25.077	0.154	2.333	10.302			5.146
09:33	25.324	0.146	2.292	10.315			5.124
09:34	25.270	0.146	2.246	10.299			5.154
09:35	25.382	0.141	2.264	10.252			5.218
09:36	25.210	0.139	2.260	10.289			5.167
09:37	25.239	0.098	2.369	10.285			5.155
09:38	25.308	0.128	2.260	10.262			5.224
09:39	25.100	0.115	2.273	10.288			5.189

QA/QC JR
Date 9/16

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 9:44
Stop Time 9:50

CALIBRATION BIAS 01

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
System Response to Calibration Gasses (C_S)							
C_{cf} Zero gas	0.562	0.009	0.109	0.037			-0.072
C_{uf} Upscale gas	27.913	7.251	17.707	14.092			5.937
Analyzer Calibration Error Reponses (C_{Dir})							
C_{zce} Zero gas	0.586	-0.002	0.000	0.010			0.001
C_{mce} Upscale gas	25.916	7.488	18.430	14.012			5.986
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.0%	0.0%	0.2%	0.2%			-0.5%
Upscale gas	3.9%	-1.1%	-1.7%	0.6%			-0.4%
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_{cl} Zero gas	0.571	0.033	0.087	0.011			-0.074
C_{ul} Upscale gas	27.826	7.498	17.740	13.978			5.989
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	0.0%	-0.1%	0.1%	0.2%			0.0%
Upscale gas	0.2%	-1.2%	-0.1%	0.8%			-0.4%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

090407 100951

09:44:01	1.426	0.018	2.841	14.070		5.938
09:44:16	1.345	0.018	1.367	14.084		5.937
09:44:31	1.343	0.006	0.322	14.092		5.935
09:44:46	1.164	0.002	0.122	14.099		5.938
09:45:01	1.074	-0.011	0.098	14.092		5.934
09:45:16	1.059	-0.075	0.106	9.509		3.299
09:45:31	0.795	-0.071	1.579	0.827		0.105
09:45:46	0.672	-0.071	5.981	0.189		-0.053
09:46:01	0.675	-0.073	12.663	0.132		-0.065
09:46:16	0.594	-0.062	16.060	0.108		-0.072
09:46:31	0.562	-0.055	17.522	0.090		-0.077
09:46:46	0.562	-0.018	17.725	0.079		-0.089
09:47:01	0.562	0.018	17.715	0.071		-0.096
09:47:16	0.562	0.050	17.705	0.064		-0.100
09:47:31	0.562	0.080	17.701	0.061		-0.090
09:47:46	4.400	0.008	17.585	0.083		-0.068
09:48:01	13.623	0.011	15.165	0.055		-0.104
09:48:16	25.351	0.018	9.735	0.052		-0.110
09:48:31	27.747	0.016	3.915	0.048		-0.110
09:48:46	27.824	0.010	1.571	0.045		-0.112
09:49:01	27.935	0.002	0.821	0.043		-0.112
09:49:16	27.979	4.547	0.757	0.043		-0.087
09:49:31	27.770	7.258	0.739	0.061		-0.059
09:49:46	16.993	7.261	0.726	0.039		-0.104
09:50:01	0.889	7.235	0.684	0.036		-0.103
09:50:16	0.703	4.796	0.650	0.035		-0.106
09:50:31	0.593	0.301	0.642	4.375		2.865

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 9:54
Stop time 10:54

REFERENCE METHOD RUN 2

		Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
Calibration Checks								
C_{ol}	Initial zero	0.562	0.009	0.109	0.037			-0.072
C_{ul}	Initial upscale	27.913	7.251	17.707	14.092			5.937
C_{of}	Final zero	0.611	-0.023	0.092	0.039			-0.058
C_{uf}	Final upscale	28.005	7.435	17.774	14.106			5.905
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	26.418	0.175	2.059	10.238			5.244
C_{Gas}	Bias adjusted	24.951	0.186	2.054	10.142			5.356

Clock Time (at end of sample period)							
080407 100951							
	09:55	25.781	0.164	2.106	10.239		5.235
	09:56	25.795	0.156	2.231	10.273		5.191
	09:57	25.838	0.171	2.132	10.235		5.252
	09:58	25.981	0.173	2.047	10.235		5.247
	09:59	25.851	0.171	2.134	10.250		5.216
	10:00	25.972	0.250	2.187	10.231		5.241
	10:01	26.008	0.300	2.073	10.236		5.230
	10:02	26.288	0.303	2.072	10.255		5.212
	10:03	26.408	0.289	2.189	10.215		5.263
	10:04	26.393	0.274	1.976	10.261		5.205
	10:05	26.322	0.268	2.135	10.232		5.243
	10:06	26.465	0.266	2.113	10.198		5.272
	10:07	26.167	0.266	2.172	10.263		5.205
	10:08	26.178	0.254	2.089	10.251		5.234
	10:09	26.167	0.249	2.057	10.239		5.253
	10:10	26.399	0.227	2.126	10.227		5.263
	10:11	26.479	0.219	2.066	10.213		5.284
	10:12	26.724	0.212	2.123	10.196		5.312
	10:13	26.578	0.196	1.952	10.183		5.308
	10:14	26.281	0.205	1.957	10.236		5.230
	10:15	26.463	0.183	2.066	10.229		5.249
	10:16	26.419	0.187	2.046	10.250		5.222
	10:17	26.468	0.179	2.122	10.254		5.218
	10:18	26.767	0.167	2.020	10.188		5.306
	10:19	26.665	0.150	1.963	10.207		5.279
	10:20	26.385	0.151	2.000	10.219		5.285
	10:21	26.545	0.155	2.070	10.164		5.358
	10:22	26.404	0.164	1.866	10.227		5.268
	10:23	26.160	0.175	1.999	10.242		5.249
	10:24	26.302	0.174	2.040	10.221		5.262
	10:25	26.273	0.162	2.054	10.258		5.217
	10:26	26.241	0.144	2.045	10.246		5.220
	10:27	26.372	0.159	2.072	10.260		5.213
	10:28	26.532	0.141	2.032	10.219		5.261
	10:29	26.535	0.155	2.007	10.239		5.226
	10:30	26.337	0.144	2.200	10.284		5.173
	10:31	26.416	0.134	2.166	10.255		5.244
	10:32	26.224	0.139	2.084	10.255		5.237
	10:33	26.498	0.153	2.021	10.235		5.256
	10:34	26.713	0.138	2.007	10.221		5.277
	10:35	26.697	0.150	1.974	10.221		5.279
	10:36	26.681	0.136	1.989	10.243		5.246
	10:37	26.667	0.132	1.979	10.258		5.214
	10:38	26.753	0.127	2.008	10.228		5.251
	10:39	26.622	0.145	1.985	10.201		5.288
	10:40	26.733	0.148	1.994	10.236		5.233
	10:41	26.598	0.127	1.996	10.230		5.246
	10:42	26.521	0.133	2.025	10.251		5.225
	10:43	26.403	0.116	2.120	10.260		5.195
	10:44	26.379	0.128	2.167	10.308		5.161
	10:45	26.305	0.117	2.093	10.300		5.173

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 9:54
Stop time 10:54

REFERENCE METHOD RUN 2

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
10:46	26.329	0.114	1.988	10.238			5.264
10:47	26.564	0.114	1.961	10.228			5.268
10:48	26.405	0.124	2.034	10.265			5.227
10:49	26.734	0.104	2.047	10.240			5.253
10:50	26.985	0.110	2.008	10.235			5.248
10:51	26.801	0.097	2.057	10.253			5.230
10:52	26.776	0.117	2.055	10.270			5.213
10:53	26.592	0.111	2.153	10.250			5.237
10:54	26.723	0.381	2.116	10.236			5.246

QA/QC TP
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 10:56
Stop Time 11:02

CALIBRATION BIAS 02

		Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
System Response to Calibration Gasses (C_S)								
C_{zf}	Zero gas	0.611	-0.023	0.092	0.039			-0.058
C_{uf}	Upscale gas	28.005	7.435	17.774	14.106			5.905
Analyzer Calibration Error Reponses (C_{Dir})								
C_{zce}	Zero gas	0.586	-0.002	0.000	0.010			0.001
C_{mce}	Upscale gas	25.916	7.488	18.430	14.012			5.986
Actual Upscale Gas Value (C_{MA})								
C_{ma}	Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)								
		51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)								
	Zero gas	0.0%	-0.1%	0.2%	0.2%			-0.4%
	Upscale gas	4.1%	-0.3%	-1.5%	0.7%			-0.6%
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_{zl}	Zero gas	0.562	0.009	0.109	0.037			-0.072
C_{ul}	Upscale gas	27.913	7.251	17.707	14.092			5.937
Drift Assessment as Percent of Calibration Span Value (D) (3%)								
	Zero gas	0.1%	-0.2%	0.0%	0.0%			0.1%
	Upscale gas	0.2%	0.9%	0.2%	0.1%			-0.2%
Drift Assessment Status								
	Zero gas	OK	OK	OK	OK			OK
	Upscale gas	OK	OK	OK	OK			OK

090407 100951

10:56:15	1.218	-0.008	1.050	14.090		5.902
10:56:30	1.122	-0.013	0.244	14.106		5.900
10:56:45	1.050	-0.011	0.097	14.104		5.906
10:57:00	1.050	-0.006	0.089	14.107		5.910
10:57:15	1.089	-0.070	0.089	13.787		5.527
10:57:30	1.317	-0.098	0.555	3.531		0.870
10:57:45	0.926	-0.103	3.236	0.299		-0.033
10:58:00	0.676	-0.093	9.788	0.147		-0.067
10:58:15	0.616	-0.083	14.484	0.113		-0.073
10:58:30	0.611	-0.068	17.208	0.095		-0.075
10:58:45	0.611	-0.054	17.741	0.081		-0.076
10:59:00	0.611	-0.036	17.803	0.072		-0.079
10:59:15	0.611	-0.011	17.772	0.065		-0.079
10:59:30	0.603	0.034	17.749	0.071		-0.063
10:59:45	1.479	-0.029	17.603	0.095		-0.050
11:00:00	9.671	-0.022	14.966	0.055		-0.080
11:00:15	26.839	-0.021	9.903	0.049		-0.080
11:00:30	27.834	-0.026	3.815	0.046		-0.081
11:00:45	27.948	-0.023	1.488	0.043		-0.082
11:01:00	28.010	-0.031	0.803	0.040		-0.083
11:01:15	28.010	-0.032	0.761	0.039		-0.084
11:01:30	27.995	4.381	0.745	0.037		-0.073
11:01:45	27.196	7.419	0.718	0.044		-0.053
11:02:00	18.966	7.446	0.696	0.035		-0.079
11:02:15	1.698	7.440	0.671	0.033		-0.088
11:02:30	0.714	7.417	0.606	0.032		-0.098
11:02:45	0.648	1.167	0.584	0.833		0.776

QA/QC TE
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 11:18
Stop time 12:18

REFERENCE METHOD RUN 3

		Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
Calibration Checks								
C_{zi}	Initial zero	0.611	-0.023	0.092	0.039			-0.058
C_{ui}	Initial upscale	28.005	7.435	17.774	14.106			5.905
C_{zf}	Final zero	0.624	-0.012	0.419	0.029			-0.112
C_{uf}	Final upscale	27.890	7.415	17.887	14.074			5.910
C_{ma}	Actual gas value	26.440	7.510	18.500	13.980			6.040
Analyzer Averages (concentrations)								
C_{Avg}	Average conc.	27.022	0.103	2.061	10.269			5.201
C_{Gas}	Bias adjusted	25.545	0.121	1.900	10.179			5.327

Clock Time (at end of sample period) 090407 100951						
11:19	27.028	0.048	2.142	10.210		5.237
11:20	26.889	0.111	2.114	10.227		5.242
11:21	26.887	0.119	2.136	10.224		5.240
11:22	27.000	0.119	2.049	10.226		5.298
11:23	27.102	0.106	1.973	10.207		5.432
11:24	26.943	0.113	1.928	10.207		5.507
11:25	26.899	0.104	2.008	10.247		5.255
11:26	26.758	0.107	2.090	10.263		5.240
11:27	26.736	0.108	2.014	10.249		5.258
11:28	26.897	0.126	2.012	10.266		5.219
11:29	26.802	0.139	2.040	10.291		5.197
11:30	26.831	0.119	2.106	10.345		5.103
11:31	26.820	0.108	2.143	10.326		5.138
11:32	26.721	0.105	2.187	10.348		5.094
11:33	26.665	0.091	2.171	10.334		5.114
11:34	27.023	0.089	2.226	10.329		5.126
11:35	27.194	0.099	2.228	10.308		5.153
11:36	27.049	0.104	2.236	10.319		5.139
11:37	26.908	0.112	2.015	10.297		5.230
11:38	26.850	0.116	2.107	10.293		5.192
11:39	26.756	0.134	2.145	10.272		5.230
11:40	26.746	0.128	2.053	10.261		5.228
11:41	26.674	0.112	2.052	10.272		5.219
11:42	26.788	0.108	2.023	10.280		5.187
11:43	26.645	0.114	2.056	10.285		5.171
11:44	26.925	0.101	2.112	10.290		5.167
11:45	26.833	0.102	2.095	10.269		5.210
11:46	26.885	0.097	2.046	10.269		5.210
11:47	26.989	0.107	2.048	10.222		5.259
11:48	27.178	0.026	1.981	10.211		5.229
11:49	27.127	0.097	2.136	10.245		5.227
11:50	27.056	0.091	2.097	10.274		5.178
11:51	27.149	0.093	2.054	10.306		5.158
11:52	27.181	0.091	1.936	10.232		5.251
11:53	26.927	0.055	1.988	10.293		5.150
11:54	26.838	0.084	2.037	10.263		5.131
11:55	26.857	0.001	2.031	10.160		5.167
11:56	27.139	0.101	2.061	10.262		5.188
11:57	27.055	0.105	1.983	10.296		5.144
11:58	26.998	0.092	1.937	10.254		5.202
11:59	26.874	0.108	1.994	10.287		5.149
12:00	26.902	0.096	2.121	10.283		5.153
12:01	27.243	0.097	2.069	10.288		5.153
12:02	27.191	0.097	2.257	10.287		5.147
12:03	27.087	0.099	2.112	10.285		5.169
12:04	27.231	0.101	2.029	10.289		5.172
12:05	27.187	0.107	1.964	10.265		5.211
12:06	27.118	0.114	1.983	10.250		5.227
12:07	27.030	0.106	2.044	10.265		5.186
12:08	27.067	0.118	2.030	10.276		5.172
12:09	27.074	0.114	2.127	10.282		5.162

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 11:18
Stop time 12:18

REFERENCE METHOD RUN 3

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
12:10	27.182	0.112	2.112	10.273			5.181
12:11	27.284	0.126	2.007	10.271			5.180
12:12	27.650	0.101	2.050	10.276			5.151
12:13	27.657	0.117	1.997	10.271			5.174
12:14	27.648	0.108	1.985	10.276			5.187
12:15	27.515	0.112	2.008	10.266			5.206
12:16	27.494	0.128	1.982	10.190			5.300
12:17	27.025	0.113	1.988	10.257			5.218
12:18	27.141	0.123	1.983	10.243			5.214

QA/QC TR
Date 9/10

Indiantown
CleanAir Project No. 10293
Indiantown Cogeneration, FI
Aux Boiler B Propane

August 19, 2007
Start Time 12:20
Stop Time 12:27

CALIBRATION BIAS 03

	Channel 1 NOX Aux Boiler B Propane ppmdv	Channel 2 THC Aux Boiler B Propane ppmwv	Channel 3 CO Aux Boiler B Propane ppmdv	Channel 5 CO2 Aux Boiler B Propane %dv	Channel 6	Channel 7	Channel 8 O2 Aux Boiler B Propane %dv
System Response to Calibration Gasses (C_S)							
C_{sl} Zero gas	0.624	-0.012	0.419	0.029			-0.112
C_{sl} Upscale gas	27.890	7.415	17.887	14.074			5.910
Analyzer Calibration Error Reponses (C_{Dir})							
C_{oca} Zero gas	0.586	-0.002	0.000	0.010			0.001
C_{mca} Upscale gas	25.916	7.488	18.430	14.012			5.986
Actual Upscale Gas Value (C_{MA})							
C_{ma} Upscale gas	26.440	7.510	18.500	13.980			6.040
Calibration Span Value (CS)	51.400	21.000	43.720	13.980			14.000
System Bias as Percent of Calibration Span Value (SB) (5%)							
Zero gas	0.1%	0.0%	1.0%	0.1%			-0.8%
Upscale gas	3.8%	-0.4%	-1.2%	0.4%			-0.5%
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_{sl} Zero gas	0.611	-0.023	0.092	0.039			-0.058
C_{sl} Upscale gas	28.005	7.435	17.774	14.106			5.905
Drift Assessment as Percent of Calibration Span Value (D) (3%)							
Zero gas	0.0%	0.1%	0.7%	-0.1%			-0.4%
Upscale gas	-0.2%	-0.1%	0.3%	-0.2%			0.0%
Drift Assessment Status							
Zero gas	OK	OK	OK	OK			OK
Upscale gas	OK	OK	OK	OK			OK

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12:20:16	3.033	0.039	3.517	13.991		5.907
12:20:31	1.423	0.019	2.113	14.069		5.913
12:20:46	1.157	0.014	0.847	14.080		5.909
12:21:01	1.066	0.008	0.258	14.073		5.908
12:21:16	1.260	-0.057	0.152	9.797		3.422
12:21:31	1.488	-0.063	1.553	0.862		0.098
12:21:46	0.889	-0.073	5.782	0.182		-0.074
12:22:01	0.677	-0.070	12.320	0.121		-0.082
12:22:16	0.681	-0.057	16.107	0.100		-0.088
12:22:31	0.676	-0.051	17.682	0.084		-0.095
12:22:46	0.669	-0.037	17.926	0.073		-0.105
12:23:01	0.611	-0.031	17.902	0.064		-0.108
12:23:16	0.625	-0.011	17.877	0.058		-0.112
12:23:31	0.635	-0.003	17.883	0.053		-0.107
12:23:46	0.635	-0.008	17.899	0.052		-0.083
12:24:01	0.964	-0.047	17.591	0.066		-0.064
12:24:16	10.049	-0.055	15.373	0.046		-0.084
12:24:31	27.815	-0.051	9.398	0.042		-0.085
12:24:46	27.976	-0.050	4.235	0.004		-0.113
12:25:01	27.880	-0.088	1.427	0.023		-0.138
12:25:16	28.008	0.010	0.864	0.036		-0.073
12:25:31	28.052	6.650	0.795	0.242		0.177
12:25:46	27.840	7.402	0.794	0.062		-0.056
12:26:01	9.146	7.421	0.764	0.033		-0.080
12:26:16	0.827	7.421	0.723	0.030		-0.099
12:26:31	0.684	7.386	0.693	0.029		-0.102
12:26:46	0.610	5.039	0.678	0.029		-0.096
12:27:01	0.586	0.933	0.683	0.043		11.740

QA/QC TE
Date 9/10

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CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/19/2007 10:18 AM thru 8/19/2007 11:18 AM

Timestamp	(Aux Boiler B) Propane Flow 1-Min scf/min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/19 10:18	822.5	124.6
8/19 10:19	823.8	124.8
8/19 10:20	823.6	124.7
8/19 10:21	823.4	124.7
8/19 10:22	822.7	124.6
8/19 10:23	822.7	124.6
8/19 10:24	823.6	124.7
8/19 10:25	823.6	124.7
8/19 10:26	822.5	124.6
8/19 10:27	823.2	124.7
8/19 10:28	822.5	124.6
8/19 10:29	822.9	124.6
8/19 10:30	823.2	124.7
8/19 10:31	823.2	124.7
8/19 10:32	822.9	124.6
8/19 10:33	823.6	124.7
8/19 10:34	823.4	124.7
8/19 10:35	823.2	124.7
8/19 10:36	822.9	124.6
8/19 10:37	826.1	125.1
8/19 10:38	827.3	125.3
8/19 10:39	828.8	125.5
8/19 10:40	827.7	125.3
8/19 10:41	829.0	125.5
8/19 10:42	828.6	125.5
8/19 10:43	828.4	125.4
8/19 10:44	828.8	125.5
8/19 10:45	829.0	125.5
8/19 10:46	828.4	125.4
8/19 10:47	828.2	125.4
8/19 10:48	828.8	125.5
8/19 10:49	828.6	125.5
8/19 10:50	828.8	125.5
8/19 10:51	828.4	125.4
8/19 10:52	829.0	125.5
8/19 10:53	829.4	125.6
8/19 10:54	828.4	125.4
8/19 10:55	828.8	125.5
8/19 10:56	827.5	125.3
8/19 10:57	827.7	125.3
8/19 10:58	828.8	125.5
8/19 10:59	828.3	125.4
8/19 11:00	828.0	125.4
8/19 11:01	828.2	125.4
8/19 11:02	828.2	125.4
8/19 11:03	828.8	125.5

Timestamp	(Aux Boiler B) Propane Flow 1-Min scf/min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/19 11:04	829.0	125.5
8/19 11:05	828.8	125.5
8/19 11:06	828.4	125.4
8/19 11:07	828.8	125.5
8/19 11:08	827.7	125.3
8/19 11:09	827.8	125.4
8/19 11:10	828.6	125.5
8/19 11:11	829.2	125.6
8/19 11:12	828.6	125.5
8/19 11:13	828.4	125.4
8/19 11:14	828.1	125.4
8/19 11:15	828.6	125.5
8/19 11:16	829.2	125.6
8/19 11:17	827.7	125.3
8/19 11:18	828.6	125.5
Average (all)	826.8	125.2
Total (all)	--	--
Minimum (all)	822.5	124.6
Maximum (all)	829.4	125.6
Average (valid values only)	826.8	125.2
Total (valid values only)	--	--
Count (valid values only)	61	61

PLANT DATA

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CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/17/2007 11:59 AM thru 8/17/2007 12:59 PM

Timestamp	(Aux Boiler A) Propane Flow 1-Min scf/min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/17 11:59	816.3	123.6
8/17 12:00	816.5	123.7
8/17 12:01	816.3	123.6
8/17 12:02	816.3	123.6
8/17 12:03	816.1	123.6
8/17 12:04	816.5	123.7
8/17 12:05	816.1	123.6
8/17 12:06	816.5	123.7
8/17 12:07	816.7	123.7
8/17 12:08	816.3	123.6
8/17 12:09	816.5	123.7
8/17 12:10	816.5	123.7
8/17 12:11	816.3	123.6
8/17 12:12	816.7	123.7
8/17 12:13	816.5	123.7
8/17 12:14	816.5	123.7
8/17 12:15	816.5	123.7
8/17 12:16	816.3	123.6
8/17 12:17	816.3	123.6
8/17 12:18	816.1	123.6
8/17 12:19	816.7	123.7
8/17 12:20	816.3	123.6
8/17 12:21	816.5	123.7
8/17 12:22	816.5	123.7
8/17 12:23	816.3	123.6
8/17 12:24	816.5	123.7
8/17 12:25	816.3	123.6
8/17 12:26	816.3	123.6
8/17 12:27	816.7	123.7
8/17 12:28	816.5	123.7
8/17 12:29	816.3	123.6
8/17 12:30	816.1	123.6
8/17 12:31	816.7	123.7
8/17 12:32	816.5	123.7
8/17 12:33	816.3	123.6
8/17 12:34	816.3	123.6
8/17 12:35	816.5	123.7
8/17 12:36	816.3	123.6
8/17 12:37	816.1	123.6
8/17 12:38	816.5	123.7
8/17 12:39	816.3	123.6
8/17 12:40	816.3	123.6
8/17 12:41	816.3	123.6
8/17 12:42	816.3	123.6
8/17 12:43	816.5	123.7
8/17 12:44	816.7	123.7

Timestamp	(Aux Boiler A) Propane Flow 1-Min scf/min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/17 12:45	816.7	123.7
8/17 12:46	816.5	123.7
8/17 12:47	816.3	123.6
8/17 12:48	816.3	123.6
8/17 12:49	816.9	123.7
8/17 12:50	816.5	123.7
8/17 12:51	816.3	123.6
8/17 12:52	816.3	123.6
8/17 12:53	816.1	123.6
8/17 12:54	816.1	123.6
8/17 12:55	816.5	123.7
8/17 12:56	816.3	123.6
8/17 12:57	816.3	123.6
8/17 12:58	816.3	123.6
8/17 12:59	816.5	123.7
Average (all)	816.4	123.6
Total (all)	--	--
Minimum (all)	816.1	123.6
Maximum (all)	816.9	123.7
Average (valid values only)	816.4	123.6
Total (valid values only)	--	--
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/17/2007 1:34 PM thru 8/17/2007 2:34 PM

Timestamp	(Aux Boiler A) Propane Flow 1-Min scf/min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/17 13:34	816.7	123.7
8/17 13:35	816.5	123.7
8/17 13:36	816.1	123.6
8/17 13:37	816.1	123.6
8/17 13:38	816.3	123.6
8/17 13:39	816.3	123.6
8/17 13:40	816.5	123.7
8/17 13:41	816.5	123.7
8/17 13:42	816.3	123.6
8/17 13:43	816.1	123.6
8/17 13:44	816.5	123.7
8/17 13:45	816.5	123.7
8/17 13:46	816.3	123.6
8/17 13:47	816.3	123.6
8/17 13:48	816.3	123.6
8/17 13:49	816.5	123.7
8/17 13:50	816.3	123.6
8/17 13:51	816.7	123.7
8/17 13:52	816.3	123.6
8/17 13:53	816.5	123.7
8/17 13:54	816.3	123.6
8/17 13:55	816.3	123.6
8/17 13:56	816.1	123.6
8/17 13:57	816.1	123.6
8/17 13:58	816.3	123.6
8/17 13:59	816.1	123.6
8/17 14:00	816.7	123.7
8/17 14:01	815.9	123.5
8/17 14:02	816.3	123.6
8/17 14:03	816.1	123.6
8/17 14:04	816.7	123.7
8/17 14:05	817.1	123.8
8/17 14:06	816.3	123.6
8/17 14:07	816.3	123.6
8/17 14:08	816.3	123.6
8/17 14:09	816.3	123.6
8/17 14:10	816.3	123.6
8/17 14:11	816.7	123.7
8/17 14:12	816.1	123.6
8/17 14:13	816.3	123.6
8/17 14:14	816.3	123.6
8/17 14:15	816.3	123.6
8/17 14:16	816.3	123.6
8/17 14:17	816.3	123.6
8/17 14:18	816.1	123.6
8/17 14:19	816.3	123.6

Timestamp	(Aux Boiler A) Propane Flow 1-Min scf/min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/17 14:20	816.3	123.6
8/17 14:21	816.1	123.6
8/17 14:22	816.3	123.6
8/17 14:23	816.1	123.6
8/17 14:24	816.3	123.6
8/17 14:25	816.3	123.6
8/17 14:26	816.5	123.7
8/17 14:27	815.9	123.5
8/17 14:28	816.3	123.6
8/17 14:29	816.5	123.7
8/17 14:30	816.5	123.7
8/17 14:31	816.5	123.7
8/17 14:32	816.3	123.6
8/17 14:33	816.3	123.6
8/17 14:34	816.7	123.7
Average (all)	816.3	123.6
Total (all)	--	--
Minimum (all)	815.9	123.5
Maximum (all)	817.1	123.8
Average (valid values only)	816.3	123.6
Total (valid values only)	--	--
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/17/2007 2:49 PM thru 8/17/2007 3:49 PM

Timestamp	(Aux Boiler A) Propane Flow 1-Min scf/min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/17 14:49	816.3	123.6
8/17 14:50	816.7	123.7
8/17 14:51	816.5	123.7
8/17 14:52	816.5	123.7
8/17 14:53	816.5	123.7
8/17 14:54	816.1	123.6
8/17 14:55	816.3	123.6
8/17 14:56	816.1	123.6
8/17 14:57	816.5	123.7
8/17 14:58	816.5	123.7
8/17 14:59	816.3	123.6
8/17 15:00	816.3	123.6
8/17 15:01	816.3	123.6
8/17 15:02	816.7	123.7
8/17 15:03	816.3	123.6
8/17 15:04	816.5	123.7
8/17 15:05	816.3	123.6
8/17 15:06	816.1	123.6
8/17 15:07	816.5	123.7
8/17 15:08	816.5	123.7
8/17 15:09	815.9	123.5
8/17 15:10	816.3	123.6
8/17 15:11	816.3	123.6
8/17 15:12	816.3	123.6
8/17 15:13	816.5	123.7
8/17 15:14	816.3	123.6
8/17 15:15	816.3	123.6
8/17 15:16	816.3	123.6
8/17 15:17	816.7	123.7
8/17 15:18	816.7	123.7
8/17 15:19	816.5	123.7
8/17 15:20	816.3	123.6
8/17 15:21	816.3	123.6
8/17 15:22	816.1	123.6
8/17 15:23	816.3	123.6
8/17 15:24	816.3	123.6
8/17 15:25	816.5	123.7
8/17 15:26	815.9	123.5
8/17 15:27	816.3	123.6
8/17 15:28	816.3	123.6
8/17 15:29	816.5	123.7
8/17 15:30	816.3	123.6
8/17 15:31	816.5	123.7
8/17 15:32	816.5	123.7
8/17 15:33	816.1	123.6
8/17 15:34	816.1	123.6

Timestamp	(Aux Boiler A) Propane Flow 1-Min scf/min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/17 15:35	816.7	123.7
8/17 15:36	816.3	123.6
8/17 15:37	816.3	123.6
8/17 15:38	816.3	123.6
8/17 15:39	816.3	123.6
8/17 15:40	816.3	123.6
8/17 15:41	816.3	123.6
8/17 15:42	816.3	123.6
8/17 15:43	816.3	123.6
8/17 15:44	816.3	123.6
8/17 15:45	816.9	123.7
8/17 15:46	816.5	123.7
8/17 15:47	816.3	123.6
8/17 15:48	816.3	123.6
8/17 15:49	816.1	123.6
Average (all)	816.4	123.6
Total (all)	—	—
Minimum (all)	815.9	123.5
Maximum (all)	816.9	123.7
Average (valid values only)	816.4	123.6
Total (valid values only)	—	—
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/18/2007 8:33 AM thru 8/18/2007 9:33 AM

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 8:33	2356.9	147.1
8/18 8:34	2359.4	147.3
8/18 8:35	2368.2	147.8
8/18 8:36	2355.7	147.0
8/18 8:37	2352.5	146.8
8/18 8:38	2360.0	147.3
8/18 8:39	2368.2	147.8
8/18 8:40	2355.7	147.0
8/18 8:41	2363.8	147.5
8/18 8:42	2360.0	147.3
8/18 8:43	2364.4	147.6
8/18 8:44	2367.5	147.8
8/18 8:45	2353.8	146.8
8/18 8:46	2365.7	147.6
8/18 8:47	2362.5	147.5
8/18 8:48	2355.7	147.0
8/18 8:49	2365.0	147.6
8/18 8:50	2368.1	147.8
8/18 8:51	2357.5	147.2
8/18 8:52	2360.0	147.3
8/18 8:53	2368.1	147.8
8/18 8:54	2358.8	147.2
8/18 8:55	2357.5	147.2
8/18 8:56	2365.0	147.6
8/18 8:57	2366.9	147.7
8/18 8:58	2354.4	147.0
8/18 8:59	2360.7	147.3
8/18 9:00	2365.7	147.6
8/18 9:01	2370.0	147.9
8/18 9:02	2356.3	147.1
8/18 9:03	2362.5	147.5
8/18 9:04	2361.3	147.4
8/18 9:05	2355.7	147.0
8/18 9:06	2363.1	147.5
8/18 9:07	2372.5	148.1
8/18 9:08	2366.9	147.7
8/18 9:09	2360.7	147.3
8/18 9:10	2353.2	146.8
8/18 9:11	2360.7	147.3
8/18 9:12	2363.1	147.5
8/18 9:13	2365.0	147.6
8/18 9:14	2355.6	147.0
8/18 9:15	2361.3	147.4
8/18 9:16	2363.2	147.5
8/18 9:17	2356.9	147.1
8/18 9:18	2358.2	147.2

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 9:19	2365.7	147.6
8/18 9:20	2361.3	147.4
8/18 9:21	2359.4	147.3
8/18 9:22	2367.5	147.8
8/18 9:23	2358.2	147.2
8/18 9:24	2364.4	147.6
8/18 9:25	2357.5	147.2
8/18 9:26	2365.0	147.6
8/18 9:27	2357.5	147.2
8/18 9:28	2364.4	147.6
8/18 9:29	2356.3	147.1
8/18 9:30	2358.2	147.2
8/18 9:31	2366.9	147.7
8/18 9:32	2360.6	147.3
8/18 9:33	2363.2	147.5
Average (all)	2361.5	147.4
Total (all)	–	–
Minimum (all)	2352.5	146.8
Maximum (all)	2372.5	148.1
Average (valid values only)	2361.5	147.4
Total (valid values only)	–	–
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/18/2007 10:59 AM thru 8/18/2007 11:59 AM

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 10:59	2491.3	155.5
8/18 11:00	2493.8	155.6
8/18 11:01	2490.0	155.4
8/18 11:02	2488.8	155.3
8/18 11:03	2487.5	155.3
8/18 11:04	2483.8	155.0
8/18 11:05	2485.7	155.1
8/18 11:06	2484.4	155.1
8/18 11:07	2486.3	155.2
8/18 11:08	2483.8	155.0
8/18 11:09	2486.3	155.2
8/18 11:10	2485.7	155.1
8/18 11:11	2485.0	155.1
8/18 11:12	2488.8	155.3
8/18 11:13	2486.9	155.2
8/18 11:14	2484.4	155.1
8/18 11:15	2482.5	155.0
8/18 11:16	2484.4	155.1
8/18 11:17	2483.8	155.0
8/18 11:18	2483.1	155.0
8/18 11:19	2485.7	155.1
8/18 11:20	2486.3	155.2
8/18 11:21	2486.9	155.2
8/18 11:22	2486.9	155.2
8/18 11:23	2487.5	155.3
8/18 11:24	2484.4	155.1
8/18 11:25	2485.0	155.1
8/18 11:26	2483.8	155.0
8/18 11:27	2484.4	155.1
8/18 11:28	2484.4	155.1
8/18 11:29	2486.3	155.2
8/18 11:30	2488.8	155.3
8/18 11:31	2493.8	155.6
8/18 11:32	2497.5	155.9
8/18 11:33	2498.1	155.9
8/18 11:34	2498.8	155.9
8/18 11:35	2497.5	155.9
8/18 11:36	2496.3	155.8
8/18 11:37	2497.5	155.9
8/18 11:38	2498.2	155.9
8/18 11:39	2497.5	155.9
8/18 11:40	2495.0	155.7
8/18 11:41	2495.0	155.7
8/18 11:42	2493.8	155.6
8/18 11:43	2494.4	155.7
8/18 11:44	2494.4	155.7

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 11:45	2493.2	155.6
8/18 11:46	2493.8	155.6
8/18 11:47	2493.8	155.6
8/18 11:48	2494.4	155.7
8/18 11:49	2494.4	155.7
8/18 11:50	2494.4	155.7
8/18 11:51	2494.4	155.7
8/18 11:52	2493.8	155.6
8/18 11:53	2494.4	155.7
8/18 11:54	2493.8	155.6
8/18 11:55	2493.8	155.6
8/18 11:56	2493.8	155.6
8/18 11:57	2494.4	155.7
8/18 11:58	2493.8	155.6
8/18 11:59	2494.4	155.7
Average (all)	2490.4	155.4
Total (all)	--	--
Minimum (all)	2482.5	155.0
Maximum (all)	2498.8	155.9
Average (valid values only)	2490.4	155.4
Total (valid values only)	--	--
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/18/2007 12:19 PM thru 8/18/2007 1:19 PM

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 12:19	2485.0	155.1
8/18 12:20	2496.9	155.8
8/18 12:21	2511.3	156.7
8/18 12:22	2520.0	157.2
8/18 12:23	2522.5	157.5
8/18 12:24	2525.0	157.6
8/18 12:25	2525.7	157.6
8/18 12:26	2526.3	157.7
8/18 12:27	2525.0	157.6
8/18 12:28	2524.4	157.6
8/18 12:29	2523.8	157.5
8/18 12:30	2523.2	157.5
8/18 12:31	2521.3	157.4
8/18 12:32	2523.2	157.5
8/18 12:33	2521.9	157.4
8/18 12:34	2513.2	156.8
8/18 12:35	2511.3	156.7
8/18 12:36	2511.9	156.7
8/18 12:37	2511.3	156.7
8/18 12:38	2511.9	156.7
8/18 12:39	2508.8	156.5
8/18 12:40	2510.0	156.6
8/18 12:41	2510.7	156.6
8/18 12:42	2510.0	156.6
8/18 12:43	2497.5	155.9
8/18 12:44	2493.2	155.6
8/18 12:45	2493.2	155.6
8/18 12:46	2495.0	155.7
8/18 12:47	2493.8	155.6
8/18 12:48	2494.4	155.7
8/18 12:49	2493.8	155.6
8/18 12:50	2493.2	155.6
8/18 12:51	2493.8	155.6
8/18 12:52	2498.2	155.9
8/18 12:53	2497.5	155.9
8/18 12:54	2496.3	155.8
8/18 12:55	2497.5	155.9
8/18 12:56	2497.5	155.9
8/18 12:57	2495.0	155.7
8/18 12:58	2493.8	155.6
8/18 12:59	2495.0	155.7
8/18 13:00	2493.8	155.6
8/18 13:01	2496.3	155.8
8/18 13:02	2495.0	155.7
8/18 13:03	2493.8	155.6
8/18 13:04	2495.0	155.7

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 13:05	2495.7	155.7
8/18 13:06	2496.9	155.8
8/18 13:07	2496.3	155.8
8/18 13:08	2495.7	155.7
8/18 13:09	2495.0	155.7
8/18 13:10	2496.3	155.8
8/18 13:11	2495.0	155.7
8/18 13:12	2495.1	155.7
8/18 13:13	2495.0	155.7
8/18 13:14	2493.8	155.6
8/18 13:15	2495.0	155.7
8/18 13:16	2495.7	155.7
8/18 13:17	2494.4	155.7
8/18 13:18	2495.0	155.7
8/18 13:19	2494.4	155.7
Average (all)	2503.2	156.2
Total (all)	–	–
Minimum (all)	2485.0	155.1
Maximum (all)	2526.3	157.7
Average (valid values only)	2503.2	156.2
Total (valid values only)	–	–
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/18/2007 2:16 PM thru 8/18/2007 3:16 PM

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 14:16	2526.9	157.7
8/18 14:17	2525.0	157.6
8/18 14:18	2523.2	157.5
8/18 14:19	2525.0	157.6
8/18 14:20	2525.0	157.6
8/18 14:21	2525.0	157.6
8/18 14:22	2524.4	157.6
8/18 14:23	2525.0	157.6
8/18 14:24	2524.4	157.6
8/18 14:25	2525.7	157.6
8/18 14:26	2526.3	157.7
8/18 14:27	2527.5	157.8
8/18 14:28	2530.7	157.9
8/18 14:29	2528.1	157.8
8/18 14:30	2526.3	157.7
8/18 14:31	2528.2	157.8
8/18 14:32	2526.9	157.7
8/18 14:33	2527.5	157.8
8/18 14:34	2526.9	157.7
8/18 14:35	2528.8	157.8
8/18 14:36	2528.8	157.8
8/18 14:37	2529.4	157.9
8/18 14:38	2526.3	157.7
8/18 14:39	2526.9	157.7
8/18 14:40	2527.5	157.8
8/18 14:41	2527.5	157.8
8/18 14:42	2525.7	157.6
8/18 14:43	2524.4	157.6
8/18 14:44	2523.8	157.5
8/18 14:45	2525.7	157.6
8/18 14:46	2524.4	157.6
8/18 14:47	2523.8	157.5
8/18 14:48	2523.8	157.5
8/18 14:49	2524.4	157.6
8/18 14:50	2525.0	157.6
8/18 14:51	2524.4	157.6
8/18 14:52	2523.8	157.5
8/18 14:53	2524.4	157.6
8/18 14:54	2524.4	157.6
8/18 14:55	2524.4	157.6
8/18 14:56	2523.8	157.5
8/18 14:57	2523.2	157.5
8/18 14:58	2523.2	157.5
8/18 14:59	2521.9	157.4
8/18 15:00	2522.5	157.5
8/18 15:01	2522.5	157.5

Timestamp	(Aux Boiler A) Gas Flow scf/min 1-Min	(Aux Boiler A) Heat Input Total 1-Min mmBtu/hr
8/18 15:02	2521.9	157.4
8/18 15:03	2522.5	157.5
8/18 15:04	2522.5	157.5
8/18 15:05	2520.6	157.2
8/18 15:06	2522.5	157.5
8/18 15:07	2521.9	157.4
8/18 15:08	2520.6	157.2
8/18 15:09	2521.3	157.4
8/18 15:10	2520.6	157.2
8/18 15:11	2522.5	157.5
8/18 15:12	2521.9	157.4
8/18 15:13	2522.5	157.5
8/18 15:14	2520.6	157.2
8/18 15:15	2521.3	157.4
8/18 15:16	2521.9	157.4
Average (all)	2524.6	157.6
Total (all)	–	–
Minimum (all)	2520.6	157.2
Maximum (all)	2530.7	157.9
Average (valid values only)	2524.6	157.6
Total (valid values only)	–	–
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/18/2007 4:48 PM thru 8/18/2007 5:48 PM

Timestamp	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/18 16:48	2230.7	139.2
8/18 16:49	2230.0	139.2
8/18 16:50	2230.7	139.2
8/18 16:51	2230.0	139.2
8/18 16:52	2231.3	139.3
8/18 16:53	2230.7	139.2
8/18 16:54	2230.0	139.2
8/18 16:55	2230.7	139.2
8/18 16:56	2231.9	139.3
8/18 16:57	2267.5	141.5
8/18 16:58	2354.4	147.0
8/18 16:59	2361.3	147.4
8/18 17:00	2360.7	147.3
8/18 17:01	2360.7	147.3
8/18 17:02	2361.3	147.4
8/18 17:03	2361.9	147.4
8/18 17:04	2361.9	147.4
8/18 17:05	2361.9	147.4
8/18 17:06	2360.0	147.3
8/18 17:07	2362.5	147.5
8/18 17:08	2361.3	147.4
8/18 17:09	2361.9	147.4
8/18 17:10	2361.3	147.4
8/18 17:11	2361.3	147.4
8/18 17:12	2361.3	147.4
8/18 17:13	2361.3	147.4
8/18 17:14	2361.3	147.4
8/18 17:15	2360.7	147.3
8/18 17:16	2360.0	147.3
8/18 17:17	2361.9	147.4
8/18 17:18	2361.9	147.4
8/18 17:19	2360.0	147.3
8/18 17:20	2362.5	147.5
8/18 17:21	2361.9	147.4
8/18 17:22	2361.9	147.4
8/18 17:23	2361.3	147.4
8/18 17:24	2361.3	147.4
8/18 17:25	2361.3	147.4
8/18 17:26	2361.9	147.4
8/18 17:27	2360.7	147.3
8/18 17:28	2361.3	147.4
8/18 17:29	2360.7	147.3
8/18 17:30	2361.9	147.4
8/18 17:31	2361.9	147.4
8/18 17:32	2361.3	147.4
8/18 17:33	2360.0	147.3

Timestamp	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/18 17:34	2361.9	147.4
8/18 17:35	2360.7	147.3
8/18 17:36	2361.9	147.4
8/18 17:37	2360.0	147.3
8/18 17:38	2361.3	147.4
8/18 17:39	2361.3	147.4
8/18 17:40	2361.3	147.4
8/18 17:41	2361.3	147.4
8/18 17:42	2360.7	147.3
8/18 17:43	2360.0	147.3
8/18 17:44	2361.3	147.4
8/18 17:45	2361.9	147.4
8/18 17:46	2361.3	147.4
8/18 17:47	2360.7	147.3
8/18 17:48	2360.0	147.3
Average (all)	2340.3	146.1
Total (all)	–	–
Minimum (all)	2230.0	139.2
Maximum (all)	2362.5	147.5
Average (valid values only)	2340.3	146.1
Total (valid values only)	–	–
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/18/2007 6:02 PM thru 8/18/2007 7:02 PM

Timestamp	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/18 18:02	2361.3	147.4
8/18 18:03	2361.3	147.4
8/18 18:04	2360.0	147.3
8/18 18:05	2361.9	147.4
8/18 18:06	2360.7	147.3
8/18 18:07	2360.0	147.3
8/18 18:08	2361.3	147.4
8/18 18:09	2360.7	147.3
8/18 18:10	2361.3	147.4
8/18 18:11	2360.0	147.3
8/18 18:12	2360.7	147.3
8/18 18:13	2361.9	147.4
8/18 18:14	2361.9	147.4
8/18 18:15	2360.7	147.3
8/18 18:16	2360.0	147.3
8/18 18:17	2361.9	147.4
8/18 18:18	2361.3	147.4
8/18 18:19	2361.3	147.4
8/18 18:20	2360.0	147.3
8/18 18:21	2361.9	147.4
8/18 18:22	2361.9	147.4
8/18 18:23	2360.0	147.3
8/18 18:24	2361.3	147.4
8/18 18:25	2361.3	147.4
8/18 18:26	2361.3	147.4
8/18 18:27	2361.9	147.4
8/18 18:28	2360.7	147.3
8/18 18:29	2361.9	147.4
8/18 18:30	2361.3	147.4
8/18 18:31	2359.4	147.3
8/18 18:32	2361.3	147.4
8/18 18:33	2361.9	147.4
8/18 18:34	2361.3	147.4
8/18 18:35	2360.7	147.3
8/18 18:36	2360.7	147.3
8/18 18:37	2361.3	147.4
8/18 18:38	2361.9	147.4
8/18 18:39	2361.3	147.4
8/18 18:40	2361.3	147.4
8/18 18:41	2360.7	147.3
8/18 18:42	2361.3	147.4
8/18 18:43	2360.7	147.3
8/18 18:44	2360.7	147.3
8/18 18:45	2361.3	147.4
8/18 18:46	2360.7	147.3
8/18 18:47	2361.3	147.4

Timestamp	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/18 18:48	2361.3	147.4
8/18 18:49	2361.3	147.4
8/18 18:50	2360.0	147.3
8/18 18:51	2361.3	147.4
8/18 18:52	2360.0	147.3
8/18 18:53	2360.7	147.3
8/18 18:54	2361.9	147.4
8/18 18:55	2360.0	147.3
8/18 18:56	2360.7	147.3
8/18 18:57	2361.3	147.4
8/18 18:58	2361.9	147.4
8/18 18:59	2360.7	147.3
8/18 19:00	2361.3	147.4
8/18 19:01	2361.3	147.4
8/18 19:02	2361.3	147.4
Average (all)	2361.1	147.4
Total (all)	–	–
Minimum (all)	2359.4	147.3
Maximum (all)	2361.9	147.4
Average (valid values only)	2361.1	147.4
Total (valid values only)	–	–
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/20/2007 8:03 AM thru 8/20/2007 9:03 AM

Timestamp	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/20 8:03	2608.2	162.8
8/20 8:04	2615.0	163.2
8/20 8:05	2618.8	163.4
8/20 8:06	2616.3	163.3
8/20 8:07	2611.9	163.0
8/20 8:08	2605.7	162.6
8/20 8:09	2619.4	163.5
8/20 8:10	2616.3	163.3
8/20 8:11	2615.0	163.2
8/20 8:12	2614.4	163.2
8/20 8:13	2618.8	163.4
8/20 8:14	2620.0	163.5
8/20 8:15	2613.8	163.1
8/20 8:16	2617.5	163.4
8/20 8:17	2617.5	163.4
8/20 8:18	2618.1	163.4
8/20 8:19	2618.2	163.4
8/20 8:20	2619.4	163.5
8/20 8:21	2613.8	163.1
8/20 8:22	2604.4	162.6
8/20 8:23	2613.2	163.1
8/20 8:24	2619.4	163.5
8/20 8:25	2614.4	163.2
8/20 8:26	2616.9	163.3
8/20 8:27	2612.5	163.1
8/20 8:28	2611.3	163.0
8/20 8:29	2600.0	162.2
8/20 8:30	2603.2	162.4
8/20 8:31	2619.4	163.5
8/20 8:32	2623.2	163.7
8/20 8:33	2623.8	163.7
8/20 8:34	2620.7	163.5
8/20 8:35	2623.8	163.7
8/20 8:36	2617.5	163.4
8/20 8:37	2623.2	163.7
8/20 8:38	2620.7	163.5
8/20 8:39	2622.5	163.7
8/20 8:40	2620.0	163.5
8/20 8:41	2611.3	163.0
8/20 8:42	2622.5	163.7
8/20 8:43	2611.3	163.0
8/20 8:44	2622.5	163.7
8/20 8:45	2620.0	163.5
8/20 8:46	2621.3	163.6
8/20 8:47	2620.7	163.5
8/20 8:48	2621.9	163.6

Timestamp	(Aux Boiler B) Gas Flow scf/min 1-Min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/20 8:49	2621.9	163.6
8/20 8:50	2621.3	163.6
8/20 8:51	2620.7	163.5
8/20 8:52	2623.2	163.7
8/20 8:53	2620.7	163.5
8/20 8:54	2622.5	163.7
8/20 8:55	2623.2	163.7
8/20 8:56	2624.4	163.8
8/20 8:57	2623.1	163.7
8/20 8:58	2624.4	163.8
8/20 8:59	2622.5	163.7
8/20 9:00	2622.5	163.7
8/20 9:01	2625.0	163.8
8/20 9:02	2618.2	163.4
8/20 9:03	2618.8	163.4
Average (all)	2617.9	163.4
Total (all)	–	–
Minimum (all)	2600.0	162.2
Maximum (all)	2625.0	163.8
Average (valid values only)	2617.9	163.4
Total (valid values only)	–	–
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/19/2007 7:39 AM thru 8/19/2007 8:39 AM

Timestamp	(Aux Boiler B) Propane Flow 1-Min scf/min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/19 7:39	797.3	120.7
8/19 7:40	797.5	120.8
8/19 7:41	797.5	120.8
8/19 7:42	797.5	120.8
8/19 7:43	797.3	120.7
8/19 7:44	797.7	120.8
8/19 7:45	797.1	120.7
8/19 7:46	797.3	120.7
8/19 7:47	797.5	120.8
8/19 7:48	800.7	121.3
8/19 7:49	807.5	122.3
8/19 7:50	807.7	122.3
8/19 7:51	807.3	122.3
8/19 7:52	807.3	122.3
8/19 7:53	807.9	122.3
8/19 7:54	807.3	122.3
8/19 7:55	807.7	122.3
8/19 7:56	808.0	122.4
8/19 7:57	807.3	122.3
8/19 7:58	808.4	122.4
8/19 7:59	806.7	122.2
8/19 8:00	807.8	122.3
8/19 8:01	807.7	122.3
8/19 8:02	807.3	122.3
8/19 8:03	808.1	122.4
8/19 8:04	806.7	122.2
8/19 8:05	807.7	122.3
8/19 8:06	807.7	122.3
8/19 8:07	808.4	122.4
8/19 8:08	807.9	122.3
8/19 8:09	807.3	122.3
8/19 8:10	807.3	122.3
8/19 8:11	808.3	122.4
8/19 8:12	807.7	122.3
8/19 8:13	807.3	122.3
8/19 8:14	808.8	122.5
8/19 8:15	812.3	123.0
8/19 8:16	812.7	123.1
8/19 8:17	812.5	123.0
8/19 8:18	812.3	123.0
8/19 8:19	812.7	123.1
8/19 8:20	813.8	123.2
8/19 8:21	818.6	124.0
8/19 8:22	818.2	123.9
8/19 8:23	818.2	123.9
8/19 8:24	818.0	123.9

Timestamp	(Aux Boiler B) Propane Flow 1-Min scf/min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/19 8:25	817.5	123.8
8/19 8:26	817.9	123.9
8/19 8:27	817.7	123.8
8/19 8:28	819.2	124.1
8/19 8:29	817.9	123.9
8/19 8:30	817.5	123.8
8/19 8:31	819.0	124.0
8/19 8:32	818.1	123.9
8/19 8:33	817.5	123.8
8/19 8:34	818.2	123.9
8/19 8:35	818.0	123.9
8/19 8:36	818.6	124.0
8/19 8:37	816.9	123.7
8/19 8:38	822.3	124.5
8/19 8:39	823.8	124.8
Average (all)	809.9	122.7
Total (all)	--	--
Minimum (all)	797.1	120.7
Maximum (all)	823.8	124.8
Average (valid values only)	809.9	122.7
Total (valid values only)	--	--
Count (valid values only)	61	61

CeDAR 1-Minute Data

Indiantown CoGen

Data for 8/19/2007 8:54 AM thru 8/19/2007 9:54 AM

Timestamp	(Aux Boiler B) Propane Flow 1-Min scf/min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/19 8:54	822.5	124.6
8/19 8:55	823.6	124.7
8/19 8:56	822.9	124.6
8/19 8:57	822.9	124.6
8/19 8:58	823.6	124.7
8/19 8:59	823.4	124.7
8/19 9:00	823.2	124.7
8/19 9:01	822.5	124.6
8/19 9:02	822.5	124.6
8/19 9:03	823.6	124.7
8/19 9:04	823.6	124.7
8/19 9:05	823.6	124.7
8/19 9:06	822.7	124.6
8/19 9:07	822.3	124.5
8/19 9:08	822.5	124.6
8/19 9:09	823.4	124.7
8/19 9:10	823.2	124.7
8/19 9:11	822.5	124.6
8/19 9:12	823.6	124.7
8/19 9:13	824.2	124.8
8/19 9:14	822.5	124.6
8/19 9:15	822.9	124.6
8/19 9:16	823.6	124.7
8/19 9:17	824.4	124.8
8/19 9:18	822.7	124.6
8/19 9:19	822.5	124.6
8/19 9:20	822.7	124.6
8/19 9:21	824.0	124.8
8/19 9:22	823.2	124.7
8/19 9:23	822.3	124.5
8/19 9:24	823.3	124.7
8/19 9:25	823.4	124.7
8/19 9:26	823.2	124.7
8/19 9:27	824.6	124.9
8/19 9:28	822.7	124.6
8/19 9:29	822.9	124.6
8/19 9:30	823.6	124.7
8/19 9:31	823.2	124.7
8/19 9:32	822.5	124.6
8/19 9:33	822.5	124.6
8/19 9:34	823.6	124.7
8/19 9:35	823.8	124.8
8/19 9:36	823.4	124.7
8/19 9:37	822.5	124.6
8/19 9:38	822.7	124.6
8/19 9:39	823.8	124.8

Timestamp	(Aux Boiler B) Propane Flow 1-Min scf/min	(Aux Boiler B) Heat Input Total 1-Min mmBtu/hr
8/19 9:40	822.7	124.6
8/19 9:41	822.5	124.6
8/19 9:42	823.8	124.8
8/19 9:43	823.8	124.8
8/19 9:44	822.9	124.6
8/19 9:45	823.4	124.7
8/19 9:46	823.6	124.7
8/19 9:47	823.4	124.7
8/19 9:48	822.3	124.5
8/19 9:49	823.6	124.7
8/19 9:50	823.6	124.7
8/19 9:51	823.6	124.7
8/19 9:52	823.6	124.7
8/19 9:53	823.8	124.8
8/19 9:54	822.9	124.6
Average (all)	823.2	124.7
Total (all)	–	–
Minimum (all)	822.3	124.5
Maximum (all)	824.6	124.9
Average (valid values only)	823.2	124.7
Total (valid values only)	–	–
Count (valid values only)	61	61