

# ***Relative Accuracy Test Audit Report***

*Completed for:*

***Gainesville Renewable Energy Center  
Woody Biomass Power Plant  
Biomass-fueled BFB Boiler (EU-002)***

**Report Number: 20-11542-02**

**Testing Completed: March 21 - 22, 2017**



# **Relative Accuracy Test Audit Report**

## **Gainesville Renewable Energy Center Woody Biomass Power Plant Woody Biomass-fueled BFB Boiler (EU-002) Gainesville, Florida**

C.E.M. Solutions Project Number: 11542

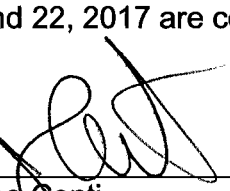
Testing Completed: March 21 & 22, 2017

C.E.M. Solutions, Inc Report Number: 20-11542-01

C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Phone: 352-489-4337

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at Gainesville Renewable Energy Center conducted on March 21 and 22, 2017 are complete and accurate to the best of my knowledge.

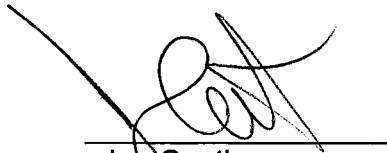


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Joe Conti  
Quality Assurance Manager,  
C.E.M. Solutions, Inc.

## **Declaration of Conformance to ASTM D 7036-04: Standard Practice for Competence of Air Emission Testing Bodies**

C.E.M. Solutions operates in conformance with the requirements of ASTM D 7036-04: Standard Practice for Competence of Air Emission Testing Bodies through the use of a quality system which incorporates a quality manual, internal audit system, systematic training of personnel and rigorous review of test methods and operating procedures. C.E.M. Solutions Inc. collects performance data related to the quality system and this data is available upon request.



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Joe Conti  
Quality Assurance Manager,  
C.E.M. Solutions, Inc.



## Project Background

Name of Source Owner: Gainesville Renewable Energy Center

Address of Owner: 11201 NW Hwy 441  
Gainesville, FL 32653

Source Identification: Facility ID: 0010131  
Woody Biomass-fueled BFB Boiler  
Emissions Unit: 002

Location of Source: Alachua County, Florida

Type of Operation: SIC Code: 4911

Tests Performed: USEPA Method 1: Traverse Points  
USEPA Method 2: Stack Gas Volumetric Flow and Velocity  
USEPA Method 3A: Determination of O<sub>2</sub> and CO<sub>2</sub>  
USEPA Method 4: Stack Gas Moisture Content  
USEPA Method 6C: Determination of Sulfur Dioxide  
USEPA Method 7E: Determination of Nitrogen Oxides  
USEPA Method 10: Determination of Carbon Monoxide

Test Supervisor (QSTI): Charles Horton

Test Technicians: Matthew Brock  
Thomas Cawiezell  
Alexander Lagunas

Date(s) Tests Conducted: March 21, 2017: Low Load Flow, Gas RATA  
March 22, 2017: Mid Load Flow

Site Test Coordinator: Ali Leaphart

State Regulatory Observers: No Attendees

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# 1.0 Introduction

Gainesville Renewable Energy Center (GREC) retained C.E.M. Solutions, Inc. to perform Relative Accuracy Test Audits (RATAs) on the Woody Biomass-fueled BFB Boiler (EU-002) Continuous Emissions Monitoring System (CEMS) located in Gainesville, Florida.

The test program conducted included Relative Accuracy Test Audits (RATAs) on the following CEMS analyzers:

- SO<sub>2</sub> concentration CEM (ppmvd)
- SO<sub>2</sub>-diluent CEM (lb/MMBtu)
- NO<sub>x</sub>-diluent CEM (lb/MMBtu)
- NO<sub>x</sub> concentration CEM (ppmvd)
- O<sub>2</sub> concentration CEM (percent)
- Volumetric Flow (WSCFH)
- CO (lb/MMBtu)

The test program was conducted in order to evaluate the accuracy of the Woody Biomass-fueled BFB Boiler CEMS in accordance with the United States Environmental Protection Agency (USEPA) requirements in the Code of Federal Regulations, Title 40, Part 75, Appendix A and Performance Specifications 2, 4A and 6 in Part 60, Appendix B.

The test program and results are presented and discussed in this report.

Ali Leaphart of GREC coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the USEPA. All conducted RATAs passed annual retesting criteria. The results of the RATAs and calculated Bias Adjustment Factors (BAF) are summarized in Table 1 below.

## 1.1 Test Deviations or Anomalies

Eleven (11) runs were conducted for the Low load flow RATA. Runs 4 and 5 were not used to improve the relative accuracy.

**Table 1: RATA Results  
Gainesville Renewable Energy Center  
Woody Biomass-fueled BFB Boiler**

<b>RATA</b>	<b>Performance Criteria</b>	<b>% RA</b>	<b>RA Status</b>
SO <sub>2</sub> ppm	15 ppm (using absolute difference between RM and CEMS)	0.6 ppm (BAF 1.111)	Pass
NO <sub>x</sub> ppm	10.0% (using % of RM)	4.93 % (BAF 1.031)	Pass
NO <sub>x</sub> lb/mmbtu	10.0% (using % of RM)	4.50 % (BAF 1.024)	Pass
CO ppm @ 3% O <sub>2</sub>	5.0% (using Applicable Standard)	1.6%	Pass
O <sub>2</sub> %	10% (using % of RM)	1.6 %	Pass
Flow WSCFH	10.0% (using % of RM)	1.89 % (Low Load)	Pass
		4.61 % (Mid Load)	Pass
		BAF 1.000	Pass

## 2.0 Facility Description

The Biomass-fueled Bubbling Fluidized Bed Boiler (EU-002) consists of a 100 MW steam turbine electric power generator. The Woody Biomass-fueled BFB Boiler burns clean wood and is rated for a maximum heat input of 1,358 MMbtu/hr.

### 2.1 Process Equipment

Emission controls consist of the following:

- Nitrogen oxides (NO<sub>x</sub>) emissions are controlled by a selective non-catalytic reduction (SNCR) system (via injection of ammonia solution into combustion flue gas).
- Sulfur dioxide (SO<sub>2</sub>), acid gases (HCl and HF) and organic compound emissions from the Woody Biomass-fueled BFB Boiler are controlled by an in-duct sorbent injection system.
- PM, NO<sub>x</sub>, CO and VOC emissions are controlled by efficient combustion
- Particulate matter (PM/PM10) emissions are controlled by a fabric filter (baghouse).

### 2.2 CEMS Equipment

The CEMS equipment installed at the Woody Biomass-fueled BFB Boiler consists of the following:

- CAI-600 extractive gas analyzer for NO<sub>x</sub>, CO, SO<sub>2</sub>, and O<sub>2</sub>
- Trace Environmental 500 Volumetric Flow Monitor

The Relative Accuracies of the Woody Biomass-fueled BFB Boiler CEMS are required to meet the performance specifications listed in Table 2.

**Table 2: RATA Performance Specifications  
Gainesville Renewable Energy Center  
Woody Biomass-fueled BFB Boiler**

<b>CEM Parameter</b>	<b>Engineering Units</b>	<b>CEM Performance Specification Reference</b>
SO <sub>2</sub> CEMS	ppmvd	40CFR75, Appendix A, 3.3.1
	lb/MMBtu	PS2 of 40CFR60, Appendix B
NO <sub>x</sub> CEMS	lb/MMBtu	40CFR75, Appendix A, 3.3.2
	ppmvd	40CFR75, Appendix A, 3.3.7
O <sub>2</sub> CEMS	%	40CFR75, Appendix A, 3.3.3
Volumetric Flow CEMS	WSCFH	40CFR75, Appendix A, 3.3.4
CO CEMS	lb/MMBtu	PS 4A 40CFR60, Appendix B

### **3.0 Test Program/Operating Conditions**

The Relative Accuracy Test Audit was conducted to determine relative accuracy of the Woody Biomass-fueled BFB Boiler NO<sub>x</sub>, SO<sub>2</sub>, CO, O<sub>2</sub> and flow monitoring CEMS on March 21 and 22, 2017.

During Low load flow and gas RATA, the boiler operated at 87 MW. During the Mid load flow RATA the Boiler operated at 98 MW.



## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

### 4.1 NO<sub>x</sub>, SO<sub>2</sub>, CO, O<sub>2</sub> Relative Accuracy Test Audit (RATA)

NO<sub>x</sub>, SO<sub>2</sub>, CO and O<sub>2</sub> reference method (RM) data was determined using instrument analyzer procedures. Data collected by the reference method is compared to the Woody Biomass-fueled BFB Boiler CEMS data. Mathematical equations used to determine calculated emissions standards and RATA accuracy are located in Appendix A. All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

NO<sub>x</sub>, and SO<sub>2</sub> gas data was collected using an in stack dilution probe, operating at a known dilution ratio (wet basis). The sample is then sent to the gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers. CO and diluent O<sub>2</sub> gas samples were continuously extracted from the stack by a full extractive gas sample probe (dry basis). Samples were then transported to a gas sample conditioner via a heated sample line operating at 250°F or above. The gas sample conditioner lowers the dew point of the sample gas to approximately 5°C through minimum interference heat exchangers. The dry, cool sample is then sent to the gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Calibration gas Certificates of Analysis can be found in Appendix B.

### 4.2 Volumetric Flow Relative Accuracy Test Audit (RATA)

The following subsections describe the EPA Methods used to determine the Reference Method Volumetric Flow. All methods and QA/QC protocols were followed as described in the appropriate test methodologies.

#### **4.2.1 Method 2: Determination of Velocity and Volumetric Flow with Type S Pitot Tube**

Reference Method Volumetric Flow data was determined utilizing EPA Method 2.

The stack gas velocity is determined from the gas density and from measurements of the average velocity head with a Type S pitot tube. Method 3A is used to determine stack gas density and Method 4 is used to determine stack gas moisture.

#### **4.3 Determination of Moisture Content in Stack Gases**

Stack gas moisture content was determined utilizing Method 4. In Method 4, gas sample is extracted at a rate no more than 0.75 cubic feet per minute, from the stack through a probe, inserted at least one meter from the stack wall, then sent through a set of pre-weighed impingers. Moisture is removed from the gas and collected in the impinger train. The gas exiting the sample train is maintained at a temperature less than 68 degrees Fahrenheit. The amount of sample pulled through the sample train is measured by a calibrated dry gas metering system.

At the end of the sampling run, the contents of the impingers are measured gravimetrically to the nearest 0.5 gram. Stack gas moisture is calculated based upon the impinger weight gain and the volume of gas collected.

##### **4.3.1 Method 4 Quality Assurance/Quality Control Procedures**

The moisture sampling train was leak checked prior to each test run at approximately 15 inches Hg and immediately after each run at a vacuum higher than the highest vacuum recorded during the respective test run. Results are recorded on the moisture field data sheets. The scale used to weigh the moisture impingers was checked daily with a 500g class II calibration weight to verify an accuracy of  $\pm 0.5g$

#### **4.4 Sampling Location/Traverse Points/Test Run Duration**

The circular stack on the outlet of the BFB Boiler, at the sample location, is 143.5 inches in diameter. The emissions sampling location is 110.5 feet (1326 inches) downstream from the nearest flow disturbance, and 68.5 feet (822 inches) upstream from the stack exit. A diagram of the sample location can be viewed in Appendix C.

##### **4.4.1 Gaseous Traverse Points and Run Durations**

An initial stratification test was conducted in accordance with Section 6.5.6.1 of 40CFR75, Appendix A. A total of 12 traverse points (three points per port),

located 4.4% (6.25"), 14.6% (21.0") and 29.6% (42.5") from the inside wall of the stack, were used to conduct the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> and O<sub>2</sub> stratification test while the unit was operating at a steady state. Each traverse point was measured for a minimum of two (2) minutes. The sample location was determined to be unstratified and a single point was used for the remainder of the test. The test port located at 315° was utilized for gaseous RM sampling during the RATA test. Each test run was a total of 21 minutes in duration. A total of ten test runs were completed.

#### **4.4.2 Volumetric Flow Traverse Points and Run Durations**

Velocity traverse points were determined in accordance with EPA Method 1. A total of 12 traverse points (3 points per port, 4 ports were used) were used to complete each flow test run. Points were located at 6.31, 20.95 and 42.48 inches from the inner wall of the stack. Sufficient time was allowed for differential pressure and stack temperature readings to stabilize at each point before readings were recorded. At high load, each flow run was conducted concurrently with each gaseous test run.

#### **4.4.3 Moisture Traverse Points and Run Durations**

The moisture sample probe was inserted at least one meter inside the stack from the inner wall.

When moisture data was required to correct gaseous measurements from a wet to a dry basis, runs were conducted concurrently with the gaseous test runs.

### **4.5 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks, response time checks, and NO<sub>2</sub> to NO converter checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 4. Appendix D contains the QA/QC checks.

The reference method volumetric flow Type S Pitot tube was leak checked prior to and follow each test run. A minimum of 3" of differential vacuum was applied to each leg of the test probe and tested for a period of 1 minute.

The moisture train was leak tested before and following each test run at a vacuum equal to or higher than the highest vacuum observed during each test run.

## 5.0 Relative Accuracy Test Audit Results

The following presents the results of the test program. Tables 3 through 10 summarize the NO<sub>x</sub>, SO<sub>2</sub>, CO and volumetric flow Relative Accuracy Test Audit results. Supporting RM field data and calculated values are presented in Appendix E. CEMS support data are located in Appendix F.

**Table 3: NO<sub>x</sub> ppm Relative Accuracy Test Audit Summary**

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	NO <sub>x</sub> RM DRY ppm	NO <sub>x</sub> CEM DRY ppm	Difference Like ppm
Run 1	21-Mar	8:36:00	9:24:00	87	43.9	44.3	-0.4
Run 2	21-Mar	10:28:00	10:49:00	86	49.3	46.8	2.5
Run 3	21-Mar	11:36:00	11:57:00	86	49.8	46.5	3.3
Run 4	21-Mar	12:45:00	13:06:00	87	46.4	44.1	2.3
Run 5	21-Mar	13:34:00	13:55:00	87	44.8	43.6	1.2
Run 6	21-Mar	14:32:00	14:53:00	87	45.8	44.6	1.2
Run 7	21-Mar	15:28:00	15:49:00	87	43.7	43.4	0.3
Run 8	21-Mar	16:20:00	16:41:00	87	44.8	43.7	1.1
Run 9	21-Mar	17:09:00	17:30:00	87	44.1	43.2	0.9

Average: 87 45.8 ppm 44.5 ppm 1.4 ppm

<b>Bias Test (pass/fail): Failed</b>	Standard Deviation:	1.1435
<b>Bias Adjustment Factor: 1.031</b>	Confidence Coefficient:	0.8789
<b>Method of RA Determination: Part 75, Standard Emitter</b>	T-Factor:	2.306
<b>Passed Annual Criteria (RA &lt; 7.5%)</b>	Number of runs:	9
	<b>Relative Accuracy:</b>	<b>4.93</b>
	Maximum RA	10.0
	<b>RA Status</b>	<b>Passed</b>

**Table 4: NO<sub>x</sub> lb/mmbtu Relative Accuracy Test Audit Summary**

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	NO <sub>x</sub> RM lbs/mmBtu	CEM lbs/mmBtu	Difference Like lbs/mmBtu
Run 1	21-Mar	8:36:00	9:24:00	87	0.058	0.059	-0.001
Run 2	21-Mar	10:28:00	10:49:00	86	0.065	0.062	0.003
Run 3	21-Mar	11:36:00	11:57:00	86	0.066	0.062	0.004
Run 4	21-Mar	12:45:00	13:06:00	87	0.061	0.058	0.003
Run 5	21-Mar	13:34:00	13:55:00	87	0.059	0.058	0.001
Run 6	21-Mar	14:32:00	14:53:00	87	0.061	0.059	0.002
Run 7	21-Mar	15:28:00	15:49:00	87	0.058	0.058	0.000
Run 8	21-Mar	16:20:00	16:41:00	87	0.059	0.058	0.001
Run 9	21-Mar	17:09:00	17:30:00	87	0.058	0.058	0.000

Average: 87 0.061 0.059 0.001 lbs/mmBtu

<b>Bias Test (pass/fail): Failed</b>	Standard Deviation:	0.0017
<b>Bias Adjustment Factor: 1.024</b>	Confidence Coefficient:	0.0013
<b>Method of RA Determination: Part 75, Standard Emitter</b>	T-Factor:	2.306
<b>Passed Annual Criteria (RA &lt; 7.5%)</b>	Number of runs:	9

Note:

All ppm values are corrected to lbs/mmBtu NO<sub>x</sub> using RM O<sub>2</sub> and CEM O<sub>2</sub> as diluents

<b>Relative Accuracy:</b>	<b>4.50</b>
Maximum RA	10.0
<b>RA Status</b>	<b>Passed</b>

**Table 5: SO<sub>2</sub> ppm Relative Accuracy Test Audit Summary**

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	SO <sub>2</sub> RM DRY ppm	SO <sub>2</sub> CEM DRY ppm	Difference Like ppm
Run 1	21-Mar	8:36:00	9:24:00	87	0.4	0.0	0.4
Run 2	21-Mar	10:28:00	10:49:00	86	0.4	0.0	0.4
Run 3	21-Mar	11:36:00	11:57:00	86	0.5	0.0	0.5
Run 4	21-Mar	12:45:00	13:06:00	87	1.3	0.0	1.3
Run 5	21-Mar	13:34:00	13:55:00	87	0.5	0.0	0.5
Run 6	21-Mar	14:32:00	14:53:00	87	0.6	0.0	0.6
Run 7	21-Mar	15:28:00	15:49:00	87	0.6	0.0	0.6
Run 8	21-Mar	16:20:00	16:41:00	87	0.6	0.0	0.6
Run 9	21-Mar	17:09:00	17:30:00	87	0.6	0.0	0.6

Average: 87 0.6 ppm 0.0 ppm 0.6 ppm

<b>Bias Test (pass/fail): Low Emitter-Failed</b>	Standard Deviation:	0.2656
<b>Bias Adjustment Factor: 1.111</b>	Confidence Coefficient:	0.2042
<b>Method of RA Determination: Part 75, Low Emitter Passed Annual Criteria (difference &lt; 12 ppm)</b>	T-Factor:	2.306
	Number of runs Reported:	9
	<b>Relative Accuracy:</b>	<b>0.6</b>
	Maximum RA	15.0
	<b>RA Status</b>	<b>Passed</b>

**Table 7: CO ppm @ 3% O<sub>2</sub> Relative Accuracy Test Audit Summary**

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	CO RM (Dry) ppm@3% O <sub>2</sub>	CO CEM (Dry) ppm@3% O <sub>2</sub>	Difference ppm@3% O <sub>2</sub>
Run 1	21-Mar	8:36:00	9:24:00	86.5	50.0	41.6	8.4
Run 2	21-Mar	10:28:00	10:49:00	86.3	37.4	33.4	4.0
Run 3	21-Mar	11:36:00	11:57:00	86.4	28.1	26.7	1.4
Run 4	21-Mar	12:45:00	13:06:00	86.5	40.0	35.5	4.5
Run 5	21-Mar	13:34:00	13:55:00	86.6	47.1	45.5	1.6
Run 6	21-Mar	14:32:00	14:53:00	86.7	32.1	30.4	1.7
Run 7	21-Mar	15:28:00	15:49:00	86.5	39.3	38.2	1.1
Run 8	21-Mar	16:20:00	16:41:00	86.6	35.1	30.6	4.5
Run 9	21-Mar	17:09:00	17:30:00	86.5	28.6	28.5	0.1

Average: 86.5 37.5 34.5 3.0 ppm

**Method of RA Determination: Applicable Standard Part 60**

Standard Deviation: 2.5710  
 Confidence Coefficient: 1.9762  
 T-Factor: 2.306  
 Number of runs Reported: 9  
 Applicable Standard: 310.0 ppm  
**Relative Accuracy: 1.6 %**  
 Maximum RA 5.0 %  
**RA Status Passed**

Note:  
 All ppm values are corrected to 3 % O<sub>2</sub>  
 using RM O<sub>2</sub> and CEM O<sub>2</sub> as diluents

**Table 8: O<sub>2</sub> Percent Volume Relative Accuracy Test Audit Summary**

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	O <sub>2</sub> RM DRY % V/V	O <sub>2</sub> CEM DRY % V/V	O <sub>2</sub> Difference Like % V/V
Run 1	21-Mar	8:36:00	9:24:00	87	3.5	3.5	0.0
Run 2	21-Mar	10:28:00	10:49:00	86	3.5	3.5	0.0
Run 3	21-Mar	11:36:00	11:57:00	86	3.5	3.5	0.0
Run 4	21-Mar	12:45:00	13:06:00	87	3.4	3.5	-0.1
Run 5	21-Mar	13:34:00	13:55:00	87	3.4	3.5	-0.1
Run 6	21-Mar	14:32:00	14:53:00	87	3.5	3.5	0.0
Run 7	21-Mar	15:28:00	15:49:00	87	3.5	3.5	0.0
Run 8	21-Mar	16:20:00	16:41:00	87	3.5	3.5	0.0
Run 9	21-Mar	17:09:00	17:30:00	87	3.5	3.6	-0.1

Average: 87 3.5 % 3.5 % 0.0 %

Standard Deviation: 0.0377  
 Confidence Coefficient: 0.0290  
 T-Factor: 2.306  
 Number of runs: 9

**Method of RA Determination: Part 75, Average RM Value  
 Passing Annual Criteria (RA < 7.5%)**

**Relative Accuracy: 1.6**  
 Maximum RA 10.0  
**RA Status Passed**



**Table 9: Low Load Volumetric Flow Relative Accuracy Test Audit Summary**

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	21-Mar	8:42:00	8:52:00	87	14757000	14839000	-82000
Run 2	21-Mar	8:54:00	9:01:00	86	14180000	14585000	-405000
Run 3	21-Mar	9:13:00	9:23:00	87	14855000	14983000	-128000
Not Used	21-Mar	10:28:00	10:38:00	86	13667000	14671000	-1004000
Not Used	21-Mar	10:42:00	10:49:00	86	13419000	14631000	-1212000
Run 6	21-Mar	12:48:00	12:56:00	87	14790000	14735000	55000
Run 7	21-Mar	12:57:00	13:05:00	87	14526000	14490000	36000
Run 8	21-Mar	13:36:00	13:46:00	87	14798000	14675000	123000
Run 9	21-Mar	14:21:00	14:30:00	87	14555000	14975000	-420000
Run 10	21-Mar	14:41:00	14:49:00	87	14830000	14993000	-163000
Run 11	21-Mar	14:50:00	14:57:00	87	14605000	14795000	-190000
Average:				87	14,655,111.1 SCFH	14,785,555.6 SCFH	-130,444.4 SCFH

**Bias Test (pass/fail): Passed**  
**Bias Adjustment Factor: 1.000**  
**Method of RA Determination: Part 75, Standard Emitter**  
**Passed Annual Criteria (RA < 7.5%)**

Standard Deviation: 191216.5730  
 Confidence Coefficient: 146981.8058  
 T-Factor: 2.306  
 Number of runs Reported: 9

**Relative Accuracy: 1.89**  
 Maximum RA 10.0  
**RA Status Passed**



## **Appendix A: Mathematical Equations**

# Method 2F Mathematical Explanations

## Nomenclature

$A$  = Cross-sectional area of stack,  $m^2$  ( $ft^2$ ).

$B_{ws}$  = Water vapor in the gas stream (from Method 4 (reference method) or Method 5),  
proportion by volume.

$K_p$  = Conversion Factor (a constant). 85.49 ft/sec.

$M_d$  = Molecular weight of stack gas, dry basis (see Section 8.6), g/g – mole (lb/lb – mole).

$M_s$  = Molecular weight of stack gas, wet basis, g/g – mole (lb/lb – mole).

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

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

$P_s$  = Absolute stack pressure ( $P_{bar} + P_g/13.6$ ), mm Hg (in. Hg).

$P_{std}$  = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).

$Q_{sd}$  = Average dry-basis volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr).

$Q_{sw}$  = Average wet-basis volumetric stack gas flow rate corrected to standard conditions, wscm/hr (wscf/hr).

$T_{s(avg)}$  = Average absolute stack gas temperature across all traverse points.

$t_{s(i)}$  = Stack gas temperature, °C (°F), at traverse point  $i$ .

$T_{s(i)}$  = Absolute stack temperature, °K (°R).  
= 273 +  $T_s$  for metric units.  
= 460 +  $T_s$  for English units.

$T_{std}$  = Standard absolute temperature, 293°K (528°R).

$F_{1(i)}$  = Pitch angle ratio, applicable at traverse point  $i$ , dimensionless.

$F_{2(i)}$  = 3-D probe velocity calibration coefficient, applicable at traverse point  $i$ , dimensionless.

$(P_4 - P_5)$  = Pitch differential pressure of stack gas flow, mm H<sub>2</sub>O (in. H<sub>2</sub>O), at traverse point  $i$ .

$(P_1 - P_2)$  = Velocity head (differential pressure) of stack gas flow, mm H<sub>2</sub>O (in. H<sub>2</sub>O), at traverse point i.

$v_{a(i)}$  = Reported stack gas axial velocity, m/sec (ft/sec), at traverse point i.

$v_{a(avg)}$  = Average stack gas axial velocity, m/sec (ft/sec), across all traverse points.

$\theta_{y(i)}$  = Yaw angle, degrees, at traverse point i.

$\theta_{p(i)}$  = Pitch angle, degrees, at traverse point i.

n = Number of traverse points.

3600 = Conversion Factor, sec/hr.

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

## Equations

Molecular weight of stack gas, wet basis, g/g-mole (lb/lb-mole) “ $M_s$ ” is calculated in accordance with 40 CFR 60, App. A-1, Meth. 2F. Sect 12.1, and equation 2F-4.

$$M_s = M_d(1 - B_{ws}) + 18.0B_{ws}$$

Absolute stack pressure, mm Hg (in. Hg), “ $P_s$ ” is calculated in accordance with 40 CFR 6, App. A-1, Meth. 2F. Sect 12.1, and equation 2F-5.

$$P_s = P_{bar} + (P_g / 13.6)$$

Reported stack gas axial velocity, m/sec (ft/sec), at traverse point i. “ $v_{a(i)}$ ” is calculated in accordance with 40 CFR 60, App. A-1, Meth. 2F. Sect 12.2, and equation 2F-8.

$$v_{a(i)} = K_p F_{2(i)} \sqrt{\frac{(P_1 - P_2)_i T_{s(i)}}{P_s M_s}} (\cos \theta_{y(i)}) (\cos \theta_{p(i)})$$

Average Axial Velocity in Stack “ $v_{a(avg)}$ ” is calculated in accordance with 40 CFR 60, App. A-1, Meth. 2F. Sect 12.3, and equation 2F-9.

$$v_{a(avg)} = \frac{\sum_{i=1}^n v_{a(i)}}{n}$$

Average gas wet volumetric flow rate in stack “Q<sub>sw</sub>” is calculated in accordance with 40 CFR 60, App. A-1, Meth. 2F. Sect 12.5, and equation 2-10.

$$Q_{sw} = 3,600(v_{a(avg)})A \left( \frac{T_{std}}{T_{s(avg)}} \right) \left( \frac{P_s}{P_{std}} \right)$$

Average gas dry volumetric flow rate in stack “Q<sub>sd</sub>” is calculated in accordance with 40 CFR 60, App. A-1, Meth. 2F. Sect 12.6, and equation 2-11.

$$Q_{sd} = 3600(1 - B_{ws})(v_{a(avg)})A \left( \frac{T_{std}}{T_{s(avg)}} \right) \left( \frac{P_s}{P_{std}} \right)$$

## Method 4 Mathematical Explanations

### Nomenclature

$B_{ws}$  = Proportion of water vapor, by volume, in the gas stream.

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

$P_m$  = Absolute pressure (for this method, same as barometric pressure) at the dry gas meter, mm Hg (in. Hg)

$P_{std}$  = Standard, absolute pressure, 760 mm Hg (29.92 in. Hg).

$R$  = Ideal gas constant, 0.06236 (mm Hg)(m<sup>3</sup>)/(g-mole)(°K) for metric units and 21.85 (in. Hg)(ft<sup>3</sup>)/(lb-mole)(°R) for English units.

$T_m$  = Absolute temperature at meter, °K (°R).

$T_{std}$  = Standard absolute temperature, 293 °K (528 °R).

$V_f$  = Final volume of condenser water, ml.

$V_i$  = Initial volume, if any, of condenser water, ml.

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

$V_{m(std)}$  = Dry gas volume measured by the dry gas meter, corrected to standard conditions, dscm (dscf).

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

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

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

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

$Y$  = Dry gas meter calibration factor.

$\Delta V_m$  = Incremental dry gas volume measured by dry gas meter at each traverse point dcm  
(dcf).

$\rho_w$  = Density of water, 0.9982 g/ml (0.002201 lb/ml).

## Equations

The volume of water vapor condensed " $V_{wc(std)}$ " is calculated in accordance with 40 CFR 60, App. A-3, Meth. 4, Sect 12.1.2, and equation 4-1.

$$V_{wc(std)} = K_1 (V_f - V_i)$$

$K_1 = 0.04706 \text{ ft}^3/\text{ml}$  for English units.

Water volume collected in silica gel " $V_{wsg(std)}$ " is calculated in accordance with 40 CFR 60, App. A-3, Meth. 4, Sect 12.1.3, and equation 4-2.

$$V_{wsg(std)} = K_3 (W_f - W_i)$$

$K_2 = 453.6 \text{ g/lb}$  for English units.

$K_3 = 0.04715 \text{ ft}^3/\text{g}$  for English units.

Sample gas volume " $V_{m(std)}$ " is calculated in accordance with 40 CFR 60, App. A-3, Meth. 4, Sect 12.1.3, and equation 4-3.

$$V_{m(std)} = K_4 Y \frac{V_m P_m}{T_m}$$

$K_4 = 17.64 \text{ }^\circ\text{R/in. Hg}$  for English units.

The moisture content " $B_{ws}$ " is calculated in accordance with 40 CFR 60, App. A-3, Meth. 4, Sect 12.1.5, and equation 4-4.

$$B_{ws} = \frac{V_{wc(std)} + V_{wsg(std)}}{V_{wc(std)} + V_{wsg(std)} + V_{m(std)}}$$



## Emissions Rates in lbs/mmBtu

When reference method readings for pollutant and oxygen are on a dry basis, equation 19-1 of Method 19 is utilized.

$$E = C_d * F_d * \frac{20.9}{(20.9 - \%O_{2d})} \quad \text{Eq. 19-1}$$

Where:

$C_d$  = Pollutant concentration, dry basis, in lb/scf (to convert ppm to lb/scf refer to Table 19-1).

$F_d$  = Volume of combustion components per unit of heat input, dry basis, dscf/mmBtu.(from Method 19, Table 19-2)

$\%O_{2d}$  = Oxygen, dry basis, percent

**Table 19-1: Conversion Factors For Concentrations.**

From	To	Multiply by
ppm SO <sub>2</sub>	lb/scf	$1.660 \times 10^{-7}$
ppm NO <sub>x</sub>	lb/scf	$1.194 \times 10^{-7}$
ppm CO	lb/scf	$2.5955 \times 10^{-9} \times 28.01$
g/scm	ng/scm	$10^9$
mg/scm	ng/scm	$10^6$
lb/scf	ng/scm	$1.602 \times 10^{13}$

## Emissions Rates in ppm @ 3% O<sub>2</sub>

When reference method readings are corrected to 3% O<sub>2</sub>, equation 20-4 of Method 20 is utilized.

$$C_{adj} = C_d * \left( \frac{20.9 - 3.0}{20.9 - \%O_2} \right) \quad \text{Eq. 20-4}$$

Where:

C<sub>adj</sub> =Pollutant concentration corrected to 3 percent O<sub>2</sub>, ppm

C<sub>d</sub> = Pollutant concentration

%O<sub>2</sub> =Measured O<sub>2</sub> concentration, dry basis, percent

**Appendix B: Reference Method Calibration Gas  
Certificates of Analysis**

## CERTIFICATE OF BATCH ANALYSIS

### Grade of Product: CEM-CAL ZERO

Part Number:	NI CZ15A	Reference Number:	21-400540138-1
Cylinder Analyzed:	CC355956	Cylinder Volume:	142.0 CF
Laboratory:	110 - Tampa Plant - FL	Cylinder Pressure:	2000 PSIG
Analysis Date:	May 08, 2015	Valve Outlet:	580
Lot Number:	21-400540138-1		

Expiration Date: May 08, 2023

### ANALYTICAL RESULTS

Component	Requested Purity	Certified Concentration
NITROGEN	99.9995 %	99.9995 %
CARBON DIOXIDE	< 1.0 PPM	<LDL 0.154 PPM
NOx	< 0.1 PPM	< 0.1 PPM
SO2	< 0.1 PPM	< 0.1 PPM
THC	< 0.1 PPM	<LDL 0.06 PPM
CARBON MONOXIDE	< 0.5 PPM	<LDL 0.154 PPM

**Permanent Notes:** Airgas certifies that the contents of this cylinder meet the requirements of 40 CFR 72.2

**Cylinders in Batch:**

CC174164, CC183268, CC185572, CC189776, CC263051, CC267188, CC288593, CC301816, CC308214, CC318826, CC319269, CC326641, CC355956, CC75029, SG9124272BAL, SG9169154BAL, XC015750B

Impurities verified against analytical standards traceable to NIST by weight and/or analysis.

Signature on file

Approved for Release

# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E03NI60E15A03W3	Reference Number:	122-124375364-1
Cylinder Number:	CC221880	Cylinder Volume:	158.8 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22013	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	May 20, 2013

**Expiration Date: May 20, 2021**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	19.00 %	19.26 %	G1	+/- 0.6% NIST Traceable	05/20/2013
OXYGEN	20.50 %	20.61 %	G1	+/- 1.0% NIST Traceable	05/20/2013
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12061551	CC354889	19.87 % CARBON DIOXIDE/NITROGEN	+/- 0.6%	Jan 27, 2018
NTRM	09061416	CC273522	22.53 % OXYGEN/NITROGEN	+/- 0.4%	Mar 08, 2019

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA510 CO2 42399380022	Nondispersive Infrared (NDIR)	May 06, 2013
Horiba MPA510 O2 41499150042	Paramagnetic	May 10, 2013

Triad Data Available Upon Request



Signature on file

Approved for Release

# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number: E03NI80E15A2872	Reference Number: 122-124564415-3
Cylinder Number: EB0070863	Cylinder Volume: 150.6 CF
Laboratory: 124 - Durham - NC	Cylinder Pressure: 2015 PSIG
PGVP Number: B22016	Valve Outlet: 590
Gas Code: CO2,O2,BALN	Certification Date: Jul 11, 2016

**Expiration Date: Jul 11, 2024**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	9.500 %	9.437 %	G1	+/- 0.6% NIST Traceable	07/11/2016
OXYGEN	10.00 %	10.11 %	G1	+/- 0.4% NIST Traceable	07/11/2016
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12061348	CC360808	11.002 % CARBON DIOXIDE/NITROGEN	+/- 0.6%	Jan 11, 2018
NTRM	09060230	CC263091	9.961 % OXYGEN/NITROGEN	+/- 0.3%	Nov 08, 2018

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA510 CO2 2L6YXWY0	Nondispersive Infrared (NDIR)	Jun 23, 2016
Horiba MPA510 O2 41499150042	Paramagnetic	Jun 23, 2016

Triad Data Available Upon Request



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Signature on file  
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# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E02NI99E15A2396	Reference Number:	122-124520548-1
Cylinder Number:	EB0061550	Cylinder Volume:	144.3 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22015	Valve Outlet:	660
Gas Code:	NO,NOX,BALN	Certification Date:	Nov 03, 2015

**Expiration Date: Nov 03, 2018**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

### ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	46.00 PPM	45.43 PPM	G1	+/- 0.8% NIST Traceable	10/27/2015, 11/03/2015
NITRIC OXIDE	46.00 PPM	45.36 PPM	G1	+/- 0.8% NIST Traceable	10/27/2015, 11/03/2015
NITROGEN	Balance				

### CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13061218	CC403904	49.40 PPM NITRIC OXIDE/NITROGEN	+/- 0.4%	Nov 19, 2019
PRM	12328	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
GMIS	812201402	CC502144	4.865 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Aug 12, 2017

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

### ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801549 NO	FTIR	Oct 22, 2015
Nicolet 6700 AHR0801549 NO	FTIR	Oct 22, 2015

Triad Data Available Upon Request



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# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number: E02NI99E15AC3A8 Reference Number: 122-124479082-1  
Cylinder Number: CC335409 Cylinder Volume: 144.3 CF  
Laboratory: 124 - Durham - NC Cylinder Pressure: 2015 PSIG  
PGVP Number: B22015 Valve Outlet: 660  
Gas Code: NO,NOX,BALN Certification Date: Feb 25, 2015

**Expiration Date: Feb 25, 2023**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

### ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	90.00 PPM	90.50 PPM	G1	+/- 1.2% NIST Traceable	02/18/2015, 02/25/2015
NITRIC OXIDE	90.00 PPM	90.42 PPM	G1	+/- 1.2% NIST Traceable	02/18/2015, 02/25/2015
NITROGEN	Balance				

### CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13061038	CC423409	99.86 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Nov 19, 2019
PRM	12328	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
GMIS	812201404	CC502156	4.867 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Aug 12, 2017

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

### ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 NO	FTIR	Feb 05, 2015
Nicolet 6700 AHR0801333 NO2	FTIR	Feb 05, 2015

Triad Data Available Upon Request

NOTES:AEP CODE ME422319



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# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number: E02NI99E15A0645	Reference Number: 122-124566585-1
Cylinder Number: CC349198	Cylinder Volume: 144.4 CF
Laboratory: 124 - Durham - NC	Cylinder Pressure: 2015 PSIG
PGVP Number: B22016	Valve Outlet: 660
Gas Code: SO2,BALN	Certification Date: Aug 02, 2016

**Expiration Date: Aug 02, 2020**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

<b>ANALYTICAL RESULTS</b>					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
SULFUR DIOXIDE	21.00 PPM	20.67 PPM	G1	+/- 0.9% NIST Traceable	07/26/2016, 08/02/2016
NITROGEN	Balance				

<b>CALIBRATION STANDARDS</b>					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13060314	CC403799	16.82 PPM SULFUR DIOXIDE/NITROGEN	+/- 0.9%	May 31, 2019

<b>ANALYTICAL EQUIPMENT</b>		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 SO2	FTIR	Jul 21, 2016

Triad Data Available Upon Request



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**CERTIFICATE OF ANALYSIS**  
**Grade of Product: EPA Protocol**

Part Number: E02NI99E15A0350      Reference Number: 122-124572271-1  
 Cylinder Number: CC485206      Cylinder Volume: 144.4 CF  
 Laboratory: 124 - Durham - NC      Cylinder Pressure: 2015 PSIG  
 PGVP Number: B22016      Valve Outlet: 660  
 Gas Code: SO2,BALN      Certification Date: Aug 29, 2016

**Expiration Date: Aug 29, 2024**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
SULFUR DIOXIDE	50.00 PPM	50.31 PPM	G1	+/- 1.0% NIST Traceable	08/22/2016, 08/29/2016
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12061809	CC352181	50.10 PPM SULFUR DIOXIDE/NITROGEN	+/- 1.2%	Apr 24, 2018

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 SO2	FTIR	Aug 18, 2016

Triad Data Available Upon Request



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Signature on file  
Approved for Release

**CERTIFICATE OF ANALYSIS**  
**Grade of Product: EPA Protocol**

Part Number:	E02NI99E15AC0V0	Reference Number:	122-124349394-1
Cylinder Number:	CC423695	Cylinder Volume:	144.3 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22012	Valve Outlet:	350
Gas Code:	CO,BALN	Certification Date:	Dec 27, 2012

**Expiration Date: Dec 27, 2020**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical Interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	97.50 PPM	97.52 PPM	G1	+/- 1% NIST Traceable	12/27/2012
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	120622	CC365468	97.56 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	May 25, 2018

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA510 CO 1G46EA07	Nondispersive Infrared (NDIR)	Dec 07, 2012

Triad Data Available Upon Request



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# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number: E02NI99E15ACVT6      Reference Number: 122-124455383-1  
 Cylinder Number: SG9163115BAL      Cylinder Volume: 144.3 CF  
 Laboratory: 124 - Durham - NC      Cylinder Pressure: 2015 PSIG  
 PGVP Number: B22014      Valve Outlet: 350  
 Gas Code: CO,BALN      Certification Date: Sep 22, 2014

**Expiration Date: Sep 22, 2022**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	212.5 PPM	212.1 PPM	G1	+/- 0.4% NIST Traceable	09/22/2014
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12060318	CC353951	249.3 PPM CARBON MONOXIDE/NITROGEN	+/- 0.4%	Oct 26, 2017

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA510 CO RS2EGL6K	Nondispersive Infrared (NDIR)	Aug 27, 2014

Triad Data Available Upon Request



Signature on file  
Approved for Release

# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E02NI99E15AC0V1	Reference Number:	122-124449052-1
Cylinder Number:	CC212161	Cylinder Volume:	144.3 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22014	Valve Outlet:	350
Gas Code:	CO,BALN	Certification Date:	Aug 12, 2014

**Expiration Date: Aug 12, 2022**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	460.0 PPM	461.9 PPM	G1	+/- 0.6% NIST Traceable	08/12/2014
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12062423	CC366870	487.1 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Jun 22, 2018

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA510 CO RS2EGL6K	Nondispersive Infrared (NDIR)	Jul 31, 2014

Triad Data Available Upon Request



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Signature on file  
Approved for Release

# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E02AI99E15A1486	Reference Number:	122-124459561-3
Cylinder Number:	CC453989	Cylinder Volume:	146.2 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22014	Valve Outlet:	590
Gas Code:	PPN,BALA	Certification Date:	Oct 20, 2014

**Expiration Date: Oct 20, 2022**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
PROPANE	9.000 PPM	8.926 PPM	G1	+/- 0.8% NIST Traceable	10/20/2014
AIR	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	10061415	CC315930	9.93 PPM PROPANE/AIR	+/- 0.6%	Jul 20, 2016

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 C3H8	FTIR	Oct 03, 2014

Triad Data Available Upon Request



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Signature on file  
Approved for Release

# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E02AI99E15A1448	Reference Number:	122-124459561-2
Cylinder Number:	CC454100	Cylinder Volume:	146.2 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22014	Valve Outlet:	590
Gas Code:	PPN,BALA	Certification Date:	Oct 20, 2014

**Expiration Date: Oct 20, 2022**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

### ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
PROPANE	15.00 PPM	15.20 PPM	G1	+/- 1.0% NIST Traceable	10/20/2014
AIR	Balance				

### CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	10061415	CC315930	9.93 PPM PROPANE/AIR	+/- 0.6%	Jul 20, 2016

### ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 C3H8	FTIR	Oct 03, 2014

Triad Data Available Upon Request



Signature on file

Approved for Release

**CERTIFICATE OF ANALYSIS**  
**Grade of Product: EPA Protocol**

Part Number:	E02AI99E15A0080	Reference Number:	122-124460857-1
Cylinder Number:	CC458494	Cylinder Volume:	146.2 CF
Laboratory:	124 - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22014	Valve Outlet:	590
Gas Code:	PPN,BALA	Certification Date:	Oct 28, 2014

**Expiration Date: Oct 28, 2022**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

<b>ANALYTICAL RESULTS</b>					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
PROPANE	25.50 PPM	25.53 PPM	G1	+/- 0.9% NIST Traceable	10/28/2014
AIR	Balance				

<b>CALIBRATION STANDARDS</b>					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	10061415	CC315930	9.93 PPM PROPANE/AIR	+/- 0.6%	Jul 20, 2016

<b>ANALYTICAL EQUIPMENT</b>		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 C3H8	FTIR	Oct 03, 2014

Triad Data Available Upon Request



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**Signature on file**  
**Approved for Release**



# CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number: E02AI99E15A1704	Reference Number: 122-124493058-1A
Cylinder Number: CC502188	Cylinder Volume: 146.2 CF
Laboratory: 124 - Durham - NC	Cylinder Pressure: 2015 PSIG
PGVP Number: B22015	Valve Outlet: 660
Gas Code: NO2,BALA	Certification Date: Jun 25, 2015

**Expiration Date: Jun 25, 2018**

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NITROGEN DIOXIDE AIR	50.00 PPM Balance	50.06 PPM	G1	+/- 1.8%	06/09/2015, 06/25/2015

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
GMIS	911201403	CC502383	30.51 PPM NITROGEN DIOXIDE/NITROGEN	+/- 1.6%	Sep 11, 2017
PRM	12325	APEX1099251	50.00 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Jul 26, 2014
GMIS	415201401	CC345255	50.06 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Jul 25, 2017
PRM	12329	726612	25.02 PPM NITROGEN DIOXIDE/NITROGEN	+/- 1.5%	Feb 14, 2012

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
MKS NO2 018176583	FTIR	Jun 16, 2015

Triad Data Available Upon Request



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Signature on file  
Approved for Release

## **Appendix C: Sample Location Diagram and Traverse Points**

**C.E.M. Solutions, Inc.**  
**Method 7E Gaseous Stratification Test**

Company: GREC  
 Facility: Gainesville  
 Unit: 1  
 Response Time: 120 Seconds  
 Point Duration: 240 Seconds

Date: 3/21/2017  
 Project Number: 11542  
 Test Personnel: CH/AH/TC/MB

**Test Data**

Test Port	Traverse	Start Time	End Time	NO <sub>x</sub> ppm	SO <sub>2</sub> ppm	CO <sub>2</sub> %	O <sub>2</sub> %
P1	1	8:36	8:40	32.9	1.6	14.17	3.3
P1	2	8:40	8:44	35	1.6	14	3.4
P1	3	8:44	8:48	34.8	1.6	13.1	3.9
P2	1	8:54	8:58	35.4	1.6	13.7	3.5
P2	2	8:58	9:02	35.1	1.6	13.6	3.5
P2	3	9:02	9:06	31.9	1.6	13	3.7
P3	1	9:13	9:17	36.8	1.6	13.5	3.7
P3	2	9:17	9:21	36.7	1.6	13.8	3.5
P3	3	9:21	9:25	33.2	1.6	13.3	3.8
P4	1	9:30	9:34	33.9	1.6	13.8	3.4
P4	2	9:34	9:38	35.2	1.6	13.8	3.5
P4	3	9:38	9:42	35.3	1.6	13.7	3.6
<b>Averages:</b>				34.68	1.60	13.62	3.57

**C.E.M. Solutions, Inc.**  
**Method 7E Gaseous Stratification Test**

Company: GREC  
 Facility: Gainesville  
 Unit: 1

Date: 3/21/2017  
 Project Number: 11542  
 Test Personnel: CH/AH/TC/MB

**Standard Test  
 Results**

Test Port	Test Point	NO <sub>x</sub> ppm	SO <sub>2</sub> ppm	CO <sub>2</sub> %	O <sub>2</sub> %
P1	1	5.1%	0.0%	4.0%	7.5%
P1	2	0.9%	0.0%	2.8%	4.7%
P1	3	0.3%	0.0%	3.8%	9.3%
P2	1	2.1%	0.0%	0.6%	1.9%
P2	2	1.2%	0.0%	0.2%	1.9%
P2	3	8.0%	0.0%	4.6%	3.7%
P3	1	6.1%	0.0%	0.9%	3.7%
P3	2	5.8%	0.0%	1.3%	1.9%
P3	3	4.3%	0.0%	2.4%	6.5%
P4	1	2.3%	0.0%	1.3%	4.7%
P4	2	1.5%	0.0%	1.3%	1.9%
P4	3	1.8%	0.0%	0.6%	0.9%

**Alternative Specification  
 Results**

NO <sub>x</sub> ppm	SO <sub>2</sub> ppm	CO <sub>2</sub> %	O <sub>2</sub> %
2	0	0.5	0.3
0	0	0.4	0.2
0	0	0.5	0.3
1	0	0.1	0.1
0	0	0.0	0.1
3	0	0.6	0.1
2	0	0.1	0.1
2	0	0.2	0.1
1	0	0.3	0.2
1	0	0.2	0.2
1	0	0.2	0.1
1	0	0.1	0.0

**Acceptable Test Results:**

For short measurement line (16.7%, 50%, and 83.3% of the measurement line), each gas concentration of interest at each traverse point shall differ no more than  $\pm 10.0\%$  of the average OR deviate from the average by more than  $\pm 5$  ppm or  $\pm 0.5\%$

**OR**

For single point (whichever most closely matches the mean), each gas concentration of interest at each traverse point shall differ no more than  $\pm 5.0\%$  of the average OR differ from the average by more than  $\pm 3$  ppm or  $\pm 0.3\%$

**Test Results:**

All parameters to met the Single Point Specification. Samples were taken at a single point throughout the test.

**Appendix D: Reference Method Quality  
Assurance/Quality Control Checks**

## **Appendix D-1: Gaseous RATA**

Calibration Error Tests

Bias and Drift Tests

NO<sub>2</sub> to NO Converter Efficiency Test

Instrument Analyzer Response Time Tests

# Analyzer Calibration Error

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 1

## Nitrogen Oxides Monitor

Full Scale: 500.0 ppm

## Method 7E

Serial Number: 1200951382

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
CC263051/cg1	0.0 ppm	0.2 ppm	0.2 ppm	0.22 %
EB0061550/cg4	45.43 ppm	45.8 ppm	0.4 ppm	0.41 %
CC335409/cg5	90.50 ppm	90.4 ppm	-0.1 ppm	-0.11 %

## Carbon Dioxide Monitor

Full Scale: 20.00 %

## Method 3A

Serial Number: N3GN2201T

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
CC263051/cg1	0.00 %	0.03 %	0.03 %	0.16 %
EB0070863/cg2	9.44 %	9.56 %	0.12 %	0.64 %
CC221880/cg3	19.26 %	19.59 %	0.33 %	1.71 %

## Sulfur Dioxide Monitor

Full Scale: 100.0 ppm

## Method 6C

Serial Number: 1336459886

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
CC263051/cg1	0.0 ppm	0.0 ppm	0.0 ppm	0.00 %
CC349198/cg6	20.67 ppm	19.7 ppm	-1.0 ppm	-1.93 %
CC485206/cg7	50.31 ppm	50.1 ppm	-0.2 ppm	-0.42 %

# Sampling System Bias and Drift

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 1

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.6 ppm	0.66 %	0.2 ppm	0.22 %	-0.44 %
NO <sub>x</sub>	45.4 ppm	45.8 ppm	0.41 %	45.7 ppm	0.30 %	-0.11 %
CO <sub>2</sub>	0.00 %	0.16 %	0.83 %	0.09 %	0.47 %	-0.36 %
CO <sub>2</sub>	9.44 %	9.56 %	0.64 %	9.56 %	0.64 %	0.00 %
SO <sub>2</sub>	0.0 ppm	1.4 ppm	2.78 %	1.4 ppm	2.78 %	0.00 %
SO <sub>2</sub>	20.7 ppm	19.7 ppm	-1.93 %	18.8 ppm	-3.72 %	-1.79 %



# Sampling System Bias and Drift

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 2

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.2 ppm	0.22 %	0.5 ppm	0.55 %	0.33 %
NO <sub>x</sub>	45.4 ppm	45.7 ppm	0.30 %	44.3 ppm	-1.25 %	-1.55 %
CO <sub>2</sub>	0.00 %	0.09 %	0.47 %	0.04 %	0.21 %	-0.26 %
CO <sub>2</sub>	9.44 %	9.56 %	0.64 %	9.53 %	0.48 %	-0.16 %
SO <sub>2</sub>	0.0 ppm	1.4 ppm	2.78 %	1.4 ppm	2.78 %	0.00 %
SO <sub>2</sub>	20.7 ppm	18.8 ppm	-3.72 %	20.3 ppm	-0.74 %	2.98 %

# Sampling System Bias and Drift

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 3

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.5 ppm	0.55 %	0.4 ppm	0.44 %	-0.11 %
NO <sub>x</sub>	45.4 ppm	44.3 ppm	-1.25 %	44.0 ppm	-1.58 %	-0.33 %
CO <sub>2</sub>	0.00 %	0.04 %	0.21 %	0.08 %	0.42 %	0.21 %
CO <sub>2</sub>	9.44 %	9.53 %	0.48 %	9.42 %	-0.09 %	-0.57 %
SO <sub>2</sub>	0.0 ppm	1.4 ppm	2.78 %	1.1 ppm	2.19 %	-0.60 %
SO <sub>2</sub>	20.7 ppm	20.3 ppm	-0.74 %	19.7 ppm	-1.93 %	-1.19 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 4

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.4 ppm	0.44 %	0.5 ppm	0.55 %	0.11 %
NO <sub>x</sub>	45.4 ppm	44.0 ppm	-1.58 %	45.4 ppm	-0.03 %	1.55 %
CO <sub>2</sub>	0.00 %	0.08 %	0.42 %	0.55 %	2.86 %	2.44 %
CO <sub>2</sub>	9.44 %	9.42 %	-0.09 %	9.37 %	-0.35 %	-0.26 %
SO <sub>2</sub>	0.0 ppm	1.1 ppm	2.19 %	1.9 ppm	3.78 %	1.59 %
SO <sub>2</sub>	20.7 ppm	19.7 ppm	-1.93 %	20.4 ppm	-0.54 %	1.39 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 5

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.5 ppm	0.55 %	0.8 ppm	0.88 %	0.33 %
NO <sub>x</sub>	45.4 ppm	45.4 ppm	-0.03 %	44.4 ppm	-1.14 %	-1.10 %
CO <sub>2</sub>	0.00 %	0.55 %	2.86 %	0.09 %	0.47 %	-2.39 %
CO <sub>2</sub>	9.44 %	9.37 %	-0.35 %	9.59 %	0.79 %	1.14 %
SO <sub>2</sub>	0.0 ppm	1.9 ppm	3.78 %	2.0 ppm	3.98 %	0.20 %
SO <sub>2</sub>	20.7 ppm	20.4 ppm	-0.54 %	21.0 ppm	0.66 %	1.19 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 6

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.8 ppm	0.88 %	0.8 ppm	0.88 %	0.00 %
NO <sub>x</sub>	45.4 ppm	44.4 ppm	-1.14 %	45.4 ppm	-0.03 %	1.10 %
CO <sub>2</sub>	0.00 %	0.09 %	0.47 %	0.53 %	2.75 %	2.28 %
CO <sub>2</sub>	9.44 %	9.59 %	0.79 %	9.62 %	0.95 %	0.16 %
SO <sub>2</sub>	0.0 ppm	2.0 ppm	3.98 %	1.8 ppm	3.58 %	-0.40 %
SO <sub>2</sub>	20.7 ppm	21.0 ppm	0.66 %	20.0 ppm	-1.33 %	-1.99 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 7

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.8 ppm	0.88 %	0.4 ppm	0.44 %	-0.44 %
NO <sub>x</sub>	45.4 ppm	45.4 ppm	-0.03 %	45.3 ppm	-0.14 %	-0.11 %
CO <sub>2</sub>	0.00 %	0.53 %	2.75 %	0.13 %	0.67 %	-2.08 %
CO <sub>2</sub>	9.44 %	9.62 %	0.95 %	9.47 %	0.17 %	-0.78 %
SO <sub>2</sub>	0.0 ppm	1.8 ppm	3.58 %	1.7 ppm	3.38 %	-0.20 %
SO <sub>2</sub>	20.7 ppm	20.0 ppm	-1.33 %	21.3 ppm	1.25 %	2.58 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 8

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.4 ppm	0.44 %	0.8 ppm	0.88 %	0.44 %
NO <sub>x</sub>	45.4 ppm	45.3 ppm	-0.14 %	45.9 ppm	0.52 %	0.66 %
CO <sub>2</sub>	0.00 %	0.13 %	0.67 %	0.23 %	1.19 %	0.52 %
CO <sub>2</sub>	9.44 %	9.47 %	0.17 %	9.62 %	0.95 %	0.78 %
SO <sub>2</sub>	0.0 ppm	1.7 ppm	3.38 %	1.5 ppm	2.98 %	-0.40 %
SO <sub>2</sub>	20.7 ppm	21.3 ppm	1.25 %	19.9 ppm	-1.53 %	-2.78 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 9

Monitor Type	Reference Gas Concentration	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
NO <sub>x</sub>	0.0 ppm	0.8 ppm	0.88 %	0.5 ppm	0.55 %	-0.33 %
NO <sub>x</sub>	45.4 ppm	45.9 ppm	0.52 %	45.2 ppm	-0.25 %	-0.77 %
CO <sub>2</sub>	0.00 %	0.23 %	1.19 %	0.22 %	1.14 %	-0.05 %
CO <sub>2</sub>	9.44 %	9.62 %	0.95 %	9.60 %	0.85 %	-0.10 %
SO <sub>2</sub>	0.0 ppm	1.5 ppm	2.98 %	1.4 ppm	2.78 %	-0.20 %
SO <sub>2</sub>	20.7 ppm	19.9 ppm	-1.53 %	19.4 ppm	-2.52 %	-0.99 %



# Analyzer Calibration Error

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 1

## Oxygen Monitor

Full Scale: 100.00 %

### Method 3A

Serial Number: 1151210012

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
CC263051/cg1	0.00 %	0.07 %	0.07 %	0.34 %
EB0070863/cg2	10.11 %	10.27 %	0.16 %	0.78 %
CC221880/cg3	20.61 %	20.74 %	0.13 %	0.63 %

## Carbon Dioxide Monitor

Full Scale: 20.00 %

### Method 3A

Serial Number: 1151210012

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
CC263051/cg1	0.00 %	0.02 %	0.02 %	0.10 %
EB0070863/cg2	9.44 %	8.97 %	-0.47 %	-2.42 %
CC221880/cg3	19.26 %	19.66 %	0.40 %	2.08 %

## Carbon Monoxide Monitor

Full Scale: 500.0 ppm

### Method 10

Serial Number: 1336459888

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
CC263051/cg1	0.0 ppm	0.0 ppm	0.0 ppm	0.00 %
CC423695/cg9	97.52 ppm	99.4 ppm	1.9 ppm	0.89 %
SG9163115BAL/cg1	212.1 ppm	208.2 ppm	-3.9 ppm	-1.84 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 1

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.05 %	-0.10 %	0.07 %	0.00 %	0.10 %
O <sub>2</sub>	10.27 %	10.19 %	-0.39 %	10.18 %	-0.44 %	-0.05 %
CO <sub>2</sub>	0.02 %	0.06 %	0.21 %	0.09 %	0.36 %	0.16 %
CO <sub>2</sub>	8.97 %	8.88 %	-0.47 %	8.95 %	-0.10 %	0.36 %
CO	0.0 ppm	0.1 ppm	0.05 %	0.0 ppm	0.00 %	-0.05 %
CO	99.4 ppm	99.3 ppm	-0.05 %	99.3 ppm	-0.05 %	0.00 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 2

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.07 %	0.00 %	0.10 %	0.15 %	0.15 %
O <sub>2</sub>	10.27 %	10.18 %	-0.44 %	10.21 %	-0.29 %	0.15 %
CO <sub>2</sub>	0.02 %	0.09 %	0.36 %	0.07 %	0.26 %	-0.10 %
CO <sub>2</sub>	8.97 %	8.95 %	-0.10 %	8.87 %	-0.52 %	-0.42 %
CO	0.0 ppm	0.0 ppm	0.00 %	0.0 ppm	0.00 %	0.00 %
CO	99.4 ppm	99.3 ppm	-0.05 %	99.3 ppm	-0.05 %	0.00 %

# Sampling System Bias and Drift

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 3

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.10 %	0.15 %	0.14 %	0.34 %	0.19 %
O <sub>2</sub>	10.27 %	10.21 %	-0.29 %	10.32 %	0.24 %	0.53 %
CO <sub>2</sub>	0.02 %	0.07 %	0.26 %	0.09 %	0.36 %	0.10 %
CO <sub>2</sub>	8.97 %	8.87 %	-0.52 %	8.83 %	-0.73 %	-0.21 %
CO	0.0 ppm	0.0 ppm	0.00 %	0.1 ppm	0.05 %	0.05 %
CO	99.4 ppm	99.3 ppm	-0.05 %	99.2 ppm	-0.09 %	-0.05 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 4

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.14 %	0.34 %	0.27 %	0.97 %	0.63 %
O <sub>2</sub>	10.27 %	10.32 %	0.24 %	10.35 %	0.39 %	0.15 %
CO <sub>2</sub>	0.02 %	0.09 %	0.36 %	0.12 %	0.52 %	0.16 %
CO <sub>2</sub>	8.97 %	8.83 %	-0.73 %	8.76 %	-1.09 %	-0.36 %
CO	0.0 ppm	0.1 ppm	0.05 %	0.0 ppm	0.00 %	-0.05 %
CO	99.4 ppm	99.2 ppm	-0.09 %	98.5 ppm	-0.42 %	-0.33 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 5

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.27 %	0.97 %	0.28 %	1.02 %	0.05 %
O <sub>2</sub>	10.27 %	10.35 %	0.39 %	10.36 %	0.44 %	0.05 %
CO <sub>2</sub>	0.02 %	0.12 %	0.52 %	0.06 %	0.21 %	-0.31 %
CO <sub>2</sub>	8.97 %	8.76 %	-1.09 %	8.73 %	-1.25 %	-0.16 %
CO	0.0 ppm	0.0 ppm	0.00 %	0.0 ppm	0.00 %	0.00 %
CO	99.4 ppm	98.5 ppm	-0.42 %	98.7 ppm	-0.35 %	0.07 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 6

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.28 %	1.02 %	0.30 %	1.12 %	0.10 %
O <sub>2</sub>	10.27 %	10.36 %	0.44 %	10.44 %	0.82 %	0.39 %
CO <sub>2</sub>	0.02 %	0.06 %	0.21 %	0.05 %	0.16 %	-0.05 %
CO <sub>2</sub>	8.97 %	8.73 %	-1.25 %	8.73 %	-1.25 %	0.00 %
CO	0.0 ppm	0.0 ppm	0.00 %	0.0 ppm	0.00 %	0.00 %
CO	99.4 ppm	98.7 ppm	-0.33 %	98.2 ppm	-0.57 %	-0.24 %

# Sampling System Bias and Drift

Test Performed For:  
GREC  
Gainesville  
Boiler 1  
RATA  
Date:3/21/17

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
(352) 489-4337  
Run 7

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.30 %	1.12 %	0.31 %	1.16 %	0.05 %
O <sub>2</sub>	10.27 %	10.44 %	0.82 %	10.45 %	0.87 %	0.05 %
CO <sub>2</sub>	0.02 %	0.05 %	0.16 %	0.06 %	0.21 %	0.05 %
CO <sub>2</sub>	8.97 %	8.73 %	-1.25 %	8.76 %	-1.09 %	0.16 %
CO	0.0 ppm	0.0 ppm	0.00 %	0.1 ppm	0.05 %	0.05 %
CO	99.4 ppm	98.2 ppm	-0.57 %	98.5 ppm	-0.42 %	0.14 %



# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 8

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.31 %	1.16 %	0.30 %	1.12 %	-0.05 %
O <sub>2</sub>	10.27 %	10.45 %	0.87 %	10.41 %	0.68 %	-0.19 %
CO <sub>2</sub>	0.02 %	0.06 %	0.21 %	0.10 %	0.42 %	0.21 %
CO <sub>2</sub>	8.97 %	8.76 %	-1.09 %	8.76 %	-1.09 %	0.00 %
CO	0.0 ppm	0.1 ppm	0.05 %	-0.1 ppm	-0.05 %	-0.09 %
CO	99.4 ppm	98.5 ppm	-0.42 %	98.5 ppm	-0.42 %	0.00 %

# Sampling System Bias and Drift

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 9

Monitor Type	Analyzer Cal Response	Initial Cal Value	Pre Run Bias (%)	Final Cal Value	Post Run Bias (%)	Total Run Drift (%)
O <sub>2</sub>	0.07 %	0.30 %	1.12 %	0.29 %	1.07 %	-0.05 %
O <sub>2</sub>	10.27 %	10.41 %	0.68 %	10.45 %	0.87 %	0.19 %
CO <sub>2</sub>	0.02 %	0.10 %	0.42 %	0.09 %	0.36 %	-0.05 %
CO <sub>2</sub>	8.97 %	8.76 %	-1.09 %	8.73 %	-1.25 %	-0.16 %
CO	0.0 ppm	-0.1 ppm	-0.05 %	0.0 ppm	0.00 %	0.05 %
CO	99.4 ppm	98.5 ppm	-0.42 %	98.8 ppm	-0.28 %	0.14 %

**C.E.M. Solutions, Inc.**  
**NO<sub>2</sub> to NO Converter Efficiency Test**

1. Calibrate the analyzer to a concentration of NO greater than or equal to 50ppm.
2. Introduce NO<sub>2</sub> (40-60ppm) into the analyzer.
3. Record the following data:

$$\begin{array}{l} \text{Calibration Gas Value (C}_v\text{)} = \frac{50.06}{\text{Analyzer Value (C}_{dir}\text{)} = \frac{46.7} \end{array} \quad \text{Eff NO}_2 = \boxed{93.3\%}$$

$$\boxed{93.3\% = 46.7 / 50.06 * 100}$$

Date: 3/21/2017  
Technician: C. Horton  
Analyzer S/N: 1200951382  
NO<sub>2</sub> Cylinder S/N: CC502188  
NO<sub>2</sub> Cylinder Expiration Date: 6/25/2018

NO<sub>2</sub> to NO Converter Efficiency must be greater than or equal to 90%

## Rack A Analyzer Response Time Test

### Test Performed For:

GREC  
Boiler 1  
3/21/2017

Analyzer	CO	O2	CO2	THC
Serial Number	1336459888	1151210012	1151210012	1106047146
Calibration Span	212.1 ppm	20.61 ppm	19.26 ppm	25.53%
Upscale Gas	97.52 ppm	10.11 ppm	9.44 ppm	15.20%
Downscale Response (seconds)	100	95	95	60
Upscale Response (seconds)	100	100	95	60

System Response (seconds)	100
---------------------------	-----

## Rack B Analyzer Response Time Test

### Test Performed For:

GREC  
Boiler 1  
3/21/2017

Analyzer	NOx	SO2	CO2
Serial Number	1200951382	1336459886	N3G2201T
Calibration Span	90.50 ppm	50.31 ppm	19.26 ppm
Upscale Gas	45.43 ppm	20.67 ppm	9.44 ppm
Downscale Response (seconds)	110	120	110
Upscale Response (seconds)	120	120	110

System Response (seconds)	120
---------------------------	-----

## **Appendix D-2: Volumetric Flow and Wet Chemistry Equipment**

Pre-test Meter Box Calibrations  
Post-test Meter Box Calibrations  
Post-test Thermocouple Calibrations  
Type S Pitot Tube Calibrations

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

Meter Console Information	
Console Model Number	XC-522
Console Serial Number	CEMS3MB
DGM Model Number	S-110
DGM Serial Number	357811

Calibration Conditions			
Date	Time	1-Mar-17	14:10
Barometric Pressure		30.1	in Hg
Theoretical Critical Vacuum <sup>1</sup>		14.2	in Hg
Calibration Technician		GM	

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K <sub>1</sub>	17.647	oR/in Hg

<sup>1</sup>For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

<sup>2</sup>The Critical Orifice Coefficient, K', must be entered in English units, (ft<sup>3</sup>·°R<sup>1/2</sup>)/(in.Hg<sup>1/2</sup>·min).

Calibration Data										
Run Time	Metering Console				Critical Orifice			Critical Orifice		
Elapsed	DGM Orifice	Volume	Volume	Outlet Temp	Outlet Temp	Serial	Coefficient	Amb Temp	Amb Temp	Actual
(@)	(P <sub>std</sub> )	Initial	Final	Initial	Final	Number	K'	Initial	Final	Vacuum
min	in H <sub>2</sub> O	(V <sub>std</sub> ) cubic feet	(V <sub>std</sub> ) cubic feet	(t <sub>std</sub> ) °F	(t <sub>std</sub> ) °F		see above <sup>2</sup>	(t <sub>amb</sub> ) °F	(t <sub>amb</sub> ) °F	in Hg
22.0	0.34	637.635	644.734	84	84	MZ-40	0.2337	85	86	23.5
14.0	0.73	644.734	651.437	84	85	MZ-48	0.3469	86	86	23.0
10.0	1.2	651.437	657.730	85	85	MZ-55	0.4571	86	85	22.0
52.0	2.1	657.730	700.473	85	87	MZ-63	0.5940	85	86	20.5
8.0	3.8	700.473	709.362	87	88	MZ-73	0.8107	87	87	18.0

Standardized Data				Results				
Dry Gas Meter		Critical Orifice		Calibration Factor		Flowrate	ΔH @	
(V <sub>meas</sub> )	(Q <sub>meas</sub> )	(V <sub>std</sub> )	(Q <sub>std</sub> )	Value	Variation	Std & Corr	0.75 SCFM	Variation
cubic feet	cfm	cubic feet	cfm	(Y)	(ΔY)	(Q <sub>meas</sub> /Q <sub>std</sub> )	(ΔH@)	(ΔΔH@)
6.937	0.315	6.626	0.301	0.955	-0.001	0.301	2.064	0.081
6.551	0.468	6.256	0.447	0.955	-0.001	0.447	2.015	0.032
6.151	0.615	5.891	0.589	0.958	0.002	0.589	1.908	-0.074
41.796	0.804	39.807	0.766	0.952	-0.003	0.766	1.963	0.000
8.704	1.085	8.347	1.043	0.959	0.003	1.043	1.942	-0.040
				0.956	Y Average		1.982	DH@ Average

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

Note: The delta H@, the orifice pressure while sampling at 0.75 CFM, acceptable tolerance of individual values from the average is +0.2.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Method 5, CFR 40 Part 60.

Signature



Date

3/1/17



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

Meter Console Information	
Console Model Number	XC-522
Console Serial Number	CEMS3MB
DGM Model Number	S-110
DGM Serial Number	357811

Calibration Conditions			
Date	Time	27-Mar-17	12:40
Barometric Pressure		30.1	in Hg
Theoretical Critical Vacuum <sup>1</sup>		14.2	in Hg
Calibration Technician		AL	

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K <sub>1</sub>	17.647	oR/in Hg

<sup>1</sup>For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

<sup>2</sup>The Critical Orifice Coefficient, 'K', must be entered in English units, (ft<sup>3</sup>\*°R<sup>1/2</sup>)/(in.Hg\*min).

Calibration Data										
Run Time	Metering Console				Critical Orifice					
Elapsed	DGM Orifice	Volume	Volume	Outlet Temp	Outlet Temp	Serial	Coefficient	Amb Temp	Amb Temp	Actual
(θ)	ΔH	Initial	Final	Initial	Final	Number		Initial	Final	Vacuum
min	(P <sub>m</sub> )	(V <sub>m</sub> )	(V <sub>mt</sub> )	(t <sub>mi</sub> )	(t <sub>mf</sub> )		K'	(t <sub>amb</sub> )	(t <sub>amb</sub> )	
	in H <sub>2</sub> O	cubic feet	cubic feet	°F	°F		see above <sup>2</sup>	°F	°F	in Hg
15.0	1.9	766.027	777.737	71	74	OB-63	0.5750	82	79	21
10.0	1.9	777.737	785.566	74	75	OB-63	0.5750	79	80	21
20.0	1.9	785.566	801.260	75	77	OB-63	0.5750	80	82	21

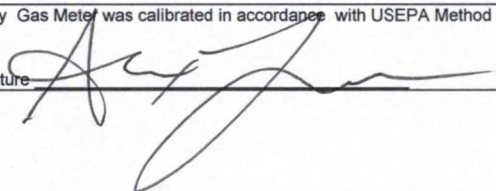
Standardized Data				Results				
Dry Gas Meter		Critical Orifice		Calibration Factor		Dry Gas Meter		
(V <sub>m(std)</sub> )	(Q <sub>m(std)</sub> )	(V <sub>cr(std)</sub> )	(Q <sub>cr(std)</sub> )	Value	Variation	Flowrate	ΔH @	
cubic feet	cfm	cubic feet	cfm	(Y)	(ΔY)	Std & Corr	0.75 SCFM	Variation
						(Q <sub>m(std)(corr)</sub> )	(ΔH@)	(ΔΔH@)
						cfm	in H <sub>2</sub> O	
11.751	0.783	11.182	0.745	0.952	-0.001	0.745	1.940	0.007
7.827	0.783	7.460	0.746	0.953	0.001	0.746	1.930	-0.003
15.646	0.782	14.901	0.745	0.952	0.000	0.745	1.930	-0.004
				0.952	Y Average		1.934	ΔH@ Average

Pre-test DGM Y <sub>1</sub>	0.956
Post-test DGM Y <sub>1</sub>	0.952
Percent Change	0.36

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

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Method 5, CFR 40 Part 60.

Signature



Date

3/27/17

**C.E.M. Solutions, Inc.**  
Thermocouple Post Test Calibration Check

**Standard:** Reference Thermometer (calibrated against NIST standards)

**Reference:** ALT-011 Alternative Method 2 Thermocouple Calibration Procedure

**Procedure:** Measure ambient temperature with the Reference Thermometer and the Measurement Thermocouple System. Record Results. Next, check the continuity of the Measurement Thermocouple System by subjecting it to a change in temperature. The Measurement Thermocouple System must respond accordingly.

**Tolerance:**  $\pm 2^{\circ}$  F of actual temperature

**Plant:** GREC  
**Thermocouple #:** TC6-1

**Date:** 3/27/2017  
**Reference TC#:** 150431556

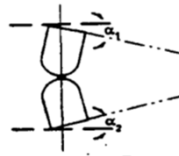
Length (FT.)	Reference Temp. (°F)	Measured Temp. (°F)	Difference (°F)	Continuity Check (PASS/FAIL)
6	83.5	83.6	-0.1	PASS

**Technician:** Alexander Lagunas  
**Date:** 3/27/17

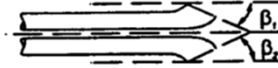
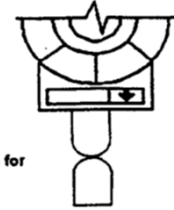


**C.E.M. Solutions, Inc.**  
**Type S Pitot Tube Inspection**

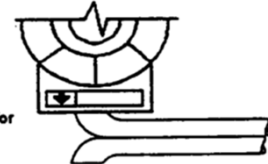
Date of Calibration	03/27/2017
Level and Perpendicular?	Yes
Obstruction?	No
Damaged?	No
$\alpha_1$ ( $-10^\circ < \alpha_1 < +10^\circ$ )	1
$\alpha_2$ ( $-10^\circ < \alpha_2 < +10^\circ$ )	-1
$\beta_1$ ( $-5^\circ < \beta_1 < +5^\circ$ )	0
$\beta_2$ ( $-5^\circ < \beta_2 < +5^\circ$ )	-1
$\gamma$	-2
$\theta$	-1
$D_t$ ( $3/16" < D_t < 3/8"$ )	0.375
A	0.958
$z = A \tan \gamma$ ( $< 0.125"$ )	-0.033
$w = A \tan \theta$ ( $< 0.03125"$ )	-0.017
$A/2D_t$ ( $1.05 < P_A/D_t < 1.5$ )	1.277



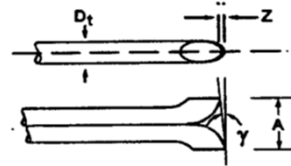
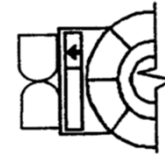
Degree indicating level position for determining  $\alpha_1$  and  $\alpha_2$ .



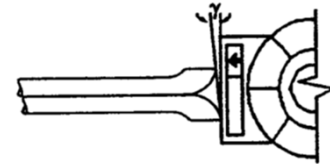
Degree indicating level position for determining  $\beta_1$  and  $\beta_2$ .



Degree indicating level position for determining  $\theta$ .



Degree indicating level position for determining  $\gamma$  then calculate Z.



QA/QC Check:

Completeness: x      Legibility: x      Reasonableness: x  
 Specifications: x      Accuracy: x

Certification:

I certify that the Type S pitot tube/probe ID# A5400 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor ( $C_p$ ) of 0.84.

Certified by: Alexander Lagunas 3/27/2017  
 Personnel (Signature/Date)

## **Appendix E: Reference Method Run Data**

**Gaseous RATA**  
**Methods 3A, 6C, 7E, 10 Data**

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 1

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.6 ppm	0.2 ppm	0.42
45.4 ppm NO <sub>x</sub>	45.8 ppm	45.7 ppm	45.75
0.00 percent CO <sub>2</sub>	0.16 %	0.09 %	0.12
9.44 percent CO <sub>2</sub>	9.56 %	9.56 %	9.56
0.0 ppm SO <sub>2</sub>	1.4 ppm	1.4 ppm	1.36
20.7 ppm SO <sub>2</sub>	19.7 ppm	18.8 ppm	19.29

**Mean Reference Values:**

35.1 ppm NO<sub>x</sub>  
 13.71 percent CO<sub>2</sub>  
 1.6 ppm SO<sub>2</sub>

**Corrected Results:**

**34.7** ppm NO<sub>x</sub>  
**13.6** percent CO<sub>2</sub>  
**0.3** ppm SO<sub>2</sub>

**Basis:**

WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.056** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.02 %**

Fuel Factors:

1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 2

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.2 ppm	0.5 ppm	0.35
45.4 ppm NO <sub>x</sub>	45.7 ppm	44.3 ppm	45.02
0.00 percent CO <sub>2</sub>	0.09 %	0.04 %	0.06
9.44 percent CO <sub>2</sub>	9.56 %	9.53 %	9.55
0.0 ppm SO <sub>2</sub>	1.4 ppm	1.4 ppm	1.38
20.7 ppm SO <sub>2</sub>	18.8 ppm	20.3 ppm	19.59

**Mean Reference Values:**

38.3 ppm NO<sub>x</sub>  
 13.87 percent CO<sub>2</sub>  
 1.6 ppm SO<sub>2</sub>

**Corrected Results:**

**38.6** ppm NO<sub>x</sub>  
**13.7** percent CO<sub>2</sub>  
**0.3** ppm SO<sub>2</sub>

**Basis:**

WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.062** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.65 %**

Fuel Factors:

1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 3

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.5 ppm	0.4 ppm	0.42
45.4 ppm NO <sub>x</sub>	44.3 ppm	44.0 ppm	44.19
0.00 percent CO <sub>2</sub>	0.04 %	0.08 %	0.06
9.44 percent CO <sub>2</sub>	9.53 %	9.42 %	9.47
0.0 ppm SO <sub>2</sub>	1.4 ppm	1.1 ppm	1.25
20.7 ppm SO <sub>2</sub>	20.3 ppm	19.7 ppm	20.01

**Mean Reference Values:**

38.2 ppm NO<sub>x</sub>  
 14.02 percent CO<sub>2</sub>  
 1.7 ppm SO<sub>2</sub>

**Corrected Results:**

**39.2** ppm NO<sub>x</sub>  
**14.0** percent CO<sub>2</sub>  
**0.4** ppm SO<sub>2</sub>

**Basis:**

WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.061** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.36 %**

Fuel Factors:

1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 4

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.4 ppm	0.5 ppm	0.46
45.4 ppm NO <sub>x</sub>	44.0 ppm	45.4 ppm	44.71
0.00 percent CO <sub>2</sub>	0.08 %	0.55 %	0.31
9.44 percent CO <sub>2</sub>	9.42 %	9.37 %	9.39
0.0 ppm SO <sub>2</sub>	1.1 ppm	1.9 ppm	1.51
20.7 ppm SO <sub>2</sub>	19.7 ppm	20.4 ppm	20.06

**Mean Reference Values:**  
 36.1 ppm NO<sub>x</sub>  
 13.98 percent CO<sub>2</sub>  
 2.4 ppm SO<sub>2</sub>

**Corrected Results:**  
 36.5 ppm NO<sub>x</sub>  
 14.2 percent CO<sub>2</sub>  
 1.0 ppm SO<sub>2</sub>

**Basis:**  
 WET  
 WET  
 WET

**Emission Calculations:**

**0.002** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.056** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.34 %**

Fuel Factors:  
 1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 5

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.5 ppm	0.8 ppm	0.67
45.4 ppm NO <sub>x</sub>	45.4 ppm	44.4 ppm	44.89
0.00 percent CO <sub>2</sub>	0.55 %	0.09 %	0.32
9.44 percent CO <sub>2</sub>	9.37 %	9.59 %	9.48
0.0 ppm SO <sub>2</sub>	1.9 ppm	2.0 ppm	1.94
20.7 ppm SO <sub>2</sub>	20.4 ppm	21.0 ppm	20.69

**Mean Reference Values:**

34.9 ppm NO<sub>x</sub>  
 13.96 percent CO<sub>2</sub>  
 2.3 ppm SO<sub>2</sub>

**Corrected Results:**

**35.2** ppm NO<sub>x</sub>  
**14.0** percent CO<sub>2</sub>  
**0.4** ppm SO<sub>2</sub>

**Basis:**

WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.055** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.46 %**

Fuel Factors:

1830 scf/mmBtu



# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 6

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.8 ppm	0.8 ppm	0.78
45.4 ppm NO <sub>x</sub>	44.4 ppm	45.4 ppm	44.92
0.00 percent CO <sub>2</sub>	0.09 %	0.53 %	0.31
9.44 percent CO <sub>2</sub>	9.59 %	9.62 %	9.60
0.0 ppm SO <sub>2</sub>	2.0 ppm	1.8 ppm	1.89
20.7 ppm SO <sub>2</sub>	21.0 ppm	20.0 ppm	20.49

**Mean Reference Values:**

35.6 ppm NO<sub>x</sub>  
 13.91 percent CO<sub>2</sub>  
 2.3 ppm SO<sub>2</sub>

**Corrected Results:**

**35.8** ppm NO<sub>x</sub>  
**13.8** percent CO<sub>2</sub>  
**0.5** ppm SO<sub>2</sub>

**Basis:**

WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.057** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.82 %**

Fuel Factors:

1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 7

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.8 ppm	0.4 ppm	0.60
45.4 ppm NO <sub>x</sub>	45.4 ppm	45.3 ppm	45.39
0.00 percent CO <sub>2</sub>	0.53 %	0.13 %	0.33
9.44 percent CO <sub>2</sub>	9.62 %	9.47 %	9.54
0.0 ppm SO <sub>2</sub>	1.8 ppm	1.7 ppm	1.74
20.7 ppm SO <sub>2</sub>	20.0 ppm	21.3 ppm	20.65

**Mean Reference Values:**  
 34.3 ppm NO<sub>x</sub>  
 13.79 percent CO<sub>2</sub>  
 2.2 ppm SO<sub>2</sub>

**Corrected Results:**  
 34.2 ppm NO<sub>x</sub>  
 13.8 percent CO<sub>2</sub>  
 0.5 ppm SO<sub>2</sub>

**Basis:**  
 WET  
 WET  
 WET

**Emission Calculations:**

0.001 SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
 0.054 NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: 21.77 %

Fuel Factors:  
 1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 8

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.4 ppm	0.8 ppm	0.62
45.4 ppm NO <sub>x</sub>	45.3 ppm	45.9 ppm	45.62
0.00 percent CO <sub>2</sub>	0.13 %	0.23 %	0.18
9.44 percent CO <sub>2</sub>	9.47 %	9.62 %	9.54
0.0 ppm SO <sub>2</sub>	1.7 ppm	1.5 ppm	1.60
20.7 ppm SO <sub>2</sub>	21.3 ppm	19.9 ppm	20.57

**Mean Reference Values:**

34.8 ppm NO<sub>x</sub>  
 13.77 percent CO<sub>2</sub>  
 2.0 ppm SO<sub>2</sub>

**Corrected Results:**

**34.5** ppm NO<sub>x</sub>  
**13.7** percent CO<sub>2</sub>  
**0.5** ppm SO<sub>2</sub>

**Basis:**

WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.055** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **22.93 %**

Fuel Factors:

1830 scf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 9

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.0 ppm NO <sub>x</sub>	0.8 ppm	0.5 ppm	0.64
45.4 ppm NO <sub>x</sub>	Not Measured	45.2 ppm	45.18
0.00 percent CO <sub>2</sub>	0.23 %	0.22 %	0.22
9.44 percent CO <sub>2</sub>	9.62 %	9.60 %	9.61
0.0 ppm SO <sub>2</sub>	1.5 ppm	1.4 ppm	1.45
20.7 ppm SO <sub>2</sub>	19.9 ppm	19.4 ppm	19.61

**Mean Reference Values:**  
 34.7 ppm NO<sub>x</sub>  
 13.70 percent CO<sub>2</sub>  
 1.9 ppm SO<sub>2</sub>

**Corrected Results:**  
**34.8** ppm NO<sub>x</sub>  
**13.5** percent CO<sub>2</sub>  
**0.5** ppm SO<sub>2</sub>

**Basis:**  
 WET  
 WET  
 WET

**Emission Calculations:**

**0.001** SO<sub>2</sub> Lbs/mmBtu From CO<sub>2</sub>  
**0.056** NO<sub>x</sub> Lbs/mmBtu From CO<sub>2</sub>

Bws: **21.78 %**

Fuel Factors:  
 1830 scf/mmBtu

filename 3/21/2017 6:25:56  
 testby1 C.E.M. Solutions, Inc.  
 testby2 1183 E. Overdrive Circle  
 testby3 Hernando, FL 34442  
 testby4 (352) 489-4337  
 testfor1 GREC  
 testfor2 Gainesville  
 testfor3 Boiler 1  
 testfor4 RATA

name	Dil CO2	Dil NOx	Dil SO2							
sn	N3GN2201T	1200951382	1336459886							
offset	0	0	0							
fullscale	20	500	100							
train	2	2	2							
gasstype	co2 3a	nox 7e	so2 6c							
dcg1	3/21/2017 6:26:45	1.23	16.1	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:27:15	8.31	32.3	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:27:30	10.87	33.5	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:27:45	11.99	28.7	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:28:00	10.35	5.3	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:28:15	7.57	12.5	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:28:30	6.04	3.1	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:28:45	4.03	-1.8	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:29:00	2.23	-2.7	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:29:15	1.04	-2.7	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:29:30	0.47	-2.7	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:29:45	0.19	-2.9	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:30:00	0.04	-3.0	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:30:15	-0.02	-2.9	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:30:30	-0.05	-2.8	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:30:45	-0.08	-3.0	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:31:00	-0.09	-2.8	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:31:15	-0.10	-2.8	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:31:30	-0.10	-2.9	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:31:45	-0.12	-3.2	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:32:00	-0.11	-3.1	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:32:15	-0.11	-2.9	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:32:30	-0.11	-3.0	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:32:45	-0.08	-2.9	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:33:00	0.04	-1.2	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg1	3/21/2017 6:33:15	0.03	0.2	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
so2zero2	3/21/2017 6:33:15	0.03	0.2	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
co2zero2	3/21/2017 6:33:15	0.03	0.2	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
noxzero2	3/21/2017 6:33:15	0.03	0.2	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
dcg3	3/21/2017 6:33:30	0.04	0.2	0.0	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg7	3/21/2017 6:33:45	0.03	0.2	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:34:00	0.04	0.2	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:34:15	0.03	0.2	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:34:30	0.04	0.2	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:34:45	0.03	0.1	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:35:00	0.29	0.1	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:35:15	1.40	0.5	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:35:30	1.71	0.8	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:35:45	1.17	1.8	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:36:00	0.70	2.9	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:36:15	0.40	3.0	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:36:30	0.24	2.7	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:36:45	0.14	2.5	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:37:00	0.09	2.4	0.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:37:15	0.06	2.2	0.1	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:37:30	0.04	2.1	0.4	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:37:45	0.04	1.6	0.9	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:38:00	0.04	1.0	1.5	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:38:15	0.03	0.5	2.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:38:30	0.04	0.6	2.3	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:38:45	0.04	0.6	2.6	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:39:00	0.03	0.6	2.9	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:39:15	0.03	0.5	2.9	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:39:30	0.04	0.5	3.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:39:45	0.04	0.5	3.1	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:40:00	0.03	0.6	3.2	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:40:15	0.03	0.5	3.3	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:40:30	0.04	0.5	3.3	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:40:45	0.03	0.6	3.4	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:41:00	0.03	0.5	3.4	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:41:15	0.03	0.5	3.5	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:41:30	0.03	0.4	3.6	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:41:45	0.03	0.4	3.6	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:42:00	0.03	0.4	7.1	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:42:15	0.03	0.6	28.4	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:42:30	0.03	0.5	35.1	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:42:45	0.03	0.4	35.2	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:43:00	0.03	0.4	45.3	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:43:15	0.03	0.4	50.5	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:43:30	0.03	0.5	50.9	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:43:45	0.03	0.4	50.9	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:44:00	0.03	0.3	50.7	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:44:15	0.03	0.5	51.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:44:30	0.03	0.5	50.8	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:44:45	0.02	0.4	51.0	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:45:00	0.02	0.3	50.2	CC485206/cg7	SO2	50.31	0	0	0
dcg7	3/21/2017 6:45:15	0.02	0.4	50.1	CC485206/cg7	SO2	50.31	0	0	0
so2high2	3/21/2017 6:45:15	0.02	0.4	50.1	CC485206/cg7	SO2	50.31	0	0	0
dcg3	3/21/2017 6:45:30	0.02	0.5	51.5	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:45:45	0.02	0.5	51.2	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:46:00	0.02	0.5	51.1	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:46:15	0.03	0.4	50.9	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:46:30	0.02	0.4	51.5	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:46:45	0.03	0.4	51.1	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:47:00	0.74	0.2	45.1	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:47:15	4.89	0.3	30.6	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:47:30	10.72	0.2	19.1	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:47:45	14.83	0.3	13.0	CC221880/cg3	O2	20.61 CO2	19.26	0	0
dcg3	3/21/2017 6:48:00	17.14	0.4	9.5	CC221880/cg3	O2	20.61 CO2	19.26	0	0





name	sn	offset	fullscale	train	gastype	Dil CO2		Dil NOx		Dil SO2		SO2	0 NOx	0 CO2	0 O2	0
						N3GN2201T	co2 3a	1200951382	nox 7e	1336459886	so2 6c					
scg1	3/21/2017	7:36:30	0.40	0.1	1.4	CC263051/cg1	SO2	0	NOx	0	CO2	0	O2	0	0	0
run1	3/21/2017	8:24:15	13.92	37.3	1.7											



name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a		nox 7e		so2 6c	
run1	3/21/2017	8:24:30	13.93	37.4	1.6	
run1	3/21/2017	8:24:45	13.93	37.1	1.6	
run1	3/21/2017	8:25:00	13.96	36.5	1.5	
run1	3/21/2017	8:25:15	13.96	35.9	1.6	
run1	3/21/2017	8:25:30	13.96	36.9	1.5	
run1	3/21/2017	8:25:45	13.96	37.6	1.6	
run1	3/21/2017	8:26:00	13.96	37.5	1.6	
run1	3/21/2017	8:26:15	13.96	37.0	1.6	
run1	3/21/2017	8:26:30	13.96	37.5	1.6	
run1	3/21/2017	8:26:45	13.96	37.1	1.6	
run1	3/21/2017	8:27:00	13.96	36.6	1.6	
run1	3/21/2017	8:27:15	13.97	36.2	1.6	
run1	3/21/2017	8:27:30	14.02	35.8	1.6	
run1	3/21/2017	8:27:45	14.07	35.7	1.6	
run1	3/21/2017	8:28:00	14.09	35.4	1.6	
run1	3/21/2017	8:28:15	14.11	35.4	1.6	
run1	3/21/2017	8:28:30	14.13	35.5	1.6	
run1	3/21/2017	8:28:45	14.15	35.2	1.6	
run1	3/21/2017	8:29:00	14.17	35.4	1.6	
run1	3/21/2017	8:29:15	14.21	36.0	1.6	
run1	3/21/2017	8:29:30	14.21	36.9	1.5	
run1	3/21/2017	8:29:45	14.21	36.8	1.6	
run1	3/21/2017	8:30:00	14.21	37.4	1.6	
run1	3/21/2017	8:30:15	14.17	38.4	1.7	
run1	3/21/2017	8:30:30	14.08	38.7	1.6	
run1	3/21/2017	8:30:45	13.99	39.2	1.6	
run1	3/21/2017	8:31:00	13.87	39.7	1.6	
run1	3/21/2017	8:31:15	13.76	39.5	1.6	
run1	3/21/2017	8:31:30	13.67	39.7	1.6	
run1	3/21/2017	8:31:45	13.61	40.5	1.6	
run1	3/21/2017	8:32:00	13.56	40.5	1.7	
run1	3/21/2017	8:32:15	13.50	40.4	1.6	
run1	3/21/2017	8:32:30	13.47	40.4	1.6	
run1	3/21/2017	8:32:45	13.44	40.1	1.6	
run1	3/21/2017	8:33:00	13.44	40.1	1.7	
run1	3/21/2017	8:33:15	13.44	39.8	1.6	
run1	3/21/2017	8:33:30	13.44	39.2	1.6	
run1	3/21/2017	8:33:45	13.48	38.7	1.7	
run1	3/21/2017	8:34:00	13.56	38.0	1.6	
run1	3/21/2017	8:34:15	13.63	36.9	1.6	
run1	3/21/2017	8:34:30	13.71	36.1	1.6	
run1	3/21/2017	8:34:45	13.79	35.7	1.6	
run1	3/21/2017	8:35:00	13.86	35.2	1.6	
run1	3/21/2017	8:35:15	13.93	34.4	1.5	
run1	3/21/2017	8:35:30	14.00	33.8	1.6	
run1	3/21/2017	8:35:45	14.06	32.8	1.6	
run1	3/21/2017	8:36:00	14.14	32.5	1.6	
run1	3/21/2017	8:36:15	14.17	32.8	1.6	
run1	3/21/2017	8:36:30	14.19	33.0	1.6	
run1	3/21/2017	8:36:45	14.21	33.1	1.6	
run1	3/21/2017	8:37:00	14.21	33.1	1.5	
run1	3/21/2017	8:37:15	14.21	33.2	1.6	
run1	3/21/2017	8:37:30	14.17	32.9	1.5	
run1	3/21/2017	8:37:45	14.13	32.5	1.6	
run1	3/21/2017	8:38:00	14.09	31.5	1.6	
run1	3/21/2017	8:38:15	14.09	31.8	1.6	
run1	3/21/2017	8:38:30	14.09	32.9	1.6	
run1	3/21/2017	8:38:45	14.09	33.2	1.6	
run1	3/21/2017	8:39:00	14.09	33.2	1.6	
run1	3/21/2017	8:39:15	14.09	33.4	1.6	
run1	3/21/2017	8:39:30	14.09	33.4	1.5	
run1	3/21/2017	8:39:45	14.09	33.5	1.6	
run1	3/21/2017	8:40:00	14.09	34.2	1.6	
run1	3/21/2017	8:40:15	14.09	34.6	1.6	
run1	3/21/2017	8:40:30	14.06	34.2	1.6	
run1	3/21/2017	8:40:45	14.06	34.0	1.6	
run1	3/21/2017	8:41:00	14.05	33.8	1.6	
run1	3/21/2017	8:41:15	14.06	34.9	1.6	
run1	3/21/2017	8:41:30	14.05	36.0	1.6	
run1	3/21/2017	8:41:45	14.01	36.1	1.6	
run1	3/21/2017	8:42:00	13.98	35.4	1.5	
run1	3/21/2017	8:42:15	13.96	34.9	1.6	
run1	3/21/2017	8:42:30	13.96	34.8	1.6	
run1	3/21/2017	8:42:45	13.96	34.9	1.6	
run1	3/21/2017	8:43:00	13.96	34.6	1.6	
run1	3/21/2017	8:43:15	13.95	34.7	1.6	
run1	3/21/2017	8:43:30	13.96	35.2	1.6	
run1	3/21/2017	8:43:45	13.96	35.2	1.6	
run1	3/21/2017	8:44:00	13.96	35.3	1.6	
run1	3/21/2017	8:44:15	13.96	36.5	1.6	
run1	3/21/2017	8:44:30	13.96	36.8	1.6	
run1	3/21/2017	8:44:45	13.96	36.2	1.6	
run1	3/21/2017	8:45:00	13.96	36.5	1.7	
run1	3/21/2017	8:45:15	13.92	37.0	1.7	
run1	3/21/2017	8:45:30	13.78	36.1	1.7	
run1	3/21/2017	8:45:45	13.62	36.1	1.6	
run1	3/21/2017	8:46:00	13.51	35.6	1.6	
run1	3/21/2017	8:46:15	13.35	34.7	1.5	
run1	3/21/2017	8:46:30	13.12	34.1	1.6	
run1	3/21/2017	8:46:45	12.82	33.8	1.6	
run1	3/21/2017	8:47:00	12.51	33.1	1.6	
run1	3/21/2017	8:47:15	12.26	33.1	1.6	
run1	3/21/2017	8:47:30	12.13	34.2	1.6	
run1	3/21/2017	8:47:45	12.12	34.6	1.6	
run11	3/21/2017	8:48:00	12.22	35.0	1.6	
run11	3/21/2017	8:48:15	12.38	35.1	1.6	
run11	3/21/2017	8:48:30	12.54	36.4	1.6	
run11	3/21/2017	8:48:45	12.65	35.7	1.6	

name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a		nox 7e		so2 6c	
run1f	3/21/2017	8:49:00	12.66	34.9	1.5	
run1f	3/21/2017	8:49:15	12.67	35.2	1.6	
run1f	3/21/2017	8:49:30	12.66	36.0	1.6	
run1f	3/21/2017	8:49:45	12.69	34.3	1.5	
run1f	3/21/2017	8:50:00	12.65	33.4	1.6	
run1f	3/21/2017	8:50:15	11.94	22.9	1.5	
run1f	3/21/2017	8:50:30	9.37	9.7	1.5	
run1f	3/21/2017	8:50:45	6.76	14.7	1.4	
run1f	3/21/2017	8:51:00	7.31	30.2	1.5	
run1f	3/21/2017	8:51:15	9.07	34.0	1.6	
run1f	3/21/2017	8:51:30	10.56	35.5	1.5	
run1f	3/21/2017	8:51:45	11.64	35.4	1.6	
run1f	3/21/2017	8:52:00	12.30	36.3	1.6	
run1f	3/21/2017	8:52:15	12.67	37.0	1.6	
run1f	3/21/2017	8:52:30	12.90	36.9	1.6	
run1f	3/21/2017	8:52:45	13.09	36.4	1.6	
run1f	3/21/2017	8:53:00	13.26	37.3	1.6	
run1f	3/21/2017	8:53:15	13.37	36.5	1.6	
run1f	3/21/2017	8:53:30	13.45	36.2	1.6	
run1f	3/21/2017	8:53:45	13.53	37.0	1.6	
run1	3/21/2017	8:54:00	13.58	36.7	1.6	
run1	3/21/2017	8:54:15	13.63	36.9	1.5	
run1	3/21/2017	8:54:30	13.68	35.9	1.5	
run1	3/21/2017	8:54:45	13.70	34.6	1.5	
run1	3/21/2017	8:55:00	13.70	35.1	1.6	
run1	3/21/2017	8:55:15	13.70	35.2	1.6	
run1	3/21/2017	8:55:30	13.70	35.7	1.6	
run1	3/21/2017	8:55:45	13.69	35.6	1.6	
run1	3/21/2017	8:56:00	13.70	35.1	1.6	
run1	3/21/2017	8:56:15	13.70	35.2	1.6	
run1	3/21/2017	8:56:30	13.69	35.9	1.6	
run1	3/21/2017	8:56:45	13.67	35.3	1.6	
run1	3/21/2017	8:57:00	13.67	35.2	1.6	
run1	3/21/2017	8:57:15	13.66	35.1	1.6	
run1	3/21/2017	8:57:30	13.67	35.1	1.6	
run1	3/21/2017	8:57:45	13.66	35.4	1.6	
run1	3/21/2017	8:58:00	13.66	36.0	1.6	
run1	3/21/2017	8:58:15	13.64	35.8	1.6	
run1	3/21/2017	8:58:30	13.63	35.7	1.6	
run1	3/21/2017	8:58:45	13.64	35.6	1.6	
run1	3/21/2017	8:59:00	13.63	35.2	1.6	
run1	3/21/2017	8:59:15	13.64	34.4	1.6	
run1	3/21/2017	8:59:30	13.67	34.8	1.6	
run1	3/21/2017	8:59:45	13.66	34.9	1.6	
run1	3/21/2017	9:00:00	13.66	35.1	1.6	
run1	3/21/2017	9:00:15	13.67	34.8	1.6	
run1	3/21/2017	9:00:30	13.66	34.5	1.6	
run1	3/21/2017	9:00:45	13.66	34.9	1.6	
run1	3/21/2017	9:01:00	13.67	35.5	1.7	
run1	3/21/2017	9:01:15	13.66	35.7	1.6	
run1	3/21/2017	9:01:30	13.65	35.8	1.6	
run1	3/21/2017	9:01:45	13.63	35.5	1.6	
run1	3/21/2017	9:02:00	13.64	34.9	1.6	
run1	3/21/2017	9:02:15	13.64	34.8	1.5	
run1	3/21/2017	9:02:30	13.63	35.0	1.6	
run1	3/21/2017	9:02:45	13.63	35.3	1.6	
run1	3/21/2017	9:03:00	13.63	35.3	1.6	
run1	3/21/2017	9:03:15	13.64	35.0	1.6	
run1	3/21/2017	9:03:30	13.63	34.1	1.6	
run1	3/21/2017	9:03:45	13.55	33.3	1.6	
run1	3/21/2017	9:04:00	13.43	32.9	1.6	
run1	3/21/2017	9:04:15	13.31	33.2	1.5	
run1	3/21/2017	9:04:30	13.20	33.7	1.6	
run1	3/21/2017	9:04:45	13.12	33.5	1.6	
run1	3/21/2017	9:05:00	13.08	33.7	1.5	
run1	3/21/2017	9:05:15	13.03	33.7	1.5	
run1	3/21/2017	9:05:30	12.98	32.9	1.5	
run1	3/21/2017	9:05:45	12.94	32.4	1.5	
run1f	3/21/2017	9:06:00	12.87	32.1	1.5	
run1f	3/21/2017	9:06:15	12.79	32.6	1.6	
run1f	3/21/2017	9:06:30	12.74	32.7	1.6	
run1f	3/21/2017	9:06:45	12.71	32.3	1.6	
run1f	3/21/2017	9:07:00	12.68	32.2	1.6	
run1f	3/21/2017	9:07:15	12.62	32.6	1.6	
run1f	3/21/2017	9:07:30	12.53	32.4	1.6	
run1f	3/21/2017	9:07:45	12.44	32.7	1.5	
run1f	3/21/2017	9:08:00	11.97	25.8	1.5	
run1f	3/21/2017	9:08:15	10.81	24.9	1.6	
run1f	3/21/2017	9:08:30	10.63	31.0	1.6	
run1f	3/21/2017	9:08:45	11.18	32.6	1.6	
run1f	3/21/2017	9:09:00	11.78	34.6	1.6	
run1f	3/21/2017	9:09:15	12.30	34.6	1.6	
run1f	3/21/2017	9:09:30	12.67	34.2	1.6	
run1f	3/21/2017	9:09:45	12.84	34.3	1.6	
run1f	3/21/2017	9:10:00	12.86	35.5	1.6	
run1f	3/21/2017	9:10:15	12.86	36.1	1.6	
run1f	3/21/2017	9:10:30	12.89	36.0	1.5	
run1f	3/21/2017	9:10:45	12.96	36.1	1.6	
run1f	3/21/2017	9:11:00	13.03	35.9	1.6	
run1f	3/21/2017	9:11:15	13.10	35.9	1.6	
run1f	3/21/2017	9:11:30	13.15	36.2	1.7	
run1f	3/21/2017	9:11:45	13.19	36.3	1.6	
run1f	3/21/2017	9:12:00	13.21	35.0	1.6	
run1f	3/21/2017	9:12:15	13.24	36.4	1.6	
run1f	3/21/2017	9:12:30	13.28	37.1	1.6	
run1f	3/21/2017	9:12:45	13.28	37.0	1.5	
run1	3/21/2017	9:13:00	13.27	36.5	1.6	
run1	3/21/2017	9:13:15	13.29	36.8	1.7	

name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset			0	0	0	0
fullscale			20	500	100	100
train			2	2	2	2
gastype	co2 3a		nox 7e		so2 6c	
run1	3/21/2017	9:13:30	13.35	37.3	1.5	
run1	3/21/2017	9:13:45	13.39	36.9	1.6	
run1	3/21/2017	9:14:00	13.44	36.7	1.6	
run1	3/21/2017	9:14:15	13.48	35.0	1.4	
run1	3/21/2017	9:14:30	13.51	35.9	1.6	
run1	3/21/2017	9:14:45	13.53	36.9	1.6	
run1	3/21/2017	9:15:00	13.54	36.8	1.6	
run1	3/21/2017	9:15:15	13.54	37.2	1.6	
run1	3/21/2017	9:15:30	13.53	37.6	1.6	
run1	3/21/2017	9:15:45	13.54	37.1	1.7	
run1	3/21/2017	9:16:00	13.56	36.5	1.6	
run1	3/21/2017	9:16:15	13.59	36.9	1.7	
run1	3/21/2017	9:16:30	13.60	37.2	1.7	
run1	3/21/2017	9:16:45	13.60	37.3	1.7	
run1	3/21/2017	9:17:00	13.60	36.7	1.7	
run1	3/21/2017	9:17:15	13.62	36.7	1.6	
run1	3/21/2017	9:17:30	13.66	37.0	1.6	
run1	3/21/2017	9:17:45	13.68	37.3	1.6	
run1	3/21/2017	9:18:00	13.70	37.5	1.6	
run1	3/21/2017	9:18:15	13.70	37.4	1.6	
run1	3/21/2017	9:18:30	13.70	37.9	1.6	
run1	3/21/2017	9:18:45	13.70	37.4	1.7	
run1	3/21/2017	9:19:00	13.72	36.6	1.6	
run1	3/21/2017	9:19:15	13.77	36.5	1.5	
run1	3/21/2017	9:19:30	13.79	36.7	1.5	
run1	3/21/2017	9:19:45	13.81	36.8	1.6	
run1	3/21/2017	9:20:00	13.82	36.5	1.6	
run1	3/21/2017	9:20:15	13.83	37.0	1.6	
run1	3/21/2017	9:20:30	13.83	37.1	1.6	
run1	3/21/2017	9:20:45	13.82	37.7	1.7	
run1	3/21/2017	9:21:00	13.82	37.3	1.7	
run1	3/21/2017	9:21:15	13.79	36.8	1.6	
run1	3/21/2017	9:21:30	13.79	36.2	1.6	
run1	3/21/2017	9:21:45	13.79	36.2	1.6	
run1	3/21/2017	9:22:00	13.79	35.8	1.6	
run1	3/21/2017	9:22:15	13.82	35.4	1.5	
run1	3/21/2017	9:22:30	13.85	35.9	1.6	
run1	3/21/2017	9:22:45	13.86	36.3	1.6	
run1	3/21/2017	9:23:00	13.86	35.9	1.6	
run1	3/21/2017	9:23:15	13.86	35.8	1.5	
run1	3/21/2017	9:23:30	13.86	36.3	1.6	
run1	3/21/2017	9:23:45	13.86	35.9	1.6	
run1	3/21/2017	9:24:00	13.86	35.4	1.6	
run1	3/21/2017	9:24:15	13.85	35.5	1.6	
run1	3/21/2017	9:24:30	13.82	35.9	1.6	
run1	3/21/2017	9:24:45	13.77	35.9	1.5	
run1f	3/21/2017	9:25:00	13.72	34.6	1.6	
run1f	3/21/2017	9:25:15	13.66	34.6	1.6	
run1f	3/21/2017	9:25:30	13.63	34.3	1.6	
run1f	3/21/2017	9:25:45	13.57	33.8	1.5	
run1f	3/21/2017	9:26:00	13.52	33.2	1.5	
run1f	3/21/2017	9:26:15	13.34	28.9	1.5	
run1f	3/21/2017	9:26:30	12.20	22.9	1.6	
run1f	3/21/2017	9:26:45	11.31	29.4	1.6	
run1f	3/21/2017	9:27:00	11.71	31.7	1.5	
run1f	3/21/2017	9:27:15	12.47	32.8	1.7	
run1f	3/21/2017	9:27:30	12.97	33.5	1.6	
run1f	3/21/2017	9:27:45	13.21	33.8	1.6	
run1f	3/21/2017	9:28:00	13.36	32.9	1.6	
run1f	3/21/2017	9:28:15	13.49	33.4	1.6	
run1f	3/21/2017	9:28:30	13.58	32.8	1.6	
run1f	3/21/2017	9:28:45	13.65	32.4	1.6	
run1f	3/21/2017	9:29:00	13.69	32.6	1.6	
run1f	3/21/2017	9:29:15	13.70	33.2	1.6	
run1f	3/21/2017	9:29:30	13.70	33.3	1.5	
run1f	3/21/2017	9:29:45	13.70	33.5	1.6	
run1	3/21/2017	9:30:00	13.70	33.4	1.6	
run1	3/21/2017	9:30:15	13.70	33.2	1.6	
run1	3/21/2017	9:30:30	13.70	33.3	1.6	
run1	3/21/2017	9:30:45	13.70	33.2	1.6	
run1	3/21/2017	9:31:00	13.70	33.0	1.6	
run1	3/21/2017	9:31:15	13.70	33.0	1.6	
run1	3/21/2017	9:31:30	13.70	33.1	1.5	
run1	3/21/2017	9:31:45	13.73	33.3	1.6	
run1	3/21/2017	9:32:00	13.74	33.2	1.5	
run1	3/21/2017	9:32:15	13.77	33.5	1.6	
run1	3/21/2017	9:32:30	13.76	34.3	1.6	
run1	3/21/2017	9:32:45	13.76	34.3	1.6	
run1	3/21/2017	9:33:00	13.76	34.0	1.6	
run1	3/21/2017	9:33:15	13.77	33.4	1.6	
run1	3/21/2017	9:33:30	13.76	33.5	1.6	
run1	3/21/2017	9:33:45	13.76	34.3	1.6	
run1	3/21/2017	9:34:00	13.77	34.8	1.7	
run1	3/21/2017	9:34:15	13.76	34.3	1.6	
run1	3/21/2017	9:34:30	13.76	34.2	1.6	
run1	3/21/2017	9:34:45	13.76	33.9	1.5	
run1	3/21/2017	9:35:00	13.79	34.2	1.5	
run1	3/21/2017	9:35:15	13.80	34.6	1.6	
run1	3/21/2017	9:35:30	13.80	34.5	1.6	
run1	3/21/2017	9:35:45	13.79	35.3	1.6	
run1	3/21/2017	9:36:00	13.80	35.3	1.6	
run1	3/21/2017	9:36:15	13.80	34.9	1.6	
run1	3/21/2017	9:36:30	13.79	33.9	1.6	
run1	3/21/2017	9:36:45	13.80	33.9	1.5	
run1	3/21/2017	9:37:00	13.79	35.2	1.6	
run1	3/21/2017	9:37:15	13.80	35.9	1.6	
run1	3/21/2017	9:37:30	13.79	35.2	1.6	
run1	3/21/2017	9:37:45	13.80	35.6	1.6	





name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a	nox 7e	so2 6c			
run2	3/21/2017 10:32:15	13.76	38.7	1.6		
run2	3/21/2017 10:32:30	13.76	39.3	1.7		
run2	3/21/2017 10:32:45	13.76	39.1	1.7		
run2	3/21/2017 10:33:00	13.76	39.3	1.7		
run2	3/21/2017 10:33:15	13.76	39.7	1.7		
run2	3/21/2017 10:33:30	13.76	39.3	1.7		
run2	3/21/2017 10:33:45	13.76	39.3	1.7		
run2	3/21/2017 10:34:00	13.76	38.7	1.7		
run2	3/21/2017 10:34:15	13.76	38.8	1.7		
run2	3/21/2017 10:34:30	13.76	39.2	1.6		
run2	3/21/2017 10:34:45	13.76	38.9	1.7		
run2	3/21/2017 10:35:00	13.76	38.7	1.7		
run2	3/21/2017 10:35:15	13.76	38.8	1.7		
run2	3/21/2017 10:35:30	13.76	38.7	1.7		
run2	3/21/2017 10:35:45	13.82	38.5	1.6		
run2	3/21/2017 10:36:00	13.84	38.0	1.7		
run2	3/21/2017 10:36:15	13.88	37.8	1.7		
run2	3/21/2017 10:36:30	13.90	37.9	1.7		
run2	3/21/2017 10:36:45	13.92	37.9	1.7		
run2	3/21/2017 10:37:00	13.92	38.4	1.7		
run2	3/21/2017 10:37:15	13.92	38.8	1.7		
run2	3/21/2017 10:37:30	13.92	38.4	1.6		
run2	3/21/2017 10:37:45	13.92	39.2	1.6		
run2	3/21/2017 10:38:00	13.92	39.2	1.8		
run2	3/21/2017 10:38:15	13.89	38.9	1.6		
run2	3/21/2017 10:38:30	13.89	38.8	1.7		
run2	3/21/2017 10:38:45	13.89	38.7	1.6		
run2	3/21/2017 10:39:00	13.89	38.8	1.6		
run2	3/21/2017 10:39:15	13.89	37.9	1.6		
run2	3/21/2017 10:39:30	13.89	37.9	1.6		
run2	3/21/2017 10:39:45	13.90	38.7	1.6		
run2	3/21/2017 10:40:00	13.92	38.2	1.7		
run2	3/21/2017 10:40:15	13.92	38.7	1.6		
run2	3/21/2017 10:40:30	13.92	38.8	1.6		
run2	3/21/2017 10:40:45	13.92	39.1	1.6		
run2	3/21/2017 10:41:00	13.92	39.0	1.7		
run2	3/21/2017 10:41:15	13.92	39.3	1.7		
run2	3/21/2017 10:41:30	13.92	39.2	1.6		
run2	3/21/2017 10:41:45	13.92	38.9	1.6		
run2	3/21/2017 10:42:00	13.92	38.8	1.6		
run2	3/21/2017 10:42:15	13.92	38.5	1.6		
run2	3/21/2017 10:42:30	13.92	37.7	1.6		
run2	3/21/2017 10:42:45	13.95	37.2	1.6		
run2	3/21/2017 10:43:00	13.97	37.6	1.7		
run2	3/21/2017 10:43:15	13.99	38.4	1.7		
run2	3/21/2017 10:43:30	13.98	38.1	1.6		
run2	3/21/2017 10:43:45	13.99	37.8	1.6		
run2	3/21/2017 10:44:00	13.99	38.0	1.7		
run2	3/21/2017 10:44:15	13.99	37.8	1.6		
run2	3/21/2017 10:44:30	13.99	37.5	1.6		
run2	3/21/2017 10:44:45	13.99	38.1	1.6		
run2	3/21/2017 10:45:00	14.00	38.0	1.6		
run2	3/21/2017 10:45:15	14.02	37.9	1.6		
run2	3/21/2017 10:45:30	14.05	37.5	1.6		
run2	3/21/2017 10:45:45	14.05	37.3	1.6		
run2	3/21/2017 10:46:00	14.05	37.2	1.6		
run2	3/21/2017 10:46:15	14.05	37.8	1.6		
run2	3/21/2017 10:46:30	14.05	38.1	1.7		
run2	3/21/2017 10:46:45	14.05	37.6	1.6		
run2	3/21/2017 10:47:00	14.05	37.5	1.7		
run2	3/21/2017 10:47:15	14.05	37.6	1.6		
run2	3/21/2017 10:47:30	14.05	37.6	1.6		
run2	3/21/2017 10:47:45	14.05	37.9	1.7		
run2	3/21/2017 10:48:00	14.05	38.5	1.7		
run2	3/21/2017 10:48:15	14.05	37.7	1.6		
run2	3/21/2017 10:48:30	14.05	38.7	1.6		
run2	3/21/2017 10:48:45	14.04	39.3	1.6		
run2	3/21/2017 10:49:00	14.00	39.2	1.7		
run2	3/21/2017 10:49:15	13.98	38.9	1.6		
run2	3/21/2017 10:49:30	13.98	38.3	1.6		
run2	3/21/2017 10:49:45	13.99	37.8	1.6		
run2	3/21/2017 10:50:00	13.98	37.4	1.6		
run2	3/21/2017 10:50:15	13.99	38.2	1.6		
run2	3/21/2017 10:50:30	13.98	38.0	1.6		
run2	3/21/2017 10:50:45	13.99	37.9	1.6		
run2	3/21/2017 10:52:00	13.87	38.3	1.6		
scg9	3/21/2017 10:51:15	13.99	38.1	1.7	CC423695/cg9	21
scg9	3/21/2017 10:51:30	13.99	38.6	1.6	CC423695/cg9	CO 97.52
scg9	3/21/2017 10:51:45	13.98	39.0	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:52:00	13.98	38.9	1.7	CC423695/cg9	0 0 0
scg9	3/21/2017 10:52:15	13.86	34.9	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:52:30	12.15	15.8	1.5	CC423695/cg9	0 0 0
scg9	3/21/2017 10:52:45	9.91	26.1	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:53:00	10.02	33.7	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:53:15	11.29	36.3	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:53:30	12.30	37.0	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:53:45	12.88	36.7	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:54:00	13.18	36.8	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:54:15	13.36	37.3	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:54:30	13.47	36.7	1.6	CC423695/cg9	0 0 0
scg9	3/21/2017 10:54:45	13.54	36.9	1.5	CC423695/cg9	0 0 0
scg6	3/21/2017 10:55:00	13.58	37.4	1.6	CC349198/cg6	SO2 20.67
scg6	3/21/2017 10:55:15	13.60	38.3	1.6	CC349198/cg6	0 0 0
scg6	3/21/2017 10:55:30	13.60	38.1	1.6	CC349198/cg6	0 0 0
scg6	3/21/2017 10:55:45	13.62	38.5	1.6	CC349198/cg6	0 0 0
scg6	3/21/2017 10:56:00	13.61	36.5	1.6	CC349198/cg6	0 0 0
scg6	3/21/2017 10:56:15	12.31	16.5	1.5	CC349198/cg6	0 0 0
scg6	3/21/2017 10:56:30	8.47	2.7	1.5	CC349198/cg6	0 0 0







name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a		nox 7e		so2 6c	
run3	3/21/2017	11:49:45	14.03	39.7	40.1	1.7
run3	3/21/2017	11:50:00	13.98	39.7	39.7	1.6
run3	3/21/2017	11:50:15	13.96	39.4	39.4	1.7
run3	3/21/2017	11:50:30	13.94	39.3	39.3	1.6
run3	3/21/2017	11:50:45	13.95	38.7	38.7	1.6
run3	3/21/2017	11:51:00	13.94	38.6	38.6	1.6
run3	3/21/2017	11:51:15	13.95	38.3	38.3	1.7
run3	3/21/2017	11:51:30	13.94	38.7	38.7	1.7
run3	3/21/2017	11:51:45	13.95	39.3	39.3	1.6
run3	3/21/2017	11:52:00	13.94	38.6	38.6	1.7
run3	3/21/2017	11:52:15	13.95	38.1	38.1	1.6
run3	3/21/2017	11:52:30	13.94	37.6	37.6	1.7
run3	3/21/2017	11:52:45	13.95	37.5	37.5	1.7
run3	3/21/2017	11:53:00	13.97	37.2	37.2	1.6
run3	3/21/2017	11:53:15	14.01	37.5	37.5	1.7
run3	3/21/2017	11:53:30	14.04	37.3	37.3	1.6
run3	3/21/2017	11:53:45	14.07	36.8	36.8	1.6
run3	3/21/2017	11:54:00	14.09	36.9	36.9	1.7
run3	3/21/2017	11:54:15	14.12	36.0	36.0	1.6
run3	3/21/2017	11:54:30	14.14	35.9	35.9	1.6
run3	3/21/2017	11:54:45	14.15	35.5	35.5	1.6
run3	3/21/2017	11:55:00	14.15	35.7	35.7	1.6
run3	3/21/2017	11:55:15	14.17	35.3	35.3	1.6
run3	3/21/2017	11:55:30	14.19	36.1	36.1	1.7
run3	3/21/2017	11:55:45	14.19	36.0	36.0	1.7
run3	3/21/2017	11:56:00	14.19	36.0	36.0	1.6
run3	3/21/2017	11:56:15	14.19	36.2	36.2	1.6
run3	3/21/2017	11:56:30	14.19	35.9	35.9	1.6
run3	3/21/2017	11:56:45	14.20	36.1	36.1	1.6
run3	3/21/2017	11:57:00	14.19	35.2	35.2	1.6
run3	3/21/2017	11:57:15	14.19	34.8	34.8	1.6
run3	3/21/2017	11:57:30	14.19	34.9	34.9	1.6
run3	3/21/2017	11:57:45	14.22	35.3	35.3	1.6
averun3	3/21/2017	11:36:00	14.02	38.2	38.2	1.7
scg1	3/21/2017	11:58:15	14.23	36.0	1.6 CC263051/cg1	21 SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	11:58:30	14.23	36.2	1.7 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	11:58:45	14.23	36.9	1.6 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	11:59:00	14.14	35.3	1.7 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	11:59:15	12.79	17.5	1.3 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	11:59:30	8.62	2.9	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	11:59:45	4.84	0.9	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:00:00	2.78	0.7	1.0 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:00:15	1.60	0.5	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:00:30	0.84	0.5	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:00:45	0.45	0.5	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:01:00	0.25	0.5	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:01:15	0.17	0.5	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:01:30	0.13	0.6	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:01:45	0.11	0.4	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:02:00	0.10	0.5	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:02:15	0.08	0.4	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg1	3/21/2017	12:02:30	0.08	0.4	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
so2zero2	3/21/2017	12:02:30	0.08	0.4	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
co2zero2	3/21/2017	12:02:30	0.08	0.4	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
noxzero2	3/21/2017	12:02:30	0.08	0.4	1.1 CC263051/cg1	SO2 0 NOx 0 CO2 0 O2 0
scg9	3/21/2017	12:02:45	0.07	0.4	1.0 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:03:00	0.07	0.3	1.1 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:03:15	0.07	0.4	1.0 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:03:30	0.07	0.5	1.1 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:03:45	0.08	0.6	1.1 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:04:00	0.55	8.7	1.2 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:04:15	3.08	27.0	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:04:30	7.09	33.8	1.2 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:04:45	8.50	35.0	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:05:00	8.39	33.6	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:05:15	7.95	32.4	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:05:30	8.15	48.1	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:05:45	7.47	69.7	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:06:00	7.46	54.2	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:06:15	8.83	42.0	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:06:30	16.58	36.4	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:06:45	16.40	34.5	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:07:00	17.68	34.3	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:07:15	13.32	34.7	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:07:30	12.89	34.8	1.3 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:07:45	13.53	35.4	1.2 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:08:00	13.81	35.4	1.4 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:08:15	14.02	34.9	1.5 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:08:30	14.52	34.7	1.4 CC423695/cg9	CO 97.52 0 0 0 0
scg9	3/21/2017	12:08:45	14.14	34.1	1.5 CC423695/cg9	CO 97.52 0 0 0 0
scg2	3/21/2017	12:09:15	12.09	31.8	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:09:30	11.92	32.4	1.4 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:09:45	12.85	31.5	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:10:00	14.29	32.3	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:10:15	14.07	33.1	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:10:30	13.57	34.6	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:10:45	12.71	36.0	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:11:00	13.17	35.2	1.4 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:11:15	13.29	34.9	1.4 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:11:30	13.77	35.0	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:11:45	14.10	35.0	1.5 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:12:00	14.89	35.1	1.6 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:12:15	17.39	35.7	1.6 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:12:30	14.68	40.1	1.6 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:12:45	14.28	36.0	1.6 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:13:00	14.09	33.9	1.6 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:13:15	14.05	34.0	1.7 EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017	12:13:30	14.81	34.1	1.6 EB0070863/cg2	O2 10.11 CO2 9.437 0 0



name		Dil CO2	Dil NOx	Dil SO2						
sn		N3GN2201T	1200951382	1336459886						
offset		0	0	0						
fullscale		20	500	100						
train		2	2	2						
gastype		co2 3a	nox 7e	so2 6c						
scg4	3/21/2017 12:38:00	0.04	0.5	20.9	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:38:15	0.04	1.4	19.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:38:30	0.05	14.5	11.5	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:38:45	0.06	36.9	6.4	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:39:00	0.06	43.2	4.2	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:39:15	0.06	43.6	3.3	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:39:30	0.06	43.4	2.7	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:39:45	0.06	43.5	2.4	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:40:00	0.06	44.0	2.4	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:40:15	0.05	44.3	2.2	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 12:40:30	0.06	44.0	2.2	EB0061550/cg4	NOx	45.43	0	0	0
noxspan2	3/21/2017 12:40:30	0.06	44.0	2.2	EB0061550/cg4	NOx	45.43	0	0	0
run4	3/21/2017 12:44:15	13.57	35.8	2.6						
run4	3/21/2017 12:44:30	13.58	35.7	2.4						
run4	3/21/2017 12:44:45	13.61	35.9	2.6						
run4	3/21/2017 12:45:00	13.62	35.9	2.5						
run4	3/21/2017 12:45:15	13.66	35.6	2.5						
run4	3/21/2017 12:45:30	13.72	35.7	2.5						
run4	3/21/2017 12:45:45	13.78	35.9	2.5						
run4	3/21/2017 12:46:00	13.80	34.9	2.5						
run4	3/21/2017 12:46:15	13.83	35.3	2.6						
run4	3/21/2017 12:46:30	13.84	36.1	2.4						
run4	3/21/2017 12:46:45	13.83	36.6	2.5						
run4	3/21/2017 12:47:00	13.79	36.6	2.4						
run4	3/21/2017 12:47:15	13.75	36.2	2.5						
run4	3/21/2017 12:47:30	13.74	35.7	2.3						
run4	3/21/2017 12:47:45	13.75	35.9	2.5						
run4	3/21/2017 12:48:00	13.79	36.3	2.5						
run4	3/21/2017 12:48:15	13.82	36.2	2.4						
run4	3/21/2017 12:48:30	13.84	37.0	2.4						
run4	3/21/2017 12:48:45	13.84	36.9	2.4						
run4	3/21/2017 12:49:00	13.84	36.9	2.4						
run4	3/21/2017 12:49:15	13.84	36.6	2.4						
run4	3/21/2017 12:49:30	13.84	36.7	2.4						
run4	3/21/2017 12:49:45	13.84	37.2	2.4						
run4	3/21/2017 12:50:00	13.83	37.1	2.4						
run4	3/21/2017 12:50:15	13.84	37.0	2.5						
run4	3/21/2017 12:50:30	13.84	37.2	2.4						
run4	3/21/2017 12:50:45	13.84	37.0	2.3						
run4	3/21/2017 12:51:00	13.84	36.4	2.3						
run4	3/21/2017 12:51:15	13.88	36.1	2.3						
run4	3/21/2017 12:51:30	13.91	36.3	2.3						
run4	3/21/2017 12:51:45	13.94	36.3	2.3						
run4	3/21/2017 12:52:00	13.94	36.2	2.5						
run4	3/21/2017 12:52:15	13.98	36.2	2.4						
run4	3/21/2017 12:52:30	14.03	36.2	2.4						
run4	3/21/2017 12:52:45	14.06	35.9	2.3						
run4	3/21/2017 12:53:00	14.07	36.0	2.4						
run4	3/21/2017 12:53:15	14.07	36.2	2.4						
run4	3/21/2017 12:53:30	14.07	36.2	2.4						
run4	3/21/2017 12:53:45	14.06	36.6	2.4						
run4	3/21/2017 12:54:00	14.03	36.6	2.4						
run4	3/21/2017 12:54:15	14.03	36.5	2.4						
run4	3/21/2017 12:54:30	14.04	36.2	2.4						
run4	3/21/2017 12:54:45	14.03	36.3	2.4						
run4	3/21/2017 12:55:00	14.03	35.8	2.4						
run4	3/21/2017 12:55:15	14.03	36.0	2.4						
run4	3/21/2017 12:55:30	14.03	35.6	2.3						
run4	3/21/2017 12:55:45	14.03	35.6	2.4						
run4	3/21/2017 12:56:00	14.05	36.2	2.4						
run4	3/21/2017 12:56:15	14.06	36.7	2.3						
run4	3/21/2017 12:56:30	14.07	36.9	2.3						
run4	3/21/2017 12:56:45	14.04	36.7	2.3						
run4	3/21/2017 12:57:00	14.01	36.6	2.4						
run4	3/21/2017 12:57:15	14.00	36.3	2.3						
run4	3/21/2017 12:57:30	14.00	35.7	2.4						
run4	3/21/2017 12:57:45	14.00	35.7	2.3						
run4	3/21/2017 12:58:00	14.00	35.7	2.3						
run4	3/21/2017 12:58:15	14.00	36.6	2.3						
run4	3/21/2017 12:58:30	14.00	37.2	2.4						
run4	3/21/2017 12:58:45	14.01	36.8	2.3						
run4	3/21/2017 12:59:00	14.03	36.6	2.3						
run4	3/21/2017 12:59:15	14.03	36.3	2.4						
run4	3/21/2017 12:59:30	14.03	36.3	2.4						
run4	3/21/2017 12:59:45	14.04	36.9	2.4						
run4	3/21/2017 13:00:00	14.03	36.9	2.3						
run4	3/21/2017 13:00:15	14.03	37.1	2.3						
run4	3/21/2017 13:00:30	14.03	37.0	2.3						
run4	3/21/2017 13:00:45	14.01	37.0	2.3						
run4	3/21/2017 13:01:00	14.00	36.4	2.3						
run4	3/21/2017 13:01:15	14.00	36.2	2.4						
run4	3/21/2017 13:01:30	14.00	35.6	2.4						
run4	3/21/2017 13:01:45	14.00	35.3	2.4						
run4	3/21/2017 13:02:00	14.03	35.9	2.3						
run4	3/21/2017 13:02:15	14.03	35.3	2.3						
run4	3/21/2017 13:02:30	14.05	35.7	2.3						
run4	3/21/2017 13:02:45	14.06	35.0	2.3						
run4	3/21/2017 13:03:00	14.08	34.4	2.3						
run4	3/21/2017 13:03:15	14.12	34.0	2.4						
run4	3/21/2017 13:03:30	14.17	34.2	2.3						
run4	3/21/2017 13:03:45	14.22	34.3	2.3						
run4	3/21/2017 13:04:00	14.26	34.6	2.4						
run4	3/21/2017 13:04:15	14.26	35.0	2.3						
run4	3/21/2017 13:04:30	14.26	35.1	2.3						
run4	3/21/2017 13:04:45	14.26	34.8	2.2						
run4	3/21/2017 13:05:00	14.24	34.7	2.3						
run4	3/21/2017 13:05:15	14.22	34.8	2.3						
run4	3/21/2017 13:05:30	14.22	35.1	2.3						



name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a	nox 7e	so2 6c			
run5	3/21/2017 13:31:30	13.00	32.7	2.6		
run5	3/21/2017 13:31:45	13.29	32.9	2.4		
run5	3/21/2017 13:32:00	13.44	33.0	2.5		
run5	3/21/2017 13:32:15	13.53	32.4	2.4		
run5	3/21/2017 13:32:30	13.62	32.4	2.4		
run5	3/21/2017 13:32:45	13.64	32.4	2.4		
run5	3/21/2017 13:33:00	13.68	32.7	2.4		
run5	3/21/2017 13:33:15	13.69	33.0	2.5		
run5	3/21/2017 13:33:30	13.71	33.2	2.4		
run5	3/21/2017 13:33:45	13.70	33.9	2.5		
run5	3/21/2017 13:34:00	13.71	33.3	2.4		
run5	3/21/2017 13:34:15	13.70	33.2	2.5		
run5	3/21/2017 13:34:30	13.72	33.4	2.5		
run5	3/21/2017 13:34:45	13.74	33.3	2.4		
run5	3/21/2017 13:35:00	13.74	33.2	2.3		
run5	3/21/2017 13:35:15	13.76	33.4	2.3		
run5	3/21/2017 13:35:30	13.78	33.0	2.5		
run5	3/21/2017 13:35:45	13.82	33.0	2.4		
run5	3/21/2017 13:36:00	13.88	33.2	2.3		
run5	3/21/2017 13:36:15	13.92	32.9	2.3		
run5	3/21/2017 13:36:30	13.96	32.9	2.4		
run5	3/21/2017 13:36:45	13.96	33.4	2.4		
run5	3/21/2017 13:37:00	13.96	33.9	2.3		
run5	3/21/2017 13:37:15	13.97	33.8	2.3		
run5	3/21/2017 13:37:30	13.96	34.1	2.4		
run5	3/21/2017 13:37:45	13.93	34.4	2.4		
run5	3/21/2017 13:38:00	13.90	33.7	2.3		
run5	3/21/2017 13:38:15	13.92	33.8	2.3		
run5	3/21/2017 13:38:30	13.93	33.8	2.3		
run5	3/21/2017 13:38:45	13.93	33.8	2.3		
run5	3/21/2017 13:39:00	13.93	33.7	2.3		
run5	3/21/2017 13:39:15	13.93	34.1	2.3		
run5	3/21/2017 13:39:30	13.93	34.2	2.3		
run5	3/21/2017 13:39:45	13.93	34.4	2.3		
run5	3/21/2017 13:40:00	13.93	34.7	2.3		
run5	3/21/2017 13:40:15	13.93	34.9	2.3		
run5	3/21/2017 13:40:30	13.93	34.7	2.3		
run5	3/21/2017 13:40:45	13.94	34.4	2.4		
run5	3/21/2017 13:41:00	13.98	34.1	2.4		
run5	3/21/2017 13:41:15	14.03	34.2	2.3		
run5	3/21/2017 13:41:30	14.06	34.3	2.3		
run5	3/21/2017 13:41:45	14.06	34.1	2.3		
run5	3/21/2017 13:42:00	14.06	34.1	2.3		
run5	3/21/2017 13:42:15	14.09	33.9	2.4		
run5	3/21/2017 13:42:30	14.10	34.0	2.4		
run5	3/21/2017 13:42:45	14.10	34.4	2.3		
run5	3/21/2017 13:43:00	14.10	34.1	2.3		
run5	3/21/2017 13:43:15	14.07	33.6	2.3		
run5	3/21/2017 13:43:30	14.06	34.1	2.3		
run5	3/21/2017 13:43:45	14.06	34.3	2.3		
run5	3/21/2017 13:44:00	14.07	34.1	2.3		
run5	3/21/2017 13:44:15	14.06	34.5	2.3		
run5	3/21/2017 13:44:30	14.05	35.0	2.3		
run5	3/21/2017 13:44:45	14.04	34.5	2.3		
run5	3/21/2017 13:45:00	14.02	34.6	2.2		
run5	3/21/2017 13:45:15	14.03	35.2	2.3		
run5	3/21/2017 13:45:30	14.03	35.5	2.3		
run5	3/21/2017 13:45:45	14.03	35.3	2.3		
run5	3/21/2017 13:46:00	14.00	35.8	2.3		
run5	3/21/2017 13:46:15	14.00	35.6	2.3		
run5	3/21/2017 13:46:30	13.99	36.1	2.3		
run5	3/21/2017 13:46:45	13.97	36.2	2.3		
run5	3/21/2017 13:47:00	13.96	36.1	2.3		
run5	3/21/2017 13:47:15	13.93	36.0	2.3		
run5	3/21/2017 13:47:30	13.94	36.2	2.2		
run5	3/21/2017 13:47:45	13.90	37.0	2.3		
run5	3/21/2017 13:48:00	13.87	37.0	2.3		
run5	3/21/2017 13:48:15	13.87	36.6	2.3		
run5	3/21/2017 13:48:30	13.88	36.7	2.3		
run5	3/21/2017 13:48:45	13.86	36.9	2.3		
run5	3/21/2017 13:49:00	13.87	36.6	2.3		
run5	3/21/2017 13:49:15	13.86	36.1	2.3		
run5	3/21/2017 13:49:30	13.90	36.2	2.3		
run5	3/21/2017 13:49:45	13.90	36.3	2.4		
run5	3/21/2017 13:50:00	13.93	36.6	2.3		
run5	3/21/2017 13:50:15	13.93	37.1	2.3		
run5	3/21/2017 13:50:30	13.96	37.4	2.3		
run5	3/21/2017 13:50:45	13.96	36.9	2.3		
run5	3/21/2017 13:51:00	13.96	36.7	2.3		
run5	3/21/2017 13:51:15	13.96	36.7	2.3		
run5	3/21/2017 13:51:30	13.97	36.7	2.3		
run5	3/21/2017 13:51:45	13.96	36.1	2.3		
run5	3/21/2017 13:52:00	13.96	35.3	2.4		
run5	3/21/2017 13:52:15	13.97	35.5	2.3		
run5	3/21/2017 13:52:30	13.96	36.0	2.3		
run5	3/21/2017 13:52:45	13.97	35.8	2.3		
run5	3/21/2017 13:53:00	13.99	35.1	2.3		
run5	3/21/2017 13:53:15	14.02	34.8	2.3		
run5	3/21/2017 13:53:30	14.04	34.6	2.3		
run5	3/21/2017 13:53:45	14.05	35.2	2.3		
run5	3/21/2017 13:54:00	14.06	35.5	2.5		
run5	3/21/2017 13:54:15	14.06	35.8	2.3		
run5	3/21/2017 13:54:30	14.06	35.4	2.3		
run5	3/21/2017 13:54:45	14.04	35.5	2.3		
averun5	3/21/2017 13:34:00	13.96	34.9	2.3		
scg6	3/21/2017 13:55:15	13.99	35.5	2.3	CC349198/cg6	SO2 20.67
scg6	3/21/2017 13:55:30	14.00	35.8	2.3	CC349198/cg6	SO2 20.67
scg6	3/21/2017 13:55:45	14.00	36.4	2.3	CC349198/cg6	SO2 20.67





name	Dil CO2		Dil NOx		Dil SO2				
sn	N3GN2201T		1200951382		1336459886				
offset	0		0		0				
fullscale	20		500		100				
train	2		2		2				
gastype	co2 3a	nox 7e	so2 6c						
run6	3/21/2017 14:47:15	13.99	36.3	2.3					
run6	3/21/2017 14:47:30	13.99	36.9	2.2					
run6	3/21/2017 14:47:45	13.99	36.9	2.3					
run6	3/21/2017 14:48:00	13.99	36.8	2.3					
run6	3/21/2017 14:48:15	13.99	37.1	2.3					
run6	3/21/2017 14:48:30	13.99	37.1	2.4					
run6	3/21/2017 14:48:45	13.96	36.6	2.3					
run6	3/21/2017 14:49:00	13.96	37.3	2.3					
run6	3/21/2017 14:49:15	13.72	37.1	2.1					
run6	3/21/2017 14:49:30	13.86	36.8	2.3					
run6	3/21/2017 14:49:45	13.86	37.0	2.4					
run6	3/21/2017 14:50:00	13.86	37.3	2.3					
run6	3/21/2017 14:50:15	12.48	35.9	2.3					
run6	3/21/2017 14:50:30	13.62	38.0	2.5					
run6	3/21/2017 14:50:45	13.82	38.1	2.3					
run6	3/21/2017 14:51:00	13.83	37.5	2.3					
run6	3/21/2017 14:51:15	13.84	37.8	2.3					
run6	3/21/2017 14:51:30	13.86	37.1	2.4					
run6	3/21/2017 14:51:45	13.86	37.3	2.3					
run6	3/21/2017 14:52:00	13.88	36.6	2.3					
run6	3/21/2017 14:52:15	13.90	36.3	2.3					
run6	3/21/2017 14:52:30	13.93	36.3	2.3					
run6	3/21/2017 14:52:45	13.96	36.3	2.3					
run6	3/21/2017 14:53:00	14.00	35.8	2.3					
run6	3/21/2017 14:53:15	14.02	35.8	2.3					
run6	3/21/2017 14:53:30	14.05	35.3	2.4					
run6	3/21/2017 14:53:45	14.05	35.5	2.3					
run6	3/21/2017 14:54:00	14.02	35.8	2.3					
run6	3/21/2017 14:54:15	14.02	36.0	2.3					
run6	3/21/2017 14:54:30	14.05	35.6	2.3					
run6	3/21/2017 14:54:45	14.06	35.5	2.3					
run6	3/21/2017 14:55:00	14.06	35.2	2.4					
run6	3/21/2017 14:55:15	14.05	35.0	2.3					
run6	3/21/2017 14:55:30	14.06	35.5	2.3					
run6	3/21/2017 14:55:45	14.06	36.0	2.3					
run6	3/21/2017 14:56:00	14.06	35.5	2.3					
run6	3/21/2017 14:56:15	14.06	35.2	2.3					
averun6	3/21/2017 14:32:00	13.91	35.6	2.3					
scg6	3/21/2017 14:56:45	14.06	34.9	2.3 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:57:00	14.06	34.7	2.4 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:57:15	14.06	34.7	2.3 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:57:30	14.03	33.4	2.3 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:57:45	12.50	17.7	2.2 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:58:00	8.26	3.4	2.1 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:58:15	4.79	1.7	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:58:30	2.70	1.4	2.0 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:58:45	1.47	1.6	2.0 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:59:00	0.85	1.6	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:59:15	0.53	1.6	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:59:30	0.35	1.8	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 14:59:45	0.24	1.9	1.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:00:00	0.18	1.6	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:00:15	0.15	1.2	1.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:00:30	0.15	1.7	1.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:00:45	0.14	1.4	1.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:01:00	0.13	1.8	1.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:01:15	0.13	1.9	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:01:30	0.12	1.4	1.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:01:45	0.13	1.8	1.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:02:00	0.12	2.1	2.0 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:02:15	0.13	1.8	2.5 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:02:30	0.11	1.9	3.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:02:45	0.10	1.5	6.4 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:03:00	0.09	1.0	9.1 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:03:15	0.09	1.0	11.4 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:03:30	0.08	0.8	13.3 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:03:45	0.07	0.7	14.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:04:00	0.08	0.7	15.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:04:15	0.08	0.8	16.8 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:04:30	0.08	0.6	17.5 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:04:45	0.07	0.7	18.1 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:05:00	0.08	0.5	18.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:05:15	0.08	0.8	19.3 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:05:30	0.08	0.6	19.9 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:05:45	0.08	0.7	20.0 CC349198/cg6	SO2	20.67	0	0	0
scg6	3/21/2017 15:05:45	0.08	0.7	20.0 CC349198/cg6	SO2	20.67	0	0	0
scg4	3/21/2017 15:06:00	0.07	0.6	20.4 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:06:15	0.08	0.7	20.6 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:06:30	0.08	0.8	20.8 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:06:45	0.07	0.7	21.1 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:07:00	0.08	0.7	21.1 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:07:15	0.08	0.8	21.0 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:07:30	0.08	8.4	16.2 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:07:45	0.07	20.3	8.9 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:08:00	0.08	30.3	5.3 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:08:15	0.08	40.8	3.9 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:08:30	0.08	46.5	3.1 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:08:45	0.08	46.6	2.7 EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017 15:09:00	0.08	45.4	2.4 EB0061550/cg4	NOx	45.43	0	0	0
noxspan2	3/21/2017 15:09:00	0.08	45.4	2.4 EB0061550/cg4	NOx	45.43	0	0	0
scg2	3/21/2017 15:09:15	0.07	45.5	2.3 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:09:30	0.08	45.3	2.3 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:09:45	0.08	45.0	2.2 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:10:00	0.08	45.6	2.1 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:10:15	0.08	45.0	2.1 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:10:30	0.10	44.3	2.0 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:10:45	0.70	26.8	2.0 EB0070863/cg2	O2	10.11 CO2	9.437	0	0
scg2	3/21/2017 15:11:00	3.31	5.2	1.8 EB0070863/cg2	O2	10.11 CO2	9.437	0	0





name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a	nox 7e	so2 6c			
run7	3/21/2017 15:36:15	13.87	33.9	2.2		
run7	3/21/2017 15:36:30	13.89	34.1	2.2		
run7	3/21/2017 15:36:45	13.89	34.3	2.1		
run7	3/21/2017 15:37:00	13.89	34.7	2.2		
run7	3/21/2017 15:37:15	13.89	35.5	2.3		
run7	3/21/2017 15:37:30	13.89	35.2	2.3		
run7	3/21/2017 15:37:45	13.89	35.2	2.2		
run7	3/21/2017 15:38:00	13.88	35.1	2.3		
run7	3/21/2017 15:38:15	13.83	35.2	2.2		
run7	3/21/2017 15:38:30	13.83	35.0	2.1		
run7	3/21/2017 15:38:45	13.82	34.8	2.3		
run7	3/21/2017 15:39:00	13.82	35.1	2.2		
run7	3/21/2017 15:39:15	13.82	34.9	2.2		
run7	3/21/2017 15:39:30	13.83	35.5	2.2		
run7	3/21/2017 15:39:45	13.82	35.8	2.2		
run7	3/21/2017 15:40:00	13.82	35.6	2.3		
run7	3/21/2017 15:40:15	13.82	35.1	2.2		
run7	3/21/2017 15:40:30	13.82	34.5	2.3		
run7	3/21/2017 15:40:45	13.83	35.0	2.3		
run7	3/21/2017 15:41:00	13.82	35.3	2.2		
run7	3/21/2017 15:41:15	13.83	35.0	2.2		
run7	3/21/2017 15:41:30	13.82	35.0	2.2		
run7	3/21/2017 15:41:45	13.82	34.7	2.2		
run7	3/21/2017 15:42:00	13.83	35.0	2.2		
run7	3/21/2017 15:42:15	13.82	34.6	2.2		
run7	3/21/2017 15:42:30	13.82	34.2	2.3		
run7	3/21/2017 15:42:45	13.85	34.2	2.2		
run7	3/21/2017 15:43:00	13.88	34.5	2.2		
run7	3/21/2017 15:43:15	13.89	34.9	2.2		
run7	3/21/2017 15:43:30	13.89	35.1	2.1		
run7	3/21/2017 15:43:45	13.89	34.7	2.2		
run7	3/21/2017 15:44:00	13.89	34.5	2.1		
run7	3/21/2017 15:44:15	13.89	34.5	2.2		
run7	3/21/2017 15:44:30	13.89	35.1	2.2		
run7	3/21/2017 15:44:45	13.86	35.0	2.2		
run7	3/21/2017 15:45:00	13.82	35.0	2.1		
run7	3/21/2017 15:45:15	13.79	34.8	2.1		
run7	3/21/2017 15:45:30	13.79	34.4	2.2		
run7	3/21/2017 15:45:45	13.79	34.9	2.2		
run7	3/21/2017 15:46:00	13.80	34.6	2.1		
run7	3/21/2017 15:46:15	13.82	34.5	2.2		
run7	3/21/2017 15:46:30	13.83	34.3	2.1		
run7	3/21/2017 15:46:45	13.85	34.2	2.1		
run7	3/21/2017 15:47:00	13.86	34.1	2.1		
run7	3/21/2017 15:47:15	13.86	34.0	2.2		
run7	3/21/2017 15:47:30	13.86	34.2	2.2		
run7	3/21/2017 15:47:45	13.86	34.9	2.2		
run7	3/21/2017 15:48:00	13.86	34.3	2.2		
run7	3/21/2017 15:48:15	13.87	34.4	2.2		
run7	3/21/2017 15:48:30	13.89	34.2	2.1		
run7	3/21/2017 15:48:45	13.89	33.5	2.2		
averun7	3/21/2017 15:28:00	13.79	34.3	2.2		
scg6	3/21/2017 15:49:15	13.89	34.2	2.1	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:49:30	13.89	33.9	2.1	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:49:45	13.89	34.1	2.2	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:50:00	13.85	33.2	2.1	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:50:15	12.82	19.4	2.0	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:50:30	8.95	3.3	2.0	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:50:45	5.24	2.0	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:51:00	2.91	1.8	1.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:51:15	1.63	1.3	1.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:51:30	0.93	1.4	1.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:51:45	0.59	1.6	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:52:00	0.39	1.7	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:52:15	0.28	1.7	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:52:30	0.21	1.7	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:52:45	0.17	1.8	1.6	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:53:00	0.14	1.7	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:53:15	0.13	1.5	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:53:30	0.12	1.9	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:53:45	0.12	1.8	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:54:00	0.12	1.8	1.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:54:15	0.11	1.9	1.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:54:30	0.11	2.0	2.4	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:54:45	0.11	1.8	3.9	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:55:00	0.11	1.4	6.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:55:15	0.11	1.2	9.5	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:55:30	0.11	0.8	11.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:55:45	0.12	0.9	13.5	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:56:00	0.10	0.8	15.0	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:56:15	0.11	0.8	15.9	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:56:30	0.10	0.6	17.0	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:56:45	0.10	0.6	17.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:57:00	0.10	0.5	18.5	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:57:15	0.10	0.5	18.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:57:30	0.09	0.4	19.4	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:57:45	0.09	0.5	19.8	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:58:00	0.10	0.4	20.2	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:58:15	0.09	0.7	20.7	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:58:30	0.09	0.4	20.9	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:58:45	0.10	0.2	20.9	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:59:00	0.09	0.6	21.1	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:59:15	0.10	0.6	21.3	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:59:30	0.10	0.8	21.6	CC349198/cg6	SO2 20.67
scg6	3/21/2017 15:59:45	0.09	0.6	21.9	CC349198/cg6	SO2 20.67
scg6	3/21/2017 16:00:00	0.09	0.7	21.9	CC349198/cg6	SO2 20.67
so2span2	3/21/2017 15:59:15	0.10	0.6	21.3	CC349198/cg6	SO2 20.67
scg4	3/21/2017 16:00:30	0.09	0.8	22.4	EB0061550/cg4	NOx 45.43

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name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a		nox 7e		so2 6c	
run8	3/21/2017	16:26:15	13.67	36.0	2.1	
run8	3/21/2017	16:26:30	13.70	35.7	2.2	
run8	3/21/2017	16:26:45	13.72	35.8	1.9	
run8	3/21/2017	16:27:00	13.73	35.5	2.0	
run8	3/21/2017	16:27:15	13.75	35.2	2.1	
run8	3/21/2017	16:27:30	13.76	35.2	2.1	
run8	3/21/2017	16:27:45	13.76	35.0	2.1	
run8	3/21/2017	16:28:00	13.77	34.9	2.1	
run8	3/21/2017	16:28:15	13.80	35.8	2.0	
run8	3/21/2017	16:28:30	13.80	36.4	2.1	
run8	3/21/2017	16:28:45	13.79	36.1	2.1	
run8	3/21/2017	16:29:00	13.80	35.6	2.0	
run8	3/21/2017	16:29:15	13.79	35.2	2.0	
run8	3/21/2017	16:29:30	13.80	35.6	2.1	
run8	3/21/2017	16:29:45	13.79	35.6	2.1	
run8	3/21/2017	16:30:00	13.80	34.3	2.0	
run8	3/21/2017	16:30:15	13.80	34.2	2.0	
run8	3/21/2017	16:30:30	13.84	34.2	2.1	
run8	3/21/2017	16:30:45	13.86	34.3	2.1	
run8	3/21/2017	16:31:00	13.86	34.6	2.1	
run8	3/21/2017	16:31:15	13.86	34.7	2.0	
run8	3/21/2017	16:31:30	13.86	34.1	2.0	
run8	3/21/2017	16:31:45	13.85	34.3	2.0	
run8	3/21/2017	16:32:00	13.87	34.2	2.0	
run8	3/21/2017	16:32:15	13.86	34.9	2.0	
run8	3/21/2017	16:32:30	13.86	34.7	2.0	
run8	3/21/2017	16:32:45	13.86	34.4	2.1	
run8	3/21/2017	16:33:00	13.87	34.5	2.0	
run8	3/21/2017	16:33:15	13.86	34.7	2.0	
run8	3/21/2017	16:33:30	13.86	34.3	1.9	
run8	3/21/2017	16:33:45	13.86	34.4	2.0	
run8	3/21/2017	16:34:00	13.86	34.0	2.0	
run8	3/21/2017	16:34:15	13.86	33.6	2.0	
run8	3/21/2017	16:34:30	13.86	33.5	2.0	
run8	3/21/2017	16:34:45	13.85	33.3	2.0	
run8	3/21/2017	16:35:00	13.86	33.5	2.0	
run8	3/21/2017	16:35:15	13.86	33.2	2.0	
run8	3/21/2017	16:35:30	13.86	33.1	2.0	
run8	3/21/2017	16:35:45	13.90	34.0	2.1	
run8	3/21/2017	16:36:00	13.89	33.9	2.1	
run8	3/21/2017	16:36:15	13.89	34.1	2.0	
run8	3/21/2017	16:36:30	13.90	33.6	2.0	
run8	3/21/2017	16:36:45	13.89	33.1	2.0	
run8	3/21/2017	16:37:00	13.90	33.5	2.0	
run8	3/21/2017	16:37:15	13.89	33.5	2.1	
run8	3/21/2017	16:37:30	13.89	33.6	1.9	
run8	3/21/2017	16:37:45	13.89	33.5	2.0	
run8	3/21/2017	16:38:00	13.89	34.1	2.0	
run8	3/21/2017	16:38:15	13.88	34.1	2.0	
run8	3/21/2017	16:38:30	13.86	33.7	2.0	
run8	3/21/2017	16:38:45	13.87	33.8	2.0	
run8	3/21/2017	16:39:00	13.86	34.0	1.9	
run8	3/21/2017	16:39:15	13.86	33.6	1.9	
run8	3/21/2017	16:39:30	13.88	33.5	2.0	
run8	3/21/2017	16:39:45	13.90	33.3	1.9	
run8	3/21/2017	16:40:00	13.89	33.1	2.0	
run8	3/21/2017	16:40:15	13.92	33.8	2.0	
run8	3/21/2017	16:40:30	13.93	34.0	2.0	
run8	3/21/2017	16:40:45	13.92	34.0	2.0	
run8	3/21/2017	16:41:00	13.92	33.2	1.9	
run8	3/21/2017	16:41:15	13.93	33.5	2.0	
run8	3/21/2017	16:41:30	13.93	33.7	2.0	
averun8	3/21/2017	16:20:00	13.77	34.8	2.0	
scg6	3/21/2017	16:41:45	13.90	34.0	2.0	CC349198/cg6
scg6	3/21/2017	16:42:00	13.89	34.0	2.0	CC349198/cg6
scg6	3/21/2017	16:42:15	13.90	34.3	1.9	CC349198/cg6
scg6	3/21/2017	16:42:30	13.89	34.0	1.9	CC349198/cg6
scg6	3/21/2017	16:42:45	13.59	26.7	1.9	CC349198/cg6
scg6	3/21/2017	16:43:00	10.40	6.8	1.8	CC349198/cg6
scg6	3/21/2017	16:43:15	6.20	1.9	1.7	CC349198/cg6
scg6	3/21/2017	16:43:30	3.44	1.8	1.7	CC349198/cg6
scg6	3/21/2017	16:43:45	1.91	1.7	1.7	CC349198/cg6
scg6	3/21/2017	16:44:00	1.08	1.5	1.7	CC349198/cg6
scg6	3/21/2017	16:44:15	0.66	1.8	1.6	CC349198/cg6
scg6	3/21/2017	16:44:30	0.43	1.7	1.6	CC349198/cg6
scg6	3/21/2017	16:44:45	0.31	1.9	1.7	CC349198/cg6
scg6	3/21/2017	16:45:00	0.24	1.7	1.6	CC349198/cg6
scg6	3/21/2017	16:45:15	0.18	1.9	1.6	CC349198/cg6
scg6	3/21/2017	16:45:30	0.15	2.0	1.6	CC349198/cg6
scg6	3/21/2017	16:45:45	0.14	1.7	1.6	CC349198/cg6
scg6	3/21/2017	16:46:00	0.13	2.1	1.6	CC349198/cg6
scg6	3/21/2017	16:46:15	0.12	2.1	1.6	CC349198/cg6
scg6	3/21/2017	16:46:30	0.12	1.9	1.6	CC349198/cg6
scg6	3/21/2017	16:46:45	0.11	2.0	1.8	CC349198/cg6
scg6	3/21/2017	16:47:00	0.11	2.0	2.9	CC349198/cg6
scg6	3/21/2017	16:47:15	0.10	1.7	4.9	CC349198/cg6
scg6	3/21/2017	16:47:30	0.10	1.3	7.8	CC349198/cg6
scg6	3/21/2017	16:47:45	0.10	1.1	10.3	CC349198/cg6
scg6	3/21/2017	16:48:00	0.10	0.8	12.5	CC349198/cg6
scg6	3/21/2017	16:48:15	0.10	0.9	14.3	CC349198/cg6
scg6	3/21/2017	16:48:30	0.10	0.5	15.4	CC349198/cg6
scg6	3/21/2017	16:48:45	0.09	0.4	16.3	CC349198/cg6
scg6	3/21/2017	16:49:00	0.09	0.6	17.2	CC349198/cg6
scg6	3/21/2017	16:49:15	0.10	0.5	18.1	CC349198/cg6
scg6	3/21/2017	16:49:30	0.09	0.6	18.6	CC349198/cg6
scg6	3/21/2017	16:49:45	0.09	0.7	19.1	CC349198/cg6
scg6	3/21/2017	16:50:00	0.10	0.8	19.9	CC349198/cg6
so2span2	3/21/2017	16:50:00	0.10	0.8	19.9	CC349198/cg6



name	Dil CO2		Dil NOx		Dil SO2	
sn	N3GN2201T		1200951382		1336459886	
offset	0		0		0	
fullscale	20		500		100	
train	2		2		2	
gastype	co2 3a	nox 7e	so2 6c			
run9	3/21/2017 17:15:45	13.70	34.4	1.9		
run9	3/21/2017 17:16:00	13.70	34.1	1.9		
run9	3/21/2017 17:16:15	13.70	34.4	1.9		
run9	3/21/2017 17:16:30	13.70	34.6	1.9		
run9	3/21/2017 17:16:45	13.70	34.7	1.8		
run9	3/21/2017 17:17:00	13.70	35.1	1.9		
run9	3/21/2017 17:17:15	13.70	35.2	1.9		
run9	3/21/2017 17:17:30	13.70	35.3	1.9		
run9	3/21/2017 17:17:45	13.70	35.0	1.9		
run9	3/21/2017 17:18:00	13.70	34.7	1.9		
run9	3/21/2017 17:18:15	13.70	35.3	1.9		
run9	3/21/2017 17:18:30	13.70	35.0	1.8		
run9	3/21/2017 17:18:45	13.70	34.2	1.9		
run9	3/21/2017 17:19:00	13.75	34.3	1.9		
run9	3/21/2017 17:19:15	13.78	34.5	1.9		
run9	3/21/2017 17:19:30	13.79	34.5	1.8		
run9	3/21/2017 17:19:45	13.79	34.7	1.9		
run9	3/21/2017 17:20:00	13.79	34.9	1.9		
run9	3/21/2017 17:20:15	13.79	35.7	1.9		
run9	3/21/2017 17:20:30	13.76	36.2	1.9		
run9	3/21/2017 17:20:45	13.73	36.5	1.9		
run9	3/21/2017 17:21:00	13.73	36.2	1.9		
run9	3/21/2017 17:21:15	13.73	35.9	1.9		
run9	3/21/2017 17:21:30	13.73	36.3	1.8		
run9	3/21/2017 17:21:45	13.74	35.9	1.9		
run9	3/21/2017 17:22:00	13.73	35.6	1.9		
run9	3/21/2017 17:22:15	13.73	35.6	1.9		
run9	3/21/2017 17:22:30	13.73	36.2	1.8		
run9	3/21/2017 17:22:45	13.73	36.2	1.8		
run9	3/21/2017 17:23:00	13.73	35.9	1.9		
run9	3/21/2017 17:23:15	13.73	35.6	1.8		
run9	3/21/2017 17:23:30	13.73	36.1	1.9		
run9	3/21/2017 17:23:45	13.73	35.9	1.9		
run9	3/21/2017 17:24:00	13.73	35.5	1.9		
run9	3/21/2017 17:24:15	13.75	35.0	1.8		
run9	3/21/2017 17:24:30	13.77	35.4	1.9		
run9	3/21/2017 17:24:45	13.79	35.2	1.9		
run9	3/21/2017 17:25:00	13.80	35.1	1.8		
run9	3/21/2017 17:25:15	13.79	35.2	1.9		
run9	3/21/2017 17:25:30	13.79	35.0	2.0		
run9	3/21/2017 17:25:45	13.80	35.3	1.9		
run9	3/21/2017 17:26:00	13.79	35.2	1.9		
run9	3/21/2017 17:26:15	13.82	35.0	1.8		
run9	3/21/2017 17:26:30	13.83	35.5	1.8		
run9	3/21/2017 17:26:45	13.82	35.5	1.9		
run9	3/21/2017 17:27:00	13.83	35.4	1.9		
run9	3/21/2017 17:27:15	13.82	35.0	1.9		
run9	3/21/2017 17:27:30	13.81	34.0	1.5		
run9	3/21/2017 17:27:45	13.74	34.4	1.6		
run9	3/21/2017 17:28:00	13.73	35.0	1.8		
run9	3/21/2017 17:28:15	13.73	34.9	1.8		
run9	3/21/2017 17:28:30	13.73	34.4	1.8		
run9	3/21/2017 17:28:45	13.74	34.9	1.8		
run9	3/21/2017 17:29:00	13.77	34.8	1.8		
run9	3/21/2017 17:29:15	13.79	35.1	1.8		
run9	3/21/2017 17:29:30	13.81	34.3	1.9		
run9	3/21/2017 17:29:45	13.82	34.6	1.9		
run9	3/21/2017 17:30:00	13.82	34.7	1.9		
run9	3/21/2017 17:30:15	13.83	33.6	1.8		
run9	3/21/2017 17:30:30	13.81	33.8	1.9		
run9	3/21/2017 17:30:45	13.82	34.9	1.7		
run9	3/21/2017 17:31:00	13.84	34.8	1.8		
run9	3/21/2017 17:31:15	13.86	34.5	1.8		
run9	3/21/2017 17:31:30	13.86	34.4	1.8		
run9	3/21/2017 17:31:45	13.86	34.4	1.9		
run9	3/21/2017 17:32:00	13.89	34.4	1.8		
run9	3/21/2017 17:32:15	13.89	34.2	1.9		
run9	3/21/2017 17:32:30	13.89	33.9	1.8		
run9	3/21/2017 17:32:45	13.92	34.1	1.8		
run9	3/21/2017 17:33:00	13.92	33.6	1.7		
averun9	3/21/2017 17:09:00	13.70	34.7	1.9		
scg9	3/21/2017 17:33:15	13.92	33.9	1.8	CC423695/cg9	21 CO 97.52 0 0 0
scg9	3/21/2017 17:33:30	13.92	34.0	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:33:45	13.92	33.6	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:34:00	13.93	33.9	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:34:15	13.92	34.1	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:34:30	13.92	34.8	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:34:45	13.92	34.5	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:35:00	13.93	34.7	1.7	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:35:15	13.93	35.1	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:35:30	13.92	35.0	1.7	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:35:45	13.93	35.2	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:36:00	13.92	34.6	1.8	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 17:36:15	13.92	34.5	1.7	CC423695/cg9	CO 97.52 0 0 0
scg2	3/21/2017 17:36:30	13.93	34.5	1.8	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:36:45	13.92	34.1	1.7	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:37:00	13.91	34.7	1.8	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:37:15	13.89	34.8	1.8	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:37:30	12.81	20.6	1.7	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:37:45	8.98	3.6	1.6	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:38:00	6.99	1.3	1.5	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:38:15	7.45	0.6	1.6	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:38:30	8.32	0.6	1.5	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:38:45	8.97	0.7	1.5	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:39:00	9.29	0.7	1.5	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:39:15	9.46	0.8	1.6	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:39:30	9.53	0.6	1.5	EB0070863/cg2	O2 10.11 CO2 9.437 0 0
scg2	3/21/2017 17:39:45	9.57	0.6	1.4	EB0070863/cg2	O2 10.11 CO2 9.437 0 0



name		Dil CO2	Dil NOx	Dil SO2
sn		N3GN2201T	1200951382	1336459886
offset		0	0	0
fullscale		20	500	100
train		2	2	2
gastype		co2 3a	nox 7e	so2 6c
o2mid	Parameter Not Found			
o2high	Parameter Not Found			
thcezero	Parameter Not Found			
thclow	Parameter Not Found			
thcmid	Parameter Not Found			
thchigh	Parameter Not Found			
coezero	Parameter Not Found			
colow	Parameter Not Found			
comid	Parameter Not Found			
cohigh	Parameter Not Found			
End				



# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 1

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.05 %	0.07 %	0.06
10.11 percent O <sub>2</sub>	10.19 %	10.18 %	10.18
0.00 percent CO <sub>2</sub>	0.06 %	0.09 %	0.08
9.44 percent CO <sub>2</sub>	8.88 %	8.95 %	8.91
0.0 ppm CO	0.1 ppm	0.0 ppm	0.04
97.5 ppm CO	99.3 ppm	99.3 ppm	99.33

**Mean Reference Values:**  
 3.52 percent O<sub>2</sub>  
 16.73 percent CO<sub>2</sub>  
 49.5 ppm CO

**Corrected Results:**  
**3.5** percent O<sub>2</sub>  
**17.8** percent CO<sub>2</sub>  
**48.6** ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.039** CO Lbs/mmBtu from O<sub>2</sub>

**50.0** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **21.02** %

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 2

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.07 %	0.10 %	0.09
10.11 percent O <sub>2</sub>	10.18 %	10.21 %	10.19
0.00 percent CO <sub>2</sub>	0.09 %	0.07 %	0.08
9.44 percent CO <sub>2</sub>	8.95 %	8.87 %	8.91
0.0 ppm CO	0.0 ppm	0.0 ppm	0.00
97.5 ppm CO	99.3 ppm	99.3 ppm	99.28

**Mean Reference Values:**  
 3.54 percent O<sub>2</sub>  
 16.66 percent CO<sub>2</sub>  
 37.0 ppm CO

**Corrected Results:**  
**3.5** percent O<sub>2</sub>  
**17.7** percent CO<sub>2</sub>  
**36.4** ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.029** CO Lbs/mmBtu from O<sub>2</sub>

**37.4** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **21.65** %

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 3

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.10 %	0.14 %	0.12
10.11 percent O <sub>2</sub>	10.21 %	10.32 %	10.26
0.00 percent CO <sub>2</sub>	0.07 %	0.09 %	0.08
9.44 percent CO <sub>2</sub>	8.87 %	8.83 %	8.85
0.0 ppm CO	0.0 ppm	0.1 ppm	0.03
97.5 ppm CO	99.3 ppm	99.2 ppm	99.24

**Mean Reference Values:**  
 3.66 percent O<sub>2</sub>  
 16.54 percent CO<sub>2</sub>  
 27.8 ppm CO

**Corrected Results:**  
**3.5** percent O<sub>2</sub>  
**17.7** percent CO<sub>2</sub>  
**27.3** ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.022** CO Lbs/mmBtu from O<sub>2</sub>

**28.1** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **21.36** %

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 4

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.14 %	0.27 %	0.20
10.11 percent O <sub>2</sub>	10.32 %	10.35 %	10.33
0.00 percent CO <sub>2</sub>	0.09 %	0.12 %	0.11
9.44 percent CO <sub>2</sub>	8.83 %	8.76 %	8.80
0.0 ppm CO	0.1 ppm	0.0 ppm	0.03
97.5 ppm CO	99.2 ppm	98.5 ppm	98.83

**Mean Reference Values:**  
 3.63 percent O<sub>2</sub>  
 16.53 percent CO<sub>2</sub>  
 39.6 ppm CO

**Corrected Results:**  
 3.4 percent O<sub>2</sub>  
 17.8 percent CO<sub>2</sub>  
 39.1 ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

0.031 CO Lbs/mmBtu from O<sub>2</sub>

40.0 CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: 21.34 %

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 5

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.27 %	0.28 %	0.27
10.11 percent O <sub>2</sub>	10.35 %	10.36 %	10.35
0.00 percent CO <sub>2</sub>	0.12 %	0.06 %	0.09
9.44 percent CO <sub>2</sub>	8.76 %	8.73 %	8.74
0.0 ppm CO	0.0 ppm	0.0 ppm	0.00
97.5 ppm CO	98.5 ppm	98.7 ppm	98.56

**Mean Reference Values:**  
 3.68 percent O<sub>2</sub>  
 16.47 percent CO<sub>2</sub>  
 46.4 ppm CO

**Corrected Results:**  
 3.4 percent O<sub>2</sub>  
 17.9 percent CO<sub>2</sub>  
 46.0 ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

0.037 CO Lbs/mmBtu from O<sub>2</sub>

47.1 CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: 21.46 %

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 6

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.28 %	0.30 %	0.29
10.11 percent O <sub>2</sub>	10.36 %	10.44 %	10.40
0.00 percent CO <sub>2</sub>	0.06 %	0.05 %	0.05
9.44 percent CO <sub>2</sub>	8.73 %	8.73 %	8.73
0.0 ppm CO	0.0 ppm	0.0 ppm	-0.01
97.5 ppm CO	98.7 ppm	98.2 ppm	98.42

**Mean Reference Values:**  
 3.78 percent O<sub>2</sub>  
 16.34 percent CO<sub>2</sub>  
 31.5 ppm CO

**Corrected Results:**  
**3.5** percent O<sub>2</sub>  
**17.7** percent CO<sub>2</sub>  
**31.2** ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.025** CO Lbs/mmBtu from O<sub>2</sub>

**32.1** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **21.82** %

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 7

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.30 %	0.31 %	0.31
10.11 percent O <sub>2</sub>	10.44 %	10.45 %	10.45
0.00 percent CO <sub>2</sub>	0.05 %	0.06 %	0.06
9.44 percent CO <sub>2</sub>	8.73 %	8.76 %	8.75
0.0 ppm CO	0.0 ppm	0.1 ppm	0.05
97.5 ppm CO	98.2 ppm	98.5 ppm	98.33

**Mean Reference Values:**  
 3.82 percent O<sub>2</sub>  
 16.30 percent CO<sub>2</sub>  
 38.5 ppm CO

**Corrected Results:**  
**3.5** percent O<sub>2</sub>  
**17.6** percent CO<sub>2</sub>  
**38.2** ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.031** CO Lbs/mmBtu from O<sub>2</sub>

**39.3** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **21.77 %**

9240 dscf/mmBtu

# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 8

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.31 %	0.30 %	0.31
10.11 percent O <sub>2</sub>	10.45 %	10.41 %	10.43
0.00 percent CO <sub>2</sub>	0.06 %	0.10 %	0.08
9.44 percent CO <sub>2</sub>	8.76 %	8.76 %	8.76
0.0 ppm CO	0.1 ppm	-0.1 ppm	0.01
97.5 ppm CO	98.5 ppm	98.5 ppm	98.47

**Mean Reference Values:**  
 3.81 percent O<sub>2</sub>  
 16.32 percent CO<sub>2</sub>  
 34.4 ppm CO

**Corrected Results:**  
 3.5 percent O<sub>2</sub>  
 17.7 percent CO<sub>2</sub>  
 34.1 ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.028** CO Lbs/mmBtu from O<sub>2</sub>

**35.1** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **22.93** %

9240 dscf/mmBtu



# Calculation of Average Emissions

Test Performed For:  
 GREC  
 Gainesville  
 Boiler 1  
 RATA  
 Date:3/21/17

Test Performed By:  
 C.E.M. Solutions, Inc.  
 1183 E. Overdrive Circle  
 Hernando, FL 34442  
 (352) 489-4337  
 Run 9

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 percent O <sub>2</sub>	0.30 %	0.29 %	0.30
10.11 percent O <sub>2</sub>	10.41 %	10.45 %	10.43
0.00 percent CO <sub>2</sub>	0.10 %	0.09 %	0.10
9.44 percent CO <sub>2</sub>	8.76 %	8.73 %	8.74
0.0 ppm CO	-0.1 ppm	0.0 ppm	-0.05
97.5 ppm CO	98.5 ppm	98.8 ppm	98.63

**Mean Reference Values:**  
 3.85 percent O<sub>2</sub>  
 16.23 percent CO<sub>2</sub>  
 28.1 ppm CO

**Corrected Results:**  
**3.5** percent O<sub>2</sub>  
**17.6** percent CO<sub>2</sub>  
**27.8** ppm CO

**Basis:**  
 DRY  
 DRY  
 DRY

**Emission Calculations:**

**0.022** CO Lbs/mmBtu from O<sub>2</sub>

**28.6** CO @ 3% O<sub>2</sub> from O<sub>2</sub>

Bws: **21.78** %

9240 dscf/mmBtu







name	FE O2	FE CO2	FE CO							
sn	1151210012	1151210012	1336459888							
offset	0	0	0							
fullscale	100	20	500							
train	1	1	1							
gastype	o2 3a	co2 3a	co 10							
scg1	3/21/2017 7:35:45	0.50	1.71	-0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:36:00	0.12	0.48	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:36:15	0.10	0.19	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:36:30	0.08	0.14	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:36:45	0.08	0.12	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:37:00	0.08	0.11	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:37:15	0.07	0.10	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:37:30	0.07	0.09	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:37:45	0.12	0.09	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:38:00	0.07	0.09	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:38:15	0.07	0.08	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:38:30	0.07	0.08	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:38:45	0.06	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:39:00	0.07	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:39:15	0.06	0.07	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:39:30	0.06	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:39:45	0.07	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:40:00	0.05	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:40:15	0.06	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:40:30	0.06	0.06	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:40:45	0.06	0.06	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:41:00	0.06	0.06	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:41:15	0.06	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:41:30	0.06	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:41:45	0.06	0.06	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 7:42:00	0.05	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
o2zero1	3/21/2017 7:42:00	0.05	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
co2zero1	3/21/2017 7:42:00	0.05	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
cozero1	3/21/2017 7:42:00	0.05	0.06	0.1	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg5	3/21/2017 7:46:45	20.97	0.09	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:47:00	20.98	0.09	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:47:15	20.97	0.08	0.0	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:47:30	21.02	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:47:45	19.92	0.09	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:48:00	12.62	0.08	0.0	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:48:15	16.21	0.09	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:48:30	20.05	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:48:45	20.85	0.09	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:49:00	20.96	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:49:15	20.97	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:49:30	20.98	0.08	0.0	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:49:45	20.98	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:50:00	20.97	0.09	0.0	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:50:15	20.98	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:50:30	20.98	0.08	0.0	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:50:45	20.98	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:51:00	20.98	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:51:15	20.97	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:51:30	20.98	0.08	0.0	CC502188/cg5	NOx	50.06	0	0	0
scg5	3/21/2017 7:51:45	21.02	0.08	0.1	CC502188/cg5	NOx	50.06	0	0	0
run1	3/21/2017 8:12:30	3.61	16.57	21.4						
run1	3/21/2017 8:12:45	3.57	16.62	23.5						
run1	3/21/2017 8:13:00	3.61	16.67	23.7						
run1	3/21/2017 8:13:15	3.66	16.63	21.3						
run1	3/21/2017 8:13:30	3.69	16.58	19.0						
run1	3/21/2017 8:13:45	3.65	16.52	18.4						
run1	3/21/2017 8:14:00	3.52	16.60	23.4						
run1	3/21/2017 8:14:15	3.34	16.81	41.3						
run1	3/21/2017 8:14:30	3.19	17.00	70.4						
run1	3/21/2017 8:14:45	3.12	17.13	88.9						
run1	3/21/2017 8:15:00	3.05	17.17	86.5						
run1	3/21/2017 8:15:15	3.04	17.24	77.0						
run1	3/21/2017 8:15:30	3.04	17.24	65.1						
run1	3/21/2017 8:15:45	3.18	17.18	54.4						
run1	3/21/2017 8:16:00	3.30	17.05	42.8						
run1	3/21/2017 8:16:15	3.36	16.89	39.2						
run1	3/21/2017 8:16:30	3.26	16.90	39.9						
run1	3/21/2017 8:16:45	3.13	16.98	40.5						
run1	3/21/2017 8:17:00	3.20	17.02	41.3						
run1	3/21/2017 8:17:15	3.33	16.92	36.0						
run1	3/21/2017 8:17:30	3.41	16.84	33.7						
run1	3/21/2017 8:17:45	3.39	16.85	37.7						
run1	3/21/2017 8:18:00	3.43	16.86	38.8						
run1	3/21/2017 8:18:15	3.45	16.83	34.3						
run1	3/21/2017 8:18:30	3.50	16.76	28.7						
run1	3/21/2017 8:18:45	3.53	16.71	25.0						
run1	3/21/2017 8:19:00	3.52	16.72	22.9						
run1	3/21/2017 8:19:15	3.59	16.71	21.5						
run1	3/21/2017 8:19:30	3.74	16.59	19.6						
run1	3/21/2017 8:19:45	3.68	16.48	20.5						
run1	3/21/2017 8:20:00	3.55	16.59	26.7						
run1	3/21/2017 8:20:15	3.51	16.73	29.9						
run1	3/21/2017 8:20:30	3.49	16.77	28.3						
run1	3/21/2017 8:20:45	3.56	16.73	26.3						
run1	3/21/2017 8:21:00	3.61	16.63	24.9						
run1	3/21/2017 8:21:15	3.62	16.61	23.3						
run1	3/21/2017 8:21:30	3.54	16.66	21.2						
run1	3/21/2017 8:21:45	3.47	16.76	21.4						
run1	3/21/2017 8:22:00	3.60	16.71	23.4						
run1	3/21/2017 8:22:15	3.66	16.59	24.0						
run1	3/21/2017 8:22:30	3.66	16.58	24.9						
run1	3/21/2017 8:22:45	3.74	16.57	24.6						
run1	3/21/2017 8:23:00	3.68	16.54	21.6						
run1	3/21/2017 8:23:15	3.62	16.53	19.1						
run1	3/21/2017 8:23:30	3.50	16.64	22.1						
run1	3/21/2017 8:23:45	3.39	16.81	30.3						
run1	3/21/2017 8:24:00	3.37	16.86	35.1						
run1	3/21/2017 8:24:15	3.36	16.85	34.1						

name		FE O2	FE CO2	FE CO
sn		1151210012	1151210012	1336459888
offset		0	0	0
fullscale		100	20	500
train		1	1	1
gastype		o2 3a	co2 3a	co 10
run1	3/21/2017 8:24:30	3.35	16.86	31.0
run1	3/21/2017 8:24:45	3.33	16.92	28.4
run1	3/21/2017 8:25:00	3.30	16.97	27.2
run1	3/21/2017 8:25:15	3.28	16.95	30.1
run1	3/21/2017 8:25:30	3.29	16.95	34.5
run1	3/21/2017 8:25:45	3.44	16.91	32.9
run1	3/21/2017 8:26:00	3.55	16.78	27.3
run1	3/21/2017 8:26:15	3.51	16.73	24.9
run1	3/21/2017 8:26:30	3.50	16.71	22.7
run1	3/21/2017 8:26:45	3.51	16.74	21.2
run1	3/21/2017 8:27:00	3.38	16.82	24.7
run1	3/21/2017 8:27:15	3.21	16.94	33.9
run1	3/21/2017 8:27:30	3.10	17.10	48.1
run1	3/21/2017 8:27:45	3.05	17.18	61.7
run1	3/21/2017 8:28:00	3.09	17.22	64.6
run1	3/21/2017 8:28:15	3.07	17.23	59.0
run1	3/21/2017 8:28:30	3.02	17.27	54.2
run1	3/21/2017 8:28:45	3.01	17.27	53.3
run1	3/21/2017 8:29:00	2.93	17.29	56.7
run1	3/21/2017 8:29:15	2.90	17.39	59.7
run1	3/21/2017 8:29:30	2.99	17.40	53.7
run1	3/21/2017 8:29:45	3.07	17.31	45.0
run1	3/21/2017 8:30:00	3.14	17.18	37.9
run1	3/21/2017 8:30:15	3.25	17.08	33.2
run1	3/21/2017 8:30:30	3.46	16.95	25.3
run1	3/21/2017 8:30:45	3.71	16.72	17.2
run1	3/21/2017 8:31:00	3.89	16.46	11.1
run1	3/21/2017 8:31:15	4.05	16.23	8.2
run1	3/21/2017 8:31:30	4.19	16.10	7.8
run1	3/21/2017 8:31:45	4.31	15.97	8.3
run1	3/21/2017 8:32:00	4.33	15.89	8.2
run1	3/21/2017 8:32:15	4.38	15.83	7.6
run1	3/21/2017 8:32:30	4.50	15.75	6.9
run1	3/21/2017 8:32:45	4.50	15.71	6.5
run1	3/21/2017 8:33:00	4.46	15.73	6.8
run1	3/21/2017 8:33:15	4.42	15.75	6.8
run1	3/21/2017 8:33:30	4.33	15.79	7.2
run1	3/21/2017 8:33:45	4.08	15.97	8.2
run1	3/21/2017 8:34:00	3.95	16.18	10.1
run1	3/21/2017 8:34:15	3.87	16.32	13.2
run1	3/21/2017 8:34:30	3.75	16.38	20.0
run1	3/21/2017 8:34:45	3.57	16.53	27.7
run1	3/21/2017 8:35:00	3.42	16.72	32.7
run1	3/21/2017 8:35:15	3.38	16.87	37.4
run1	3/21/2017 8:35:30	3.20	16.98	45.9
run1	3/21/2017 8:35:45	3.07	17.09	55.7
run1	3/21/2017 8:36:00	2.98	17.24	76.2
run1	3/21/2017 8:36:15	2.92	17.36	91.8
run1	3/21/2017 8:36:30	3.00	17.38	91.1
run1	3/21/2017 8:36:45	3.09	17.28	82.2
run1	3/21/2017 8:37:00	3.13	17.17	72.2
run1	3/21/2017 8:37:15	3.20	17.11	64.5
run1	3/21/2017 8:37:30	3.23	17.08	64.0
run1	3/21/2017 8:37:45	3.29	17.04	75.8
run1	3/21/2017 8:38:00	3.35	16.95	113.3
run1	3/21/2017 8:38:15	3.28	16.89	165.6
run1	3/21/2017 8:38:30	3.26	16.97	188.8
run1	3/21/2017 8:38:45	3.24	17.04	166.9
run1	3/21/2017 8:39:00	3.19	17.08	134.6
run1	3/21/2017 8:39:15	3.22	17.06	114.8
run1	3/21/2017 8:39:30	3.26	17.00	95.2
run1	3/21/2017 8:39:45	3.26	17.00	81.5
run1	3/21/2017 8:40:00	3.28	17.03	73.3
run1	3/21/2017 8:40:15	3.30	17.00	69.5
run1	3/21/2017 8:40:30	3.32	16.93	67.3
run1	3/21/2017 8:40:45	3.33	16.91	66.9
run1	3/21/2017 8:41:00	3.29	16.94	67.1
run1	3/21/2017 8:41:15	3.28	17.00	63.4
run1	3/21/2017 8:41:30	3.38	16.96	52.3
run1	3/21/2017 8:41:45	3.52	16.78	45.1
run1	3/21/2017 8:42:00	3.53	16.70	53.2
run1	3/21/2017 8:42:15	3.50	16.73	59.0
run1	3/21/2017 8:42:30	3.51	16.76	49.8
run1	3/21/2017 8:42:45	3.40	16.77	39.4
run1	3/21/2017 8:43:00	3.38	16.79	33.6
run1	3/21/2017 8:43:15	3.41	16.84	29.0
run1	3/21/2017 8:43:30	3.34	16.90	27.8
run1	3/21/2017 8:43:45	3.31	16.95	30.8
run1	3/21/2017 8:44:00	3.29	16.92	35.9
run1	3/21/2017 8:44:15	3.37	16.89	37.0
run1	3/21/2017 8:44:30	3.47	16.85	31.7
run1	3/21/2017 8:44:45	3.47	16.80	29.1
run1	3/21/2017 8:45:00	3.44	16.81	32.2
run1	3/21/2017 8:45:15	3.52	16.77	31.4
run1	3/21/2017 8:45:30	3.76	16.66	25.2
run1	3/21/2017 8:45:45	4.13	16.34	21.8
run1	3/21/2017 8:46:00	4.03	16.13	23.6
run1	3/21/2017 8:46:15	4.09	16.14	25.1
run1	3/21/2017 8:46:30	4.11	16.06	22.6
run1	3/21/2017 8:46:45	4.07	16.11	18.4
run1	3/21/2017 8:47:00	4.15	16.12	15.2
run1	3/21/2017 8:47:15	4.08	16.07	15.3
run1	3/21/2017 8:47:30	4.06	16.10	16.4
run1	3/21/2017 8:47:45	4.00	16.15	18.0
run11	3/21/2017 8:48:00	4.29	16.16	18.9
run11	3/21/2017 8:48:15	4.30	15.94	17.7
run11	3/21/2017 8:48:30	4.26	15.90	14.9
run11	3/21/2017 8:48:45	4.34	15.89	13.0

name		FE O2	FE CO2	FE CO
sn		1151210012	1151210012	1336459888
offset		0	0	0
fullscale		100	20	500
train		1	1	1
gastype		o2 3a	co2 3a	co 10
run11	3/21/2017 8:49:00	4.38	15.85	12.3
run11	3/21/2017 8:49:15	4.64	15.79	11.8
run11	3/21/2017 8:49:30	4.83	15.53	11.3
run11	3/21/2017 8:49:45	8.09	14.61	11.0
run11	3/21/2017 8:50:00	11.71	10.28	9.3
run11	3/21/2017 8:50:15	6.07	10.31	11.5
run11	3/21/2017 8:50:30	4.12	14.56	15.2
run11	3/21/2017 8:50:45	3.78	16.22	15.7
run11	3/21/2017 8:51:00	3.67	16.43	17.6
run11	3/21/2017 8:51:15	3.60	16.54	20.6
run11	3/21/2017 8:51:30	3.63	16.61	21.7
run11	3/21/2017 8:51:45	3.70	16.58	18.9
run11	3/21/2017 8:52:00	3.70	16.55	15.0
run11	3/21/2017 8:52:15	3.68	16.52	13.6
run11	3/21/2017 8:52:30	3.71	16.53	15.6
run11	3/21/2017 8:52:45	3.74	16.53	19.2
run11	3/21/2017 8:53:00	3.62	16.58	21.9
run11	3/21/2017 8:53:15	3.57	16.63	22.9
run11	3/21/2017 8:53:30	3.50	16.66	26.4
run11	3/21/2017 8:53:45	3.47	16.74	30.7
run1	3/21/2017 8:54:00	3.50	16.79	31.7
run1	3/21/2017 8:54:15	3.45	16.79	33.6
run1	3/21/2017 8:54:30	3.38	16.83	43.5
run1	3/21/2017 8:54:45	3.25	16.79	49.7
run1	3/21/2017 8:55:00	3.24	16.95	44.3
run1	3/21/2017 8:55:15	3.22	17.06	36.7
run1	3/21/2017 8:55:30	3.30	17.06	32.2
run1	3/21/2017 8:55:45	3.48	16.89	28.5
run1	3/21/2017 8:56:00	3.46	16.78	26.1
run1	3/21/2017 8:56:15	3.43	16.81	26.4
run1	3/21/2017 8:56:30	3.48	16.83	26.7
run1	3/21/2017 8:56:45	3.55	16.75	24.6
run1	3/21/2017 8:57:00	3.49	16.67	29.5
run1	3/21/2017 8:57:15	3.45	16.77	42.0
run1	3/21/2017 8:57:30	3.47	16.83	47.9
run1	3/21/2017 8:57:45	3.55	16.77	42.0
run1	3/21/2017 8:58:00	3.59	16.67	31.2
run1	3/21/2017 8:58:15	3.59	16.62	25.7
run1	3/21/2017 8:58:30	3.58	16.65	26.9
run1	3/21/2017 8:58:45	3.55	16.69	30.7
run1	3/21/2017 8:59:00	3.50	16.73	38.1
run1	3/21/2017 8:59:15	3.43	16.75	48.9
run1	3/21/2017 8:59:30	3.40	16.80	61.5
run1	3/21/2017 8:59:45	3.50	16.82	64.8
run1	3/21/2017 9:00:00	3.50	16.78	62.5
run1	3/21/2017 9:00:15	3.44	16.78	66.0
run1	3/21/2017 9:00:30	3.40	16.79	73.8
run1	3/21/2017 9:00:45	3.42	16.83	74.1
run1	3/21/2017 9:01:00	3.54	16.81	61.6
run1	3/21/2017 9:01:15	3.68	16.68	43.5
run1	3/21/2017 9:01:30	3.79	16.54	30.9
run1	3/21/2017 9:01:45	3.75	16.44	29.0
run1	3/21/2017 9:02:00	3.60	16.55	34.8
run1	3/21/2017 9:02:15	3.54	16.70	41.9
run1	3/21/2017 9:02:30	3.60	16.73	44.8
run1	3/21/2017 9:02:45	3.64	16.64	44.1
run1	3/21/2017 9:03:00	3.60	16.58	44.3
run1	3/21/2017 9:03:15	3.55	16.69	47.0
run1	3/21/2017 9:03:30	3.48	16.81	47.2
run1	3/21/2017 9:03:45	3.59	16.80	45.2
run1	3/21/2017 9:04:00	3.72	16.64	48.7
run1	3/21/2017 9:04:15	3.80	16.48	57.4
run1	3/21/2017 9:04:30	3.78	16.46	60.0
run1	3/21/2017 9:04:45	3.87	16.49	60.2
run1	3/21/2017 9:05:00	3.74	16.46	64.2
run1	3/21/2017 9:05:15	3.74	16.52	66.6
run1	3/21/2017 9:05:30	3.70	16.48	63.5
run1	3/21/2017 9:05:45	3.61	16.58	64.4
run11	3/21/2017 9:06:00	3.74	16.62	64.6
run11	3/21/2017 9:06:15	3.84	16.50	55.7
run11	3/21/2017 9:06:30	3.82	16.40	41.6
run11	3/21/2017 9:06:45	3.74	16.45	31.5
run11	3/21/2017 9:07:00	3.73	16.57	29.6
run11	3/21/2017 9:07:15	3.78	16.59	33.7
run11	3/21/2017 9:07:30	3.90	16.47	33.3
run11	3/21/2017 9:07:45	3.89	16.35	28.9
run11	3/21/2017 9:08:00	3.78	16.37	25.8
run11	3/21/2017 9:08:15	3.61	16.52	27.2
run11	3/21/2017 9:08:30	7.85	15.59	29.5
run11	3/21/2017 9:08:45	15.60	9.17	21.2
run11	3/21/2017 9:09:00	9.45	6.81	12.7
run11	3/21/2017 9:09:15	4.66	12.45	13.5
run11	3/21/2017 9:09:30	3.72	15.82	22.4
run11	3/21/2017 9:09:45	3.58	16.58	32.9
run11	3/21/2017 9:10:00	3.70	16.60	34.0
run11	3/21/2017 9:10:15	3.87	16.40	27.5
run11	3/21/2017 9:10:30	3.98	16.26	22.3
run11	3/21/2017 9:10:45	3.82	16.32	25.3
run11	3/21/2017 9:11:00	3.76	16.46	33.0
run11	3/21/2017 9:11:15	3.72	16.49	36.5
run11	3/21/2017 9:11:30	3.68	16.52	36.4
run11	3/21/2017 9:11:45	3.72	16.56	34.6
run11	3/21/2017 9:12:00	3.57	16.52	31.7
run11	3/21/2017 9:12:15	3.68	16.53	31.8
run11	3/21/2017 9:12:30	3.75	16.52	35.4
run11	3/21/2017 9:12:45	3.83	16.46	39.4
run1	3/21/2017 9:13:00	3.82	16.43	39.2
run1	3/21/2017 9:13:15	3.72	16.49	38.5

name		FE O2	FE CO2	FE CO	
sn		1151210012	1151210012	1336459888	
offset		0	0	0	
fullscale		100	20	500	
train		1	1	1	
gastype		o2 3a	co2 3a	co 10	
run1	3/21/2017	9:13:30	3.76	16.52	39.3
run1	3/21/2017	9:13:45	3.67	16.53	41.4
run1	3/21/2017	9:14:00	3.61	16.60	43.7
run1	3/21/2017	9:14:15	3.50	16.64	44.8
run1	3/21/2017	9:14:30	3.51	16.71	48.7
run1	3/21/2017	9:14:45	3.51	16.73	47.5
run1	3/21/2017	9:15:00	3.66	16.67	41.2
run1	3/21/2017	9:15:15	3.77	16.57	35.1
run1	3/21/2017	9:15:30	3.68	16.55	33.4
run1	3/21/2017	9:15:45	3.67	16.56	34.2
run1	3/21/2017	9:16:00	3.61	16.55	35.9
run1	3/21/2017	9:16:15	3.57	16.64	37.2
run1	3/21/2017	9:16:30	3.56	16.71	37.9
run1	3/21/2017	9:16:45	3.61	16.70	40.6
run1	3/21/2017	9:17:00	3.65	16.60	41.9
run1	3/21/2017	9:17:15	3.61	16.58	39.6
run1	3/21/2017	9:17:30	3.56	16.65	37.5
run1	3/21/2017	9:17:45	3.51	16.74	37.4
run1	3/21/2017	9:18:00	3.56	16.74	40.6
run1	3/21/2017	9:18:15	3.58	16.61	43.7
run1	3/21/2017	9:18:30	3.60	16.60	46.0
run1	3/21/2017	9:18:45	3.57	16.66	45.8
run1	3/21/2017	9:19:00	3.46	16.74	46.4
run1	3/21/2017	9:19:15	3.34	16.84	50.5
run1	3/21/2017	9:19:30	3.34	16.88	54.1
run1	3/21/2017	9:19:45	3.37	16.90	50.8
run1	3/21/2017	9:20:00	3.34	16.92	45.6
run1	3/21/2017	9:20:15	3.34	16.95	47.1
run1	3/21/2017	9:20:30	3.42	16.89	49.5
run1	3/21/2017	9:20:45	3.59	16.73	45.0
run1	3/21/2017	9:21:00	3.68	16.61	36.4
run1	3/21/2017	9:21:15	3.65	16.58	34.3
run1	3/21/2017	9:21:30	3.57	16.64	41.8
run1	3/21/2017	9:21:45	3.50	16.70	48.0
run1	3/21/2017	9:22:00	3.44	16.74	46.6
run1	3/21/2017	9:22:15	3.33	16.84	45.1
run1	3/21/2017	9:22:30	3.32	16.94	46.6
run1	3/21/2017	9:22:45	3.39	16.94	47.4
run1	3/21/2017	9:23:00	3.44	16.82	46.8
run1	3/21/2017	9:23:15	3.41	16.79	47.5
run1	3/21/2017	9:23:30	3.54	16.79	47.9
run1	3/21/2017	9:23:45	4.21	16.45	45.4
run1	3/21/2017	9:24:00	4.11	16.02	46.6
run1	3/21/2017	9:24:15	4.05	16.11	54.6
run1	3/21/2017	9:24:30	4.36	16.02	56.2
run1	3/21/2017	9:24:45	4.17	15.91	52.8
run1	3/21/2017	9:25:00	3.99	16.05	63.1
run1	3/21/2017	9:25:15	3.97	16.18	82.2
run1	3/21/2017	9:25:30	4.08	16.19	86.3
run1	3/21/2017	9:25:45	4.56	15.94	74.5
run1	3/21/2017	9:26:00	4.52	15.64	60.6
run1	3/21/2017	9:26:15	4.30	15.80	56.7
run1	3/21/2017	9:26:30	4.24	15.90	60.0
run1	3/21/2017	9:26:45	6.25	15.50	61.4
run1	3/21/2017	9:27:00	15.35	10.80	48.0
run1	3/21/2017	9:27:15	18.64	3.81	25.2
run1	3/21/2017	9:27:30	10.01	4.51	21.2
run1	3/21/2017	9:27:45	4.54	12.04	36.0
run1	3/21/2017	9:28:00	3.51	15.84	46.1
run1	3/21/2017	9:28:15	3.26	16.78	51.2
run1	3/21/2017	9:28:30	3.18	17.02	59.6
run1	3/21/2017	9:28:45	3.11	17.11	70.8
run1	3/21/2017	9:29:00	3.12	17.13	79.0
run1	3/21/2017	9:29:15	3.21	17.09	75.6
run1	3/21/2017	9:29:30	3.35	16.99	62.1
run1	3/21/2017	9:29:45	3.40	16.88	53.8
run1	3/21/2017	9:30:00	3.40	16.84	53.6
run1	3/21/2017	9:30:15	3.36	16.82	53.8
run1	3/21/2017	9:30:30	3.35	16.88	55.0
run1	3/21/2017	9:30:45	3.40	16.89	57.9
run1	3/21/2017	9:31:00	3.51	16.86	58.9
run1	3/21/2017	9:31:15	3.40	16.82	57.3
run1	3/21/2017	9:31:30	3.41	16.80	54.6
run1	3/21/2017	9:31:45	3.44	16.84	52.8
run1	3/21/2017	9:32:00	3.36	16.87	58.4
run1	3/21/2017	9:32:15	3.34	16.90	70.1
run1	3/21/2017	9:32:30	3.42	16.85	74.7
run1	3/21/2017	9:32:45	3.49	16.77	64.1
run1	3/21/2017	9:33:00	3.49	16.76	52.1
run1	3/21/2017	9:33:15	3.48	16.80	52.4
run1	3/21/2017	9:33:30	3.52	16.76	58.4
run1	3/21/2017	9:33:45	3.50	16.70	57.7
run1	3/21/2017	9:34:00	3.56	16.70	51.0
run1	3/21/2017	9:34:15	3.62	16.67	46.4
run1	3/21/2017	9:34:30	3.53	16.70	45.3
run1	3/21/2017	9:34:45	3.44	16.74	48.9
run1	3/21/2017	9:35:00	3.35	16.80	57.3
run1	3/21/2017	9:35:15	3.46	16.84	59.3
run1	3/21/2017	9:35:30	3.52	16.76	52.0
run1	3/21/2017	9:35:45	3.50	16.74	44.3
run1	3/21/2017	9:36:00	3.53	16.70	39.3
run1	3/21/2017	9:36:15	3.59	16.61	36.5
run1	3/21/2017	9:36:30	3.43	16.63	42.7
run1	3/21/2017	9:36:45	3.33	16.80	57.5
run1	3/21/2017	9:37:00	3.36	16.91	65.4
run1	3/21/2017	9:37:15	3.55	16.80	57.6
run1	3/21/2017	9:37:30	3.66	16.61	44.3
run1	3/21/2017	9:37:45	3.56	16.59	38.5







name	FE O2		FE CO2		FE CO	
	1151210012	1151210012	1151210012	1151210012	1336459888	
sn		0		0		0
offset		0		0		0
fullscale		100		20		500
train		1		1		1
gastype	o2 3a	co2 3a	co 10			
run2	3/21/2017 10:32:15	3.55	16.62			30.7
run2	3/21/2017 10:32:30	3.55	16.65			27.7
run2	3/21/2017 10:32:45	3.59	16.67			27.3
run2	3/21/2017 10:33:00	3.63	16.62			29.7
run2	3/21/2017 10:33:15	3.71	16.54			29.1
run2	3/21/2017 10:33:30	3.72	16.46			25.9
run2	3/21/2017 10:33:45	3.71	16.50			23.0
run2	3/21/2017 10:34:00	3.75	16.51			21.2
run2	3/21/2017 10:34:15	3.78	16.47			21.3
run2	3/21/2017 10:34:30	3.82	16.40			20.1
run2	3/21/2017 10:34:45	3.78	16.36			17.9
run2	3/21/2017 10:35:00	3.69	16.45			18.6
run2	3/21/2017 10:35:15	3.61	16.57			20.4
run2	3/21/2017 10:35:30	3.60	16.61			21.4
run2	3/21/2017 10:35:45	3.54	16.59			22.7
run2	3/21/2017 10:36:00	3.47	16.68			27.8
run2	3/21/2017 10:36:15	3.41	16.80			36.0
run2	3/21/2017 10:36:30	3.39	16.86			39.8
run2	3/21/2017 10:36:45	3.37	16.85			41.4
run2	3/21/2017 10:37:00	3.40	16.81			43.2
run2	3/21/2017 10:37:15	3.44	16.81			39.8
run2	3/21/2017 10:37:30	3.53	16.77			31.6
run2	3/21/2017 10:37:45	3.62	16.66			25.4
run2	3/21/2017 10:38:00	3.67	16.54			22.2
run2	3/21/2017 10:38:15	3.65	16.51			24.2
run2	3/21/2017 10:38:30	3.64	16.57			30.7
run2	3/21/2017 10:38:45	3.66	16.60			33.9
run2	3/21/2017 10:39:00	3.67	16.55			32.5
run2	3/21/2017 10:39:15	3.56	16.55			32.1
run2	3/21/2017 10:39:30	3.48	16.64			34.7
run2	3/21/2017 10:39:45	3.46	16.76			36.8
run2	3/21/2017 10:40:00	3.51	16.77			37.1
run2	3/21/2017 10:40:15	3.62	16.66			34.6
run2	3/21/2017 10:40:30	3.62	16.54			31.4
run2	3/21/2017 10:40:45	3.55	16.57			32.0
run2	3/21/2017 10:41:00	3.57	16.64			35.8
run2	3/21/2017 10:41:15	3.54	16.65			39.1
run2	3/21/2017 10:41:30	3.55	16.66			42.7
run2	3/21/2017 10:41:45	3.60	16.60			44.6
run2	3/21/2017 10:42:00	3.56	16.60			42.0
run2	3/21/2017 10:42:15	3.53	16.67			38.9
run2	3/21/2017 10:42:30	3.47	16.71			40.5
run2	3/21/2017 10:42:45	3.37	16.75			48.3
run2	3/21/2017 10:43:00	3.37	16.79			56.7
run2	3/21/2017 10:43:15	3.44	16.79			56.2
run2	3/21/2017 10:43:30	3.54	16.70			49.0
run2	3/21/2017 10:43:45	3.52	16.58			47.3
run2	3/21/2017 10:44:00	3.52	16.58			58.2
run2	3/21/2017 10:44:15	3.39	16.68			68.2
run2	3/21/2017 10:44:30	3.36	16.79			66.8
run2	3/21/2017 10:44:45	3.39	16.83			55.6
run2	3/21/2017 10:45:00	3.42	16.80			47.1
run2	3/21/2017 10:45:15	3.31	16.80			48.3
run2	3/21/2017 10:45:30	3.35	16.85			54.0
run2	3/21/2017 10:45:45	3.32	16.88			56.5
run2	3/21/2017 10:46:00	3.29	16.90			54.7
run2	3/21/2017 10:46:15	3.32	16.91			50.7
run2	3/21/2017 10:46:30	3.40	16.83			46.4
run2	3/21/2017 10:46:45	3.40	16.75			46.8
run2	3/21/2017 10:47:00	3.41	16.78			51.6
run2	3/21/2017 10:47:15	3.41	16.81			55.9
run2	3/21/2017 10:47:30	3.30	16.87			62.7
run2	3/21/2017 10:47:45	3.36	16.85			64.8
run2	3/21/2017 10:48:00	3.45	16.77			56.6
run2	3/21/2017 10:48:15	3.47	16.74			53.9
run2	3/21/2017 10:48:30	3.52	16.72			60.2
run2	3/21/2017 10:48:45	3.60	16.66			58.3
run2	3/21/2017 10:49:00	3.72	16.53			49.1
run2	3/21/2017 10:49:15	3.66	16.45			40.8
run2	3/21/2017 10:49:30	3.61	16.53			37.6
run2	3/21/2017 10:49:45	3.56	16.60			42.3
run2	3/21/2017 10:50:00	3.52	16.66			56.3
run2	3/21/2017 10:50:15	3.59	16.62			63.2
run2	3/21/2017 10:50:30	3.65	16.55			55.3
run2	3/21/2017 10:50:45	3.65	16.52			44.2
averun2	3/21/2017 10:28:00	3.54	16.66			37.0
scg9	3/21/2017 10:51:15	3.68	16.53	38.4	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:51:30	3.68	16.48	38.1	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:51:45	3.66	16.50	41.9	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:52:00	3.68	16.54	46.0	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:52:15	3.61	16.57	46.1	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:52:30	3.10	15.91	49.1	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:52:45	1.26	9.27	63.7	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:53:00	0.32	3.25	83.4	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:53:15	0.10	0.65	94.6	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:53:30	0.09	0.26	98.7	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:53:45	0.09	0.17	99.1	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:54:00	0.07	0.15	99.3	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:54:15	0.08	0.13	99.2	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:54:30	0.08	0.12	99.3	CC423695/cg9	CO 97.52 0 0 0
scg9	3/21/2017 10:54:45	0.07	0.11	99.5	CC423695/cg9	CO 97.52 0 0 0
cospan1	3/21/2017 10:54:30	0.08	0.12	99.3	CC423695/cg9	CO 97.52 0 0 0
scg6	3/21/2017 10:55:00	0.08	0.11	99.3	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 10:55:15	0.04	0.10	99.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 10:55:30	0.05	0.10	99.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 10:55:45	0.07	0.09	99.4	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 10:56:00	0.07	0.09	99.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 10:56:15	0.13	0.11	99.5	CC349198/cg6	SO2 20.67 0 0 0



name	FE O2	FE CO2	FE CO							
sn	1151210012	1151210012	1336459888							
offset	0	0	0							
fullscale	100	20	500							
train	1	1	1							
gastype	o2 3a	co2 3a	co 10							
scg1	3/21/2017 11:20:30	0.10	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 11:20:45	0.11	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 11:21:00	0.10	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 11:21:15	0.10	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 11:21:30	0.11	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
scg1	3/21/2017 11:21:45	0.10	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
o2zero1	3/21/2017 11:21:45	0.10	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
co2zero1	3/21/2017 11:21:45	0.10	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
cozero1	3/21/2017 11:21:30	0.11	0.07	0.0	CC263051/cg1	SO2	0 NOx	0 CO2	0 O2	0
run3	3/21/2017 11:27:30	3.53	16.62	32.6						
run3	3/21/2017 11:27:45	3.48	16.61	33.9						
run3	3/21/2017 11:28:00	3.54	16.63	34.0						
run3	3/21/2017 11:28:15	3.60	16.64	29.8						
run3	3/21/2017 11:28:30	3.64	16.57	22.9						
run3	3/21/2017 11:28:45	3.78	16.49	20.5						
run3	3/21/2017 11:29:00	3.47	16.41	24.6						
run3	3/21/2017 11:29:15	3.42	16.43	31.3						
run3	3/21/2017 11:29:30	3.57	16.54	34.9						
run3	3/21/2017 11:29:45	3.64	16.59	31.0						
run3	3/21/2017 11:30:00	3.78	16.51	23.3						
run3	3/21/2017 11:30:15	3.84	16.38	19.3						
run3	3/21/2017 11:30:30	3.78	16.41	20.7						
run3	3/21/2017 11:30:45	3.65	16.52	23.1						
run3	3/21/2017 11:31:00	3.53	16.61	26.6						
run3	3/21/2017 11:31:15	3.47	16.69	30.8						
run3	3/21/2017 11:31:30	3.46	16.72	32.7						
run3	3/21/2017 11:31:45	3.52	16.72	33.3						
run3	3/21/2017 11:32:00	3.59	16.68	31.1						
run3	3/21/2017 11:32:15	3.64	16.61	26.5						
run3	3/21/2017 11:32:30	3.60	16.56	23.0						
run3	3/21/2017 11:32:45	3.53	16.59	25.3						
run3	3/21/2017 11:33:00	3.55	16.67	30.4						
run3	3/21/2017 11:33:15	3.66	16.62	28.9						
run3	3/21/2017 11:33:30	3.74	16.55	24.2						
run3	3/21/2017 11:33:45	3.76	16.45	25.1						
run3	3/21/2017 11:34:00	3.78	16.41	34.4						
run3	3/21/2017 11:34:15	3.78	16.42	39.3						
run3	3/21/2017 11:34:30	3.82	16.43	39.4						
run3	3/21/2017 11:34:45	3.57	16.45	38.2						
run3	3/21/2017 11:35:00	3.56	16.55	43.8						
run3	3/21/2017 11:35:15	3.48	16.66	51.2						
run3	3/21/2017 11:35:30	3.49	16.72	51.0						
run3	3/21/2017 11:35:45	3.55	16.70	45.6						
run3	3/21/2017 11:36:00	3.66	16.64	38.9						
run3	3/21/2017 11:36:15	3.61	16.61	32.4						
run3	3/21/2017 11:36:30	3.64	16.56	26.6						
run3	3/21/2017 11:36:45	3.66	16.55	24.7						
run3	3/21/2017 11:37:00	3.61	16.58	28.0						
run3	3/21/2017 11:37:15	3.67	16.60	28.9						
run3	3/21/2017 11:37:30	3.76	16.53	24.9						
run3	3/21/2017 11:37:45	3.80	16.39	24.1						
run3	3/21/2017 11:38:00	3.75	16.39	29.0						
run3	3/21/2017 11:38:15	3.63	16.50	36.8						
run3	3/21/2017 11:38:30	3.55	16.60	46.3						
run3	3/21/2017 11:38:45	3.52	16.68	49.8						
run3	3/21/2017 11:39:00	3.51	16.67	43.4						
run3	3/21/2017 11:39:15	3.54	16.65	37.2						
run3	3/21/2017 11:39:30	3.51	16.67	36.6						
run3	3/21/2017 11:39:45	3.50	16.71	38.6						
run3	3/21/2017 11:40:00	3.59	16.69	37.4						
run3	3/21/2017 11:40:15	3.59	16.58	35.4						
run3	3/21/2017 11:40:30	3.57	16.58	34.3						
run3	3/21/2017 11:40:45	3.68	16.59	30.8						
run3	3/21/2017 11:41:00	3.59	16.59	26.6						
run3	3/21/2017 11:41:15	3.57	16.64	25.7						
run3	3/21/2017 11:41:30	3.72	16.59	25.0						
run3	3/21/2017 11:41:45	3.85	16.39	22.8						
run3	3/21/2017 11:42:00	3.79	16.35	20.8						
run3	3/21/2017 11:42:15	3.66	16.48	17.8						
run3	3/21/2017 11:42:30	3.63	16.57	13.3						
run3	3/21/2017 11:42:45	3.72	16.52	10.2						
run3	3/21/2017 11:43:00	3.69	16.45	10.7						
run3	3/21/2017 11:43:15	3.61	16.52	15.6						
run3	3/21/2017 11:43:30	3.62	16.60	21.0						
run3	3/21/2017 11:43:45	3.71	16.55	21.6						
run3	3/21/2017 11:44:00	3.72	16.50	20.9						
run3	3/21/2017 11:44:15	3.72	16.45	20.4						
run3	3/21/2017 11:44:30	3.78	16.40	18.6						
run3	3/21/2017 11:44:45	3.92	16.32	15.7						
run3	3/21/2017 11:45:00	3.84	16.29	13.2						
run3	3/21/2017 11:45:15	3.74	16.40	12.1						
run3	3/21/2017 11:45:30	3.67	16.47	14.6						
run3	3/21/2017 11:45:45	3.73	16.48	19.1						
run3	3/21/2017 11:46:00	3.78	16.44	20.4						
run3	3/21/2017 11:46:15	3.73	16.44	20.4						
run3	3/21/2017 11:46:30	3.70	16.49	21.2						
run3	3/21/2017 11:46:45	3.69	16.51	21.3						
run3	3/21/2017 11:47:00	3.63	16.51	21.0						
run3	3/21/2017 11:47:15	3.55	16.58	21.1						
run3	3/21/2017 11:47:30	3.54	16.66	19.9						
run3	3/21/2017 11:47:45	3.55	16.68	18.9						
run3	3/21/2017 11:48:00	3.57	16.65	20.8						
run3	3/21/2017 11:48:15	3.63	16.59	25.0						
run3	3/21/2017 11:48:30	3.67	16.57	26.9						
run3	3/21/2017 11:48:45	3.74	16.52	26.7						
run3	3/21/2017 11:49:00	3.73	16.47	23.9						
run3	3/21/2017 11:49:15	3.69	16.51	20.8						
run3	3/21/2017 11:49:30	3.73	16.50	19.1						





name	FE O2		FE CO2		FE CO						
	sn	1151210012	1151210012	1151210012	1336459888	1336459888					
offset		0	0	0	0	0					
fullscale		100	20	500							
train		1	1	1							
gastype		co2 3a	co2 3a	co 10							
scg4	3/21/2017	12:37:45	0.23	0.05	-0.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:38:00	0.18	0.04	0.0	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:38:15	0.24	0.06	0.0	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:38:30	0.21	0.07	0.0	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:38:45	0.18	0.05	-0.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:39:00	0.18	0.05	-0.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:39:15	0.18	0.05	-0.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:39:30	0.18	0.05	0.0	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:39:45	0.23	0.04	-0.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:40:00	0.17	0.04	-0.1	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:40:15	0.18	0.04	0.0	EB0061550/cg4	NOx	45.43	0	0	0
scg4	3/21/2017	12:40:30	0.18	0.04	0.0	EB0061550/cg4	NOx	45.43	0	0	0
run4	3/21/2017	12:44:15	3.74	16.37	22.1						
run4	3/21/2017	12:44:30	3.59	16.34	23.0						
run4	3/21/2017	12:44:45	3.68	16.38	26.5						
run4	3/21/2017	12:45:00	3.67	16.43	30.5						
run4	3/21/2017	12:45:15	3.60	16.50	35.1						
run4	3/21/2017	12:45:30	3.60	16.55	36.3						
run4	3/21/2017	12:45:45	3.57	16.56	34.4						
run4	3/21/2017	12:46:00	3.55	16.53	35.3						
run4	3/21/2017	12:46:15	3.53	16.56	40.0						
run4	3/21/2017	12:46:30	3.59	16.59	41.0						
run4	3/21/2017	12:46:45	3.76	16.48	35.9						
run4	3/21/2017	12:47:00	3.85	16.36	29.8						
run4	3/21/2017	12:47:15	3.85	16.30	27.3						
run4	3/21/2017	12:47:30	3.74	16.33	28.3						
run4	3/21/2017	12:47:45	3.67	16.39	31.4						
run4	3/21/2017	12:48:00	3.59	16.46	35.0						
run4	3/21/2017	12:48:15	3.58	16.56	40.5						
run4	3/21/2017	12:48:30	3.61	16.57	43.5						
run4	3/21/2017	12:48:45	3.71	16.52	38.9						
run4	3/21/2017	12:49:00	3.76	16.44	32.5						
run4	3/21/2017	12:49:15	3.73	16.37	32.9						
run4	3/21/2017	12:49:30	3.74	16.40	36.6						
run4	3/21/2017	12:49:45	3.80	16.39	35.8						
run4	3/21/2017	12:50:00	3.83	16.34	30.4						
run4	3/21/2017	12:50:15	3.83	16.33	25.9						
run4	3/21/2017	12:50:30	3.87	16.33	22.9						
run4	3/21/2017	12:50:45	3.82	16.27	20.5						
run4	3/21/2017	12:51:00	3.70	16.34	23.1						
run4	3/21/2017	12:51:15	3.66	16.48	32.5						
run4	3/21/2017	12:51:30	3.61	16.54	37.7						
run4	3/21/2017	12:51:45	3.58	16.56	34.8						
run4	3/21/2017	12:52:00	3.57	16.58	32.0						
run4	3/21/2017	12:52:15	3.49	16.60	41.0						
run4	3/21/2017	12:52:30	3.40	16.67	58.0						
run4	3/21/2017	12:52:45	3.42	16.75	62.1						
run4	3/21/2017	12:53:00	3.50	16.72	52.2						
run4	3/21/2017	12:53:15	3.52	16.66	42.5						
run4	3/21/2017	12:53:30	3.56	16.65	38.3						
run4	3/21/2017	12:53:45	3.67	16.57	33.3						
run4	3/21/2017	12:54:00	3.77	16.43	26.2						
run4	3/21/2017	12:54:15	3.69	16.39	23.7						
run4	3/21/2017	12:54:30	3.63	16.49	25.2						
run4	3/21/2017	12:54:45	3.62	16.56	31.2						
run4	3/21/2017	12:55:00	3.51	16.63	44.1						
run4	3/21/2017	12:55:15	3.55	16.65	51.3						
run4	3/21/2017	12:55:30	3.57	16.60	46.5						
run4	3/21/2017	12:55:45	3.55	16.57	37.8						
run4	3/21/2017	12:56:00	3.50	16.62	32.0						
run4	3/21/2017	12:56:15	3.52	16.69	29.2						
run4	3/21/2017	12:56:30	3.73	16.62	25.0						
run4	3/21/2017	12:56:45	3.82	16.44	20.3						
run4	3/21/2017	12:57:00	3.78	16.35	19.3						
run4	3/21/2017	12:57:15	3.73	16.38	24.0						
run4	3/21/2017	12:57:30	3.67	16.46	32.9						
run4	3/21/2017	12:57:45	3.61	16.55	37.2						
run4	3/21/2017	12:58:00	3.66	16.58	33.9						
run4	3/21/2017	12:58:15	3.74	16.53	26.6						
run4	3/21/2017	12:58:30	3.63	16.51	20.8						
run4	3/21/2017	12:58:45	3.60	16.53	20.3						
run4	3/21/2017	12:59:00	3.57	16.57	26.2						
run4	3/21/2017	12:59:15	3.57	16.60	32.6						
run4	3/21/2017	12:59:30	3.57	16.62	33.6						
run4	3/21/2017	12:59:45	3.65	16.61	29.8						
run4	3/21/2017	13:00:00	3.74	16.53	26.8						
run4	3/21/2017	13:00:15	3.82	16.39	25.9						
run4	3/21/2017	13:00:30	3.79	16.38	28.9						
run4	3/21/2017	13:00:45	3.89	16.34	31.6						
run4	3/21/2017	13:01:00	3.87	16.27	31.2						
run4	3/21/2017	13:01:15	3.73	16.37	33.5						
run4	3/21/2017	13:01:30	3.67	16.49	38.3						
run4	3/21/2017	13:01:45	3.67	16.49	39.7						
run4	3/21/2017	13:02:00	3.60	16.50	42.2						
run4	3/21/2017	13:02:15	3.64	16.58	48.1						
run4	3/21/2017	13:02:30	3.61	16.58	50.6						
run4	3/21/2017	13:02:45	3.57	16.60	49.8						
run4	3/21/2017	13:03:00	3.50	16.63	53.3						
run4	3/21/2017	13:03:15	3.44	16.67	62.9						
run4	3/21/2017	13:03:30	3.36	16.74	77.6						
run4	3/21/2017	13:03:45	3.24	16.87	90.2						
run4	3/21/2017	13:04:00	3.30	16.93	91.1						
run4	3/21/2017	13:04:15	3.42	16.85	79.5						
run4	3/21/2017	13:04:30	3.49	16.76	66.7						
run4	3/21/2017	13:04:45	3.55	16.64	58.1						
run4	3/21/2017	13:05:00	3.52	16.59	62.9						
run4	3/21/2017	13:05:15	3.47	16.65	75.3						
run4	3/21/2017	13:05:30	3.49	16.69	78.2						





name		FE O2	FE CO2	FE CO				
sn		1151210012	1151210012	1336459888				
offset		0	0	0				
fullscale		100	20	500				
train		1	1	1				
gastype		o2 3a	co2 3a	co 10				
run5	3/21/2017 13:31:30	3.64	16.33	37.4				
run5	3/21/2017 13:31:45	3.56	16.46	40.0				
run5	3/21/2017 13:32:00	3.64	16.47	39.7				
run5	3/21/2017 13:32:15	3.58	16.44	41.1				
run5	3/21/2017 13:32:30	3.54	16.53	46.1				
run5	3/21/2017 13:32:45	3.57	16.54	50.5				
run5	3/21/2017 13:33:00	3.61	16.50	50.9				
run5	3/21/2017 13:33:15	3.63	16.51	50.4				
run5	3/21/2017 13:33:30	3.67	16.50	48.3				
run5	3/21/2017 13:33:45	3.71	16.45	43.7				
run5	3/21/2017 13:34:00	3.72	16.42	42.6				
run5	3/21/2017 13:34:15	3.68	16.44	48.0				
run5	3/21/2017 13:34:30	3.62	16.46	52.5				
run5	3/21/2017 13:34:45	3.58	16.50	52.2				
run5	3/21/2017 13:35:00	3.59	16.52	52.5				
run5	3/21/2017 13:35:15	3.60	16.54	52.0				
run5	3/21/2017 13:35:30	3.60	16.54	48.2				
run5	3/21/2017 13:35:45	3.57	16.59	49.2				
run5	3/21/2017 13:36:00	3.53	16.61	54.2				
run5	3/21/2017 13:36:15	3.51	16.62	56.9				
run5	3/21/2017 13:36:30	3.46	16.64	57.0				
run5	3/21/2017 13:36:45	3.45	16.70	57.2				
run5	3/21/2017 13:37:00	3.54	16.69	56.4				
run5	3/21/2017 13:37:15	3.58	16.64	52.0				
run5	3/21/2017 13:37:30	3.65	16.57	42.4				
run5	3/21/2017 13:37:45	3.75	16.47	33.1				
run5	3/21/2017 13:38:00	3.74	16.38	31.4				
run5	3/21/2017 13:38:15	3.65	16.44	39.1				
run5	3/21/2017 13:38:30	3.64	16.53	51.0				
run5	3/21/2017 13:38:45	3.71	16.51	58.5				
run5	3/21/2017 13:39:00	3.69	16.46	66.9				
run5	3/21/2017 13:39:15	3.66	16.49	75.0				
run5	3/21/2017 13:39:30	3.64	16.50	70.8				
run5	3/21/2017 13:39:45	3.64	16.47	61.7				
run5	3/21/2017 13:40:00	3.66	16.47	53.2				
run5	3/21/2017 13:40:15	3.69	16.46	45.7				
run5	3/21/2017 13:40:30	3.66	16.47	41.3				
run5	3/21/2017 13:40:45	3.55	16.53	43.5				
run5	3/21/2017 13:41:00	3.44	16.64	52.5				
run5	3/21/2017 13:41:15	3.38	16.75	62.6				
run5	3/21/2017 13:41:30	3.38	16.76	72.9				
run5	3/21/2017 13:41:45	3.41	16.74	82.5				
run5	3/21/2017 13:42:00	3.49	16.71	81.6				
run5	3/21/2017 13:42:15	3.53	16.63	70.3				
run5	3/21/2017 13:42:30	3.48	16.64	62.1				
run5	3/21/2017 13:42:45	3.47	16.70	59.5				
run5	3/21/2017 13:43:00	3.55	16.66	54.6				
run5	3/21/2017 13:43:15	3.52	16.58	51.0				
run5	3/21/2017 13:43:30	3.44	16.63	53.8				
run5	3/21/2017 13:43:45	3.49	16.68	56.3				
run5	3/21/2017 13:44:00	3.52	16.65	53.6				
run5	3/21/2017 13:44:15	3.62	16.59	49.5				
run5	3/21/2017 13:44:30	3.76	16.49	43.2				
run5	3/21/2017 13:44:45	3.76	16.39	38.1				
run5	3/21/2017 13:45:00	3.69	16.38	38.1				
run5	3/21/2017 13:45:15	3.67	16.43	41.5				
run5	3/21/2017 13:45:30	3.70	16.45	43.2				
run5	3/21/2017 13:45:45	3.77	16.41	41.3				
run5	3/21/2017 13:46:00	3.77	16.37	42.6				
run5	3/21/2017 13:46:15	3.78	16.37	45.6				
run5	3/21/2017 13:46:30	3.81	16.36	42.8				
run5	3/21/2017 13:46:45	3.85	16.30	36.1				
run5	3/21/2017 13:47:00	3.93	16.21	31.5				
run5	3/21/2017 13:47:15	3.93	16.17	31.2				
run5	3/21/2017 13:47:30	3.93	16.19	32.2				
run5	3/21/2017 13:47:45	3.98	16.17	31.5				
run5	3/21/2017 13:48:00	4.04	16.14	31.1				
run5	3/21/2017 13:48:15	4.07	16.08	31.7				
run5	3/21/2017 13:48:30	3.99	16.08	32.6				
run5	3/21/2017 13:48:45	3.93	16.13	34.4				
run5	3/21/2017 13:49:00	3.92	16.17	34.6				
run5	3/21/2017 13:49:15	3.86	16.24	34.4				
run5	3/21/2017 13:49:30	3.83	16.29	34.5				
run5	3/21/2017 13:49:45	3.81	16.34	33.5				
run5	3/21/2017 13:50:00	3.75	16.39	31.9				
run5	3/21/2017 13:50:15	3.75	16.41	31.8				
run5	3/21/2017 13:50:30	3.75	16.39	33.5				
run5	3/21/2017 13:50:45	3.80	16.36	36.6				
run5	3/21/2017 13:51:00	3.86	16.33	37.2				
run5	3/21/2017 13:51:15	3.89	16.28	34.6				
run5	3/21/2017 13:51:30	3.92	16.24	32.9				
run5	3/21/2017 13:51:45	3.86	16.25	34.2				
run5	3/21/2017 13:52:00	3.76	16.33	37.0				
run5	3/21/2017 13:52:15	3.63	16.45	39.9				
run5	3/21/2017 13:52:30	3.66	16.51	40.2				
run5	3/21/2017 13:52:45	3.71	16.47	37.7				
run5	3/21/2017 13:53:00	3.67	16.46	37.1				
run5	3/21/2017 13:53:15	3.55	16.55	41.0				
run5	3/21/2017 13:53:30	3.49	16.64	47.5				
run5	3/21/2017 13:53:45	3.48	16.66	51.9				
run5	3/21/2017 13:54:00	3.50	16.64	51.1				
run5	3/21/2017 13:54:15	3.57	16.63	48.5				
run5	3/21/2017 13:54:30	3.67	16.56	43.9				
run5	3/21/2017 13:54:45	3.78	16.43	40.2				
averun5	3/21/2017 13:34:00	3.68	16.47	46.4				
scg6	3/21/2017 13:55:15	3.71	16.40	53.4	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 13:55:30	3.70	16.42	61.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 13:55:45	3.75	16.39	57.7	CC349198/cg6	SO2	20.67	0 0 0



name	FE O2			FE CO2			FE CO		
	sn	1151210012	0	sn	1151210012	0	sn	1336459888	0
offset			0			0			0
fullscale			100			20			500
train			1			1			1
gastype		o2 3a		co2 3a		co 10			
scg4	3/21/2017 14:19:45		0.29	0.11		-0.1	EB0061550/cg4	NOx 45.43	0 0 0
scg4	3/21/2017 14:20:00		0.29	0.10		0.0	EB0061550/cg4	NOx 45.43	0 0 0
scg4	3/21/2017 14:20:15		0.30	0.09		-0.1	EB0061550/cg4	NOx 45.43	0 0 0
scg1	3/21/2017 14:20:30		0.29	0.09		-0.2	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:20:45		0.30	0.08		-0.1	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:21:00		0.29	0.08		-0.1	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:21:15		0.07	0.06		-0.2	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:21:30		0.29	0.07		-0.1	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:21:45		0.29	0.07		-0.1	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:22:00		0.31	0.08		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:22:15		0.30	0.08		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:22:30		0.28	0.07		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:22:45		0.29	0.06		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
scg1	3/21/2017 14:23:00		0.28	0.06		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
o2zero1	3/21/2017 14:23:00		0.28	0.06		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
co2zero1	3/21/2017 14:23:00		0.28	0.06		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
cozero1	3/21/2017 14:23:00		0.28	0.06		0.0	CC263051/cg1	SO2 0 NOx	0 CO2 0 0 0
run6	3/21/2017 14:27:00		3.46	16.31		25.2			
run6	3/21/2017 14:27:15		3.66	16.37		28.9			
run6	3/21/2017 14:27:30		3.63	16.42		31.3			
run6	3/21/2017 14:27:45		3.65	16.46		30.3			
run6	3/21/2017 14:28:00		3.73	16.42		30.0			
run6	3/21/2017 14:28:15		3.74	16.39		32.6			
run6	3/21/2017 14:28:30		3.72	16.39		35.0			
run6	3/21/2017 14:28:45		3.74	16.39		34.4			
run6	3/21/2017 14:29:00		3.79	16.34		31.8			
run6	3/21/2017 14:29:15		3.85	16.27		32.6			
run6	3/21/2017 14:29:30		3.84	16.24		33.8			
run6	3/21/2017 14:29:45		3.77	16.30		31.9			
run6	3/21/2017 14:30:00		3.76	16.37		30.3			
run6	3/21/2017 14:30:15		3.70	16.40		33.5			
run6	3/21/2017 14:30:30		3.65	16.45		37.8			
run6	3/21/2017 14:30:45		3.65	16.48		36.9			
run6	3/21/2017 14:31:00		3.68	16.42		34.0			
run6	3/21/2017 14:31:15		3.74	16.39		35.5			
run6	3/21/2017 14:31:30		3.80	16.37		40.3			
run6	3/21/2017 14:31:45		3.79	16.35		41.5			
run6	3/21/2017 14:32:00		3.82	16.32		37.4			
run6	3/21/2017 14:32:15		3.87	16.29		33.1			
run6	3/21/2017 14:32:30		3.79	16.26		33.1			
run6	3/21/2017 14:32:45		3.63	16.40		38.6			
run6	3/21/2017 14:33:00		3.57	16.50		43.8			
run6	3/21/2017 14:33:15		3.56	16.52		44.4			
run6	3/21/2017 14:33:30		3.52	16.56		44.6			
run6	3/21/2017 14:33:45		3.50	16.63		48.2			
run6	3/21/2017 14:34:00		3.55	16.62		51.1			
run6	3/21/2017 14:34:15		3.52	16.60		54.8			
run6	3/21/2017 14:34:30		3.50	16.64		59.6			
run6	3/21/2017 14:34:45		3.58	16.63		59.2			
run6	3/21/2017 14:35:00		3.72	16.49		51.0			
run6	3/21/2017 14:35:15		3.82	16.33		41.5			
run6	3/21/2017 14:35:30		3.88	16.26		32.5			
run6	3/21/2017 14:35:45		3.86	16.24		26.2			
run6	3/21/2017 14:36:00		3.83	16.25		26.9			
run6	3/21/2017 14:36:15		3.79	16.34		32.0			
run6	3/21/2017 14:36:30		3.69	16.41		36.5			
run6	3/21/2017 14:36:45		3.77	16.42		37.9			
run6	3/21/2017 14:37:00		3.82	16.33		34.8			
run6	3/21/2017 14:37:15		3.78	16.28		33.4			
run6	3/21/2017 14:37:30		3.76	16.35		35.4			
run6	3/21/2017 14:37:45		3.76	16.36		34.4			
run6	3/21/2017 14:38:00		3.79	16.36		30.8			
run6	3/21/2017 14:38:15		3.76	16.36		28.5			
run6	3/21/2017 14:38:30		3.64	16.42		28.8			
run6	3/21/2017 14:38:45		3.62	16.50		29.8			
run6	3/21/2017 14:39:00		3.67	16.48		29.9			
run6	3/21/2017 14:39:15		3.75	16.41		31.7			
run6	3/21/2017 14:39:30		3.71	16.40		38.8			
run6	3/21/2017 14:39:45		3.79	16.40		43.9			
run6	3/21/2017 14:40:00		3.89	16.34		42.5			
run6	3/21/2017 14:40:15		3.92	16.21		38.3			
run6	3/21/2017 14:40:30		3.89	16.21		36.7			
run6	3/21/2017 14:40:45		3.81	16.28		40.1			
run6	3/21/2017 14:41:00		3.75	16.32		43.2			
run6	3/21/2017 14:41:15		3.76	16.36		41.3			
run6	3/21/2017 14:41:30		3.80	16.36		34.7			
run6	3/21/2017 14:41:45		3.82	16.33		29.4			
run6	3/21/2017 14:42:00		3.83	16.32		27.4			
run6	3/21/2017 14:42:15		3.84	16.32		25.5			
run6	3/21/2017 14:42:30		3.81	16.32		23.7			
run6	3/21/2017 14:42:45		3.78	16.36		23.6			
run6	3/21/2017 14:43:00		3.79	16.33		25.5			
run6	3/21/2017 14:43:15		3.63	16.38		34.1			
run6	3/21/2017 14:43:30		3.63	16.49		42.4			
run6	3/21/2017 14:43:45		3.69	16.48		39.2			
run6	3/21/2017 14:44:00		3.72	16.47		32.0			
run6	3/21/2017 14:44:15		3.71	16.47		29.8			
run6	3/21/2017 14:44:30		3.70	16.46		29.2			
run6	3/21/2017 14:44:45		3.77	16.41		30.0			
run6	3/21/2017 14:45:00		3.83	16.34		30.0			
run6	3/21/2017 14:45:15		3.86	16.30		27.3			
run6	3/21/2017 14:45:30		3.88	16.28		23.5			
run6	3/21/2017 14:45:45		3.86	16.26		22.6			
run6	3/21/2017 14:46:00		3.82	16.31		27.0			
run6	3/21/2017 14:46:15		3.78	16.37		30.9			
run6	3/21/2017 14:46:30		3.83	16.37		29.7			
run6	3/21/2017 14:46:45		3.78	16.34		27.7			
run6	3/21/2017 14:47:00		3.80	16.34		25.8			

name	FE O2		FE CO2		FE CO	
	1151210012	1151210012	1151210012	1151210012	1336459888	1336459888
sn						
offset			0	0	0	0
fullscale			100	20	500	500
train			1	1	1	1
gastype	o2 3a		co2 3a		co 10	
run6	3/21/2017 14:47:15		3.81	16.35	24.4	
run6	3/21/2017 14:47:30		3.79	16.38	23.4	
run6	3/21/2017 14:47:45		3.82	16.35	20.3	
run6	3/21/2017 14:48:00		3.85	16.32	17.2	
run6	3/21/2017 14:48:15		3.85	16.31	18.1	
run6	3/21/2017 14:48:30		3.90	16.27	21.1	
run6	3/21/2017 14:48:45		3.91	16.19	21.5	
run6	3/21/2017 14:49:00		3.86	16.21	19.4	
run6	3/21/2017 14:49:15		3.75	16.20	18.4	
run6	3/21/2017 14:49:30		3.87	16.30	19.2	
run6	3/21/2017 14:49:45		3.88	16.25	19.8	
run6	3/21/2017 14:50:00		3.90	16.26	20.1	
run6	3/21/2017 14:50:15		3.73	16.13	20.0	
run6	3/21/2017 14:50:30		4.03	16.06	20.2	
run6	3/21/2017 14:50:45		4.06	16.02	18.5	
run6	3/21/2017 14:51:00		4.03	16.03	16.4	
run6	3/21/2017 14:51:15		4.01	16.08	15.1	
run6	3/21/2017 14:51:30		3.97	16.12	15.8	
run6	3/21/2017 14:51:45		3.93	16.16	19.4	
run6	3/21/2017 14:52:00		3.90	16.19	25.9	
run6	3/21/2017 14:52:15		3.82	16.27	31.3	
run6	3/21/2017 14:52:30		3.80	16.32	34.5	
run6	3/21/2017 14:52:45		3.72	16.34	36.3	
run6	3/21/2017 14:53:00		3.65	16.42	37.1	
run6	3/21/2017 14:53:15		3.62	16.50	37.0	
run6	3/21/2017 14:53:30		3.63	16.52	38.8	
run6	3/21/2017 14:53:45		3.71	16.49	41.7	
run6	3/21/2017 14:54:00		3.72	16.43	41.7	
run6	3/21/2017 14:54:15		3.70	16.44	41.0	
run6	3/21/2017 14:54:30		3.78	16.42	40.5	
run6	3/21/2017 14:54:45		3.80	16.33	37.6	
run6	3/21/2017 14:55:00		3.72	16.32	36.7	
run6	3/21/2017 14:55:15		3.64	16.43	42.4	
run6	3/21/2017 14:55:30		3.62	16.49	47.3	
run6	3/21/2017 14:55:45		3.67	16.49	47.3	
run6	3/21/2017 14:56:00		3.76	16.43	41.7	
run6	3/21/2017 14:56:15		3.75	16.39	37.2	
averun6	3/21/2017 14:32:00		3.78	16.34	31.5	
scg6	3/21/2017 14:56:45		3.71	16.42	38.0	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:57:00		3.76	16.36	36.6	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:57:15		3.76	16.35	35.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:57:30		3.76	16.36	35.3	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:57:45		3.65	16.08	32.4	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:58:00		2.00	12.29	21.9	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:58:15		0.63	4.14	9.8	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:58:30		0.34	1.08	3.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:58:45		0.31	0.27	0.4	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:59:00		0.29	0.18	0.0	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:59:15		0.30	0.14	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:59:30		0.29	0.13	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 14:59:45		0.30	0.12	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:00:00		0.30	0.10	0.0	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:00:15		0.23	0.09	-0.4	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:00:30		0.29	0.09	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:00:45		0.26	0.08	-0.3	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:01:00		0.29	0.08	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:01:15		0.28	0.08	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:01:30		0.19	0.06	-0.3	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:01:45		0.28	0.08	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:02:00		0.29	0.07	0.0	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:02:15		0.29	0.07	0.0	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:02:30		0.29	0.07	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:02:45		0.29	0.07	0.0	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:03:00		0.29	0.07	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:03:15		0.30	0.06	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:03:30		0.29	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:03:45		0.30	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:04:00		0.29	0.06	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:04:15		0.29	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:04:30		0.30	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:04:45		0.30	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:05:00		0.29	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:05:15		0.30	0.06	-0.1	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:05:30		0.29	0.06	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg6	3/21/2017 15:05:45		0.29	0.05	-0.2	CC349198/cg6 SO2 20.67 0 0 0
scg4	3/21/2017 15:06:00		0.29	0.05	-0.1	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:06:15		0.29	0.05	-0.1	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:06:30		0.30	0.05	0.0	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:06:45		0.29	0.05	-0.1	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:07:00		0.34	0.05	-0.1	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:07:15		1.28	1.24	2.5	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:07:30		3.02	6.21	13.8	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:07:45		3.68	6.23	25.2	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:08:00		3.87	15.62	29.9	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:08:15		3.92	16.03	30.7	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:08:30		3.91	16.07	30.6	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:08:45		3.82	16.14	33.4	EB0061550/cg4 NOx 45.43 0 0 0
scg4	3/21/2017 15:09:00		3.81	16.22	38.2	EB0061550/cg4 NOx 45.43 0 0 0
scg2	3/21/2017 15:09:15		3.89	16.22	39.2	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:09:30		3.98	16.15	34.7	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:09:45		4.03	16.06	29.3	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:10:00		3.98	16.04	26.8	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:10:15		4.02	16.02	26.7	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:10:30		3.46	15.39	25.5	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:10:45		5.26	10.08	17.4	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:11:00		9.17	7.75	7.0	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:11:15		10.22	8.39	1.2	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0
scg2	3/21/2017 15:11:30		10.37	8.66	-0.2	EB0070863/cg2 O2 10.11 CO2 9.437 0 0 0



name	FE O2	FE CO2	FE CO					
sn	1151210012	1151210012	1336459888					
offset	0	0	0					
fullscale	100	20	500					
train	1	1	1					
gastype	o2 3a	co2 3a	co 10					
run7	3/21/2017 15:36:15	3.72	16.45	42.2				
run7	3/21/2017 15:36:30	3.66	16.47	45.8				
run7	3/21/2017 15:36:45	3.65	16.49	48.4				
run7	3/21/2017 15:37:00	3.70	16.45	47.0				
run7	3/21/2017 15:37:15	3.75	16.39	46.3				
run7	3/21/2017 15:37:30	3.83	16.35	44.0				
run7	3/21/2017 15:37:45	3.85	16.30	39.7				
run7	3/21/2017 15:38:00	3.87	16.28	34.3				
run7	3/21/2017 15:38:15	3.96	16.22	31.0				
run7	3/21/2017 15:38:30	3.95	16.17	31.8				
run7	3/21/2017 15:38:45	3.89	16.21	34.8				
run7	3/21/2017 15:39:00	3.86	16.27	34.7				
run7	3/21/2017 15:39:15	3.88	16.25	31.3				
run7	3/21/2017 15:39:30	3.95	16.19	28.2				
run7	3/21/2017 15:39:45	3.98	16.13	25.2				
run7	3/21/2017 15:40:00	3.96	16.12	24.0				
run7	3/21/2017 15:40:15	3.91	16.17	28.0				
run7	3/21/2017 15:40:30	3.86	16.23	32.9				
run7	3/21/2017 15:40:45	3.87	16.27	35.0				
run7	3/21/2017 15:41:00	3.93	16.27	35.1				
run7	3/21/2017 15:41:15	3.99	16.17	32.3				
run7	3/21/2017 15:41:30	3.96	16.12	29.9				
run7	3/21/2017 15:41:45	3.88	16.17	29.7				
run7	3/21/2017 15:42:00	3.86	16.23	28.9				
run7	3/21/2017 15:42:15	3.87	16.26	27.4				
run7	3/21/2017 15:42:30	3.85	16.27	31.2				
run7	3/21/2017 15:42:45	3.82	16.31	38.5				
run7	3/21/2017 15:43:00	3.71	16.38	44.2				
run7	3/21/2017 15:43:15	3.71	16.45	46.2				
run7	3/21/2017 15:43:30	3.82	16.43	42.2				
run7	3/21/2017 15:43:45	3.90	16.28	37.3				
run7	3/21/2017 15:44:00	3.90	16.20	34.1				
run7	3/21/2017 15:44:15	3.88	16.22	31.6				
run7	3/21/2017 15:44:30	3.89	16.24	29.4				
run7	3/21/2017 15:44:45	4.01	16.19	27.3				
run7	3/21/2017 15:45:00	4.11	16.06	26.6				
run7	3/21/2017 15:45:15	4.04	16.02	29.1				
run7	3/21/2017 15:45:30	3.94	16.11	34.5				
run7	3/21/2017 15:45:45	3.91	16.22	38.6				
run7	3/21/2017 15:46:00	3.90	16.23	38.9				
run7	3/21/2017 15:46:15	3.91	16.20	36.8				
run7	3/21/2017 15:46:30	3.91	16.18	32.9				
run7	3/21/2017 15:46:45	3.86	16.21	30.3				
run7	3/21/2017 15:47:00	3.86	16.28	31.1				
run7	3/21/2017 15:47:15	3.91	16.25	30.9				
run7	3/21/2017 15:47:30	3.91	16.23	31.6				
run7	3/21/2017 15:47:45	3.87	16.26	34.4				
run7	3/21/2017 15:48:00	3.85	16.29	34.8				
run7	3/21/2017 15:48:15	3.82	16.32	33.9				
run7	3/21/2017 15:48:30	3.82	16.31	32.2				
run7	3/21/2017 15:48:45	3.81	16.29	29.4				
averun7	3/21/2017 15:28:00	3.82	16.30	38.5	21			
scg6	3/21/2017 15:49:15	3.74	16.39	25.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:49:30	3.76	16.41	28.0	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:49:45	3.82	16.37	30.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:50:00	3.83	16.33	28.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:50:15	3.74	16.20	25.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:50:30	2.70	13.89	20.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:50:45	3.11	10.78	18.7	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:51:00	3.55	13.68	31.1	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:51:15	3.64	16.04	49.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:51:30	3.74	16.36	54.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:51:45	3.80	16.37	44.5	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:52:00	3.79	16.34	34.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:52:15	3.78	16.38	32.8	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:52:30	3.78	16.39	33.8	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:52:45	3.78	16.36	34.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:53:00	3.83	16.31	31.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:53:15	3.89	16.26	26.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:53:30	3.93	16.22	23.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:53:45	3.86	16.21	26.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:54:00	3.69	16.33	33.4	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:54:15	3.66	16.49	36.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:54:30	3.62	16.55	32.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:54:45	3.65	16.53	28.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:55:00	3.66	16.49	28.5	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:55:15	3.68	16.44	29.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:55:30	3.63	16.45	31.5	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:55:45	3.57	16.53	32.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:56:00	3.59	16.57	30.5	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:56:15	3.63	16.54	27.4	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:56:30	3.63	16.52	26.1	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:56:45	3.73	16.50	28.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:57:00	3.82	16.40	31.4	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:57:15	3.88	16.26	28.0	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:57:30	3.92	16.20	22.2	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:57:45	3.90	16.20	19.8	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:58:00	3.93	16.19	19.1	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:58:15	3.93	16.19	19.7	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:58:30	3.90	16.21	21.6	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:58:45	3.89	16.24	21.9	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:59:00	3.92	16.24	20.1	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:59:15	3.99	16.17	20.7	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:59:30	4.05	16.08	23.3	CC349198/cg6	SO2	20.67	0 0 0
scg6	3/21/2017 15:59:45	3.98	16.06	26.5	CC349198/cg6	SO2	20.67	0 0 0
scg4	3/21/2017 16:00:00	3.89	16.15	32.8	CC349198/cg6	SO2	20.67	0 0 0
scg4	3/21/2017 16:00:30	3.87	16.26	41.7	EB0061550/cg4	NOx	45.43	0 0 0
scg4	3/21/2017 16:00:45	3.84	16.29	44.3	EB0061550/cg4	NOx	45.43	0 0 0

name		FE O2	FE CO2	FE CO							
sn		1151210012	1151210012	1336459888							
offset		0	0	0							
fullscale		100	20	500							
train		1	1	1							
gastype		o2 3a	co2 3a	co 10							
scg4	3/21/2017 16:01:00	3.84	16.32	44.1	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:01:15	3.83	16.31	44.2	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:01:30	3.80	16.33	45.4	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:01:45	3.75	16.34	45.2	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:02:00	3.72	16.38	46.1	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:02:15	3.68	16.44	48.0	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:02:30	3.73	16.45	46.9	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:02:45	3.78	16.40	44.2	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:03:00	3.67	16.41	49.3	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:03:15	3.59	16.53	64.8	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:03:30	3.62	16.58	70.7	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:03:45	3.60	16.52	62.8	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:04:00	3.56	16.53	57.4	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:04:15	3.55	16.59	57.4	EB0061550/cg4	NOx	45.43	0	0	0	
scg4	3/21/2017 16:04:30	3.50	16.61	57.6	EB0061550/cg4	NOx	45.43	0	0	0	
scg2	3/21/2017 16:04:45	3.50	16.66	57.3	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:05:00	3.51	16.67	54.7	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:05:15	3.60	16.63	52.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:05:30	3.58	16.61	50.5	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:05:45	3.47	16.42	47.4	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:06:00	3.44	13.62	36.5	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:06:15	7.91	8.28	18.0	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:06:30	9.96	8.09	5.6	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:06:45	10.36	8.63	0.3	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:07:00	10.40	8.74	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:07:15	10.44	8.76	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:07:30	10.45	8.77	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:07:45	10.44	8.77	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg2	3/21/2017 16:08:00	10.45	8.76	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
o2span1	3/21/2017 16:08:00	10.45	8.76	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
co2span1	3/21/2017 16:08:00	10.45	8.76	-0.2	EB0070863/cg2	O2	10.11	CO2	9.437	0	
scg9	3/21/2017 16:08:30	10.45	8.75	-0.3	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:08:45	10.45	8.75	-0.4	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:09:00	10.45	8.75	-0.2	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:09:15	10.46	8.76	-0.2	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:09:30	10.41	8.77	-0.1	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:09:45	7.38	8.01	7.6	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:10:00	2.17	4.56	42.7	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:10:15	0.58	1.13	77.8	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:10:30	0.37	0.35	94.3	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:10:45	0.34	0.17	97.8	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:11:00	0.33	0.14	98.3	CC423695/cg9	CO	97.52	0	0	0	
scg9	3/21/2017 16:11:15	0.34	0.13	98.5	CC423695/cg9	CO	97.52	0	0	0	
cospan1	3/21/2017 16:11:15	0.34	0.13	98.5	CC423695/cg9	CO	97.52	0	0	0	
scg1	3/21/2017 16:11:30	0.33	0.11	98.7	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:11:45	0.32	0.10	98.6	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:12:00	0.33	0.10	98.5	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:12:15	0.32	0.09	98.6	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:12:30	0.32	0.09	98.6	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:12:45	0.32	0.08	95.7	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:13:00	0.32	0.08	66.5	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:13:15	0.37	0.08	24.2	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:13:30	0.31	0.08	4.6	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:13:45	0.33	0.07	0.5	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:14:00	0.33	0.07	0.1	CC263051/cg1	SO2	0	NOx	0	CO2	0
scg1	3/21/2017 16:14:15	0.31	0.06	0.1	CC263051/cg1	SO2	0	NOx	0	CO2	0
o2zero1	3/21/2017 16:14:15	0.31	0.06	0.1	CC263051/cg1	SO2	0	NOx	0	CO2	0
co2zero1	3/21/2017 16:14:15	0.31	0.06	0.1	CC263051/cg1	SO2	0	NOx	0	CO2	0
cozero1	3/21/2017 16:14:15	0.31	0.06	0.1	CC263051/cg1	SO2	0	NOx	0	CO2	0
run8	3/21/2017 16:16:30	3.85	15.19	27.4							
run8	3/21/2017 16:16:45	4.00	15.92	27.5							
run8	3/21/2017 16:17:00	4.05	15.93	22.9							
run8	3/21/2017 16:17:15	4.04	15.94	21.5							
run8	3/21/2017 16:17:30	3.99	16.00	23.4							
run8	3/21/2017 16:17:45	3.95	16.07	23.9							
run8	3/21/2017 16:18:00	4.00	16.10	22.6							
run8	3/21/2017 16:18:15	3.92	16.12	22.6							
run8	3/21/2017 16:18:30	3.87	16.19	27.0							
run8	3/21/2017 16:18:45	3.86	16.25	32.1							
run8	3/21/2017 16:19:00	3.89	16.21	30.8							
run8	3/21/2017 16:19:15	3.88	16.17	26.0							
run8	3/21/2017 16:19:30	3.92	16.21	23.7							
run8	3/21/2017 16:19:45	3.91	16.21	24.1							
run8	3/21/2017 16:20:00	3.90	16.18	27.4							
run8	3/21/2017 16:20:15	3.77	16.26	37.1							
run8	3/21/2017 16:20:30	3.66	16.40	50.9							
run8	3/21/2017 16:20:45	3.66	16.49	57.3							
run8	3/21/2017 16:21:00	3.78	16.42	52.2							
run8	3/21/2017 16:21:15	3.88	16.26	41.2							
run8	3/21/2017 16:21:30	3.93	16.21	31.2							
run8	3/21/2017 16:21:45	3.90	16.22	22.4							
run8	3/21/2017 16:22:00	4.01	16.18	15.7							
run8	3/21/2017 16:22:15	4.07	16.07	13.5							
run8	3/21/2017 16:22:30	4.05	16.04	17.2							
run8	3/21/2017 16:22:45	4.02	16.10	21.0							
run8	3/21/2017 16:23:00	3.99	16.13	19.5							
run8	3/21/2017 16:23:15	3.95	16.11	16.7							
run8	3/21/2017 16:23:30	3.96	16.13	16.9							
run8	3/21/2017 16:23:45	4.02	16.11	17.3							
run8	3/21/2017 16:24:00	4.04	16.06	17.3							
run8	3/21/2017 16:24:15	3.95	16.10	18.9							
run8	3/21/2017 16:24:30	3.94	16.16	19.9							
run8	3/21/2017 16:24:45	3.99	16.16	19.3							
run8	3/21/2017 16:25:00	3.95	16.15	18.0							
run8	3/21/2017 16:25:15	3.92	16.18	18.4							
run8	3/21/2017 16:25:30	3.87	16.18	19.5							
run8	3/21/2017 16:25:45	3.89	16.22	19.7							
run8	3/21/2017 16:26:00	3.86	16.25	19.4							



name	FE O2	FE CO2	FE CO				
sn	1151210012	1151210012	1336459888				
offset	0	0	0				
fullscale	100	20	500				
train	1	1	1				
gastype	o2 3a	co2 3a	co 10				
run8	3/21/2017 16:26:15	3.84	16.26				20.9
run8	3/21/2017 16:26:30	3.82	16.28				24.1
run8	3/21/2017 16:26:45	3.78	16.33				27.5
run8	3/21/2017 16:27:00	3.77	16.36				28.6
run8	3/21/2017 16:27:15	3.78	16.38				27.8
run8	3/21/2017 16:27:30	3.80	16.35				27.0
run8	3/21/2017 16:27:45	3.78	16.30				26.6
run8	3/21/2017 16:28:00	3.73	16.35				27.4
run8	3/21/2017 16:28:15	3.79	16.37				28.2
run8	3/21/2017 16:28:30	3.93	16.28				25.2
run8	3/21/2017 16:28:45	3.96	16.15				22.3
run8	3/21/2017 16:29:00	3.89	16.17				24.5
run8	3/21/2017 16:29:15	3.86	16.25				29.1
run8	3/21/2017 16:29:30	3.85	16.29				31.7
run8	3/21/2017 16:29:45	3.88	16.24				28.8
run8	3/21/2017 16:30:00	3.88	16.21				24.2
run8	3/21/2017 16:30:15	3.74	16.30				24.2
run8	3/21/2017 16:30:30	3.60	16.44				28.7
run8	3/21/2017 16:30:45	3.58	16.57				30.1
run8	3/21/2017 16:31:00	3.72	16.52				25.8
run8	3/21/2017 16:31:15	3.81	16.40				22.4
run8	3/21/2017 16:31:30	3.79	16.36				25.6
run8	3/21/2017 16:31:45	3.76	16.35				30.3
run8	3/21/2017 16:32:00	3.73	16.35				32.6
run8	3/21/2017 16:32:15	3.73	16.39				35.4
run8	3/21/2017 16:32:30	3.78	16.39				41.0
run8	3/21/2017 16:32:45	3.77	16.37				43.5
run8	3/21/2017 16:33:00	3.79	16.36				42.2
run8	3/21/2017 16:33:15	3.80	16.35				39.2
run8	3/21/2017 16:33:30	3.77	16.36				35.5
run8	3/21/2017 16:33:45	3.81	16.36				31.2
run8	3/21/2017 16:34:00	3.83	16.30				27.9
run8	3/21/2017 16:34:15	3.81	16.29				28.5
run8	3/21/2017 16:34:30	3.76	16.34				34.3
run8	3/21/2017 16:34:45	3.70	16.41				40.0
run8	3/21/2017 16:35:00	3.69	16.46				42.8
run8	3/21/2017 16:35:15	3.69	16.49				42.3
run8	3/21/2017 16:35:30	3.69	16.48				41.0
run8	3/21/2017 16:35:45	3.65	16.47				41.4
run8	3/21/2017 16:36:00	3.68	16.47				41.2
run8	3/21/2017 16:36:15	3.80	16.38				39.4
run8	3/21/2017 16:36:30	3.72	16.36				39.3
run8	3/21/2017 16:36:45	3.63	16.46				42.3
run8	3/21/2017 16:37:00	3.63	16.51				43.7
run8	3/21/2017 16:37:15	3.70	16.51				43.2
run8	3/21/2017 16:37:30	3.76	16.46				43.2
run8	3/21/2017 16:37:45	3.77	16.41				42.8
run8	3/21/2017 16:38:00	3.80	16.37				42.9
run8	3/21/2017 16:38:15	3.89	16.29				42.9
run8	3/21/2017 16:38:30	3.88	16.24				44.3
run8	3/21/2017 16:38:45	3.77	16.30				50.7
run8	3/21/2017 16:39:00	3.73	16.39				56.2
run8	3/21/2017 16:39:15	3.74	16.43				58.9
run8	3/21/2017 16:39:30	3.70	16.45				59.6
run8	3/21/2017 16:39:45	3.64	16.48				64.5
run8	3/21/2017 16:40:00	3.62	16.48				72.7
run8	3/21/2017 16:40:15	3.61	16.50				76.6
run8	3/21/2017 16:40:30	3.65	16.50				75.6
run8	3/21/2017 16:40:45	3.67	16.48				72.2
run8	3/21/2017 16:41:00	3.66	16.47				67.4
run8	3/21/2017 16:41:15	3.69	16.47				63.6
run8	3/21/2017 16:41:30	3.82	16.41				60.0
averun8	3/21/2017 16:20:00	3.81	16.32				34.4
scg6	3/21/2017 16:41:45	3.88	16.32	21	56.4	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:42:00	3.83	16.29		52.7	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:42:15	3.84	16.26		50.1	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:42:30	3.82	16.27		52.6	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:42:45	3.76	16.33		57.0	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:43:00	3.17	15.57		56.9	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:43:15	3.21	12.93		52.1	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:43:30	3.60	14.28		53.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:43:45	3.71	16.03		52.6	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:44:00	3.80	16.30		47.8	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:44:15	3.79	16.29		47.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:44:30	3.69	16.35		50.9	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:44:45	3.62	16.46		51.3	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:45:00	3.59	16.52		51.6	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:45:15	3.63	16.54		55.7	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:45:30	3.74	16.48		55.7	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:45:45	3.81	16.38		48.4	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:46:00	3.85	16.32		40.9	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:46:15	3.91	16.21		35.1	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:46:30	3.93	16.16		31.5	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:46:45	3.94	16.15		30.7	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:47:00	3.95	16.14		31.9	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:47:15	3.91	16.17		32.5	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:47:30	3.91	16.21		31.1	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:47:45	3.97	16.19		28.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:48:00	3.99	16.13		26.8	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:48:15	3.96	16.10		29.7	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:48:30	3.95	16.12		32.7	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:48:45	3.93	16.14		35.5	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:49:00	3.90	16.17		39.3	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:49:15	3.88	16.21		39.2	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:49:30	3.85	16.25		36.5	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:49:45	3.87	16.30		36.6	CC349198/cg6	SO2 20.67 0 0 0
scg6	3/21/2017 16:50:00	3.82	16.32		36.1	CC349198/cg6	SO2 20.67 0 0 0
scg4	3/21/2017 16:50:15	3.85	16.27		33.8	EB0061550/cg4	NOx 45.43 0 0 0



name	FE O2	FE CO2	FE CO					
sn	1151210012	1151210012	1336459888					
offset	0	0	0					
fullscale	100	20	500					
train	1	1	1					
gastype	o2 3a	co2 3a	co 10					
run9	3/21/2017 17:15:45	3.73	16.43					39.1
run9	3/21/2017 17:16:00	3.80	16.38					36.2
run9	3/21/2017 17:16:15	3.83	16.28					32.3
run9	3/21/2017 17:16:30	3.86	16.26					31.2
run9	3/21/2017 17:16:45	3.88	16.23					30.7
run9	3/21/2017 17:17:00	3.90	16.22					27.9
run9	3/21/2017 17:17:15	3.90	16.21					25.5
run9	3/21/2017 17:17:30	3.94	16.21					24.6
run9	3/21/2017 17:17:45	3.96	16.18					24.0
run9	3/21/2017 17:18:00	3.94	16.15					22.8
run9	3/21/2017 17:18:15	3.95	16.14					20.6
run9	3/21/2017 17:18:30	3.93	16.15					20.1
run9	3/21/2017 17:18:45	3.81	16.22					25.0
run9	3/21/2017 17:19:00	3.69	16.35					32.8
run9	3/21/2017 17:19:15	3.63	16.47					36.4
run9	3/21/2017 17:19:30	3.67	16.48					34.1
run9	3/21/2017 17:19:45	3.66	16.47					34.0
run9	3/21/2017 17:20:00	3.73	16.45					35.7
run9	3/21/2017 17:20:15	3.87	16.32					31.7
run9	3/21/2017 17:20:30	3.99	16.18					24.2
run9	3/21/2017 17:20:45	4.00	16.09					19.8
run9	3/21/2017 17:21:00	3.96	16.10					19.4
run9	3/21/2017 17:21:15	3.92	16.16					19.8
run9	3/21/2017 17:21:30	3.97	16.18					19.5
run9	3/21/2017 17:21:45	4.00	16.14					17.3
run9	3/21/2017 17:22:00	4.02	16.07					14.4
run9	3/21/2017 17:22:15	4.00	16.05					12.5
run9	3/21/2017 17:22:30	3.99	16.09					13.8
run9	3/21/2017 17:22:45	4.05	16.08					17.3
run9	3/21/2017 17:23:00	4.00	16.07					20.7
run9	3/21/2017 17:23:15	3.89	16.16					24.0
run9	3/21/2017 17:23:30	3.85	16.25					27.1
run9	3/21/2017 17:23:45	3.87	16.28					28.8
run9	3/21/2017 17:24:00	3.89	16.22					30.7
run9	3/21/2017 17:24:15	3.82	16.21					32.8
run9	3/21/2017 17:24:30	3.75	16.31					34.7
run9	3/21/2017 17:24:45	3.78	16.36					32.8
run9	3/21/2017 17:25:00	3.79	16.35					28.5
run9	3/21/2017 17:25:15	3.81	16.33					25.8
run9	3/21/2017 17:25:30	3.83	16.31					24.2
run9	3/21/2017 17:25:45	3.77	16.33					23.6
run9	3/21/2017 17:26:00	3.75	16.37					26.6
run9	3/21/2017 17:26:15	3.80	16.36					29.7
run9	3/21/2017 17:26:30	3.78	16.35					28.4
run9	3/21/2017 17:26:45	3.90	16.28					23.7
run9	3/21/2017 17:27:00	3.89	16.20					18.7
run9	3/21/2017 17:27:15	3.76	16.20					17.7
run9	3/21/2017 17:27:30	3.03	16.13					20.2
run9	3/21/2017 17:27:45	3.51	16.09					27.3
run9	3/21/2017 17:28:00	4.00	16.18					27.3
run9	3/21/2017 17:28:15	3.86	16.04					21.1
run9	3/21/2017 17:28:30	3.96	16.06					18.9
run9	3/21/2017 17:28:45	3.87	16.18					20.2
run9	3/21/2017 17:29:00	3.80	16.28					22.4
run9	3/21/2017 17:29:15	3.79	16.35					23.5
run9	3/21/2017 17:29:30	3.82	16.35					24.3
run9	3/21/2017 17:29:45	3.78	16.34					25.4
run9	3/21/2017 17:30:00	3.76	16.38					27.8
run9	3/21/2017 17:30:15	3.62	16.33					30.2
run9	3/21/2017 17:30:30	3.70	16.29					36.6
run9	3/21/2017 17:30:45	3.72	16.34					43.6
run9	3/21/2017 17:31:00	3.75	16.39					51.6
run9	3/21/2017 17:31:15	3.77	16.39					56.6
run9	3/21/2017 17:31:30	3.75	16.39					52.3
run9	3/21/2017 17:31:45	3.70	16.43					46.2
run9	3/21/2017 17:32:00	3.72	16.44					43.1
run9	3/21/2017 17:32:15	3.69	16.41					42.7
run9	3/21/2017 17:32:30	3.62	16.44					45.2
run9	3/21/2017 17:32:45	3.63	16.51					48.9
run9	3/21/2017 17:33:00	3.55	16.51					49.3
averun9	3/21/2017 17:09:00	3.85	16.23					28.1
scg9	3/21/2017 17:33:15	3.68	16.51			21		45.6
scg9	3/21/2017 17:33:30	3.68	16.48		CO	97.52	0	0
scg9	3/21/2017 17:33:45	3.65	16.49		CO	97.52	0	0
scg9	3/21/2017 17:34:00	3.62	16.49		CO	97.52	0	0
scg9	3/21/2017 17:34:15	3.43	16.23		CO	97.52	0	0
scg9	3/21/2017 17:34:30	1.89	12.74		CO	97.52	0	0
scg9	3/21/2017 17:34:45	0.62	4.61		CO	97.52	0	0
scg9	3/21/2017 17:35:00	0.33	1.24		CO	97.52	0	0
scg9	3/21/2017 17:35:15	0.34	0.32		CO	97.52	0	0
scg9	3/21/2017 17:35:30	0.29	0.19		CO	97.52	0	0
scg9	3/21/2017 17:35:45	0.29	0.15		CO	97.52	0	0
scg9	3/21/2017 17:36:00	0.29	0.13		CO	97.52	0	0
scg9	3/21/2017 17:36:15	0.28	0.12		CO	97.52	0	0
cospan1	3/21/2017 17:36:15	0.28	0.12		CO	97.52	0	0
scg2	3/21/2017 17:36:30	0.29	0.11		O2	10.11	CO2	9.437
scg2	3/21/2017 17:36:45	0.29	0.10		O2	10.11	CO2	9.437
scg2	3/21/2017 17:37:00	0.28	0.09		O2	10.11	CO2	9.437
scg2	3/21/2017 17:37:15	0.28	0.09		O2	10.11	CO2	9.437
scg2	3/21/2017 17:37:30	0.28	0.09		O2	10.11	CO2	9.437
scg2	3/21/2017 17:37:45	1.53	0.25		O2	10.11	CO2	9.437
scg2	3/21/2017 17:38:00	7.31	2.23		O2	10.11	CO2	9.437
scg2	3/21/2017 17:38:15	9.84	6.74		O2	10.11	CO2	9.437
scg2	3/21/2017 17:38:30	10.31	8.30		O2	10.11	CO2	9.437
scg2	3/21/2017 17:38:45	10.38	8.63		O2	10.11	CO2	9.437
scg2	3/21/2017 17:39:00	10.39	8.70		O2	10.11	CO2	9.437
scg2	3/21/2017 17:39:15	10.39	8.72		O2	10.11	CO2	9.437
scg2	3/21/2017 17:39:30	10.39	8.73		O2	10.11	CO2	9.437



	FE O2	FE CO2	FE CO
name	1151210012	1151210012	1336459888
sn			
offset	0	0	0
fullscale	100	20	500
train	1	1	1
gastype	o2 3a	co2 3a	co 10
o2mid	Parameter Not Found		
o2high	Parameter Not Found		
thcezero	Parameter Not Found		
thclow	Parameter Not Found		
thcmid	Parameter Not Found		
thchigh	Parameter Not Found		
coezero	Parameter Not Found		
colow	Parameter Not Found		
comid	Parameter Not Found		
cohigh	Parameter Not Found		
End			



### C.E.M. SOLUTIONS MOISTURE DATA SHEET

Plant Name	GREC	Date	3/21/2017
Sampling Location	Boiler 1	Project #	11542
Operators	TC/AL	Run #	2
Test Method	4	Impinger Bucket #	14

Pressures					Sampling Equipment			
Barometric Pressure	(P <sub>b</sub> )	30.10	in Hg	Meter #	CEMS3MB			
Stack Static Pressure	(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O	Meterbox Cal. Factor	(Y)	0.956		
ΔV <sub>m</sub>	Leak Checks			DH @ 0.75 SCFM	(ΔH@)	1.98	in H <sub>2</sub> O	
Pre	0.000	ft <sup>3</sup> /min	@	12.0	in Hg	Probe #	P5	
Leak Check Total Volume:			0.000	ft <sup>3</sup>	Thermocouple #	TC5		
Post	0.002	ft <sup>3</sup> /min	@	12.0	in Hg			

Traverse Point #	Sampling Time (Θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	10:28:00	64.922	2.00	-	-	75	66	7.0
1	7.0	10:35:00	70.070	2.00	-	-	79	60	7.0
1	14.0	10:42:00	75.860	2.00	-	-	80	60	7.0
	21.0	10:49:00	81.278						
Last Pt	21.0	10:49:00	81.278				Maximum Vacuum		7.0
Average Values				2.00			78	62	

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
Contents		DI	DI		Sil Gel			
Initial Value	(Vi),(Wi)	795.20	647.10	616.70	901.20			
Final Value	(Vf),(Wf)	872.40	652.70	619.00	906.60			
Net Value	(Vn),(Wn)	77.2	5.6	2.3	5.4			
Results								
Total Volume	(Vt)	0.00	ml	Water Vol Condensed	(Vwc(std))	0.000	scf	
Total Weight	(Wt)	90.50	g	Water Vol Weighed	(Vwsg(std))	4.267	scf	
Std Meter Volume	(Vm(std))	15.438	dscf	Sat. Moisture Content	(Bws(svp))		%	
Calc Moisture Content	(Bws)	21.65	%	Final Moisture Content	(Bws)	21.65	%	





**C.E.M. SOLUTIONS  
MOISTURE DATA SHEET**

<b>Plant Name</b>	GREC	<b>Date</b>	3/21/2017
<b>Sampling Location</b>	Boiler 1	<b>Project #</b>	11542
<b>Operators</b>	TC/AL	<b>Run #</b>	4
<b>Test Method</b>	4	<b>Impinger Bucket #</b>	14

Pressures				Sampling Equipment			
<b>Barometric Pressure</b>	(P <sub>b</sub> )	30.10	in Hg	<b>Meter #</b>	CEMS3MB		
<b>Stack Static Pressure</b>	(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O	<b>Meterbox Cal. Factor</b>	(Y)	0.956	
$\Delta V_m$	<b>Leak Checks</b>			<b>DH @ 0.75 SCFM</b>	( $\Delta H@$ )	1.98	in H <sub>2</sub> O
<b>Pre</b>	0.000	ft <sup>3</sup> /min	@	12.0	in Hg	<b>Probe #</b>	P5
<b>Leak Check Total Volume:</b>				0.000	ft <sup>3</sup>	<b>Thermocouple #</b>	TC5
<b>Post</b>	0.000	ft <sup>3</sup> /min	@	12.0	in Hg		

Traversal Point #	Sampling Time (Θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	12:45:00	99.068	2.00	-	-	77	64	7.0
1	7.0	12:52:00	104.550	2.00	-	-	79	61	7.0
1	14.0	12:59:00	110.130	2.00	-	-	80	63	7.0
	21.0	13:06:00	115.403						
<b>Last Pt</b>	21.0	13:06:00	115.403				<b>Maximum Vacuum</b>		7.0
<b>Average Values</b>				2.00			79	63	

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
<b>Contents</b>		DI	DI		Sil Gel			
<b>Initial Value</b>	(Vi),(Wi)	738.00	699.70	620.30	912.00			
<b>Final Value</b>	(Vf),(Wf)	816.70	704.00	621.40	916.50			
<b>Net Value</b>	(Vn),(Wn)	78.7	4.3	1.1	4.5			
Results								
<b>Total Volume</b>	(Vt)	0.00	ml	<b>Water Vol Condensed</b>	(Vwc(std))	0.000	scf	
<b>Total Weight</b>	(Wt)	88.60	g	<b>Water Vol Weighed</b>	(Vwsg(std))	4.177	scf	
<b>Std Meter Volume</b>	(Vm(std))	15.399	dscf	<b>Sat. Moisture Content</b>	(Bws(svp))		%	
<b>Calc Moisture Content</b>	(Bws)	21.34	%	<b>Final Moisture Content</b>	(Bws)	21.34	%	

# C.E.M. SOLUTIONS MOISTURE DATA SHEET

<b>Plant Name</b>	GREC	<b>Date</b>	3/21/2017
<b>Sampling Location</b>	Boiler 1	<b>Project #</b>	11542
<b>Operators</b>	TC/AL	<b>Run #</b>	5
<b>Test Method</b>	4	<b>Impinger Bucket #</b>	14

Pressures					Sampling Equipment			
<b>Barometric Pressure</b>	(P <sub>b</sub> )	30.10	in Hg		<b>Meter #</b>	CEMS3MB		
<b>Stack Static Pressure</b>	(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O		<b>Meterbox Cal. Factor</b>	(Y)	0.956	
$\Delta V_m$	<b>Leak Checks</b>				<b>DH @ 0.75 SCFM</b>	( $\Delta H@$ )	1.98	in H <sub>2</sub> O
<b>Pre</b>	0.007	ft <sup>3</sup> /min	@	12.0	in Hg	<b>Probe #</b>	P5	
<b>Leak Check Total Volume:</b>				0.000	ft <sup>3</sup>	<b>Thermocouple #</b>	TC5	
<b>Post</b>	0.005	ft <sup>3</sup> /min	@	12.0	in Hg			

Traversal Point #	Sampling Time (☉)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Actual Orifice $\Delta H$ ( $\Delta H$ )	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	13:34:00	115.694	2.00	-	-	79	61	7.0
1	7.0	13:41:00	121.150	2.00	-	-	80	63	7.0
1	14.0	13:48:00	126.680	2.00	-	-	81	65	7.0
	21.0	13:55:00	131.986						
<b>Last Pt</b>	21.0	13:55:00	131.986						
<b>Average Values</b>				2.00			80	63	7.0

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
<b>Contents</b>		DI	DI		Sil Gel			
<b>Initial Value</b>	(Vi),(Wi)	816.70	704.00	621.40	916.50			
<b>Final Value</b>	(Vf),(Wf)	898.30	706.80	622.40	919.90			
<b>Net Value</b>	(Vn),(Wn)	81.6	2.8	1.0	3.4			
Results								
<b>Total Volume</b>	(Vt)	0.00	ml	<b>Water Vol Condensed</b>	(Vwc(std))	0.000	scf	
<b>Total Weight</b>	(Wt)	88.80	g	<b>Water Vol Weighed</b>	(Vwsg(std))	4.187	scf	
<b>Std Meter Volume</b>	(Vm(std))	15.321	dscf	<b>Sat. Moisture Content</b>	(Bws(svp))		%	
<b>Calc Moisture Content</b>	(Bws)	21.46	%	<b>Final Moisture Content</b>	(Bws)	21.46	%	

### C.E.M. SOLUTIONS MOISTURE DATA SHEET

<b>Plant Name</b>	GREC	<b>Date</b>	3/21/2017
<b>Sampling Location</b>	Boiler 1	<b>Project #</b>	11542
<b>Operators</b>	TC/AL	<b>Run #</b>	6
<b>Test Method</b>	4	<b>Impinger Bucket #</b>	14

Pressures					Sampling Equipment			
<b>Barometric Pressure</b>	(P <sub>b</sub> )	30.10	in Hg		<b>Meter #</b>	CEMS3MB		
<b>Stack Static Pressure</b>	(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O		<b>Meterbox Cal. Factor</b>	(Y)	0.956	
$\Delta V_m$	<b>Leak Checks</b>				<b>DH @ 0.75 SCFM</b>	( $\Delta H @$ )	1.98	in H <sub>2</sub> O
<b>Pre</b>	0.000	ft <sup>3</sup> /min	@	12.0	in Hg		<b>Probe #</b>	P5
<b>Leak Check Total Volume:</b>		0.000	ft <sup>3</sup>		<b>Thermocouple #</b>		TC5	
<b>Post</b>	0.000	ft <sup>3</sup> /min	@	12.0	in Hg			

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	14:32:00	132.150	2.00	-	-	80	66	7.0
1	7.0	14:39:00	137.510	2.00	-	-	79	55	7.0
1	14.0	14:46:00	142.820	2.00	-	-	80	58	7.0
	21.0	14:53:00	148.161						
<b>Last Pt</b>	21.0	14:53:00	148.161				<b>Maximum Vacuum</b>		7.0
<b>Average Values</b>				2.00			80	60	

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
<b>Contents</b>		DI	DI		Sil Gel			
<b>Initial Value</b>	(Vi),(Wi)	898.30	706.80	622.40	919.90			
<b>Final Value</b>	(Vf),(Wf)	974.30	713.50	624.30	924.50			
<b>Net Value</b>	(Vn),(Wn)	76.0	6.7	1.9	4.6			
Results								
<b>Total Volume</b>	(Vt)	0.00	ml	<b>Water Vol Condensed</b>		(Vwc(std))	0.000	scf
<b>Total Weight</b>	(Wt)	89.20	g	<b>Water Vol Weighed</b>		(Vwsg(std))	4.206	scf
<b>Std Meter Volume</b>	(Vm(std))	15.066	dscf	<b>Sat. Moisture Content</b>		(Bws(svp))		%
<b>Calc Moisture Content</b>	(Bws)	21.82	%	<b>Final Moisture Content</b>		(Bws)	21.82	%

## C.E.M. SOLUTIONS MOISTURE DATA SHEET

<b>Plant Name</b>	GREC	<b>Date</b>	3/21/2017
<b>Sampling Location</b>	Boiler 1	<b>Project #</b>	11542
<b>Operators</b>	TC/AL	<b>Run #</b>	7
<b>Test Method</b>	4	<b>Impinger Bucket #</b>	14

Pressures				Sampling Equipment			
<b>Barometric Pressure</b>	(P <sub>b</sub> )	30.10	in Hg	<b>Meter #</b>	CEMS3MB		
<b>Stack Static Pressure</b>	(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O	<b>Meterbox Cal. Factor</b>	(Y)	0.956	
<b>ΔV<sub>m</sub></b>	<b>Leak Checks</b>			<b>DH @ 0.75 SCFM</b>	(ΔH@)	1.98	in H <sub>2</sub> O
<b>Pre</b>	0.000	ft <sup>3</sup> /min	@	12.0	in Hg	<b>Probe #</b>	P5
	<b>Leak Check Total Volume:</b>			0.000	ft <sup>3</sup>	<b>Thermocouple #</b>	TC5
<b>Post</b>	0.005	ft <sup>3</sup> /min	@	12.0	in Hg		

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	15:28:00	148.377	2.00	-	-	80	57	7.0
1	7.0	15:35:00	153.880	2.00	-	-	81	59	7.0
1	14.0	15:42:00	159.640	2.00	-	-	83	66	7.0
	21.0	15:49:00	165.156						
<b>Last Pt</b>	21.0	15:49:00	165.156				<b>Maximum Vacuum</b>		7.0
<b>Average Values</b>				2.00			81	61	

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
<b>Contents</b>		DI	DI		Sil Gel			
<b>Initial Value</b>	(Vi),(Wi)	801.10	713.50	624.30	624.50			
<b>Final Value</b>	(Vf),(Wf)	887.40	716.10	624.30	628.50			
<b>Net Value</b>	(Vn),(Wn)	86.3	2.6	0.0	4.0			
Results								
<b>Total Volume</b>	(Vt)	0.00	ml	<b>Water Vol Condensed</b>	(Vwc(std))	0.000		scf
<b>Total Weight</b>	(Wt)	92.90	g	<b>Water Vol Weighed</b>	(Vwsg(std))	4.380		scf
<b>Std Meter Volume</b>	(Vm(std))	15.740	dscf	<b>Sat. Moisture Content</b>	(Bws(svp))			%
<b>Calc Moisture Content</b>	(Bws)	21.77	%	<b>Final Moisture Content</b>	(Bws)	21.77		%

**C.E.M. SOLUTIONS  
MOISTURE DATA SHEET**

<b>Plant Name</b> GREC	<b>Date</b> 3/21/2017
<b>Sampling Location</b> Boiler 1	<b>Project #</b> 11542
<b>Operators</b> TC/AL	<b>Run #</b> 8
<b>Test Method</b> 4	<b>Impinger Bucket #</b> 14

Pressures				Sampling Equipment			
<b>Barometric Pressure</b>	( $P_b$ )	30.10	in Hg	<b>Meter #</b>	CEMS3MB		
<b>Stack Static Pressure</b>	( $P_{static}$ )	-0.39	in H <sub>2</sub> O	<b>Meterbox Cal. Factor</b>	(Y)	0.956	
$\Delta V_m$ <b>Leak Checks</b>				<b>DH @ 0.75 SCFM</b>	( $\Delta H@$ )	1.98	in H <sub>2</sub> O
<b>Pre</b>	0.005	ft <sup>3</sup> /min	@	12.0	in Hg	<b>Probe #</b>	P5
<b>Leak Check Total Volume:</b>				0.000	ft <sup>3</sup>	<b>Thermocouple #</b>	TC5
<b>Post</b>	0.008	ft <sup>3</sup> /min	@	9.0	in Hg		

Traverse Point #	Sampling Time (⊖)	Clock Time	Dry Gas Meter Reading ( $V_m$ )	Actual Orifice $\Delta H$ ( $\Delta H$ )	Stack Temp ( $t_s$ )	Probe Temp ( $t_p$ )	Meter Outlet Temp ( $t_{mo}$ )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	16:20:00	165.628	2.00	-	-	81	67	5.0
1	7.0	16:27:00	171.100	2.00	-	-	82	66	5.0
1	14.0	16:34:00	176.670	2.00	-	-	83	64	5.0
	21.0	16:41:00	182.207						
<b>Last Pt</b>	21.0	16:41:00	182.207						<b>Maximum Vacuum</b>
<b>Average Values</b>									5.0
				2.00			82	66	

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
<b>Contents</b>		DI	DI		Sil Gel			
<b>Initial Value</b>	(Vi),(Wi)	887.40	716.10	624.30	865.50			
<b>Final Value</b>	(Vf),(Wf)	972.00	720.70	625.80	872.80			
<b>Net Value</b>	(Vn),(Wn)	84.6	4.6	1.5	7.3			
Results								
<b>Total Volume</b>	(Vt)	0.00	ml	<b>Water Vol Condensed</b>	(Vwc(std))	0.000	scf	
<b>Total Weight</b>	(Wt)	98.00	g	<b>Water Vol Weighed</b>	(Vwsg(std))	4.621	scf	
<b>Std Meter Volume</b>	(Vm(std))	15.533	dscf	<b>Sat. Moisture Content</b>	(Bws(svp))		%	
<b>Calc Moisture Content</b>	(Bws)	22.93	%	<b>Final Moisture Content</b>	(Bws)	22.93	%	

## C.E.M. SOLUTIONS MOISTURE DATA SHEET

Plant Name	GREC	Date	3/21/2017
Sampling Location	Boiler 1	Project #	11542
Operators	TC/AL	Run #	9
Test Method	4	Impinger Bucket #	14

Pressures						Sampling Equipment				
Barometric Pressure		(P <sub>b</sub> )	30.10	in Hg		Meter #		CEMS3MB		
Stack Static Pressure		(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O		Meterbox Cal. Factor		(Y)	0.956	
ΔV <sub>m</sub> Leak Checks						DH @ 0.75 SCFM		(ΔH@)	1.98	in H <sub>2</sub> O
Pre	0.009	ft <sup>3</sup> /min	@	9.0	in Hg	Probe #		P5		
Leak Check Total Volume:			0.000	ft <sup>3</sup>		Thermocouple #		TC5		
Post	0.009	ft <sup>3</sup> /min	@	8.0	in Hg					

Traverse Point #	Sampling Time (Θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	°F	°F	°F	°F	in Hg
1	0.0	17:09:00	182.414	2.00	-	-	78	61	5.0
1	7.0	17:16:00	187.980	2.00	-	-	80	61	5.0
1	14.0	17:23:00	193.490	2.00	-	-	79	67	5.0
	21.0	17:30:00	198.985						
Last Pt			21.0	17:30:00	198.985	Maximum Vacuum			5.0
Average Values					2.00		79	63	

Impinger Contents								
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
		g	g	g	g	ml	ml	g
Contents		DI	DI		Sil Gel			
Initial Value	(Vi),(Wi)	803.90	720.70	625.80	872.80			
Final Value	(Vf),(Wf)	889.40	721.60	625.50	878.90			
Net Value	(Vn),(Wn)	85.5	0.9	-0.3	6.1			
Results								
Total Volume	(Vt)	0.00	ml	Water Vol Condensed		(Vwc(std))	0.000	scf
Total Weight	(Wt)	92.20	g	Water Vol Weighed		(Vwsg(std))	4.347	scf
Std Meter Volume	(Vm(std))	15.612	dscf	Sat. Moisture Content		(Bws(svp))		%
Calc Moisture Content	(Bws)	21.78	%	Final Moisture Content		(Bws)	21.78	%

## **Volumetric Flow RATAs**

Traverse Point Data  
Method 3A Data  
Method 4 Data

**Low Load Flow**



FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

04/25/2017  
 PAGE 2

ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 1 Run Start Date/Time: 03/21/2017 0842 End Date/Time: 03/21/2017 0852

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 328.1  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.32  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.8 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.0  
 Molecular Weight (Dry): 30.99 Molecular Weight (Wet): 28.26  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.784  
 Run Velocity (ft/sec): 54.18  
 Stack Flow (scfh): 14756961 Reference Method Value (scfh): 14757000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.600	314.0	0.840
002	A	A5400	0.620	326.0	0.840
003	A	A5400	0.580	333.0	0.840
004	A	A5400	0.520	333.0	0.840
005	B	A5400	0.600	328.0	0.840
006	B	A5400	0.650	330.0	0.840
007	B	A5400	0.580	330.0	0.840
008	B	A5400	0.520	331.0	0.840
009	C	A5400	0.650	330.0	0.840
010	C	A5400	0.680	331.0	0.840
011	C	A5400	0.640	331.0	0.840
012	C	A5400	0.580	331.0	0.840
013	D	A5400	0.720	330.0	0.840
014	D	A5400	0.610	319.0	0.840
015	D	A5400	0.630	324.0	0.840
016	D	A5400	0.660	329.0	0.840

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

04/25/2017  
 PAGE 3

ORIS Code:	001	Facility:	GREC		
City/State:	GAINESVILLE, FL	Company:	GREC		
Unit/Stack ID:	1	System ID:	001	Parameter:	FLOW
Test No.:	1	Start Date/Time:	03/21/2017 0842	End Date/Time:	03/22/2017 0913
Test Results:	Pass	Relative Accuracy:	4.61	BAF:	1.000

=====

Operating Level:	L	Reference Method:	2		
Run Number:	2	Run Start Date/Time:	03/21/2017 0854	End Date/Time:	03/21/2017 0901

=====

Number of Traverse Points:	16	Mean Stack Temperature (F):	330.6
Barometric Pressure (in Hg):	30.10	Stack Static Pressure (in H2O):	-0.32
Pressure Measurement Device:	Fluid Manometer		
Percent CO2 (Dry):	17.8	Percent O2 (Dry):	3.5
CO2/O2 Reference Method:	3A	Percent H2O:	21.0
Molecular Weight (Dry):	30.99	Molecular Weight (Wet):	28.26
Mean Sq. Roots of Diff. Pressure (in H2O):	0.754		
Run Velocity (ft/sec):	52.22		
Stack Flow (scfh):	14180484	Reference Method Value (scfh):	14180000

Trav.	Avg.				
Point	Diff. Stack Probe				
ID	Port ID	Probe ID	Pressure (in H2O)	Temp. (F)	Cp Coeff.
ID	ID	ID	(in H2O)	(F)	Coeff.
001	A	A5400	0.550	327.0	0.840
002	A	A5400	0.650	328.0	0.840
003	A	A5400	0.540	330.0	0.840
004	A	A5400	0.550	330.0	0.840
005	B	A5400	0.640	329.0	0.840
006	B	A5400	0.680	330.0	0.840
007	B	A5400	0.620	330.0	0.840
008	B	A5400	0.610	330.0	0.840
009	C	A5400	0.580	331.0	0.840
010	C	A5400	0.550	333.0	0.840
011	C	A5400	0.560	333.0	0.840
012	C	A5400	0.430	328.0	0.840
013	D	A5400	0.540	331.0	0.840
014	D	A5400	0.620	333.0	0.840
015	D	A5400	0.570	333.0	0.840
016	D	A5400	0.440	333.0	0.840

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

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 PAGE 4

ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 3 Run Start Date/Time: 03/21/2017 0913 End Date/Time: 03/21/2017 0923

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.9  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.32  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.8 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.0  
 Molecular Weight (Dry): 30.99 Molecular Weight (Wet): 28.26  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.790  
 Run Velocity (ft/sec): 54.73  
 Stack Flow (scfh): 14854881 Reference Method Value (scfh): 14855000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.670	325.0	0.840
002	A	A5400	0.700	331.0	0.840
003	A	A5400	0.710	331.0	0.840
004	A	A5400	0.660	331.0	0.840
005	B	A5400	0.600	333.0	0.840
006	B	A5400	0.620	333.0	0.840
007	B	A5400	0.590	331.0	0.840
008	B	A5400	0.490	330.0	0.840
009	C	A5400	0.650	328.0	0.840
010	C	A5400	0.670	331.0	0.840
011	C	A5400	0.670	331.0	0.840
012	C	A5400	0.500	331.0	0.840
013	D	A5400	0.650	330.0	0.840
014	D	A5400	0.700	332.0	0.840
015	D	A5400	0.630	333.0	0.840
016	D	A5400	0.510	333.0	0.840

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 4 (Not Used) Run Start Date/Time: 03/21/2017 1028 End Date/Time: 03/21/2017 1038

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 331.8  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.7 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.7  
 Molecular Weight (Dry): 30.97 Molecular Weight (Wet): 28.16  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.726  
 Run Velocity (ft/sec): 50.42  
 Stack Flow (scfh): 13667307 Reference Method Value (scfh): 13667000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.580	330.0	0.840
002	A	A5400	0.630	331.0	0.840
003	A	A5400	0.520	333.0	0.840
004	A	A5400	0.440	333.0	0.840
005	B	A5400	0.600	333.0	0.840
006	B	A5400	0.640	333.0	0.840
007	B	A5400	0.550	333.0	0.840
008	B	A5400	0.450	333.0	0.840
009	C	A5400	0.530	333.0	0.840
010	C	A5400	0.510	333.0	0.840
011	C	A5400	0.500	331.0	0.840
012	C	A5400	0.390	332.0	0.840
013	D	A5400	0.670	327.0	0.840
014	D	A5400	0.530	331.0	0.840
015	D	A5400	0.510	331.0	0.840
016	D	A5400	0.430	331.0	0.840

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 5 (Not Used) Run Start Date/Time: 03/21/2017 1042 End Date/Time: 03/21/2017 1049

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.2  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.7 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.7  
 Molecular Weight (Dry): 30.97 Molecular Weight (Wet): 28.16  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.712  
 Run Velocity (ft/sec): 49.41  
 Stack Flow (scfh): 13419436 Reference Method Value (scfh): 13419000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.510	325.0	0.840
002	A	A5400	0.520	327.0	0.840
003	A	A5400	0.470	329.0	0.840
004	A	A5400	0.460	330.0	0.840
005	B	A5400	0.490	330.0	0.840
006	B	A5400	0.520	331.0	0.840
007	B	A5400	0.490	327.0	0.840
008	B	A5400	0.370	327.0	0.840
009	C	A5400	0.560	330.0	0.840
010	C	A5400	0.610	332.0	0.840
011	C	A5400	0.570	333.0	0.840
012	C	A5400	0.480	333.0	0.840
013	D	A5400	0.480	332.0	0.840
014	D	A5400	0.570	334.0	0.840
015	D	A5400	0.550	332.0	0.840
016	D	A5400	0.490	331.0	0.840

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 6 Run Start Date/Time: 03/21/2017 1248 End Date/Time: 03/21/2017 1256

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 328.7  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.8 Percent O2 (Dry): 3.4  
 CO2/O2 Reference Method: 3A Percent H2O: 21.3  
 Molecular Weight (Dry): 30.98 Molecular Weight (Wet): 28.22  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.785  
 Run Velocity (ft/sec): 54.35  
 Stack Flow (scfh): 14789765 Reference Method Value (scfh): 14790000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.550	312.0	0.840
002	A	A5400	0.590	325.0	0.840
003	A	A5400	0.650	327.0	0.840
004	A	A5400	0.610	329.0	0.840
005	B	A5400	0.570	329.0	0.840
006	B	A5400	0.600	330.0	0.840
007	B	A5400	0.580	331.0	0.840
008	B	A5400	0.560	331.0	0.840
009	C	A5400	0.660	329.0	0.840
010	C	A5400	0.680	330.0	0.840
011	C	A5400	0.660	331.0	0.840
012	C	A5400	0.610	331.0	0.840
013	D	A5400	0.660	330.0	0.840
014	D	A5400	0.650	331.0	0.840
015	D	A5400	0.620	331.0	0.840
016	D	A5400	0.620	332.0	0.840

FLOW-CALC V1.02  
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 METHOD 1 TRAVERSE POINT DATA

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 7 Run Start Date/Time: 03/21/2017 1257 End Date/Time: 03/21/2017 1305

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 329.8  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.8 Percent O2 (Dry): 3.4  
 CO2/O2 Reference Method: 3A Percent H2O: 21.3  
 Molecular Weight (Dry): 30.98 Molecular Weight (Wet): 28.22  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.772  
 Run Velocity (ft/sec): 53.45  
 Stack Flow (scfh): 14526198 Reference Method Value (scfh): 14526000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.590	316.0	0.840
002	A	A5400	0.630	325.0	0.840
003	A	A5400	0.610	328.0	0.840
004	A	A5400	0.580	329.0	0.840
005	B	A5400	0.610	331.0	0.840
006	B	A5400	0.610	332.0	0.840
007	B	A5400	0.640	332.0	0.840
008	B	A5400	0.610	332.0	0.840
009	C	A5400	0.570	331.0	0.840
010	C	A5400	0.580	331.0	0.840
011	C	A5400	0.540	332.0	0.840
012	C	A5400	0.560	332.0	0.840
013	D	A5400	0.560	331.0	0.840
014	D	A5400	0.620	331.0	0.840
015	D	A5400	0.630	332.0	0.840
016	D	A5400	0.590	331.0	0.840

FLOW-CALC V1.02  
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 METHOD 1 TRAVERSE POINT DATA

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 8 Run Start Date/Time: 03/21/2017 1336 End Date/Time: 03/21/2017 1346

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.5  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.9 Percent O2 (Dry): 3.4  
 CO2/O2 Reference Method: 3A Percent H2O: 21.5  
 Molecular Weight (Dry): 31.00 Molecular Weight (Wet): 28.21  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.786  
 Run Velocity (ft/sec): 54.51  
 Stack Flow (scfh): 14798412 Reference Method Value (scfh): 14798000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.570	332.0	0.840
002	A	A5400	0.610	332.0	0.840
003	A	A5400	0.620	332.0	0.840
004	A	A5400	0.580	331.0	0.840
005	B	A5400	0.560	330.0	0.840
006	B	A5400	0.630	330.0	0.840
007	B	A5400	0.620	331.0	0.840
008	B	A5400	0.550	331.0	0.840
009	C	A5400	0.630	328.0	0.840
010	C	A5400	0.650	329.0	0.840
011	C	A5400	0.630	330.0	0.840
012	C	A5400	0.580	330.0	0.840
013	D	A5400	0.650	330.0	0.840
014	D	A5400	0.690	330.0	0.840
015	D	A5400	0.660	331.0	0.840
016	D	A5400	0.670	331.0	0.840



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 METHOD 1 TRAVERSE POINT DATA

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ORIS Code:	001	Facility:	GREC	
City/State:	GAINESVILLE, FL	Company:	GREC	
Unit/Stack ID:	1	System ID:	001	Parameter: FLOW
Test No.:	1	Start Date/Time:	03/21/2017 0842	End Date/Time: 03/22/2017 0913
Test Results:	Pass	Relative Accuracy:	4.61	BAF: 1.000

=====

Operating Level:	L	Reference Method:	2	
Run Number:	9	Run Start Date/Time:	03/21/2017 1421	End Date/Time: 03/21/2017 1430

=====

Number of Traverse Points:	16	Mean Stack Temperature (F):	327.9
Barometric Pressure (in Hg):	30.10	Stack Static Pressure (in H2O):	-0.39
Pressure Measurement Device:	Fluid Manometer		
Percent CO2 (Dry):	17.7	Percent O2 (Dry):	3.5
CO2/O2 Reference Method:	3A	Percent H2O:	21.8
Molecular Weight (Dry):	30.97	Molecular Weight (Wet):	28.14
Mean Sq. Roots of Diff. Pressure (in H2O):	0.771		
Run Velocity (ft/sec):	53.43		
Stack Flow (scfh):	14555084	Reference Method Value (scfh):	14555000

Trav.	Avg.				
Point	Diff. Stack Probe				
ID	Port ID	Probe ID	Pressure (in H2O)	Temp. (F)	Cp Coeff.
ID	ID	ID	(in H2O)	(F)	Coeff.
001	A	A5400	0.600	318.0	0.840
002	A	A5400	0.620	323.0	0.840
003	A	A5400	0.630	326.0	0.840
004	A	A5400	0.590	327.0	0.840
005	B	A5400	0.580	331.0	0.840
006	B	A5400	0.610	331.0	0.840
007	B	A5400	0.570	331.0	0.840
008	B	A5400	0.550	331.0	0.840
009	C	A5400	0.580	325.0	0.840
010	C	A5400	0.630	328.0	0.840
011	C	A5400	0.570	329.0	0.840
012	C	A5400	0.590	330.0	0.840
013	D	A5400	0.590	327.0	0.840
014	D	A5400	0.660	328.0	0.840
015	D	A5400	0.590	330.0	0.840
016	D	A5400	0.560	331.0	0.840

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 10 Run Start Date/Time: 03/21/2017 1441 End Date/Time: 03/21/2017 1449

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 327.3  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.7 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.8  
 Molecular Weight (Dry): 30.97 Molecular Weight (Wet): 28.14  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.785  
 Run Velocity (ft/sec): 54.40  
 Stack Flow (scfh): 14830405 Reference Method Value (scfh): 14830000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.600	315.0	0.840
002	A	A5400	0.670	319.0	0.840
003	A	A5400	0.640	321.0	0.840
004	A	A5400	0.630	329.0	0.840
005	B	A5400	0.610	330.0	0.840
006	B	A5400	0.670	330.0	0.840
007	B	A5400	0.680	331.0	0.840
008	B	A5400	0.640	331.0	0.840
009	C	A5400	0.600	327.0	0.840
010	C	A5400	0.640	328.0	0.840
011	C	A5400	0.600	330.0	0.840
012	C	A5400	0.540	330.0	0.840
013	D	A5400	0.590	326.0	0.840
014	D	A5400	0.620	329.0	0.840
015	D	A5400	0.600	330.0	0.840
016	D	A5400	0.550	330.0	0.840

FLOW-CALC V1.02  
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 METHOD 1 TRAVERSE POINT DATA

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: L Reference Method: 2  
 Run Number: 11 Run Start Date/Time: 03/21/2017 1450 End Date/Time: 03/21/2017 1457

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 328.1  
 Barometric Pressure (in Hg): 30.10 Stack Static Pressure (in H2O): -0.39  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.7 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.8  
 Molecular Weight (Dry): 30.97 Molecular Weight (Wet): 28.14  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.774  
 Run Velocity (ft/sec): 53.63  
 Stack Flow (scfh): 14605229 Reference Method Value (scfh): 14605000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.610	318.0	0.840
002	A	A5400	0.640	322.0	0.840
003	A	A5400	0.600	325.0	0.840
004	A	A5400	0.560	327.0	0.840
005	B	A5400	0.550	327.0	0.840
006	B	A5400	0.620	329.0	0.840
007	B	A5400	0.580	329.0	0.840
008	B	A5400	0.560	330.0	0.840
009	C	A5400	0.630	329.0	0.840
010	C	A5400	0.640	330.0	0.840
011	C	A5400	0.600	330.0	0.840
012	C	A5400	0.540	330.0	0.840
013	D	A5400	0.620	330.0	0.840
014	D	A5400	0.650	331.0	0.840
015	D	A5400	0.590	331.0	0.840
016	D	A5400	0.600	331.0	0.840





**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Oree  
 Facility: Gainesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC, AL  
  
 Date: 3/2/17  
 Operating Level: low  
 Run Number: 3  
  
 Run Start Time: 913  
 Run Stop Time: 923

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39  
  
 % CO<sub>2</sub>: 17.8  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.02  
  
 Initial Pitot Leak Check: .00 @ 4.6  
 Final Pitot Leak Check: .00 @ 5.5

**Velocity and Volumetric Stack Flow Field Data**

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	325	.67
	2	331	.70
	3	331	.71
	4	331	.66
S	1	333	.60
	2	333	.62
	3	331	.59
	4	330	.49
W	1	328	.65
	2	331	.67
	3	331	.67
	4	331	.50
N	1	330	.65
	2	332	.70
	3	333	.63
	4	333	.51

**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Greel 11542  
 Facility: Covington  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJL, AL  
 Date: 3/21/17  
 Operating Level: LOW  
 Run Number: 4  
 Run Start Time: 1028  
 Run Stop Time: 1038

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H<sub>2</sub>O): -.39  
 % CO<sub>2</sub>: 17.7  
 % O<sub>2</sub>: 3.5  
 % Moisture: 2.65

Initial Pitot Leak Check: 0.00 @ 4.7  
 Final Pitot Leak Check: 0.00 @ 5.6

**Velocity and Volumetric Stack Flow Field Data**

	Traverse Point	Stack Temp.	Velocity Differential Pressure
N	1	330	.58
	2	331	.63
	3	333	.52
	4	333	.44
W	1	333	.60
	2	333	.64
	3	333	.55
	4	333	.45
S	1	333	.53
	2	333	.51
	3	331	.50
	4	332	.39
E	1	327	.46
	2	331	.53
	3	331	.51
	4	331	.43



C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree 11542  
 Facility: Cumersville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJL, AL  
 Date: 3/21/17  
 Operating Level: LOW  
 Run Number: 5  
 Run Start Time: 1042  
 Run Stop Time: 1049

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -39  
 % CO<sub>2</sub>: 17.7  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.65  
 Initial Pitot Leak Check: .00 @ 5.6  
 Final Pitot Leak Check: .00 @ 5.1

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	325	.51
	2	327	.52
	3	329	.47
	4	330	.46
S	1	338	.49
	2	331	.52
	3	327	.49
	4	327	.37
W	1	330	.56
	2	332	.61
	3	333	.57
	4	333	.48
N	1	332	.48
	2	334	.57
	3	332	.55
	4	331	.49

*Thomas [Signature]*



**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Greco 11542  
 Facility: Guinesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC, AL  
 Date: 3/21/17  
 Operating Level: LOW  
 Run Number: 6  
 Run Start Time: 1248  
 Run Stop Time: 1256

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16

Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39

% CO<sub>2</sub>: 17.8  
 % O<sub>2</sub>: 3.4  
 % Moisture: 21.54

Initial Pitot Leak Check: .00 (w) 5.1  
 Final Pitot Leak Check: .00 (w) 4.4

**Velocity and Volumetric Stack Flow Field Data**

Traverse Point	Stack Temp.	Velocity Differential Pressure
1	312	.55
2	325	.59
3	327	.65
4	329	.61
1	329	.57
2	330	.60
3	331	.58
4	331	.56
1	329	.66
2	330	.68
3	331	.66
4	331	.61
1	330	.66
2	331	.65
3	331	.62
4	332	.62



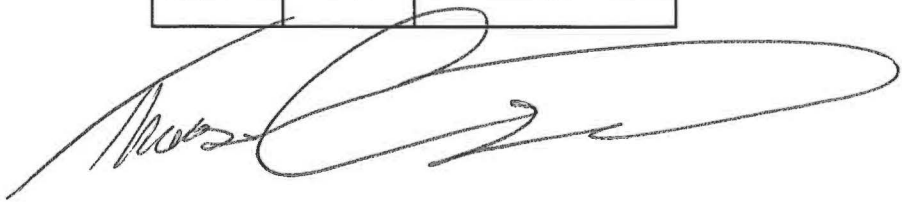
C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree 11542  
 Facility: Guinnessville  
 Unit No.: 1  
 Sample Location: Stack  
 Operator(s): TSC, AL  
 Date: 3/21/17  
 Operating Level: Low  
 Run Number: 7  
 Run Start Time: 1257  
 Run Stop Time: 1305

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39  
 % CO<sub>2</sub>: 17.8  
 % O<sub>2</sub>: 3.4  
 % Moisture: 21.34  
 Initial Pitot Leak Check: .00 @ 4.4  
 Final Pitot Leak Check: .00 @ 6.1

Velocity and Volumetric Stack Flow Field Data

Traverse Point	Stack Temp.	Velocity Differential Pressure
1	316	.59
2	325	.63
3	328	.61
4	329	.58
1	331	.61
2	331	.61
3	332	.64
4	332	.61
1	331	.57
2	331	.58
3	332	.54
4	332	.56
1	331	.56
2	331	.62
3	332	.63
4	331	.59



**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Greer  
 Facility: Gainesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TSCAL  
 Date: 3/21/17  
 Operating Level: low  
 Run Number: 8  
 Run Start Time: 1336  
 Run Stop Time: 1346

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39  
 % CO<sub>2</sub>: 17.9  
 % O<sub>2</sub>: 3.4  
 % Moisture: 21.46  
 Initial Pitot Leak Check: .00 @ 4.8  
 Final Pitot Leak Check: .07 @ 4.6

**Velocity and Volumetric Stack Flow Field Data**

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	332	.57
	2	332	.61
	3	332	.62
	4	331	.58
S	1	330	.56
	2	330	.63
	3	331	.62
	4	331	.55
W	1	328	.63
	2	329	.65
	3	330	.63
	4	330	.58
N	1	336	.65
	2	330	.69
	3	331	.66
	4	331	.67

**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Gree  
 Facility: Gainesville  
 Unit No.: 1  
 Sample Location: Stack  
 Operator(s): TJC, AL  
  
 Date: 3/21/17  
 Operating Level: Low  
 Run Number: 9  
  
 Run Start Time: 1421  
 Run Stop Time: 1430

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39  
  
 % CO<sub>2</sub>: 17.7  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.82  
  
 Initial Pitot Leak Check: .00 @ 5.4  
 Final Pitot Leak Check: .00 @ 5.0

**Velocity and Volumetric Stack Flow Field Data**

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	318	.60
	2	323	.67
	3	326	.63
	4	327	.59
S	1	331	.58
	2	331	.61
	3	331	.57
	4	331	.55
W	1	325	.58
	2	328	.63
	3	329	.57
	4	330	.59
N	1	327	.59
	2	328	.66
	3	330	.59
	4	331	.56

*(Handwritten Signature)*



C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Grec  
 Facility: Geinsville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC, AL  
 Date: 3/21/17  
 Operating Level: Low  
 Run Number: 10  
 Run Start Time: 1441  
 Run Stop Time: 1449

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39  
 % CO<sub>2</sub>: 17.7  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.82  
 Initial Pitot Leak Check: .00 (0) 5.2  
 Final Pitot Leak Check: .00 (0) 5.0

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
N	1	315	.60
	2	314	.67
	3	321	.64
	4	329	.63
W	1	330	.61
	2	330	.67
	3	331	.68
	4	331	.64
S	1	327	.60
	2	328	.64
	3	330	.60
	4	330	.54
E	1	326	.59
	2	329	.62
	3	330	.60
	4	330	.56

C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree  
 Facility: Greenville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC, AL  
 Date: 3/21/17  
 Operating Level: low  
 Run Number: 11  
 Run Start Time: 1450  
 Run Stop Time: 1457

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 30.10  
 Static Press. (in H2O): -.39  
 % CO<sub>2</sub>: 17.7  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.82  
 Initial Pitot Leak Check: .00 (2) 5.0  
 Final Pitot Leak Check: .00 (0) 4.4

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	319	.61
	2	322	.64
	3	325	.60
	4	327	.56
S	1	327	.55
	2	329	.62
	3	329	.53
	4	330	.56
W	1	329	.63
	2	330	.64
	3	330	.60
	4	330	.54
N	1	330	.62
	2	331	.65
	3	331	.59
	4	331	.60

# C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name	Grec	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	TJC, AL	Run #	1
Test Method	4	Sampling Type	Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(Δp <sub>avg</sub> )	/	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	
Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.10	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-3.39	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	(Y) / N	Post (Y) / N
Orsat Leak	Pre	Y / N	Post Y / N
Nozzle in direction of flow? <input checked="" type="checkbox"/>			

Sampling Equipment			
Meter #	Lems 3MB		
Meterbox Cal. Factor	(Y)	1.956	
Filter / Nozzle #	1		
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>ni</sub> )	/	in
Probe #	/		
Liner Material	/		
Pitot #	/		
Thermocouple #	/		

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	.00	ft <sup>3</sup> /min	@	12	in Hg
Post	.00	ft <sup>3</sup> /min	@	12	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
0		835	29.126	/	2.0	2.0	/	/	52	/	46	5
6		841	33.17	/	/	2.0	/	/	55	/	47	7
12		847	37.62	/	/	2.0	/	/	58	/	54	7
18		853	42.06	/	/	2.0	/	/	58	/	56	7
24		859	46.81	/	/	2.0	/	/	58	/	56	7
30		905	51.00	/	/	2.0	/	/	60	/	58	7
36		912	55.57	/	/	2.0	/	/	61	/	62	7
42		917	60.11	/	/	2.0	/	/	63	/	66	7
48		923	64.543	/	/	2.0	/	/	63	/	67	7

Operator Signature

## C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name	Oce	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	TSCIAL	Run #	2
Test Method	4	Sampling Type	Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )		°F
Avg Gas Meter Temp	(t <sub>m</sub> )		°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(ΔP <sub>avg</sub> )		in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )		%
Oxygen	(O <sub>2</sub> )		%
Carbon Dioxide	(CO <sub>2</sub> )		%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	1	

Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.10	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-3.9	in H <sub>2</sub> O

Sampling Equipment Checks			
Pump to Meter Leak	Pre	(Y) / N	Post (Y) / N
Orsat Leak	Pre	Y / N	Post Y / N
Nozzle in direction of flow? <input checked="" type="checkbox"/>			

Sampling Equipment	
Meter #	6ms3MB
Meterbox Cal. Factor	(Y) .956
Filter / Nozzle #	
Actual Nozzle Diameter	(D <sub>na</sub> ) in
Req. Nozzle Diameter	(D <sub>nl</sub> ) in
Probe #	
Liner Material	
Pitot #	
Thermocouple #	

ΔV <sub>m</sub> Vacuum Leak Check				
Pre	.00	ft <sup>3</sup> /min	@	12 in Hg
Post	.002	ft <sup>3</sup> /min	@	12 in Hg
Pitot Leak Checks				
Pre	/	inches	@	/ in H <sub>2</sub> O
Post	/	inches	@	/ in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
0		1028	64.922	/	/	2.0	/	/	75	/	66	7
7		1035	70.07	/	/	2.0	/	/	79	/	60	7
14		1042	75.86	/	/	2.0	/	/	80	/	60	7
21		1049	81.278	/	/	2.0	/	/	81	/	64	7

Operator Signature:



### C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name: <u>Greene</u>	Date: <u>3/21/17</u>
Sampling Location: <u>STACK</u>	Project #: <u>11542</u>
Operators: <u>TJC, AL</u>	Run #: <u>3</u>
Test Method: <u>4</u>	Sampling Type: <input checked="" type="checkbox"/> Isokinetic <input type="checkbox"/> Constant Rate

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient (C <sub>p</sub> )		<u>0.84</u>	
Avg Stack Temp (t <sub>s</sub> )		/	°F
Avg Gas Meter Temp (t <sub>m</sub> )		/	°F
DH @ 0.75 SCFM (ΔH@)		<u>1.982</u>	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure (ΔP <sub>avg</sub> )		/	in H <sub>2</sub> O
Stack Moisture Content (B <sub>ws</sub> )		/	%
Oxygen (O <sub>2</sub> )		/	%
Carbon Dioxide (CO <sub>2</sub> )		/	%
Estimated Orifice Flow Rate (Q <sub>m</sub> )		<u>0.75</u>	acfm
K-Factor (K)		<u>1</u>	
Pressures			
Barometric Pressure (P <sub>b</sub> )		<u>30.10</u>	in Hg
Stack Static Pressure (P <sub>static</sub> )		<u>-.39</u>	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	<u>N</u>	Post <u>N</u>
Orsat Leak	Pre	<u>Y/N</u>	Post <u>Y/N</u>
Nozzle in direction of flow? <input type="checkbox"/>			

Sampling Equipment	
Meter #	<u>Cems 3MB</u>
Meterbox Cal. Factor (Y)	<u>.456</u>
Filter / Nozzle #	/
Actual Nozzle Diameter (D <sub>na</sub> )	/ in
Req. Nozzle Diameter (D <sub>nl</sub> )	/ in
Probe #	/
Liner Material	/
Pitot #	/
Thermocouple #	/

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	<u>.004</u>	ft <sup>3</sup> /min	@	<u>12</u>	in Hg
Post	<u>.00</u>	ft <sup>3</sup> /min	@	<u>12</u>	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
			ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
	min	hh:mm:ss										
	<u>0</u>	<u>1136</u>	<u>82.007</u>	/	/	<u>2.0</u>	/	/	<u>75</u>	/	<u>57</u>	<u>7</u>
	<u>7</u>	<u>1143</u>	<u>87.46</u>	/	/	<u>2.0</u>	/	/	<u>77</u>	/	<u>49</u>	<u>7</u>
	<u>14</u>	<u>1150</u>	<u>92.90</u>	/	/	<u>2.0</u>	/	/	<u>78</u>	/	<u>55</u>	<u>7</u>
	<u>21</u>	<u>1157</u>	<u>98.263</u>	/	/	<u>2.0</u>	/	/	<u>79</u>	/	<u>61</u>	<u>7</u>

Operator Signature: Thomas [Signature]

# C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name	GACC	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	TJC, AL	Run #	4
Test Method	4	Sampling Type	Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(ΔP <sub>avg</sub> )	/	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	
Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.10	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-3.29	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	(Y/N)	Post (Y/N)
<del>Orate Leak</del>	Pre	<del>Y/N</del>	Post <del>Y/N</del>
Nozzle in direction of flow?	<input type="checkbox"/>		

Sampling Equipment			
Meter #	Com 3m8		
Meterbox Cal. Factor	(Y)	.956	
Filter / Nozzle #	/		
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>ni</sub> )	/	in
Probe #	/		
Liner Material	/		
Pitot #	/		
Thermocouple #	/		

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	.00	ft <sup>3</sup> /min	@	12	in Hg
Post	.00	ft <sup>3</sup> /min	@	12	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
	0	1245	99.068	/	/	2.0	/	/	77	/	64	7
	7	104.55	104.55	/	/	2.0	/	/	79	/	61	7
	14	1259	110.13	/	/	2.0	/	/	80	/	63	7
	21	1306	115.403	/	/	/	/	/	80.2	/	63	7.7

Operator Signature

**C.E.M. SOLUTIONS**  
**SAMPLE DATA SHEET**

Plant Name <u>Gree</u>	Date <u>3/21/17</u>
Sampling Location <u>Stack</u>	Project # <u>11542</u>
Operators <u>T, C, AL</u>	Run # <u>5</u>
Test Method <u>4</u>	Sampling Type <input type="checkbox"/> Isokinetic <input checked="" type="checkbox"/> Constant Rate

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(ΔP <sub>avg</sub> )	/	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	

Sampling Equipment			
Meter #	<u>Cems 3MB</u>		
Meterbox Cal. Factor	(Y)	.956	
Filter / Nozzle #	/		
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>nl</sub> )	/	in
Probe #	/		
Liner Material	/		
Pitot #	/		
Thermocouple #	/		


Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.16	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-0.39	in H <sub>2</sub> O

Sampling Equipment Checks				
Pump to Meter Leak	Pre	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Post	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
<del>Orsat Leak</del>	Pre	<del>Y / N</del>	Post	<del>Y / N</del>
Nozzle in direction of flow? <input type="checkbox"/>				

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	.007	ft <sup>3</sup> /min	@	12	in Hg
Post	.005	ft <sup>3</sup> /min	@	12	in Hg

Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
	0	1334	115.694	/	/	2.0	/	/	79	/	61	7
	7	1341	121.15	/	/	2.0	/	/	80	/	63	7
	14	1348	126.68	/	/	2.0	/	/	81	/	65	7
	21	1355	131.986	/	/	/	/	/	/	/	/	/

Operator Signature 

# C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name <b>Gree</b>	Date <b>3/21/17</b>
Sampling Location <b>STACK</b>	Project # <b>11542</b>
Operators <b>TSC, AL</b>	Run # <b>6</b>
Test Method <b>4</b>	Sampling Type Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	1.482	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(Δp <sub>avg</sub> )	/	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	
Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.10	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-3.9	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	Y / N	Post Y / N
Orsat Leak	Pre	Y / N	Post Y / N
Nozzle in direction of flow? <input type="checkbox"/>			

Sampling Equipment			
Meter #	<b>OMB OMB</b>		
Meterbox Cal. Factor	(Y)	1.956	
Filter / Nozzle #	/		
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>ni</sub> )	/	in
Probe #	/		
Liner Material	/		
Pitot #	/		
Thermocouple #	/		

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	.00	ft <sup>3</sup> /min	@	12	in Hg
Post	.00	ft <sup>3</sup> /min	@	12	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
	0	1432	132.50	/	/	2.0	/	/	50	/	66	7
	7	1439	137.51	/	/	2.0	/	/	79	/	55	7
	14	1446	142.62	/	/	2.0	/	/	50	/	58	7
	21	1453	148.16	/	/		/	/		/		

Operator Signature

# C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name: <i>Green</i>	Date: <i>3/21/17</i>
Sampling Location: <i>STACK</i>	Project #: <i>11542</i>
Operators: <i>TLCIAL</i>	Run #: <i>7</i>
Test Method: <i>H</i>	Sampling Type: Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(Δp <sub>avg</sub> )		in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	
Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.10	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-3.29	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	(Y) N	Post (Y) N
Orsat Leak	Pre	Y/N	Post Y/N
Nozzle in direction of flow? <input type="checkbox"/>			

Sampling Equipment			
Meter #	<i>Cems 3MB</i>		
Meterbox Cal. Factor	(Y)	-956	
Filter / Nozzle #			
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>ni</sub> )	/	in
Probe #			
Liner Material			
Pitot #			
Thermocouple #			

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	.00	ft <sup>3</sup> /min	@	12	in Hg
Post	.005	ft <sup>3</sup> /min	@	12	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
	0	1524	148.37	/	/	2.0	/	/	80	/	57	7
	7	1535	153.88	/	/	2.0	/	/	81	/	59	7
	14	1542	159.64	/	/	2.0	/	/	83	/	66	7
	21	1549	165.56	/	/	/	/	/	/	/	/	/

Operator Signature:

**C.E.M. SOLUTIONS  
SAMPLE DATA SHEET**


Plant Name	<i>Gret</i>	Date	<i>3/21/17</i>
Sampling Location	<i>STACK</i>	Project #	<i>11542</i>
Operators	<i>TJAL</i>	Run #	<i>8</i>
Test Method	<i>4</i>	Sampling Type	Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	<i>1.982</i>	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(Δp <sub>avg</sub> )	/	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	
Pressures			
Barometric Pressure	(P <sub>b</sub> )	<i>30.10</i>	in Hg
Stack Static Pressure	(P <sub>static</sub> )	<i>-3.4</i>	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	<input checked="" type="checkbox"/> N	Post <input checked="" type="checkbox"/> N
Orat Leak	Pre	Y / N	Post Y / N
Nozzle in direction of flow?		<input type="checkbox"/>	

Sampling Equipment			
Meter #	<i>Com83MB</i>		
Meterbox Cal. Factor	(Y)	<i>.956</i>	
Filter / Nozzle #	/		
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>ni</sub> )	/	in
Probe #	/		
Liner Material	/		
Pitot #	/		
Thermocouple #	/		

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	<i>.005</i>	ft <sup>3</sup> /min	@	<i>12</i>	in Hg
Post	<i>0.09</i>	ft <sup>3</sup> /min	@	<i>9</i>	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
	0	<i>1620</i>	<i>105.628</i>	/	/	<i>2.0</i>	/	/	<i>81</i>	/	<i>67</i>	<i>5</i>
	7	<i>1627</i>	<i>171.10</i>	/	/	<i>2.0</i>	/	/	<i>82</i>	/	<i>66</i>	<i>5</i>
	14	<i>1634</i>	<i>76.47</i>	/	/	<i>2.0</i>	/	/	<i>83</i>	/	<i>64</i>	<i>5</i>
	21	<i>1641</i>	<i>182.207</i>	/	/	/	/	/	/	/	/	/

Operator Signature 

# C.E.M. SOLUTIONS SAMPLE DATA SHEET

Plant Name <b>BPFC</b>	Date <b>12/21/17</b>
Sampling Location <b>STACK</b>	Project # <b>11542</b>
Operators <b>AL TC</b>	Run # <b>9</b>
Test Method <b>4</b>	Sampling Type <input type="checkbox"/> Isokinetic <input checked="" type="checkbox"/> Constant Rate

Ideal Nozzle Diameter and IsoKinetic Factor Setup			
Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	/	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	/	°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(ΔP <sub>avg</sub> )	/	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	/	%
Oxygen	(O <sub>2</sub> )	/	%
Carbon Dioxide	(CO <sub>2</sub> )	/	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	/	
Pressures			
Barometric Pressure	(P <sub>b</sub> )	30.05	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-3.5	in H <sub>2</sub> O
Sampling Equipment Checks			
Pump to Meter Leak	Pre	Y/N	Post
Orsat Leak	Pre	Y/N	Post
Nozzle in direction of flow? <input checked="" type="checkbox"/>			

Sampling Equipment			
Meter #	CEMS 3MB		
Meterbox Cal. Factor	(Y)	1.956	
Filter / Nozzle #	/		
Actual Nozzle Diameter	(D <sub>na</sub> )	/	in
Req. Nozzle Diameter	(D <sub>nl</sub> )	/	in
Probe #	/		
Liner Material	/		
Pitot #	/		
Thermocouple #	/		

ΔV <sub>m</sub> Vacuum Leak Check					
Pre	.009	ft <sup>3</sup> /min	@	9	in Hg
Post	.007	ft <sup>3</sup> /min	@	8	in Hg
Pitot Leak Checks					
Pre	/	inches	@	/	in H <sub>2</sub> O
Post	/	inches	@	/	in H <sub>2</sub> O

Traverse Point #	Sampling Time (θ)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
A	0	1709	182.414	/	/	2.0	/	/	78	/	61	S
	7	1716	187.96	/	/	2.0	/	/	80	/	61	S
	14	1723	193.49	/	/	2.0	/	/	79	/	67	S
	21	1730	198.985	/	/	/	/	/	/	/	/	/

Operator Signature

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	03/20/17 <sup>A2</sup> 3/21/17
Sampling Location	STOCK	Project #	11542
Operators	AL, TC	Run #	21
Test Method	4	Impinger Bucket #	4

969.9<sup>A</sup>    647.1<sup>A2</sup>

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	MT	SG			
Initial Value	(Vi),(Wi)	789.0	643.9	615.6	890.5			
Final Value	(Vf),(Wf)	969.9	647.1	616.7	901.2			
Net Value	(Vn),(Wn)							

Train Prepared by: 

Train Recovered by: A. LAQUINAS

21.02 @ 13<sub>ws</sub>



**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	AL TC	Run #	2
Test Method	4	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		DIW	H <sub>2</sub> O	MT	SG			
Initial Value	(Vi),(Wi)	795.2	647.1	616.7	901.2			
Final Value	(Vf),(Wf)	872.4	652.7	619.0	906.6			
Net Value	(Vn),(Wn)	77.2	5.6	2.3	5.4			

Train Prepared by: A LAGUNA

Train Recovered by: A LAGUNA

21.65 90 Bws

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GPRC	Date	3/21/17
Sampling Location	STACK	Project #	<del>1115</del> 11542
Operators	AL TC	Run #	3
Test Method	4	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> C	A.7	SG			
Initial Value	(Vi),(Wi)	872.4	652.7	619.0	706.6			
Final Value	(Vf),(Wf)	950.2	656.8	620.3	912.5			
Net Value	(Vn),(Wn)	77.8	4.1	1.3	5.4			

Train Prepared by: A LAGUNAS

Train Recovered by: A LAGUNAS

21.36% SWs

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	3/21/17
Sampling Location	STAZK	Project #	11542
Operators	AJ TC	Run #	4
Test Method	4	Impinger Bucket #	14

		738.0	699.7					
		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	MP	83			
Initial Value	(Vi),(Wi)	<del>606.7</del> <sup>606.7</sup>	<del>656.8</del> <sup>656.8</sup>	620.3	912.0			
Final Value	(Vf),(Wf)	816.7	704.0	621.4	916.5			
Net Value	(Vn),(Wn)	78.7	43	1.1	4.5			

Train Prepared by: AJAGUMP

Train Recovered by: AJAGUMP

21.34 %

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GPEC	Date	3/21/17
Sampling Location	Stack	Project #	11542
Operators	AZTC	Run #	5
Test Method	4	Impinger Bucket #	19

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	MT	SG			
Initial Value	(Vi),(Wi)	816.7	704.0	621.4	916.5			
Final Value	(Vf),(Wf)	898.3	706.8	622.4	919.9			
Net Value	(Vn),(Wn)	81.6	2.8	1.0	3.4			

Train Prepared by: AZAGUMAS

Train Recovered by: AZAGUMAS

21.46% Bws

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	AL TC	Run #	106
Test Method	4	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	M	SC			
Initial Value	(Vi),(Wi)	798.3	706.8	622.4	919.9			
Final Value	(Vf),(Wf)	974.3	713.5	624.3	924.5			
Net Value	(Vn),(Wn)	76.0	6.7	1.9	4.6			

Train Prepared by: A LAGUNA

Train Recovered by: A LAGUNAS

21.829 Bms

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GRFC	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	AZ TC	Run #	7
Test Method	H	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	MT	SG			
Initial Value	(Vi),(Wi)	601.1	713.5	624.3	924.5			
Final Value	(Vf),(Wf)	887.4	716.1	624.3	928.5			
Net Value	(Vn),(Wn)	86.3	2.6	0.0	4.0			

Train Prepared by: A Laguna

21.77% ISRS

Train Recovered by: A Laguna

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	8/21/17
Sampling Location	Stal	Project #	16542
Operators	AL TD	Run #	8
Test Method	4f	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	M7	SG			
Initial Value	(Vi),(Wi)	887.4	716.1	624.3	803.5			
Final Value	(Vf),(Wf)	972.0	720.7	625.8	812.8			
Net Value	(Vn),(Wn)	84.6	4.6	1.5	7.3			

Train Prepared by: AL

Train Recovered by: AL

22.93 % Bms



**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	3/21/17
Sampling Location	STACK	Project #	11542
Operators	AZTC	Run #	9
Test Method	4	Impinger Bucket #	101

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		DI	DI	MT	SG			
Initial Value	(Vi),(Wi)	803.9	720.7	625.8	872.8			
Final Value	(Vf),(Wf)	889.4	721.6	625.5	878.9			
Net Value	(Vn),(Wn)	85.5	0.9	-0.3	6.1			

Train Prepared by: A CABUMAS

Train Recovered by: A CABUMAS

21.78 % ISWS



**Mid Load Flow**

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

04/25/2017  
 PAGE 15

ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: M Reference Method: 2  
 Run Number: 1 Run Start Date/Time: 03/22/2017 0720 End Date/Time: 03/22/2017 0727

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.4  
 Barometric Pressure (in Hg): 29.03 Stack Static Pressure (in H2O): -0.54  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.1 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.9  
 Molecular Weight (Dry): 30.88 Molecular Weight (Wet): 28.06  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.838  
 Run Velocity (ft/sec): 59.31  
 Stack Flow (scfh): 15525416 Reference Method Value (scfh): 15525000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.750	330.0	0.840
002	A	A5400	0.770	331.0	0.840
003	A	A5400	0.720	331.0	0.840
004	A	A5400	0.660	331.0	0.840
005	B	A5400	0.730	328.0	0.840
006	B	A5400	0.750	330.0	0.840
007	B	A5400	0.690	330.0	0.840
008	B	A5400	0.650	330.0	0.840
009	C	A5400	0.650	330.0	0.840
010	C	A5400	0.720	331.0	0.840
011	C	A5400	0.670	331.0	0.840
012	C	A5400	0.640	331.0	0.840
013	D	A5400	0.740	330.0	0.840
014	D	A5400	0.700	331.0	0.840
015	D	A5400	0.730	331.0	0.840
016	D	A5400	0.670	331.0	0.840

FLOW-CALC V1.02  
 RATA REPORT  
 METHOD 1 TRAVERSE POINT DATA

04/25/2017  
 PAGE 16

ORIS Code:	001	Facility:	GREC		
City/State:	GAINESVILLE, FL	Company:	GREC		
Unit/Stack ID:	1	System ID:	001	Parameter:	FLOW
Test No.:	1	Start Date/Time:	03/21/2017 0842	End Date/Time:	03/22/2017 0913
Test Results:	Pass	Relative Accuracy:	4.61	BAF:	1.000

=====

Operating Level:	M	Reference Method:	2		
Run Number:	2	Run Start Date/Time:	03/22/2017 0734	End Date/Time:	03/22/2017 0742

=====

Number of Traverse Points:	16	Mean Stack Temperature (F):	329.6
Barometric Pressure (in Hg):	29.03	Stack Static Pressure (in H2O):	-0.54
Pressure Measurement Device:	Fluid Manometer		
Percent CO2 (Dry):	17.1	Percent O2 (Dry):	3.5
CO2/O2 Reference Method:	3A	Percent H2O:	21.9
Molecular Weight (Dry):	30.88	Molecular Weight (Wet):	28.06
Mean Sq. Roots of Diff. Pressure (in H2O):	0.849		
Run Velocity (ft/sec):	60.10		
Stack Flow (scfh):	15749928	Reference Method Value (scfh):	15750000

Trav.	Avg.				
Point	Diff. Stack Probe				
ID	Port ID	Probe ID	Pressure (in H2O)	Temp. (F)	Cp Coeff.
ID	ID	ID	(in H2O)	(F)	Coeff.
001	A	A5400	0.720	330.0	0.840
002	A	A5400	0.660	331.0	0.840
003	A	A5400	0.700	330.0	0.840
004	A	A5400	0.670	330.0	0.840
005	B	A5400	0.670	331.0	0.840
006	B	A5400	0.700	330.0	0.840
007	B	A5400	0.730	330.0	0.840
008	B	A5400	0.680	330.0	0.840
009	C	A5400	0.780	330.0	0.840
010	C	A5400	0.790	330.0	0.840
011	C	A5400	0.760	330.0	0.840
012	C	A5400	0.630	328.0	0.840
013	D	A5400	0.770	328.0	0.840
014	D	A5400	0.800	326.0	0.840
015	D	A5400	0.790	329.0	0.840
016	D	A5400	0.710	330.0	0.840

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: M Reference Method: 2  
 Run Number: 3 Run Start Date/Time: 03/22/2017 0746 End Date/Time: 03/22/2017 0756

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.9  
 Barometric Pressure (in Hg): 29.03 Stack Static Pressure (in H2O): -0.54  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.1 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.9  
 Molecular Weight (Dry): 30.88 Molecular Weight (Wet): 28.06  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.832  
 Run Velocity (ft/sec): 58.94  
 Stack Flow (scfh): 15419122 Reference Method Value (scfh): 15419000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.700	332.0	0.840
002	A	A5400	0.750	332.0	0.840
003	A	A5400	0.720	331.0	0.840
004	A	A5400	0.690	331.0	0.840
005	B	A5400	0.650	331.0	0.840
006	B	A5400	0.680	331.0	0.840
007	B	A5400	0.700	331.0	0.840
008	B	A5400	0.650	331.0	0.840
009	C	A5400	0.670	328.0	0.840
010	C	A5400	0.700	330.0	0.840
011	C	A5400	0.690	331.0	0.840
012	C	A5400	0.640	331.0	0.840
013	D	A5400	0.720	329.0	0.840
014	D	A5400	0.760	331.0	0.840
015	D	A5400	0.710	332.0	0.840
016	D	A5400	0.660	332.0	0.840

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ORIS Code:	001	Facility:	GREC		
City/State:	GAINESVILLE, FL	Company:	GREC		
Unit/Stack ID:	1	System ID:	001	Parameter:	FLOW
Test No.:	1	Start Date/Time:	03/21/2017 0842	End Date/Time:	03/22/2017 0913
Test Results:	Pass	Relative Accuracy:	4.61	BAF:	1.000

=====

Operating Level:	M	Reference Method:	2		
Run Number:	4	Run Start Date/Time:	03/22/2017 0758	End Date/Time:	03/22/2017 0807

=====

Number of Traverse Points:	16	Mean Stack Temperature (F):	330.4
Barometric Pressure (in Hg):	29.03	Stack Static Pressure (in H2O):	-0.54
Pressure Measurement Device:	Fluid Manometer		
Percent CO2 (Dry):	17.1	Percent O2 (Dry):	3.5
CO2/O2 Reference Method:	3A	Percent H2O:	21.9
Molecular Weight (Dry):	30.88	Molecular Weight (Wet):	28.06
Mean Sq. Roots of Diff. Pressure (in H2O):	0.881		
Run Velocity (ft/sec):	62.38		
Stack Flow (scfh):	16329442	Reference Method Value (scfh):	16329000

Trav.	Avg.				
Point	Diff. Stack Probe				
ID	Port ID	Probe ID	Pressure (in H2O)	Temp. (F)	Cp Coeff.
ID	ID	ID	(in H2O)	(F)	Coeff.
001	A	A5400	0.770	331.0	0.840
002	A	A5400	0.750	332.0	0.840
003	A	A5400	0.810	331.0	0.840
004	A	A5400	0.780	331.0	0.840
005	B	A5400	0.750	330.0	0.840
006	B	A5400	0.790	330.0	0.840
007	B	A5400	0.780	330.0	0.840
008	B	A5400	0.710	330.0	0.840
009	C	A5400	0.730	329.0	0.840
010	C	A5400	0.840	331.0	0.840
011	C	A5400	0.780	331.0	0.840
012	C	A5400	0.760	331.0	0.840
013	D	A5400	0.790	329.0	0.840
014	D	A5400	0.830	330.0	0.840
015	D	A5400	0.810	330.0	0.840
016	D	A5400	0.750	331.0	0.840

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: M Reference Method: 2  
 Run Number: 5 Run Start Date/Time: 03/22/2017 0809 End Date/Time: 03/22/2017 0819

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 329.9  
 Barometric Pressure (in Hg): 29.03 Stack Static Pressure (in H2O): -0.54  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.1 Percent O2 (Dry): 3.5  
 CO2/O2 Reference Method: 3A Percent H2O: 21.9  
 Molecular Weight (Dry): 30.88 Molecular Weight (Wet): 28.06  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.837  
 Run Velocity (ft/sec): 59.21  
 Stack Flow (scfh): 15510987 Reference Method Value (scfh): 15511000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.670	330.0	0.840
002	A	A5400	0.720	330.0	0.840
003	A	A5400	0.750	330.0	0.840
004	A	A5400	0.670	332.0	0.840
005	B	A5400	0.650	327.0	0.840
006	B	A5400	0.710	329.0	0.840
007	B	A5400	0.700	330.0	0.840
008	B	A5400	0.630	330.0	0.840
009	C	A5400	0.720	330.0	0.840
010	C	A5400	0.780	331.0	0.840
011	C	A5400	0.720	332.0	0.840
012	C	A5400	0.670	332.0	0.840
013	D	A5400	0.670	326.0	0.840
014	D	A5400	0.740	329.0	0.840
015	D	A5400	0.710	330.0	0.840
016	D	A5400	0.700	330.0	0.840

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: M Reference Method: 2  
 Run Number: 6 Run Start Date/Time: 03/22/2017 0830 End Date/Time: 03/22/2017 0838

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.2  
 Barometric Pressure (in Hg): 29.03 Stack Static Pressure (in H2O): -0.54  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.3 Percent O2 (Dry): 3.3  
 CO2/O2 Reference Method: 3A Percent H2O: 21.5  
 Molecular Weight (Dry): 30.90 Molecular Weight (Wet): 28.13  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.855  
 Run Velocity (ft/sec): 60.47  
 Stack Flow (scfh): 15834665 Reference Method Value (scfh): 15835000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.720	324.0	0.840
002	A	A5400	0.680	328.0	0.840
003	A	A5400	0.700	331.0	0.840
004	A	A5400	0.770	331.0	0.840
005	B	A5400	0.680	330.0	0.840
006	B	A5400	0.750	330.0	0.840
007	B	A5400	0.740	331.0	0.840
008	B	A5400	0.650	331.0	0.840
009	C	A5400	0.780	330.0	0.840
010	C	A5400	0.830	331.0	0.840
011	C	A5400	0.720	331.0	0.840
012	C	A5400	0.700	331.0	0.840
013	D	A5400	0.760	331.0	0.840
014	D	A5400	0.790	331.0	0.840
015	D	A5400	0.760	331.0	0.840
016	D	A5400	0.690	331.0	0.840

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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: M Reference Method: 2  
 Run Number: 7 Run Start Date/Time: 03/22/2017 0839 End Date/Time: 03/22/2017 0849

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 329.8  
 Barometric Pressure (in Hg): 29.03 Stack Static Pressure (in H2O): -0.54  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.3 Percent O2 (Dry): 3.3  
 CO2/O2 Reference Method: 3A Percent H2O: 21.5  
 Molecular Weight (Dry): 30.90 Molecular Weight (Wet): 28.13  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.836  
 Run Velocity (ft/sec): 59.06  
 Stack Flow (scfh): 15474088 Reference Method Value (scfh): 15474000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Stack Probe		
			Pressure (in H2O)	Temp. (F)	Cp Coeff.
001	A	A5400	0.720	322.0	0.840
002	A	A5400	0.650	330.0	0.840
003	A	A5400	0.740	331.0	0.840
004	A	A5400	0.660	330.0	0.840
005	B	A5400	0.700	330.0	0.840
006	B	A5400	0.680	331.0	0.840
007	B	A5400	0.670	331.0	0.840
008	B	A5400	0.690	331.0	0.840
009	C	A5400	0.750	331.0	0.840
010	C	A5400	0.740	331.0	0.840
011	C	A5400	0.710	331.0	0.840
012	C	A5400	0.660	331.0	0.840
013	D	A5400	0.700	327.0	0.840
014	D	A5400	0.730	328.0	0.840
015	D	A5400	0.680	330.0	0.840
016	D	A5400	0.700	331.0	0.840



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ORIS Code: 001 Facility: GREC  
 City/State: GAINESVILLE, FL Company: GREC  
 Unit/Stack ID: 1 System ID: 001 Parameter: FLOW  
 Test No.: 1 Start Date/Time: 03/21/2017 0842 End Date/Time: 03/22/2017 0913  
 Test Results: Pass Relative Accuracy: 4.61 BAF: 1.000

=====

Operating Level: M Reference Method: 2  
 Run Number: 8 Run Start Date/Time: 03/22/2017 0852 End Date/Time: 03/22/2017 0902

=====

Number of Traverse Points: 16 Mean Stack Temperature (F): 330.1  
 Barometric Pressure (in Hg): 29.03 Stack Static Pressure (in H2O): -0.54  
 Pressure Measurement Device: Fluid Manometer  
 Percent CO2 (Dry): 17.3 Percent O2 (Dry): 3.3  
 CO2/O2 Reference Method: 3A Percent H2O: 21.5  
 Molecular Weight (Dry): 30.90 Molecular Weight (Wet): 28.13  
 Mean Sq. Roots of Diff. Pressure (in H2O): 0.849  
 Run Velocity (ft/sec): 60.04  
 Stack Flow (scfh): 15722178 Reference Method Value (scfh): 15722000

Trav. Point ID	Port ID	Probe ID	Avg. Diff. Pressure (in H2O)	Stack Temp. (F)	Probe Cp Coeff.
001	A	A5400	0.730	330.0	0.840
002	A	A5400	0.760	331.0	0.840
003	A	A5400	0.750	332.0	0.840
004	A	A5400	0.760	332.0	0.840
005	B	A5400	0.680	327.0	0.840
006	B	A5400	0.750	328.0	0.840
007	B	A5400	0.730	330.0	0.840
008	B	A5400	0.720	331.0	0.840
009	C	A5400	0.660	325.0	0.840
010	C	A5400	0.720	330.0	0.840
011	C	A5400	0.690	331.0	0.840
012	C	A5400	0.670	332.0	0.840
013	D	A5400	0.700	329.0	0.840
014	D	A5400	0.670	330.0	0.840
015	D	A5400	0.800	332.0	0.840
016	D	A5400	0.760	332.0	0.840

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ORIS Code:	001	Facility:	GREC		
City/State:	GAINESVILLE, FL	Company:	GREC		
Unit/Stack ID:	1	System ID:	001	Parameter:	FLOW
Test No.:	1	Start Date/Time:	03/21/2017 0842	End Date/Time:	03/22/2017 0913
Test Results:	Pass	Relative Accuracy:	4.61	BAF:	1.000

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Operating Level:	M	Reference Method:	2		
Run Number:	9	Run Start Date/Time:	03/22/2017 0903	End Date/Time:	03/22/2017 0913

=====

Number of Traverse Points:	16	Mean Stack Temperature (F):	330.2
Barometric Pressure (in Hg):	29.03	Stack Static Pressure (in H2O):	-0.54
Pressure Measurement Device:	Fluid Manometer		
Percent CO2 (Dry):	17.3	Percent O2 (Dry):	3.3
CO2/O2 Reference Method:	3A	Percent H2O:	21.5
Molecular Weight (Dry):	30.90	Molecular Weight (Wet):	28.13
Mean Sq. Roots of Diff. Pressure (in H2O):	0.865		
Run Velocity (ft/sec):	61.12		
Stack Flow (scfh):	16004392	Reference Method Value (scfh):	16004000

Trav.	Avg.				
Point	Diff. Stack Probe				
ID	Port ID	Probe ID	Pressure (in H2O)	Temp. (F)	Cp Coeff.
ID	ID	ID	(in H2O)	(F)	Coeff.
001	A	A5400	0.690	329.0	0.840
002	A	A5400	0.670	331.0	0.840
003	A	A5400	0.760	332.0	0.840
004	A	A5400	0.710	332.0	0.840
005	B	A5400	0.670	328.0	0.840
006	B	A5400	0.750	330.0	0.840
007	B	A5400	0.780	331.0	0.840
008	B	A5400	0.740	331.0	0.840
009	C	A5400	0.760	328.0	0.840
010	C	A5400	0.800	329.0	0.840
011	C	A5400	0.770	330.0	0.840
012	C	A5400	0.760	330.0	0.840
013	D	A5400	0.760	330.0	0.840
014	D	A5400	0.820	331.0	0.840
015	D	A5400	0.780	331.0	0.840
016	D	A5400	0.750	330.0	0.840

C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: GREC  
 Facility: GAINESVILLE  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): AL TC  
 Date: 3/22/17  
 Operating Level: MID  
 Run Number: 1  
 Run Start Time: 0720  
 Run Stop Time: 0727

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.03  
 Static Press. (in H2O): -0.54  
 % CO<sub>2</sub>: 17.1  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.9  
 Initial Pitot Leak Check: .04 @ 7.0  
 Final Pitot Leak Check: .04 @ 6.2

Velocity and Volumetric Stack Flow Field Data

Traverse Point	Stack Temp.	Velocity Differential Pressure
F 1	330	.75
2	331	.77
3	331	.72
4	331	.66
S 1	328	.73
2	330	.75
3	330	.69
4	330	.65
W 1	330	.65
2	331	.72
3	331	.67
4	331	.64
N 1	330	.74
2	331	.70
3	331	.73
4	331	.67



C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree  
 Facility: Guinesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC AL  
 Date: 3/22/17  
 Operating Level: m.i.D  
 Run Number: 2  
 Run Start Time: 734  
 Run Stop Time: 742

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.03  
 Static Press. (in H2O): -.54  
 % CO<sub>2</sub>: 17.1  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.9

Initial Pitot Leak Check: .04 @ 6.2  
 Final Pitot Leak Check: .05 @ 5.6

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E <del>N</del>	1	330	.72
	2	331	.66
	3	330	.70
	4	330	.67
S <del>W</del>	1	331	.67
	2	330	.70
	3	330	.73
	4	330	.68
W <del>S</del>	1	330	.78
	2	330	.79
	3	330	.76
	4	328	.63
N <del>E</del>	1	328	.77
	2	326	.86
	3	329	.79
	4	330	.71

C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree  
 Facility: Gainesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): JC AL  
 Date: 3/22/17  
 Operating Level: M10  
 Run Number: 3  
 Run Start Time: 746  
 Run Stop Time: 756

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.03  
 Static Press. (in H2O): -.54  
 % CO<sub>2</sub>: 17.1  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.9  
 Initial Pitot Leak Check: .05 @ 5.6  
 Final Pitot Leak Check: .00 @ 4.7

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	332	.70
	2	332	.75
	3	331	.72
	4	331	.69
S	1	331	.65
	2	331	.68
	3	331	.70
	4	331	.65
W	1	328	.67
	2	330	.70
	3	331	.69
	4	331	.64
N	1	329	.72
	2	331	.76
	3	332	.71
	4	332	.66

*Thomas [Signature]*

C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree  
 Facility: Guineasville  
 Unit No.: 1  
 Sample Location: Stack  
 Operator(s): JC AL  
 Date: 3/22/17  
 Operating Level: MID  
 Run Number: 4  
 Run Start Time: 758  
 Run Stop Time: 807

Pitot ID: AS400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.08  
 Static Press. (in H2O): -.54  
 % CO<sub>2</sub>: 17.1  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.8

Initial Pitot Leak Check: .00 (w) 4.7  
 Final Pitot Leak Check: .00 (w) 5.0

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	331	.77
	2	332	.75
	3	331	.81
	4	331	.78
S	1	330	.75
	2	330	.79
	3	330	.78
	4	330	.71
W	1	329	.73
	2	331	.84
	3	331	.78
	4	331	.76
N	1	329	.79
	2	330	.83
	3	330	.81
	4	331	.75

*Thas [Signature]*



C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Grec  
 Facility: Greensville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC AL  
 Date: 3/22/17  
 Operating Level: MID  
 Run Number: 5  
 Run Start Time: 809  
 Run Stop Time: 819

Pitot ID: A540  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.03  
 Static Press. (in H2O): -54  
 % CO<sub>2</sub>: 17.1  
 % O<sub>2</sub>: 3.5  
 % Moisture: 21.9  
 Initial Pitot Leak Check: .00 @ 5.0  
 Final Pitot Leak Check: 0.0 @ 47

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	330	.67
	2	336	.72
	3	330	.75
	4	332	.67
S	1	327	.65
	2	329	.71
	3	330	.70
	4	330	.63
W	1	330	.72
	2	331	.78
	3	332	.72
	4	332	.67
N	1	326	.67
	2	329	.74
	3	330	.71
	4	330	.70

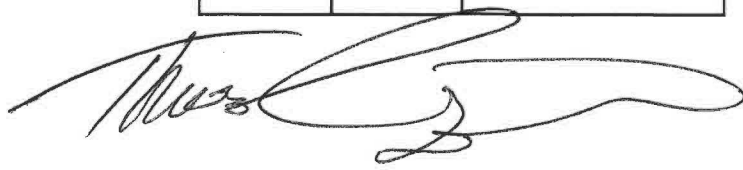
C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet

Company: Gree  
 Facility: Gainesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): DCAL  
 Date: 3/22/17  
 Operating Level: MID  
 Run Number: 6  
 Run Start Time: 830  
 Run Stop Time: 838

Pitot ID: AS400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.03  
 Static Press. (in H2O): -.54  
 % CO<sub>2</sub>: 17.3  
 % O<sub>2</sub>: 3.3  
 % Moisture: 21.54  
 Initial Pitot Leak Check: .002 4.7  
 Final Pitot Leak Check: .002 5.3

Velocity and Volumetric Stack Flow Field Data

	Traverse Point	Stack Temp.	Velocity Differential Pressure
E	1	324	.72
	2	328	.68
	3	331	.70
	4	331	.77
S	1	330	.68
	2	330	.75
	3	331	.74
	4	331	.65
W	1	330	.78
	2	331	.83
	3	331	.72
	4	331	.70
N	1	331	.76
	2	331	.79
	3	331	.76
	4	331	.69







**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Gree  
 Facility: Gainesville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJC AL  
  
 Date: 3/22/17  
 Operating Level: MID  
 Run Number: 8  
  
 Run Start Time: 852  
 Run Stop Time: 902

Pitot ID: A5400  
 Pitot C<sub>p</sub>: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
  
 Bar. Press. (in Hg): 24.03  
 Static Press. (in H<sub>2</sub>O): -.54  
  
 % CO<sub>2</sub>: 17.3  
 % O<sub>2</sub>: 3.3  
 % Moisture: 21.54  
  
 Initial Pitot Leak Check: 0.0 @ 6.0  
 Final Pitot Leak Check: 0.0 @ 5.5

**Velocity and Volumetric Stack Flow Field Data**

Traverse Point	Stack Temp.	Velocity Differential Pressure
1	330	.73
2	331	.76
3	332	.75
4	332	.76
1	327	.68
2	328	.75
3	330	.73
4	331	.72
1	325	.66
2	330	.72
3	331	.69
4	332	.67
1	329	.70
2	330	.67
3	332	.80
4	332	.76

A large, stylized handwritten signature in black ink is located at the bottom of the page, overlapping the bottom edge of the table.

**C.E.M. Solutions, Inc. USEPA Method 2 Field Data Sheet**

Company: Gree  
 Facility: Guineasville  
 Unit No.: 1  
 Sample Location: STACK  
 Operator(s): TJL AL  
 Date: 3/22/17  
 Operating Level: M10  
 Run Number: 9  
 Run Start Time: 903  
 Run Stop Time: 913

Pitot ID: A5400  
 Pitot Cp: .84  
 Stack Area: 112.3  
 Traverse Points: 16  
 Bar. Press. (in Hg): 29.03  
 Static Press. (in H2O): -.54  
 % CO<sub>2</sub>: 17.3  
 % O<sub>2</sub>: 3.3  
 % Moisture: 21.54  
 Initial Pitot Leak Check: .00 @ 5.3  
 Final Pitot Leak Check: .00 @ 5.7

**Velocity and Volumetric Stack Flow Field Data**

Traverse Point	Stack Temp.	Velocity Differential Pressure
1	329	.69
2	331	.67
3	332	.76
4	332	.71
1	328	.67
2	330	.75
3	331	.78
4	331	.74
1	328	.76
2	329	.80
3	330	.77
4	330	.76
1	330	.76
2	331	.82
3	331	.78
4	330	.75



**C.E.M. SOLUTIONS  
SAMPLE DATA SHEET**

Plant Name	GPEC	Date	3/22/17
Sampling Location	STACK	Project #	11542
Operators	AL TC	Run #	1
Test Method	4	Sampling Type	Isokinetic <input type="checkbox"/> Constant Rate <input checked="" type="checkbox"/>

Pitot Tube Coefficient	(C <sub>p</sub> )	0.84	
Avg Stack Temp	(t <sub>s</sub> )	—	°F
Avg Gas Meter Temp	(t <sub>m</sub> )	—	°F
DH @ 0.75 SCFM	(ΔH@)	1.982	in H <sub>2</sub> O
Avg Pitot Tube Diff. Pressure	(Δp <sub>avg</sub> )	—	in H <sub>2</sub> O
Stack Moisture Content	(B <sub>ws</sub> )	—	%
Oxygen	(O <sub>2</sub> )	—	%
Carbon Dioxide	(CO <sub>2</sub> )	—	%
Estimated Orifice Flow Rate	(Q <sub>m</sub> )	0.75	acfm
K-Factor	(K)	—	

Meter #	CEUSMB
Meterbox Cal. Factor	(Y) 0.956
Filter / Nozzle #	—
Actual Nozzle Diameter	(D <sub>na</sub> ) — in
Req. Nozzle Diameter	(D <sub>ni</sub> ) — in
Probe #	—
Liner Material	SS
Pitot #	—
Thermocouple #	—

Barometric Pressure	(P <sub>b</sub> )	29.03	in Hg
Stack Static Pressure	(P <sub>static</sub> )	-0.59	in H <sub>2</sub> O

Pump to Meter Leak	Pre	Y/N	Post	Y/N
Orsat Leak	Pre	Y/N	Post	Y/N
Nozzle in direction of flow?	<input type="checkbox"/>			

Pre	0.04	ft <sup>3</sup> /min	@	12	in Hg
Post	0.00	ft <sup>3</sup> /min	@	12	in Hg

Pre	—	inches	@	—	in H <sub>2</sub> O
Post	—	inches	@	—	in H <sub>2</sub> O

Traverse Point #	Sampling Time (Ø)	Clock Time	Dry Gas Meter Reading (V <sub>m</sub> )	Velocity Head (Δp)	Desired Orifice ΔH (ΔH)	Actual Orifice ΔH (ΔH)	Stack Temp (t <sub>s</sub> )	Probe Temp (t <sub>p</sub> )	Meter Outlet Temp (t <sub>mo</sub> )	Filter Temp	Impinger Exit Temp <68 °F	Pump Vacuum
	min	hh:mm:ss	ft <sup>3</sup>	in H <sub>2</sub> O	in H <sub>2</sub> O	in H <sub>2</sub> O	°F	°F	°F	°F	°F	in Hg
A	0	0720	199.065			2.0			66		53	7
	5	0725	202.96			2.0			66		53	7
	10	0730	206.62			2.0			67		56	7
	15	0735	210.47			2.0			68		60	7
	20	0740	214.34			2.0			68		60	7
	25	0745	218.00			2.0			69		61	7
	30	0750	221.815									

Operator Signature 





**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GREC	Date	03/22/17
Sampling Location	Stork	Project #	11542
Operators	AL, TC	Run #	1
Test Method	4	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	MT	SG			
Initial Value	(Vi),(Wi)	889.4	721.6	65.5	878.9			
Final Value	(Vf),(Wf)	962.9	765.3	66.6	886.6			
Net Value	(Vn),(Wn)	73.5	43.7	1.1	7.7			

Train Prepared by: AZAGUNAS

Train Recovered by: 

21.9% ISws

**C.E.M. SOLUTIONS  
IMPINGER TRAIN DATA SHEET**

Plant Name	GDFC	Date	3/22/17
Sampling Location	STARH	Project #	1542
Operators	RZ TC	Run #	2
Test Method	4	Impinger Bucket #	14

		Impinger 1	Impinger 2	Impinger 3	Impinger 4	Impinger 5	Impinger 6	Impinger 7
Contents		H <sub>2</sub> O	H <sub>2</sub> O	MT	SG			
Initial Value	(Vi),(Wi)	794.0	765.3	626.6	886.6			
Final Value	(Vf),(Wf)	923.7	765.6	626.1	893.3			
Net Value	(Vn),(Wn)	129.7	0.3	-0.5	6.7			

Train Prepared by: 

Train Recovered by: A CAGUNAS

21.54

## **Appendix F: CEMS Run Data**



## **Gaseous and Low Load Flow CEMS Data**

Date/Time	BFB1: CO (PPM)	BFB1: CO_C3 (PPM)	BFB1: NOx_P60 (PPM)	BFB1: NOx_P75 (PPM)	BFB1: NOx_RATE_P60 (LBMMBTU)	BFB1: O2_P60 (PCT)	BFB1: O2_P75 (PCT)	BFB1: SO2_P60 (PPM)	BFB1: SO2_P75 (PPM)
3/21/2017 8:36	18.4	19	44.9	44.9	0.061	3.84	3.84	0	0
3/21/2017 8:37	44	45	42	42	0.055	3.32	3.32	0	0
3/21/2017 8:38	86.6	86	39.4	39.4	0.051	2.97	2.97	0	0
3/21/2017 8:39	66.4	67	39.9	39.9	0.052	3.15	3.15	0	0
3/21/2017 8:40	166.7	169	38.4	38.4	0.05	3.28	3.28	0	0
3/21/2017 8:41	95.7	97	40	40	0.052	3.21	3.21	0	0
3/21/2017 8:42	65.4	66	40.8	40.8	0.053	3.28	3.28	0	0
3/21/2017 8:43	51.3	52	41.7	41.7	0.055	3.31	3.31	0	0
3/21/2017 8:44	47.9	49	43	43	0.057	3.48	3.48	0	0
3/21/2017 8:45	27.4	28	42.5	42.5	0.056	3.36	3.36	0	0
3/21/2017 8:46	30.3	31	44	44	0.058	3.36	3.36	0	0
3/21/2017 8:47	24.6	25	44.7	44.7	0.059	3.46	3.46	0	0
3/21/2017 8:48	20.4	21	45.5	45.5	0.06	3.51	3.51	0	0
3/21/2017 8:49	14.8	15	46.1	46.1	0.062	3.63	3.63	0	0
3/21/2017 8:50	14.1	15	46.7	46.7	0.063	3.7	3.7	0	0
3/21/2017 8:51	10	10	46.4	46.4	0.063	3.84	3.84	0	0
3/21/2017 8:52	14.1	15	45.8	45.8	0.061	3.68	3.68	0	0
3/21/2017 8:53	18.2	19	46	46	0.061	3.62	3.62	0	0
3/21/2017 8:54	13.8	14	46.8	46.8	0.063	3.67	3.67	0	0
3/21/2017 8:55	24.7	25	45.8	45.8	0.061	3.55	3.55	0	0
3/21/2017 8:56	39.5	40	45.2	45.2	0.06	3.41	3.41	0	0
3/21/2017 8:57	29.4	30	43.8	43.8	0.057	3.25	3.25	0	0
3/21/2017 8:58	23.2	24	43.9	43.9	0.058	3.42	3.42	0	0
3/21/2017 8:59	39.9	41	44.3	44.3	0.059	3.44	3.44	0	0
3/21/2017 9:00	24.7	25	44.4	44.4	0.059	3.54	3.54	0	0
3/21/2017 9:01	55.4	57	43.8	43.8	0.058	3.42	3.42	0	0
3/21/2017 9:02	68.7	70	43.4	43.4	0.057	3.42	3.42	0	0
3/21/2017 9:03	32.6	34	43.9	43.9	0.059	3.6	3.6	0	0
3/21/2017 9:04	41	42	43.6	43.6	0.058	3.57	3.57	0	0
3/21/2017 9:05	43.6	45	43.8	43.8	0.058	3.49	3.49	0	0
3/21/2017 9:06	57.5	58	43.1	43.1	0.056	3.3	3.3	0	0
3/21/2017 9:07	65	66	44.3	44.3	0.058	3.37	3.37	0	0
3/21/2017 9:08	42	43	43.8	43.8	0.058	3.35	3.35	0	0
3/21/2017 9:09	29.4	30	44	44	0.058	3.36	3.36	0	0
3/21/2017 9:10	27.1	28	44.6	44.6	0.059	3.5	3.5	0	0
3/21/2017 9:11	24.2	25	45	45	0.06	3.56	3.56	0	0
3/21/2017 9:12	24.2	25	46.1	46.1	0.062	3.78	3.78	0	0
3/21/2017 9:13	33.4	35	45.7	45.7	0.061	3.7	3.7	0	0
3/21/2017 9:14	33.6	35	46.2	46.2	0.062	3.69	3.69	0	0
3/21/2017 9:15	37.1	39	46.2	46.2	0.062	3.73	3.73	0	0
3/21/2017 9:16	45.1	47	45.7	45.7	0.061	3.54	3.54	0	0
3/21/2017 9:17	31.7	33	46.1	46.1	0.062	3.62	3.62	0	0
3/21/2017 9:18	36.7	38	45.9	45.9	0.061	3.56	3.56	0	0
3/21/2017 9:19	35.5	37	45.7	45.7	0.061	3.57	3.57	0	0
3/21/2017 9:20	42.6	44	46.3	46.3	0.061	3.53	3.53	0	0
3/21/2017 9:21	48.4	49	45.4	45.4	0.06	3.38	3.38	0	0
3/21/2017 9:22	43.8	45	45.3	45.3	0.06	3.35	3.35	0	0
3/21/2017 9:23	38.3	40	45.8	45.8	0.061	3.59	3.59	0	0
3/21/2017 9:24	43.4	44	44.1	44.1	0.058	3.35	3.35	0	0
<b>RUN 1</b>	<b>40.6</b>	<b>41.6</b>	<b>44.3</b>	<b>44.3</b>	<b>0.059</b>	<b>3.5</b>	<b>3.5</b>	<b>0.0</b>	<b>0.0</b>
3/21/2017 10:28	19	20	46.2	46.2	0.062	3.66	3.66	0	0
3/21/2017 10:29	19.8	20	46.2	46.2	0.061	3.49	3.49	0	0
3/21/2017 10:30	13.1	14	46.8	46.8	0.063	3.64	3.64	0	0
3/21/2017 10:31	21.4	22	47.1	47.1	0.063	3.67	3.67	0	0

Date/Time	BFB1: CO (PPM)	BFB1: CO_C3 (PPM)	BFB1: NOx_P60 (PPM)	BFB1: NOx_P75 (PPM)	BFB1: NOx_RATE_P60 (LBMMBTU)	BFB1: O2_P60 (PCT)	BFB1: O2_P75 (PCT)	BFB1: SO2_P60 (PPM)	BFB1: SO2_P75 (PPM)
3/21/2017 10:32	33	34	46.4	46.4	0.061	3.48	3.48	0	0
3/21/2017 10:33	22.4	23	46.9	46.9	0.062	3.52	3.52	0	0
3/21/2017 10:34	26.4	27	47.5	47.5	0.063	3.52	3.52	0	0
3/21/2017 10:35	24.3	25	48.6	48.6	0.065	3.64	3.64	0	0
3/21/2017 10:36	17.2	18	47.9	47.9	0.064	3.73	3.73	0	0
3/21/2017 10:37	19.1	20	47.3	47.3	0.063	3.62	3.62	0	0
3/21/2017 10:38	36	37	46.6	46.6	0.061	3.4	3.4	0	0
3/21/2017 10:39	30.4	31	46.7	46.7	0.062	3.41	3.41	0	0
3/21/2017 10:40	26.2	27	47.8	47.8	0.064	3.62	3.62	0	0
3/21/2017 10:41	31.6	33	46.8	46.8	0.062	3.56	3.56	0	0
3/21/2017 10:42	30.3	31	46.8	46.8	0.062	3.52	3.52	0	0
3/21/2017 10:43	39.2	40	47.6	47.6	0.063	3.52	3.52	0	0
3/21/2017 10:44	40.3	41	46.9	46.9	0.062	3.49	3.49	0	0
3/21/2017 10:45	48.7	50	45.8	45.8	0.06	3.42	3.42	0	0
3/21/2017 10:46	61	63	45.9	45.9	0.061	3.43	3.43	0	0
3/21/2017 10:47	50	51	45.9	45.9	0.06	3.32	3.32	0	0
3/21/2017 10:48	45.9	47	45.8	45.8	0.06	3.31	3.31	0	0
3/21/2017 10:49	59.5	61	45.6	45.6	0.06	3.33	3.33	0	0
<b>RUN 2</b>	32.5	33.4	46.8	46.8	0.062	3.5	3.5	0.0	0.0
3/21/2017 11:36	36.7	38	46.3	46.3	0.062	3.66	3.66	0	0
3/21/2017 11:37	46.4	48	45.6	45.6	0.06	3.44	3.44	0	0
3/21/2017 11:38	25.8	27	46.1	46.1	0.061	3.5	3.5	0	0
3/21/2017 11:39	24.3	25	46.1	46.1	0.061	3.56	3.56	0	0
3/21/2017 11:40	40.7	42	46.4	46.4	0.062	3.56	3.56	0	0
3/21/2017 11:41	35	36	45.6	45.6	0.06	3.4	3.4	0	0
3/21/2017 11:42	31	32	46.4	46.4	0.061	3.46	3.46	0	0
3/21/2017 11:43	22.1	23	47.1	47.1	0.062	3.52	3.52	0	0
3/21/2017 11:44	12.5	13	46.9	46.9	0.063	3.61	3.61	0	0
3/21/2017 11:45	16.3	17	47.5	47.5	0.063	3.53	3.53	0	0
3/21/2017 11:46	16.6	17	47.7	47.7	0.064	3.62	3.62	0	0
3/21/2017 11:47	13.5	14	47.8	47.8	0.064	3.66	3.66	0	0
3/21/2017 11:48	18.4	19	47.5	47.5	0.063	3.6	3.6	0	0
3/21/2017 11:49	17.7	18	46.6	46.6	0.062	3.46	3.46	0	0
3/21/2017 11:50	23	24	47.5	47.5	0.063	3.47	3.47	0	0
3/21/2017 11:51	16.9	17	47.6	47.6	0.063	3.58	3.58	0	0
3/21/2017 11:52	12.7	13	48.2	48.2	0.065	3.77	3.77	0	0
3/21/2017 11:53	14.3	15	46.8	46.8	0.062	3.63	3.63	0	0
3/21/2017 11:54	15.9	17	46.8	46.8	0.063	3.71	3.71	0	0
3/21/2017 11:55	40.1	41	45.2	45.2	0.06	3.48	3.48	0	0
3/21/2017 11:56	44.4	45	44.6	44.6	0.059	3.35	3.35	0	0
3/21/2017 11:57	46.3	47	43.4	43.4	0.057	3.27	3.27	0	0
<b>RUN 3</b>	25.9	26.7	46.5	46.5	0.062	3.5	3.5	0.0	0.0
3/21/2017 12:45	26.8	27	43.4	43.4	0.057	3.45	3.45	0	0
3/21/2017 12:46	21.8	22	43.8	43.8	0.058	3.55	3.55	0	0
3/21/2017 12:47	32.2	33	43.9	43.9	0.058	3.46	3.46	0	0
3/21/2017 12:48	35.8	37	43.4	43.4	0.057	3.4	3.4	0	0
3/21/2017 12:49	26.6	28	44.4	44.4	0.059	3.62	3.62	0	0
3/21/2017 12:50	37.4	38	44.2	44.2	0.058	3.44	3.44	0	0
3/21/2017 12:51	31.7	33	44.7	44.7	0.059	3.56	3.56	0	0
3/21/2017 12:52	20.5	21	45.1	45.1	0.06	3.65	3.65	0	0
3/21/2017 12:53	31.1	32	44.8	44.8	0.059	3.5	3.5	0	0
3/21/2017 12:54	50.1	51	44.4	44.4	0.058	3.32	3.32	0	0
3/21/2017 12:55	35	36	44	44	0.058	3.33	3.33	0	0

Date/Time	BFB1: CO (PPM)	BFB1: CO_C3 (PPM)	BFB1: NOx_P60 (PPM)	BFB1: NOx_P75 (PPM)	BFB1: NOx_RATE_P60 (LBMMBTU)	BFB1: O2_P60 (PCT)	BFB1: O2_P75 (PCT)	BFB1: SO2_P60 (PPM)	BFB1: SO2_P75 (PPM)
3/21/2017 12:56	23.8	24	44.7	44.7	0.059	3.5	3.5	0	0
3/21/2017 12:57	43.3	44	44	44	0.058	3.36	3.36	0	0
3/21/2017 12:58	21.8	22	44.3	44.3	0.058	3.39	3.39	0	0
3/21/2017 12:59	28.1	29	44.5	44.5	0.059	3.55	3.55	0	0
3/21/2017 13:00	20.7	21	44.2	44.2	0.058	3.46	3.46	0	0
3/21/2017 13:01	29.1	30	44.6	44.6	0.059	3.39	3.39	0	0
3/21/2017 13:02	26.4	27	45.1	45.1	0.06	3.55	3.55	0	0
3/21/2017 13:03	33.6	35	44.6	44.6	0.059	3.6	3.6	0	0
3/21/2017 13:04	46.2	47	43.6	43.6	0.058	3.43	3.43	0	0
3/21/2017 13:05	74.6	76	42.6	42.6	0.056	3.27	3.27	0	0
3/21/2017 13:06	66.8	68	42.7	42.7	0.056	3.2	3.2	0	0
<b>RUN 4</b>	<b>34.7</b>	<b>35.5</b>	<b>44.1</b>	<b>44.1</b>	<b>0.058</b>	<b>3.5</b>	<b>3.5</b>	<b>0.0</b>	<b>0.0</b>
3/21/2017 13:34	43.2	44	43.6	43.6	0.057	3.39	3.39	0	0
3/21/2017 13:35	44.9	46	42.6	42.6	0.056	3.41	3.41	0	0
3/21/2017 13:36	47.8	49	43	43	0.057	3.46	3.46	0	0
3/21/2017 13:37	48.5	50	42.5	42.5	0.056	3.38	3.38	0	0
3/21/2017 13:38	55.4	56	41.8	41.8	0.055	3.3	3.3	0	0
3/21/2017 13:39	41.1	42	42.6	42.6	0.056	3.34	3.34	0	0
3/21/2017 13:40	46.1	47	42.8	42.8	0.057	3.47	3.47	0	0
3/21/2017 13:41	67.3	69	42.6	42.6	0.056	3.45	3.45	0	0
3/21/2017 13:42	41.7	43	43.4	43.4	0.057	3.44	3.44	0	0
3/21/2017 13:43	71.8	73	42.8	42.8	0.056	3.21	3.21	0	0
3/21/2017 13:44	64	65	42.5	42.5	0.056	3.26	3.26	0	0
3/21/2017 13:45	52.1	53	42.4	42.4	0.055	3.28	3.28	0	0
3/21/2017 13:46	42	43	43	43	0.057	3.39	3.39	0	0
3/21/2017 13:47	39.1	40	43.3	43.3	0.057	3.48	3.48	0	0
3/21/2017 13:48	39	40	44.2	44.2	0.059	3.56	3.56	0	0
3/21/2017 13:49	28.8	30	45.1	45.1	0.06	3.7	3.7	0	0
3/21/2017 13:50	30.3	32	45.7	45.7	0.062	3.8	3.8	0	0
3/21/2017 13:51	31.2	32	45.4	45.4	0.061	3.66	3.66	0	0
3/21/2017 13:52	31.4	32	45.4	45.4	0.06	3.52	3.52	0	0
3/21/2017 13:53	31.8	33	45.6	45.6	0.061	3.66	3.66	0	0
3/21/2017 13:54	36	37	44.5	44.5	0.059	3.48	3.48	0	0
3/21/2017 13:55	43.6	45	43.9	43.9	0.058	3.37	3.37	0	0
<b>RUN 5</b>	<b>44.4</b>	<b>45.5</b>	<b>43.6</b>	<b>43.6</b>	<b>0.058</b>	<b>3.5</b>	<b>3.5</b>	<b>0.0</b>	<b>0.0</b>
3/21/2017 14:32	33.2	34	43.6	43.6	0.058	3.46	3.46	0	0
3/21/2017 14:33	36.3	37	43.6	43.6	0.058	3.46	3.46	0	0
3/21/2017 14:34	33.2	34	43.9	43.9	0.058	3.56	3.56	0	0
3/21/2017 14:35	44.1	45	42.1	42.1	0.055	3.31	3.31	0	0
3/21/2017 14:36	55.1	56	41.9	41.9	0.055	3.28	3.28	0	0
3/21/2017 14:37	31.3	32	43.1	43.1	0.057	3.52	3.52	0	0
3/21/2017 14:38	33	34	43.4	43.4	0.058	3.52	3.52	0	0
3/21/2017 14:39	31.2	32	43.5	43.5	0.058	3.52	3.52	0	0
3/21/2017 14:40	26.9	28	43.6	43.6	0.058	3.48	3.48	0	0
3/21/2017 14:41	35.5	36	44.2	44.2	0.058	3.44	3.44	0	0
3/21/2017 14:42	36	37	45.3	45.3	0.06	3.62	3.62	0	0
3/21/2017 14:43	33.4	34	44.8	44.8	0.059	3.52	3.52	0	0
3/21/2017 14:44	22.9	24	45.5	45.5	0.061	3.57	3.57	0	0
3/21/2017 14:45	34.5	35	45.5	45.5	0.06	3.46	3.46	0	0
3/21/2017 14:46	27.3	28	45	45	0.059	3.45	3.45	0	0
3/21/2017 14:47	22.2	23	45.6	45.6	0.061	3.59	3.59	0	0
3/21/2017 14:48	27.3	28	45.4	45.4	0.06	3.55	3.55	0	0
3/21/2017 14:49	20.2	21	45.5	45.5	0.06	3.52	3.52	0	0

Date/Time	BFB1: CO (PPM)	BFB1: CO_C3 (PPM)	BFB1: NOx_P60 (PPM)	BFB1: NOx_P75 (PPM)	BFB1: NOx_RATE_P60 (LBMMBTU)	BFB1: O2_P60 (PCT)	BFB1: O2_P75 (PCT)	BFB1: SO2_P60 (PPM)	BFB1: SO2_P75 (PPM)
3/21/2017 14:50	18	19	46.3	46.3	0.062	3.61	3.61	0	0
3/21/2017 14:51	17.1	18	46.2	46.2	0.062	3.61	3.61	0	0
3/21/2017 14:52	17.2	18	46.6	46.6	0.062	3.7	3.7	0	0
3/21/2017 14:53	14.7	15	47	47	0.063	3.77	3.77	0	0
<b>RUN 6</b>	29.6	30.4	44.6	44.6	0.059	3.5	3.5	0.0	0.0
3/21/2017 15:28	39.4	40	43.7	43.7	0.058	3.46	3.46	0	0
3/21/2017 15:29	47.5	49	42.6	42.6	0.056	3.38	3.38	0	0
3/21/2017 15:30	29.4	30	43	43	0.057	3.48	3.48	0	0
3/21/2017 15:31	31.2	32	43.1	43.1	0.057	3.58	3.58	0	0
3/21/2017 15:32	50.8	52	42.9	42.9	0.057	3.46	3.46	0	0
3/21/2017 15:33	55	56	42.5	42.5	0.056	3.45	3.45	0	0
3/21/2017 15:34	54.5	56	42.8	42.8	0.056	3.42	3.42	0	0
3/21/2017 15:35	41.3	42	42.2	42.2	0.056	3.4	3.4	0	0
3/21/2017 15:36	32.8	34	43	43	0.057	3.44	3.44	0	0
3/21/2017 15:37	45.5	46	43	43	0.057	3.38	3.38	0	0
3/21/2017 15:38	43.1	44	42.9	42.9	0.056	3.39	3.39	0	0
3/21/2017 15:39	40.7	42	43.7	43.7	0.058	3.44	3.44	0	0
3/21/2017 15:40	30.6	32	44.3	44.3	0.059	3.62	3.62	0	0
3/21/2017 15:41	26	27	44.1	44.1	0.059	3.61	3.61	0	0
3/21/2017 15:42	28.8	30	44.2	44.2	0.059	3.63	3.63	0	0
3/21/2017 15:43	28.9	30	44	44	0.059	3.65	3.65	0	0
3/21/2017 15:44	31	32	43.9	43.9	0.058	3.56	3.56	0	0
3/21/2017 15:45	39.8	41	43.7	43.7	0.058	3.46	3.46	0	0
3/21/2017 15:46	27.1	28	44	44	0.059	3.6	3.6	0	0
3/21/2017 15:47	31.8	33	43.9	43.9	0.059	3.73	3.73	0	0
3/21/2017 15:48	31.1	32	43.6	43.6	0.058	3.61	3.61	0	0
3/21/2017 15:49	30.5	32	43.3	43.3	0.058	3.58	3.58	0	0
<b>RUN 7</b>	37.1	38.2	43.4	43.4	0.058	3.5	3.5	0.0	0.0
3/21/2017 16:20	25.5	26	44.5	44.5	0.059	3.63	3.63	0	0
3/21/2017 16:21	22.6	23	44.7	44.7	0.06	3.58	3.58	0	0
3/21/2017 16:22	45.5	47	44.4	44.4	0.059	3.51	3.51	0	0
3/21/2017 16:23	29.6	30	44.6	44.6	0.059	3.52	3.52	0	0
3/21/2017 16:24	15.2	16	45.7	45.7	0.061	3.74	3.74	0	0
3/21/2017 16:25	14.9	16	45.4	45.4	0.061	3.7	3.7	0	0
3/21/2017 16:26	17.2	18	45.6	45.6	0.061	3.71	3.71	0	0
3/21/2017 16:27	17	18	45.4	45.4	0.061	3.65	3.65	0	0
3/21/2017 16:28	21.8	22	45	45	0.06	3.54	3.54	0	0
3/21/2017 16:29	24.6	25	44.3	44.3	0.059	3.49	3.49	0	0
3/21/2017 16:30	22.9	24	44	44	0.058	3.53	3.53	0	0
3/21/2017 16:31	26.8	28	44.6	44.6	0.059	3.6	3.6	0	0
3/21/2017 16:32	24.8	25	43.1	43.1	0.057	3.47	3.47	0	0
3/21/2017 16:33	23.4	24	42.8	42.8	0.057	3.45	3.45	0	0
3/21/2017 16:34	37.1	38	42.9	42.9	0.057	3.46	3.46	0	0
3/21/2017 16:35	32.5	33	42.6	42.6	0.056	3.5	3.5	0	0
3/21/2017 16:36	31.4	32	42.3	42.3	0.056	3.5	3.5	0	0
3/21/2017 16:37	39.6	41	41.3	41.3	0.054	3.42	3.42	0	0
3/21/2017 16:38	38.4	39	42.3	42.3	0.056	3.42	3.42	0	0
3/21/2017 16:39	40.6	42	41.5	41.5	0.055	3.41	3.41	0	0
3/21/2017 16:40	44.8	46	42.1	42.1	0.056	3.55	3.55	0	0
3/21/2017 16:41	59.6	61	41.7	41.7	0.055	3.43	3.43	0	0
<b>RUN 8</b>	29.8	30.6	43.7	43.7	0.058	3.5	3.5	0.0	0.0
3/21/2017 17:09	42.9	44	41.8	41.8	0.055	3.42	3.42	0	0

Date/Time	BFB1: CO (PPM)	BFB1: CO_C3 (PPM)	BFB1: NOx_P60 (PPM)	BFB1: NOx_P75 (PPM)	BFB1: NOx_RATE_P60 (LBMMBTU)	BFB1: O2_P60 (PCT)	BFB1: O2_P75 (PCT)	BFB1: SO2_P60 (PPM)	BFB1: SO2_P75 (PPM)
3/21/2017 17:10	47.4	49	42	42	0.056	3.46	3.46	0	0
3/21/2017 17:11	31.6	33	42.6	42.6	0.057	3.72	3.72	0	0
3/21/2017 17:12	30.3	31	42	42	0.056	3.57	3.57	0	0
3/21/2017 17:13	30.7	32	41.9	41.9	0.056	3.51	3.51	0	0
3/21/2017 17:14	28.7	30	42.4	42.4	0.056	3.56	3.56	0	0
3/21/2017 17:15	22.3	23	43.1	43.1	0.058	3.76	3.76	0	0
3/21/2017 17:16	39	40	43.3	43.3	0.058	3.62	3.62	0	0
3/21/2017 17:17	36.1	37	42.8	42.8	0.057	3.52	3.52	0	0
3/21/2017 17:18	28.9	30	43	43	0.057	3.54	3.54	0	0
3/21/2017 17:19	22.4	23	43.8	43.8	0.059	3.66	3.66	0	0
3/21/2017 17:20	20.6	21	43.5	43.5	0.058	3.68	3.68	0	0
3/21/2017 17:21	33.6	34	43.1	43.1	0.057	3.42	3.42	0	0
3/21/2017 17:22	23.3	24	43.9	43.9	0.058	3.57	3.57	0	0
3/21/2017 17:23	16.4	17	44.6	44.6	0.06	3.7	3.7	0	0
3/21/2017 17:24	12.8	13	44.4	44.4	0.06	3.74	3.74	0	0
3/21/2017 17:25	24.5	25	44.6	44.6	0.06	3.66	3.66	0	0
3/21/2017 17:26	31	32	44	44	0.058	3.55	3.55	0	0
3/21/2017 17:27	22.1	23	43.8	43.8	0.058	3.53	3.53	0	0
3/21/2017 17:28	24.8	25	43.6	43.6	0.058	3.49	3.49	0	0
3/21/2017 17:29	21.2	22	43.8	43.8	0.058	3.63	3.63	0	0
3/21/2017 17:30	19.2	20	43.4	43.4	0.058	3.72	3.72	0	0
<b>RUN 9</b>	27.7	28.5	43.2	43.2	0.058	3.6	3.6	0.0	0.0

Date/Time	BFB1: STACK_FLOW_SCFH_P60 (SCFH)	BFB1: STACK_FLOW_SCFH_P75 (SCFH)
3/21/2017 8:42	14,238,000.00	14,238,000
3/21/2017 8:43	14,424,000.00	14,424,000
3/21/2017 8:44	14,922,000.00	14,922,000
3/21/2017 8:45	14,640,000.00	14,640,000
3/21/2017 8:46	15,222,000.00	15,222,000
3/21/2017 8:47	15,030,000.00	15,030,000
3/21/2017 8:48	15,120,000.00	15,120,000
3/21/2017 8:49	14,910,000.00	14,910,000
3/21/2017 8:50	14,766,000.00	14,766,000
3/21/2017 8:51	15,060,000.00	15,060,000
3/21/2017 8:52	14,892,000.00	14,892,000
<b>RUN 1</b>	<b>14,838,545.45</b>	<b>14,838,545.45</b>
3/21/2017 8:54	14,916,000.00	14,916,000
3/21/2017 8:55	15,012,000.00	15,012,000
3/21/2017 8:56	14,508,000.00	14,508,000
3/21/2017 8:57	14,382,000.00	14,382,000
3/21/2017 8:58	14,514,000.00	14,514,000
3/21/2017 8:59	14,466,000.00	14,466,000
3/21/2017 9:00	14,568,000.00	14,568,000
3/21/2017 9:01	14,310,000.00	14,310,000
<b>RUN 2</b>	<b>14,584,500.00</b>	<b>14,584,500.00</b>
3/21/2017 9:13	14,790,000.00	14,790,000
3/21/2017 9:14	15,156,000.00	15,156,000
3/21/2017 9:15	15,066,000.00	15,066,000
3/21/2017 9:16	15,342,000.00	15,342,000
3/21/2017 9:17	15,042,000.00	15,042,000
3/21/2017 9:18	15,006,000.00	15,006,000
3/21/2017 9:19	15,492,000.00	15,492,000
3/21/2017 9:20	15,054,000.00	15,054,000
3/21/2017 9:21	14,760,000.00	14,760,000
3/21/2017 9:22	14,778,000.00	14,778,000
3/21/2017 9:23	14,832,000.00	14,832,000
<b>RUN 3</b>	<b>15,028,909.09</b>	<b>15,028,909.09</b>
3/21/2017 10:28	14,310,000.00	14,310,000
3/21/2017 10:29	14,892,000.00	14,892,000
3/21/2017 10:30	14,832,000.00	14,832,000
3/21/2017 10:31	14,700,000.00	14,700,000
3/21/2017 10:32	14,646,000.00	14,646,000
3/21/2017 10:33	14,688,000.00	14,688,000
3/21/2017 10:34	14,820,000.00	14,820,000
3/21/2017 10:35	14,718,000.00	14,718,000
3/21/2017 10:36	14,778,000.00	14,778,000
3/21/2017 10:37	14,418,000.00	14,418,000

Date/Time	BFB1: STACK_FLOW_SCFH_P60 (SCFH)	BFB1: STACK_FLOW_SCFH_P75 (SCFH)
3/21/2017 10:38	14,574,000.00	14,574,000
<b>RUN 4</b>	14,670,545.45	14,670,545.45
3/21/2017 10:42	14,700,000.00	14,700,000
3/21/2017 10:43	14,700,000.00	14,700,000
3/21/2017 10:44	14,868,000.00	14,868,000
3/21/2017 10:45	14,502,000.00	14,502,000
3/21/2017 10:46	14,898,000.00	14,898,000
3/21/2017 10:47	14,508,000.00	14,508,000
3/21/2017 10:48	14,520,000.00	14,520,000
3/21/2017 10:49	14,352,000.00	14,352,000
<b>RUN 5</b>	14,631,000.00	14,631,000.00
3/21/2017 12:48	14,802,000.00	14,802,000
3/21/2017 12:49	14,796,000.00	14,796,000
3/21/2017 12:50	14,562,000.00	14,562,000
3/21/2017 12:51	14,670,000.00	14,670,000
3/21/2017 12:52	14,706,000.00	14,706,000
3/21/2017 12:53	14,796,000.00	14,796,000
3/21/2017 12:54	14,844,000.00	14,844,000
3/21/2017 12:55	14,772,000.00	14,772,000
3/21/2017 12:56	14,664,000.00	14,664,000
<b>RUN 6</b>	14,734,666.67	14,734,666.67
3/21/2017 12:57	14,742,000.00	14,742,000
3/21/2017 12:58	14,802,000.00	14,802,000
3/21/2017 12:59	14,436,000.00	14,436,000
3/21/2017 13:00	14,532,000.00	14,532,000
3/21/2017 13:01	14,550,000.00	14,550,000
3/21/2017 13:02	14,538,000.00	14,538,000
3/21/2017 13:03	14,250,000.00	14,250,000
3/21/2017 13:04	14,352,000.00	14,352,000
3/21/2017 13:05	14,208,000.00	14,208,000
<b>RUN 7</b>	14,490,000.00	14,490,000.00
3/21/2017 13:36	14,340,000.00	14,340,000
3/21/2017 13:37	14,226,000.00	14,226,000
3/21/2017 13:38	14,418,000.00	14,418,000
3/21/2017 13:39	14,178,000.00	14,178,000
3/21/2017 13:40	14,592,000.00	14,592,000
3/21/2017 13:41	14,652,000.00	14,652,000
3/21/2017 13:42	15,006,000.00	15,006,000
3/21/2017 13:43	15,096,000.00	15,096,000
3/21/2017 13:44	15,186,000.00	15,186,000
3/21/2017 13:45	14,868,000.00	14,868,000
3/21/2017 13:46	14,862,000.00	14,862,000



Date/Time	BFB1: STACK_FLOW_SCFH_P60 (SCFH)	BFB1: STACK_FLOW_SCFH_P75 (SCFH)
<b>RUN 8</b>	14,674,909.09	14,674,909.09
3/21/2017 14:21	15,150,000.00	15,150,000
3/21/2017 14:22	15,216,000.00	15,216,000
3/21/2017 14:23	15,168,000.00	15,168,000
3/21/2017 14:24	15,324,000.00	15,324,000
3/21/2017 14:25	15,216,000.00	15,216,000
3/21/2017 14:26	15,132,000.00	15,132,000
3/21/2017 14:27	15,174,000.00	15,174,000
3/21/2017 14:28	14,598,000.00	14,598,000
3/21/2017 14:29	14,478,000.00	14,478,000
3/21/2017 14:30	14,298,000.00	14,298,000
<b>RUN 9</b>	14,975,400.00	14,975,400.00
3/21/2017 14:41	14,814,000.00	14,814,000
3/21/2017 14:42	14,754,000.00	14,754,000
3/21/2017 14:43	15,192,000.00	15,192,000
3/21/2017 14:44	14,976,000.00	14,976,000
3/21/2017 14:45	15,090,000.00	15,090,000
3/21/2017 14:46	14,982,000.00	14,982,000
3/21/2017 14:47	14,982,000.00	14,982,000
3/21/2017 14:48	15,030,000.00	15,030,000
3/21/2017 14:49	15,120,000.00	15,120,000
<b>RUN 10</b>	14,993,333.33	14,993,333.33
3/21/2017 14:50	15,126,000.00	15,126,000
3/21/2017 14:51	15,096,000.00	15,096,000
3/21/2017 14:52	15,072,000.00	15,072,000
3/21/2017 14:53	14,460,000.00	14,460,000
3/21/2017 14:54	14,856,000.00	14,856,000
3/21/2017 14:55	14,664,000.00	14,664,000
3/21/2017 14:56	14,550,000.00	14,550,000
3/21/2017 14:57	14,532,000.00	14,532,000
<b>RUN 11</b>	14,794,500.00	14,794,500.00

## **Mid Load Flow CEMS Data**

Date/Time	BFB1: STACK_FLOW_SCFH_P60 (SCFH)	BFB1: STACK_FLOW_SCFH_P75 (SCFH)
3/22/2017 7:20	16,212,000.00	16,212,000
3/22/2017 7:21	16,194,000.00	16,194,000
3/22/2017 7:22	16,434,000.00	16,434,000
3/22/2017 7:23	16,266,000.00	16,266,000
3/22/2017 7:24	16,080,000.00	16,080,000
3/22/2017 7:25	16,284,000.00	16,284,000
3/22/2017 7:26	16,392,000.00	16,392,000
3/22/2017 7:27	16,332,000.00	16,332,000
<b>RUN 1</b>	<b>16,274,250.00</b>	<b>16,274,250.00</b>
3/22/2017 7:34	16,596,000.00	16,596,000
3/22/2017 7:35	16,464,000.00	16,464,000
3/22/2017 7:36	16,458,000.00	16,458,000
3/22/2017 7:37	16,380,000.00	16,380,000
3/22/2017 7:38	16,272,000.00	16,272,000
3/22/2017 7:39	16,392,000.00	16,392,000
3/22/2017 7:40	16,494,000.00	16,494,000
3/22/2017 7:41	16,104,000.00	16,104,000
3/22/2017 7:42	16,608,000.00	16,608,000
<b>RUN 2</b>	<b>16,418,666.67</b>	<b>16,418,666.67</b>
3/22/2017 7:46	16,488,000.00	16,488,000
3/22/2017 7:47	16,332,000.00	16,332,000
3/22/2017 7:48	16,068,000.00	16,068,000
3/22/2017 7:49	16,026,000.00	16,026,000
3/22/2017 7:50	16,110,000.00	16,110,000
3/22/2017 7:51	15,852,000.00	15,852,000
3/22/2017 7:52	15,978,000.00	15,978,000
3/22/2017 7:53	15,846,000.00	15,846,000
3/22/2017 7:54	15,462,000.00	15,462,000
3/22/2017 7:55	15,336,000.00	15,336,000
3/22/2017 7:56	15,408,000.00	15,408,000
<b>RUN 3</b>	<b>15,900,545.45</b>	<b>15,900,545.45</b>
3/22/2017 7:58	15,714,000.00	15,714,000
3/22/2017 7:59	15,948,000.00	15,948,000
3/22/2017 8:00	15,708,000.00	15,708,000
3/22/2017 8:01	16,212,000.00	16,212,000
3/22/2017 8:02	16,272,000.00	16,272,000
3/22/2017 8:03	16,488,000.00	16,488,000
3/22/2017 8:04	16,326,000.00	16,326,000
3/22/2017 8:05	16,794,000.00	16,794,000
3/22/2017 8:06	16,992,000.00	16,992,000
3/22/2017 8:07	16,854,000.00	16,854,000
<b>RUN 4</b>	<b>16,330,800.00</b>	<b>16,330,800.00</b>

Date/Time	BFB1: STACK_FLOW_SCFH_P60 (SCFH)	BFB1: STACK_FLOW_SCFH_P75 (SCFH)
3/22/2017 8:09	16,956,000.00	16,956,000
3/22/2017 8:10	16,578,000.00	16,578,000
3/22/2017 8:11	16,782,000.00	16,782,000
3/22/2017 8:12	16,374,000.00	16,374,000
3/22/2017 8:13	16,242,000.00	16,242,000
3/22/2017 8:14	16,116,000.00	16,116,000
3/22/2017 8:15	16,158,000.00	16,158,000
3/22/2017 8:16	15,906,000.00	15,906,000
3/22/2017 8:17	16,026,000.00	16,026,000
3/22/2017 8:18	15,942,000.00	15,942,000
3/22/2017 8:19	15,456,000.00	15,456,000
<b>RUN 5</b>	<b>16,230,545.45</b>	<b>16,230,545.45</b>
3/22/2017 8:30	16,554,000.00	16,554,000
3/22/2017 8:31	16,362,000.00	16,362,000
3/22/2017 8:32	16,584,000.00	16,584,000
3/22/2017 8:33	16,800,000.00	16,800,000
3/22/2017 8:34	16,548,000.00	16,548,000
3/22/2017 8:35	16,662,000.00	16,662,000
3/22/2017 8:36	16,614,000.00	16,614,000
3/22/2017 8:37	16,296,000.00	16,296,000
3/22/2017 8:38	16,092,000.00	16,092,000
<b>RUN 6</b>	<b>16,501,333.33</b>	<b>16,501,333.33</b>
3/22/2017 8:39	16,458,000.00	16,458,000
3/22/2017 8:40	16,146,000.00	16,146,000
3/22/2017 8:41	16,074,000.00	16,074,000
3/22/2017 8:42	16,350,000.00	16,350,000
3/22/2017 8:43	16,248,000.00	16,248,000
3/22/2017 8:44	15,948,000.00	15,948,000
3/22/2017 8:45	16,092,000.00	16,092,000
3/22/2017 8:46	16,158,000.00	16,158,000
3/22/2017 8:47	16,050,000.00	16,050,000
3/22/2017 8:48	16,080,000.00	16,080,000
3/22/2017 8:49	15,924,000.00	15,924,000
<b>RUN 7</b>	<b>16,138,909.09</b>	<b>16,138,909.09</b>
3/22/2017 8:52	15,630,000.00	15,630,000
3/22/2017 8:53	15,858,000.00	15,858,000
3/22/2017 8:54	15,624,000.00	15,624,000
3/22/2017 8:55	15,792,000.00	15,792,000
3/22/2017 8:56	15,510,000.00	15,510,000
3/22/2017 8:57	15,876,000.00	15,876,000
3/22/2017 8:58	16,188,000.00	16,188,000
3/22/2017 8:59	15,858,000.00	15,858,000
3/22/2017 9:00	16,134,000.00	16,134,000

Date/Time	BFB1: STACK_FLOW_SCFH_P60 (SCFH)	BFB1: STACK_FLOW_SCFH_P75 (SCFH)
3/22/2017 9:01	16,104,000.00	16,104,000
3/22/2017 9:02	16,134,000.00	16,134,000
<b>RUN 8</b>	15,882,545.45	15,882,545.45
3/22/2017 9:03	16,002,000.00	16,002,000
3/22/2017 9:04	16,212,000.00	16,212,000
3/22/2017 9:05	16,188,000.00	16,188,000
3/22/2017 9:06	16,434,000.00	16,434,000
3/22/2017 9:07	16,470,000.00	16,470,000
3/22/2017 9:08	16,644,000.00	16,644,000
3/22/2017 9:09	16,584,000.00	16,584,000
3/22/2017 9:10	16,878,000.00	16,878,000
3/22/2017 9:11	16,752,000.00	16,752,000
3/22/2017 9:12	16,554,000.00	16,554,000
3/22/2017 9:13	16,158,000.00	16,158,000
<b>RUN 9</b>	16,443,272.73	16,443,272.73

## **Appendix G: Accreditations and Certifications**

# *Accredited Air Emission Testing Body*

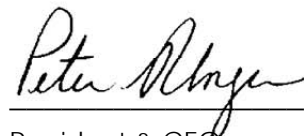
A2LA has accredited

## **C.E.M. SOLUTIONS, INC.**

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this organization is accredited to perform testing activities in compliance with ASTM D7036 - Standard Practice for Competence of Air Emission Testing Bodies.



Presented this 24<sup>th</sup> day of November 2015.



President & CEO

Certificate Number 3820.01

Valid to December 31, 2017

*This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.*

# SOURCE EVALUATION SOCIETY



## Qualified Source Testing Individual

LET IT BE KNOWN THAT

### CHARLES R. HORTON

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

**MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS**

ISSUED THIS 26<sup>TH</sup> DAY OF NOVEMBER 2013 AND EFFECTIVE UNTIL NOVEMBER 25<sup>TH</sup>, 2018

Peter R. Westlin, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

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

LeRoy Owens, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION  
NO.  
2008-230





# SOURCE EVALUATION SOCIETY



## Qualified Source Testing Individual

LET IT BE KNOWN THAT

### CHARLES R. HORTON

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

**GASEOUS POLLUTANTS INSTRUMENTAL SAMPLING METHODS**

ISSUED THIS 26<sup>TH</sup> DAY OF NOVEMBER 2013 AND EFFECTIVE UNTIL NOVEMBER 25<sup>TH</sup>, 2018

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

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

Glenn C. England, QSTI/QSTO Review Board

APPLICATION  
NO.  
2008-230

