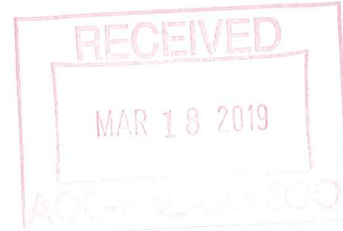


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To: *District Supervisor
MDEQ-AQD
Kalamazoo District*

Date: *March 15, 2019*

Copy: *Ms. Karen Kajiya-Mills
MDEQ-AQD Technical Programs*



From: *Andy Rusnak, QSTI
Impact Compliance and Testing, Inc.*

Subject: *Test report for Woodworth, Inc.
SRN P0547 (Calhoun County)*

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Enclosed please find a test report for the emission compliance testing that was performed on FNC heat treating furnaces at the Woodworth, Inc. facility located in Homer, MI (SRN P0547).

Contact information is provided in the test plan if you have any questions or require additional information.



AIR EMISSION TEST REPORT

Title AIR EMISSION TEST REPORT FOR THE
VERIFICATION OF AIR POLLUTANT EMISSIONS
FROM FNC HEAT TREATING FURNACES

Report Date March 15, 2019

Test Dates February 5 – 8, 2019

Facility Information	
Name	Woodworth, Inc.
Street Address	29753 M-60 East
City, County	Homer, Calhoun

Facility Permit Information	
PTI No.:	64-15B
Facility SRN :	P0547

Testing Contractor	
Company	Impact Compliance & Testing, Inc.
Mailing Address	39395 Schoolcraft Road Livonia, MI 48150
Phone	(734) 464-3880
Project No.	1900007

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AIR EMISSION TEST REPORT
FOR THE
VERIFICATION OF AIR POLLUTANT EMISSIONS
FROM
FNC HEAT TREATING FURNACES

WOODWORTH, INC.
HOMER FACILITY

1.0 INTRODUCTION

Woodworth, Inc. (Woodworth) (Facility SRN: P0547) owns and operates ferritic nitrocarburizing (FNC) heat treating furnaces at its facility in Homer, Calhoun County, Michigan. The FNC heat treating furnaces are identified as EUHEATTREAT1 through EUHEATTREAT16 (collectively, as flexible group FGHEATTREAT) in Permit to Install (PTI) No. 64-15B.

Air emission compliance testing was performed to satisfy the following requirements contained in PTI No. 64-15B:

- *The permittee shall verify the NO_x and ammonia emission rate from FGHEATTREAT by testing at owner's expense, in accordance with Department requirements within 180 days of permit issuance.*
- SC I.1. specifies a nitrogen oxides (NO_x) emission limit of 36.17 pounds per FNC cycle for FGHEATTREAT.

The compliance testing was performed by Impact Compliance and Testing, Inc., (ICT), formerly Derenzo Environmental Services, a Michigan-based environmental consulting and testing company. ICT representatives Jory VanEss and Andrew Rusnak performed the field sampling and measurements February 5 – 8, 2019.

The exhaust gas sampling and analysis was performed using procedures specified in the Test Plan that was reviewed and approved by the Michigan Department of Environmental Quality (MDEQ). MDEQ representatives Mr. David Patterson and Ms. Amanda Chapel observed portions of the testing project.

Impact Compliance & Testing, Inc.

Woodworth, Inc.
Air Emission Test Report

March 15, 2019
Page 2

Questions regarding this emission test report should be directed to:

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E.J. Stumph
General Manager
Woodworth Inc.
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Homer, MI 49245
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Report Certification

This test report was prepared by ICT based on field sampling data collected by ICT. Facility process data were collected by Woodworth. This test report has been reviewed by Woodworth representatives and approved for submittal to the MDEQ.

I certify that the testing was conducted in accordance with the specified test methods and submitted test plan unless otherwise specified in this report. I believe the information provided in this report and its attachments are true, accurate, and complete.

Report Prepared By:


Andy Rusnak, QSTI
Technical Manager
Impact Compliance & Testing, Inc.

2.0 SOURCE AND SAMPLING LOCATION DESCRIPTION

2.1 General Process Description

WWI has been permitted to install and operate sixteen (16) heat treat furnaces that are identified as emission units EUHEATTREAT1 through EUHEATTREAT16 (collectively FGHEATTREAT). As of the date of this test report, ten (10) furnaces have been installed and are operational. The remaining units are either under construction or are planned for construction in the near future. The furnaces are used to heat treat brake rotors.

The brake rotors treated at the WWI Homer facility are subjected to two separate treatment steps:

1. Stress relief heat treatment that is performed on the brake rotor after casting, and
2. Ferritic nitrocarburizing (FNC) treatment performed on the brake rotor after machining.

The metal heat treating process is a batch-type process and has a specific cycle; in general racks of parts are loaded into the furnace, the furnace is heated, the burner ramps down to idle mode to maintain the desired furnace temperature for several hours, the furnace is cooled, and the parts are unloaded.

FNC treatment results in greater rotor performance, enhanced durability, corrosion performance, and wear resistance. In gaseous FNC treatment, the atmosphere within the furnace is purged of ambient air (oxygen) and replaced with a controlled mixture of nitrogen, ammonia, and methane (natural gas). In the high temperature furnace, the ammonia is cracked into nitrogen and hydrogen. Nitrogen and carbon diffuse into the surface of the ferrous material at controlled temperatures to result in the desired properties.

2.2 Rated Capacities and Air Emission Controls

The heat treat furnace has a capacity of approximately six (6) MMBtu/hr.

The entire FNC cycle has a duration of approximately 24 hours. Approximately 6.5 hours of the cycle time uses the FNC process gas (FNC gas phase), which includes ammonia. During the FNC gas phase portion of the cycle, residual methane and hydrogen are ignited and burned off via the oven exhaust burn-off tower. At the end of the cycle, the FNC atmosphere is purged with nitrogen.

During the FNC gas phase portion of the cycle (approximately 6.5 hours), residual methane and hydrogen are ignited and burned off via the oven exhaust burn-off tower. The burn-off tower consists of vertical sections of insulated pipe. The furnace exhaust is introduced at the base of the tower through piping that disperses the gas within the tower. Natural gas fueled burners at the base of the tower ignite the gas mixture, which burns as it travels through the tower. Ambient air is allowed into the flame section by gaps between the insulated sections.

The purpose of the burn-off tower is to combust hydrogen and methane exiting the furnace before it is discharged to the ambient air. However, it also has the potential to convert residual ammonia in the furnace exhaust to NO_x.

2.3 Sampling Locations

The furnace exhaust gas is directed through dedicated burn-off towers and is released to the atmosphere through dedicated vertical exhaust stacks with vertical release points. The exhaust stacks for the furnaces are identical.

The exhaust stack sampling ports for the furnaces are located in a vertical exhaust stack with an inner diameter of 32.0 inches. The stack is equipped with two (2) sample ports, opposed 90°, that provide a sampling location 12.0 inches (0.38 duct diameters) upstream and 48.0 inches (1.5 duct diameters) downstream from any flow disturbance. The location does not satisfy the USEPA Method 1 criteria for a representative sample location. This was specified in the approved test plan as a variation from normal sampling procedures.

Individual traverse points were determined in accordance with USEPA Method 1.

Appendix 1 provides diagrams of the emission test sampling locations.

3.0 SUMMARY OF TEST RESULTS AND OPERATING CONDITIONS

3.1 Purpose and Objective of the Tests

The FGHEATTREAT Testing / Sampling conditions in PTI 64-15B specify:

The permittee shall verify the NO_x and ammonia emission rate from FGHEATTREAT by testing at owner's expense, in accordance with Department requirements within 180 days of permit issuance.

Therefore, one (1) batch (during FNC gas phase) from three (3) separate furnaces contained in FGHEATTREAT were each sampled for NO_x and ammonia (NH₃) emissions and exhaust gas oxygen (O₂) and carbon dioxide (CO₂) content.

3.2 Operating Conditions During the Compliance Tests

The testing was performed while the heat treat furnace was operated in the FNC gas phase. ICT representatives recorded the test times and phases for each test period.

The load weight for each batch was recorded by Woodworth representatives.

Appendix 2 provides operating records recorded by Woodworth representatives for each test period.

Table 3.1 presents a summary of the load weights during the test periods.

3.3 Summary of Air Pollutant Sampling Results

The gases exhausted from three (3) heat treat furnaces (EUHEATTREAT6, 7 and 8) were each sampled for one (1) test period encompassing the entire FNC gas phase period (approximately 6.58 hours) during the compliance testing performed February 5 – 8, 2019.

Table 3.2 presents the average measured NO_x and NH₃ emission rates for the furnaces (average of the three test periods).

Test results for each sampling period and comparison to the permitted emission rates are presented in Section 6.0 of this report.

Table 3.1 Load weights during the test periods

Parameter	EUHEATTREAT6	EUHEATTREAT7	EUHEATTREAT8
Parts (lb)	60,006	45,535	51,429
Fixtures (lb)	16,870	15,134	16,746
Total (lb)	76,876	60,669	68,175

Table 3.2 Average measured emission rates for heat treat furnaces (three-test average)

Emission Unit	NO _x Emission Rates	NH ₃ Emission Rates
	(lb/FNC cycle) ¹	(lb/hr)
FGHEATTREAT	29.4	0.37
<i>Permit Limit</i>	<i>36.17</i>	-

Notes for Table 3.2:

1. Includes 25.9 lb/cycle during the FNC gas phase (tested emissions) and 3.5 lb/cycle from natural gas combustion during all other phases (calculated, as presented in the approved test protocol).

4.0 SAMPLING AND ANALYTICAL PROCEDURES

A test protocol for the air emission testing was reviewed and approved by the MDEQ. This section provides a summary of the sampling and analytical procedures that were used during the Woodworth testing periods.

4.1 Summary of Sampling Methods

USEPA Method 1	Exhaust gas velocity measurement locations were determined based on the physical stack arrangement and requirements in USEPA Method 1
USEPA Method 2	Exhaust gas velocity pressure was determined using a Type-S Pitot tube connected to a red oil incline manometer; temperature was measured using a K-type thermocouple connected to the Pitot tube.
USEPA Method 3A	Exhaust gas O ₂ and CO ₂ content was determined using a zirconium oxide and FTIR analyzer, respectively.
ASTM D6348	Exhaust gas NO _x , NH ₃ and moisture concentration was measured using a Fourier transform infrared spectroscopy (FTIR) analyzer.

4.2 Exhaust Gas Velocity Determination (USEPA Method 2)

The furnace exhaust stack gas velocities and volumetric flow rates were determined using USEPA Method 2 during each test. Four (4) traverses were conducted during each batch. Each traverse was performed during a separate phase of the FNC gas phase period (i.e., distinct time period that has different inlet gas flowrates). A traverse was performed during the burn-start, FNC1, FNC2 and FNC3 phases of the FNC gas phase. An S-type Pitot tube connected to a red-oil manometer was used to determine velocity pressure at each traverse point across the stack cross section. Gas temperature was measured using a K-type thermocouple mounted to the Pitot tube. The Pitot tube and connective tubing were leak-checked prior to use to verify the integrity of the measurement system.

The absence of significant cyclonic flow for the exhaust configuration was verified using an S-type Pitot tube and oil manometer. The Pitot tube was positioned at each velocity traverse point with the planes of the face openings of the Pitot tube perpendicular to the stack cross-sectional plane. The Pitot tube was then rotated to determine the null angle (rotational angle as measured from the perpendicular, or reference, position at which the differential pressure is equal to zero).

Appendix 3 provides exhaust gas flowrate calculations and field data sheets.

4.3 Exhaust Gas Molecular Weight Determination (USEPA Method 3A)

CO₂ and O₂ content in the furnace exhaust gas stream was measured during each traverse performed during each test period in accordance with USEPA Method 3A. The CO₂ content of the exhaust was monitored using a MKS Multi-Gas 2030 Fourier transform infrared (FTIR) spectrometer. The O₂ content of the exhaust was monitored using a Amatek RM CEM O₂/IQ wet gas analyzer that uses a zirconium oxide sensor.

During each sampling period, a sample of the furnace exhaust gas stream was extracted from the stack using the FTIR sampling system. The FTIR was used to measure the CO₂ content of the exhaust gas. The exhaust of the FTIR sampling system was connected directly to the inlet of the O₂ instrument via a heated jumper. The O₂ measurement cell is heated to prevent moisture condensation. O₂ instrument response data were recorded using a Yokogawa data acquisition system that monitored the analog output of the instrumental analyzer continuously and logged data as 30-second averages. The CO₂ and O₂ concentration of the exhaust gas was recorded on field data sheets at the time each velocity traverse was performed.

Prior to, and at the conclusion of each test, the instruments were calibrated using upscale calibration and zero gas to determine analyzer calibration error and bias (described in Section 5.0 of this document). Sampling times were recorded on field data sheets.

Appendix 4 provides O₂ and CO₂ calculation sheets. Raw instrument response data are provided in Appendix 5.

4.4 Determination of NO_x and NH₃ Emissions (ASTM D6348)

NO_x, NH₃ and moisture concentrations in the furnace exhaust gas streams were determined using a MKS Multi-Gas 2030 FTIR spectrometer.

Samples of the exhaust gas were delivered directly to the instrumental analyzer using a Teflon® heated sample line, heated head pump and heated filter to prevent condensation. The sample to the FTIR analyzer was not conditioned to remove moisture. Therefore, raw NO, NO₂ and NH₃ measurements correspond to standard conditions with no moisture correction (wet basis). The instrument calculated a NO_x concentration on a dry basis using the sum of the measured NO and NO₂ concentrations and the measured moisture concentration.

A calibration transfer standard (CTS), ethylene standard, and nitrogen zero gas were analyzed before and after each test run. Analyte spiking, of each furnace, with nitrogen oxide, ammonia and sulfur hexafluoride was performed to verify the ability of the sampling system to quantitatively deliver a sample containing the compound of interest from the base of the probe to the FTIR. Data was collected at 0.5 cm⁻¹ resolution. Instrument response was recorded using MKS data acquisition software. Spiking with nitrogen oxide was performed before and after

each batch run and also during the batch run on the setup day. Spiking with ammonia was performed before, during and after each batch run.

Appendix 4 provides NO_x and NH₃ calculation sheets. Instrument response data for the FTIR is provided in Appendix 5.

5.0 QA/QC ACTIVITIES

5.1 Instrument Calibration and System Bias Checks

At the beginning of each day of the testing program, initial three-point instrument calibrations were performed for the CO₂ and O₂ analyzers by injecting calibration gas directly into the inlet sample port for each instrument. Bias checks were performed prior to and at the conclusion of each sampling period by introducing the upscale calibration gas and zero gas into the sampling system (at the instrumental analyzer inlet) and determining the instrument response against the initial instrument calibration readings.

The instruments were calibrated with USEPA Protocol 1 certified concentrations of CO₂, and O₂ in nitrogen and zeroed using hydrocarbon free nitrogen.

5.2 FTIR QA/QC Activities

At the beginning of each day a calibration transfer standard (CTS, ethylene gas), analyte of interest (nitrogen oxide and ammonia) and nitrogen calibration gas were directly injected into the FTIR to evaluate the unit response.

Prior to and after each test run the CTS was analyzed. The ethylene was passed through the entire system (system purge) to verify the sampling system response and to ensure that the sampling system remained leak-free at the stack location. Nitrogen was also passed through the sampling system to ensure the system is free of contaminants.

Analyte spiking, of each emission unit, prior to and after sampling (and during the batch on setup day), with nitrogen oxide was performed to verify the ability of the sampling system to quantitatively deliver a sample containing the compound of interest from the base of the probe to the FTIR and assured the ability of the FTIR to quantify that compound in the presence of effluent gas. Analyte spiking, of each emission unit, prior to, during and after sampling, with ammonia was also performed. The spike target dilution ratio was 1:10 (1 part cal gas; 9 parts stack gas).

As part of the data validation procedure, reference spectra were manually fit to that of the sample spectra (two spectra from each test period) and a concentration was determined. Concentration data was manually validated using the MKS MG2000 method analyzer software. The software used multi-point calibration curves to quantify each spectrum. The software-calculated results were then compared with the measured concentrations to ensure the quality of the data.

Appendix 6 presents test equipment quality assurance data (instrument calibration and bias check records, calibration gas, Pitot tube calibration records and FTIR QA/QC data).

6.0 RESULTS

6.1 Test Results and Allowable Emission Limits

Furnace operating data and air pollutant emission measurement results for each batch test period are presented in Table 6.1.

The three-test average NH₃ emission rate for the furnaces was 0.37 lb/hr

The three-test average NO_x emission rate for the furnaces was 25.9 lb/FNC gas phase. As presented in the approved test plan the NO_x emission rate for the entire cycle is calculated as follows:

The furnaces use a maximum of 35,000 cubic feet of natural gas per load (35 MCF/load). Air pollutant emissions from the combustion of natural gas in the furnaces were calculated using default air pollutant emission factors from USEPA's Compilation of Air Pollutant Emission Factors for Stationary Point and Area Sources (AP-42) Section 1.4 for natural gas external combustion.

$$[1] \quad (35,000 \text{ CF natural gas}) \times (100 \text{ lb NO}_x/\text{MMcf}) = 3.5 \text{ lbs NO}_x/\text{cycle}$$

NO_x emissions during the FNC gas phase (presented above) were determined based on the average emission rate for the three (3) one-hour test periods and the duration of the gas phase:

$$[2] \quad \text{NO}_x \text{ FNC gas phase (lbs)} = (\text{NO}_x \text{ emission rate, lb/hr}) \times (\text{gas phase duration, hrs})$$

$$[3] \quad \text{Total NO}_x / \text{FNC cycle} = (3.5 \text{ lbs NO}_x) + (\text{lbs NO}_x \text{ FNC gas phase})$$

Therefore, the overall calculated NO_x FNC cycle emission rate is 29.4 lb/FNC cycle. The permitted emission limit is 36.17 lb/FNC cycle. The results of the performance testing demonstrates compliance with the emission limit specified in PTI No. 64-15B.

6.2 Variations from Normal Sampling Procedures or Operating Conditions

The testing for all pollutants was performed in accordance with USEPA and ASTM methods and the approved test protocol. The furnaces were operated at their normal operating conditions and no variations from normal operating conditions occurred during the furnace test periods.

Measured flowrates during the testing on EUHEATTREAT6 (performed on February 8, 2019) were greater than the flowrates measured on EUHEATTREAT7 and 8 (performed on February 6 and 7, 2019) and greater than what would be normally expected. This is attributed to high wind speeds (wind speeds during testing ranged from 17 to 26 mph). The high wind speed induced a vacuum as it flowed across the exhaust stack exit and pulled a greater amount of building air out of the facility through the exhaust stack (Bernoulli Effect). In order to accommodate the sampling trailer electrical needs the door to the facility had to be propped open near the furnace (allowing ambient air to enter the facility near the furnace). The building (operating under a negative pressure) constantly drew a large amount of cold (ambient temperature was 15 °F during testing) air into the facility and subsequently through the burn off tower and out the roof exhaust. The flame in the tested burn off tower near the open door was noticeably smaller (compared to other operating furnaces operating at greater distance from the open door) due to the cold air draft. The smaller flame is believed to have resulted in higher measured exhaust NH₃ and lower measured NO_x concentrations (due to the lower combustion temperature in the burn off tower resulting in lower conversion of NH₃ to NO_x), compared to what was measured the prior two (2) days. The propped open door and introduction of a stream of cold air is not normal operating conditions. While all three tests demonstrated compliance with the permitted NO_x emission limit, we believe that Test Nos. 1 and 2 are more indicative of normal operating conditions at the facility.

Table 6.1 Measured exhaust gas conditions and NO_x and NH₃ air pollutant emission rates for FGHEATTREAT

Test No.	1	2	3	
Furnace No.	8	7	6	
Test date	2/6/2019	2/7/2019	2/8/2019	Three Test
Test period (24-hr clock)	927-1602	825-1500	853-1528	Average
<u>Furnace Load Weights</u>				
Parts (lb)	60,006	45,535	51,429	52,323
Fixtures (lb)	16,870	15,134	16,746	16,250
Total Weight (lb)	76,876	60,669	68,175	68,573
<u>Exhaust Gas Composition</u>				
CO ₂ content (% vol)	0.09	0.31	0.22	0.21
O ₂ content (% vol)	19.2	19.4	19.6	19.4
Moisture (% vol)	2.29	2.08	1.37	1.91
Exhaust gas flowrate (dscfm)	6,601	6,766	10,284	7,884
Exhaust gas flowrate (scfm)	6,741	6,861	10,429	8,010
<u>Ammonia</u>				
NH ₃ conc. (ppmv)	11.1	11.9	24.4	15.8
NH ₃ emissions (lb/hr)	0.20	0.22	0.70	0.37
<u>Nitrogen Oxides</u>				
NO _x conc. (ppmvd)	85.4	67.1	55.1	69.2
NO _x emissions FNC gas phase (lb/cycle)	27.7	22.1	28.0	25.9
NO _x emissions total FNC cycle (lb/cycle) ¹	31.2	25.6	31.5	29.4
Permitted emissions (lb/cycle) ²	-	-	-	36.17

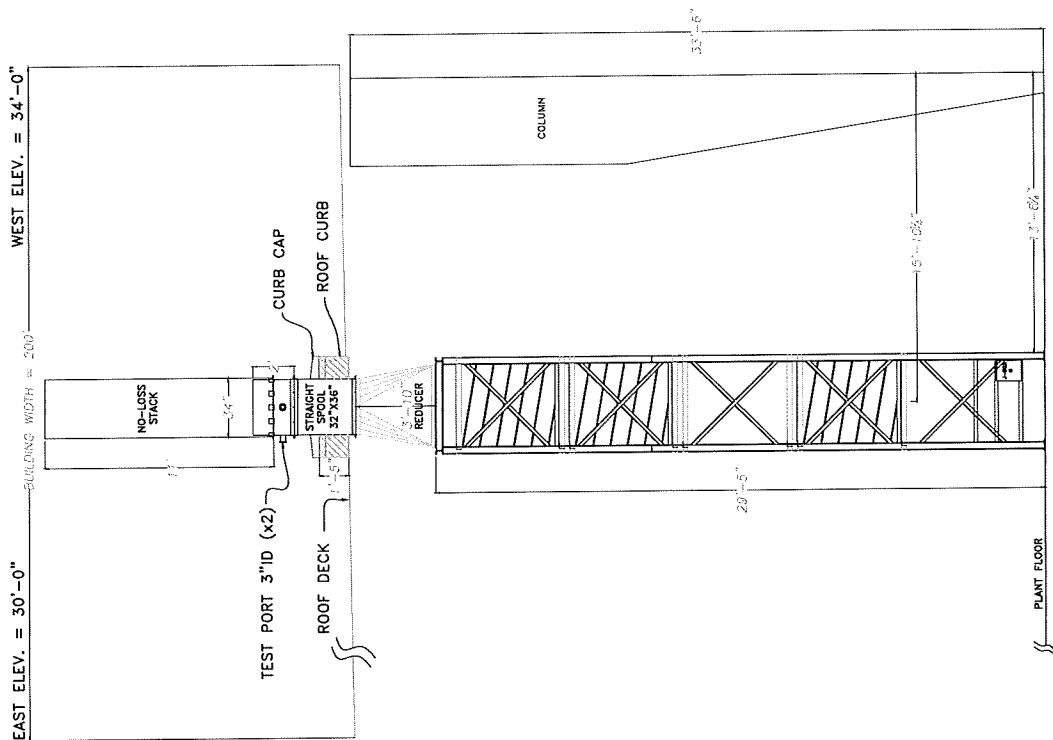
Notes for Table No. 6.1:

1. Calculated emission rate includes 3.5 lb/cycle from natural gas combustion as presented in approved test plan and Section 6.1.
2. Presented emission limit is for each FNC cycle for FGHEATTREAT.

Impact Compliance and Testing, Inc.

APPENDIX 1

- Figure 1 – Sample Port Diagram



EAST ELEV. = 30'-0" BUILDING WIDTH = 200" WEST ELEV. = 34'-0"

PLANT

WOODWORTH INCORPORATED
FONTAINE, MICHIGAN

DATE	REVISION	NAME
9/28/18	REMOVED DUCT #2	QUEZ

PROJECT TITLE:	BURN-OFF TOWER (FOR H01-H16)
SCALE THIS:	
DRAWN BY:	
CHECKED BY:	
DATE:	10/10/15
DRAWING NO.:	WWH-BO-01
SHEET:	
OF SHEETS:	

Impact Compliance and Testing, Inc.

Appendix 2

- Facility Operating Records

Subject: Test load weights

H08-70-11

Process date: 2-6-2019

Parts = 60,005.75

Fixtures = 16,870

Total = 76,875.75

H07-70-9

Process date: 2-7-2019

Parts = 45,534.72

Fixtures = 15,134

Total = 60,668.72

H06-70-10

Process date: 2-8-2019

Parts = 51,428.74

Fixtures = 16,746

Total = 68,174.74

Thank you

EJ Stumph

Woodworth Inc.

517-929-6100

Impact Compliance and Testing, Inc.

APPENDIX 3

- Flowrate Field Data Sheets
- Flowrate Calculation Sheets

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 8	Pitot Tube Corr. Factor	0.806
Test Date	2/6/2019	% CO₂	0.17
Test Number	1	% O₂	20.56
Time	9:34	% CO	0.000
Barometric Pressure	28.99	% N₂	79.27
Stack Static Pressure	-0.11	Md	28.85
Stack Diameter (in.)	32.00	Ms	28.75
Traverse points	24	Moisture Content (%)	0.88
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	76	0.07	1	87	0.08
2	78	0.08	2	90	0.10
3	80	0.09	3	92	0.11
4	81	0.09	4	93	0.11
5	82	0.10	5	97	0.12
6	82	0.09	6	110	0.16
7	82	0.09	7	130	0.18
8	83	0.09	8	131	0.18
9	83	0.09	9	131	0.16
10	84	0.08	10	127	0.15
11	81	0.07	11	123	0.14
12	80	0.06	12	116	0.12
Average	81	0.08		111	0.13

Moisture Content (Bws)	0.00882
Average Velocity Pressure ("H ₂ O)	0.109
Average Velocity Pressure Sqrt ("H ₂ O)	0.326
Stack Pressure ("Hg)	28.98
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	95.8
Average Stack Velocity (fps)	18.34
Average Stack Velocity (fpm)	1100.3
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	6,145
Flowrate (Standard Wet-SCFM)	5,655
Flowrate (Standard Dry-DSCFM)	5,605

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 8	Pitot Tube Corr. Factor	0.806
Test Date	2/6/2019	% CO₂	0.69
Test Number	2	% O₂	18.95
Time	9:59	% CO	0.000
Barometric Pressure	29.00	% N₂	80.36
Stack Static Pressure	-0.33	Md	28.87
Stack Diameter (in.)	32.00	Ms	28.69
Traverse points	24	Moisture Content (%)	1.64
Operator	AR/JV		

Side A			Side B		
Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
1	366	0.23	1	383	0.25
2	365	0.25	2	387	0.29
3	365	0.27	3	400	0.30
4	369	0.29	4	407	0.31
5	391	0.31	5	407	0.31
6	400	0.31	6	405	0.32
7	397	0.29	7	408	0.32
8	388	0.27	8	398	0.29
9	383	0.26	9	384	0.29
10	366	0.24	10	363	0.26
11	356	0.20	11	326	0.20
12	316	0.17	12	318	0.19
Average	372	0.26		382	0.28

Moisture Content (Bws)	0.01641
Average Velocity Pressure ("H ₂ O)	0.268
Average Velocity Pressure Sqrt ("H ₂ O)	0.515
Stack Pressure ("Hg)	28.98
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	377.0
Average Stack Velocity (fps)	35.64
Average Stack Velocity (fpm)	2138.1
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	11,942
Flowrate (Standard Wet-SCFM)	7,295
Flowrate (Standard Dry-DSCFM)	7,176

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 8	Pitot Tube Corr. Factor	0.806
Test Date	2/6/2019	% CO₂	0.44
Test Number	3	% O₂	19.54
Time	11:32	% CO	0.000
Barometric Pressure	29.00	% N₂	80.02
Stack Static Pressure	-0.27	Md	28.85
Stack Diameter (in.)	32.00	Ms	28.57
Traverse points	24	Moisture Content (%)	2.59
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	315	0.18	1	320	0.24
2	314	0.21	2	327	0.26
3	326	0.24	3	331	0.27
4	348	0.26	4	338	0.27
5	342	0.26	5	343	0.26
6	328	0.25	6	348	0.27
7	307	0.23	7	350	0.27
8	293	0.22	8	338	0.26
9	281	0.20	9	324	0.25
10	264	0.16	10	321	0.24
11	258	0.15	11	307	0.22
12	247	0.13	12	253	0.16
Average	302	0.21		325	0.25

Moisture Content (Bws)	0.02587
Average Velocity Pressure ("H ₂ O)	0.228
Average Velocity Pressure Sqrt ("H ₂ O)	0.475
Stack Pressure ("Hg)	28.98
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	313.5
Average Stack Velocity (fps)	31.61
Average Stack Velocity (fpm)	1896.8
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	10,594
Flowrate (Standard Wet-SCFM)	7,005
Flowrate (Standard Dry-DSCFM)	6,824

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 8	Pitot Tube Corr. Factor	0.806
Test Date	2/6/2019	% CO₂	0.43
Test Number	4	% O₂	19.33
Time	15:57	% CO	0.000
Barometric Pressure	29.01	% N₂	80.24
Stack Static Pressure	-0.30	Md	28.84
Stack Diameter (in.)	32.00	Ms	28.52
Traverse points	24	Moisture Content (%)	2.96
Operator	AR/JV		

Side A			Side B		
Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
1	271	0.21	1	232	0.17
2	268	0.20	2	236	0.19
3	255	0.20	3	266	0.23
4	254	0.20	4	277	0.24
5	251	0.20	5	281	0.25
6	246	0.21	6	289	0.26
7	249	0.23	7	288	0.27
8	274	0.23	8	284	0.26
9	272	0.21	9	284	0.25
10	268	0.20	10	275	0.22
11	264	0.16	11	263	0.19
12	247	0.14	12	243	0.17
Average	260	0.20		268	0.23

Moisture Content (Bws)	0.0296
Average Velocity Pressure ("H ₂ O)	0.212
Average Velocity Pressure Sqrt ("H ₂ O)	0.459
Stack Pressure ("Hg)	28.99
Stack Gas Specific Gravity (Gs)	0.98
Average Stack Temperature (°F)	264.0
Average Stack Velocity (fps)	29.60
Average Stack Velocity (fpm)	1776.3
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	9,920
Flowrate (Standard Wet-SCFM)	7,009
Flowrate (Standard Dry-DSCFM)	6,802

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 7	Pitot Tube Corr. Factor	0.806
Test Date	2/7/2019	% CO₂	0.29
Test Number	1	% O₂	19.96
Time	8:30	% CO	0.000
Barometric Pressure	29.00	% N₂	79.75
Stack Static Pressure	-0.10	Md	28.85
Stack Diameter (in.)	32.00	Ms	28.75
Traverse points	24	Moisture Content (%)	0.85
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	80	0.10	1	91	0.12
2	81	0.11	2	105	0.15
3	82	0.09	3	120	0.15
4	84	0.09	4	126	0.16
5	87	0.10	5	134	0.17
6	90	0.12	6	143	0.17
7	91	0.12	7	146	0.17
8	92	0.11	8	148	0.19
9	91	0.09	9	149	0.16
10	92	0.07	10	141	0.15
11	89	0.05	11	138	0.14
12	77	0.07	12	134	0.13
Average	86	0.09		131	0.16

Moisture Content (Bws)	0.00854
Average Velocity Pressure ("H ₂ O)	0.124
Average Velocity Pressure Sqrt ("H ₂ O)	0.348
Stack Pressure ("Hg)	28.99
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	108.8
Average Stack Velocity (fps)	19.82
Average Stack Velocity (fpm)	1189.2
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	6,642
Flowrate (Standard Wet-SCFM)	5,974
Flowrate (Standard Dry-DSCFM)	5,923

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 7	Pitot Tube Corr. Factor	0.806
Test Date	2/7/2019	% CO₂	0.60
Test Number	2	% O₂	19.22
Time	8:55	% CO	0.000
Barometric Pressure	29.00	% N₂	80.18
Stack Static Pressure	-0.34	Md	28.87
Stack Diameter (in.)	32.00	Ms	28.73
Traverse points	24	Moisture Content (%)	1.24
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	311	0.27	1	367	0.25
2	331	0.28	2	372	0.28
3	340	0.30	3	376	0.29
4	342	0.29	4	375	0.30
5	348	0.30	5	371	0.30
6	350	0.30	6	375	0.30
7	355	0.29	7	362	0.30
8	348	0.27	8	346	0.29
9	327	0.28	9	323	0.27
10	310	0.24	10	300	0.22
11	297	0.23	11	286	0.21
12	293	0.20	12	264	0.17
Average	329	0.27		343	0.27

Moisture Content (Bws)	0.01244
Average Velocity Pressure ("H ₂ O)	0.268
Average Velocity Pressure Sqrt ("H ₂ O)	0.516
Stack Pressure ("Hg)	28.98
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	336.2
Average Stack Velocity (fps)	34.79
Average Stack Velocity (fpm)	2087.5
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	11,659
Flowrate (Standard Wet-SCFM)	7,487
Flowrate (Standard Dry-DSCFM)	7,394

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 7	Pitot Tube Corr. Factor	0.806
Test Date	2/7/2019	% CO₂	0.46
Test Number	3	% O₂	18.28
Time	10:29	% CO	0.000
Barometric Pressure	28.97	% N₂	81.26
Stack Static Pressure	-0.29	Md	28.81
Stack Diameter (in.)	32.00	Ms	28.63
Traverse points	24	Moisture Content (%)	1.65
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	282	0.19	1	262	0.19
2	283	0.26	2	257	0.20
3	288	0.25	3	259	0.21
4	294	0.26	4	260	0.23
5	298	0.26	5	266	0.24
6	297	0.25	6	274	0.25
7	284	0.24	7	279	0.27
8	264	0.23	8	275	0.26
9	251	0.22	9	261	0.21
10	248	0.18	10	250	0.18
11	241	0.16	11	240	0.16
12	225	0.12	12	228	0.12
Average	271	0.22		259	0.21

Moisture Content (Bws)	0.01654
Average Velocity Pressure ("H ₂ O)	0.214
Average Velocity Pressure Sqrt ("H ₂ O)	0.460
Stack Pressure ("Hg)	28.95
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	265.3
Average Stack Velocity (fps)	29.66
Average Stack Velocity (fpm)	1779.8
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	9,940
Flowrate (Standard Wet-SCFM)	7,002
Flowrate (Standard Dry-DSCFM)	6,886

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 7	Pitot Tube Corr. Factor	0.806
Test Date	2/7/2019	% CO₂	0.45
Test Number	4	% O₂	19.54
Time	14:54	% CO	0.000
Barometric Pressure	28.75	% N₂	80.01
Stack Static Pressure	-0.24	Md	28.85
Stack Diameter (in.)	32.00	Ms	28.67
Traverse points	24	Moisture Content (%)	1.74
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	234	0.17	1	275	0.20
2	237	0.22	2	280	0.21
3	245	0.21	3	283	0.24
4	252	0.20	4	281	0.27
5	259	0.23	5	284	0.27
6	265	0.23	6	285	0.28
7	262	0.21	7	286	0.24
8	248	0.19	8	279	0.25
9	229	0.17	9	270	0.25
10	220	0.17	10	264	0.22
11	208	0.15	11	252	0.18
12	193	0.13	12	234	0.18
Average	238	0.19		273	0.23

Moisture Content (Bws)	0.01737
Average Velocity Pressure ("H ₂ O)	0.211
Average Velocity Pressure Sqrt ("H ₂ O)	0.458
Stack Pressure ("Hg)	28.73
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	255.2
Average Stack Velocity (fps)	29.39
Average Stack Velocity (fpm)	1763.2
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	9,847
Flowrate (Standard Wet-SCFM)	6,981
Flowrate (Standard Dry-DSCFM)	6,860

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 6	Pitot Tube Corr. Factor	0.806
Test Date	2/8/2019	% CO₂	0.35
Test Number	1	% O₂	19.85
Time	8:59	% CO	0.000
Barometric Pressure	29.21	% N₂	79.80
Stack Static Pressure	-0.45	Md	28.85
Stack Diameter (in.)	32.00	Ms	28.80
Traverse points	24	Moisture Content (%)	0.46
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	87	0.28	1	107	0.28
2	92	0.31	2	111	0.34
3	102	0.36	3	113	0.36
4	98	0.36	4	126	0.36
5	110	0.37	5	139	0.36
6	123	0.37	6	142	0.39
7	114	0.35	7	140	0.39
8	108	0.34	8	137	0.41
9	108	0.27	9	133	0.41
10	102	0.25	10	129	0.34
11	123	0.20	11	124	0.27
12	90	0.17	12	108	0.24
Average	105	0.30		126	0.35

Moisture Content (Bws)	0.00461
Average Velocity Pressure ("H ₂ O)	0.324
Average Velocity Pressure Sqrt ("H ₂ O)	0.566
Stack Pressure ("Hg)	29.18
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	115.3
Average Stack Velocity (fps)	32.28
Average Stack Velocity (fpm)	1937.1
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	10,819
Flowrate (Standard Wet-SCFM)	9,683
Flowrate (Standard Dry-DSCFM)	9,639

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 6	Pitot Tube Corr. Factor	0.806
Test Date	2/8/2019	% CO₂	0.32
Test Number	2	% O₂	19.75
Time	9:23	% CO	0.000
Barometric Pressure	29.22	% N₂	79.93
Stack Static Pressure	-0.80	Md	28.84
Stack Diameter (in.)	32.00	Ms	28.77
Traverse points	24	Moisture Content (%)	0.66
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	233	0.47	1	252	0.69
2	228	0.51	2	236	0.66
3	238	0.51	3	239	0.60
4	235	0.44	4	243	0.63
5	248	0.59	5	255	0.69
6	266	0.66	6	266	0.65
7	266	0.67	7	265	0.65
8	264	0.65	8	267	0.70
9	245	0.59	9	250	0.60
10	226	0.54	10	234	0.45
11	214	0.44	11	217	0.38
12	200	0.41	12	195	0.37
Average	239	0.54		243	0.59

Moisture Content (Bws)	0.00662
Average Velocity Pressure ("H ₂ O)	0.565
Average Velocity Pressure Sqrt ("H ₂ O)	0.748
Stack Pressure ("Hg)	29.16
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	240.9
Average Stack Velocity (fps)	47.11
Average Stack Velocity (fpm)	2826.4
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	15,785
Flowrate (Standard Wet-SCFM)	11,590
Flowrate (Standard Dry-DSCFM)	11,513

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 6	Pitot Tube Corr. Factor	0.806
Test Date	2/8/2019	% CO₂	0.26
Test Number	3	% O₂	19.63
Time	10:56	% CO	0.000
Barometric Pressure	29.30	% N₂	80.11
Stack Static Pressure	-0.63	Md	28.83
Stack Diameter (in.)	32.00	Ms	28.47
Traverse points	24	Moisture Content (%)	3.34
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	
Side A			Side B			
1	236	0.35	1	206	0.41	
2	229	0.41	2	204	0.47	
3	233	0.50	3	214	0.55	
4	230	0.50	4	220	0.63	
5	231	0.55	5	231	0.57	
6	247	0.54	6	243	0.63	
7	252	0.57	7	246	0.52	
8	251	0.58	8	247	0.50	
9	246	0.55	9	236	0.49	
10	232	0.49	10	225	0.47	
11	216	0.42	11	209	0.34	
12	191	0.39	12	175	0.33	
Average		233	0.49	221		0.49

Moisture Content (Bws)	0.03337
Average Velocity Pressure ("H ₂ O)	0.490
Average Velocity Pressure Sqrt ("H ₂ O)	0.697
Stack Pressure ("Hg)	29.25
Stack Gas Specific Gravity (Gs)	0.98
Average Stack Temperature (°F)	227.1
Average Stack Velocity (fps)	43.64
Average Stack Velocity (fpm)	2618.6
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	14,625
Flowrate (Standard Wet-SCFM)	10,988
Flowrate (Standard Dry-DSCFM)	10,622

EXHAUST GAS VELOCITY, MOISTURE, AND FLOWRATE CALCULATION SHEET

Company	Woodworth	Pitot Tube Number	5F-1
Source Designation	Furnace No. 6	Pitot Tube Corr. Factor	0.806
Test Date	2/8/2019	% CO₂	0.20
Test Number	4	% O₂	19.89
Time	15:22	% CO	0.000
Barometric Pressure	29.45	% N₂	79.91
Stack Static Pressure	-0.60	Md	28.83
Stack Diameter (in.)	32.00	Ms	28.72
Traverse points	24	Moisture Content (%)	0.98
Operator	AR/JV		

Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)	Traverse Point Number	Stack Temp. (°F)	Velocity Pres. ("H ₂ O)
Side A			Side B		
1	161	0.25	1	164	0.25
2	163	0.32	2	161	0.27
3	171	0.35	3	165	0.29
4	180	0.37	4	175	0.32
5	180	0.35	5	178	0.35
6	185	0.37	6	183	0.41
7	184	0.40	7	184	0.43
8	186	0.40	8	187	0.45
9	179	0.37	9	186	0.44
10	176	0.32	10	182	0.42
11	169	0.22	11	170	0.32
12	155	0.20	12	158	0.23
Average	174	0.33		174	0.35

Moisture Content (Bws)	0.0098
Average Velocity Pressure ("H ₂ O)	0.338
Average Velocity Pressure Sqrt ("H ₂ O)	0.577
Stack Pressure ("Hg)	29.41
Stack Gas Specific Gravity (Gs)	0.99
Average Stack Temperature (°F)	174.3
Average Stack Velocity (fps)	34.48
Average Stack Velocity (fpm)	2068.9
Area of Stack (ft ²)	5.585
Flowrate (Actual-CFM)	11,555
Flowrate (Standard Wet-SCFM)	9,454
Flowrate (Standard Dry-DSCFM)	9,361

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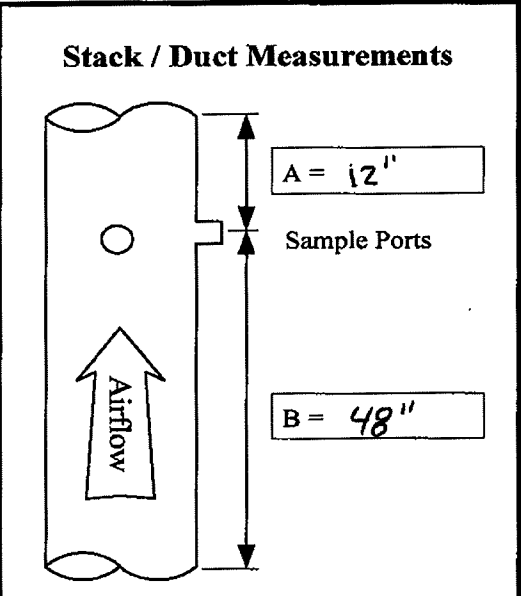
USEPA Method 2
Gas Velocity Measurement Data Sheet

Company Woodworth, Homer
 Source Designation Furnace #8
 Test Date 2 / 4 / 2019
 Test Number Prelim
 Time (24-hr clock) ~~13:00~~ 10:30
 Barometric Press. (in. Hg) 29.08
 Static Pressure (in. H₂O) -0.30

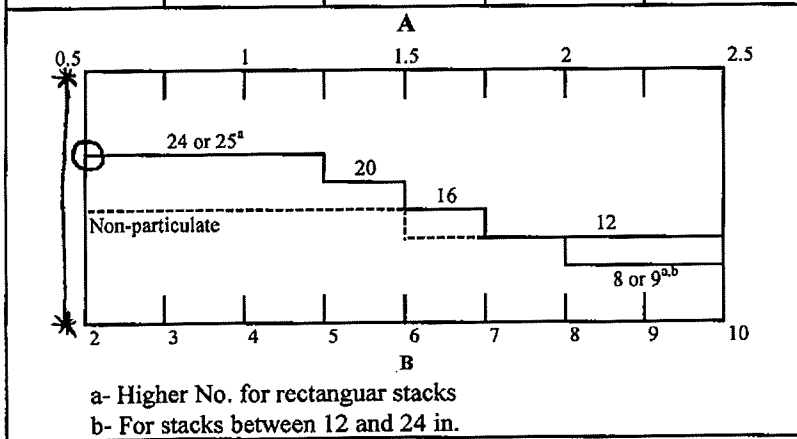
No. of Points 12
 Operator(s) JV/AR
 Pitot Type Type S or Standard
 Pitot Identification 5F1
 O₂ Content (%) 19.6
 CO₂ Content (%) 0.30
 Wet Bulb Temp. -

Nips
 +4.25"
 31"

Inches from Stack Wall	Traverse Point Number	Stack Temperature (°F)	Velocity Head (in. H ₂ O)	Null Angel (zero angle)
1	1	320	0.27	0
2.14	2	322	0.29	0
3.78	3	324	0.29	0
5.67	4	329	0.30	0
8	5	337	0.33	0
11.39	6	341	0.33	0
20.61	7	344	0.33	0
24	8	340	0.33	0
26.34	9	328	0.30	0
28.22	10	321	0.26	0
29.86	11	316	0.24	0
31.23	12	303	0.20	0
	1	328	0.26	0
	2	328	0.28	0
	3	328	0.28	0
	4	328	0.30	0
	5	335	0.30	0
	6	340	0.30	0
	7	340	0.27	0
	8	325	0.25	0
	9	314	0.22	0
	10	301	0.21	0
	11	297	0.20	0
	12	287	0.20	0



Round Duct Dia. (D) 32"
 Square Duct (LxW) — x —
 Square Duct Dia. (De): —
 De = 2LW / (L+W)
 Straight Length: A / D .38
 (diameters) B / D 1.5



Traverse Point	No. of Traverse Points Per Dia.			
	6	8	10	12
1	4.4	3.2	2.6	2.1
2	14.6	10.5	8.2	6.7
3	29.6	19.4	14.6	11.8
4	70.4	32.2	22.6	17.7
5	85.4	67.7	34.2	25.0
6	95.6	80.6	65.8	35.6
7		89.5	77.4	64.4
8		96.8	85.4	75.0
9			91.8	82.3
10			97.4	88.2
11				93.3
12				97.9

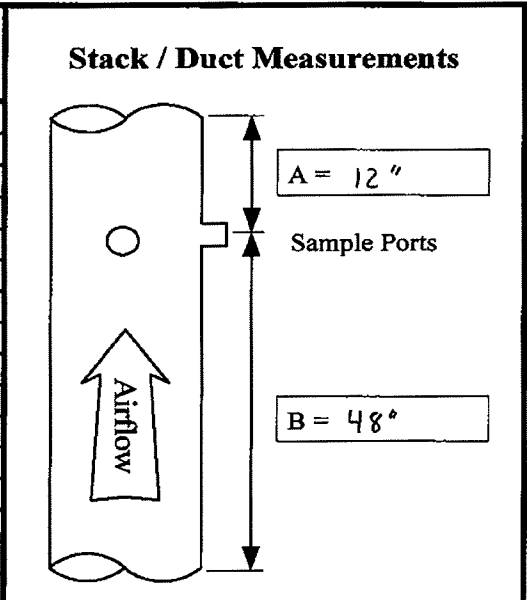
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**USEPA Method 2
Gas Velocity Measurement Data Sheet**

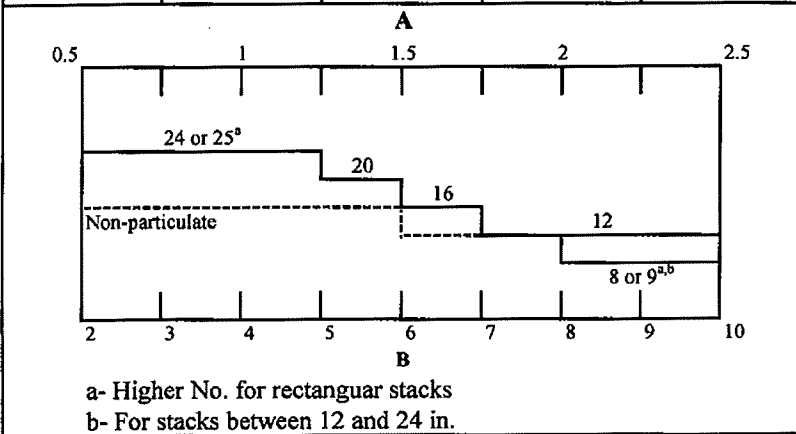
Company Woodworth
 Source Designation Furnace #7
 Test Date 2/7/19
 Test Number _____
 Time (24-hr clock) _____
 Barometric Press. (in. Hg) _____
 Static Pressure (in. H₂O) _____

No. of Points 24
 Operator(s) AR/JV
 Pitot Type Type S or Standard
 Pitot Identification SF-1
 O₂ Content (%) _____
 CO₂ Content (%) _____
 Wet Bulb Temp. _____

Inches from Stack Wall	Traverse Point Number	Stack Temperature (°F)	Velocity Head (in. H ₂ O)	Null Angel (zero angle)
1	1			0
2.14	2			0
3.78	3			0
5.67	4			0
8	5			0
11.39	6			0
20.61	7			0
24	8			0
26.34	9			0
28.22	10			0
29.86	11			0
31	12			0
	1			0
	2			0
	3			0
	4			0
	5			0
	6			0
	7			0
	8			0
	9			0
	10			0
	11			0
	12			0



Round Duct Dia. (D) 32" + 4.5" nipple
 Square Duct (LxW) _____ x _____
 Square Duct Dia. (De): _____
 De = 2LW / (L+W)
 Straight Length: A/D 0.38
 (diameters) B/D 1.5



Traverse Point	No. of Traverse Points Per Dia.			
	6	8	10	12
1	4.4	3.2	2.6	2.1
2	14.6	10.5	8.2	6.7
3	29.6	19.4	14.6	11.8
4	70.4	32.2	22.6	17.7
5	85.4	67.7	34.2	25.0
6	95.6	80.6	65.8	35.6
7		89.5	77.4	64.4
8		96.8	85.4	75.0
9			91.8	82.3
10			97.4	88.2
11				93.3
12				97.9

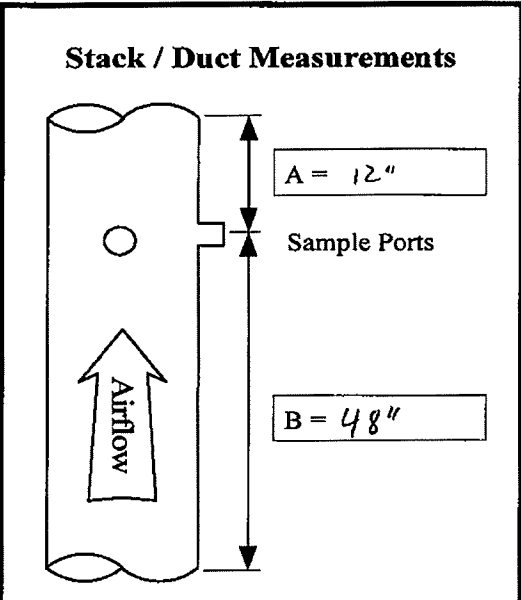
Derenzo Environmental Services

**USEPA Method 2
Gas Velocity Measurement Data Sheet**

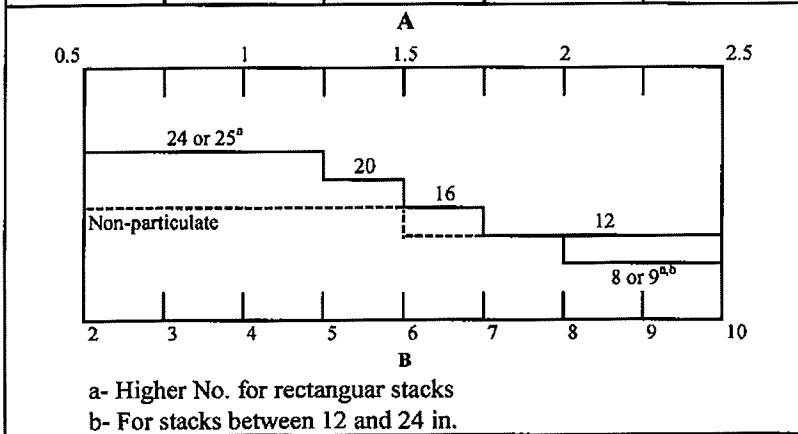
Company Woodworth
 Source Designation Furnace #6
 Test Date / /
 Test Number _____
 Time (24-hr clock) _____
 Barometric Press. (in. Hg) _____
 Static Pressure (in. H₂O) _____

No. of Points 24
 Operator(s) AR/JV
 Pitot Type (Type S) or Standard
 Pitot Identification SF-1
 O₂ Content (%) _____
 CO₂ Content (%) _____
 Wet Bulb Temp. _____

Inches from Stack Wall	Traverse Point Number	Stack Temperature (°F)	Velocity Head (in. H ₂ O)	Null Angel (zero angle)
1	1			0
2.14	2			0
3.78	3			0
5.67	4			0
8	5			0
11.39	6			0
20.61	7			0
24	8			0
26.34	9			0
28.22	10			0
29.86	11			0
31	12			0
	1			0
	2			0
	3			0
	4			0
	5			0
	6			0
	7			0
	8			0
	9			0
	10			0
	11			0
	12			0



Round Duct Dia. (D) 32" + 4.5" nipple
 Square Duct (LxW) _____ x _____
 Square Duct Dia. (De): _____
 De = 2LW / (L+W)
 Straight Length: A / D 0.38
 (diameters) B / D 1.5



Traverse Point	No. of Traverse Points Per Dia.			
	6	8	10	12
1	4.4	3.2	2.6	2.1
2	14.6	10.5	8.2	6.7
3	29.6	19.4	14.6	11.8
4	70.4	32.2	22.6	17.7
5	85.4	67.7	34.2	25.0
6	95.6	80.6	65.8	35.6
7		89.5	77.4	64.4
8		96.8	85.4	75.0
9			91.8	82.3
10			97.4	88.2
11				93.3
12				97.9

USEPA Method 2
Gas Velocity Measurement Data Sheet

Company: Woodworth
Source ID: Furnace #8

No. Points: 24
Operator: AR/JV

Pitot Type: Bar or Standard
Pitot ID: 5 F. 1

Traverse Point No.	2-6-19		2-6-19		2-6-19		2-6-19		2-6-19	
	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)
1	76	0.07	366	0.23	315	0.18	271	0.21	271	0.21
2	78	0.08	365	0.25	314	0.21	268	0.20	268	0.20
3	80	0.09	365	0.27	326	0.24	255	0.20	255	0.20
4	81	0.09	369	0.29	348	0.26	254	0.20	254	0.20
5	82	0.10	391	0.31	342	0.26	251	0.20	251	0.20
6	82	0.09	400	0.31	328	0.25	246	0.21	246	0.21
7	82	0.09	397	0.29	307	0.23	249	0.23	249	0.23
8	83	0.09	388	0.27	293	0.22	274	0.23	274	0.23
9	83	0.09	383	0.26	281	0.20	272	0.21	272	0.21
10	84	0.08	366	0.24	264	0.16	268	0.20	268	0.20
11	81	0.07	356	0.20	258	0.15	264	0.16	264	0.16
12	80	0.06	316	0.17	217	0.13	247	0.14	247	0.14
1	87	0.08	383	0.25	320	0.24	232	0.17	232	0.17
2	90	0.10	387	0.29	327	0.26	236	0.19	236	0.19
3	92	0.11	400	0.30	331	0.27	266	0.23	266	0.23
4	93	0.11	407	0.31	338	0.27	277	0.24	277	0.24
5	97	0.12	407	0.31	343	0.26	281	0.25	281	0.25
6	110	0.16	405	0.32	348	0.27	289	0.26	289	0.26
7	130	0.18	408	0.32	350	0.27	288	0.27	288	0.27
8	131	0.18	398	0.29	338	0.26	284	0.26	284	0.26
9	131	0.16	384	0.29	324	0.25	284	0.25	284	0.25
10	127	0.15	363	0.26	321	0.24	275	0.22	275	0.22
11	123	0.14	226	0.20	307	0.22	263	0.19	263	0.19
12	116	0.12	318	0.19	253	0.16	243	0.17	243	0.17

Date: 2-6-19
Test No.: FNC2
Time: 11:32 (24-hr)
Bar. Press.: 29.00 in. Hg
Static Press.: -0.27 in. H₂O
O₂ Content: 19.54 %
CO₂ Content: 0.437 %
Wet Bulb Temp.: 2.587 %

Date: 2-6-19
Test No.: FNC3
Time: 15:57 (24-hr)
Bar. Press.: 29.01 in. Hg
Static Press.: -0.30 in. H₂O
O₂ Content: 19.33 %
CO₂ Content: 0.428 %
Wet Bulb Temp.: 2.960 %

Date: 2-6-19
Test No.: FNC1
Time: 9:59 (24-hr)
Bar. Press.: 29.00 in. Hg
Static Press.: -0.33 in. H₂O
O₂ Content: 18.95 %
CO₂ Content: 0.690 %
Wet Bulb Temp.: 1.641 %

Date: 2-6-19
Test No.: 934
Time: 28:99 (24-hr)
Bar. Press.: -0.11 in. Hg
Static Press.: 20.56 in. H₂O
O₂ Content: 0.157 %
CO₂ Content: 0.882 %
Wet Bulb Temp.: 0.882 %

**USEPA Method 2
Gas Velocity Measurement Data Sheet**

Company: Woodworth
Source ID: Furnace7

No. Points: 24
Operator: AR/JV

Pitot Type: (Type) or Standard
Pitot ID: SF-1

Traverse Point No.	2-7-19				2-7-19				2-7-19				2-7-19			
	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)		
1	80	0.10	311	0.27	282	0.19	234	234	0.17	282	0.19	234	234	0.17		
2	81	0.11	331	0.28	283	0.26	237	237	0.22	283	0.26	237	237	0.22		
3	82	0.09	340	0.30	288	0.25	245	245	0.21	288	0.25	245	245	0.21		
4	84	0.09	342	0.29	294	0.26	252	252	0.20	294	0.26	252	252	0.20		
5	87	0.10	348	0.30	298	0.26	259	259	0.23	298	0.26	259	259	0.23		
6	90	0.12	350	0.30	297	0.25	265	265	0.23	297	0.25	265	265	0.23		
7	91	0.12	355	0.29	284	0.24	262	262	0.21	284	0.24	262	262	0.21		
8	92	0.11	348	0.27	264	0.23	248	248	0.19	264	0.23	248	248	0.19		
9	91	0.09	327	0.28	251	0.22	229	229	0.17	251	0.22	229	229	0.17		
10	92	0.07	310	0.24	248	0.18	220	220	0.17	248	0.18	220	220	0.17		
11	89	0.05	297	0.23	241	0.16	208	208	0.15	241	0.16	208	208	0.15		
12	77	0.07	293	0.20	225	0.12	193	193	0.13	225	0.12	193	193	0.13		
1	91	0.12	367	0.25	262	0.19	275	275	0.20	262	0.19	275	275	0.20		
2	105	0.15	372	0.28	257	0.20	280	280	0.21	257	0.20	280	280	0.21		
3	120	0.15	376	0.29	259	0.21	283	283	0.24	259	0.21	283	283	0.24		
4	126	0.16	375	0.30	260	0.23	281	281	0.27	260	0.23	281	281	0.27		
5	134	0.17	371	0.30	266	0.24	284	284	0.27	266	0.24	284	284	0.27		
6	143	0.17	375	0.30	274	0.25	285	285	0.28	274	0.25	285	285	0.28		
7	146	0.17	362	0.30	279	0.27	286	286	0.24	279	0.27	286	286	0.24		
8	148	0.19	346	0.29	275	0.26	279	279	0.25	275	0.26	279	279	0.25		
9	149	0.16	323	0.27	261	0.21	270	270	0.25	261	0.21	270	270	0.25		
10	141	0.15	300	0.22	250	0.18	264	264	0.22	250	0.18	264	264	0.22		
11	138	0.14	286	0.21	240	0.16	252	252	0.18	240	0.16	252	252	0.18		
12	134	0.13	264	0.17	228	0.12	234	234	0.18	228	0.12	234	234	0.18		

Date: 2-7-19
Test No.: FNC2
Time: 10:29
Bar. Press.: 28.97
Static Press.: -0.29
O₂ Content: 18.28
CO₂ Content: 0.462
Wet Bulb Temp.: 1.654

Date: 2-7-19
Test No.: FNC3
Time: 14:54
Bar. Press.: 28.75
Static Press.: -0.24
O₂ Content: 19.54
CO₂ Content: 0.454
Wet Bulb Temp.: 1.737

Date: 2-7-19
Test No.: FNC1
Time: 8:55
Bar. Press.: 29.00
Static Press.: -0.34
O₂ Content: 19.22
CO₂ Content: 0.604
Wet Bulb Temp.: 1.244

Date: 2-7-19
Test No.: 3674
Time: 8:30
Bar. Press.: 29.00
Static Press.: -0.10
O₂ Content: 19.96
CO₂ Content: 0.292
Wet Bulb Temp.: 0.854

USEPA Method 2
Gas Velocity Measurement Data Sheet

Company: Woodworth
Source ID: Furnace 6

No. Poinis: 24
Operator: AK/JV

Pitot Type: Type S or Standard
Pitot ID: 55-1

Traverse Point No.	2-8-19				2-8-19				2-8-19			
	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)	Stack Temp. (°F)	Velocity Head (in. H ₂ O)
1	87	0.28	233	0.47	236	0.35	161	0.25	236	0.41	164	0.25
2	92	0.31	228	0.51	229	0.41	163	0.27	229	0.47	161	0.27
3	102	0.36	238	0.51	233	0.50	171	0.29	233	0.55	165	0.29
4	98	0.36	235	0.44	230	0.50	180	0.32	230	0.63	175	0.32
5	110	0.37	248	0.59	231	0.55	180	0.35	231	0.57	178	0.35
6	123	0.37	266	0.66	247	0.54	185	0.37	247	0.63	183	0.41
7	114	0.35	266	0.67	252	0.57	184	0.40	252	0.52	184	0.43
8	108	0.34	264	0.65	251	0.58	186	0.40	251	0.58	186	0.44
9	108	0.27	245	0.59	246	0.55	179	0.37	246	0.55	179	0.37
10	102	0.25	226	0.54	232	0.49	176	0.32	232	0.49	176	0.32
11	123	0.20	214	0.44	216	0.42	169	0.22	216	0.42	169	0.22
12	90	0.17	200	0.41	191	0.39	155	0.20	191	0.39	155	0.20
1	107	0.28	252	0.69	206	0.41	164	0.25	206	0.41	164	0.25
2	111	0.34	236	0.66	204	0.47	161	0.27	204	0.47	161	0.27
3	113	0.36	239	0.60	214	0.55	165	0.29	214	0.55	165	0.29
4	126	0.36	243	0.63	220	0.63	175	0.32	220	0.63	175	0.32
5	139	0.36	255	0.69	231	0.57	178	0.35	231	0.57	178	0.35
6	142	0.39	266	0.65	243	0.63	183	0.41	243	0.63	183	0.41
7	140	0.39	265	0.65	246	0.63	184	0.43	246	0.63	184	0.43
8	137	0.41	267	0.70	247	0.52	184	0.43	247	0.52	184	0.43
9	133	0.41	250	0.60	236	0.49	186	0.44	236	0.49	186	0.44
10	129	0.34	234	0.45	225	0.47	182	0.42	225	0.47	182	0.42
11	124	0.27	217	0.38	209	0.34	170	0.32	209	0.34	170	0.32
12	108	0.24	195	0.37	175	0.33	158	0.23	175	0.33	158	0.23

Date: 2-8-19
Test No.: FNC2
Time: 10:56 (24-hr)
Bar. Press.: 29.30 in. Hg
Static Press.: -0.63 in. H₂O
O₂ Content: 19.63 %
CO₂ Content: 0.258 %
Wet Bulb Temp.: 3.337 %
Stack Temp.: 161 °F
Velocity Head (in. H₂O): 0.35

Date: 2-8-19
Test No.: FNC3
Time: 15:22 (24-hr)
Bar. Press.: 29.45 in. Hg
Static Press.: -0.60 in. H₂O
O₂ Content: 19.89 %
CO₂ Content: 0.20 %
Wet Bulb Temp.: 0.98 %
Stack Temp.: 161 °F
Velocity Head (in. H₂O): 0.35

Date: 2-8-19
Test No.: FNC1
Time: 9:23 (24-hr)
Bar. Press.: 29.22 in. Hg
Static Press.: -0.80 in. H₂O
O₂ Content: 19.75 %
CO₂ Content: 0.318 %
Wet Bulb Temp.: 0.662 %
Stack Temp.: 236 °F
Velocity Head (in. H₂O): 0.47

Date: 2-8-19
Test No.: FNC4
Time: 29:21 (24-hr)
Bar. Press.: 29.21 in. Hg
Static Press.: -0.45 in. H₂O
O₂ Content: 19.85 %
CO₂ Content: 0.352 %
Wet Bulb Temp.: 0.461 %
Stack Temp.: 233 °F
Velocity Head (in. H₂O): 0.28

Impact Compliance and Testing, Inc.

APPENDIX 4

- Pollutant Calculation Sheets

ASTM D6348 Calculation Summary
Nitrogen Oxides Emissions

Company: Woodworth
 Location: Homer, MI
 Source: Furnace No. 8
 Date: 2/6/2019

Measurement Results	Test 1	Test 2	Test 3	Test 4	Average
Average reported NOx concentration	= 51.6	98.1	84.8	74.6	85.4 ppmvd
Volumetric flow rate	= 5,605	7,176	6,824	6,802	6,601 dscfm
Moisture Content	= 1.19	2.39	2.35	2.37	2.29 %
CO ₂ Content	= 0.45	0.49	0.35	0.43	0.39 %
Cycle Time (min)	= 25	90	270	10	395 min

Calculated Nitrogen Oxides Emission Rate	Test 1	Test 2	Test 3	Test 4	Total
$E_{NOx} = (C_d) (Q_{dstd}) \text{ (minutes)} (MW_{NO2}) / (V_M)$	= 0.86	7.57	18.67	0.61	27.71 lb/cycle

where:

- C_d = reported NOx concentration, dry basis ($\text{ft}^3 \text{ NOx} / 10^6 \text{ ft}^3 \text{ stack gas}$)
- Q_{dstd} = stack gas flowrate (dscfm)
- MW_{NO2} = molecular weight nitrogen dioxide (46.0 lb/lb-mol)
- V_M = molar volume of ideal gas at std conditions (385 $\text{ft}^3/\text{lb-mol}$)

ASTM D6348 Calculation Summary
 Nitrogen Oxides Emissions

Company: Woodworth
 Location: Homer, MI
 Source: Furnace No. 7
 Date: 2/7/2019

Measurement Results	Test 1	Test 2	Test 3	Test 4	Average
Average reported NOx concentration	= 54.2	75.9	65.1	74.3	67.1 ppmvd
Volumetric flow rate	= 5,923	7,394	6,886	6,860	6,766 dscfm
Moisture Content	= 1.06	1.87	2.11	1.72	2.08 %
CO ₂ Content	= 0.48	0.44	0.33	0.48	0.38 %
Cycle Time (min)	= 25	90	270	10	395 min

Calculated Nitrogen Oxides Emission Rate	Test 1	Test 2	Test 3	Test 4	Average
$E_{NOx} = (C_d) (Q_{dstd}) (60 \text{ min/hr}) (MW_{NO2}) / (V_M)$	= 0.96	6.03	14.45	0.61	22.05 lb/cycle

where:

- C_d = reported NOx concentration, dry basis ($\text{ft}^3 \text{ NOx} / 10^6 \text{ ft}^3 \text{ stack gas}$)
- Q_{dstd} = stack gas flowrate (dscfm)
- MW_{NO2} = molecular weight nitrogen dioxide (46.0 lb/lb-mol)
- V_M = molar volume of ideal gas at std conditions (385 $\text{ft}^3/\text{lb-mol}$)

ASTM D6348 Calculation Summary
Nitrogen Oxides Emissions

Company: Woodworth
 Location: Homer, MI
 Source: Furnace No. 6
 Date: 2/8/2019

Measurement Results	Test 1	Test 2	Test 3	Test 4	Average	
Average reported NOx concentration	= 36.3	57.6	56.8	35.1	55.1	ppmvd
Volumetric flow rate	= 9,639	11,513	10,622	9,361	10,284	dscfm
Moisture Content	= 0.54	1.24	1.51	0.98	1.37	%
CO ₂ Content	= 0.37	0.29	0.21	0.20	0.24	%
Cycle Time (min)	= 25	90	270	10	395	min

Calculated Nitrogen Oxides Emission Rate	Test 1	Test 2	Test 3	Test 4	Average	
$E_{NOx} = (C_d) (Q_{dstd}) (60 \text{ min/hr}) (MW_{NO2}) / (V_M)$	= 1.04	7.13	19.48	0.39	28.04	lb/cycle

where:

- C_d = reported NOx concentration, dry basis (ft³ NOx / 10⁶ ft³ stack gas)
- Q_{dstd} = stack gas flowrate (dscfm)
- MW_{NO2} = molecular weight nitrogen dioxide (46.0 lb/lb-mol)
- V_M = molar volume of ideal gas at std conditions (385 ft³/lb-mol)

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ASTM D6348 Calculation Summary
Ammonia Emissions

Company: Woodworth
 Location: Homer, MI
 Source: Furnace No. 8
 Date: 2/6/2019

Measurement Results	Test 1	Test 2	Test 3	Test 4	Average
Average reported NH ₃ concentration	= 29.7	8.13	10.4	8.04	11.1 ppmv
Volumetric flow rate	= 5,655	7,295	7,005	7,009	6,741 scfm
Moisture Content	= 1.19	2.39	2.35	2.37	2.29 %
CO ₂ Content	= 0.45	0.49	0.35	0.43	0.39 %
Cycle Time (min)	= 25	90	270	10	395 min

Calculated Ammonia Emission Rate	Test 1	Test 2	Test 3	Test 4	Total
ENH ₃ = (C _d) (Qstd) (60 min/hr) (MW _{NH3}) / (V _M)	= 0.19	0.24	0.87	0.02	1.32 lb/cycle
where: C _d = reported NH ₃ concentration, wet basis (ft ³ NH ₃ / 10 ⁶ ft ³ stack gas) Qstd = stack gas flowrate (scfm) MW _{NH3} = molecular weight ammonia (17.0 lb/lb-mol) V _M = molar volume of ideal gas at std conditions (385 ft ³ /lb-mol)					0.20 lb/hr

ASTM D6348 Calculation Summary
Ammonia Emissions

Company: Woodworth
 Location: Homer, MI
 Source: Furnace No. 7
 Date: 2/7/2019

Measurement Results	Test 1	Test 2	Test 3	Test 4	Average	
Average reported NH ₃ concentration	= 21.9	6.01	13.1	6.95	11.9	ppmv
Volumetric flow rate	= 5,974	7,487	7,002	6,981	6,861	scfm
Moisture Content	= 1.06	1.87	2.11	1.72	2.08	%
CO ₂ Content	= 0.48	0.44	0.33	0.48	0.38	%
Cycle Time (min)	= 25	90	270	10	395	min

Calculated Ammonia Emission Rate	Test 1	Test 2	Test 3	Test 4	Average	
ENH ₃ = (C _d) (Qstd) (60 min/hr) (MW _{NH3}) / (V _M)	= 0.14	0.18	1.09	0.02	1.44	lb/cycle
					0.22	lb/hr

where:
 C_d = reported NH₃ concentration, wet basis (ft³ NH₃ / 10⁶ ft³ stack gas)
 Qstd = stack gas flowrate (scfm)
 MW_{NH3} = molecular weight ammonia (17.0 lb/lb-mol)
 V_M = molar volume of ideal gas at std conditions (385 ft³/lb-mol)

ASTM D6348 Calculation Summary
Ammonia Emissions

Company: Woodworth
 Location: Homer, MI
 Source: Furnace No. 6
 Date: 2/8/2019

Measurement Results	Test 1	Test 2	Test 3	Test 4	Average
Average reported NH ₃ concentration	= 53.4	32.2	19.3	11.1	24.4 ppmv
Volumetric flow rate	= 9,683	11,590	10,988	9,454	10,429 scfm
Moisture Content	= 0.54	1.24	1.51	0.98	1.37 %
CO ₂ Content	= 0.37	0.29	0.21	0.20	0.24 %
Cycle Time (min)	= 25	90	270	10	395 min

Calculated Ammonia Emission Rate	Test 1	Test 2	Test 3	Test 4	Average
$ENH_3 = (C_d) (Q_{std}) (60 \text{ min/hr}) (MW_{NH_3}) / (V_M)$	= 0.57	1.48	2.53	0.05	4.63 lb/cycle 0.70 lb/hr

where:

- C_d = reported NH₃ concentration, wet basis (ft³ NH₃ / 10⁶ ft³ stack gas)
- Q_{std} = stack gas flowrate (scfm)
- MW_{NH₃} = molecular weight ammonia (17.0 lb/lb-mol)
- V_M = molar volume of ideal gas at std conditions (385 ft³/lb-mol)

Derenzo Environmental Services
EPA Method 3A O₂ Calculation Summary

Company Woodworth
 Location Homer, MI
 Source Furnaces
 Date 2/6 - 2/8/19

		Furnace #8	Furnace #7	Furnace #6	
Average O ₂ concentration	=	19.13	19.26	19.53	%
Average pre-test and post-test instrument zero	=	0.08	0.06	0.12	%
Average pre-test and post-test instrument calibration	=	21.00	20.90	21.01	%
Midrange calibration gas concentration	=	21.05	21.05	21.05	%

O₂ CONCENTRATION CORRECTED FOR CALIBRATION AND ZERO DRIFT

(O ₂ conc.-Avg. zero)x(Cal. gas conc.)/(Avg. cal.-Avg. zero)	=	19.17	19.39	19.56	%
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Derenzo Environmental Services
EPA Method 3A CO₂ Calculation Summary

Company Woodworth
 Location Homer, MI
 Source Furnaces
 Date 2/6 - 2/8/19

		Furnace #8	Furnace #7	Furnace #6	
Average CO ₂ concentration	=	0.39	0.37	0.24	%
Average pre-test and post-test instrument zero	=	0.31	0.05	0.03	%
Average pre-test and post-test instrument calibration	=	2.53	2.57	2.46	%
Midrange calibration gas concentration	=	2.51	2.51	2.51	%

CO₂ CONCENTRATION CORRECTED FOR CALIBRATION AND ZERO DRIFT

(CO ₂ conc.-Avg. zero)x(Cal. gas conc.)/(Avg. cal.-Avg. zero)	=	0.09	0.31	0.22	%
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Impact Compliance and Testing, Inc.

APPENDIX 5

- Instrumental Analyzer Raw Data

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2_DIR_0001.LAB	2/5/2019	0	0.03	-0.01	-0.46	0.01	-0.01	0.00	0.00	190.93	0.97	0.02
N2_DIR_0002.LAB	2/5/2019	0	-0.05	-0.01	-0.74	0.01	0.01	0.08	0.00	190.90	0.97	-0.09
N2_DIR_0003BKG.LAB	2/5/2019	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.81	0.97	0.00
N2_DIR_0004.LAB	2/5/2019	0	0.14	0.02	0.06	-0.01	0.01	-0.05	0.00	190.80	0.97	0.17
N2_DIR_0005.LAB	2/5/2019	0	-0.26	0.02	-0.57	0.00	0.00	0.08	-0.01	190.76	0.97	-0.29
N2_DIR_0006.LAB	2/5/2019	0	-0.21	-0.03	-0.16	0.00	0.00	0.06	0.00	190.77	0.97	-0.22
N2_DIR_0007.LAB	2/5/2019	0	-0.05	-0.01	-0.48	-0.01	0.01	0.00	0.00	190.82	0.97	-0.07
N2_DIR_0008.LAB	2/5/2019	0	0.17	-0.02	0.11	0.00	0.00	0.00	-0.01	190.77	0.97	0.12
N2_DIR_0009.LAB	2/5/2019	0	-0.12	-0.01	-0.22	0.01	-0.01	0.04	0.00	190.76	0.97	-0.14
N2_DIR_0010.LAB	2/5/2019	0	0.20	-0.02	0.00	0.01	0.01	0.04	0.00	190.82	0.97	0.22
N2_DIR_0011.LAB	2/5/2019	0	0.20	-0.01	0.27	0.00	0.01	0.03	0.00	190.92	0.97	0.19
N2_DIR_0012.LAB	2/5/2019	0	-0.10	0.02	-0.16	0.00	0.01	-0.02	0.00	191.20	0.97	-0.18
N2_DIR_0013BKG.LAB	2/5/2019	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	191.04	0.97	0.00
N2_DIR_0014.LAB	2/5/2019	0	0.30	0.03	0.24	0.01	0.00	0.14	0.00	190.95	0.97	0.26
N2_DIR_0015.LAB	2/5/2019	0	0.20	0.00	-0.34	0.00	0.00	0.09	0.00	190.95	0.97	0.19
N2_DIR_0016.LAB	2/5/2019	0	0.14	0.04	-0.57	0.00	0.00	-0.04	0.00	190.96	0.97	0.19
N2_DIR_0017.LAB	2/5/2019	0	0.13	0.03	0.45	0.00	0.01	-0.11	0.00	190.99	0.97	0.12
N2_DIR_0018.LAB	2/5/2019	0	-0.06	0.00	-0.39	0.00	0.00	0.06	0.00	190.94	0.97	-0.06
N2_DIR_0019.LAB	2/5/2019	0	-0.04	-0.02	-1.22	0.00	0.00	-0.05	0.00	190.92	0.97	-0.01
N2_DIR_0020.LAB	2/5/2019	0	-0.16	0.00	-0.11	0.00	0.00	0.06	0.00	190.88	0.97	-0.12
N2_DIR_0021.LAB	2/5/2019	0	-0.11	0.03	1.22	0.00	-0.01	-0.07	0.00	190.88	0.97	-0.15

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTS_DIR_0022.LAB	2/5/2019	0	0.39	-0.04	-0.72	0.02	0.00	98.84	-0.01	190.58	0.97	0.45
CTS_DIR_0023.LAB	2/5/2019	0	-0.06	-0.08	-0.79	0.01	-0.01	99.83	-0.01	190.52	0.97	-0.06
CTS_DIR_0024.LAB	2/5/2019	0	0.15	-0.04	-0.85	0.01	0.00	100.44	-0.02	190.46	0.97	0.14
CTS_DIR_0025.LAB	2/5/2019	0	0.38	-0.08	-0.24	0.01	0.00	101.01	0.00	190.39	0.97	0.44
CTS_DIR_0026.LAB	2/5/2019	0	0.16	-0.05	-0.70	0.00	0.02	100.43	-0.01	190.37	0.97	0.17
CTS_DIR_0027.LAB	2/5/2019	0	0.33	-0.05	-1.08	0.00	0.00	99.65	-0.02	190.35	0.97	0.30
CTS_DIR_0028.LAB	2/5/2019	0	0.27	-0.06	-0.50	0.00	0.01	99.66	-0.01	190.33	0.97	0.22
CTS_DIR_0029.LAB	2/5/2019	0	0.28	-0.05	-0.98	0.00	0.01	99.72	-0.01	190.33	0.97	0.35

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOX_DIR_0030.LAB	2/5/2019	0	242.63	-0.09	0.04	0.01	0.01	-0.37	4.01	190.12	0.97	266.13
NOX_DIR_0031.LAB	2/5/2019	0	268.85	-0.03	0.15	0.01	0.01	-0.34	3.99	190.14	0.97	283.41
NOX_DIR_0032.LAB	2/5/2019	0	276.68	0.00	0.29	0.00	0.00	-0.34	4.00	190.13	0.97	287.57
NOX_DIR_0033.LAB	2/5/2019	0	279.47	-0.05	-0.04	0.00	0.01	-0.33	3.99	190.10	0.97	289.10
NOX_DIR_0034.LAB	2/5/2019	0	281.34	-0.03	0.31	0.01	0.00	-0.47	3.99	190.10	0.97	290.07
NOX_DIR_0035.LAB	2/5/2019	0	283.40	-0.03	0.38	0.01	-0.01	-0.54	4.01	190.11	0.97	291.72
NOX_DIR_0036.LAB	2/5/2019	0	284.30	0.00	-0.49	0.00	0.02	-0.34	4.01	190.11	0.97	292.30
NOX_DIR_0037.LAB	2/5/2019	0	286.88	-0.03	0.21	0.01	0.00	-0.51	4.00	190.16	0.97	294.77
NOX_DIR_0038.LAB	2/5/2019	0	287.16	-0.03	-0.82	0.01	0.00	-0.51	4.00	190.14	0.97	294.94
NOX_DIR_0039.LAB	2/5/2019	0	287.91	-0.10	-0.01	0.00	-0.01	-0.49	4.00	190.17	0.97	295.60
NOX_DIR_0040.LAB	2/5/2019	0	289.91	-0.06	0.45	0.01	-0.01	-0.32	4.00	190.16	0.97	297.39
NOX_DIR_0041.LAB	2/5/2019	0	290.19	-0.03	0.23	0.01	0.00	-0.40	4.01	190.18	0.97	297.59

NOX_DIR_0042.LAB	2/5/2019	0	289.94	-0.08	-0.24	0.00	-0.01	-0.38	4.00	190.22	0.97	297.20
NOX_DIR_0043.LAB	2/5/2019	0	291.10	-0.01	-0.43	0.01	-0.02	-0.45	4.00	190.24	0.97	298.36
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOX_SYS_0044.LAB	2/5/2019	0	15.55	-0.01	-1.10	0.63	0.06	0.08	0.25	190.31	0.98	17.67
NOX_SYS_0045.LAB	2/5/2019	0	264.75	-0.04	-0.07	0.43	0.01	-0.48	3.80	190.31	0.98	278.13
NOX_SYS_0046.LAB	2/5/2019	0	293.16	0.04	0.00	0.27	0.00	-0.37	3.96	190.25	0.98	297.59
NOX_SYS_0047.LAB	2/5/2019	0	294.78	0.03	0.38	0.22	-0.01	-0.35	3.96	190.32	0.98	298.45
NOX_SYS_0048.LAB	2/5/2019	0	295.86	0.04	-0.12	0.17	-0.01	-0.37	3.97	190.35	0.98	299.08
NOX_SYS_0049.LAB	2/5/2019	0	297.20	-0.01	0.62	0.13	0.01	-0.51	3.97	190.37	0.98	300.12
NOX_SYS_0050.LAB	2/5/2019	0	297.72	0.03	0.45	0.10	-0.01	-0.28	3.98	190.36	0.98	300.38
NOX_SYS_0051.LAB	2/5/2019	0	297.76	-0.01	0.54	0.09	0.01	-0.38	3.97	190.35	0.98	300.22
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTS_SYS_0052.LAB	2/5/2019	0	279.81	-0.05	0.23	0.06	0.00	-0.47	3.72	190.39	0.98	281.67
CTS_SYS_0053.LAB	2/5/2019	0	40.61	-0.03	-0.15	0.05	0.00	80.81	0.54	190.35	0.98	41.15
CTS_SYS_0054.LAB	2/5/2019	0	1.12	0.02	-0.75	0.03	0.00	99.17	-0.01	190.37	0.98	1.14
CTS_SYS_0055.LAB	2/5/2019	0	0.83	0.01	-0.09	0.03	0.01	99.61	0.00	190.39	0.98	0.86
CTS_SYS_0056.LAB	2/5/2019	0	0.68	0.07	-0.56	0.03	0.00	99.14	0.00	190.42	0.98	0.71
CTS_SYS_0057.LAB	2/5/2019	0	0.60	0.00	-0.62	0.02	0.00	99.34	-0.01	190.43	0.98	0.53
CTS_SYS_0058.LAB	2/5/2019	0	0.72	-0.03	-0.16	0.02	-0.01	99.47	-0.01	190.44	0.98	0.69
CTS_SYS_0059.LAB	2/5/2019	0	0.25	-0.06	-0.36	0.03	0.00	98.82	-0.01	190.41	0.98	0.37
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2_SYS_0060.LAB	2/5/2019	0	0.34	0.07	-0.18	0.05	0.02	93.25	-0.02	190.41	0.98	0.32
N2_SYS_0061.LAB	2/5/2019	0	0.37	-0.01	0.60	0.05	0.01	14.11	-0.01	190.46	0.98	0.35
N2_SYS_0062.LAB	2/5/2019	0	0.09	0.08	0.04	0.02	0.00	0.35	0.00	190.46	0.98	0.06
N2_SYS_0063.LAB	2/5/2019	0	0.18	0.11	-0.55	0.04	-0.01	0.20	-0.01	190.51	0.98	0.17
N2_SYS_0064.LAB	2/5/2019	0	-0.08	0.07	0.55	0.02	0.00	0.22	0.00	190.49	0.98	-0.08
N2_SYS_0065.LAB	2/5/2019	0	0.25	0.09	0.18	0.03	-0.01	0.16	0.00	190.51	0.98	0.24
N2_SYS_0066.LAB	2/5/2019	0	-0.09	0.10	0.04	0.02	0.02	0.03	0.00	190.53	0.98	-0.09
N2_SYS_0067.LAB	2/5/2019	0	-0.02	0.06	-0.67	0.02	0.01	-0.02	0.00	190.51	0.98	-0.09
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE8_0068.LAB	2/5/2019	0	0.33	0.18	0.41	0.63	0.08	0.06	0.00	190.51	0.98	0.48
FURNACE8_0069.LAB	2/5/2019	0	0.33	0.15	0.34	0.63	0.08	0.08	0.00	190.61	0.98	0.45
FURNACE8_0070.LAB	2/5/2019	0	0.37	0.13	0.32	0.63	0.09	0.10	0.00	190.86	0.98	0.49
FURNACE8_0071.LAB	2/5/2019	0	0.37	0.14	0.29	0.63	0.08	0.03	0.00	190.79	0.98	0.51
FURNACE8_0072.LAB	2/5/2019	0	0.20	0.12	0.09	0.62	0.09	0.14	0.00	190.65	0.98	0.35
FURNACE8_0073.LAB	2/5/2019	0	0.23	0.10	0.14	0.61	0.08	0.00	0.00	190.62	0.98	0.34
FURNACE8_0074.LAB	2/5/2019	0	0.23	0.10	0.12	0.61	0.09	0.00	0.01	190.60	0.98	0.31
FURNACE8_0075.LAB	2/5/2019	0	0.30	0.07	-0.13	0.61	0.09	-0.01	0.01	190.71	0.98	0.39
FURNACE8_0076.LAB	2/5/2019	0	0.30	0.07	0.05	0.61	0.08	0.01	0.00	190.75	0.98	0.39
FURNACE8_0077.LAB	2/5/2019	0	0.38	0.05	0.24	0.63	0.08	0.06	0.00	190.91	0.98	0.51
FURNACE8_0078.LAB	2/5/2019	0	0.41	0.03	0.42	0.64	0.07	0.07	0.00	190.90	0.98	0.57
FURNACE8_0079.LAB	2/5/2019	0	0.39	0.05	0.27	0.63	0.08	0.01	0.00	190.65	0.98	0.57

FURNACE8_0080.LAB	2/5/2019	0	0.35	0.32	1.13	0.63	0.08	0.11	0.00	190.56	0.98	0.50
FURNACE8_0081.LAB	2/5/2019	0	0.54	9.07	9.61	0.63	0.08	0.31	0.00	190.57	0.98	0.73
FURNACE8_0082.LAB	2/5/2019	0	0.95	46.12	49.07	0.63	0.10	0.57	0.00	190.55	0.98	1.27
FURNACE8_0083.LAB	2/5/2019	0	2.38	87.73	93.25	0.65	0.13	0.99	0.01	190.62	0.98	3.12
FURNACE8_0084.LAB	2/5/2019	0	4.81	129.79	137.90	0.69	0.16	1.25	0.01	190.70	0.98	6.24
FURNACE8_0085.LAB	2/5/2019	0	11.02	140.45	148.85	0.80	0.22	2.82	0.02	190.70	0.98	14.27
FURNACE8_0086.LAB	2/5/2019	0	16.64	126.72	134.59	0.88	0.26	2.92	0.02	190.74	0.98	21.10
FURNACE8_0087.LAB	2/5/2019	0	21.67	110.30	116.49	0.92	0.29	2.72	0.01	190.71	0.98	26.98
FURNACE8_0088.LAB	2/5/2019	0	24.91	83.55	88.61	0.95	0.31	2.10	0.01	190.72	0.98	30.38
FURNACE8_0089.LAB	2/5/2019	0	30.05	83.15	88.52	0.98	0.34	2.07	0.01	190.69	0.98	36.44
FURNACE8_0090.LAB	2/5/2019	0	35.87	45.43	48.65	1.01	0.37	1.23	0.01	190.66	0.98	41.65
FURNACE8_0091.LAB	2/5/2019	0	39.52	29.61	31.19	1.04	0.38	0.69	0.01	190.67	0.98	44.58
FURNACE8_0092.LAB	2/5/2019	0	41.57	17.15	17.96	1.08	0.38	0.41	0.00	190.71	0.98	45.98
FURNACE8_0093.LAB	2/5/2019	0	46.25	11.70	12.27	1.11	0.40	0.38	0.01	190.91	0.98	50.36
FURNACE8_0094.LAB	2/5/2019	0	63.14	8.75	9.30	1.17	0.52	0.27	0.01	191.06	0.98	68.32
FURNACE8_0095.LAB	2/5/2019	0	68.03	6.65	6.95	1.22	0.53	0.17	0.01	191.12	0.98	73.25
FURNACE8_0096.LAB	2/5/2019	0	71.04	5.62	6.04	1.28	0.53	0.16	0.00	191.14	0.98	76.01
FURNACE8_0097.LAB	2/5/2019	0	70.21	5.19	5.37	1.32	0.52	0.16	0.00	191.12	0.98	75.27
FURNACE8_0098.LAB	2/5/2019	0	81.79	4.83	5.16	1.36	0.58	0.15	0.01	191.09	0.98	87.39
FURNACE8_0099.LAB	2/5/2019	0	86.41	4.19	4.21	1.36	0.59	0.17	0.00	191.21	0.98	92.05
FURNACE8_0100.LAB	2/5/2019	0	87.28	3.91	4.10	1.35	0.58	0.11	0.00	191.29	0.98	92.81
FURNACE8_0101.LAB	2/5/2019	0	97.68	3.53	3.76	1.37	0.64	0.09	0.00	191.44	0.98	103.68
FURNACE8_0102.LAB	2/5/2019	0	102.50	3.12	3.48	1.38	0.66	0.00	0.01	191.27	0.98	108.65
FURNACE8_0103.LAB	2/5/2019	0	103.81	2.62	3.02	1.36	0.66	0.10	0.01	191.14	0.98	110.09
FURNACE8_0104.LAB	2/5/2019	0	109.03	2.50	2.69	1.34	0.68	0.12	0.00	191.13	0.98	115.57
FURNACE8_0105.LAB	2/5/2019	0	110.37	2.33	2.68	1.31	0.66	0.11	0.01	191.08	0.98	116.80
FURNACE8_0106.LAB	2/5/2019	0	108.57	2.16	2.60	1.27	0.64	0.04	0.00	190.97	0.98	114.81
FURNACE8_0107.LAB	2/5/2019	0	106.97	2.05	2.29	1.27	0.62	0.05	0.01	190.98	0.98	113.19
FURNACE8_0108.LAB	2/5/2019	0	101.09	2.10	2.29	1.24	0.57	0.11	0.00	190.90	0.98	107.26
FURNACE8_0109.LAB	2/5/2019	0	98.02	2.63	3.05	1.19	0.54	0.09	0.01	191.04	0.98	103.83
FURNACE8_0110.LAB	2/5/2019	0	98.57	2.70	2.89	1.16	0.54	0.07	0.01	191.02	0.98	104.31
FURNACE8_0111.LAB	2/5/2019	0	100.30	2.70	2.94	1.14	0.53	0.11	0.00	190.97	0.98	106.30
FURNACE8_0112.LAB	2/5/2019	0	100.92	3.22	3.54	1.14	0.53	0.08	0.01	190.95	0.98	106.98
FURNACE8_0113.LAB	2/5/2019	0	92.39	3.29	3.66	1.13	0.48	0.11	0.01	190.95	0.98	97.82
FURNACE8_0114.LAB	2/5/2019	0	94.03	3.07	2.98	1.10	0.48	0.07	0.00	190.99	0.98	99.62
FURNACE8_0115.LAB	2/5/2019	0	95.07	3.11	3.31	1.06	0.48	0.09	0.00	190.99	0.98	100.57
FURNACE8_0116.LAB	2/5/2019	0	95.08	3.06	3.19	1.06	0.47	0.12	0.01	190.96	0.98	100.55
FURNACE8_0117.LAB	2/5/2019	0	97.52	3.28	3.35	1.07	0.47	0.10	0.01	190.94	0.98	103.36
FURNACE8_0118.LAB	2/5/2019	0	88.88	3.45	4.15	1.08	0.44	0.07	0.00	190.97	0.98	94.14
FURNACE8_0119.LAB	2/5/2019	0	79.07	3.41	3.37	1.08	0.39	0.05	0.00	190.94	0.98	83.69
FURNACE8_0120.LAB	2/5/2019	0	83.47	3.24	3.47	1.06	0.41	0.03	0.01	190.97	0.98	88.39
FURNACE8_0121.LAB	2/5/2019	0	78.11	3.24	3.38	1.05	0.38	0.04	0.01	191.00	0.98	82.46
FURNACE8_0122.LAB	2/5/2019	0	73.34	3.06	3.02	1.00	0.36	0.13	0.01	191.00	0.98	77.66
FURNACE8_0123.LAB	2/5/2019	0	70.43	3.12	3.15	0.97	0.35	0.01	0.01	190.98	0.98	74.53
FURNACE8_0124.LAB	2/5/2019	0	71.61	3.18	3.64	0.96	0.34	0.08	0.00	191.00	0.98	75.73
FURNACE8_0125.LAB	2/5/2019	0	72.04	3.29	3.68	0.94	0.35	0.11	0.01	190.97	0.98	76.20

FURNACE8_0126.LAB	2/5/2019	0	74.60	3.48	3.62	0.94	0.35	0.06	0.01	190.99	0.98	78.88
FURNACE8_0127.LAB	2/5/2019	0	73.26	3.57	3.63	0.94	0.35	0.05	0.01	191.02	0.98	77.32
FURNACE8_0128.LAB	2/5/2019	0	74.40	3.54	3.85	0.93	0.35	0.08	0.01	190.98	0.98	78.52
FURNACE8_0129.LAB	2/5/2019	0	70.21	3.53	3.66	0.93	0.34	0.05	0.01	190.97	0.98	74.19
FURNACE8_0130.LAB	2/5/2019	0	55.00	3.48	4.01	0.92	0.27	0.09	0.01	191.12	0.98	58.10
FURNACE8_0131.LAB	2/5/2019	0	50.52	3.15	3.28	0.90	0.25	0.04	0.01	191.08	0.98	53.37
FURNACE8_0132.LAB	2/5/2019	0	55.56	2.98	2.80	0.88	0.27	0.07	0.01	191.00	0.98	58.69
FURNACE8_0133.LAB	2/5/2019	0	43.63	2.99	3.43	0.87	0.22	0.06	0.01	190.99	0.98	46.16
FURNACE8_0134.LAB	2/5/2019	0	35.63	2.91	3.55	0.86	0.19	0.07	0.01	190.98	0.98	37.62
FURNACE8_0135.LAB	2/5/2019	0	56.19	2.72	3.43	0.84	0.26	0.08	0.01	191.00	0.98	59.24
FURNACE8_0136.LAB	2/5/2019	0	63.87	2.67	2.76	0.85	0.30	0.08	0.01	191.00	0.98	67.33
FURNACE8_0137.LAB	2/5/2019	0	68.89	2.76	3.06	0.84	0.33	0.11	0.01	191.02	1.00	72.70
FURNACE8_0138.LAB	2/5/2019	0	54.82	2.86	3.34	0.84	0.26	0.11	0.00	191.02	1.05	57.74
FURNACE8_0139.LAB	2/5/2019	0	52.36	3.00	3.59	0.85	0.26	0.08	0.01	191.07	1.04	55.18
FURNACE8_0140.LAB	2/5/2019	0	52.72	2.93	3.04	0.85	0.26	0.05	0.00	191.11	1.04	55.45
FURNACE8_0141.LAB	2/5/2019	0	52.28	2.79	3.16	0.85	0.25	0.10	0.01	191.06	1.04	55.03
FURNACE8_0142.LAB	2/5/2019	0	51.92	2.73	2.95	0.86	0.25	0.08	0.01	190.98	1.04	54.69
FURNACE8_0143.LAB	2/5/2019	0	53.88	2.72	2.87	0.86	0.26	0.10	0.01	191.00	1.04	56.81
FURNACE8_0144.LAB	2/5/2019	0	52.78	2.77	3.07	0.87	0.25	0.10	0.01	191.04	1.00	55.66
FURNACE8_0145.LAB	2/5/2019	0	47.62	2.72	2.71	0.85	0.23	0.05	0.01	190.98	0.98	50.23
FURNACE8_0146.LAB	2/5/2019	0	50.59	2.60	2.75	0.84	0.24	0.02	0.01	190.98	0.98	53.30
FURNACE8_0147.LAB	2/5/2019	0	50.86	2.59	2.47	0.86	0.25	0.05	0.01	191.01	0.98	53.65
FURNACE8_0148.LAB	2/5/2019	0	48.55	2.55	2.34	0.85	0.23	0.05	0.01	191.03	0.98	51.10
FURNACE8_0149.LAB	2/5/2019	0	51.24	2.42	2.67	0.85	0.24	0.13	0.01	191.00	0.98	53.94
FURNACE8_0150.LAB	2/5/2019	0	41.29	2.32	2.07	0.85	0.21	0.06	0.01	191.00	0.98	43.55
FURNACE8_0151.LAB	2/5/2019	0	49.00	2.21	2.12	0.84	0.24	0.06	0.01	191.09	0.98	51.70
FURNACE8_0152.LAB	2/5/2019	0	45.75	2.27	2.19	0.84	0.22	0.02	0.01	191.28	0.98	48.24
FURNACE8_0153.LAB	2/5/2019	0	48.98	2.31	2.20	0.83	0.23	0.00	0.01	191.18	0.98	51.64
FURNACE8_0154.LAB	2/5/2019	0	55.99	2.39	2.41	0.85	0.27	0.10	0.01	191.45	0.98	59.06
FURNACE8_0155.LAB	2/5/2019	0	56.68	2.53	2.63	0.86	0.26	0.11	0.01	192.94	0.98	59.75
FURNACE8_0156.LAB	2/5/2019	0	60.55	2.58	2.78	0.89	0.28	0.08	0.01	193.64	0.98	63.79
FURNACE8_0157.LAB	2/5/2019	0	56.18	2.66	2.46	0.91	0.26	0.08	0.01	193.73	0.98	59.32
FURNACE8_0158.LAB	2/5/2019	0	54.58	2.68	2.84	0.91	0.25	0.03	0.01	193.12	0.98	57.51
FURNACE8_0159.LAB	2/5/2019	0	52.63	2.61	2.64	0.90	0.25	0.09	0.01	191.74	0.98	55.46
FURNACE8_0160.LAB	2/5/2019	0	52.31	2.50	2.21	0.90	0.25	0.04	0.01	190.86	0.98	55.20
FURNACE8_0161.LAB	2/5/2019	0	52.68	2.50	2.86	0.90	0.25	0.08	0.00	190.49	0.98	55.56
FURNACE8_0162.LAB	2/5/2019	0	55.75	2.47	2.68	0.90	0.26	0.05	0.01	190.37	0.98	58.79
FURNACE8_0163.LAB	2/5/2019	0	55.44	2.40	2.47	0.90	0.26	0.10	0.01	190.45	0.98	58.37
FURNACE8_0164.LAB	2/5/2019	0	56.61	2.36	2.56	0.91	0.26	0.05	0.01	190.48	0.98	59.67
FURNACE8_0165.LAB	2/5/2019	0	55.52	2.38	2.69	0.92	0.25	0.10	0.01	190.54	0.98	58.58
FURNACE8_0166.LAB	2/5/2019	0	53.56	2.43	2.54	0.92	0.25	0.04	0.01	190.65	0.98	56.48
FURNACE8_0167.LAB	2/5/2019	0	55.92	2.43	2.77	0.91	0.26	0.04	0.00	190.79	0.98	58.92
FURNACE8_0168.LAB	2/5/2019	0	54.57	2.40	2.57	0.92	0.25	0.06	0.00	190.80	0.98	57.58
FURNACE8_0169.LAB	2/5/2019	0	57.11	2.38	2.64	0.92	0.26	0.02	0.00	190.79	0.98	60.19
FURNACE8_0170.LAB	2/5/2019	0	91.15	2.88	2.97	0.97	0.39	0.00	0.01	190.79	0.98	96.17
FURNACE8_0171.LAB	2/5/2019	0	98.45	2.98	3.01	0.97	0.41	0.10	0.01	190.75	0.98	103.82

FURNACE8_0172.LAB	2/5/2019	0	97.19	3.28	2.96	1.02	0.41	0.03	0.01	190.79	0.98	102.48
FURNACE8_0173.LAB	2/5/2019	0	99.35	3.26	3.50	1.09	0.42	0.07	0.01	190.81	0.98	104.71
FURNACE8_0174.LAB	2/5/2019	0	103.66	3.11	3.24	1.11	0.43	0.10	0.01	190.82	0.98	109.41
FURNACE8_0175.LAB	2/5/2019	0	101.63	3.12	3.72	1.12	0.43	0.11	0.01	190.90	0.98	107.25
FURNACE8_0176.LAB	2/5/2019	0	98.75	2.99	3.34	1.13	0.42	0.02	0.01	190.91	0.98	104.23
FURNACE8_0177.LAB	2/5/2019	0	97.07	3.04	3.29	1.45	0.41	0.07	0.01	190.89	0.98	102.77
FURNACE8_0178.LAB	2/5/2019	0	85.95	10.12	10.23	11.49	0.36	0.18	0.01	190.90	0.98	100.89
FURNACE8_0179.LAB	2/5/2019	0	89.41	8.07	8.43	7.01	0.39	0.23	0.01	190.94	0.98	100.04
FURNACE8_0180.LAB	2/5/2019	0	93.39	9.77	9.83	4.53	0.42	0.15	0.01	190.93	0.98	102.32
FURNACE8_0181.LAB	2/5/2019	0	94.57	12.38	12.77	3.20	0.41	0.13	0.00	190.94	0.98	101.98
FURNACE8_0182.LAB	2/5/2019	0	93.33	9.62	10.15	5.67	0.41	0.22	0.01	190.98	0.98	103.17
FURNACE8_0183.LAB	2/5/2019	0	88.36	12.29	12.51	10.60	0.37	0.18	0.01	190.95	0.98	102.90
FURNACE8_0184.LAB	2/5/2019	0	96.28	13.22	13.53	5.44	0.43	0.22	0.01	190.95	0.98	106.29
FURNACE8_0185.LAB	2/5/2019	0	98.27	9.43	9.27	2.88	0.43	0.13	0.01	190.98	0.98	105.75
FURNACE8_0186.LAB	2/5/2019	0	98.57	7.54	7.67	2.06	0.43	0.16	0.01	190.97	0.98	105.07
FURNACE8_0187.LAB	2/5/2019	0	97.80	8.90	8.92	4.20	0.43	0.19	0.01	190.97	0.98	106.60
FURNACE8_0188.LAB	2/5/2019	0	98.71	6.17	6.29	2.10	0.43	0.16	0.01	190.98	0.98	105.23
FURNACE8_0189.LAB	2/5/2019	0	98.94	7.79	7.89	3.05	0.43	0.12	0.01	190.97	0.98	106.56
FURNACE8_0190.LAB	2/5/2019	0	101.63	6.35	6.43	2.88	0.44	0.14	0.01	190.99	0.98	109.35
FURNACE8_0191.LAB	2/5/2019	0	100.02	6.68	6.98	2.46	0.43	0.19	0.01	190.96	0.98	107.12
FURNACE8_0192.LAB	2/5/2019	0	97.68	7.42	7.30	4.06	0.43	0.17	0.01	190.98	0.98	106.32
FURNACE8_0193.LAB	2/5/2019	0	101.02	6.25	6.31	3.15	0.44	0.20	0.01	190.97	0.98	108.93
FURNACE8_0194.LAB	2/5/2019	0	98.09	5.80	6.07	2.10	0.42	0.18	0.01	190.97	0.98	104.67
FURNACE8_0195.LAB	2/5/2019	0	96.61	8.18	8.10	4.64	0.40	0.17	0.01	191.26	1.12	105.59
FURNACE8_0196.LAB	2/5/2019	0	98.27	5.89	5.99	2.35	0.40	0.11	0.01	191.61	1.15	104.84
FURNACE8_0197.LAB	2/5/2019	0	97.68	5.97	5.91	1.69	0.39	0.16	0.01	191.48	1.14	103.53
FURNACE8_0198.LAB	2/5/2019	0	93.17	7.09	7.22	3.65	0.37	0.14	0.01	191.42	1.14	100.75
FURNACE8_0199.LAB	2/5/2019	0	92.21	6.28	6.52	2.43	0.37	0.14	0.01	191.30	1.15	98.55
FURNACE8_0200.LAB	2/5/2019	0	94.34	6.24	6.24	1.53	0.37	0.16	0.00	191.27	1.15	99.93
FURNACE8_0201.LAB	2/5/2019	0	92.96	6.12	5.92	1.22	0.36	0.17	0.01	191.15	1.15	98.23
FURNACE8_0202.LAB	2/5/2019	0	93.28	5.80	6.04	1.22	0.36	0.14	0.01	191.40	1.15	98.42
FURNACE8_0203.LAB	2/5/2019	0	88.93	8.19	8.18	4.01	0.34	0.22	0.01	191.47	1.15	96.46
FURNACE8_0204.LAB	2/5/2019	0	92.67	6.76	6.54	2.57	0.36	0.10	0.01	191.17	1.15	99.19
FURNACE8_0205.LAB	2/5/2019	0	92.97	7.35	7.35	2.08	0.35	0.15	0.01	191.08	1.16	99.06
FURNACE8_0206.LAB	2/5/2019	0	89.64	9.04	8.90	2.93	0.34	0.15	0.01	191.05	1.16	96.16
FURNACE8_0207.LAB	2/5/2019	0	91.95	7.60	7.43	2.63	0.35	0.16	0.00	190.86	1.14	98.39
FURNACE8_0208.LAB	2/5/2019	0	91.69	8.42	8.44	3.24	0.36	0.16	0.00	190.86	0.99	99.14
FURNACE8_0209.LAB	2/5/2019	0	90.76	7.09	7.57	2.06	0.35	0.16	0.00	190.96	0.98	96.87
FURNACE8_0210.LAB	2/5/2019	0	90.51	8.51	8.61	1.75	0.35	0.10	0.00	190.98	0.98	96.34
FURNACE8_0211.LAB	2/5/2019	0	91.51	7.09	7.56	1.62	0.35	0.10	0.01	190.94	0.98	97.38
FURNACE8_0212.LAB	2/5/2019	0	91.00	7.04	7.63	1.75	0.34	0.06	0.01	191.07	0.98	96.97
FURNACE8_0213.LAB	2/5/2019	0	91.59	6.83	7.15	1.77	0.34	0.16	0.01	190.95	0.98	97.57
FURNACE8_0214.LAB	2/5/2019	0	86.92	8.65	9.11	3.32	0.33	0.07	0.01	190.84	0.98	94.06
FURNACE8_0215.LAB	2/5/2019	0	86.32	8.33	8.33	3.34	0.34	0.16	0.01	190.86	0.98	93.56
FURNACE8_0216.LAB	2/5/2019	0	86.19	9.43	9.39	3.62	0.34	0.17	0.01	190.90	0.98	93.68
FURNACE8_0217.LAB	2/5/2019	0	88.08	9.51	10.01	2.65	0.34	0.14	0.01	190.86	0.98	94.70

FURNACE8_0218.LAB	2/5/2019	0	90.11	8.72	9.65	1.53	0.34	0.09	0.01	190.93	0.98	95.76
FURNACE8_0219.LAB	2/5/2019	0	65.42	10.90	11.62	2.07	0.28	0.08	0.01	191.03	0.98	70.11
FURNACE8_0220.LAB	2/5/2019	0	87.76	11.44	12.10	3.45	0.34	0.15	0.01	191.02	0.98	94.97
FURNACE8_0221.LAB	2/5/2019	0	81.18	11.33	11.89	6.12	0.33	0.29	0.01	190.93	0.98	90.46
FURNACE8_0222.LAB	2/5/2019	0	84.90	11.28	11.56	4.99	0.34	0.25	0.01	190.82	0.98	93.50
FURNACE8_0223.LAB	2/5/2019	0	89.86	10.52	10.92	3.57	0.34	0.09	0.01	190.86	0.98	97.59
FURNACE8_0224.LAB	2/5/2019	0	90.41	10.93	11.45	3.87	0.34	0.15	0.01	190.86	0.98	98.44
FURNACE8_0225.LAB	2/5/2019	0	92.91	7.97	8.64	1.60	0.34	0.07	0.01	190.98	0.98	98.70
FURNACE8_0226.LAB	2/5/2019	0	92.61	6.98	7.27	1.51	0.34	0.10	0.01	190.99	0.98	98.32
FURNACE8_0227.LAB	2/5/2019	0	91.26	6.79	7.25	1.53	0.34	0.10	0.01	190.97	0.98	96.96
FURNACE8_0228.LAB	2/5/2019	0	92.73	6.67	7.47	1.55	0.33	0.09	0.01	190.98	0.98	98.48
FURNACE8_0229.LAB	2/5/2019	0	92.11	6.60	7.05	1.78	0.34	0.07	0.01	191.01	0.98	98.08
FURNACE8_0230.LAB	2/5/2019	0	91.88	6.57	7.16	1.67	0.33	0.12	0.01	191.05	0.98	97.81
FURNACE8_0231.LAB	2/5/2019	0	93.64	6.56	7.10	1.67	0.34	0.05	0.01	191.03	0.98	99.59
FURNACE8_0232.LAB	2/5/2019	0	91.80	6.61	7.11	1.69	0.34	0.05	0.01	191.07	0.98	97.66
FURNACE8_0233.LAB	2/5/2019	0	93.33	6.70	7.53	1.70	0.34	0.07	0.01	191.19	0.98	99.35
FURNACE8_0234.LAB	2/5/2019	0	90.66	8.84	9.07	4.42	0.35	0.18	0.01	191.29	0.98	99.19
FURNACE8_0235.LAB	2/5/2019	0	92.29	9.07	9.58	2.20	0.34	0.16	0.01	191.17	0.98	98.72
FURNACE8_0236.LAB	2/5/2019	0	94.48	7.03	7.12	1.57	0.34	0.08	0.01	191.20	0.98	100.22
FURNACE8_0237.LAB	2/5/2019	0	92.53	6.46	7.04	1.58	0.34	0.07	0.01	191.19	0.98	98.29
FURNACE8_0238.LAB	2/5/2019	0	93.58	6.68	7.55	1.65	0.34	0.13	0.01	191.02	0.98	99.57
FURNACE8_0239.LAB	2/5/2019	0	93.06	6.75	7.38	1.67	0.34	0.10	0.01	190.98	0.98	99.02
FURNACE8_0240.LAB	2/5/2019	0	93.52	6.49	7.03	1.70	0.34	0.10	0.01	191.11	0.98	99.57
FURNACE8_0241.LAB	2/5/2019	0	89.50	8.26	8.48	3.55	0.34	0.13	0.01	191.35	0.98	97.18

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N/A	2/5/2019	0	85.37	8.00	8.62	2.24	0.32	0.06	0.00	191.64	0.98	91.26
N/A	2/5/2019	0	83.83	10.53	10.79	4.91	0.31	0.19	0.01	191.55	0.98	92.30
N/A	2/5/2019	0	87.76	9.12	9.03	3.95	0.32	0.11	0.18	191.43	0.98	99.99
N/A	2/5/2019	0	89.40	10.18	10.50	3.14	0.32	0.00	0.33	191.34	0.98	110.26
N/A	2/5/2019	0	92.29	8.48	8.22	2.61	0.32	0.12	0.33	191.26	0.98	108.82
N/A	2/5/2019	0	96.68	7.47	7.74	2.36	0.32	0.08	0.33	191.18	0.98	110.14

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
SPIKE_0242.LAB	2/5/2019	0	104.07	6.83	7.43	1.70	0.31	0.01	0.33	190.95	0.98	113.01
SPIKE_0243.LAB	2/5/2019	0	106.72	5.79	6.16	1.42	0.31	0.00	0.33	190.90	0.98	114.46
SPIKE_0244.LAB	2/5/2019	0	105.59	6.73	7.43	2.86	0.32	-0.07	0.33	191.02	0.98	114.50
SPIKE_0245.LAB	2/5/2019	0	106.13	6.02	6.19	2.34	0.31	0.03	0.31	191.32	0.98	114.25
SPIKE_0246.LAB	2/5/2019	0	106.82	6.61	6.58	1.77	0.32	0.08	0.30	191.45	0.98	114.17

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE8_0247.LAB	2/5/2019	0	92.86	6.79	7.14	2.56	0.34	0.17	0.01	191.47	0.98	99.58
FURNACE8_0248.LAB	2/5/2019	0	92.26	7.59	7.80	3.31	0.34	0.18	0.01	191.55	0.98	99.83
FURNACE8_0249.LAB	2/5/2019	0	92.33	7.74	7.87	2.40	0.34	0.14	0.01	191.64	0.98	98.83
FURNACE8_0250.LAB	2/5/2019	0	94.31	7.57	7.53	1.54	0.35	0.17	0.01	191.56	0.98	100.01
FURNACE8_0251.LAB	2/5/2019	0	92.63	7.86	8.66	2.83	0.35	-0.04	0.02	191.41	0.98	99.60

FURNACE8_0252.LAB	2/5/2019	0	92.81	7.50	7.66	3.03	0.34	0.16	0.01	191.36	0.98	100.07
FURNACE8_0253.LAB	2/5/2019	0	95.95	7.44	8.36	1.56	0.35	0.15	0.01	191.31	0.98	101.84
FURNACE8_0254.LAB	2/5/2019	0	93.83	6.53	6.99	1.55	0.34	0.10	0.01	191.26	0.98	99.55
FURNACE8_0255.LAB	2/5/2019	0	94.06	6.26	6.46	1.52	0.34	0.14	0.01	191.23	0.98	99.91
FURNACE8_0256.LAB	2/5/2019	0	94.79	6.83	7.29	1.55	0.34	0.08	0.01	191.27	0.98	100.69
FURNACE8_0257.LAB	2/5/2019	0	94.73	6.72	7.33	1.69	0.35	0.11	0.01	191.27	0.98	100.81
FURNACE8_0258.LAB	2/5/2019	0	90.63	6.81	7.78	1.78	0.33	0.10	0.01	191.43	0.98	96.51
FURNACE8_0259.LAB	2/5/2019	0	89.80	7.91	8.24	3.47	0.33	0.13	0.01	191.37	0.98	97.05
FURNACE8_0260.LAB	2/5/2019	0	91.96	9.78	10.22	3.70	0.35	0.17	0.01	191.26	0.98	99.87
FURNACE8_0261.LAB	2/5/2019	0	93.88	7.86	8.62	1.77	0.34	0.08	0.01	191.28	0.98	100.00
FURNACE8_0262.LAB	2/5/2019	0	90.76	7.14	7.81	1.55	0.33	0.14	0.01	191.29	0.98	96.39
FURNACE8_0263.LAB	2/5/2019	0	89.17	8.22	8.51	3.67	0.34	0.09	0.01	191.30	0.98	96.85
FURNACE8_0264.LAB	2/5/2019	0	92.66	7.47	8.10	1.91	0.34	0.15	0.01	191.32	0.98	98.85
FURNACE8_0265.LAB	2/5/2019	0	95.12	6.62	6.76	1.32	0.34	0.10	0.01	191.30	0.98	100.72
FURNACE8_0266.LAB	2/5/2019	0	93.56	6.60	7.11	1.39	0.34	0.12	0.01	191.28	0.98	99.19
FURNACE8_0267.LAB	2/5/2019	0	93.12	6.59	6.86	1.42	0.34	0.13	0.01	191.20	0.98	98.76
FURNACE8_0268.LAB	2/5/2019	1	94.04	6.64	7.06	1.44	0.34	0.10	0.01	191.20	0.98	99.74
FURNACE8_0269.LAB	2/5/2019	1	94.45	6.75	6.95	1.51	0.34	0.10	0.01	191.17	0.98	100.32
FURNACE8_0270.LAB	2/5/2019	1	91.91	7.06	7.39	1.83	0.34	0.12	0.01	191.14	0.98	97.97
FURNACE8_0271.LAB	2/5/2019	1	73.54	6.75	7.51	1.79	0.28	0.09	0.01	191.15	0.98	78.39
FURNACE8_0272.LAB	2/5/2019	1	73.14	6.52	6.99	1.78	0.27	0.09	0.01	191.15	0.98	77.93
FURNACE8_0273.LAB	2/5/2019	1	73.99	6.39	7.07	1.79	0.28	0.08	0.01	191.22	0.98	78.90
FURNACE8_0274.LAB	2/5/2019	1	72.79	8.19	8.71	3.62	0.30	0.10	0.01	191.29	0.98	79.04
FURNACE8_0275.LAB	2/5/2019	1	75.76	8.36	8.56	2.65	0.29	0.14	0.01	191.37	0.98	81.50
FURNACE8_0276.LAB	2/5/2019	1	77.43	7.94	8.30	1.70	0.30	0.13	0.00	191.72	0.98	82.35
FURNACE8_0277.LAB	2/5/2019	1	79.99	7.30	7.81	1.26	0.30	0.09	0.01	191.63	0.98	84.72
FURNACE8_0278.LAB	2/5/2019	1	78.85	6.44	7.03	1.23	0.30	0.15	0.01	191.35	0.98	83.46
FURNACE8_0279.LAB	2/5/2019	1	77.54	6.46	7.16	1.20	0.29	0.15	0.01	191.17	0.98	82.12
FURNACE8_0280.LAB	2/5/2019	1	78.14	7.89	8.59	2.65	0.30	0.12	0.01	191.10	0.98	83.99
FURNACE8_0281.LAB	2/5/2019	1	80.77	7.21	7.52	2.05	0.31	0.12	0.01	191.07	0.98	86.13
FURNACE8_0282.LAB	2/5/2019	1	75.09	7.01	7.60	1.68	0.29	0.07	0.01	191.08	0.98	79.94
FURNACE8_0283.LAB	2/5/2019	1	72.04	7.16	7.95	1.38	0.28	0.07	0.01	191.08	0.98	76.51
FURNACE8_0284.LAB	2/5/2019	1	72.92	7.91	8.82	2.29	0.29	0.04	0.01	191.10	0.98	78.18
FURNACE8_0285.LAB	2/5/2019	1	74.00	7.36	7.72	1.77	0.29	0.13	0.01	191.12	0.98	78.72
FURNACE8_0286.LAB	2/5/2019	1	70.23	7.65	8.47	1.45	0.27	0.05	0.01	191.11	0.98	74.77
FURNACE8_0287.LAB	2/5/2019	1	78.57	8.40	8.77	1.77	0.30	0.06	0.01	191.12	0.98	83.95
FURNACE8_0288.LAB	2/5/2019	1	77.02	12.58	13.81	2.58	0.30	0.08	0.01	191.12	0.98	83.55
FURNACE8_0289.LAB	2/5/2019	1	81.21	16.67	17.52	5.82	0.32	0.23	0.01	191.15	0.98	90.54
FURNACE8_0290.LAB	2/5/2019	1	79.05	16.68	17.23	7.75	0.31	0.34	0.02	191.13	0.98	89.85
FURNACE8_0291.LAB	2/5/2019	1	82.48	17.81	18.70	6.08	0.31	0.21	0.01	191.11	0.98	91.98
FURNACE8_0292.LAB	2/5/2019	1	83.87	13.88	14.51	4.77	0.33	0.28	0.01	191.13	0.98	92.33
FURNACE8_0293.LAB	2/5/2019	1	82.93	14.79	15.27	4.14	0.33	0.22	0.01	191.11	0.98	90.77
FURNACE8_0294.LAB	2/5/2019	1	80.04	12.51	13.14	2.90	0.32	0.19	0.01	191.11	0.98	86.41
FURNACE8_0295.LAB	2/5/2019	1	82.71	11.90	12.40	2.71	0.31	0.27	0.01	191.24	0.98	89.14
FURNACE8_0296.LAB	2/5/2019	1	79.91	11.71	12.23	3.49	0.31	0.18	0.01	192.24	0.98	86.85
FURNACE8_0297.LAB	2/5/2019	1	81.07	11.32	11.98	3.09	0.31	0.20	0.01	192.80	0.98	87.78

FURNACE8_0298.LAB	2/5/2019	1	85.29	10.86	11.43	2.37	0.32	0.17	0.01	192.10	0.98	91.63
FURNACE8_0299.LAB	2/5/2019	1	85.05	10.20	10.67	2.20	0.32	0.20	0.01	192.60	0.98	91.16
FURNACE8_0300.LAB	2/5/2019	1	86.95	10.84	11.00	2.23	0.33	0.17	0.01	192.96	0.98	93.36
FURNACE8_0301.LAB	2/5/2019	1	86.47	10.91	11.47	2.19	0.33	0.21	0.01	192.99	0.98	92.71
FURNACE8_0302.LAB	2/5/2019	1	88.69	10.51	11.37	2.18	0.34	0.12	0.01	192.85	0.98	95.09
FURNACE8_0303.LAB	2/5/2019	1	88.53	10.72	11.27	2.22	0.34	0.15	0.01	192.57	0.98	94.94
FURNACE8_0304.LAB	2/5/2019	1	86.28	10.41	10.73	2.21	0.32	0.15	0.01	192.48	0.98	92.49
FURNACE8_0305.LAB	2/5/2019	1	89.55	9.38	9.73	2.21	0.33	0.20	0.01	192.40	0.98	95.87
FURNACE8_0306.LAB	2/5/2019	1	90.28	9.32	9.96	2.18	0.33	0.16	0.00	191.71	0.98	96.66
FURNACE8_0307.LAB	2/5/2019	1	90.60	9.78	10.12	2.15	0.33	0.15	0.00	190.86	0.98	97.05
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N/A	2/5/2019	1	76.31	12.35	13.13	3.26	0.28	0.05	0.88	190.36	0.98	83.51
N/A	2/5/2019	1	68.82	27.72	28.97	2.95	0.27	0.04	0.94	190.31	0.98	74.45
N/A	2/5/2019	1	71.09	43.20	45.24	2.61	0.29	-0.02	0.94	190.27	0.98	76.65
N/A	2/5/2019	1	69.27	51.07	52.54	2.45	0.28	-0.17	0.94	190.33	0.98	74.45
N/A	2/5/2019	1	72.58	55.58	57.98	2.35	0.29	-0.01	0.90	190.33	0.98	77.83
N/A	2/5/2019	1	80.15	43.32	45.72	2.23	0.31	0.12	0.47	190.39	0.98	85.76
N/A	2/5/2019	1	82.87	39.22	40.96	2.17	0.32	0.19	0.49	190.42	0.98	88.74
N/A	2/5/2019	1	82.47	40.17	41.43	2.14	0.31	0.06	0.49	190.39	0.98	88.39
N/A	2/5/2019	1	80.74	42.61	44.48	1.98	0.32	-0.01	0.49	190.41	0.98	86.42
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
SPIKENH3_0308.LAB	2/5/2019	1	81.10	37.86	39.72	1.85	0.31	0.05	0.49	190.49	0.98	86.60
SPIKENH3_0309.LAB	2/5/2019	1	81.78	38.88	41.22	1.83	0.31	0.09	0.49	190.83	0.98	87.35
SPIKENH3_0310.LAB	2/5/2019	1	82.54	36.91	39.14	1.81	0.31	0.03	0.41	191.98	0.98	88.17
SPIKENH3_0311.LAB	2/5/2019	1	85.07	32.13	33.93	1.82	0.32	0.08	0.34	192.66	0.98	90.93
SPIKENH3_0312.LAB	2/5/2019	1	83.19	31.77	33.42	1.81	0.32	0.01	0.34	192.60	0.98	88.89
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE8_0313.LAB	2/5/2019	1	89.86	15.70	16.92	1.79	0.33	0.15	0.01	192.32	0.98	95.90
FURNACE8_0314.LAB	2/5/2019	1	88.99	11.66	12.48	1.78	0.33	0.13	0.01	192.26	0.98	94.92
FURNACE8_0315.LAB	2/5/2019	1	89.40	10.90	12.06	1.75	0.33	0.18	0.01	192.05	0.98	95.42
FURNACE8_0316.LAB	2/5/2019	1	90.53	11.26	11.83	1.72	0.33	0.14	0.01	192.08	0.98	96.60
FURNACE8_0317.LAB	2/5/2019	1	89.54	11.02	11.87	1.70	0.33	0.12	0.01	191.92	0.98	95.55
FURNACE8_0318.LAB	2/5/2019	1	89.03	10.35	11.42	1.67	0.34	0.15	0.01	191.84	0.98	94.97
FURNACE8_0319.LAB	2/5/2019	1	88.39	10.55	11.42	1.63	0.33	0.14	0.01	191.73	0.98	94.23
FURNACE8_0320.LAB	2/5/2019	1	89.01	10.42	11.03	1.59	0.33	0.13	0.01	191.90	0.98	94.84
FURNACE8_0321.LAB	2/5/2019	1	88.56	10.34	10.75	1.56	0.32	0.22	0.02	191.81	0.98	94.30
FURNACE8_0322.LAB	2/5/2019	1	88.58	9.99	10.85	1.51	0.32	0.15	0.01	191.70	0.98	94.41
FURNACE8_0323.LAB	2/5/2019	1	88.22	11.14	12.25	1.50	0.33	0.21	0.01	191.61	0.98	94.08
FURNACE8_0324.LAB	2/5/2019	1	87.43	11.09	12.05	1.49	0.33	0.16	0.01	191.58	0.98	93.24
FURNACE8_0325.LAB	2/5/2019	1	88.33	11.08	12.09	1.50	0.32	0.18	0.01	191.67	0.98	94.07
FURNACE8_0326.LAB	2/5/2019	1	83.44	9.96	10.69	1.51	0.32	0.13	0.01	191.47	0.98	88.89
FURNACE8_0327.LAB	2/5/2019	1	72.48	9.35	9.75	1.49	0.28	0.13	0.01	190.54	0.98	77.27
FURNACE8_0328.LAB	2/5/2019	1	75.88	9.93	10.54	1.85	0.29	0.09	0.01	189.76	0.98	81.15

FURNACE8_0329.LAB	1	74.70	9.76	10.67	2.08	0.29	0.09	0.01	189.51	0.98	80.05
FURNACE8_0330.LAB	1	75.17	9.98	9.98	1.88	0.29	0.18	0.01	189.51	0.98	80.29
FURNACE8_0331.LAB	1	74.75	10.20	11.09	1.66	0.28	0.06	0.01	189.61	0.98	79.83
FURNACE8_0332.LAB	1	62.46	9.08	9.43	1.55	0.25	0.12	0.01	189.77	0.98	66.65
FURNACE8_0333.LAB	1	68.86	9.20	9.72	1.50	0.27	0.11	0.01	189.92	0.98	73.33
FURNACE8_0334.LAB	1	71.13	8.88	8.83	1.49	0.27	0.10	0.01	190.00	0.98	75.72
FURNACE8_0335.LAB	1	73.68	8.85	9.07	1.57	0.28	0.10	0.01	190.07	0.98	78.49
FURNACE8_0336.LAB	1	70.22	15.17	15.39	3.66	0.28	0.14	0.01	190.16	0.98	76.47
FURNACE8_0337.LAB	1	73.22	10.64	11.30	1.52	0.28	0.13	0.01	190.27	0.98	78.06
FURNACE8_0338.LAB	1	70.93	10.21	10.49	1.25	0.27	0.15	0.01	190.38	0.98	75.41
FURNACE8_0339.LAB	1	70.34	9.72	10.02	1.24	0.27	0.19	0.01	190.43	0.98	74.65
FURNACE8_0340.LAB	1	64.19	9.06	9.51	1.23	0.25	0.16	0.01	190.47	0.98	68.28
FURNACE8_0341.LAB	1	66.65	9.94	10.62	1.22	0.27	0.10	0.01	190.48	0.98	70.94
FURNACE8_0342.LAB	1	63.79	9.19	9.47	1.22	0.25	0.15	0.00	190.55	0.98	67.78
FURNACE8_0343.LAB	1	63.09	9.18	9.82	1.23	0.25	0.12	0.01	190.72	0.98	67.09
FURNACE8_0344.LAB	1	63.74	9.04	9.45	1.32	0.26	0.14	0.00	190.71	0.98	67.80
FURNACE8_0345.LAB	1	51.27	9.10	9.45	1.22	0.22	0.07	0.01	190.75	0.98	55.09
FURNACE8_0346.LAB	1	55.23	7.89	8.27	1.81	0.23	0.08	0.01	191.16	0.98	58.92
FURNACE8_0347.LAB	1	49.02	7.80	8.24	1.63	0.21	0.03	0.01	191.08	0.98	52.35
FURNACE8_0348.LAB	1	54.00	7.91	8.42	1.33	0.22	0.12	0.01	190.88	0.98	57.47
FURNACE8_0349.LAB	1	57.12	6.98	6.93	1.17	0.23	0.10	0.01	190.73	0.98	60.58
FURNACE8_0350.LAB	1	37.24	6.88	7.23	1.16	0.17	0.09	0.01	190.64	0.98	39.59
FURNACE8_0351.LAB	1	79.03	9.44	9.69	1.38	0.30	0.08	0.01	190.61	0.98	84.85
FURNACE8_0352.LAB	1	82.69	11.17	11.49	1.30	0.31	0.12	0.01	190.60	0.98	88.07
FURNACE8_0353.LAB	1	85.64	9.90	10.29	1.38	0.32	0.11	0.01	190.62	0.98	91.15
FURNACE8_0354.LAB	1	83.88	9.72	9.99	1.92	0.31	0.09	0.01	190.87	0.98	89.67
FURNACE8_0355.LAB	1	82.75	11.29	11.27	3.62	0.32	0.17	0.01	190.94	0.98	90.11
FURNACE8_0356.LAB	1	85.31	10.99	10.93	2.60	0.32	0.19	0.01	190.83	0.98	91.89
FURNACE8_0357.LAB	1	88.28	11.82	12.04	3.80	0.34	0.16	0.01	190.78	0.98	96.26
FURNACE8_0358.LAB	1	88.45	10.55	11.16	2.59	0.34	0.16	0.00	190.78	0.98	95.17
FURNACE8_0359.LAB	1	90.22	11.05	11.91	1.99	0.33	0.12	0.01	190.79	0.98	96.60
FURNACE8_0360.LAB	1	88.02	12.13	12.24	3.33	0.33	0.18	0.01	190.78	0.98	95.49
FURNACE8_0361.LAB	1	85.75	10.69	10.58	2.07	0.33	0.19	0.01	190.76	0.98	91.78
FURNACE8_0362.LAB	1	90.04	10.03	9.99	1.69	0.33	0.09	0.01	190.78	0.98	96.13
FURNACE8_0363.LAB	1	91.22	9.64	10.31	1.93	0.34	0.15	0.01	190.75	0.98	97.57
FURNACE8_0364.LAB	1	91.36	9.57	9.88	1.84	0.34	0.14	0.01	190.77	0.98	97.49
FURNACE8_0365.LAB	1	88.06	11.17	11.48	2.86	0.33	0.23	0.01	190.78	0.98	94.97
FURNACE8_0366.LAB	1	90.75	11.94	12.03	3.38	0.35	0.15	0.01	190.78	0.98	98.45
FURNACE8_0367.LAB	1	89.21	11.52	12.13	1.84	0.33	0.16	0.01	190.87	0.98	95.30
FURNACE8_0368.LAB	1	89.75	9.73	10.45	1.37	0.33	0.13	0.01	190.89	0.98	95.39
FURNACE8_0369.LAB	1	88.76	11.55	12.09	2.95	0.34	0.19	0.01	190.91	0.98	95.87
FURNACE8_0370.LAB	1	86.42	10.54	11.02	2.05	0.33	0.15	0.01	190.90	0.98	92.40
FURNACE8_0371.LAB	1	87.08	10.01	10.68	1.38	0.32	0.19	0.01	190.90	0.98	92.53
FURNACE8_0372.LAB	1	89.44	9.33	9.36	1.24	0.33	0.10	0.01	190.87	0.98	94.92
FURNACE8_0373.LAB	1	87.57	10.16	10.70	2.20	0.33	0.06	0.01	190.89	0.98	93.66
FURNACE8_0374.LAB	1	89.91	10.18	10.77	2.16	0.34	0.16	0.01	190.83	0.98	96.21

FURNACE8_0375.LAB	2/5/2019	1	90.46	10.22	10.21	1.68	0.33	0.23	0.00	190.82	0.98	96.32
FURNACE8_0376.LAB	2/5/2019	1	94.30	11.03	11.18	1.17	0.34	0.17	0.01	190.81	0.98	100.15
FURNACE8_0377.LAB	2/5/2019	1	94.60	12.10	12.46	1.20	0.34	0.15	0.01	190.81	0.98	100.33
FURNACE8_0378.LAB	2/5/2019	1	92.19	11.71	11.99	1.29	0.34	0.18	0.01	190.85	0.98	98.05
FURNACE8_0379.LAB	2/5/2019	1	87.06	11.18	11.57	1.37	0.32	0.09	0.01	190.85	0.98	92.51
FURNACE8_0380.LAB	2/5/2019	1	86.67	12.99	13.27	3.17	0.33	0.16	0.01	190.87	0.98	93.88
FURNACE8_0381.LAB	2/5/2019	1	88.73	11.80	12.44	1.94	0.33	0.10	0.01	190.93	0.98	94.97
FURNACE8_0382.LAB	2/5/2019	1	89.70	11.67	12.39	1.99	0.33	0.07	0.01	190.87	0.98	95.91
FURNACE8_0383.LAB	2/5/2019	1	89.29	12.24	12.86	2.75	0.34	0.21	0.01	190.89	0.98	96.33
FURNACE8_0384.LAB	2/5/2019	1	84.71	10.65	11.23	1.81	0.32	0.20	0.01	190.88	0.98	90.39
FURNACE8_0385.LAB	2/5/2019	1	85.81	10.20	10.77	1.91	0.32	0.07	0.01	190.89	0.98	91.77
FURNACE8_0386.LAB	2/5/2019	1	79.91	10.01	10.57	1.66	0.30	0.10	0.01	190.87	0.98	85.29
FURNACE8_0387.LAB	2/5/2019	1	84.62	9.26	9.71	1.60	0.32	0.10	0.01	190.87	0.98	90.21
FURNACE8_0388.LAB	2/5/2019	1	85.12	10.31	10.79	2.21	0.33	0.05	0.01	190.89	0.98	91.27
FURNACE8_0389.LAB	2/5/2019	1	86.65	13.47	13.76	3.63	0.34	0.18	0.01	190.89	0.98	94.44
FURNACE8_0390.LAB	2/5/2019	1	86.04	11.53	11.96	1.87	0.33	0.09	0.01	190.91	0.98	92.07
FURNACE8_0391.LAB	2/5/2019	1	83.33	10.89	11.19	1.72	0.32	0.09	0.01	190.90	0.98	89.00
FURNACE8_0392.LAB	2/5/2019	1	88.25	9.62	10.59	1.57	0.34	0.12	0.01	190.88	0.98	94.06
FURNACE8_0393.LAB	2/5/2019	1	79.40	9.75	10.50	1.57	0.31	0.11	0.01	190.90	0.98	84.72
FURNACE8_0394.LAB	2/5/2019	1	82.54	9.61	9.80	1.58	0.32	0.16	0.01	190.85	0.98	88.01
FURNACE8_0395.LAB	2/5/2019	1	67.74	9.40	9.94	1.60	0.27	0.09	0.01	190.88	0.98	72.31
FURNACE8_0396.LAB	2/5/2019	1	81.08	11.52	11.74	3.14	0.33	0.18	0.01	190.87	0.98	87.81
FURNACE8_0397.LAB	2/5/2019	1	94.28	10.48	10.87	1.92	0.36	0.14	0.01	190.88	0.98	100.95
FURNACE8_0398.LAB	2/5/2019	1	94.45	12.37	13.05	1.80	0.36	0.13	0.01	190.94	0.98	101.05
FURNACE8_0399.LAB	2/5/2019	1	91.02	13.59	13.85	2.91	0.36	0.19	0.01	190.91	0.98	98.44
FURNACE8_0400.LAB	2/5/2019	1	83.12	17.04	17.65	5.32	0.35	0.25	0.01	190.96	0.98	92.92
FURNACE8_0401.LAB	2/5/2019	1	78.11	23.67	24.43	7.91	0.30	0.37	0.01	190.95	0.98	89.05
FURNACE8_0402.LAB	2/5/2019	1	86.79	17.28	18.10	3.97	0.36	0.24	0.01	190.91	0.98	94.97
FURNACE8_0403.LAB	2/5/2019	1	87.86	13.31	13.76	2.79	0.37	0.20	0.01	190.90	0.98	94.94
FURNACE8_0404.LAB	2/5/2019	1	84.52	16.79	17.48	5.59	0.35	0.26	0.01	190.84	0.98	94.12
FURNACE8_0405.LAB	2/5/2019	1	88.35	14.27	14.75	3.60	0.37	0.25	0.01	190.87	0.98	96.37
FURNACE8_0406.LAB	2/5/2019	1	54.92	11.73	12.13	2.47	0.25	0.14	0.00	190.92	0.98	59.19
FURNACE8_0407.LAB	2/5/2019	1	41.01	9.38	9.87	1.88	0.20	0.06	0.01	191.13	0.98	44.01
FURNACE8_0408.LAB	2/5/2019	1	33.65	6.08	6.41	1.74	0.17	0.04	0.01	191.13	0.98	36.06
FURNACE8_0409.LAB	2/5/2019	1	29.11	5.17	5.86	1.67	0.15	0.06	0.01	190.96	0.98	31.14
FURNACE8_0410.LAB	2/5/2019	1	24.56	4.92	5.69	1.61	0.13	-0.02	0.01	190.93	0.98	26.34
FURNACE8_0411.LAB	2/5/2019	1	58.82	5.48	5.66	1.54	0.25	0.03	0.01	190.88	0.98	62.83
FURNACE8_0412.LAB	2/5/2019	1	89.43	9.48	9.91	1.66	0.36	0.13	0.01	190.85	0.98	95.59
FURNACE8_0413.LAB	2/5/2019	1	88.02	10.86	11.61	1.65	0.37	0.10	0.01	190.85	0.98	94.12
FURNACE8_0414.LAB	2/5/2019	1	88.47	10.64	11.28	1.71	0.36	0.19	0.01	190.83	0.98	94.58
FURNACE8_0415.LAB	2/5/2019	1	89.90	10.69	11.12	1.74	0.36	0.11	0.01	190.85	0.98	96.07
FURNACE8_0416.LAB	2/5/2019	1	89.80	10.01	10.54	1.75	0.37	0.12	0.01	190.87	0.98	95.91
FURNACE8_0417.LAB	2/5/2019	1	88.29	10.02	10.78	1.81	0.37	0.10	0.01	190.84	0.98	94.41
FURNACE8_0418.LAB	2/5/2019	1	84.95	10.33	10.92	2.06	0.36	0.10	0.01	190.89	0.98	91.16
FURNACE8_0419.LAB	2/5/2019	1	88.26	11.28	11.26	2.28	0.36	0.21	0.01	190.85	0.98	94.75
FURNACE8_0420.LAB	2/5/2019	1	86.73	10.81	10.92	2.35	0.37	0.21	0.01	190.85	0.98	93.19

FURNACE8_0421.LAB	2/5/2019	1	89.35	10.83	10.99	2.26	0.36	0.22	0.01	190.93	0.98	95.82
FURNACE8_0422.LAB	2/5/2019	1	92.58	10.59	10.93	2.17	0.38	0.18	0.00	191.34	0.98	99.23
FURNACE8_0423.LAB	2/5/2019	1	93.91	10.76	11.09	2.05	0.38	0.16	0.00	191.33	0.98	100.40
FURNACE8_0424.LAB	2/5/2019	1	96.41	10.35	10.97	1.87	0.40	0.12	0.01	191.11	0.98	102.90
FURNACE8_0425.LAB	2/5/2019	1	92.23	10.49	11.39	2.46	0.39	0.15	0.01	191.05	0.98	99.08
FURNACE8_0426.LAB	2/5/2019	1	93.21	10.13	10.54	2.37	0.40	0.16	0.00	191.02	0.98	99.79
FURNACE8_0427.LAB	2/5/2019	1	92.49	10.15	10.46	2.22	0.39	0.14	0.01	191.09	0.98	98.92
FURNACE8_0428.LAB	2/5/2019	1	92.63	10.42	10.73	2.12	0.39	0.19	0.01	191.28	0.98	99.07
FURNACE8_0429.LAB	2/5/2019	1	91.17	10.82	11.25	1.80	0.38	0.20	0.01	191.45	0.98	97.14
FURNACE8_0430.LAB	2/5/2019	1	93.35	9.52	9.94	1.68	0.38	0.09	0.01	191.53	0.98	99.50
FURNACE8_0431.LAB	2/5/2019	1	85.13	11.59	12.05	2.71	0.38	0.21	0.01	191.48	0.98	91.72
FURNACE8_0432.LAB	2/5/2019	1	82.39	10.42	10.79	2.23	0.36	0.16	0.01	191.48	0.98	88.25
FURNACE8_0433.LAB	2/5/2019	1	81.09	10.49	10.97	2.09	0.35	0.18	0.01	191.42	0.98	86.84
FURNACE8_0434.LAB	2/5/2019	1	81.77	11.17	11.59	1.91	0.36	0.21	0.01	191.42	0.98	87.28
FURNACE8_0435.LAB	2/5/2019	1	80.50	10.27	10.98	2.67	0.35	0.05	0.01	191.35	0.98	86.81
FURNACE8_0436.LAB	2/5/2019	1	73.24	9.45	9.91	2.05	0.34	0.16	0.01	191.33	0.98	78.27
FURNACE8_0437.LAB	2/5/2019	1	70.53	9.33	10.16	2.11	0.33	0.09	0.01	191.32	0.98	75.62
FURNACE8_0438.LAB	2/5/2019	1	68.38	8.82	9.64	1.96	0.32	0.06	0.01	191.33	0.98	73.11
FURNACE8_0439.LAB	2/5/2019	1	74.14	8.53	9.32	1.78	0.34	0.09	0.01	191.32	0.98	79.22
FURNACE8_0440.LAB	2/5/2019	1	70.86	8.86	9.76	1.73	0.33	0.09	0.01	191.28	0.98	75.53
FURNACE8_0441.LAB	2/5/2019	1	74.27	8.47	9.21	1.57	0.33	0.10	0.01	191.26	0.98	79.14
FURNACE8_0442.LAB	2/5/2019	1	72.97	8.52	8.89	1.52	0.33	0.11	0.01	191.26	0.98	77.68
FURNACE8_0443.LAB	2/5/2019	1	68.47	8.80	9.17	1.53	0.32	0.11	0.01	191.30	0.98	73.03
FURNACE8_0444.LAB	2/5/2019	1	64.75	9.33	9.85	2.31	0.31	0.06	0.01	191.27	0.98	69.64
FURNACE8_0445.LAB	2/5/2019	1	71.62	9.38	9.33	2.17	0.33	0.19	0.01	191.25	0.98	76.74
FURNACE8_0446.LAB	2/5/2019	1	70.28	10.54	10.78	1.87	0.32	0.20	0.01	191.22	0.98	75.09
FURNACE8_0447.LAB	2/5/2019	1	66.16	10.30	10.82	1.55	0.32	0.18	0.01	191.23	0.98	70.63
FURNACE8_0448.LAB	2/5/2019	1	64.55	9.80	10.42	1.73	0.31	0.14	0.01	191.21	0.98	68.97
FURNACE8_0449.LAB	2/5/2019	1	61.24	9.16	9.97	1.67	0.30	0.14	0.01	191.21	0.98	65.38
FURNACE8_0450.LAB	2/5/2019	1	60.95	8.93	9.41	1.60	0.29	0.11	0.01	191.26	0.98	65.06
FURNACE8_0451.LAB	2/5/2019	1	65.30	9.24	9.87	1.47	0.31	0.07	0.01	191.25	0.98	69.61
FURNACE8_0452.LAB	2/5/2019	1	55.26	8.98	9.14	1.52	0.27	0.08	0.01	191.23	0.98	58.99
FURNACE8_0453.LAB	2/5/2019	1	56.54	8.52	9.58	1.56	0.27	0.13	0.01	191.23	0.98	60.33
FURNACE8_0454.LAB	2/5/2019	1	59.75	8.47	8.90	1.58	0.28	0.10	0.01	191.22	0.98	63.67
FURNACE8_0455.LAB	2/5/2019	1	52.71	8.48	9.04	1.74	0.26	0.03	0.01	191.22	0.98	56.42
FURNACE8_0456.LAB	2/5/2019	1	13.53	7.65	7.73	2.42	0.12	0.12	0.01	191.30	0.98	14.74
FURNACE8_0457.LAB	2/5/2019	1	37.57	4.85	5.22	1.99	0.23	0.05	0.01	191.36	0.98	40.19
FURNACE8_0458.LAB	2/5/2019	1	79.99	4.47	4.92	1.93	0.42	0.05	0.01	191.34	0.98	85.09
FURNACE8_0459.LAB	2/5/2019	1	82.89	4.08	4.72	1.86	0.47	0.01	0.01	191.22	0.98	88.11
FURNACE8_0460.LAB	2/5/2019	1	81.78	3.86	4.52	1.71	0.49	0.05	0.01	191.23	0.98	86.76
FURNACE8_0461.LAB	2/5/2019	1	79.13	3.39	3.91	1.36	0.49	-0.01	0.01	191.15	0.98	83.56
FURNACE8_0462.LAB	2/5/2019	1	81.30	2.62	3.03	1.32	0.54	0.07	0.01	191.12	0.98	85.81
FURNACE8_0463.LAB	2/5/2019	1	84.12	2.27	2.28	1.33	0.58	0.04	0.01	191.12	0.98	88.80
FURNACE8_0464.LAB	2/5/2019	1	77.68	2.08	2.71	1.36	0.57	0.07	0.01	191.18	0.98	82.04
FURNACE8_0465.LAB	2/5/2019	1	78.28	1.99	2.19	1.42	0.60	0.04	0.01	191.19	0.98	82.74
FURNACE8_0466.LAB	2/5/2019	1	80.30	2.00	2.56	1.50	0.63	0.05	0.01	191.13	0.98	85.30

FURNACE8_0467.LAB	2/5/2019	1	84.16	1.97	2.41	1.62	0.64	0.02	0.01	191.14	0.98	89.74
FURNACE8_0468.LAB	2/5/2019	1	77.95	2.10	2.38	1.72	0.59	0.06	0.01	191.09	0.98	83.51
FURNACE8_0469.LAB	2/5/2019	1	73.49	2.33	2.35	1.82	0.55	0.13	0.01	191.09	0.98	79.17
FURNACE8_0470.LAB	2/5/2019	1	65.27	3.90	3.97	3.55	0.50	0.23	0.01	191.12	0.98	72.06
FURNACE8_0471.LAB	2/5/2019	1	61.48	5.22	5.56	3.09	0.48	0.29	0.01	191.12	0.98	68.25
FURNACE8_0472.LAB	2/5/2019	1	57.30	6.06	6.61	1.83	0.45	0.37	0.01	191.19	0.98	63.81
FURNACE8_0473.LAB	2/5/2019	1	51.19	9.36	9.88	1.68	0.42	0.65	0.01	191.15	0.98	58.15
FURNACE8_0474.LAB	2/5/2019	1	45.59	18.03	19.02	1.70	0.40	0.97	0.01	191.17	0.98	52.90
FURNACE8_0475.LAB	2/5/2019	1	39.21	33.80	35.79	1.72	0.38	1.50	0.02	191.16	0.98	46.47
FURNACE8_0476.LAB	2/5/2019	1	33.01	63.63	67.48	1.72	0.36	2.08	0.01	191.11	0.98	39.98
FURNACE8_0477.LAB	2/5/2019	1	27.40	96.71	101.74	3.17	0.35	2.59	0.01	191.14	0.98	34.13
FURNACE8_0478.LAB	2/5/2019	1	22.10	153.27	160.55	3.03	0.34	3.52	0.02	191.14	0.98	28.27
FURNACE8_0479.LAB	2/5/2019	1	18.49	209.07	219.86	1.86	0.32	4.07	0.02	191.14	0.98	23.77
FURNACE8_0480.LAB	2/5/2019	1	14.92	269.95	286.35	1.59	0.30	4.62	0.03	191.20	0.98	19.26
FURNACE8_0481.LAB	2/5/2019	1	9.26	406.21	448.95	1.47	0.24	3.81	0.03	191.17	0.98	11.72
FURNACE8_0482.LAB	2/5/2019	1	4.52	773.44	811.45	1.35	0.20	2.31	0.06	191.16	0.98	5.43
FURNACE8_0483.LAB	2/5/2019	1	4.04	788.74	826.87	1.21	0.20	2.19	0.06	191.14	0.98	4.81
FURNACE8_0484.LAB	2/5/2019	1	3.30	766.53	808.19	1.11	0.19	1.96	0.06	191.19	0.98	3.95
FURNACE8_0485.LAB	2/5/2019	1	2.98	719.95	762.14	1.05	0.19	1.85	0.06	191.15	0.98	3.57
FURNACE8_0486.LAB	2/5/2019	1	2.40	686.37	722.98	1.02	0.18	1.65	0.06	191.15	0.98	2.91
FURNACE8_0487.LAB	2/5/2019	1	2.46	607.71	640.16	1.00	0.18	1.55	0.05	191.20	0.98	2.91
FURNACE8_0488.LAB	2/5/2019	1	2.35	537.19	564.86	0.98	0.19	1.40	0.05	191.15	0.98	2.81
FURNACE8_0489.LAB	2/5/2019	1	2.34	505.34	531.98	0.96	0.18	1.25	0.04	191.21	0.98	2.79
FURNACE8_0490.LAB	2/5/2019	1	2.40	470.96	501.15	0.95	0.19	1.09	0.05	191.28	0.98	2.82
FURNACE8_0491.LAB	2/5/2019	1	2.36	439.17	465.95	0.93	0.18	0.94	0.04	191.27	0.98	2.76
FURNACE8_0492.LAB	2/5/2019	1	2.26	401.77	425.05	0.93	0.19	0.93	0.03	191.23	0.98	2.67
FURNACE8_0493.LAB	2/5/2019	1	2.29	387.85	409.71	0.92	0.18	0.92	0.03	191.28	0.98	2.69
FURNACE8_0494.LAB	2/5/2019	1	2.21	355.68	374.92	0.91	0.18	0.87	0.03	191.24	0.98	2.65
FURNACE8_0495.LAB	2/5/2019	1	2.19	336.27	356.25	0.91	0.18	0.85	0.03	191.25	0.98	2.61
FURNACE8_0496.LAB	2/5/2019	1	2.15	309.14	326.88	0.90	0.18	0.76	0.03	191.20	0.98	2.54
FURNACE8_0497.LAB	2/5/2019	1	2.08	279.94	295.86	0.89	0.19	0.60	0.03	191.11	0.98	2.47
FURNACE8_0498.LAB	2/5/2019	1	2.18	260.73	275.16	0.89	0.19	0.59	0.03	191.12	0.98	2.57
FURNACE8_0499.LAB	2/5/2019	1	1.91	238.59	251.66	0.89	0.18	0.61	0.03	191.14	0.98	2.28
FURNACE8_0500.LAB	2/5/2019	1	1.94	219.93	231.99	0.89	0.19	0.44	0.03	191.15	0.98	2.33
FURNACE8_0501.LAB	2/5/2019	1	1.94	207.12	218.33	0.88	0.19	0.48	0.02	191.14	0.98	2.33
FURNACE8_0502.LAB	2/5/2019	1	1.84	189.05	200.41	0.89	0.19	0.43	0.02	191.93	0.98	2.25
FURNACE8_0503.LAB	2/5/2019	1	1.87	176.25	187.19	0.88	0.18	0.40	0.02	192.42	0.98	2.29
FURNACE8_0504.LAB	2/5/2019	1	1.87	163.15	172.28	0.87	0.19	0.52	0.03	191.76	0.98	2.23
FURNACE8_0505.LAB	2/5/2019	1	2.00	150.33	158.66	0.87	0.18	0.46	0.03	191.38	0.98	2.39
FURNACE8_0506.LAB	2/5/2019	1	1.91	139.84	146.92	0.87	0.18	0.50	0.02	191.31	0.98	2.26
FURNACE8_0507.LAB	2/5/2019	1	1.84	130.08	136.99	0.86	0.19	0.29	0.02	191.28	0.98	2.18
FURNACE8_0508.LAB	2/5/2019	1	1.80	122.64	129.50	0.86	0.18	0.32	0.02	191.15	0.98	2.15
FURNACE8_0509.LAB	2/5/2019	1	1.77	110.41	117.32	0.86	0.18	0.35	0.01	191.05	0.98	2.11
FURNACE8_0510.LAB	2/5/2019	1	1.76	103.33	109.66	0.86	0.18	0.27	0.02	191.02	0.98	2.08
FURNACE8_0511.LAB	2/5/2019	1	1.81	95.95	101.42	0.85	0.18	0.30	0.02	191.03	0.98	2.09
FURNACE8_0512.LAB	2/5/2019	1	1.80	90.72	96.00	0.85	0.18	0.25	0.02	191.02	0.98	2.11

FURNACE8_0513.LAB	2/5/2019	1	1.89	85.02	90.24	0.85	0.18	0.23	0.01	191.07	0.98	2.22
FURNACE8_0514.LAB	2/5/2019	1	1.82	77.78	82.53	0.86	0.18	0.16	0.02	191.10	0.98	2.14
FURNACE8_0515.LAB	2/5/2019	1	1.77	75.67	79.57	0.86	0.18	0.26	0.01	191.11	0.98	2.09
FURNACE8_0516.LAB	2/5/2019	1	1.88	69.36	72.77	0.86	0.18	0.19	0.01	191.12	0.98	2.20
FURNACE8_0517.LAB	2/5/2019	1	1.82	64.84	68.78	0.86	0.18	0.14	0.01	191.08	0.98	2.11
FURNACE8_0518.LAB	2/5/2019	1	1.80	61.30	64.98	0.85	0.18	0.14	0.01	191.15	0.98	2.10
FURNACE8_0519.LAB	2/5/2019	1	1.70	56.55	59.65	0.85	0.18	0.18	0.01	191.12	0.98	1.99
FURNACE8_0520.LAB	2/5/2019	1	1.73	54.56	57.53	0.85	0.18	0.15	0.01	191.14	0.98	2.03
FURNACE8_0521.LAB	2/5/2019	1	1.77	51.57	54.68	0.85	0.17	0.13	0.01	191.07	0.98	2.11
FURNACE8_0522.LAB	2/5/2019	1	1.71	49.35	52.22	0.85	0.17	0.18	0.01	191.13	0.98	2.00
FURNACE8_0523.LAB	2/5/2019	1	1.59	45.68	47.94	0.85	0.17	0.18	0.01	191.11	0.98	1.86
FURNACE8_0524.LAB	2/5/2019	1	1.70	44.38	46.91	0.85	0.17	0.13	0.01	191.11	0.98	2.00
FURNACE8_0525.LAB	2/5/2019	1	1.83	42.84	45.18	0.85	0.17	0.17	0.01	191.13	0.98	2.06
FURNACE8_0526.LAB	2/5/2019	1	1.81	31.90	33.64	0.86	0.18	0.11	0.01	191.12	0.98	2.09
FURNACE8_0527.LAB	2/5/2019	1	1.82	23.19	24.46	0.86	0.18	0.11	0.01	191.14	0.98	2.08
FURNACE8_0528.LAB	2/5/2019	1	1.85	21.74	23.02	0.86	0.18	0.08	0.01	191.17	0.98	2.14
FURNACE8_0529.LAB	2/5/2019	1	1.66	20.72	21.53	0.86	0.17	0.10	0.01	191.17	0.98	1.93
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_0530.LAB	2/5/2019	1	0.28	201.92	208.37	0.59	0.06	-0.43	3.87	191.21	0.98	0.22
NH3SYS_0531.LAB	2/5/2019	1	0.43	244.67	251.06	0.58	0.05	-0.38	3.89	191.17	0.98	0.46
NH3SYS_0532.LAB	2/5/2019	1	0.43	257.92	265.61	0.52	0.07	-0.50	3.87	191.26	0.98	0.47
NH3SYS_0533.LAB	2/5/2019	1	0.60	264.71	272.60	0.47	0.06	-0.50	3.87	191.28	0.98	0.56
NH3SYS_0534.LAB	2/5/2019	1	0.53	267.91	274.68	0.39	0.05	-0.38	3.88	191.30	0.98	0.53
NH3SYS_0535.LAB	2/5/2019	1	0.56	269.10	277.75	0.32	0.06	-0.33	3.89	191.37	0.98	0.53
NH3SYS_0536.LAB	2/5/2019	1	0.30	269.96	278.77	0.30	0.06	-0.63	3.89	191.42	0.98	0.30
NH3SYS_0537.LAB	2/5/2019	1	0.44	271.06	279.98	0.28	0.07	-0.43	3.88	191.42	0.98	0.46
NH3SYS_0538.LAB	2/5/2019	1	0.24	273.15	281.48	0.27	0.06	-0.54	3.89	191.45	0.98	0.25
NH3SYS_0539.LAB	2/5/2019	1	0.55	273.15	281.58	0.26	0.06	-0.47	3.88	191.44	0.98	0.52
NH3SYS_0540.LAB	2/5/2019	1	0.35	274.11	282.13	0.25	0.06	-0.43	3.89	191.40	0.98	0.34
NH3SYS_0541.LAB	2/5/2019	1	0.39	274.99	283.26	0.25	0.08	-0.39	3.89	191.41	0.98	0.41
NH3SYS_0542.LAB	2/5/2019	1	0.48	274.88	283.23	0.24	0.05	-0.54	3.88	191.41	0.98	0.44
NH3SYS_0543.LAB	2/5/2019	1	0.47	276.14	285.20	0.24	0.06	-0.55	3.91	191.31	0.98	0.52
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_0544.LAB	2/5/2019	1	216.36	61.24	66.82	0.24	0.03	-0.49	3.89	191.23	0.98	234.85
NOSYS_0545.LAB	2/5/2019	1	289.13	25.79	26.42	0.22	0.01	-0.47	3.97	191.15	0.98	292.64
NOSYS_0546.LAB	2/5/2019	1	291.94	18.68	20.04	0.20	0.01	-0.43	3.98	191.17	0.98	294.79
NOSYS_0547.LAB	2/5/2019	1	292.31	14.81	15.24	0.18	0.00	-0.47	3.96	191.20	0.98	294.73
NOSYS_0548.LAB	2/5/2019	1	292.46	12.23	12.49	0.16	0.01	-0.38	3.97	191.29	0.98	294.51
NOSYS_0549.LAB	2/5/2019	1	293.86	10.38	11.39	0.16	0.01	-0.57	3.97	191.45	0.98	295.76
NOSYS_0550.LAB	2/5/2019	1	293.62	8.98	9.75	0.14	0.01	-0.53	3.97	191.61	0.98	295.17
NOSYS_0551.LAB	2/5/2019	1	293.84	7.94	8.52	0.14	0.01	-0.46	3.96	191.82	0.98	295.31
NOSYS_0552.LAB	2/5/2019	1	293.64	7.12	7.32	0.14	0.00	-0.55	3.96	191.95	0.98	294.99
NOSYS_0553.LAB	2/5/2019	1	293.85	6.38	6.74	0.14	0.00	-0.35	3.95	191.94	0.98	295.13

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSSYS_0554.LAB	2/5/2019	1	2.99	6.11	5.72	0.13	0.01	98.47	0.03	191.75	0.98	3.03
CTSSYS_0555.LAB	2/5/2019	1	1.39	5.34	4.55	0.13	0.00	98.97	0.00	191.57	0.98	1.35
CTSSYS_0556.LAB	2/5/2019	1	0.99	4.95	4.46	0.13	0.01	98.52	-0.01	191.49	0.98	0.93
CTSSYS_0557.LAB	2/5/2019	1	0.66	4.65	4.15	0.12	0.02	98.40	0.01	191.38	0.98	0.61
CTSSYS_0558.LAB	2/5/2019	1	0.76	4.25	3.46	0.11	0.01	98.67	-0.01	191.29	0.98	0.74
CTSSYS_0559.LAB	2/5/2019	1	0.81	3.87	3.97	0.09	0.01	99.46	0.00	191.23	0.98	0.80
CTSSYS_0560.LAB	2/5/2019	1	0.64	3.59	3.42	0.07	0.01	98.82	-0.01	191.17	0.98	0.53
CTSSYS_0561.LAB	2/5/2019	1	0.41	3.50	2.89	0.08	0.00	99.45	0.00	191.15	0.98	0.42

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2SYS_0562.LAB	2/5/2019	1	0.42	3.76	4.00	0.08	0.02	8.84	0.00	191.05	0.98	0.33
N2SYS_0563.LAB	2/5/2019	1	0.37	3.40	3.40	0.07	0.01	0.19	0.00	191.05	0.98	0.36
N2SYS_0564.LAB	2/5/2019	1	0.30	3.16	2.98	0.06	0.00	0.25	0.00	191.07	0.98	0.25
N2SYS_0565.LAB	2/5/2019	1	0.28	3.00	2.92	0.06	0.01	0.18	0.01	191.01	0.98	0.15
N2SYS_0566.LAB	2/5/2019	1	0.09	2.85	2.61	0.06	0.00	0.13	0.00	191.03	0.98	0.01
N2SYS_0567.LAB	2/5/2019	1	0.29	2.75	2.84	0.06	-0.01	0.05	0.00	191.13	0.98	0.20
N2SYS_0568.LAB	2/5/2019	1	0.23	2.61	2.95	0.06	0.00	0.08	0.01	191.19	0.98	0.22
N2SYS_0569.LAB	2/5/2019	1	0.30	2.53	3.11	0.06	-0.01	0.03	0.01	191.30	0.98	0.32

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_0570.LAB	2/5/2019	1	0.28	264.11	272.79	0.01	0.06	-0.54	3.86	191.04	0.98	0.24
NH3SYS_0571.LAB	2/5/2019	1	0.18	273.09	281.31	0.01	0.06	-0.38	3.93	191.07	0.98	0.08
NH3SYS_0572.LAB	2/5/2019	1	0.52	275.51	284.04	0.00	0.07	-0.34	3.94	191.06	0.98	0.43
NH3SYS_0573.LAB	2/5/2019	1	0.31	276.82	286.15	0.00	0.07	-0.54	3.93	191.04	0.98	0.29
NH3SYS_0574.LAB	2/5/2019	1	0.45	277.78	286.47	0.01	0.06	-0.38	3.93	191.04	0.98	0.40
NH3SYS_0575.LAB	2/5/2019	1	0.21	278.22	286.92	0.00	0.06	-0.20	3.93	191.07	0.98	0.16
NH3SYS_0576.LAB	2/5/2019	1	0.36	278.44	287.13	0.01	0.05	-0.35	3.92	191.07	0.98	0.24
NH3SYS_0577.LAB	2/5/2019	1	0.32	278.74	287.67	0.01	0.07	-0.42	3.92	191.11	0.98	0.33

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_0578.LAB	2/5/2019	1	282.53	5.54	5.47	0.01	0.00	-0.38	3.99	191.07	0.98	297.14
NOSYS_0579.LAB	2/5/2019	1	290.30	2.51	1.88	0.01	0.00	-0.54	3.99	191.11	0.98	297.16
NOSYS_0580.LAB	2/5/2019	1	290.84	1.70	1.61	0.01	0.00	-0.50	3.99	191.11	0.98	295.66
NOSYS_0581.LAB	2/5/2019	1	291.60	1.36	0.75	0.01	0.01	-0.59	3.99	191.12	0.98	295.84
NOSYS_0582.LAB	2/5/2019	1	292.45	1.12	1.00	0.01	0.00	-0.56	4.00	191.16	0.98	296.42
NOSYS_0583.LAB	2/5/2019	1	293.30	0.96	0.69	0.01	0.00	-0.40	4.00	191.11	0.98	297.00
NOSYS_0584.LAB	2/5/2019	1	293.39	0.84	1.84	0.01	0.01	-0.46	4.00	191.10	0.98	296.93
NOSYS_0585.LAB	2/5/2019	1	294.08	0.69	1.18	0.01	0.01	-0.51	4.00	191.16	0.98	297.37

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSSYS_0586.LAB	2/5/2019	1	2.11	0.72	-0.60	0.01	0.01	99.14	0.03	191.12	0.98	2.04
CTSSYS_0587.LAB	2/5/2019	1	0.33	0.60	0.66	0.01	0.00	100.15	0.00	191.12	0.98	0.23
CTSSYS_0588.LAB	2/5/2019	1	0.26	0.51	0.45	0.01	0.01	100.30	-0.01	191.11	0.98	0.20
CTSSYS_0589.LAB	2/5/2019	1	0.18	0.47	-0.16	0.01	0.00	100.25	-0.01	191.12	0.98	0.12
CTSSYS_0590.LAB	2/5/2019	1	0.20	0.45	-0.02	0.01	0.00	100.43	-0.01	191.13	0.98	0.21

CTSSYS_0591.LAB	2/5/2019	1	0.25	0.42	0.19	0.01	-0.01	100.34	-0.01	191.11	0.98	0.27	0.98	0.27
CTSSYS_0592.LAB	2/5/2019	1	0.13	0.36	0.05	0.01	0.00	100.39	-0.01	191.07	0.98	0.22	0.98	0.22
CTSSYS_0593.LAB	2/5/2019	1	0.25	0.35	-0.10	0.01	0.00	100.32	-0.01	191.08	0.98	0.25	0.98	0.25
CTSSYS_0594.LAB	2/5/2019	1	0.17	0.36	-0.69	0.00	0.00	100.09	-0.01	191.07	0.98	0.08	0.98	0.08
CTSSYS_0595.LAB	2/5/2019	1	0.10	0.33	0.10	0.00	0.01	100.08	0.00	191.08	0.98	0.03	0.98	0.03
CTSSYS_0596.LAB	2/5/2019	1	0.16	0.33	0.44	0.02	0.00	100.23	0.00	191.11	0.98	0.11	0.98	0.11
CTSSYS_0597.LAB	2/5/2019	1	0.15	0.28	0.18	0.01	0.00	100.27	0.00	191.11	0.98	0.09	0.98	0.09
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry		
N2SYS_0598.LAB	2/5/2019	1	-0.07	0.25	0.39	0.01	0.01	0.02	0.00	191.13	0.98	-0.11	0.98	-0.11
N2SYS_0599.LAB	2/5/2019	1	-0.06	0.22	0.45	0.01	0.00	0.01	0.00	191.29	0.98	-0.12	0.98	-0.12
N2SYS_0600.LAB	2/5/2019	1	-0.07	0.18	0.09	0.01	0.00	-0.03	0.01	191.22	0.98	-0.18	0.98	-0.18
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry		
N2DIR_0601.LAB	2/6/2019	0	0.04	0.09	-0.20	0.01	-0.01	-0.04	0.00	190.84	0.97	-0.05	0.97	-0.05
N2DIR_0602.LAB	2/6/2019	0	-0.02	0.11	0.44	0.01	-0.01	-0.05	0.00	190.88	0.97	-0.08	0.97	-0.08
N2DIR_0603.LAB	2/6/2019	0	0.08	0.10	0.43	0.01	0.00	0.04	0.01	190.84	0.97	0.00	0.97	0.00
N2DIR_0604.LAB	2/6/2019	0	0.18	0.08	0.20	0.01	0.00	0.01	0.00	190.85	0.97	0.18	0.97	0.18
N2DIR_0605BKG.LAB	2/6/2019	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.93	0.97	0.00	0.97	0.00
N2DIR_0606.LAB	2/6/2019	0	-0.04	0.00	0.15	0.01	0.00	-0.03	0.00	191.01	0.97	-0.10	0.97	-0.10
N2DIR_0607.LAB	2/6/2019	0	0.28	-0.02	0.88	0.00	0.00	-0.07	0.00	190.97	0.97	0.40	0.97	0.40
N2DIR_0608.LAB	2/6/2019	0	0.23	-0.04	0.11	0.01	0.00	-0.01	0.00	190.98	0.97	0.26	0.97	0.26
N2DIR_0609.LAB	2/6/2019	0	-0.09	0.01	0.20	0.00	0.02	0.08	0.00	190.96	0.97	-0.16	0.97	-0.16
N2DIR_0610.LAB	2/6/2019	0	-0.05	-0.02	0.24	0.01	-0.01	0.08	0.00	190.97	0.97	0.02	0.97	0.02
N2DIR_0611.LAB	2/6/2019	0	-0.08	-0.01	0.30	0.01	0.01	-0.07	0.00	190.95	0.97	-0.05	0.97	-0.05
N2DIR_0612.LAB	2/6/2019	0	0.05	0.03	-0.48	0.00	-0.01	-0.06	0.00	190.98	0.97	0.09	0.97	0.09
N2DIR_0613.LAB	2/6/2019	0	-0.01	-0.07	0.04	0.01	-0.01	0.03	-0.01	190.98	0.97	0.00	0.97	0.00
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry		
CTSDIR_0614.LAB	2/6/2019	0	0.21	-0.01	-0.44	0.02	0.01	99.32	-0.01	190.97	0.97	0.25	0.97	0.25
CTSDIR_0615.LAB	2/6/2019	0	0.27	-0.02	-1.04	0.01	0.00	99.87	-0.02	190.98	0.97	0.30	0.97	0.30
CTSDIR_0616.LAB	2/6/2019	0	0.32	-0.04	-0.26	0.01	0.00	99.83	-0.02	190.92	0.97	0.27	0.97	0.27
CTSDIR_0617.LAB	2/6/2019	0	0.24	-0.08	-0.56	0.01	0.01	99.73	-0.02	190.92	0.97	0.27	0.97	0.27
CTSDIR_0618.LAB	2/6/2019	0	0.28	-0.01	0.50	0.00	0.01	99.74	-0.01	190.94	0.97	0.26	0.97	0.26
CTSDIR_0619.LAB	2/6/2019	0	0.17	-0.02	-1.10	0.00	0.01	99.64	-0.02	190.90	0.97	0.20	0.97	0.20
CTSDIR_0620.LAB	2/6/2019	0	0.19	-0.02	-0.85	0.01	0.01	99.80	-0.01	190.92	0.97	0.21	0.97	0.21
CTSDIR_0621.LAB	2/6/2019	0	0.21	-0.03	-0.26	0.01	0.01	99.49	-0.01	190.88	0.97	0.18	0.97	0.18
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry		
NODIR_0622.LAB	2/6/2019	0	284.96	-0.06	-0.12	0.01	0.00	-0.53	3.98	190.87	0.97	293.35	0.97	293.35
NODIR_0623.LAB	2/6/2019	0	288.01	-0.07	0.49	0.00	0.00	-0.44	3.98	190.83	0.97	294.14	0.97	294.14
NODIR_0624.LAB	2/6/2019	0	290.28	-0.06	0.41	0.00	0.01	-0.53	3.99	190.83	0.97	295.78	0.97	295.78
NODIR_0625.LAB	2/6/2019	0	291.46	-0.07	-0.51	0.01	-0.01	-0.49	4.00	190.86	0.97	296.39	0.97	296.39
NODIR_0626.LAB	2/6/2019	0	292.38	-0.07	0.02	0.02	-0.01	-0.67	4.00	190.87	0.97	296.98	0.97	296.98
NODIR_0627.LAB	2/6/2019	0	292.91	-0.06	-0.40	0.01	0.02	-0.53	4.00	190.84	0.97	297.07	0.97	297.07
NODIR_0628.LAB	2/6/2019	0	293.77	-0.04	0.11	0.01	0.01	-0.50	4.00	190.86	0.97	297.68	0.97	297.68

NODIR_0629.LAB	2/6/2019	0	293.40	-0.07	0.32	0.01	0.00	-0.48	3.99	190.87	0.97	296.96
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_0630.LAB	2/6/2019	0	0.55	274.20	283.36	0.00	0.06	-0.32	3.92	190.87	0.97	0.61
NH3DIR_0631.LAB	2/6/2019	0	0.35	275.95	285.02	0.01	0.05	-0.36	3.92	190.86	0.97	0.35
NH3DIR_0632.LAB	2/6/2019	0	0.30	277.11	286.94	0.00	0.05	-0.33	3.93	190.86	0.97	0.35
NH3DIR_0633.LAB	2/6/2019	0	0.48	277.42	287.27	0.00	0.06	-0.39	3.92	190.89	0.97	0.58
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_0634.LAB	2/6/2019	0	0.47	278.05	288.26	0.00	0.06	-0.41	3.91	190.89	0.97	0.57
NH3DIR_0635.LAB	2/6/2019	0	0.45	286.30	288.07	0.00	0.06	-0.38	3.92	190.88	0.97	0.42
NH3DIR_0636.LAB	2/6/2019	0	0.28	286.69	288.20	0.00	0.06	-0.40	3.92	190.88	0.97	0.33
NH3DIR_0637.LAB	2/6/2019	0	0.37	286.81	288.60	0.01	0.06	-0.43	3.91	190.90	0.97	0.45
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2DIR_0638.LAB	2/6/2019	0	-0.21	6.62	6.73	0.03	22.36	-0.15	0.05	190.93	0.97	-0.15
CO2DIR_0639.LAB	2/6/2019	0	-0.20	2.46	2.75	0.02	22.74	-0.13	0.02	190.90	0.97	-0.11
CO2DIR_0640.LAB	2/6/2019	0	-0.29	1.74	1.26	0.02	22.85	0.06	0.02	190.90	0.97	-0.26
CO2DIR_0641.LAB	2/6/2019	0	-0.17	1.41	0.86	0.01	22.90	-0.17	0.01	190.91	0.97	-0.03
CO2DIR_0642.LAB	2/6/2019	0	-0.18	1.23	0.52	0.02	22.93	-0.19	0.02	190.94	0.97	-0.05
CO2DIR_0643.LAB	2/6/2019	0	-0.20	1.06	0.71	0.01	22.94	-0.19	0.02	190.93	0.97	-0.09
CO2DIR_0644.LAB	2/6/2019	0	-0.34	0.97	0.48	0.01	22.94	-0.32	0.02	190.92	0.97	-0.25
CO2DIR_0645.LAB	2/6/2019	0	-0.04	0.90	0.44	0.01	22.97	-0.16	0.02	190.96	0.97	0.06
CO2DIR_0646.LAB	2/6/2019	0	0.00	0.73	0.67	0.01	2.52	0.06	0.00	190.90	0.97	0.03
CO2DIR_0647.LAB	2/6/2019	0	0.03	0.49	0.83	0.01	2.59	-0.01	-0.01	190.94	0.97	0.07
CO2DIR_0648.LAB	2/6/2019	0	-0.04	0.39	0.70	0.01	2.59	-0.08	0.00	190.96	0.97	-0.04
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_0649.LAB	2/6/2019	0	0.17	20.98	23.70	0.75	0.06	0.36	1.96	190.93	0.97	0.34
NH3SYS_0650.LAB	2/6/2019	0	0.60	155.89	158.38	0.65	0.05	-0.21	3.86	190.85	0.97	0.72
NH3SYS_0651.LAB	2/6/2019	0	0.43	214.43	215.71	0.62	0.05	-0.40	3.87	190.92	0.97	0.49
NH3SYS_0652.LAB	2/6/2019	0	0.29	234.97	235.83	0.59	0.07	-0.56	3.85	190.84	0.97	0.42
NH3SYS_0653.LAB	2/6/2019	0	0.15	247.16	247.37	0.58	0.06	-0.29	3.87	190.81	0.97	0.20
NH3SYS_0654.LAB	2/6/2019	0	0.31	253.47	252.58	0.56	0.06	-0.28	3.88	190.84	0.97	0.35
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOXSYS_0655.LAB	2/6/2019	0	122.60	169.56	180.55	0.57	0.06	-0.18	3.61	190.99	0.97	135.43
NOXSYS_0656.LAB	2/6/2019	0	289.45	48.09	49.04	0.54	0.01	-0.42	3.94	191.12	0.97	293.96
NOXSYS_0657.LAB	2/6/2019	0	292.20	28.04	28.10	0.53	0.02	-0.41	3.94	191.19	0.97	294.72
NOXSYS_0658.LAB	2/6/2019	0	290.21	20.56	20.30	0.50	0.01	-0.32	3.94	191.26	0.97	292.46
NOXSYS_0659.LAB	2/6/2019	0	293.93	16.56	17.08	0.50	0.01	-0.41	3.95	191.34	0.97	296.21
NOXSYS_0660.LAB	2/6/2019	0	293.46	14.09	14.37	0.47	0.00	-0.46	3.95	191.36	0.97	295.44
NOXSYS_0661.LAB	2/6/2019	0	293.60	12.24	12.87	0.44	0.00	-0.33	3.96	191.38	0.97	295.45
NOXSYS_0662.LAB	2/6/2019	0	293.80	10.79	10.77	0.39	0.01	-0.47	3.95	191.43	0.97	295.45
NOXSYS_0663.LAB	2/6/2019	0	294.74	9.60	9.76	0.35	0.01	-0.40	3.95	191.41	0.97	296.23

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSSYS_0664.LAB	2/6/2019	0	111.58	7.18	6.86	0.36	0.00	45.85	1.54	191.42	0.97	112.23
CTSSYS_0665.LAB	2/6/2019	0	2.03	6.43	6.58	0.30	0.01	98.21	0.01	191.43	0.97	2.07
CTSSYS_0666.LAB	2/6/2019	0	1.12	5.95	5.56	0.29	-0.01	98.92	0.00	191.45	0.97	1.18
CTSSYS_0667.LAB	2/6/2019	0	0.92	5.64	4.71	0.30	-0.01	99.09	0.00	191.45	0.97	0.96
CTSSYS_0668.LAB	2/6/2019	0	0.71	5.30	4.97	0.29	-0.01	98.98	-0.01	191.42	0.97	0.82
CTSSYS_0669.LAB	2/6/2019	0	0.67	5.12	4.33	0.29	0.00	99.26	0.00	191.44	0.97	0.74
CTSSYS_0670.LAB	2/6/2019	0	0.53	4.78	3.88	0.29	0.02	99.27	-0.01	191.43	0.97	0.60
CTSSYS_0671.LAB	2/6/2019	0	0.37	4.57	4.45	0.29	0.01	99.41	0.00	191.36	0.97	0.33

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2SYS_0672.LAB	2/6/2019	0	0.20	4.02	4.33	0.29	2.47	2.81	0.00	191.37	0.97	0.24
CO2SYS_0673.LAB	2/6/2019	0	0.04	3.67	3.89	0.29	2.54	0.40	0.01	191.32	0.97	0.08

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_0674.LAB	2/6/2019	0	0.29	239.11	239.73	0.24	0.17	-0.32	3.87	191.31	0.97	0.28
NH3SYS_0675.LAB	2/6/2019	0	0.43	253.64	254.34	0.24	0.14	-0.39	3.89	191.26	0.97	0.57
NH3SYS_0676.LAB	2/6/2019	0	0.27	258.84	259.85	0.23	0.10	-0.31	3.88	191.30	0.97	0.36
NH3SYS_0677.LAB	2/6/2019	0	0.56	263.85	265.19	0.24	0.11	-0.37	3.88	191.34	0.97	0.70
NH3SYS_0678.LAB	2/6/2019	0	0.42	266.95	267.67	0.23	0.09	-0.46	3.89	191.31	0.97	0.53
NH3SYS_0679.LAB	2/6/2019	0	0.48	269.36	270.20	0.23	0.10	-0.32	3.89	191.29	0.97	0.53
NH3SYS_0680.LAB	2/6/2019	0	0.42	270.87	271.83	0.22	0.08	-0.32	3.90	191.25	0.97	0.46
NH3SYS_0681.LAB	2/6/2019	0	0.61	272.39	273.33	0.22	0.09	-0.41	3.90	191.26	0.97	0.68
NH3SYS_0682.LAB	2/6/2019	0	0.58	272.37	273.97	0.19	0.07	-0.46	3.90	191.28	0.97	0.63
NH3SYS_0683.LAB	2/6/2019	0	0.44	272.82	273.45	0.17	0.09	-0.36	3.90	191.28	0.97	0.51
NH3SYS_0684.LAB	2/6/2019	0	0.38	272.33	273.82	0.14	0.09	-0.28	3.90	191.31	0.97	0.48
NH3SYS_0685.LAB	2/6/2019	0	0.58	274.19	276.74	0.15	0.07	-0.47	3.89	191.27	0.97	0.65
NH3SYS_0686.LAB	2/6/2019	0	0.55	274.06	274.59	0.13	0.07	-0.39	3.89	191.23	0.97	0.64
NH3SYS_0687.LAB	2/6/2019	0	0.60	275.57	276.07	0.14	0.07	-0.36	3.90	191.26	0.97	0.59
NH3SYS_0688.LAB	2/6/2019	0	0.66	275.78	277.78	0.14	0.07	-0.34	3.89	191.28	0.97	0.70
NH3SYS_0689.LAB	2/6/2019	0	0.73	276.08	277.43	0.14	0.07	-0.26	3.89	191.26	0.97	0.76
NH3SYS_0690.LAB	2/6/2019	0	0.63	276.70	279.22	0.13	0.06	-0.44	3.88	191.28	0.97	0.72
NH3SYS_0691.LAB	2/6/2019	0	0.61	277.10	279.39	0.14	0.06	-0.36	3.88	191.26	0.97	0.71
NH3SYS_0692.LAB	2/6/2019	0	0.70	277.46	279.73	0.14	0.07	-0.51	3.88	191.32	0.97	0.81
NH3SYS_0693.LAB	2/6/2019	0	0.44	277.30	279.39	0.14	0.07	-0.55	3.89	191.35	0.97	0.57
NH3SYS_0694.LAB	2/6/2019	0	0.32	277.06	280.37	0.14	0.08	-0.44	3.89	191.43	0.97	0.35
NH3SYS_0695.LAB	2/6/2019	0	0.46	277.33	279.46	0.13	0.07	-0.43	3.88	191.39	0.97	0.49
NH3SYS_0696.LAB	2/6/2019	0	0.46	277.09	280.39	0.13	0.08	-0.55	3.89	191.48	0.97	0.49

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2SYS_0697.LAB	2/6/2019	0	0.32	144.46	161.58	0.18	0.05	0.08	1.32	191.44	0.97	0.36
N2SYS_0698.LAB	2/6/2019	0	0.13	35.92	36.54	0.12	0.03	0.11	0.02	191.39	0.97	0.23
N2SYS_0699.LAB	2/6/2019	0	0.15	23.56	23.55	0.12	0.02	0.13	0.01	191.36	0.97	0.20
N2SYS_0700.LAB	2/6/2019	0	-0.07	18.63	18.71	0.13	0.02	0.15	0.00	191.34	0.97	-0.05
N2SYS_0701.LAB	2/6/2019	0	0.07	15.79	15.54	0.12	0.02	0.13	0.00	191.31	0.97	0.09
N2SYS_0702.LAB	2/6/2019	0	0.02	13.79	13.26	0.12	0.02	0.07	0.01	191.31	0.97	0.08

N2SYS_0703.LAB	2/6/2019	0	-0.11	12.25	12.22	0.13	0.01	0.11	0.01	191.28	0.97	-0.12
N2SYS_0704.LAB	2/6/2019	0	0.15	11.01	11.90	0.12	0.01	0.14	0.00	191.23	0.97	0.14
N2SYS_0705.LAB	2/6/2019	0	0.00	10.22	9.97	0.12	0.01	-0.02	0.00	191.24	0.97	0.03
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
PRESPIKE_0706.LAB	2/6/2019	0	0.10	16.29	16.63	0.66	0.05	0.06	0.00	191.18	0.97	0.27
PRESPIKE_0707.LAB	2/6/2019	0	0.09	16.73	17.27	0.94	0.05	0.06	0.00	191.16	0.97	0.25
PRESPIKE_0708.LAB	2/6/2019	0	-0.01	16.78	17.49	1.56	0.06	0.07	0.01	191.23	0.97	0.31
PRESPIKE_0709.LAB	2/6/2019	0	-0.03	10.34	10.49	1.03	0.05	0.09	0.00	191.23	0.97	0.20
PRESPIKE_0710.LAB	2/6/2019	0	-0.03	7.94	8.03	0.90	0.04	0.08	0.00	191.25	0.97	0.19
PRESPIKE_0711.LAB	2/6/2019	0	-0.09	6.79	7.10	0.89	0.05	0.06	0.00	191.23	0.97	0.07
PRESPIKE_0712.LAB	2/6/2019	0	0.03	6.13	6.49	0.80	0.05	0.06	0.00	191.21	0.97	0.23
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N/A	2/6/2019	0	-0.11	5.34	5.76	0.66	0.03	0.04	0.01	191.23	0.97	0.02
N/A	2/6/2019	0	0.16	5.27	5.01	0.66	0.04	0.03	0.01	191.24	0.97	0.28
N/A	2/6/2019	0	-0.07	5.14	4.22	0.66	0.05	0.02	0.00	191.18	0.97	0.00
N/A	2/6/2019	0	3.30	5.09	5.02	0.65	0.04	0.02	0.05	191.22	0.97	3.50
N/A	2/6/2019	0	28.55	5.03	5.80	0.65	0.03	-0.02	0.41	191.17	0.97	30.61
N/A	2/6/2019	0	19.75	4.85	5.57	0.66	0.03	-0.07	0.28	191.19	0.97	21.21
N/A	2/6/2019	0	19.24	4.61	3.82	0.66	0.04	0.15	0.27	191.21	0.97	20.65
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSPIKE_0713.LAB	2/6/2019	0	20.71	3.95	3.94	0.66	0.04	0.01	0.29	191.19	0.97	21.72
NOSPIKE_0714.LAB	2/6/2019	0	23.72	3.58	3.60	0.65	0.04	-0.03	0.33	191.18	0.97	24.54
NOSPIKE_0715.LAB	2/6/2019	0	26.50	3.33	3.64	0.64	0.05	-0.05	0.36	191.18	0.97	27.26
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
PRESPIKE_0716.LAB	2/6/2019	0	0.15	3.04	2.99	0.69	0.04	0.06	0.00	191.15	0.97	0.29
PRESPIKE_0717.LAB	2/6/2019	0	0.06	2.85	2.93	0.69	0.05	0.01	0.00	191.19	0.97	0.23
PRESPIKE_0718.LAB	2/6/2019	0	0.03	2.64	2.65	0.70	0.04	-0.01	0.00	191.18	0.97	0.18
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N/A	2/6/2019	0	22.99	2.31	1.98	0.66	0.03	-0.11	0.32	191.18	0.97	23.53
N/A	2/6/2019	0	22.83	2.30	2.31	0.66	0.04	-0.07	0.32	191.17	0.97	23.43
N/A	2/6/2019	0	10.30	2.41	2.48	0.65	0.05	0.06	0.31	191.16	0.97	10.65
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_0719.LAB	2/6/2019	0	0.18	16.03	16.63	0.64	0.05	0.05	0.31	191.15	0.97	0.32
NH3SPIKE_0720.LAB	2/6/2019	0	0.19	19.17	19.67	0.65	0.05	0.08	0.31	191.14	0.97	0.35
NH3SPIKE_0721.LAB	2/6/2019	0	0.11	20.47	20.78	0.65	0.05	0.02	0.31	191.14	0.97	0.24
NH3SPIKE_0722.LAB	2/6/2019	0	0.14	21.07	21.20	0.64	0.05	0.03	0.31	191.17	0.97	0.28
NH3SPIKE_0723.LAB	2/6/2019	0	0.05	21.36	22.07	0.64	0.05	0.02	0.31	191.19	0.97	0.21
NH3SPIKE_0724.LAB	2/6/2019	0	0.02	21.53	21.95	0.64	0.06	0.09	0.31	191.21	0.97	0.17
FURNACE8_0725.LAB	2/6/2019	0	0.31	0.50	0.71	0.85	0.12	-0.01	0.00	190.92	0.97	0.55
FURNACE8_0726.LAB	2/6/2019	0	0.45	0.59	0.96	0.87	0.12	0.09	0.00	190.94	0.97	0.71

FURNACE8_0727.LAB	2/6/2019	0	0.40	0.70	1.12	0.87	0.11	0.09	0.00	190.91	0.97	0.64
FURNACE8_0728.LAB	2/6/2019	0	0.46	0.78	0.77	0.86	0.12	0.05	0.00	190.97	0.97	0.70
FURNACE8_0729.LAB	2/6/2019	0	0.48	0.82	0.88	0.86	0.12	0.03	0.00	190.94	0.97	0.76
FURNACE8_0730.LAB	2/6/2019	0	0.49	0.85	0.99	0.87	0.12	0.05	0.00	191.06	0.97	0.70
FURNACE8_0731.LAB	2/6/2019	0	0.45	0.81	1.19	0.87	0.12	0.05	0.00	191.20	0.97	0.69
FURNACE8_0732.LAB	2/6/2019	0	0.38	0.73	1.12	0.87	0.12	0.03	0.00	191.08	0.97	0.62
FURNACE8_0733.LAB	2/6/2019	0	0.38	0.72	0.84	0.87	0.12	-0.04	0.00	191.01	0.97	0.63
FURNACE8_0734.LAB	2/6/2019	0	0.42	0.68	0.89	0.86	0.12	0.04	0.00	190.97	0.97	0.66
FURNACE8_0735.LAB	2/6/2019	0	0.42	0.66	1.49	0.87	0.12	0.04	0.00	191.02	0.97	0.65
FURNACE8_0736.LAB	2/6/2019	0	0.34	0.68	0.59	0.88	0.11	0.00	0.00	191.08	0.97	0.61
FURNACE8_0737.LAB	2/6/2019	0	0.38	0.64	0.85	0.88	0.11	0.10	0.00	191.02	0.97	0.65
FURNACE8_0738.LAB	2/6/2019	0	0.50	2.73	2.92	0.88	0.11	0.16	0.00	191.10	0.97	0.84
FURNACE8_0739.LAB	2/6/2019	0	0.75	27.35	28.39	0.88	0.13	0.34	0.01	191.09	0.97	1.08
FURNACE8_0740.LAB	2/6/2019	0	1.38	79.09	82.42	0.88	0.15	0.91	0.01	191.03	0.97	1.89
FURNACE8_0741.LAB	2/6/2019	0	3.12	123.79	127.70	0.88	0.17	1.24	0.01	190.99	0.97	4.27
FURNACE8_0742.LAB	2/6/2019	0	8.42	128.46	132.26	0.90	0.23	2.62	0.01	190.97	0.97	11.60
FURNACE8_0743.LAB	2/6/2019	0	20.33	99.50	102.37	0.94	0.33	3.82	0.02	190.97	0.97	26.76
FURNACE8_0744.LAB	2/6/2019	0	28.67	75.87	78.23	0.98	0.39	2.52	0.01	190.98	0.97	35.98
FURNACE8_0745.LAB	2/6/2019	0	34.22	56.02	57.56	1.03	0.42	1.80	0.01	191.08	0.97	41.52
FURNACE8_0746.LAB	2/6/2019	0	37.74	48.37	49.81	1.08	0.44	1.53	0.01	190.97	0.97	44.82
FURNACE8_0747.LAB	2/6/2019	0	46.44	34.65	35.61	1.11	0.48	0.82	0.01	191.00	0.97	52.68
FURNACE8_0748.LAB	2/6/2019	0	49.17	20.67	21.56	1.15	0.49	0.34	0.01	191.05	0.97	53.96
FURNACE8_0749.LAB	2/6/2019	0	54.92	13.32	13.52	1.21	0.53	0.24	0.00	191.08	0.97	59.18
FURNACE8_0750.LAB	2/6/2019	0	54.74	9.41	9.74	1.25	0.53	0.20	0.01	191.02	0.97	58.78
FURNACE8_0751.LAB	2/6/2019	0	61.64	7.24	7.32	1.28	0.58	0.12	0.01	191.01	0.97	65.80
FURNACE8_0752.LAB	2/6/2019	0	74.81	6.02	5.73	1.35	0.67	0.18	0.00	191.10	0.97	80.13
FURNACE8_0753.LAB	2/6/2019	0	76.50	5.68	5.76	1.40	0.65	0.18	0.00	191.07	0.97	81.78
FURNACE8_0754.LAB	2/6/2019	0	81.92	5.15	5.49	1.43	0.66	0.16	0.00	191.02	0.97	87.12
FURNACE8_0755.LAB	2/6/2019	0	90.09	4.72	5.08	1.47	0.70	0.10	0.00	191.02	0.97	95.78
FURNACE8_0756.LAB	2/6/2019	0	94.55	4.52	4.73	1.53	0.71	0.13	0.00	191.07	0.97	100.43
FURNACE8_0757.LAB	2/6/2019	0	101.11	4.33	4.85	1.61	0.74	0.10	0.01	191.14	0.97	107.79
FURNACE8_0758.LAB	2/6/2019	0	98.72	5.01	5.00	1.65	0.71	0.19	0.00	191.14	0.97	105.44
FURNACE8_0759.LAB	2/6/2019	0	103.85	4.32	4.32	1.71	0.73	0.11	0.00	191.02	0.97	110.31
FURNACE8_0760.LAB	2/6/2019	0	105.99	3.73	3.95	1.76	0.74	0.11	0.00	191.01	0.97	112.45
FURNACE8_0761.LAB	2/6/2019	0	107.00	3.37	3.29	1.79	0.75	0.10	0.01	190.97	0.97	113.57
FURNACE8_0762.LAB	2/6/2019	0	114.97	3.29	3.81	1.78	0.78	0.08	0.01	190.97	0.97	122.36
FURNACE8_0763.LAB	2/6/2019	0	119.05	3.36	3.75	2.07	0.78	0.08	0.01	190.98	0.97	126.92
FURNACE8_0764.LAB	2/6/2019	0	116.51	4.05	3.96	2.62	0.76	0.26	0.00	190.96	0.97	124.97
FURNACE8_0765.LAB	2/6/2019	0	115.36	3.66	3.98	2.15	0.73	0.15	0.00	191.17	0.97	123.17
FURNACE8_0766.LAB	2/6/2019	0	114.83	3.39	3.46	1.79	0.70	0.16	0.00	191.07	0.97	122.44
FURNACE8_0767.LAB	2/6/2019	0	115.15	3.56	3.86	1.64	0.69	0.11	0.01	191.01	0.97	122.75
FURNACE8_0768.LAB	2/6/2019	0	113.55	3.79	3.81	1.60	0.66	0.19	0.00	191.00	0.97	121.16
FURNACE8_0769.LAB	2/6/2019	0	101.06	3.98	4.58	1.55	0.59	0.10	0.01	191.20	0.97	107.65
FURNACE8_0770.LAB	2/6/2019	0	93.81	3.79	4.18	1.50	0.55	0.13	0.00	191.41	0.97	99.80
FURNACE8_0771.LAB	2/6/2019	0	97.69	3.71	3.64	1.44	0.56	0.13	0.01	191.53	0.97	103.94
FURNACE8_0772.LAB	2/6/2019	0	87.25	3.85	4.24	1.40	0.51	0.18	0.01	191.56	0.97	92.94

FURNACE8_0773.LAB	2/6/2019	0	88.42	4.60	4.84	1.36	0.51	0.17	0.01	191.51	0.97	94.24
FURNACE8_0774.LAB	2/6/2019	0	87.25	4.91	5.39	1.34	0.49	0.13	0.01	191.45	0.97	92.70
FURNACE8_0775.LAB	2/6/2019	0	83.53	4.99	5.14	1.36	0.48	0.18	0.00	191.41	0.97	88.83
FURNACE8_0776.LAB	2/6/2019	0	83.17	6.09	6.68	2.45	0.48	0.14	0.01	191.51	0.97	89.82
FURNACE8_0777.LAB	2/6/2019	0	92.08	6.57	6.84	1.65	0.50	0.20	0.01	191.70	0.97	98.62
FURNACE8_0778.LAB	2/6/2019	0	89.07	6.84	7.25	1.39	0.49	0.20	0.00	191.47	0.97	95.07
FURNACE8_0779.LAB	2/6/2019	0	95.76	7.64	7.96	1.37	0.51	0.25	0.01	191.27	0.97	102.31
FURNACE8_0780.LAB	2/6/2019	0	88.13	8.17	8.40	1.35	0.47	0.22	0.01	191.22	0.97	94.01
FURNACE8_0781.LAB	2/6/2019	0	74.73	8.23	8.45	1.34	0.41	0.13	0.00	191.17	0.97	79.78
FURNACE8_0782.LAB	2/6/2019	0	82.19	8.77	9.12	1.86	0.44	0.20	0.01	191.15	0.97	88.11
FURNACE8_0783.LAB	2/6/2019	0	78.60	8.68	9.26	1.93	0.42	0.20	0.01	191.18	0.97	84.31
FURNACE8_0784.LAB	2/6/2019	0	74.91	8.58	9.01	1.47	0.41	0.20	0.00	191.17	0.97	79.93
FURNACE8_0785.LAB	2/6/2019	0	69.99	8.90	9.76	1.32	0.39	0.25	0.01	191.13	0.97	74.83
FURNACE8_0786.LAB	2/6/2019	0	58.40	9.03	9.26	1.29	0.34	0.14	0.00	191.11	0.97	62.28
FURNACE8_0787.LAB	2/6/2019	0	68.03	7.86	7.89	1.22	0.37	0.21	0.01	191.10	0.97	72.57
FURNACE8_0788.LAB	2/6/2019	0	67.14	8.32	8.45	1.21	0.37	0.21	0.00	191.15	0.97	71.58
FURNACE8_0789.LAB	2/6/2019	0	62.59	7.72	7.79	1.24	0.36	0.14	0.01	191.19	0.97	66.73
FURNACE8_0790.LAB	2/6/2019	0	62.05	9.72	9.58	3.40	0.36	0.18	0.01	191.17	0.97	67.68
FURNACE8_0791.LAB	2/6/2019	0	54.62	8.88	9.12	2.67	0.33	0.21	0.00	191.18	0.97	59.23
FURNACE8_0792.LAB	2/6/2019	0	69.14	8.39	8.64	2.18	0.39	0.18	0.00	191.15	0.97	74.31
FURNACE8_0793.LAB	2/6/2019	0	74.90	9.68	10.03	3.11	0.42	0.24	0.00	191.13	0.97	81.38
FURNACE8_0794.LAB	2/6/2019	0	72.45	9.14	9.24	2.13	0.40	0.22	0.00	191.16	0.97	77.72
FURNACE8_0795.LAB	2/6/2019	0	73.11	8.71	9.04	1.83	0.40	0.18	0.00	191.15	0.97	78.25
FURNACE8_0796.LAB	2/6/2019	0	71.24	8.78	8.91	1.57	0.39	0.17	0.00	191.12	0.97	76.27
FURNACE8_0797.LAB	2/6/2019	0	81.02	16.40	17.23	3.21	0.44	0.19	0.00	191.09	0.97	89.03
FURNACE8_0798.LAB	2/6/2019	0	90.21	23.44	23.75	10.60	0.45	0.34	0.00	191.06	0.97	105.93
FURNACE8_0799.LAB	2/6/2019	0	99.58	16.03	16.52	5.60	0.51	0.35	0.01	191.11	0.97	110.65
FURNACE8_0800.LAB	2/6/2019	0	96.08	12.96	13.22	4.12	0.51	0.30	0.01	191.17	0.97	105.11
FURNACE8_0801.LAB	2/6/2019	0	89.80	14.30	14.60	4.64	0.47	0.31	0.01	191.17	0.97	99.07
FURNACE8_0802.LAB	2/6/2019	0	94.06	15.13	15.36	3.54	0.49	0.27	0.00	191.18	0.97	102.71
FURNACE8_0803.LAB	2/6/2019	0	92.87	13.20	13.33	3.27	0.47	0.34	0.00	191.14	0.97	101.03
FURNACE8_0804.LAB	2/6/2019	0	95.18	12.01	12.13	3.81	0.49	0.23	0.01	191.17	0.97	103.99
FURNACE8_0805.LAB	2/6/2019	0	97.60	11.32	11.29	3.23	0.49	0.24	0.00	191.18	0.97	106.06
FURNACE8_0806.LAB	2/6/2019	0	103.40	12.78	13.05	2.97	0.52	0.33	0.00	191.13	0.97	112.28
FURNACE8_0807.LAB	2/6/2019	0	96.65	14.54	14.77	4.27	0.49	0.27	0.01	191.17	0.97	106.28
FURNACE8_0808.LAB	2/6/2019	0	96.00	12.23	12.59	2.85	0.48	0.23	0.00	191.13	0.97	103.99
FURNACE8_0809.LAB	2/6/2019	0	96.33	11.73	12.06	2.83	0.48	0.24	0.01	191.10	0.97	104.42
FURNACE8_0810.LAB	2/6/2019	0	97.75	13.45	13.92	2.65	0.49	0.31	0.01	191.10	0.97	105.72
FURNACE8_0811.LAB	2/6/2019	0	99.63	10.76	10.88	2.44	0.50	0.26	0.00	191.11	0.97	107.31
FURNACE8_0812.LAB	2/6/2019	0	95.70	11.96	12.19	2.83	0.48	0.29	0.01	191.26	0.97	103.66
FURNACE8_0813.LAB	2/6/2019	0	101.18	13.17	13.12	3.85	0.51	0.28	0.00	191.29	0.97	110.76
FURNACE8_0814.LAB	2/6/2019	0	101.86	10.32	10.51	2.40	0.51	0.23	0.01	191.20	0.97	109.57
FURNACE8_0815.LAB	2/6/2019	0	105.24	9.60	9.63	2.28	0.52	0.22	0.00	191.20	0.97	113.09
FURNACE8_0816.LAB	2/6/2019	0	102.12	9.24	9.28	2.15	0.50	0.19	0.00	191.13	0.97	109.45
FURNACE8_0817.LAB	2/6/2019	0	102.48	9.60	9.32	2.86	0.51	0.24	0.00	191.18	0.97	110.72
FURNACE8_0818.LAB	2/6/2019	0	101.08	9.91	10.06	2.78	0.51	0.29	0.01	191.81	0.97	109.12

FURNACE8_0819.LAB	2/6/2019	0	109.11	9.38	9.69	2.29	0.53	0.21	0.01	192.13	0.97	117.05
FURNACE8_0820.LAB	2/6/2019	0	102.19	10.95	11.29	3.42	0.51	0.25	0.00	191.80	0.97	111.12
FURNACE8_0821.LAB	2/6/2019	0	106.32	9.13	9.40	2.45	0.52	0.20	0.00	191.45	0.97	114.28
FURNACE8_0822.LAB	2/6/2019	0	108.68	9.29	9.61	2.71	0.53	0.22	0.00	191.18	0.97	117.17
FURNACE8_0823.LAB	2/6/2019	0	105.97	9.74	10.06	2.43	0.52	0.22	0.00	191.05	0.97	114.02
FURNACE8_0824.LAB	2/6/2019	0	105.59	8.68	8.75	2.23	0.52	0.18	0.00	190.99	0.97	113.30
FURNACE8_0825.LAB	2/6/2019	0	99.01	10.19	10.15	3.57	0.50	0.21	0.01	191.00	0.97	107.90
FURNACE8_0826.LAB	2/6/2019	0	105.39	8.18	8.56	2.71	0.52	0.20	0.01	191.03	0.97	113.53
FURNACE8_0827.LAB	2/6/2019	0	102.15	7.87	8.10	2.57	0.51	0.17	0.00	191.08	0.97	109.73
FURNACE8_0828.LAB	2/6/2019	0	100.33	7.59	7.90	2.15	0.49	0.19	0.00	191.02	0.97	107.18
FURNACE8_0829.LAB	2/6/2019	0	101.54	6.86	7.00	2.44	0.50	0.21	0.00	191.13	0.97	108.84
FURNACE8_0830.LAB	2/6/2019	0	103.76	6.37	6.56	2.23	0.51	0.21	0.00	191.63	0.97	111.06
FURNACE8_0831.LAB	2/6/2019	0	101.62	6.44	6.47	2.09	0.51	0.20	0.00	191.68	0.97	108.58
FURNACE8_0832.LAB	2/6/2019	0	105.75	6.60	7.10	2.01	0.52	0.20	0.00	191.49	0.97	112.92
FURNACE8_0833.LAB	2/6/2019	0	101.44	7.03	7.57	2.80	0.51	0.06	0.01	191.20	0.97	109.22
FURNACE8_0834.LAB	2/6/2019	0	103.94	6.99	7.13	2.63	0.51	0.19	0.00	191.07	0.97	111.60
FURNACE8_0835.LAB	2/6/2019	0	101.52	6.55	6.75	2.22	0.50	0.22	0.01	191.01	0.97	108.55
FURNACE8_0836.LAB	2/6/2019	0	103.50	6.70	7.08	2.08	0.51	0.19	0.01	190.98	0.97	110.50
FURNACE8_0837.LAB	2/6/2019	0	92.99	5.62	5.64	2.22	0.48	0.21	0.00	190.99	0.97	99.44
FURNACE8_0838.LAB	2/6/2019	0	85.43	5.70	5.98	2.27	0.44	0.23	0.00	191.01	0.97	91.31
FURNACE8_0839.LAB	2/6/2019	0	82.78	6.67	6.77	2.93	0.43	0.20	0.00	191.01	0.97	89.26
FURNACE8_0840.LAB	2/6/2019	0	88.59	5.89	5.87	2.23	0.46	0.20	0.00	191.05	0.97	94.72
FURNACE8_0841.LAB	2/6/2019	0	93.11	5.50	6.50	2.04	0.47	0.11	0.01	191.07	0.97	99.47
FURNACE8_0842.LAB	2/6/2019	0	86.59	5.36	5.69	1.61	0.44	0.12	0.00	191.04	0.97	92.05
FURNACE8_0843.LAB	2/6/2019	0	88.54	5.38	5.64	1.84	0.44	0.16	0.00	191.05	0.97	94.40
FURNACE8_0844.LAB	2/6/2019	0	83.25	4.76	5.16	1.69	0.43	0.08	0.00	191.03	0.97	88.57
FURNACE8_0845.LAB	2/6/2019	0	78.24	4.38	4.65	1.65	0.41	0.08	0.01	191.06	0.97	83.18
FURNACE8_0846.LAB	2/6/2019	0	60.82	4.09	3.98	1.62	0.32	0.06	0.00	191.07	0.97	64.65
FURNACE8_0847.LAB	2/6/2019	0	62.63	3.74	3.71	1.58	0.32	0.10	0.01	191.13	0.97	66.53
FURNACE8_0848.LAB	2/6/2019	0	58.23	4.68	5.52	2.52	0.32	0.00	0.01	191.08	0.97	62.52
FURNACE8_0849.LAB	2/6/2019	0	60.85	4.33	4.64	1.90	0.33	0.13	0.00	191.08	0.97	64.79
FURNACE8_0850.LAB	2/6/2019	0	63.17	4.27	4.52	1.46	0.33	0.11	0.00	191.06	0.97	67.03
FURNACE8_0851.LAB	2/6/2019	0	55.85	3.40	3.71	1.09	0.30	0.10	0.00	191.03	0.97	58.96
FURNACE8_0852.LAB	2/6/2019	0	59.51	3.10	3.66	1.07	0.31	0.09	0.00	191.04	0.97	62.84
FURNACE8_0853.LAB	2/6/2019	0	58.40	3.08	2.93	1.05	0.31	0.07	0.00	191.06	0.97	61.66
FURNACE8_0854.LAB	2/6/2019	0	57.69	3.14	3.17	1.04	0.30	0.09	0.00	191.07	0.97	60.89
FURNACE8_0855.LAB	2/6/2019	0	50.48	3.42	3.49	1.43	0.27	0.03	0.01	191.10	0.97	53.51
FURNACE8_0856.LAB	2/6/2019	0	94.14	6.64	7.07	2.21	0.45	0.15	0.00	191.12	0.97	101.08
FURNACE8_0857.LAB	2/6/2019	0	94.11	9.12	9.40	2.61	0.45	0.22	0.00	191.12	0.97	101.38
FURNACE8_0858.LAB	2/6/2019	0	94.96	9.89	10.12	2.51	0.45	0.21	0.00	191.10	0.97	102.14
FURNACE8_0859.LAB	2/6/2019	0	91.45	10.39	10.55	2.38	0.43	0.20	0.00	191.10	0.97	98.34
FURNACE8_0860.LAB	2/6/2019	0	91.30	9.75	9.76	2.59	0.44	0.25	0.01	191.12	0.97	98.44
FURNACE8_0861.LAB	2/6/2019	0	87.94	9.32	9.58	2.35	0.41	0.22	0.00	191.11	0.97	94.65
FURNACE8_0862.LAB	2/6/2019	0	82.20	8.67	8.80	2.30	0.39	0.18	0.00	191.12	0.97	88.40
FURNACE8_0863.LAB	2/6/2019	0	80.30	8.76	9.42	2.69	0.39	0.21	0.00	191.11	0.97	86.62
FURNACE8_0864.LAB	2/6/2019	0	77.62	11.75	11.68	5.05	0.39	0.26	0.01	191.06	0.97	85.89

FURNACE8_0865.LAB	2/6/2019	0	83.85	9.65	10.01	3.02	0.40	0.23	0.01	191.08	0.97	90.66
FURNACE8_0866.LAB	2/6/2019	0	91.25	9.47	9.70	2.35	0.41	0.23	0.00	191.08	0.97	98.07
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N/A	2/6/2019	0	76.90	11.80	12.24	1.88	0.37	0.07	0.27	191.10	0.97	82.40
N/A	2/6/2019	0	85.73	11.21	11.45	1.80	0.37	0.13	0.27	191.10	0.97	91.88
N/A	2/6/2019	0	81.27	10.50	10.25	1.77	0.36	0.15	0.28	191.13	0.97	86.80
N/A	2/6/2019	0	83.60	9.97	10.06	1.75	0.38	0.22	0.29	191.11	0.97	89.34
N/A	2/6/2019	0	86.29	11.19	11.66	1.75	0.37	0.13	0.33	191.12	0.97	92.19
N/A	2/6/2019	0	86.96	16.67	17.22	1.74	0.40	0.05	0.34	191.12	0.97	92.98
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_0867.LAB	2/6/2019	0	77.08	25.65	26.00	2.12	0.36	0.21	0.33	191.07	0.97	82.63
NH3SPIKE_0868.LAB	2/6/2019	0	76.45	28.71	29.68	2.52	0.36	0.16	0.34	191.16	0.97	82.32
NH3SPIKE_0869.LAB	2/6/2019	0	76.45	29.44	30.17	2.51	0.36	0.07	0.34	191.98	0.97	82.28
NH3SPIKE_0870.LAB	2/6/2019	0	79.22	30.34	31.15	2.31	0.37	0.19	0.33	192.02	0.97	85.08
NH3SPIKE_0871.LAB	2/6/2019	0	79.40	31.39	31.90	2.03	0.37	0.11	0.34	191.48	0.97	84.96
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE8_0872.LAB	2/6/2019	0	85.95	19.62	20.13	4.14	0.39	0.35	0.01	191.04	0.97	93.93
FURNACE8_0873.LAB	2/6/2019	0	88.57	18.40	18.79	6.11	0.40	0.32	0.01	191.06	0.97	99.10
FURNACE8_0874.LAB	2/6/2019	0	91.94	12.96	13.17	2.95	0.41	0.28	0.00	191.19	0.97	99.52
FURNACE8_0875.LAB	2/6/2019	0	86.02	15.23	15.39	3.52	0.39	0.25	0.00	191.12	0.97	93.70
FURNACE8_0876.LAB	2/6/2019	0	86.60	13.03	13.39	3.71	0.40	0.25	0.00	191.10	0.97	94.55
FURNACE8_0877.LAB	2/6/2019	0	93.20	12.30	12.57	2.76	0.41	0.26	0.01	191.08	0.97	100.62
FURNACE8_0878.LAB	2/6/2019	0	94.27	10.91	11.44	2.18	0.40	0.21	0.00	191.09	0.97	101.10
FURNACE8_0879.LAB	2/6/2019	0	88.71	13.02	13.33	3.67	0.39	0.24	0.01	191.10	0.97	96.57
FURNACE8_0880.LAB	2/6/2019	0	92.88	11.16	11.52	2.46	0.40	0.18	0.00	191.11	0.97	99.85
FURNACE8_0881.LAB	2/6/2019	1	89.62	9.90	10.61	2.00	0.39	0.18	0.01	191.13	0.97	95.84
FURNACE8_0882.LAB	2/6/2019	1	90.17	11.90	12.07	4.09	0.40	0.29	0.01	191.14	0.97	98.40
FURNACE8_0883.LAB	2/6/2019	1	79.42	11.38	11.62	3.81	0.38	0.25	0.01	191.14	0.97	86.56
FURNACE8_0884.LAB	2/6/2019	1	80.97	9.89	10.13	2.78	0.37	0.16	0.00	191.11	0.97	87.11
FURNACE8_0885.LAB	2/6/2019	1	81.86	9.30	9.26	2.26	0.36	0.23	0.00	191.17	0.97	87.54
FURNACE8_0886.LAB	2/6/2019	1	79.81	10.02	10.66	3.30	0.36	0.20	0.01	191.16	0.97	86.39
FURNACE8_0887.LAB	2/6/2019	1	80.42	9.95	10.45	2.73	0.37	0.20	0.00	191.21	0.97	86.65
FURNACE8_0888.LAB	2/6/2019	1	83.50	8.56	8.82	1.63	0.36	0.18	0.00	192.08	0.97	88.76
FURNACE8_0889.LAB	2/6/2019	1	85.10	7.59	8.19	1.33	0.37	0.18	0.00	193.02	0.97	90.27
FURNACE8_0890.LAB	2/6/2019	1	87.31	7.84	8.09	1.28	0.37	0.19	0.01	192.86	0.97	92.54
FURNACE8_0891.LAB	2/6/2019	1	84.58	7.93	7.83	1.25	0.36	0.15	0.00	191.90	0.97	89.62
FURNACE8_0892.LAB	2/6/2019	1	84.20	8.03	8.73	1.77	0.36	0.08	0.01	191.29	0.97	89.65
FURNACE8_0893.LAB	2/6/2019	1	81.65	7.73	8.05	2.20	0.37	0.13	0.01	191.00	0.97	87.40
FURNACE8_0894.LAB	2/6/2019	1	78.61	7.29	7.35	1.88	0.36	0.15	0.00	190.67	0.97	83.77
FURNACE8_0895.LAB	2/6/2019	1	73.20	8.15	8.61	1.73	0.33	0.14	0.01	190.40	0.97	78.09
FURNACE8_0896.LAB	2/6/2019	1	65.86	7.47	7.58	1.44	0.31	0.17	0.01	190.33	0.97	70.07
FURNACE8_0897.LAB	2/6/2019	1	63.97	6.35	6.63	1.17	0.30	0.17	0.01	190.40	0.97	67.82
FURNACE8_0898.LAB	2/6/2019	1	65.51	6.02	6.31	1.14	0.30	0.11	0.00	190.46	0.97	69.40

FURNACE8_0899.LAB	2/6/2019	1	61.92	5.87	5.82	1.23	0.29	0.10	0.00	190.50	0.97	65.69
FURNACE8_0900.LAB	2/6/2019	1	66.65	6.30	6.75	1.81	0.31	0.09	0.01	190.54	0.97	71.21
FURNACE8_0901.LAB	2/6/2019	1	71.27	6.39	6.86	1.55	0.32	0.13	0.00	190.60	0.97	75.88
FURNACE8_0902.LAB	2/6/2019	1	68.54	6.26	6.29	1.36	0.32	0.08	0.00	190.66	0.97	72.85
FURNACE8_0903.LAB	2/6/2019	1	68.01	6.20	6.50	1.30	0.32	0.13	0.01	190.79	0.97	72.21
FURNACE8_0904.LAB	2/6/2019	1	65.24	6.23	6.53	1.27	0.30	0.17	0.00	191.03	0.97	69.25
FURNACE8_0905.LAB	2/6/2019	1	52.41	6.29	6.76	1.25	0.26	0.08	0.00	191.16	0.97	55.69
FURNACE8_0906.LAB	2/6/2019	1	52.82	6.33	6.93	1.18	0.26	0.03	0.01	191.21	0.97	56.08
FURNACE8_0907.LAB	2/6/2019	1	62.01	6.96	7.33	1.44	0.29	0.16	0.01	191.25	0.97	65.99
FURNACE8_0908.LAB	2/6/2019	1	60.97	6.46	6.70	1.73	0.29	0.10	0.01	191.22	0.97	65.05
FURNACE8_0909.LAB	2/6/2019	1	51.78	6.57	7.11	1.49	0.26	0.15	0.00	191.19	0.97	55.21
FURNACE8_0910.LAB	2/6/2019	1	59.58	6.17	6.72	1.38	0.28	0.07	0.00	191.18	0.97	63.36
FURNACE8_0911.LAB	2/6/2019	1	60.50	6.15	6.57	1.29	0.28	0.09	0.01	191.18	0.97	64.25
FURNACE8_0912.LAB	2/6/2019	1	48.66	8.70	8.96	3.19	0.26	0.17	0.01	191.19	0.97	52.87
FURNACE8_0913.LAB	2/6/2019	1	53.67	6.74	7.16	1.71	0.26	0.11	0.01	191.20	0.97	57.36
FURNACE8_0914.LAB	2/6/2019	1	85.69	13.13	13.64	2.74	0.38	0.24	0.00	191.20	0.97	93.25
FURNACE8_0915.LAB	2/6/2019	1	83.75	15.40	15.47	7.91	0.36	0.27	0.00	191.24	0.97	95.07
FURNACE8_0916.LAB	2/6/2019	1	84.77	12.94	12.85	7.01	0.37	0.29	0.00	191.19	0.97	95.35
FURNACE8_0917.LAB	2/6/2019	1	86.63	12.73	12.89	4.93	0.39	0.28	0.01	191.20	0.97	95.61
FURNACE8_0918.LAB	2/6/2019	1	88.50	10.73	11.11	2.82	0.39	0.18	0.00	191.19	0.97	95.56
FURNACE8_0919.LAB	2/6/2019	1	89.91	9.27	9.33	2.03	0.38	0.17	0.00	191.15	0.97	96.17
FURNACE8_0920.LAB	2/6/2019	1	88.81	10.01	10.02	3.69	0.39	0.17	0.01	191.19	0.97	96.82
FURNACE8_0921.LAB	2/6/2019	1	89.61	9.21	9.41	3.18	0.39	0.19	0.00	191.20	0.97	97.15
FURNACE8_0922.LAB	2/6/2019	1	87.97	9.33	9.34	2.38	0.38	0.18	0.00	191.17	0.97	94.55
FURNACE8_0923.LAB	2/6/2019	1	90.66	9.27	9.73	1.98	0.38	0.16	0.01	191.17	0.97	97.16
FURNACE8_0924.LAB	2/6/2019	1	88.54	10.14	10.23	3.78	0.40	0.22	0.01	191.14	0.97	96.68
FURNACE8_0925.LAB	2/6/2019	1	91.61	9.23	9.40	2.97	0.40	0.23	0.01	191.19	0.97	99.11
FURNACE8_0926.LAB	2/6/2019	1	90.60	10.60	10.77	3.89	0.40	0.17	0.01	191.16	0.97	99.02
FURNACE8_0927.LAB	2/6/2019	1	91.95	9.47	9.60	2.72	0.40	0.19	0.00	191.15	0.97	99.12
FURNACE8_0928.LAB	2/6/2019	1	90.74	8.97	9.30	2.69	0.40	0.19	0.00	191.22	0.97	97.82
FURNACE8_0929.LAB	2/6/2019	1	89.94	9.32	9.55	2.80	0.39	0.17	0.00	191.20	0.97	97.06
FURNACE8_0930.LAB	2/6/2019	1	94.74	8.33	8.32	2.33	0.40	0.18	0.01	191.26	0.97	101.63
FURNACE8_0931.LAB	2/6/2019	1	88.02	8.95	9.09	2.88	0.39	0.22	0.00	191.50	0.97	95.10
FURNACE8_0932.LAB	2/6/2019	1	87.97	8.23	8.12	2.63	0.39	0.20	0.00	191.64	0.97	94.79
FURNACE8_0933.LAB	2/6/2019	1	90.88	8.59	8.91	2.41	0.39	0.21	0.00	191.43	0.97	97.61
FURNACE8_0934.LAB	2/6/2019	1	91.78	8.40	8.87	1.97	0.39	0.17	0.00	191.26	0.97	98.07
FURNACE8_0935.LAB	2/6/2019	1	89.80	8.17	8.31	2.29	0.39	0.21	0.00	191.16	0.97	96.35
FURNACE8_0936.LAB	2/6/2019	1	91.00	8.01	8.25	2.40	0.39	0.20	0.00	191.17	0.97	97.73
FURNACE8_0937.LAB	2/6/2019	1	92.85	7.92	7.90	2.18	0.39	0.14	0.00	191.16	0.97	99.49
FURNACE8_0938.LAB	2/6/2019	1	92.58	8.65	8.65	2.18	0.40	0.23	0.00	191.19	0.97	99.15
FURNACE8_0939.LAB	2/6/2019	1	88.42	8.10	8.45	2.05	0.39	0.12	0.01	191.22	0.97	94.76
FURNACE8_0940.LAB	2/6/2019	1	90.94	7.86	8.31	1.99	0.39	0.09	0.01	191.29	0.97	97.30
FURNACE8_0941.LAB	2/6/2019	1	91.85	7.75	7.85	1.85	0.39	0.11	0.01	191.30	0.97	98.14
FURNACE8_0942.LAB	2/6/2019	1	92.42	8.35	8.39	2.74	0.40	0.06	0.01	191.22	0.97	99.66
FURNACE8_0943.LAB	2/6/2019	1	93.18	8.44	8.46	2.69	0.40	0.18	0.00	191.19	0.97	100.30
FURNACE8_0944.LAB	2/6/2019	1	91.46	8.42	8.88	2.11	0.39	0.28	0.00	191.20	0.97	97.96

FURNACE8_0945.LAB	2/6/2019	1	87.59	7.53	8.21	1.66	0.37	0.10	0.00	192.06	0.97	93.27
FURNACE8_0946.LAB	2/6/2019	1	90.76	6.75	7.08	1.51	0.38	0.11	0.01	191.96	0.97	96.52
FURNACE8_0947.LAB	2/6/2019	1	91.32	6.98	7.22	1.36	0.38	0.13	0.00	191.46	0.97	97.03
FURNACE8_0948.LAB	2/6/2019	1	85.45	7.24	7.61	1.88	0.37	0.15	0.00	191.17	0.97	91.25
FURNACE8_0949.LAB	2/6/2019	1	85.40	7.07	7.47	1.84	0.37	0.13	0.00	191.02	0.97	91.01
FURNACE8_0950.LAB	2/6/2019	1	86.75	6.81	7.11	1.53	0.37	0.18	0.01	191.00	0.97	92.13
FURNACE8_0951.LAB	2/6/2019	1	86.35	6.35	6.62	1.20	0.37	0.13	0.01	191.01	0.97	91.42
FURNACE8_0952.LAB	2/6/2019	1	87.56	6.01	6.35	1.10	0.37	0.15	0.00	191.04	0.97	92.48
FURNACE8_0953.LAB	2/6/2019	1	82.48	6.15	6.84	1.09	0.35	0.14	0.00	191.05	0.97	87.25
FURNACE8_0954.LAB	2/6/2019	1	81.04	6.22	6.21	1.07	0.35	0.17	0.00	191.05	0.97	85.80
FURNACE8_0955.LAB	2/6/2019	1	82.24	6.25	6.93	1.07	0.35	0.10	0.00	191.06	0.97	87.02
FURNACE8_0956.LAB	2/6/2019	1	83.06	6.44	6.52	1.07	0.36	0.12	0.00	191.06	0.97	87.86
FURNACE8_0957.LAB	2/6/2019	1	82.48	6.53	6.69	1.08	0.35	0.16	0.00	191.10	0.97	87.33
FURNACE8_0958.LAB	2/6/2019	1	78.55	6.35	6.44	1.09	0.35	0.10	0.00	191.12	0.97	83.07
FURNACE8_0959.LAB	2/6/2019	1	79.24	6.08	5.92	1.08	0.35	0.10	0.00	191.11	0.97	83.81
FURNACE8_0960.LAB	2/6/2019	1	80.19	7.94	8.61	2.59	0.35	0.06	0.01	191.15	0.97	86.28
FURNACE8_0961.LAB	2/6/2019	1	80.40	7.49	7.56	2.15	0.36	0.21	0.00	191.19	0.97	85.95
FURNACE8_0962.LAB	2/6/2019	1	79.72	9.97	10.30	4.12	0.37	0.27	0.00	191.49	0.97	87.18
FURNACE8_0963.LAB	2/6/2019	1	81.58	8.83	9.02	2.35	0.36	0.15	0.00	191.42	0.97	87.55
FURNACE8_0964.LAB	2/6/2019	1	63.24	7.89	8.15	1.43	0.30	0.14	0.00	191.24	0.97	67.35
FURNACE8_0965.LAB	2/6/2019	1	60.32	6.43	6.96	1.35	0.28	0.12	0.00	191.13	0.97	64.06
FURNACE8_0966.LAB	2/6/2019	1	62.04	5.77	5.83	1.31	0.29	0.11	0.00	191.10	0.97	65.85
FURNACE8_0967.LAB	2/6/2019	1	54.26	5.76	6.33	1.61	0.26	0.09	0.00	191.09	0.97	57.84
FURNACE8_0968.LAB	2/6/2019	1	50.97	5.52	5.85	1.66	0.25	0.10	0.01	191.11	0.97	54.30
FURNACE8_0969.LAB	2/6/2019	1	53.54	5.14	5.43	1.46	0.26	0.09	0.00	191.34	0.97	56.90
FURNACE8_0970.LAB	2/6/2019	1	60.55	5.23	5.42	1.31	0.27	0.06	0.00	191.37	0.97	64.32
FURNACE8_0971.LAB	2/6/2019	1	58.90	5.12	5.22	1.05	0.27	0.10	0.00	191.22	0.97	62.14
FURNACE8_0972.LAB	2/6/2019	1	52.99	4.86	5.57	1.25	0.26	0.10	0.01	191.11	0.97	56.18
FURNACE8_0973.LAB	2/6/2019	1	89.44	11.42	11.67	2.85	0.39	0.23	0.00	191.06	0.97	97.25
FURNACE8_0974.LAB	2/6/2019	1	81.46	10.72	10.89	2.29	0.37	0.25	0.00	191.10	0.97	87.56
FURNACE8_0975.LAB	2/6/2019	1	80.54	9.54	10.01	2.97	0.36	0.19	0.00	191.12	0.97	87.07
FURNACE8_0976.LAB	2/6/2019	1	82.73	8.77	9.03	2.41	0.37	0.16	0.00	191.09	0.97	88.90
FURNACE8_0977.LAB	2/6/2019	1	79.51	8.39	8.98	2.42	0.34	0.21	0.00	191.26	0.97	85.38
FURNACE8_0978.LAB	2/6/2019	1	81.31	9.66	9.91	3.85	0.37	0.28	0.00	191.42	0.97	88.83
FURNACE8_0979.LAB	2/6/2019	1	80.58	9.63	10.15	3.41	0.37	0.18	0.01	191.31	0.97	87.59
FURNACE8_0980.LAB	2/6/2019	1	87.00	8.62	8.90	2.37	0.37	0.25	0.00	191.16	0.97	93.42
FURNACE8_0981.LAB	2/6/2019	1	83.85	8.73	9.01	2.21	0.36	0.20	0.00	191.12	0.97	89.98
FURNACE8_0982.LAB	2/6/2019	1	82.37	9.11	9.50	2.93	0.36	0.18	0.00	191.19	0.97	89.09
FURNACE8_0983.LAB	2/6/2019	1	84.28	8.55	8.76	2.44	0.37	0.20	0.01	191.09	0.97	90.52
FURNACE8_0984.LAB	2/6/2019	1	76.07	11.87	12.09	7.05	0.33	0.30	0.00	191.00	0.97	85.61
FURNACE8_0985.LAB	2/6/2019	1	78.44	9.82	9.81	3.36	0.35	0.20	0.00	190.95	0.97	85.31
FURNACE8_0986.LAB	2/6/2019	1	83.47	9.60	9.82	4.04	0.37	0.18	0.00	190.94	0.97	91.18
FURNACE8_0987.LAB	2/6/2019	1	76.13	11.53	11.66	5.95	0.34	0.26	0.01	190.96	0.97	84.95
FURNACE8_0988.LAB	2/6/2019	1	82.21	9.20	9.48	3.13	0.36	0.21	0.00	190.98	0.97	89.02
FURNACE8_0989.LAB	2/6/2019	1	80.55	10.03	10.04	3.98	0.36	0.17	0.00	191.03	0.97	88.02
FURNACE8_0990.LAB	2/6/2019	1	81.15	10.86	10.93	4.31	0.36	0.20	0.01	191.01	0.97	89.01

FURNACE8_0991.LAB	2/6/2019	1	83.44	9.11	9.19	2.64	0.37	0.18	0.01	190.97	0.97	89.93
FURNACE8_0992.LAB	2/6/2019	1	87.43	8.72	8.85	2.21	0.37	0.16	0.00	190.99	0.97	93.65
FURNACE8_0993.LAB	2/6/2019	1	87.54	8.57	8.87	2.41	0.37	0.12	0.00	190.98	0.97	93.99
FURNACE8_0994.LAB	2/6/2019	1	89.09	8.86	8.96	2.84	0.38	0.17	0.01	190.99	0.97	96.13
FURNACE8_0995.LAB	2/6/2019	1	90.71	8.89	8.95	3.04	0.39	0.16	0.00	191.02	0.97	98.08
FURNACE8_0996.LAB	2/6/2019	1	91.81	8.88	9.23	2.77	0.39	0.23	0.00	191.08	0.97	99.00
FURNACE8_0997.LAB	2/6/2019	1	94.10	9.10	9.18	2.66	0.39	0.17	0.00	191.01	0.97	101.36
FURNACE8_0998.LAB	2/6/2019	1	92.48	10.36	10.62	3.07	0.39	0.17	0.01	191.11	0.97	100.07
FURNACE8_0999.LAB	2/6/2019	1	93.62	11.91	11.97	4.32	0.40	0.24	0.00	191.75	0.97	102.74
FURNACE8_1000.LAB	2/6/2019	1	92.86	10.83	10.96	2.91	0.39	0.15	0.00	191.62	0.97	100.43
FURNACE8_1001.LAB	2/6/2019	1	90.09	10.12	10.47	2.50	0.39	0.21	0.00	191.25	0.97	96.96
FURNACE8_1002.LAB	2/6/2019	1	86.31	12.58	12.68	4.74	0.38	0.27	0.00	191.03	0.97	95.12
FURNACE8_1003.LAB	2/6/2019	1	80.09	11.58	11.84	2.46	0.35	0.17	0.01	191.00	0.97	86.16
FURNACE8_1004.LAB	2/6/2019	1	77.75	9.25	9.61	2.01	0.35	0.14	0.00	191.30	0.97	83.08
FURNACE8_1005.LAB	2/6/2019	1	81.05	9.25	9.43	1.99	0.36	0.10	0.00	190.97	0.97	86.72
FURNACE8_1006.LAB	2/6/2019	1	80.66	8.65	9.28	1.96	0.35	0.14	0.01	190.70	0.97	86.24
FURNACE8_1007.LAB	2/6/2019	1	80.94	8.88	9.11	1.93	0.36	0.12	0.01	190.58	0.97	86.68
FURNACE8_1008.LAB	2/6/2019	1	82.45	10.49	10.87	1.92	0.36	0.16	0.00	190.59	0.97	88.34
FURNACE8_1009.LAB	2/6/2019	1	82.29	9.34	9.55	1.89	0.35	0.19	0.01	190.62	0.97	87.94
FURNACE8_1010.LAB	2/6/2019	1	78.44	8.90	9.33	1.87	0.34	0.16	0.01	190.66	0.97	83.94
FURNACE8_1011.LAB	2/6/2019	1	80.93	9.58	9.78	1.83	0.36	0.20	0.00	190.70	0.97	86.59
FURNACE8_1012.LAB	2/6/2019	1	78.80	10.42	10.83	1.83	0.35	0.16	0.00	190.68	0.97	84.35
FURNACE8_1013.LAB	2/6/2019	1	72.17	9.32	9.94	1.83	0.33	0.12	0.00	190.72	0.97	77.23
FURNACE8_1014.LAB	2/6/2019	1	65.23	8.67	9.34	1.83	0.31	0.11	0.00	190.76	0.97	69.80
FURNACE8_1015.LAB	2/6/2019	1	70.37	9.33	9.96	1.81	0.32	0.18	0.00	190.79	0.97	75.27
FURNACE8_1016.LAB	2/6/2019	1	65.25	9.34	9.90	1.74	0.31	0.13	0.01	190.82	0.97	69.77
FURNACE8_1017.LAB	2/6/2019	1	65.96	9.06	9.44	1.71	0.31	0.17	0.00	190.81	0.97	70.56
FURNACE8_1018.LAB	2/6/2019	1	65.22	9.05	9.21	1.70	0.30	0.19	0.01	190.88	0.97	69.75
FURNACE8_1019.LAB	2/6/2019	1	63.10	9.12	9.46	1.69	0.30	0.13	0.01	190.91	0.97	67.39
FURNACE8_1020.LAB	2/6/2019	1	61.42	8.41	9.03	1.67	0.30	0.11	0.00	190.87	0.97	65.58
FURNACE8_1021.LAB	2/6/2019	1	63.11	7.95	8.37	1.65	0.30	0.10	0.00	190.89	0.97	67.42
FURNACE8_1022.LAB	2/6/2019	1	65.54	8.67	8.95	1.63	0.30	0.12	0.00	190.89	0.97	70.04
FURNACE8_1023.LAB	2/6/2019	1	69.03	9.94	10.26	1.87	0.32	0.14	0.01	190.90	0.97	73.91
FURNACE8_1024.LAB	2/6/2019	1	60.07	11.90	12.16	3.01	0.30	0.23	0.00	190.93	0.97	65.13
FURNACE8_1025.LAB	2/6/2019	1	54.77	11.10	11.39	2.23	0.27	0.17	0.00	190.90	0.97	58.91
FURNACE8_1026.LAB	2/6/2019	1	50.19	10.38	10.63	2.03	0.25	0.14	0.00	190.93	0.97	53.87
FURNACE8_1027.LAB	2/6/2019	1	50.95	9.40	9.63	1.69	0.25	0.09	0.01	190.92	0.97	54.63
FURNACE8_1028.LAB	2/6/2019	1	48.45	8.72	8.85	1.49	0.24	0.11	0.00	190.94	0.97	51.82
FURNACE8_1029.LAB	2/6/2019	1	49.73	9.01	9.19	1.33	0.25	0.14	0.00	190.92	0.97	53.08
FURNACE8_1030.LAB	2/6/2019	1	48.27	7.91	8.14	1.25	0.25	0.17	0.00	190.95	0.97	51.41
FURNACE8_1031.LAB	2/6/2019	1	49.54	7.45	7.50	1.24	0.25	0.09	0.00	190.93	0.97	52.70
FURNACE8_1032.LAB	2/6/2019	1	56.91	7.63	7.86	1.23	0.27	0.08	0.00	190.91	0.97	60.56
FURNACE8_1033.LAB	2/6/2019	1	53.99	7.76	7.93	1.23	0.26	0.14	0.00	190.93	0.97	57.47
FURNACE8_1034.LAB	2/6/2019	1	52.00	8.20	8.67	1.22	0.25	0.11	0.00	190.94	0.97	55.29
FURNACE8_1035.LAB	2/6/2019	1	70.02	14.04	14.34	1.76	0.31	0.15	0.00	190.95	0.97	75.88
FURNACE8_1036.LAB	2/6/2019	1	83.81	13.50	14.37	1.57	0.35	0.19	0.01	190.96	0.97	89.69

FURNACE8_1037.LAB	2/6/2019	1	85.26	13.11	13.55	1.64	0.36	0.19	0.01	190.97	0.97	91.23
FURNACE8_1038.LAB	2/6/2019	1	87.50	14.03	14.21	3.22	0.38	0.13	0.01	190.97	0.97	94.55
FURNACE8_1039.LAB	2/6/2019	1	84.59	14.84	15.05	3.22	0.37	0.26	0.00	190.99	0.97	92.05
FURNACE8_1040.LAB	2/6/2019	1	79.97	14.54	14.79	3.76	0.35	0.26	0.00	191.03	0.97	87.42
FURNACE8_1041.LAB	2/6/2019	1	85.45	15.61	15.91	3.66	0.37	0.27	0.00	191.29	0.97	93.53
FURNACE8_1042.LAB	2/6/2019	1	85.74	15.54	15.69	2.56	0.38	0.25	0.00	191.28	0.97	92.62
FURNACE8_1043.LAB	2/6/2019	1	81.38	14.65	14.93	2.33	0.36	0.27	0.00	191.07	0.97	87.67
FURNACE8_1044.LAB	2/6/2019	1	78.67	14.34	14.36	2.96	0.35	0.22	0.00	190.94	0.97	85.37
FURNACE8_1045.LAB	2/6/2019	1	81.65	14.58	14.58	2.25	0.36	0.19	0.00	190.95	0.97	87.94
FURNACE8_1046.LAB	2/6/2019	1	87.84	14.99	15.35	2.06	0.37	0.25	0.00	190.94	0.97	94.35
FURNACE8_1047.LAB	2/6/2019	1	83.05	17.36	17.78	4.11	0.36	0.29	0.00	190.92	0.97	91.10
FURNACE8_1048.LAB	2/6/2019	1	84.97	16.20	16.42	4.59	0.38	0.29	0.01	190.90	0.97	93.88
FURNACE8_1049.LAB	2/6/2019	1	85.86	16.44	16.80	2.90	0.37	0.22	0.00	191.05	0.97	93.21
FURNACE8_1050.LAB	2/6/2019	1	87.14	14.23	14.37	2.18	0.37	0.26	0.00	191.89	0.97	93.73
FURNACE8_1051.LAB	2/6/2019	1	82.60	16.04	16.34	3.72	0.36	0.30	0.01	191.70	0.97	90.29
FURNACE8_1052.LAB	2/6/2019	1	86.48	13.63	13.59	3.25	0.37	0.20	0.01	191.16	0.97	94.00
FURNACE8_1053.LAB	2/6/2019	1	88.41	14.55	14.84	2.46	0.37	0.26	0.01	190.92	0.97	95.33
FURNACE8_1054.LAB	2/6/2019	1	86.71	12.51	12.63	1.88	0.37	0.18	0.00	190.85	0.97	92.77
FURNACE8_1055.LAB	2/6/2019	1	88.78	12.05	12.16	2.18	0.38	0.13	0.01	190.85	0.97	95.34
FURNACE8_1056.LAB	2/6/2019	1	75.22	13.80	14.05	3.33	0.33	0.23	0.01	190.86	0.97	81.88
FURNACE8_1057.LAB	2/6/2019	1	76.89	12.73	12.82	2.15	0.33	0.24	0.01	190.86	0.97	82.64
FURNACE8_1058.LAB	2/6/2019	1	85.09	11.57	11.75	1.70	0.36	0.19	0.00	190.85	0.97	90.76
FURNACE8_1059.LAB	2/6/2019	1	83.70	14.08	14.35	2.37	0.37	0.17	0.01	190.89	0.97	90.13
FURNACE8_1060.LAB	2/6/2019	1	85.32	16.25	16.90	3.77	0.37	0.25	0.00	190.92	0.97	93.37
FURNACE8_1061.LAB	2/6/2019	1	88.48	15.17	15.30	2.60	0.38	0.17	0.00	190.92	0.97	95.38
FURNACE8_1062.LAB	2/6/2019	1	86.54	12.94	13.32	1.82	0.36	0.24	0.00	190.89	0.97	92.52
FURNACE8_1063.LAB	2/6/2019	1	90.72	12.17	13.04	1.80	0.37	0.13	0.01	191.00	0.97	97.05
FURNACE8_1064.LAB	2/6/2019	1	86.94	14.24	14.29	3.88	0.37	0.18	0.01	191.04	0.97	94.92
FURNACE8_1065.LAB	2/6/2019	1	89.32	12.29	12.61	3.01	0.38	0.19	0.00	191.05	0.97	96.50
FURNACE8_1066.LAB	2/6/2019	1	92.16	10.62	11.21	2.00	0.37	0.11	0.01	191.01	0.97	98.50
FURNACE8_1067.LAB	2/6/2019	1	87.98	10.70	11.51	1.83	0.36	0.13	0.01	190.94	0.97	94.03
FURNACE8_1068.LAB	2/6/2019	1	89.51	11.38	12.04	1.49	0.37	0.14	0.01	190.94	0.97	95.35
FURNACE8_1069.LAB	2/6/2019	1	91.27	13.25	13.95	1.44	0.37	0.21	0.00	190.95	0.97	97.31
FURNACE8_1070.LAB	2/6/2019	1	88.15	14.40	14.52	1.40	0.36	0.25	0.00	190.94	0.97	94.05
FURNACE8_1071.LAB	2/6/2019	1	89.37	15.41	15.86	1.37	0.37	0.25	0.00	190.96	0.97	95.34
FURNACE8_1072.LAB	2/6/2019	1	89.30	14.74	15.20	1.34	0.37	0.24	0.01	190.96	0.97	95.09
FURNACE8_1073.LAB	2/6/2019	1	86.47	13.15	13.20	1.31	0.36	0.19	0.00	190.94	0.97	91.98
FURNACE8_1074.LAB	2/6/2019	1	86.95	12.84	13.21	1.29	0.36	0.19	0.00	191.00	0.97	92.57
FURNACE8_1075.LAB	2/6/2019	1	85.34	12.64	12.81	1.26	0.36	0.20	0.00	191.07	0.97	90.69
FURNACE8_1076.LAB	2/6/2019	1	88.60	13.47	14.02	1.58	0.37	0.25	0.01	191.10	0.97	94.74
FURNACE8_1077.LAB	2/6/2019	1	88.83	14.36	14.64	1.70	0.37	0.21	0.01	191.02	0.97	94.97
FURNACE8_1078.LAB	2/6/2019	1	79.51	13.17	13.51	1.59	0.33	0.15	0.00	190.97	0.97	84.74
FURNACE8_1079.LAB	2/6/2019	1	85.64	11.62	12.15	1.52	0.36	0.15	0.01	190.98	0.97	91.18
FURNACE8_1080.LAB	2/6/2019	1	82.70	11.73	11.84	1.49	0.34	0.21	0.01	191.14	0.97	88.15
FURNACE8_1081.LAB	2/6/2019	1	91.57	12.28	13.17	1.80	0.38	0.23	0.01	191.09	0.97	97.92
FURNACE8_1082.LAB	2/6/2019	1	65.84	12.38	12.59	1.65	0.29	0.17	0.01	191.01	0.97	70.36

FURNACE8_1083.LAB	2/6/2019	1	65.00	10.35	10.57	1.55	0.29	0.08	0.01	191.07	0.97	69.26
FURNACE8_1084.LAB	2/6/2019	1	57.91	9.13	9.57	1.35	0.26	0.14	0.01	191.14	0.97	61.72
FURNACE8_1085.LAB	2/6/2019	1	64.55	8.79	8.82	1.25	0.28	0.09	0.01	191.17	0.97	68.54
FURNACE8_1086.LAB	2/6/2019	1	68.14	9.32	9.73	1.79	0.30	0.17	0.00	191.20	0.97	72.92
FURNACE8_1087.LAB	2/6/2019	1	65.06	9.44	9.76	1.50	0.28	0.17	0.00	191.12	0.97	69.24
FURNACE8_1088.LAB	2/6/2019	1	68.36	9.19	9.60	1.45	0.30	0.17	0.00	191.07	0.97	72.81
FURNACE8_1089.LAB	2/6/2019	1	68.30	9.29	9.93	1.11	0.30	0.17	0.00	190.99	0.97	72.61
FURNACE8_1090.LAB	2/6/2019	1	72.46	9.97	10.41	1.03	0.31	0.14	0.00	191.00	0.97	76.89
FURNACE8_1091.LAB	2/6/2019	1	56.84	10.63	10.65	1.08	0.26	0.16	0.01	190.99	0.97	60.35
FURNACE8_1092.LAB	2/6/2019	1	58.34	10.13	10.93	1.51	0.27	0.20	0.01	190.97	0.97	62.24
FURNACE8_1093.LAB	2/6/2019	1	62.87	9.87	10.48	1.63	0.28	0.16	0.00	190.98	0.97	67.23
FURNACE8_1094.LAB	2/6/2019	1	56.16	12.01	12.64	1.90	0.26	0.19	0.01	190.95	0.97	60.27
FURNACE8_1095.LAB	2/6/2019	1	76.23	17.22	17.99	2.13	0.35	0.24	0.00	191.07	0.97	82.21
FURNACE8_1096.LAB	2/6/2019	1	67.43	20.59	20.91	5.36	0.33	0.37	0.01	191.46	0.97	75.12
FURNACE8_1097.LAB	2/6/2019	1	74.47	22.86	23.19	6.53	0.34	0.36	0.01	191.18	0.97	83.97
FURNACE8_1098.LAB	2/6/2019	1	76.77	20.85	21.26	5.28	0.35	0.32	0.01	191.03	0.97	85.39
FURNACE8_1099.LAB	2/6/2019	1	81.98	16.75	16.93	2.88	0.36	0.21	0.00	190.96	0.97	88.86
FURNACE8_1100.LAB	2/6/2019	1	86.04	17.79	18.05	4.42	0.37	0.29	0.01	190.93	0.97	94.61
FURNACE8_1101.LAB	2/6/2019	1	87.59	14.43	14.98	2.59	0.37	0.27	0.01	191.13	0.97	94.42
FURNACE8_1102.LAB	2/6/2019	1	81.43	17.56	18.37	4.40	0.36	0.22	0.01	191.16	0.97	89.69
FURNACE8_1103.LAB	2/6/2019	1	79.84	17.60	18.42	2.79	0.35	0.30	0.01	191.05	0.97	86.60
FURNACE8_1104.LAB	2/6/2019	1	87.71	19.27	19.50	3.28	0.37	0.21	0.00	191.09	0.97	95.45
FURNACE8_1105.LAB	2/6/2019	1	86.51	16.22	17.75	3.37	0.37	0.26	0.01	191.06	0.97	94.86
FURNACE8_1106.LAB	2/6/2019	1	72.68	18.03	18.56	2.34	0.38	0.28	0.01	191.01	0.97	93.31
FURNACE8_1107.LAB	2/6/2019	1	72.68	15.27	15.87	2.34	0.33	0.22	0.00	191.06	0.97	93.62
FURNACE8_1108.LAB	2/6/2019	1	69.39	14.75	15.01	2.31	0.32	0.28	0.01	191.06	0.97	78.31
FURNACE8_1109.LAB	2/6/2019	1	82.01	15.24	15.74	2.58	0.36	0.26	0.01	191.01	0.97	74.81
FURNACE8_1110.LAB	2/6/2019	1	88.72	14.45	14.84	3.32	0.37	0.24	0.01	190.97	0.97	88.46
FURNACE8_1111.LAB	2/6/2019	1	80.95	15.56	16.06	2.68	0.36	0.24	0.01	191.03	0.97	96.47
FURNACE8_1112.LAB	2/6/2019	1	90.38	14.81	15.47	2.28	0.38	0.23	0.01	191.20	0.97	87.55
FURNACE8_1113.LAB	2/6/2019	1	78.72	13.16	13.70	2.02	0.34	0.16	0.00	191.16	0.97	96.98
FURNACE8_1114.LAB	2/6/2019	1	80.80	15.08	15.55	2.02	0.35	0.20	0.01	191.07	0.97	84.59
FURNACE8_1115.LAB	2/6/2019	1	72.69	15.05	15.76	2.04	0.33	0.17	0.01	191.04	0.97	86.95
FURNACE8_1117.LAB	2/6/2019	1	84.57	15.71	16.61	2.54	0.37	0.14	0.01	191.17	0.97	78.32
FURNACE8_1118.LAB	2/6/2019	1	74.35	15.43	15.87	2.55	0.34	0.30	0.00	191.30	0.97	91.41
FURNACE8_1119.LAB	2/6/2019	1	59.53	14.43	14.85	2.37	0.30	0.28	0.00	191.26	0.97	80.43
FURNACE8_1120.LAB	2/6/2019	1	63.53	9.99	10.28	2.29	0.33	0.17	0.01	191.14	0.97	64.08
FURNACE8_1121.LAB	2/6/2019	1	81.48	8.32	9.03	2.38	0.43	0.09	0.01	191.11	0.97	68.14
FURNACE8_1122.LAB	2/6/2019	1	71.86	7.39	7.47	2.96	0.43	0.12	0.01	191.08	0.97	87.18
FURNACE8_1123.LAB	2/6/2019	1	77.66	5.59	5.75	2.66	0.48	0.12	0.00	191.06	0.97	77.40
FURNACE8_1124.LAB	2/6/2019	1	57.84	5.54	5.84	2.38	0.40	0.13	0.01	191.02	0.97	83.34
FURNACE8_1125.LAB	2/6/2019	1	68.54	5.24	5.64	2.19	0.50	0.14	0.00	191.02	0.97	62.08
FURNACE8_1126.LAB	2/6/2019	1	73.92	4.40	5.10	2.06	0.53	0.02	0.01	190.99	0.97	73.28
FURNACE8_1127.LAB	2/6/2019	1	67.00	4.10	4.56	1.90	0.52	0.11	0.00	191.03	0.97	78.91
										191.06	0.97	71.55

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_1128.LAB	2/6/2019	1	103.16	4.55	4.91	2.01	0.05	0.14	2.39	191.29	0.97	117.75
NOSYS_1129.LAB	2/6/2019	1	282.74	4.15	4.67	1.78	0.01	-0.43	3.88	191.34	0.97	291.58
NOSYS_1130.LAB	2/6/2019	1	287.83	3.55	3.76	1.69	0.01	-0.47	3.90	191.35	0.97	294.18
NOSYS_1131.LAB	2/6/2019	1	288.28	3.39	3.50	1.58	0.00	-0.42	3.90	191.34	0.97	294.01
NOSYS_1132.LAB	2/6/2019	1	289.12	3.15	2.75	1.51	0.00	-0.43	3.90	191.37	0.97	294.44
NOSYS_1133.LAB	2/6/2019	1	289.28	2.90	3.12	1.47	0.01	-0.45	3.91	191.33	0.97	294.37
NOSYS_1134.LAB	2/6/2019	1	289.86	2.79	3.23	1.37	0.00	-0.57	3.91	191.37	0.97	294.53
NOSYS_1135.LAB	2/6/2019	1	289.62	2.58	2.73	1.30	0.00	-0.51	3.91	191.35	0.97	294.05

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_1136.LAB	2/6/2019	1	64.59	75.53	86.75	1.22	0.03	-0.40	3.58	191.39	0.97	65.68
NH3SYS_1137.LAB	2/6/2019	1	1.80	213.64	214.66	1.12	0.06	-0.38	3.85	191.32	0.97	2.00
NH3SYS_1138.LAB	2/6/2019	1	1.22	244.34	243.86	1.08	0.05	-0.35	3.87	191.36	0.97	1.33
NH3SYS_1139.LAB	2/6/2019	1	1.05	255.22	255.96	0.93	0.05	-0.34	3.86	191.38	0.97	1.20
NH3SYS_1140.LAB	2/6/2019	1	0.88	262.45	262.18	0.85	0.06	-0.24	3.87	191.37	0.97	1.01
NH3SYS_1141.LAB	2/6/2019	1	0.90	267.63	267.52	0.83	0.05	-0.43	3.87	191.36	0.97	1.00
NH3SYS_1142.LAB	2/6/2019	1	0.88	270.80	271.71	0.78	0.06	-0.36	3.87	191.38	0.97	1.05
NH3SYS_1143.LAB	2/6/2019	1	0.70	273.06	273.00	0.72	0.07	-0.62	3.87	191.37	0.97	0.80
NH3SYS_1144.LAB	2/6/2019	1	0.71	273.88	274.64	0.63	0.07	-0.36	3.87	191.34	0.98	0.89
NH3SYS_1145.LAB	2/6/2019	1	0.53	275.59	276.74	0.60	0.07	-0.35	3.88	191.34	0.97	0.66
NH3SYS_1146.LAB	2/6/2019	1	0.59	276.80	276.89	0.61	0.06	-0.47	3.87	191.28	0.97	0.71
NH3SYS_1147.LAB	2/6/2019	1	0.67	277.00	277.48	0.60	0.05	-0.48	3.88	191.31	0.97	0.79
NH3SYS_1148.LAB	2/6/2019	1	0.49	277.75	279.34	0.60	0.05	-0.34	3.88	191.31	0.97	0.59
NH3SYS_1149.LAB	2/6/2019	1	0.69	275.97	277.90	0.59	0.06	-0.45	3.86	191.33	0.97	0.77
NH3SYS_1150.LAB	2/6/2019	1	0.40	277.96	279.37	0.58	0.06	-0.53	3.87	191.30	0.97	0.51

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSSYS_1151.LAB	2/6/2019	1	0.41	129.02	137.59	0.61	0.03	57.78	0.97	191.27	0.97	0.51
CTSSYS_1152.LAB	2/6/2019	1	0.59	40.89	41.01	0.54	0.02	98.16	0.00	191.22	0.97	0.70
CTSSYS_1153.LAB	2/6/2019	1	0.27	26.46	26.15	0.55	0.02	98.51	0.00	191.23	0.97	0.32
CTSSYS_1154.LAB	2/6/2019	1	0.15	20.08	20.00	0.55	0.01	98.58	-0.01	191.20	0.97	0.26
CTSSYS_1155.LAB	2/6/2019	1	0.26	16.24	16.07	0.55	0.01	98.49	0.00	191.22	0.97	0.35
CTSSYS_1156.LAB	2/6/2019	1	0.50	13.96	13.05	0.54	0.03	98.66	0.00	191.24	0.97	0.50
CTSSYS_1157.LAB	2/6/2019	1	0.38	12.49	11.22	0.53	0.01	98.56	-0.01	191.21	0.97	0.47
CTSSYS_1158.LAB	2/6/2019	1	0.58	11.81	10.74	0.51	0.01	98.63	-0.01	191.15	0.97	0.66

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2SYS_1159.LAB	2/6/2019	1	0.44	8.33	9.10	0.46	0.00	14.17	-0.01	191.20	0.97	0.55
N2SYS_1160.LAB	2/6/2019	1	0.24	7.57	9.10	0.44	-0.01	0.51	0.00	191.23	0.97	0.27
N2SYS_1161.LAB	2/6/2019	1	0.01	7.00	7.11	0.44	0.01	0.27	0.00	191.27	0.97	0.08
N2SYS_1162.LAB	2/6/2019	1	0.06	6.55	6.69	0.41	0.01	0.24	0.01	191.27	0.97	0.05
N2SYS_1163.LAB	2/6/2019	1	0.31	6.15	6.05	0.40	0.00	0.26	0.00	191.23	0.97	0.38
N2SYS_1164.LAB	2/6/2019	1	0.31	5.76	5.95	0.40	-0.01	0.31	0.00	191.21	0.97	0.39
N2SYS_1165.LAB	2/6/2019	1	0.35	5.49	5.03	0.38	0.00	0.10	0.00	191.22	0.97	0.44
N2SYS_1166.LAB	2/6/2019	1	0.40	5.20	5.29	0.36	0.00	0.17	0.01	191.28	0.97	0.42

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2SYS_1167.LAB	2/6/2019	1	0.22	4.66	5.16	0.32	1.22	0.17	0.01	191.65	0.97	0.20
CO2SYS_1168.LAB	2/6/2019	1	-0.01	4.04	4.81	0.29	2.52	-0.05	0.00	191.68	0.97	0.00
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
PRESPIKE_1169.LAB	2/6/2019	1	0.58	5.25	5.55	0.82	0.18	0.10	0.00	191.66	0.97	0.85
PRESPIKE_1170.LAB	2/6/2019	1	0.41	4.42	4.85	0.84	0.09	0.04	0.01	191.25	0.97	0.62
PRESPIKE_1171.LAB	2/6/2019	1	0.39	3.96	4.37	0.85	0.09	0.08	0.00	191.11	0.97	0.60
PRESPIKE_1172.LAB	2/6/2019	1	0.25	3.50	3.77	0.82	0.07	0.06	0.00	191.11	0.97	0.48
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N/A	2/6/2019	1	0.06	2.91	3.25	0.74	1.93	0.02	0.00	191.29	0.97	0.26
N/A	2/6/2019	1	0.31	2.78	3.87	0.75	1.94	-0.03	0.01	191.51	0.97	0.54
N/A	2/6/2019	1	0.03	2.71	3.61	0.75	1.93	0.05	0.01	191.66	0.97	0.23
N/A	2/6/2019	1	0.19	2.89	3.79	0.75	0.84	0.05	0.19	191.74	0.97	0.34
N/A	2/6/2019	1	0.13	7.91	7.80	0.74	0.11	-0.08	0.33	191.81	0.97	0.34
N/A	2/6/2019	1	0.08	12.98	13.47	0.74	0.09	-0.02	0.32	191.76	0.97	0.22
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_1173.LAB	2/6/2019	1	0.13	19.47	20.54	0.74	0.07	0.03	0.33	191.85	0.97	0.30
NH3SPIKE_1174.LAB	2/6/2019	1	0.28	21.57	22.18	0.76	0.08	0.07	0.33	192.02	0.97	0.45
NH3SPIKE_1175.LAB	2/6/2019	1	0.31	22.44	23.57	0.75	0.07	0.07	0.33	191.98	0.97	0.50
NH3SPIKE_1176.LAB	2/6/2019	1	0.37	23.00	23.83	0.79	0.08	0.08	0.33	191.71	0.97	0.58
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSPIKE_1177.LAB	2/6/2019	1	0.48	19.58	20.30	0.76	0.06	0.12	0.27	191.21	0.97	0.71
NOSPIKE_1178.LAB	2/6/2019	1	19.29	10.00	10.51	0.79	0.09	0.03	0.28	191.02	0.97	20.57
NOSPIKE_1179.LAB	2/6/2019	1	20.29	5.25	5.57	0.85	0.12	0.05	0.28	190.93	0.97	21.45
NOSPIKE_1180.LAB	2/6/2019	1	20.66	4.03	4.39	0.87	0.13	0.00	0.27	190.92	0.97	21.51
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NODIR_1181.LAB	2/6/2019	1	292.53	0.30	0.62	0.02	0.01	-0.44	3.96	191.02	0.97	295.56
NODIR_1182.LAB	2/6/2019	1	294.91	0.16	0.49	0.02	0.01	-0.41	3.99	191.05	0.97	296.65
NODIR_1183.LAB	2/6/2019	1	294.70	0.20	1.06	0.02	0.01	-0.34	4.00	191.04	0.97	296.00
NODIR_1184.LAB	2/6/2019	1	295.15	0.16	0.40	0.01	0.00	-0.57	3.99	191.00	0.97	296.21
NODIR_1185.LAB	2/6/2019	1	296.12	0.11	0.18	0.01	-0.01	-0.36	4.00	191.01	0.97	297.08
NODIR_1186.LAB	2/6/2019	1	296.25	0.09	0.12	0.02	0.01	-0.48	3.99	191.01	0.97	297.21
NODIR_1187.LAB	2/6/2019	1	297.17	0.09	0.60	0.02	0.00	-0.43	3.99	190.98	0.97	298.05
NODIR_1188.LAB	2/6/2019	1	296.10	0.11	0.64	0.02	0.02	-0.47	4.00	190.96	0.97	296.84
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_1189.LAB	2/6/2019	1	1.21	282.24	282.48	0.00	0.07	-0.30	3.92	191.00	0.97	1.27
NH3DIR_1190.LAB	2/6/2019	1	0.45	285.04	285.97	0.01	0.06	-0.38	3.92	190.98	0.97	0.55
NH3DIR_1191.LAB	2/6/2019	1	0.42	286.16	286.82	0.01	0.07	-0.33	3.93	191.01	0.97	0.45
NH3DIR_1192.LAB	2/6/2019	1	0.43	286.68	287.00	0.01	0.07	-0.27	3.92	190.98	0.97	0.57

NH3DIR_1193.LAB	2/6/2019	1	0.54	286.96	288.74	0.01	0.07	-0.27	3.91	191.01	0.97	0.53
NH3DIR_1194.LAB	2/6/2019	1	0.36	287.64	287.97	0.01	0.05	-0.16	3.91	191.05	0.97	0.39
NH3DIR_1195.LAB	2/6/2019	1	0.65	288.18	288.98	0.01	0.06	-0.27	3.93	191.08	0.97	0.75
NH3DIR_1196.LAB	2/6/2019	1	0.44	288.01	289.03	0.01	0.06	-0.48	3.93	191.07	0.97	0.47
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSDIR_1197.LAB	2/6/2019	1	0.27	5.98	5.54	0.02	0.00	99.30	0.01	191.08	0.97	0.24
CTSDIR_1198.LAB	2/6/2019	1	0.42	2.46	2.80	0.01	0.01	99.75	-0.01	191.09	0.97	0.34
CTSDIR_1199.LAB	2/6/2019	1	0.47	1.64	1.84	0.01	0.00	99.97	-0.02	191.09	0.97	0.49
CTSDIR_1200.LAB	2/6/2019	1	0.37	1.35	0.64	0.02	0.00	100.00	-0.02	191.09	0.97	0.54
CTSDIR_1201.LAB	2/6/2019	1	0.15	1.09	0.75	0.01	0.00	100.12	-0.02	191.07	0.97	0.22
CTSDIR_1202.LAB	2/6/2019	1	0.38	0.92	0.77	0.01	-0.01	100.13	-0.01	191.08	0.97	0.52
CTSDIR_1203.LAB	2/6/2019	1	0.19	0.70	0.53	0.01	0.00	100.07	-0.02	191.12	0.97	0.25
CTSDIR_1204.LAB	2/6/2019	1	0.31	0.65	0.65	0.01	-0.01	100.18	-0.02	191.06	0.97	0.28
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2DIR_1205.LAB	2/6/2019	1	0.07	0.31	0.47	0.01	0.00	0.01	0.00	191.10	0.97	0.08
N2DIR_1206.LAB	2/6/2019	1	0.03	0.20	0.39	0.01	0.00	0.04	0.00	191.09	0.97	0.03
N2DIR_1207.LAB	2/6/2019	1	0.15	0.15	0.43	0.01	-0.01	0.00	0.00	191.09	0.97	0.13
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2DIR_1208.LAB	2/7/2019	0	-0.09	0.10	0.16	0.00	0.00	-0.03	0.00	190.95	0.97	-0.13
N2DIR_1209.LAB	2/7/2019	0	-0.22	0.00	0.31	0.01	0.01	-0.08	0.00	190.94	0.97	-0.15
N2DIR_1210.LAB	2/7/2019	0	-0.05	0.07	-0.24	0.01	0.00	0.06	0.00	190.86	0.97	-0.06
N2DIR_1211.BK.G.LAB	2/7/2019	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.91	0.97	0.00
N2DIR_1212.LAB	2/7/2019	0	0.08	-0.01	0.03	0.01	0.00	-0.05	0.01	190.91	0.97	0.22
N2DIR_1213.LAB	2/7/2019	0	0.19	0.04	0.06	0.00	0.00	-0.01	0.01	190.94	0.97	0.24
N2DIR_1214.LAB	2/7/2019	0	0.11	-0.01	-0.89	0.00	0.00	0.10	0.00	190.90	0.97	0.13
N2DIR_1215.LAB	2/7/2019	0	0.13	0.02	-0.45	0.00	-0.01	-0.04	0.00	190.91	0.97	0.17
N2DIR_1216.LAB	2/7/2019	0	0.20	0.02	-0.08	0.01	0.00	0.05	0.00	190.92	0.97	0.19
N2DIR_1217.LAB	2/7/2019	0	-0.07	0.02	-0.44	-0.01	0.00	-0.06	0.00	190.94	0.97	-0.09
N2DIR_1218.LAB	2/7/2019	0	0.00	-0.01	0.16	0.00	0.00	-0.05	0.00	191.02	0.97	-0.02
N2DIR_1219.LAB	2/7/2019	0	0.04	-0.07	0.16	-0.01	0.01	0.02	0.00	191.09	0.97	0.00
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSDIR_1220.LAB	2/7/2019	0	-0.01	-0.03	-0.72	0.01	0.01	99.09	-0.01	191.40	0.97	0.00
CTSDIR_1221.LAB	2/7/2019	0	0.19	-0.06	-1.14	0.00	0.00	99.30	-0.02	191.43	0.97	0.17
CTSDIR_1222.LAB	2/7/2019	0	0.24	-0.07	-0.92	0.01	0.00	99.89	-0.02	191.52	0.97	0.30
CTSDIR_1223.LAB	2/7/2019	0	0.28	0.00	-0.72	0.00	-0.01	99.99	0.00	191.55	0.97	0.36
CTSDIR_1224.LAB	2/7/2019	0	0.18	-0.02	-1.28	0.00	-0.02	100.08	0.00	191.49	0.97	0.26
CTSDIR_1225.LAB	2/7/2019	0	0.27	-0.10	-0.74	0.00	0.01	99.73	-0.01	191.45	0.97	0.23
CTSDIR_1226.LAB	2/7/2019	0	0.18	-0.11	-0.22	0.00	0.01	99.66	-0.01	191.34	0.97	0.11
CTSDIR_1227.LAB	2/7/2019	0	0.15	-0.05	-0.90	0.01	0.01	100.15	-0.01	191.25	0.97	0.24

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NODIR_1228.LAB	2/7/2019	0	288.29	-0.12	0.43	0.00	0.01	-0.30	3.98	190.96	0.97	297.26
NODIR_1229.LAB	2/7/2019	0	293.55	-0.06	-0.29	0.00	0.01	-0.53	3.99	190.84	0.97	296.94
NODIR_1230.LAB	2/7/2019	0	295.41	-0.06	-0.58	0.01	0.00	-0.46	3.99	190.87	0.97	297.50
NODIR_1231.LAB	2/7/2019	0	297.07	-0.12	0.01	0.00	0.00	-0.50	3.99	190.86	0.97	298.70
NODIR_1232.LAB	2/7/2019	0	297.44	-0.15	-0.11	0.01	-0.01	-0.46	3.99	190.86	0.97	298.83
NODIR_1233.LAB	2/7/2019	0	297.60	-0.08	-0.49	0.01	-0.01	-0.29	3.99	190.80	0.97	298.82
NODIR_1234.LAB	2/7/2019	0	298.04	-0.15	-0.78	0.00	-0.01	-0.66	3.98	190.83	0.97	299.17
NODIR_1235.LAB	2/7/2019	0	298.25	-0.16	-0.38	0.00	-0.01	-0.66	3.99	190.81	0.97	299.29
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_1236.LAB	2/7/2019	0	0.42	284.49	286.10	0.00	0.06	-0.48	3.92	190.89	0.97	0.50
NH3DIR_1237.LAB	2/7/2019	0	0.18	285.26	286.80	0.00	0.06	-0.39	3.93	190.86	0.97	0.15
NH3DIR_1238.LAB	2/7/2019	0	0.45	285.65	285.85	0.00	0.07	-0.30	3.92	190.87	0.97	0.53
NH3DIR_1239.LAB	2/7/2019	0	0.50	285.99	286.73	0.00	0.06	-0.52	3.92	190.84	0.97	0.55
NH3DIR_1240.LAB	2/7/2019	0	0.42	291.23	287.65	-0.01	0.07	-0.39	3.92	190.88	0.97	0.50
NH3DIR_1241.LAB	2/7/2019	0	0.63	291.36	288.72	0.00	0.06	-0.39	3.92	190.86	0.97	0.69
NH3DIR_1242.LAB	2/7/2019	0	0.52	291.68	288.54	-0.01	0.06	-0.42	3.92	190.89	0.97	0.56
NH3DIR_1243.LAB	2/7/2019	0	0.63	291.72	288.39	0.00	0.06	-0.49	3.92	190.89	0.97	0.71
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_1244.LAB	2/7/2019	0	290.46	0.27	0.98	0.20	-0.01	-0.51	3.92	190.96	0.97	291.78
NOSYS_1245.LAB	2/7/2019	0	294.82	0.27	-0.22	0.13	0.00	-0.54	3.97	190.96	0.97	295.31
NOSYS_1246.LAB	2/7/2019	0	295.34	0.27	0.31	0.09	-0.01	-0.48	3.97	190.96	0.97	295.69
NOSYS_1247.LAB	2/7/2019	0	295.81	0.22	0.28	0.07	0.00	-0.39	3.97	190.89	0.97	296.13
NOSYS_1248.LAB	2/7/2019	0	294.55	0.26	0.74	0.06	0.00	-0.41	3.95	190.88	0.97	294.76
NOSYS_1249.LAB	2/7/2019	0	295.55	0.26	0.41	0.06	0.01	-0.43	3.98	190.92	0.97	295.79
NOSYS_1250.LAB	2/7/2019	0	296.01	0.22	0.39	0.04	0.01	-0.55	3.98	190.97	0.97	296.22
NOSYS_1251.LAB	2/7/2019	0	294.25	0.22	-0.12	0.03	-0.01	-0.52	3.94	191.00	0.97	294.41
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_1252.LAB	2/7/2019	0	2.42	221.70	219.75	0.03	0.06	-0.44	3.91	191.00	0.97	2.46
NH3SYS_1253.LAB	2/7/2019	0	1.09	256.23	252.19	0.03	0.06	-0.30	3.91	190.96	0.97	1.14
NH3SYS_1254.LAB	2/7/2019	0	0.92	266.68	262.23	0.02	0.05	-0.31	3.91	190.96	0.97	0.95
NH3SYS_1255.LAB	2/7/2019	0	0.96	272.65	269.07	0.03	0.05	-0.46	3.91	190.94	0.97	1.04
NH3SYS_1256.LAB	2/7/2019	0	0.63	276.28	271.78	0.02	0.06	-0.34	3.90	190.96	0.97	0.68
NH3SYS_1257.LAB	2/7/2019	0	0.78	278.78	274.99	0.02	0.07	-0.34	3.92	190.94	0.97	0.87
NH3SYS_1258.LAB	2/7/2019	0	0.64	279.86	276.83	0.02	0.06	-0.30	3.89	190.92	0.97	0.68
NH3SYS_1259.LAB	2/7/2019	0	0.47	280.97	277.91	0.02	0.06	-0.49	3.90	190.96	0.97	0.53
NH3SYS_1260.LAB	2/7/2019	0	0.71	282.93	278.17	0.02	0.04	-0.42	3.92	190.90	0.97	0.70
NH3SYS_1261.LAB	2/7/2019	0	0.54	283.90	280.01	0.02	0.06	-0.48	3.90	190.90	0.97	0.59
NH3SYS_1262.LAB	2/7/2019	0	0.58	284.39	280.38	0.02	0.05	-0.43	3.92	190.90	0.97	0.63
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2DIR_1263.LAB	2/7/2019	0	0.06	9.10	8.16	0.20	7.41	-0.02	-0.01	190.90	0.97	0.08
CO2DIR_1264.LAB	2/7/2019	0	-0.23	4.48	4.32	0.03	22.55	-0.24	0.02	190.90	0.97	-0.13

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2DIR_1265.LAB	2/7/2019	0	-0.20	4.20	4.12	0.06	11.30	0.03	0.01	190.94	0.97	-0.08
CO2DIR_1266.LAB	2/7/2019	0	0.13	2.95	3.22	0.02	2.81	0.02	0.00	190.94	0.97	0.11
CO2DIR_1267.LAB	2/7/2019	0	0.13	2.68	2.27	0.01	2.65	0.01	0.00	190.95	0.97	0.19
CO2DIR_1268.LAB	2/7/2019	0	0.08	2.60	3.32	0.02	2.60	-0.05	0.00	190.96	0.97	0.05
CO2DIR_1269.LAB	2/7/2019	0	0.09	2.42	2.11	0.01	2.58	-0.04	0.00	190.92	0.97	0.14
CO2DIR_1270.LAB	2/7/2019	0	0.07	3.55	3.57	0.08	2.11	0.08	0.00	191.05	0.97	0.11
CO2DIR_1271.LAB	2/7/2019	0	0.02	5.68	5.55	0.29	1.43	0.09	0.01	191.25	0.97	0.07
CO2DIR_1272.LAB	2/7/2019	0	0.24	3.78	4.50	0.14	2.11	0.12	0.01	191.58	0.97	0.20
CO2DIR_1273.LAB	2/7/2019	0	0.00	2.26	2.27	0.02	2.56	0.02	0.00	192.03	0.97	0.02
CO2DIR_1274.LAB	2/7/2019	0	-0.09	2.13	1.68	0.05	11.44	0.00	0.00	191.41	0.97	0.02
CO2DIR_1275.LAB	2/7/2019	0	0.21	1.59	1.58	0.01	2.80	-0.02	0.00	191.24	0.97	0.23
CO2DIR_1276.LAB	2/7/2019	0	-0.16	1.52	1.58	0.02	2.66	0.10	0.00	191.17	0.97	-0.10
CO2DIR_1277.LAB	2/7/2019	0	-0.05	1.56	0.94	0.02	2.64	-0.04	0.00	191.08	0.97	-0.06

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSDIR_1278.LAB	2/7/2019	0	0.35	1.68	0.72	0.07	1.04	41.46	-0.03	190.88	0.97	0.34
CTSDIR_1279.LAB	2/7/2019	0	0.12	1.26	1.19	0.01	0.07	98.80	-0.02	190.82	0.97	0.13
CTSDIR_1280.LAB	2/7/2019	0	0.22	1.17	0.68	0.02	0.04	99.05	-0.01	191.00	0.97	0.25
CTSDIR_1281.LAB	2/7/2019	0	0.23	1.11	0.53	0.01	0.03	99.33	-0.02	191.26	0.97	0.21
CTSDIR_1282.LAB	2/7/2019	0	0.11	1.10	0.65	0.01	0.04	98.82	-0.01	191.60	0.97	0.09
CTSDIR_1283.LAB	2/7/2019	0	0.30	1.12	0.59	0.01	0.02	99.15	-0.01	191.99	0.97	0.32
CTSDIR_1284.LAB	2/7/2019	0	0.33	1.11	0.57	0.01	0.03	99.01	-0.01	192.15	0.97	0.37
CTSDIR_1285.LAB	2/7/2019	0	0.15	1.03	-0.31	0.01	0.02	98.83	-0.01	192.16	0.97	0.15

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2DIR_1286.LAB	2/7/2019	0	0.25	1.01	0.94	0.02	0.03	41.65	-0.03	191.60	0.97	0.22
N2DIR_1287.LAB	2/7/2019	0	0.17	1.04	1.25	0.02	0.01	0.72	0.01	191.42	0.97	0.22
N2DIR_1288.LAB	2/7/2019	0	0.02	1.00	1.20	0.01	0.01	0.42	0.00	191.26	0.97	0.02
N2DIR_1289.LAB	2/7/2019	0	0.24	0.97	1.92	0.02	0.01	0.10	0.00	191.15	0.97	0.29
N2DIR_1290.LAB	2/7/2019	0	-0.11	0.89	0.85	0.01	0.01	0.11	-0.01	191.08	0.97	-0.21
N2DIR_1291.LAB	2/7/2019	0	0.06	1.02	0.61	0.01	0.01	0.07	0.00	190.97	0.97	0.08
N2DIR_1292.LAB	2/7/2019	0	-0.05	0.95	1.92	0.02	0.00	0.13	0.00	190.89	0.97	-0.02
N2DIR_1293.LAB	2/7/2019	0	-0.07	0.98	1.22	0.01	0.00	0.13	0.01	190.87	0.97	-0.03

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
PRESPIKE_1294.LAB	2/7/2019	0	0.00	2.78	2.23	0.43	0.03	0.02	0.00	191.03	0.97	0.09
PRESPIKE_1295.LAB	2/7/2019	0	0.08	2.63	2.48	0.64	0.04	0.03	0.00	190.86	0.97	0.21
PRESPIKE_1296.LAB	2/7/2019	0	0.02	2.01	2.24	0.65	0.03	-0.02	0.01	190.99	0.97	0.19

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSPIKE_1297.LAB	2/7/2019	0	5.30	1.39	1.06	0.59	0.04	-0.02	0.08	190.92	0.97	5.50
NOSPIKE_1298.LAB	2/7/2019	0	26.61	1.25	1.44	0.59	0.03	-0.06	0.37	190.75	0.97	27.24
NOSPIKE_1299.LAB	2/7/2019	0	25.95	1.16	0.91	0.59	0.04	-0.08	0.36	190.65	0.97	26.44
NOSPIKE_1300.LAB	2/7/2019	0	24.92	1.07	1.12	0.60	0.04	-0.10	0.34	190.67	0.97	25.30

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_1301.LAB	2/7/2019	0	15.18	0.84	0.77	0.62	0.04	-0.10	0.21	190.71	0.97	15.46
NH3SPIKE_1302.LAB	2/7/2019	0	3.11	3.17	3.27	0.62	0.04	-0.06	0.20	190.75	0.97	3.27
NH3SPIKE_1303.LAB	2/7/2019	0	0.16	9.94	9.66	0.61	0.04	0.00	0.24	190.76	0.97	0.29
NH3SPIKE_1304.LAB	2/7/2019	0	0.08	16.23	16.45	0.60	0.04	0.00	0.30	190.80	0.97	0.19
NH3SPIKE_1305.LAB	2/7/2019	0	0.00	20.55	20.84	0.60	0.05	0.00	0.33	190.84	0.97	0.13
NH3SPIKE_1306.LAB	2/7/2019	0	0.09	21.79	21.43	0.60	0.05	-0.02	0.33	190.84	0.97	0.21
NH3SPIKE_1307.LAB	2/7/2019	0	0.09	22.31	22.23	0.60	0.04	-0.01	0.33	190.83	0.97	0.20
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE7_1308.LAB	2/7/2019	0	0.25	5.50	5.13	0.68	0.08	-0.02	0.00	190.92	0.97	0.43
FURNACE7_1309.LAB	2/7/2019	0	0.56	3.05	3.41	0.73	0.11	0.00	0.00	190.88	0.97	0.78
FURNACE7_1310.LAB	2/7/2019	0	0.52	2.25	2.06	0.75	0.11	0.00	0.00	190.92	0.97	0.72
FURNACE7_1311.LAB	2/7/2019	0	0.47	1.80	1.85	0.77	0.11	0.03	0.01	190.98	0.97	0.71
FURNACE7_1312.LAB	2/7/2019	0	0.39	1.54	1.53	0.78	0.11	0.10	0.00	190.94	0.97	0.63
FURNACE7_1313.LAB	2/7/2019	0	0.46	2.15	2.13	0.79	0.12	0.17	0.00	191.01	0.97	0.77
FURNACE7_1314.LAB	2/7/2019	0	0.80	29.91	30.28	0.79	0.13	0.52	0.00	191.40	0.97	1.22
FURNACE7_1315.LAB	2/7/2019	0	2.10	71.11	71.73	0.80	0.15	1.33	0.01	191.28	0.97	3.06
FURNACE7_1316.LAB	2/7/2019	0	7.49	79.42	80.38	0.82	0.22	2.52	0.01	191.04	0.97	10.97
FURNACE7_1317.LAB	2/7/2019	0	14.45	64.16	64.85	0.85	0.29	3.61	0.01	190.96	0.97	21.19
FURNACE7_1318.LAB	2/7/2019	0	21.52	52.82	52.95	0.89	0.34	3.11	0.01	190.91	0.97	29.30
FURNACE7_1319.LAB	2/7/2019	0	30.18	53.80	53.93	0.91	0.40	2.71	0.01	190.93	0.97	38.88
FURNACE7_1320.LAB	2/7/2019	0	33.10	50.88	51.81	0.94	0.41	2.09	0.01	190.93	0.97	41.40
FURNACE7_1321.LAB	2/7/2019	0	36.29	43.37	43.62	0.97	0.44	1.73	0.01	190.97	0.97	44.50
FURNACE7_1322.LAB	2/7/2019	0	41.81	24.73	24.48	1.00	0.48	1.03	0.00	190.95	0.97	49.39
FURNACE7_1323.LAB	2/7/2019	0	45.45	19.54	18.95	1.02	0.49	0.82	0.01	190.95	0.97	53.03
FURNACE7_1324.LAB	2/7/2019	0	48.51	14.73	14.26	1.05	0.52	0.55	0.01	190.99	0.97	55.07
FURNACE7_1325.LAB	2/7/2019	0	51.27	9.77	9.92	1.08	0.54	0.34	0.01	191.02	0.97	57.06
FURNACE7_1326.LAB	2/7/2019	0	52.76	7.47	7.36	1.10	0.55	0.28	0.01	191.01	0.97	58.25
FURNACE7_1327.LAB	2/7/2019	0	58.76	6.11	5.75	1.12	0.59	0.25	0.00	190.98	0.97	64.47
FURNACE7_1328.LAB	2/7/2019	0	67.76	5.44	5.55	1.16	0.64	0.22	0.00	190.97	0.97	74.03
FURNACE7_1329.LAB	2/7/2019	0	74.05	5.02	5.10	1.20	0.67	0.18	0.00	190.99	0.97	80.46
FURNACE7_1330.LAB	2/7/2019	0	77.68	4.55	4.55	1.23	0.68	0.20	0.01	191.01	0.97	84.10
FURNACE7_1331.LAB	2/7/2019	0	80.18	4.06	4.04	1.25	0.68	0.12	0.00	190.99	0.97	86.26
FURNACE7_1332.LAB	2/7/2019	0	82.64	3.58	3.81	1.27	0.68	0.16	0.01	191.03	0.97	89.06
FURNACE7_1333.LAB	2/7/2019	0	83.50	3.60	3.66	1.28	0.66	0.15	0.01	191.04	0.97	89.93
FURNACE7_1334.LAB	2/7/2019	0	84.23	3.58	3.63	1.30	0.65	0.14	0.01	191.04	0.97	90.51
FURNACE7_1335.LAB	2/7/2019	0	86.22	3.15	3.04	1.31	0.67	0.05	0.01	191.05	0.97	92.25
FURNACE7_1336.LAB	2/7/2019	0	87.78	2.62	2.67	1.29	0.68	0.16	0.01	191.07	0.97	93.71
FURNACE7_1337.LAB	2/7/2019	0	92.49	2.37	2.45	1.29	0.70	0.05	0.01	191.64	0.97	98.71
FURNACE7_1338.LAB	2/7/2019	0	92.18	2.21	2.28	1.29	0.68	0.07	0.00	192.10	0.97	98.25
FURNACE7_1339.LAB	2/7/2019	0	93.82	2.06	2.17	1.28	0.67	0.08	0.00	191.49	0.97	100.09
FURNACE7_1340.LAB	2/7/2019	0	96.19	1.97	2.15	1.25	0.67	0.10	0.01	191.14	0.97	102.68
FURNACE7_1341.LAB	2/7/2019	0	92.21	2.00	1.93	1.24	0.63	0.13	0.01	190.95	0.97	98.49
FURNACE7_1342.LAB	2/7/2019	0	90.23	2.15	2.34	1.24	0.60	0.15	0.00	190.89	0.97	96.38

FURNACE7_1343.LAB	2/7/2019	0	90.34	2.28	2.69	1.25	0.60	0.10	0.00	190.87	0.97	96.57
FURNACE7_1344.LAB	2/7/2019	0	91.58	2.42	2.33	1.23	0.60	0.17	0.01	190.88	0.97	98.02
FURNACE7_1345.LAB	2/7/2019	0	89.85	2.70	2.60	1.22	0.58	0.10	0.01	190.96	0.97	96.17
FURNACE7_1346.LAB	2/7/2019	0	84.74	2.78	2.69	1.22	0.55	0.13	0.00	190.95	0.97	90.71
FURNACE7_1347.LAB	2/7/2019	0	76.38	2.83	2.96	1.37	0.50	0.14	0.01	190.96	0.97	81.93
FURNACE7_1348.LAB	2/7/2019	0	71.80	3.13	3.20	2.19	0.48	0.07	0.01	191.01	0.97	77.79
FURNACE7_1349.LAB	2/7/2019	0	73.11	3.42	3.55	2.25	0.48	0.17	0.00	190.99	0.97	79.24
FURNACE7_1350.LAB	2/7/2019	0	72.74	4.13	4.05	2.73	0.48	0.17	0.01	190.95	0.97	79.36
FURNACE7_1351.LAB	2/7/2019	0	75.99	4.22	4.38	1.77	0.49	0.11	0.00	190.99	0.97	81.71
FURNACE7_1352.LAB	2/7/2019	0	78.64	4.17	4.22	1.62	0.50	0.17	0.01	191.02	0.97	84.76
FURNACE7_1353.LAB	2/7/2019	0	70.95	6.10	6.11	1.88	0.46	0.11	0.01	191.00	0.97	76.78
FURNACE7_1354.LAB	2/7/2019	0	57.44	4.34	4.16	1.30	0.38	0.09	0.01	190.99	0.97	61.73
FURNACE7_1355.LAB	2/7/2019	0	54.04	4.45	4.66	1.14	0.37	0.15	0.01	190.99	0.97	58.03
FURNACE7_1356.LAB	2/7/2019	0	53.10	4.69	5.19	2.02	0.36	0.03	0.01	191.02	0.97	57.50
FURNACE7_1357.LAB	2/7/2019	0	52.28	3.96	4.32	1.45	0.35	0.10	0.01	191.01	0.97	56.35
FURNACE7_1358.LAB	2/7/2019	0	56.88	4.13	3.93	1.13	0.36	0.13	0.01	190.99	0.97	60.88
FURNACE7_1359.LAB	2/7/2019	0	59.14	3.64	3.68	0.93	0.37	0.04	0.01	191.03	0.97	63.16
FURNACE7_1360.LAB	2/7/2019	0	52.40	4.07	4.18	1.72	0.35	0.12	0.01	191.03	0.97	56.62
FURNACE7_1361.LAB	2/7/2019	0	58.70	4.00	4.41	1.51	0.38	0.10	0.01	191.02	0.97	63.18
FURNACE7_1362.LAB	2/7/2019	0	44.42	3.90	4.01	1.22	0.30	0.15	0.00	191.09	0.97	47.81
FURNACE7_1363.LAB	2/7/2019	0	37.57	4.15	4.53	0.98	0.25	0.12	0.01	191.11	0.97	40.26
FURNACE7_1364.LAB	2/7/2019	0	42.28	3.30	3.23	0.91	0.28	0.12	0.01	191.58	0.97	45.34
FURNACE7_1365.LAB	2/7/2019	0	37.25	3.13	3.04	0.90	0.26	0.06	0.01	191.92	0.97	39.85
FURNACE7_1366.LAB	2/7/2019	0	37.91	3.08	3.42	0.89	0.25	0.08	0.01	191.42	0.97	40.50
FURNACE7_1367.LAB	2/7/2019	0	44.13	3.06	3.26	0.93	0.30	0.05	0.00	191.07	0.97	47.08
FURNACE7_1368.LAB	2/7/2019	0	43.78	4.73	5.21	2.97	0.30	0.03	0.01	190.98	0.97	47.92
FURNACE7_1369.LAB	2/7/2019	0	35.73	4.65	4.66	1.85	0.26	0.09	0.01	190.95	0.97	38.60
FURNACE7_1370.LAB	2/7/2019	0	42.94	4.50	4.53	1.28	0.29	0.15	0.01	190.94	0.97	46.19
FURNACE7_1371.LAB	2/7/2019	0	46.01	3.99	3.85	0.91	0.30	0.11	0.01	190.92	0.97	49.10
FURNACE7_1372.LAB	2/7/2019	0	39.24	3.62	4.04	0.95	0.27	0.04	0.01	190.98	0.97	41.90
FURNACE7_1373.LAB	2/7/2019	0	38.93	3.43	3.17	0.97	0.27	0.13	0.00	191.05	0.97	41.68
FURNACE7_1374.LAB	2/7/2019	0	61.96	8.08	8.25	2.72	0.39	0.17	0.00	191.57	0.97	67.84
FURNACE7_1375.LAB	2/7/2019	0	82.65	16.44	16.36	9.78	0.47	0.38	0.01	192.39	0.97	96.72
FURNACE7_1376.LAB	2/7/2019	0	85.67	9.92	9.92	4.38	0.51	0.28	0.01	191.66	0.97	95.05
FURNACE7_1377.LAB	2/7/2019	0	87.03	9.54	9.78	3.81	0.52	0.27	0.01	191.24	0.97	96.13
FURNACE7_1378.LAB	2/7/2019	0	85.76	11.19	11.36	3.03	0.51	0.19	0.01	191.21	0.97	93.88
FURNACE7_1379.LAB	2/7/2019	0	90.58	9.29	9.08	2.67	0.53	0.26	0.01	191.07	0.97	98.68
FURNACE7_1380.LAB	2/7/2019	0	88.74	9.91	9.96	2.75	0.52	0.28	0.01	190.99	0.97	96.89
FURNACE7_1381.LAB	2/7/2019	0	82.44	9.63	9.78	2.79	0.49	0.21	0.00	191.00	0.97	89.90
FURNACE7_1382.LAB	2/7/2019	0	80.74	10.17	10.07	3.38	0.48	0.21	0.00	191.88	0.97	88.51
FURNACE7_1383.LAB	2/7/2019	0	81.70	10.28	10.20	3.96	0.49	0.22	0.01	192.21	0.97	90.18
FURNACE7_1384.LAB	2/7/2019	0	76.99	10.53	10.93	2.58	0.46	0.25	0.01	191.78	0.97	83.61
FURNACE7_1385.LAB	2/7/2019	0	84.38	11.01	11.48	2.00	0.50	0.22	0.01	191.57	0.97	91.24
FURNACE7_1386.LAB	2/7/2019	0	83.52	10.75	10.90	1.49	0.50	0.26	0.01	191.11	0.97	89.88
FURNACE7_1387.LAB	2/7/2019	0	80.13	8.88	9.23	2.21	0.48	0.16	0.01	190.84	0.97	86.73
FURNACE7_1388.LAB	2/7/2019	0	80.04	8.31	8.80	2.05	0.48	0.18	0.00	190.71	0.97	86.36

FURNACE7_1389.LAB	2/7/2019	0	77.82	10.02	9.92	3.38	0.47	0.22	0.01	190.69	0.97	85.31
FURNACE7_1390.LAB	2/7/2019	0	81.30	10.74	11.11	2.80	0.49	0.27	0.01	190.74	0.97	88.72
FURNACE7_1391.LAB	2/7/2019	0	84.97	9.39	9.24	1.59	0.50	0.28	0.00	190.79	0.97	91.32
FURNACE7_1392.LAB	2/7/2019	0	84.08	8.37	8.32	1.39	0.50	0.15	0.01	190.83	0.97	90.29
FURNACE7_1393.LAB	2/7/2019	0	82.58	7.95	8.23	1.35	0.49	0.18	0.01	190.87	0.97	88.50
FURNACE7_1394.LAB	2/7/2019	0	81.68	7.46	7.50	1.85	0.49	0.17	0.01	190.89	0.97	87.81
FURNACE7_1395.LAB	2/7/2019	0	82.93	6.36	6.50	1.60	0.49	0.15	0.01	190.87	0.97	88.92
FURNACE7_1396.LAB	2/7/2019	0	84.56	6.23	6.45	1.79	0.50	0.15	0.01	191.18	0.97	90.87
FURNACE7_1397.LAB	2/7/2019	0	81.73	6.16	6.37	1.74	0.49	0.09	0.01	191.71	0.97	87.93
FURNACE7_1398.LAB	2/7/2019	0	82.79	5.91	5.88	1.65	0.49	0.06	0.01	191.53	0.97	88.84
FURNACE7_1399.LAB	2/7/2019	0	82.96	5.82	6.09	1.60	0.50	0.17	0.01	191.51	0.97	89.08
FURNACE7_1400.LAB	2/7/2019	0	85.22	6.40	6.57	1.52	0.51	0.13	0.01	191.47	0.97	91.46
FURNACE7_1401.LAB	2/7/2019	0	81.74	7.09	7.14	1.96	0.50	0.16	0.01	191.21	0.97	88.06
FURNACE7_1402.LAB	2/7/2019	0	83.29	6.75	6.91	1.79	0.50	0.18	0.01	191.13	0.97	89.58
FURNACE7_1403.LAB	2/7/2019	0	76.21	6.70	6.78	1.52	0.46	0.11	0.01	191.08	0.97	81.81
FURNACE7_1404.LAB	2/7/2019	0	77.62	6.08	6.29	1.38	0.47	0.17	0.01	191.10	0.97	83.10
FURNACE7_1405.LAB	2/7/2019	0	74.45	5.87	5.88	1.28	0.44	0.11	0.00	191.02	0.97	79.40
FURNACE7_1406.LAB	2/7/2019	0	77.55	6.39	6.53	1.16	0.46	0.10	0.01	190.97	0.97	82.76
FURNACE7_1407.LAB	2/7/2019	0	76.54	6.27	6.47	1.26	0.46	0.13	0.01	191.33	0.97	81.73
FURNACE7_1408.LAB	2/7/2019	0	72.89	6.09	5.91	1.65	0.44	0.16	0.01	191.13	0.97	78.30
FURNACE7_1409.LAB	2/7/2019	0	76.76	5.58	5.55	1.41	0.45	0.14	0.01	190.98	0.97	82.11
FURNACE7_1410.LAB	2/7/2019	0	72.75	5.86	6.25	1.59	0.43	0.14	0.01	190.91	0.97	78.00
FURNACE7_1411.LAB	2/7/2019	0	75.87	6.29	6.51	1.47	0.46	0.15	0.00	190.90	0.97	81.34
FURNACE7_1412.LAB	2/7/2019	0	76.54	5.77	5.52	1.20	0.46	0.15	0.01	190.96	0.97	81.87
FURNACE7_1413.LAB	2/7/2019	0	70.46	5.77	5.76	1.19	0.43	0.08	0.01	191.17	0.97	75.21
FURNACE7_1414.LAB	2/7/2019	0	68.33	5.59	5.72	1.18	0.42	0.12	0.01	191.15	0.97	72.88
FURNACE7_1415.LAB	2/7/2019	0	62.95	5.58	5.60	1.12	0.39	0.09	0.01	191.05	0.97	67.17
FURNACE7_1416.LAB	2/7/2019	0	61.06	5.56	5.62	1.10	0.38	0.11	0.01	190.95	0.97	65.16
FURNACE7_1417.LAB	2/7/2019	0	68.12	5.13	5.50	1.24	0.41	0.10	0.01	190.95	0.97	72.64
FURNACE7_1418.LAB	2/7/2019	0	64.68	7.07	7.64	2.76	0.42	0.05	0.01	190.94	0.97	70.20
FURNACE7_1419.LAB	2/7/2019	0	60.23	6.30	6.07	2.11	0.40	0.11	0.00	190.94	0.97	64.97
FURNACE7_1420.LAB	2/7/2019	0	63.47	6.56	6.77	2.24	0.40	0.18	0.01	190.93	0.97	68.46
FURNACE7_1421.LAB	2/7/2019	0	64.46	6.37	6.38	1.71	0.40	0.14	0.01	190.96	0.97	69.06
FURNACE7_1422.LAB	2/7/2019	0	65.51	5.43	5.59	1.48	0.41	0.11	0.01	190.98	0.97	70.30
FURNACE7_1423.LAB	2/7/2019	0	64.64	7.48	7.81	2.92	0.41	0.04	0.01	191.02	0.97	70.40
FURNACE7_1424.LAB	2/7/2019	0	52.82	6.37	6.17	1.98	0.34	0.17	0.01	191.02	0.97	56.87
FURNACE7_1425.LAB	2/7/2019	0	47.99	5.68	5.76	1.54	0.32	0.09	0.01	191.03	0.97	51.67
FURNACE7_1426.LAB	2/7/2019	0	44.70	8.17	8.19	3.41	0.31	0.20	0.01	191.03	0.97	49.09
FURNACE7_1427.LAB	2/7/2019	0	51.76	7.13	7.24	1.79	0.33	0.12	0.01	191.01	0.97	55.84
FURNACE7_1428.LAB	2/7/2019	0	44.21	7.09	7.14	2.45	0.30	0.18	0.01	191.02	0.97	47.83
FURNACE7_1429.LAB	2/7/2019	0	46.03	6.97	6.96	2.26	0.30	0.11	0.01	191.00	0.97	49.85
FURNACE7_1430.LAB	2/7/2019	0	47.31	6.03	6.23	1.90	0.31	0.14	0.00	191.03	0.97	50.87
FURNACE7_1431.LAB	2/7/2019	0	47.34	5.83	6.34	1.40	0.31	0.08	0.01	191.03	0.97	50.82
FURNACE7_1432.LAB	2/7/2019	0	54.03	6.54	6.37	2.59	0.34	0.18	0.01	191.04	0.97	58.59
FURNACE7_1433.LAB	2/7/2019	0	66.21	9.39	9.33	3.91	0.39	0.18	0.01	191.07	0.97	73.18
FURNACE7_1434.LAB	2/7/2019	0	84.39	10.31	10.54	2.46	0.47	0.23	0.01	191.04	0.97	91.85

FURNACE7_1435.LAB	2/7/2019	0	83.71	10.10	9.95	1.68	0.46	0.20	0.00	190.98	0.97	89.99
FURNACE7_1436.LAB	2/7/2019	0	85.83	10.30	10.32	1.65	0.46	0.17	0.01	191.01	0.97	92.22
FURNACE7_1437.LAB	2/7/2019	0	83.13	14.37	14.38	4.51	0.45	0.34	0.01	190.99	0.97	92.11
FURNACE7_1438.LAB	2/7/2019	0	80.45	15.17	14.99	6.14	0.45	0.33	0.01	191.02	0.97	90.78
FURNACE7_1439.LAB	2/7/2019	0	78.87	14.66	14.36	4.98	0.45	0.31	0.01	191.06	0.97	88.04
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_1440.LAB	2/7/2019	0	74.69	14.70	14.47	2.52	0.42	0.21	0.28	191.22	0.97	81.05
NH3SPIKE_1441.LAB	2/7/2019	0	75.45	21.95	22.33	2.09	0.41	0.11	0.31	191.14	0.97	81.52
NH3SPIKE_1442.LAB	2/7/2019	0	71.62	26.15	26.10	1.93	0.40	0.16	0.31	191.11	0.97	77.33
NH3SPIKE_1443.LAB	2/7/2019	0	74.08	29.28	29.38	2.31	0.41	0.15	0.30	191.16	0.97	80.23
NH3SPIKE_1444.LAB	2/7/2019	0	71.81	33.37	33.21	3.93	0.41	0.19	0.30	191.35	0.97	79.24
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE7_1445.LAB	2/7/2019	0	75.78	27.01	26.87	3.92	0.44	0.27	0.02	191.07	0.97	83.89
FURNACE7_1446.LAB	2/7/2019	0	67.29	19.27	19.74	1.92	0.39	0.21	0.01	191.03	0.97	73.06
FURNACE7_1447.LAB	2/7/2019	0	73.40	17.47	17.70	1.73	0.42	0.22	0.01	191.32	0.97	79.42
FURNACE7_1448.LAB	2/7/2019	0	77.84	20.61	20.71	3.96	0.44	0.32	0.01	191.37	0.97	86.04
FURNACE7_1449.LAB	2/7/2019	0	81.69	17.00	16.97	2.18	0.44	0.28	0.01	191.19	0.97	88.41
FURNACE7_1450.LAB	2/7/2019	0	81.06	15.58	16.20	1.72	0.44	0.17	0.01	191.07	0.97	87.36
FURNACE7_1451.LAB	2/7/2019	0	74.98	16.71	16.51	3.88	0.43	0.22	0.01	191.02	0.97	82.60
FURNACE7_1452.LAB	2/7/2019	0	74.26	14.36	14.39	2.37	0.42	0.23	0.01	191.05	0.97	80.51
FURNACE7_1453.LAB	2/7/2019	0	74.66	13.61	13.42	1.95	0.42	0.21	0.01	191.08	0.97	80.57
FURNACE7_1454.LAB	2/7/2019	0	70.53	15.10	15.02	3.24	0.41	0.25	0.01	191.26	0.97	77.27
FURNACE7_1455.LAB	2/7/2019	0	70.57	14.24	14.12	2.53	0.40	0.25	0.01	191.42	0.97	76.73
FURNACE7_1456.LAB	2/7/2019	0	72.67	13.96	13.98	1.59	0.41	0.27	0.00	191.47	0.97	78.16
FURNACE7_1457.LAB	2/7/2019	0	69.16	14.25	14.23	1.74	0.39	0.21	0.01	191.49	0.97	74.70
FURNACE7_1458.LAB	2/7/2019	0	70.54	17.16	17.58	3.49	0.40	0.28	0.01	191.48	0.97	77.51
FURNACE7_1459.LAB	2/7/2019	0	73.36	14.84	14.94	2.35	0.41	0.28	0.01	191.46	0.97	79.56
FURNACE7_1460.LAB	2/7/2019	0	71.68	13.16	12.81	1.51	0.40	0.24	0.01	191.44	0.97	76.73
FURNACE7_1461.LAB	2/7/2019	0	64.83	11.02	11.18	1.50	0.38	0.16	0.01	191.62	0.97	69.63
FURNACE7_1462.LAB	2/7/2019	0	66.77	13.37	13.46	2.96	0.37	0.26	0.01	191.69	0.97	72.55
FURNACE7_1463.LAB	2/7/2019	0	64.16	12.20	12.17	2.86	0.37	0.18	0.01	191.52	0.97	69.85
FURNACE7_1464.LAB	2/7/2019	0	67.71	10.05	10.34	1.35	0.38	0.19	0.00	191.42	0.97	72.32
FURNACE7_1465.LAB	2/7/2019	0	68.88	9.41	9.36	1.29	0.38	0.16	0.01	191.34	0.97	73.73
FURNACE7_1466.LAB	2/7/2019	0	71.27	8.95	9.11	1.23	0.38	0.17	0.01	191.30	0.97	76.13
FURNACE7_1467.LAB	2/7/2019	0	68.72	8.59	9.07	1.21	0.38	0.15	0.01	191.34	0.97	73.40
FURNACE7_1468.LAB	2/7/2019	0	69.81	8.14	8.77	1.20	0.38	0.17	0.00	191.28	0.97	74.54
FURNACE7_1469.LAB	2/7/2019	0	69.61	9.17	9.75	1.79	0.38	0.12	0.01	191.27	0.97	74.93
FURNACE7_1470.LAB	2/7/2019	0	68.35	10.39	10.71	2.62	0.38	0.11	0.01	191.33	0.97	74.25
FURNACE7_1471.LAB	2/7/2019	0	48.63	9.82	9.71	2.17	0.30	0.16	0.01	191.27	0.97	52.51
FURNACE7_1472.LAB	2/7/2019	0	47.01	8.79	8.73	1.87	0.30	0.12	0.01	191.24	0.97	50.51
FURNACE7_1473.LAB	2/7/2019	0	44.61	7.41	7.65	1.60	0.29	0.08	0.01	191.20	0.97	47.93
FURNACE7_1474.LAB	2/7/2019	0	43.18	6.84	7.05	1.31	0.27	0.12	0.01	191.20	0.97	46.24
FURNACE7_1475.LAB	2/7/2019	0	42.61	5.63	5.94	0.97	0.27	0.08	0.01	191.21	0.97	45.34
FURNACE7_1476.LAB	2/7/2019	0	48.14	4.77	4.97	0.96	0.29	0.09	0.01	191.27	0.97	51.14

FURNACE7_1477.LAB	2/7/2019	0	45.17	4.56	4.70	0.96	0.28	0.12	0.01	191.24	0.97	48.01
FURNACE7_1478.LAB	2/7/2019	0	45.89	4.46	4.49	0.95	0.28	0.10	0.01	191.25	0.97	48.79
FURNACE7_1479.LAB	2/7/2019	0	43.63	4.55	4.74	0.95	0.27	0.10	0.00	191.22	0.97	46.39
FURNACE7_1480.LAB	2/7/2019	0	42.35	4.37	4.69	0.96	0.26	0.10	0.00	191.19	0.97	45.05
FURNACE7_1481.LAB	2/7/2019	0	29.43	4.36	4.33	1.09	0.21	0.05	0.01	191.19	0.97	31.49
FURNACE7_1482.LAB	2/7/2019	0	26.03	3.90	4.06	1.08	0.19	0.04	0.00	191.20	0.97	27.78
FURNACE7_1483.LAB	2/7/2019	0	30.71	3.40	3.61	1.07	0.21	0.04	0.01	191.26	0.97	32.71
FURNACE7_1484.LAB	2/7/2019	0	27.63	4.06	4.47	2.02	0.21	0.01	0.01	191.25	0.97	29.79
FURNACE7_1485.LAB	2/7/2019	0	26.35	4.19	4.65	2.18	0.20	-0.01	0.01	191.24	0.97	28.51
FURNACE7_1486.LAB	2/7/2019	0	30.73	3.84	4.08	1.79	0.22	0.02	0.01	191.21	0.97	33.07
FURNACE7_1487.LAB	2/7/2019	0	26.31	3.67	3.90	1.54	0.19	0.09	0.01	191.25	0.97	28.29
FURNACE7_1488.LAB	2/7/2019	0	32.38	3.36	3.71	1.25	0.22	0.08	0.01	191.21	0.97	34.57
FURNACE7_1489.LAB	2/7/2019	0	30.14	3.52	3.66	0.96	0.20	0.05	0.01	191.22	0.97	32.15
FURNACE7_1490.LAB	2/7/2019	0	21.23	2.70	3.07	0.94	0.18	0.09	0.00	191.92	0.97	22.61
FURNACE7_1491.LAB	2/7/2019	0	51.31	6.84	7.07	2.27	0.29	0.15	0.00	192.80	0.97	55.87
FURNACE7_1492.LAB	2/7/2019	0	60.81	9.87	9.88	3.78	0.33	0.22	0.00	192.35	0.97	66.91
FURNACE7_1493.LAB	2/7/2019	0	64.69	7.18	7.31	1.80	0.34	0.07	0.01	191.72	0.97	69.43
FURNACE7_1494.LAB	2/7/2019	0	59.95	5.95	6.44	1.52	0.32	0.07	0.01	191.25	0.97	64.13
FURNACE7_1495.LAB	2/7/2019	0	65.60	5.43	5.69	1.53	0.34	0.11	0.00	191.00	0.97	70.17
FURNACE7_1496.LAB	2/7/2019	0	60.10	5.57	6.17	1.47	0.32	0.10	0.01	190.94	0.97	64.31
FURNACE7_1497.LAB	2/7/2019	0	53.12	4.82	4.79	1.41	0.30	0.06	0.01	190.96	0.97	56.75
FURNACE7_1498.LAB	2/7/2019	0	49.45	5.88	5.89	3.17	0.30	0.17	0.01	190.97	0.97	53.90
FURNACE7_1499.LAB	2/7/2019	0	56.12	5.74	5.86	2.39	0.31	0.17	0.00	190.97	0.97	60.69
FURNACE7_1500.LAB	2/7/2019	0	56.23	5.19	5.42	1.72	0.31	0.09	0.00	190.98	0.97	60.17
FURNACE7_1501.LAB	2/7/2019	0	63.01	5.01	5.29	1.54	0.32	0.09	0.01	191.02	0.97	67.42
FURNACE7_1502.LAB	2/7/2019	0	57.27	4.70	4.87	1.44	0.30	0.06	0.01	191.05	0.97	61.23
FURNACE7_1503.LAB	2/7/2019	0	62.32	4.68	4.91	1.45	0.32	0.10	0.01	191.08	0.97	66.62
FURNACE7_1504.LAB	2/7/2019	0	62.62	5.08	5.13	2.14	0.33	-0.01	0.01	191.09	0.97	67.48
FURNACE7_1505.LAB	2/7/2019	0	53.76	5.55	5.45	2.25	0.30	0.12	0.01	191.11	0.97	57.97
FURNACE7_1506.LAB	2/7/2019	0	60.97	5.32	5.61	1.88	0.32	0.10	0.00	191.12	0.97	65.38
FURNACE7_1507.LAB	2/7/2019	0	60.44	5.29	5.32	1.76	0.31	0.07	0.01	191.11	0.97	64.90
FURNACE7_1508.LAB	2/7/2019	0	65.86	5.79	6.06	1.61	0.33	0.10	0.01	191.10	0.97	70.60
FURNACE7_1509.LAB	2/7/2019	0	74.98	5.61	5.91	1.55	0.36	0.07	0.01	191.13	0.97	80.21
FURNACE7_1510.LAB	2/7/2019	0	58.40	5.35	5.35	1.53	0.31	0.09	0.01	191.16	0.97	62.55
FURNACE7_1511.LAB	2/7/2019	0	62.52	5.34	5.49	1.60	0.32	0.11	0.01	191.17	0.97	66.95
FURNACE7_1512.LAB	2/7/2019	0	58.04	4.94	5.07	1.54	0.30	0.13	0.01	191.18	0.97	62.10
FURNACE7_1513.LAB	2/7/2019	0	68.03	6.47	7.05	2.95	0.35	0.06	0.01	191.17	0.97	73.98
FURNACE7_1514.LAB	2/7/2019	0	78.32	6.39	6.72	2.12	0.37	0.11	0.01	191.11	0.97	84.15
FURNACE7_1515.LAB	2/7/2019	0	76.76	6.54	6.87	1.88	0.37	0.21	0.01	191.13	0.97	82.32
FURNACE7_1516.LAB	2/7/2019	0	75.97	7.28	7.08	1.70	0.36	0.19	0.01	191.15	0.97	81.50
FURNACE7_1517.LAB	2/7/2019	0	75.16	7.63	7.91	1.52	0.37	0.11	0.01	191.16	0.97	80.56
FURNACE7_1518.LAB	2/7/2019	0	74.27	7.05	7.28	1.50	0.36	0.14	0.01	191.16	0.97	79.39
FURNACE7_1519.LAB	2/7/2019	0	75.23	6.38	6.40	1.50	0.35	0.10	0.01	191.17	0.97	80.36
FURNACE7_1520.LAB	2/7/2019	0	75.92	6.08	6.26	1.49	0.36	0.16	0.01	191.18	0.97	81.17
FURNACE7_1521.LAB	2/7/2019	0	70.04	10.47	10.40	6.72	0.32	0.42	0.01	191.19	0.97	78.72
FURNACE7_1522.LAB	2/7/2019	0	75.09	8.98	9.30	5.84	0.37	0.29	0.01	191.16	0.97	83.99

FURNACE7_1523.LAB	2/7/2019	0	77.62	8.53	8.02	4.67	0.38	0.22	0.01	191.15	0.97	85.73
FURNACE7_1524.LAB	2/7/2019	0	77.99	8.14	8.24	2.63	0.37	0.18	0.00	191.14	0.97	84.46
FURNACE7_1525.LAB	2/7/2019	1	79.71	6.41	6.28	1.52	0.38	0.12	0.00	191.17	0.97	84.96
FURNACE7_1526.LAB	2/7/2019	1	76.12	7.85	8.00	4.15	0.37	0.24	0.01	191.17	0.97	83.71
FURNACE7_1527.LAB	2/7/2019	1	78.70	8.05	8.33	2.48	0.37	0.14	0.00	191.19	0.97	85.07
FURNACE7_1528.LAB	2/7/2019	1	78.79	6.69	6.83	1.32	0.37	0.15	0.00	191.20	0.97	83.89
FURNACE7_1529.LAB	2/7/2019	1	78.64	6.17	6.41	1.13	0.36	0.14	0.01	191.20	0.97	83.77
FURNACE7_1530.LAB	2/7/2019	1	75.94	6.88	7.58	2.28	0.37	0.12	0.01	191.19	0.97	81.86
FURNACE7_1531.LAB	2/7/2019	1	60.72	6.69	6.78	2.63	0.32	0.13	0.01	191.19	0.97	65.71
FURNACE7_1532.LAB	2/7/2019	1	63.95	6.48	6.60	1.88	0.32	0.22	0.01	191.18	0.97	68.63
FURNACE7_1533.LAB	2/7/2019	1	63.17	5.15	5.35	1.30	0.31	0.16	0.01	191.19	0.97	67.42
FURNACE7_1534.LAB	2/7/2019	1	63.23	6.73	7.23	2.61	0.33	0.00	0.01	191.17	0.97	68.49
FURNACE7_1535.LAB	2/7/2019	1	63.23	5.72	5.70	1.74	0.33	0.08	0.00	191.15	0.97	67.69
FURNACE7_1536.LAB	2/7/2019	1	60.93	6.47	6.95	2.12	0.31	0.06	0.01	191.16	0.97	65.74
FURNACE7_1537.LAB	2/7/2019	1	59.46	5.76	5.71	1.39	0.31	0.14	0.00	191.18	0.97	63.41
FURNACE7_1538.LAB	2/7/2019	1	64.92	5.30	5.59	1.05	0.32	0.09	0.00	191.21	0.97	69.12
FURNACE7_1539.LAB	2/7/2019	1	63.46	5.36	5.95	1.56	0.32	0.07	0.01	191.23	0.97	68.09
FURNACE7_1540.LAB	2/7/2019	1	64.69	5.38	5.49	1.35	0.32	0.12	0.01	191.22	0.97	69.14
FURNACE7_1541.LAB	2/7/2019	1	65.52	5.34	5.57	1.22	0.31	0.12	0.01	191.19	0.97	69.89
FURNACE7_1542.LAB	2/7/2019	1	53.29	6.10	6.39	1.82	0.28	0.12	0.01	191.18	0.97	57.31
FURNACE7_1543.LAB	2/7/2019	1	43.01	5.78	6.15	1.57	0.24	-0.01	0.00	191.15	0.97	46.23
FURNACE7_1544.LAB	2/7/2019	1	44.69	5.25	5.48	1.15	0.24	0.05	0.01	191.31	0.97	47.76
FURNACE7_1545.LAB	2/7/2019	1	44.83	4.84	4.92	0.98	0.24	0.07	0.01	191.44	0.97	47.84
FURNACE7_1546.LAB	2/7/2019	1	44.97	5.01	5.51	1.69	0.25	0.08	0.01	191.39	0.97	48.31
FURNACE7_1547.LAB	2/7/2019	1	43.75	4.61	4.78	1.35	0.24	0.06	0.01	191.26	0.97	46.94
FURNACE7_1548.LAB	2/7/2019	1	47.14	4.61	4.91	1.18	0.26	0.12	0.00	191.34	0.97	50.45
FURNACE7_1549.LAB	2/7/2019	1	39.31	4.83	4.79	1.01	0.22	0.09	0.01	191.26	0.97	41.99
FURNACE7_1550.LAB	2/7/2019	1	34.54	4.58	4.47	0.92	0.20	0.04	0.00	191.23	0.97	36.90
FURNACE7_1551.LAB	2/7/2019	1	65.44	6.89	7.07	1.44	0.32	0.10	0.01	191.44	0.97	70.21
FURNACE7_1552.LAB	2/7/2019	1	74.51	15.94	15.43	2.79	0.36	0.28	0.01	191.47	0.97	81.59
FURNACE7_1553.LAB	2/7/2019	1	70.35	16.93	16.98	4.99	0.35	0.32	0.01	191.30	0.97	78.39
FURNACE7_1554.LAB	2/7/2019	1	71.35	17.05	17.10	7.17	0.34	0.28	0.00	191.33	0.97	81.12
FURNACE7_1555.LAB	2/7/2019	1	70.38	15.42	15.53	5.84	0.34	0.30	0.01	191.12	0.97	79.14
FURNACE7_1556.LAB	2/7/2019	1	69.21	13.89	14.16	3.25	0.35	0.20	0.00	190.84	0.97	75.81
FURNACE7_1557.LAB	2/7/2019	1	73.78	12.69	12.43	2.64	0.36	0.24	0.01	190.64	0.97	80.30
FURNACE7_1558.LAB	2/7/2019	1	72.57	13.19	13.35	3.05	0.35	0.27	0.01	190.59	0.97	79.33
FURNACE7_1559.LAB	2/7/2019	1	74.87	12.50	12.49	2.45	0.37	0.23	0.00	190.73	0.97	81.21
FURNACE7_1560.LAB	2/7/2019	1	70.73	12.84	12.82	2.64	0.36	0.16	0.01	190.97	0.97	76.96
FURNACE7_1561.LAB	2/7/2019	1	70.56	12.67	13.02	2.42	0.35	0.32	0.01	191.75	0.97	76.60
FURNACE7_1562.LAB	2/7/2019	1	74.49	11.70	11.78	2.05	0.37	0.17	0.01	192.30	0.97	80.43
FURNACE7_1563.LAB	2/7/2019	1	71.88	11.65	11.87	1.91	0.36	0.12	0.00	192.21	0.97	77.73
FURNACE7_1564.LAB	2/7/2019	1	73.21	12.91	13.17	1.82	0.36	0.20	0.01	191.62	0.97	78.98
FURNACE7_1565.LAB	2/7/2019	1	81.20	12.10	12.04	1.76	0.39	0.20	0.01	191.29	0.97	87.38
FURNACE7_1566.LAB	2/7/2019	1	77.20	10.87	11.14	1.78	0.37	0.20	0.01	191.16	0.97	83.15
FURNACE7_1567.LAB	2/7/2019	1	77.99	11.70	11.50	1.78	0.38	0.14	0.01	191.11	0.97	84.03
FURNACE7_1568.LAB	2/7/2019	1	73.68	12.37	12.36	1.78	0.37	0.18	0.01	191.18	0.97	79.39

FURNACE7_1569.LAB	2/7/2019	1	70.98	13.05	12.96	1.80	0.36	0.13	0.01	191.16	0.97	76.68
FURNACE7_1570.LAB	2/7/2019	1	69.31	14.13	14.27	2.32	0.36	0.21	0.01	191.17	0.97	75.25
FURNACE7_1571.LAB	2/7/2019	1	72.47	13.91	13.81	2.13	0.38	0.24	0.00	191.01	0.97	78.49
FURNACE7_1572.LAB	2/7/2019	1	77.26	11.66	11.62	1.97	0.38	0.26	0.01	190.96	0.97	83.19
FURNACE7_1573.LAB	2/7/2019	1	77.14	10.97	11.14	1.86	0.38	0.18	0.01	190.85	0.97	83.13
FURNACE7_1574.LAB	2/7/2019	1	74.91	11.54	11.84	1.79	0.37	0.14	0.01	190.73	0.97	80.78
FURNACE7_1575.LAB	2/7/2019	1	76.14	12.29	12.38	1.76	0.38	0.20	0.01	190.67	0.97	82.03
FURNACE7_1576.LAB	2/7/2019	1	79.80	12.97	12.92	1.64	0.39	0.24	0.01	190.67	0.97	85.87
FURNACE7_1577.LAB	2/7/2019	1	76.59	13.20	13.54	1.53	0.38	0.17	0.01	190.70	0.97	82.47
FURNACE7_1578.LAB	2/7/2019	1	74.20	12.72	12.56	1.54	0.37	0.19	0.01	190.69	0.97	79.79
FURNACE7_1579.LAB	2/7/2019	1	73.86	14.88	15.23	1.54	0.38	0.22	0.01	190.75	0.97	79.71
FURNACE7_1580.LAB	2/7/2019	1	72.49	17.00	16.44	2.77	0.37	0.17	0.00	190.77	0.97	78.72
FURNACE7_1581.LAB	2/7/2019	1	64.34	19.13	19.05	6.43	0.34	0.34	0.01	190.81	0.97	72.72
FURNACE7_1582.LAB	2/7/2019	1	66.15	13.52	13.83	2.71	0.35	0.20	0.01	190.84	0.97	71.89
FURNACE7_1583.LAB	2/7/2019	1	68.66	12.06	12.03	2.84	0.36	0.19	0.01	190.84	0.97	74.79
FURNACE7_1584.LAB	2/7/2019	1	70.52	12.14	11.93	2.31	0.37	0.23	0.01	190.87	0.97	76.38
FURNACE7_1585.LAB	2/7/2019	1	68.30	12.36	12.61	2.29	0.36	0.27	0.01	191.02	0.97	74.08
FURNACE7_1586.LAB	2/7/2019	1	68.10	12.73	13.16	2.32	0.36	0.26	0.01	191.50	0.97	73.83
FURNACE7_1587.LAB	2/7/2019	1	67.87	12.77	13.08	2.01	0.35	0.21	0.01	191.37	0.97	73.39
FURNACE7_1588.LAB	2/7/2019	1	67.28	13.44	13.88	1.88	0.35	0.19	0.01	191.09	0.97	72.93
FURNACE7_1589.LAB	2/7/2019	1	63.35	13.86	14.34	2.02	0.35	0.18	0.00	190.93	0.97	68.63
FURNACE7_1590.LAB	2/7/2019	1	59.91	12.04	12.22	1.99	0.32	0.14	0.01	190.83	0.97	64.78
FURNACE7_1591.LAB	2/7/2019	1	48.68	10.91	11.04	1.96	0.28	0.11	0.01	190.84	0.97	52.84
FURNACE7_1592.LAB	2/7/2019	1	43.63	9.80	10.23	1.87	0.27	0.15	0.01	190.88	0.97	47.28
FURNACE7_1593.LAB	2/7/2019	1	41.28	12.57	12.36	3.36	0.27	0.17	0.01	190.86	0.97	45.29
FURNACE7_1594.LAB	2/7/2019	1	52.25	13.02	12.72	2.51	0.31	0.18	0.01	190.83	0.97	56.81
FURNACE7_1595.LAB	2/7/2019	1	47.07	9.29	9.35	1.54	0.29	0.10	0.00	191.18	0.97	50.72
FURNACE7_1596.LAB	2/7/2019	1	48.10	8.50	8.47	1.46	0.29	0.07	0.01	191.49	0.97	51.77
FURNACE7_1597.LAB	2/7/2019	1	44.39	10.34	10.61	1.38	0.28	0.21	0.00	191.12	0.97	47.91
FURNACE7_1598.LAB	2/7/2019	1	30.30	11.42	11.66	1.32	0.23	0.19	0.00	190.95	0.97	32.83
FURNACE7_1599.LAB	2/7/2019	1	30.74	11.61	11.10	1.28	0.25	0.20	0.00	190.88	0.97	33.34
FURNACE7_1600.LAB	2/7/2019	1	25.46	11.20	11.08	1.24	0.22	0.17	0.01	190.84	0.97	27.59
FURNACE7_1601.LAB	2/7/2019	1	24.08	10.58	10.37	1.20	0.21	0.16	0.01	190.82	0.97	26.10
FURNACE7_1602.LAB	2/7/2019	1	29.35	10.34	10.24	1.09	0.22	0.20	0.01	190.82	0.97	31.68
FURNACE7_1603.LAB	2/7/2019	1	34.57	9.51	9.59	1.08	0.24	0.12	0.01	190.87	0.97	37.11
FURNACE7_1604.LAB	2/7/2019	1	35.68	9.03	8.98	1.08	0.24	0.15	0.00	190.90	0.97	38.31
FURNACE7_1605.LAB	2/7/2019	1	32.91	9.86	9.78	1.08	0.24	0.18	0.01	190.91	0.97	35.47
FURNACE7_1606.LAB	2/7/2019	1	31.39	11.16	11.21	1.08	0.24	0.16	0.00	190.94	0.97	33.94
FURNACE7_1607.LAB	2/7/2019	1	26.10	12.14	12.17	1.08	0.22	0.19	0.00	190.93	0.97	28.26
FURNACE7_1608.LAB	2/7/2019	1	26.13	11.46	11.51	1.08	0.22	0.16	0.01	190.92	0.97	28.21
FURNACE7_1609.LAB	2/7/2019	1	30.34	10.61	10.61	1.07	0.23	0.14	0.01	190.95	0.97	32.66
FURNACE7_1610.LAB	2/7/2019	1	26.73	10.86	10.59	1.07	0.22	0.18	0.01	190.93	0.97	28.93
FURNACE7_1611.LAB	2/7/2019	1	31.81	13.69	13.90	2.21	0.23	0.17	0.00	190.96	0.97	34.73
FURNACE7_1612.LAB	2/7/2019	1	60.15	29.11	29.31	2.85	0.34	0.19	0.01	190.96	0.97	66.37
FURNACE7_1613.LAB	2/7/2019	1	59.51	22.80	22.65	2.00	0.31	0.21	0.01	190.98	0.97	64.87
FURNACE7_1614.LAB	2/7/2019	1	58.01	30.45	30.15	6.96	0.31	0.32	0.01	191.02	0.97	66.18

FURNACE7_1615.LAB	2/7/2019	1	63.24	22.46	22.31	2.66	0.33	0.23	0.00	190.98	0.97	69.15
FURNACE7_1616.LAB	2/7/2019	1	62.14	20.54	20.64	2.01	0.33	0.27	0.01	191.02	0.97	67.47
FURNACE7_1617.LAB	2/7/2019	1	63.42	20.52	20.97	1.97	0.33	0.21	0.01	190.97	0.97	68.94
FURNACE7_1618.LAB	2/7/2019	1	64.49	23.07	23.27	3.15	0.34	0.29	0.01	190.97	0.97	70.92
FURNACE7_1619.LAB	2/7/2019	1	63.62	25.08	25.54	2.84	0.34	0.33	0.01	190.99	0.97	69.93
FURNACE7_1620.LAB	2/7/2019	1	57.80	21.29	21.45	2.65	0.31	0.28	0.01	190.96	0.97	63.22
FURNACE7_1621.LAB	2/7/2019	1	55.04	22.83	22.92	3.36	0.32	0.27	0.01	190.97	0.96	60.91
FURNACE7_1622.LAB	2/7/2019	1	60.12	22.97	22.54	2.49	0.33	0.26	0.01	190.98	0.97	65.83
FURNACE7_1623.LAB	2/7/2019	1	61.54	22.15	22.12	2.24	0.33	0.29	0.01	191.01	0.97	67.12
FURNACE7_1624.LAB	2/7/2019	1	63.19	22.31	22.73	2.18	0.33	0.22	0.00	191.05	0.97	68.86
FURNACE7_1625.LAB	2/7/2019	1	67.46	25.12	25.41	3.27	0.35	0.26	0.01	191.27	0.96	74.32
FURNACE7_1626.LAB	2/7/2019	1	64.92	23.72	24.13	2.74	0.34	0.29	0.01	191.62	0.97	71.20
FURNACE7_1627.LAB	2/7/2019	1	66.88	23.16	23.17	2.28	0.35	0.28	0.01	191.63	0.97	72.82
FURNACE7_1628.LAB	2/7/2019	1	59.88	22.26	22.48	2.07	0.33	0.25	0.01	191.51	0.97	65.07
FURNACE7_1629.LAB	2/7/2019	1	53.29	17.70	18.11	1.96	0.30	0.15	0.01	191.54	0.97	57.99
FURNACE7_1630.LAB	2/7/2019	1	63.78	21.34	21.03	3.18	0.34	0.26	0.01	191.64	0.96	70.25
FURNACE7_1631.LAB	2/7/2019	1	53.88	20.05	20.29	2.52	0.30	0.27	0.01	191.79	0.96	58.89
FURNACE7_1632.LAB	2/7/2019	1	53.16	17.19	17.58	1.94	0.29	0.15	0.00	192.19	0.96	57.73
FURNACE7_1633.LAB	2/7/2019	1	53.71	16.49	16.52	1.68	0.30	0.19	0.01	192.11	0.97	58.26
FURNACE7_1634.LAB	2/7/2019	1	52.75	17.69	17.74	1.60	0.29	0.21	0.01	191.72	0.96	57.14
FURNACE7_1635.LAB	2/7/2019	1	53.75	15.93	16.23	1.54	0.29	0.19	0.00	191.41	0.96	58.06
FURNACE7_1636.LAB	2/7/2019	1	60.71	15.62	15.54	1.59	0.32	0.21	0.01	191.22	0.97	65.63
FURNACE7_1637.LAB	2/7/2019	1	60.31	17.95	18.06	1.60	0.32	0.23	0.01	191.16	0.97	65.42
FURNACE7_1638.LAB	2/7/2019	1	61.06	21.54	22.01	1.56	0.32	0.28	0.01	191.14	0.97	66.22
FURNACE7_1639.LAB	2/7/2019	1	56.82	19.38	19.86	1.55	0.31	0.23	0.01	191.14	0.97	61.46
FURNACE7_1640.LAB	2/7/2019	1	56.96	18.15	18.35	1.53	0.31	0.20	0.01	191.17	0.97	61.64
FURNACE7_1641.LAB	2/7/2019	1	57.78	23.35	22.97	3.84	0.33	0.17	0.01	191.22	0.97	63.96
FURNACE7_1642.LAB	2/7/2019	1	55.81	22.55	22.85	2.72	0.33	0.28	0.01	191.20	0.96	61.28
FURNACE7_1643.LAB	2/7/2019	1	57.67	20.54	20.86	1.52	0.32	0.25	0.01	191.18	0.97	62.20
FURNACE7_1644.LAB	2/7/2019	1	65.64	18.34	18.54	1.35	0.34	0.21	0.01	191.20	0.97	70.71
FURNACE7_1645.LAB	2/7/2019	1	65.10	18.87	19.52	2.71	0.35	0.17	0.01	191.18	0.97	71.07
FURNACE7_1646.LAB	2/7/2019	1	58.59	23.54	23.48	4.82	0.33	0.34	0.01	191.19	0.97	65.56
FURNACE7_1647.LAB	2/7/2019	1	60.72	19.82	20.03	1.87	0.33	0.18	0.01	191.22	0.97	65.88
FURNACE7_1648.LAB	2/7/2019	1	69.10	17.18	17.46	1.37	0.35	0.23	0.01	191.18	0.97	74.44
FURNACE7_1649.LAB	2/7/2019	1	64.03	18.93	19.32	1.26	0.34	0.27	0.01	191.19	0.97	69.10
FURNACE7_1650.LAB	2/7/2019	1	60.20	18.81	19.27	1.25	0.33	0.28	0.01	191.18	0.97	64.87
FURNACE7_1651.LAB	2/7/2019	1	57.50	19.19	19.73	1.27	0.32	0.20	0.00	191.19	0.97	62.08
FURNACE7_1652.LAB	2/7/2019	1	54.38	21.39	21.77	2.60	0.33	0.22	0.02	191.17	0.96	59.62
FURNACE7_1653.LAB	2/7/2019	1	50.03	19.14	19.24	1.97	0.30	0.11	0.01	191.20	0.97	54.46
FURNACE7_1654.LAB	2/7/2019	1	58.30	17.65	17.82	1.70	0.32	0.26	0.01	191.23	0.96	63.26
FURNACE7_1655.LAB	2/7/2019	1	58.19	18.29	18.64	1.95	0.33	0.10	0.01	191.26	0.96	63.24
FURNACE7_1656.LAB	2/7/2019	1	58.76	16.65	16.62	1.70	0.33	0.20	0.01	191.20	0.97	63.58
FURNACE7_1657.LAB	2/7/2019	1	59.76	18.60	18.86	1.55	0.33	0.23	0.01	191.17	0.96	64.88
FURNACE7_1658.LAB	2/7/2019	1	56.76	23.07	23.46	1.48	0.33	0.22	0.01	191.16	0.97	61.48
FURNACE7_1659.LAB	2/7/2019	1	61.00	21.40	21.57	1.40	0.32	0.20	0.00	191.16	0.97	65.87
FURNACE7_1660.LAB	2/7/2019	1	58.87	21.28	21.92	2.00	0.34	0.14	0.01	191.20	0.97	63.78

FURNACE7_1661.LAB	2/7/2019	1	45.79	22.25	22.61	3.56	0.28	0.27	0.01	191.21	0.97	50.70
FURNACE7_1662.LAB	2/7/2019	1	24.55	16.43	16.80	1.89	0.17	0.07	0.01	191.24	0.97	26.88
FURNACE7_1663.LAB	2/7/2019	1	40.92	12.21	12.37	1.41	0.24	0.11	0.01	191.22	0.96	44.27
FURNACE7_1664.LAB	2/7/2019	1	33.82	13.40	13.27	1.39	0.21	0.14	0.01	191.25	0.96	36.72
FURNACE7_1665.LAB	2/7/2019	1	30.39	12.18	12.03	1.35	0.19	0.13	0.01	191.22	0.96	32.93
FURNACE7_1666.LAB	2/7/2019	1	23.24	10.95	10.75	1.32	0.16	0.07	0.01	191.22	0.96	25.15
FURNACE7_1667.LAB	2/7/2019	1	23.27	10.11	9.94	1.29	0.16	0.13	0.01	191.18	0.96	25.33
FURNACE7_1668.LAB	2/7/2019	1	18.74	10.97	10.83	1.20	0.14	0.15	0.01	191.19	0.96	20.44
FURNACE7_1669.LAB	2/7/2019	1	15.98	8.69	8.83	1.12	0.12	0.05	0.00	191.23	0.96	17.33
FURNACE7_1670.LAB	2/7/2019	1	30.93	8.31	8.48	1.63	0.20	0.14	0.01	191.20	0.96	33.67
FURNACE7_1671.LAB	2/7/2019	1	54.89	10.94	10.94	1.56	0.29	0.17	0.01	191.20	0.96	59.19
FURNACE7_1672.LAB	2/7/2019	1	72.01	25.35	25.37	1.85	0.39	0.30	0.01	191.28	0.96	78.47
FURNACE7_1673.LAB	2/7/2019	1	71.01	23.55	23.97	1.76	0.37	0.29	0.01	191.45	0.96	76.91
FURNACE7_1674.LAB	2/7/2019	1	76.95	19.18	19.46	1.94	0.39	0.17	0.01	191.33	0.96	83.16
FURNACE7_1675.LAB	2/7/2019	1	70.72	20.36	20.57	2.43	0.38	0.20	0.00	191.21	0.96	77.08
FURNACE7_1676.LAB	2/7/2019	1	70.74	25.67	25.96	2.55	0.38	0.35	0.00	191.19	0.96	77.50
FURNACE7_1677.LAB	2/7/2019	1	71.99	25.87	26.23	2.47	0.39	0.34	0.01	191.22	0.96	78.69
FURNACE7_1678.LAB	2/7/2019	1	72.82	30.28	30.27	4.19	0.40	0.28	0.01	191.36	0.96	81.13
FURNACE7_1679.LAB	2/7/2019	1	72.01	32.02	32.38	2.69	0.39	0.40	0.01	191.38	0.96	79.07
FURNACE7_1680.LAB	2/7/2019	1	77.79	33.98	34.07	3.36	0.40	0.30	0.01	191.23	0.96	85.95
FURNACE7_1681.LAB	2/7/2019	1	77.57	30.96	31.22	3.04	0.42	0.37	0.01	191.20	0.96	85.39
FURNACE7_1682.LAB	2/7/2019	1	74.82	33.04	33.18	2.91	0.40	0.30	0.01	191.16	0.96	82.28
FURNACE7_1683.LAB	2/7/2019	1	78.31	25.14	25.10	3.37	0.41	0.26	0.01	191.16	0.96	86.06
FURNACE7_1684.LAB	2/7/2019	1	73.94	22.98	22.91	2.67	0.39	0.33	0.01	191.26	0.96	80.83
FURNACE7_1685.LAB	2/7/2019	1	72.28	24.08	24.28	2.13	0.39	0.25	0.01	191.49	0.96	78.73
FURNACE7_1686.LAB	2/7/2019	1	70.90	25.89	26.48	2.23	0.39	0.37	0.01	191.33	0.96	77.33
FURNACE7_1687.LAB	2/7/2019	1	72.81	26.08	25.94	1.98	0.40	0.37	0.01	191.22	0.96	79.20
FURNACE7_1688.LAB	2/7/2019	1	71.99	26.46	26.63	1.94	0.39	0.26	0.01	191.28	0.96	78.39
FURNACE7_1689.LAB	2/7/2019	1	69.97	24.02	24.22	1.90	0.37	0.27	0.01	191.14	0.96	75.89
FURNACE7_1690.LAB	2/7/2019	1	69.90	20.68	21.02	1.86	0.37	0.18	0.01	191.15	0.96	75.74
FURNACE7_1691.LAB	2/7/2019	1	69.90	20.59	21.11	1.81	0.36	0.17	0.01	191.33	0.96	75.63
FURNACE7_1692.LAB	2/7/2019	1	70.45	19.90	20.12	1.77	0.37	0.15	0.01	191.26	0.96	76.17
FURNACE7_1693.LAB	2/7/2019	1	71.55	18.30	18.71	1.65	0.37	0.14	0.01	191.14	0.96	77.19
FURNACE7_1694.LAB	2/7/2019	1	70.68	19.17	19.34	1.66	0.37	0.24	0.01	191.14	0.96	76.49
FURNACE7_1695.LAB	2/7/2019	1	68.31	19.79	20.03	1.67	0.36	0.23	0.01	191.10	0.96	73.73
FURNACE7_1696.LAB	2/7/2019	1	67.95	16.87	16.91	1.71	0.37	0.14	0.01	191.12	0.96	73.13
FURNACE7_1697.LAB	2/7/2019	1	67.83	13.51	13.92	1.74	0.40	0.14	0.01	191.12	0.96	72.80
FURNACE7_1698.LAB	2/7/2019	1	72.93	9.20	9.27	1.77	0.43	0.10	0.01	191.17	0.96	78.35
FURNACE7_1699.LAB	2/7/2019	1	70.11	7.44	7.59	1.74	0.45	0.11	0.01	191.19	0.96	75.50
FURNACE7_1700.LAB	2/7/2019	1	69.50	6.04	6.30	1.71	0.47	0.07	0.01	191.18	0.96	74.67
FURNACE7_1701.LAB	2/7/2019	1	69.54	4.70	5.34	1.70	0.49	0.12	0.00	191.19	0.96	74.51
FURNACE7_1702.LAB	2/7/2019	1	70.08	3.72	4.18	1.69	0.51	0.10	0.01	191.21	0.96	75.09
FURNACE7_1703.LAB	2/7/2019	1	70.32	3.07	3.24	1.68	0.54	0.08	0.01	191.20	0.96	75.07
FURNACE7_1704.LAB	2/7/2019	1	70.56	2.57	2.87	1.69	0.56	0.06	0.01	191.17	0.96	75.44
FURNACE7_1705.LAB	2/7/2019	1	63.47	2.43	2.36	1.73	0.54	0.04	0.01	191.19	0.96	68.00

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2SYS_1706.LAB	2/7/2019	1	0.08	20.46	19.72	20.78	1.06	0.26	0.67	191.24	0.96	-0.63
CO2SYS_1707.LAB	2/7/2019	1	0.71	13.31	12.55	11.30	2.22	0.24	0.01	191.25	0.96	1.17
CO2SYS_1708.LAB	2/7/2019	1	0.49	10.75	10.62	7.41	2.34	0.13	0.00	191.17	0.96	0.81
CO2SYS_1709.LAB	2/7/2019	1	0.55	8.90	8.62	5.35	2.41	0.15	0.01	191.18	0.96	0.98
CO2SYS_1710.LAB	2/7/2019	1	0.59	7.41	7.17	3.72	2.46	0.04	0.02	191.34	0.96	0.95
CO2SYS_1711.LAB	2/7/2019	1	0.45	5.75	5.38	3.09	2.49	0.08	0.01	191.49	0.96	0.62
CO2SYS_1712.LAB	2/7/2019	1	0.11	4.82	4.82	2.73	2.49	0.12	0.00	191.69	0.96	0.33
CO2SYS_1713.LAB	2/7/2019	1	0.36	4.26	4.37	2.29	2.51	0.10	0.01	191.81	0.96	0.52
CO2SYS_1714.LAB	2/7/2019	1	0.37	3.63	3.76	1.89	2.51	0.05	0.01	191.85	0.96	0.45

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_1715.LAB	2/7/2019	1	265.51	1.38	1.60	1.23	1.19	-0.45	3.64	191.15	0.96	273.94
NOSYS_1716.LAB	2/7/2019	1	288.76	1.34	2.35	1.20	0.13	-0.47	3.91	191.11	0.96	292.61
NOSYS_1717.LAB	2/7/2019	1	289.58	1.30	2.49	1.19	0.09	-0.49	3.92	191.18	0.96	293.38
NOSYS_1718.LAB	2/7/2019	1	290.16	1.31	1.39	1.17	0.06	-0.49	3.92	191.09	0.96	294.00
NOSYS_1719.LAB	2/7/2019	1	290.29	1.34	1.89	1.15	0.05	-0.41	3.92	191.08	0.96	294.05
NOSYS_1720.LAB	2/7/2019	1	291.02	1.46	1.50	1.13	0.03	-0.55	3.92	191.08	0.96	294.66
NOSYS_1721.LAB	2/7/2019	1	290.24	1.67	1.49	1.07	0.04	-0.44	3.92	191.07	0.96	293.70
NOSYS_1722.LAB	2/7/2019	1	290.98	1.62	1.64	0.99	0.02	-0.53	3.94	191.09	0.96	294.08
NOSYS_1723.LAB	2/7/2019	1	291.14	1.41	0.78	0.99	0.01	-0.41	3.94	191.03	0.96	294.31

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_1724.LAB	2/7/2019	1	4.13	134.16	135.60	0.99	0.06	-0.39	3.86	191.06	0.96	4.32
NH3SYS_1725.LAB	2/7/2019	1	1.33	207.79	206.29	0.99	0.06	-0.37	3.86	191.02	0.96	1.45
NH3SYS_1726.LAB	2/7/2019	1	0.86	239.10	235.53	0.99	0.06	-0.39	3.87	191.06	0.96	0.98
NH3SYS_1727.LAB	2/7/2019	1	0.67	255.28	250.63	0.98	0.06	-0.42	3.86	191.09	0.96	0.84
NH3SYS_1728.LAB	2/7/2019	1	0.74	265.54	260.91	0.97	0.07	-0.41	3.87	191.07	0.96	0.91
NH3SYS_1729.LAB	2/7/2019	1	0.60	271.18	267.50	0.97	0.06	-0.51	3.87	191.07	0.96	0.78
NH3SYS_1730.LAB	2/7/2019	1	0.62	275.07	270.47	0.96	0.07	-0.34	3.87	191.05	0.96	0.72
NH3SYS_1731.LAB	2/7/2019	1	0.65	277.48	273.24	0.95	0.05	-0.43	3.87	191.02	0.96	0.82
NH3SYS_1732.LAB	2/7/2019	1	0.53	279.78	275.37	0.95	0.06	-0.44	3.86	191.03	0.96	0.62
NH3SYS_1733.LAB	2/7/2019	1	0.73	282.12	277.97	0.95	0.06	-0.46	3.86	191.02	0.96	0.91
NH3SYS_1734.LAB	2/7/2019	1	0.46	283.65	278.93	0.95	0.05	-0.40	3.87	191.07	0.96	0.61

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSSYS_1735.LAB	2/7/2019	1	0.58	208.93	213.23	0.97	0.05	38.47	1.72	191.10	0.96	0.71
CTSSYS_1736.LAB	2/7/2019	1	0.30	76.97	76.42	0.93	0.03	97.58	0.03	191.14	0.96	0.47
CTSSYS_1737.LAB	2/7/2019	1	0.52	43.96	43.77	0.93	0.01	98.27	0.01	191.13	0.96	0.61
CTSSYS_1738.LAB	2/7/2019	1	0.30	31.64	30.35	0.92	0.02	98.24	0.01	191.11	0.96	0.37
CTSSYS_1739.LAB	2/7/2019	1	0.26	24.54	24.11	0.92	0.00	98.22	0.00	191.11	0.96	0.47
CTSSYS_1740.LAB	2/7/2019	1	0.43	19.81	18.17	0.91	0.02	98.18	0.00	191.09	0.96	0.59
CTSSYS_1741.LAB	2/7/2019	1	0.47	16.80	16.12	0.91	-0.01	98.35	0.00	191.15	0.96	0.58
CTSSYS_1742.LAB	2/7/2019	1	0.42	14.64	13.38	0.90	0.00	98.27	0.00	191.13	0.96	0.50
CTSSYS_1743.LAB	2/7/2019	1	0.45	13.20	11.76	0.90	0.00	98.29	0.00	191.08	0.96	0.57

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2SYS_1744.LAB	2/7/2019	1	0.41	10.67	10.37	0.87	-0.01	0.54	0.01	191.14	0.96	0.50
N2SYS_1745.LAB	2/7/2019	1	0.22	9.92	9.75	0.83	0.00	0.14	0.00	191.15	0.96	0.37
N2SYS_1746.LAB	2/7/2019	1	0.19	9.06	8.19	0.80	0.00	0.16	0.01	191.17	0.96	0.32
N2SYS_1747.LAB	2/7/2019	1	0.42	8.48	8.36	0.79	0.00	0.26	0.01	191.19	0.96	0.53
N2SYS_1748.LAB	2/7/2019	1	0.36	8.05	7.72	0.79	-0.01	0.18	0.01	191.19	0.96	0.47
N2SYS_1749.LAB	2/7/2019	1	0.58	7.62	8.22	0.78	0.00	0.22	0.01	191.20	0.96	0.64
N2SYS_1750.LAB	2/7/2019	1	0.39	7.30	7.57	0.75	0.00	0.03	0.00	191.13	0.96	0.51
N2SYS_1751.LAB	2/7/2019	1	0.46	7.11	6.81	0.67	0.00	-0.01	0.00	191.18	0.96	0.60
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
PRESPIKE_1752.LAB	2/7/2019	1	0.22	6.39	6.64	1.17	0.04	0.02	0.01	191.44	0.96	0.51
PRESPIKE_1753.LAB	2/7/2019	1	-0.01	4.82	4.69	1.21	0.05	0.07	0.01	191.46	0.96	0.24
PRESPIKE_1754.LAB	2/7/2019	1	-0.09	3.93	4.08	1.21	0.05	0.06	0.01	191.74	0.96	0.16
PRESPIKE_1755.LAB	2/7/2019	1	0.03	3.34	3.26	1.22	0.05	0.06	0.00	191.67	0.96	0.32
PRESPIKE_1756.LAB	2/7/2019	1	-0.05	2.89	2.92	1.22	0.05	0.03	0.00	191.46	0.96	0.20
PRESPIKE_1757.LAB	2/7/2019	1	0.03	2.60	3.02	1.21	0.05	0.03	0.01	191.21	0.96	0.31
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_1758.LAB	2/7/2019	1	0.08	7.17	7.23	1.15	0.04	-0.02	0.25	191.16	0.96	0.28
NH3SPIKE_1759.LAB	2/7/2019	1	0.12	16.78	16.82	1.15	0.04	0.01	0.32	190.99	0.96	0.31
NH3SPIKE_1760.LAB	2/7/2019	1	0.01	19.67	19.82	1.14	0.04	0.06	0.32	190.97	0.96	0.27
NH3SPIKE_1761.LAB	2/7/2019	1	0.08	20.93	20.93	1.15	0.04	0.02	0.32	190.99	0.96	0.31
NH3SPIKE_1762.LAB	2/7/2019	1	0.06	21.62	21.84	1.15	0.04	-0.05	0.32	191.15	0.96	0.29
NH3SPIKE_1763.LAB	2/7/2019	1	0.13	22.11	22.36	1.15	0.05	0.03	0.32	191.30	0.96	0.35
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSPIKE_1764.LAB	2/7/2019	1	7.34	30.30	30.97	1.13	0.05	-0.03	0.50	191.52	0.96	7.78
NOSPIKE_1765.LAB	2/7/2019	1	36.54	10.02	10.22	1.13	0.04	-0.06	0.50	191.53	0.96	37.72
NOSPIKE_1766.LAB	2/7/2019	1	26.59	5.51	5.83	1.15	0.04	-0.07	0.37	191.27	0.96	27.27
NOSPIKE_1767.LAB	2/7/2019	1	21.76	3.96	3.93	1.17	0.03	-0.05	0.31	191.17	0.96	22.38
NOSPIKE_1768.LAB	2/7/2019	1	21.76	3.25	3.36	1.16	0.03	-0.02	0.30	191.25	0.96	22.34
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NODIR_1769.LAB	2/7/2019	1	294.10	0.23	-0.31	0.01	0.00	-0.44	3.97	190.93	0.96	295.13
NODIR_1770.LAB	2/7/2019	1	292.68	0.06	0.67	0.01	0.00	-0.55	3.97	190.91	0.96	293.24
NODIR_1771.LAB	2/7/2019	1	292.96	0.06	-0.81	0.00	0.00	-0.40	3.97	190.91	0.96	293.27
NODIR_1772.LAB	2/7/2019	1	294.02	0.10	-0.46	0.00	0.00	-0.48	3.99	190.93	0.96	294.36
NODIR_1773.LAB	2/7/2019	1	294.43	0.03	-0.06	0.01	-0.02	-0.53	3.99	190.94	0.96	294.82
NODIR_1774.LAB	2/7/2019	1	295.28	0.10	0.39	0.01	-0.02	-0.44	4.00	191.00	0.96	295.67
NODIR_1775.LAB	2/7/2019	1	294.46	0.05	-0.29	-0.01	0.00	-0.37	3.97	190.98	0.96	294.80
NODIR_1776.LAB	2/7/2019	1	293.67	0.02	-0.11	0.00	-0.01	-0.63	3.97	190.96	0.96	293.92
NODIR_1777.LAB	2/7/2019	1	293.36	0.01	-0.15	0.00	0.00	-0.61	3.97	190.98	0.96	293.61
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_1778.LAB	2/7/2019	1	4.28	278.23	274.89	0.00	0.06	-0.49	3.93	190.99	0.96	4.30

NH3DIR_1779.LAB	2/7/2019	1	0.58	286.42	282.90	0.00	0.05	-0.30	3.92	190.96	0.96	0.64	
NH3DIR_1780.LAB	2/7/2019	1	0.43	288.50	285.77	0.01	0.06	-0.33	3.94	190.97	0.96	0.51	
NH3DIR_1781.LAB	2/7/2019	1	0.28	289.84	287.42	-0.01	0.06	-0.41	3.92	190.98	0.96	0.32	
NH3DIR_1782.LAB	2/7/2019	1	0.34	290.24	286.47	0.00	0.05	-0.39	3.93	190.99	0.96	0.39	
NH3DIR_1783.LAB	2/7/2019	1	0.30	290.99	288.06	0.01	0.06	-0.38	3.92	191.05	0.96	0.30	
NH3DIR_1784.LAB	2/7/2019	1	0.34	291.27	288.43	0.01	0.07	-0.41	3.93	191.01	0.96	0.31	
NH3DIR_1785.LAB	2/7/2019	1	0.41	291.29	287.68	0.00	0.05	-0.48	3.93	191.00	0.96	0.52	
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O%	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSDIR_1786.LAB	2/7/2019	1	0.42	11.76	11.14	0.00	0.01	97.69	0.08	191.08	0.96	0.44	
CTSDIR_1787.LAB	2/7/2019	1	-0.06	2.83	2.71	0.00	0.00	99.58	-0.01	191.05	0.96	-0.02	
CTSDIR_1788.LAB	2/7/2019	1	0.41	1.76	1.36	0.00	0.02	99.09	-0.01	191.05	0.96	0.45	
CTSDIR_1789.LAB	2/7/2019	1	0.12	1.32	0.89	0.01	0.02	99.11	-0.01	191.07	0.96	0.11	
CTSDIR_1790.LAB	2/7/2019	1	0.24	1.07	-0.04	0.01	0.00	99.40	-0.01	191.07	0.96	0.18	
CTSDIR_1791.LAB	2/7/2019	1	0.22	0.91	-0.82	0.01	0.00	99.15	-0.02	191.11	0.96	0.29	
CTSDIR_1792.LAB	2/7/2019	1	0.15	0.76	-0.36	0.01	0.01	99.34	-0.01	191.09	0.96	0.24	
CTSDIR_1793.LAB	2/7/2019	1	0.41	0.69	-0.19	0.00	-0.01	99.46	-0.01	191.05	0.96	0.46	
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O%	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2DIR_1794.LAB	2/7/2019	1	0.04	0.35	0.52	0.00	0.00	0.01	0.00	191.09	0.96	0.04	
N2DIR_1795.LAB	2/7/2019	1	0.13	0.23	0.16	0.00	-0.01	0.05	0.00	191.11	0.96	0.13	
N2DIR_1796.LAB	2/7/2019	1	0.14	0.16	0.01	0.01	0.00	0.02	0.00	191.29	0.96	0.15	
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O%	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2DIR_1797.LAB	2/8/2019	0	0.05	-0.01	-0.22	-0.01	0.00	-0.03	-0.01	190.59	0.98	0.08	
N2DIR_1798.LAB	2/8/2019	0	0.02	0.00	-0.64	-0.01	-0.01	-0.03	0.00	190.73	0.98	0.04	
N2DIR_1799.LAB	2/8/2019	0	0.18	-0.02	0.17	0.00	0.00	-0.05	0.00	190.73	0.98	0.18	
N2DIR_1800BKG.LAB	2/8/2019	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.75	0.98	0.00	
N2DIR_1801.LAB	2/8/2019	0	0.15	0.01	0.36	0.00	0.00	-0.03	0.01	190.87	0.98	0.18	
N2DIR_1802.LAB	2/8/2019	0	0.23	0.01	-0.23	0.00	0.00	0.01	-0.01	190.96	0.98	0.21	
N2DIR_1803.LAB	2/8/2019	0	0.04	0.11	0.17	-0.01	-0.01	0.05	0.00	190.94	0.98	0.04	
N2DIR_1804.LAB	2/8/2019	0	-0.09	0.03	-0.16	0.00	0.00	0.08	0.00	190.93	0.98	0.07	
N2DIR_1805.LAB	2/8/2019	0	-0.07	0.03	-0.34	0.00	-0.01	-0.06	0.00	190.91	0.98	0.07	
N2DIR_1806.LAB	2/8/2019	0	0.03	0.00	0.43	0.00	-0.02	0.07	0.00	190.82	0.98	0.11	
N2DIR_1807.LAB	2/8/2019	0	0.04	0.02	0.19	0.00	-0.01	-0.01	0.00	190.78	0.98	0.15	
N2DIR_1808.LAB	2/8/2019	0	0.06	0.04	-0.05	0.00	0.00	-0.04	0.00	190.74	0.98	0.12	
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O%	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSDIR_1809.LAB	2/8/2019	0	0.25	-0.01	-1.33	0.00	0.00	99.64	-0.01	190.59	0.98	0.28	
CTSDIR_1810.LAB	2/8/2019	0	0.19	-0.08	-1.29	0.01	0.01	99.49	-0.01	190.57	0.98	0.26	
CTSDIR_1811.LAB	2/8/2019	0	0.41	-0.05	-0.82	-0.01	0.00	99.86	-0.01	190.63	0.98	0.46	
CTSDIR_1812.LAB	2/8/2019	0	0.19	-0.04	-0.61	0.00	0.00	99.69	-0.02	190.65	0.98	0.15	
CTSDIR_1813.LAB	2/8/2019	0	0.25	-0.02	-1.18	0.00	0.02	99.68	-0.01	190.69	0.98	0.32	
CTSDIR_1814.LAB	2/8/2019	0	0.40	-0.01	-0.87	0.00	0.01	99.80	-0.01	190.70	0.98	0.39	
CTSDIR_1815.LAB	2/8/2019	0	0.13	-0.05	-0.68	0.00	0.01	99.90	-0.01	190.66	0.98	0.19	
CTSDIR_1816.LAB	2/8/2019	0	0.25	-0.02	-1.26	0.00	0.01	99.88	-0.01	190.70	0.98	0.27	

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NODIR_1817.LAB	2/8/2019	0	301.78	-0.04	-0.82	0.00	0.01	-0.35	4.00	190.64	0.98	302.66
NODIR_1818.LAB	2/8/2019	0	301.89	-0.12	-0.20	0.00	0.02	-0.23	3.98	190.60	0.98	302.41
NODIR_1819.LAB	2/8/2019	0	302.22	-0.10	-0.29	0.00	0.00	-0.47	4.00	190.64	0.98	302.66
NODIR_1820.LAB	2/8/2019	0	302.21	-0.06	0.19	0.00	0.00	-0.55	4.00	190.70	0.98	302.60
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NODIR_1821.LAB	2/8/2019	0	302.68	-0.07	-0.03	0.00	0.01	-0.35	3.99	190.75	0.98	303.12
NODIR_1822.LAB	2/8/2019	0	297.69	-0.10	0.19	0.00	0.00	-0.41	3.99	190.70	0.98	298.12
NODIR_1823.LAB	2/8/2019	0	297.55	-0.01	-0.68	0.00	0.01	-0.53	4.00	190.66	0.98	297.95
NODIR_1824.LAB	2/8/2019	0	297.32	-0.07	-0.33	0.00	0.01	-0.36	3.99	190.61	0.98	297.58
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_1825.LAB	2/8/2019	0	2.29	282.41	279.96	0.00	0.09	-0.21	3.92	190.68	0.98	2.45
NH3DIR_1826.LAB	2/8/2019	0	0.50	288.16	285.01	-0.01	0.07	-0.27	3.91	190.65	0.98	0.65
NH3DIR_1827.LAB	2/8/2019	0	0.59	289.66	287.15	-0.01	0.07	-0.33	3.92	190.68	0.98	0.75
NH3DIR_1828.LAB	2/8/2019	0	0.55	290.44	287.76	-0.01	0.09	-0.28	3.93	190.73	0.98	0.74
NH3DIR_1829.LAB	2/8/2019	0	0.59	290.82	287.97	-0.01	0.07	-0.09	3.91	190.71	0.98	0.68
NH3DIR_1830.LAB	2/8/2019	0	0.47	291.22	288.56	0.00	0.07	-0.34	3.92	190.74	0.98	0.68
NH3DIR_1831.LAB	2/8/2019	0	0.78	291.37	288.47	0.00	0.09	-0.28	3.92	190.71	0.98	0.89
NH3DIR_1832.LAB	2/8/2019	0	0.50	291.75	289.06	-0.01	0.08	-0.36	3.92	190.73	0.98	0.63
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2DIR_1833.LAB	2/8/2019	0	0.00	6.56	6.31	0.01	23.43	-0.19	0.05	190.73	0.98	0.08
CO2DIR_1834.LAB	2/8/2019	0	-0.04	2.32	1.59	0.02	23.64	-0.14	0.02	190.72	0.98	0.08
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2DIR_1835.LAB	2/8/2019	0	-0.14	1.67	0.07	0.00	23.65	-0.15	0.01	190.77	0.98	0.00
CO2DIR_1836.LAB	2/8/2019	0	-0.07	1.29	1.10	0.01	22.63	-0.07	0.00	190.77	0.98	-0.05
CO2DIR_1837.LAB	2/8/2019	0	-0.05	1.14	1.14	0.01	22.62	-0.15	0.01	190.76	0.98	0.06
CO2DIR_1838.LAB	2/8/2019	0	-0.09	0.99	0.16	0.00	22.62	-0.23	0.01	190.76	0.98	-0.02
CO2DIR_1839.LAB	2/8/2019	0	0.08	0.69	0.94	0.00	2.94	0.03	0.00	190.77	0.98	0.19
CO2DIR_1840.LAB	2/8/2019	0	0.26	0.56	0.46	0.00	2.56	0.19	0.00	190.75	0.98	0.29
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_1841.LAB	2/8/2019	0	150.85	0.48	0.35	0.29	0.04	0.33	2.10	190.77	0.98	152.10
NOSYS_1842.LAB	2/8/2019	0	294.48	0.27	-0.16	0.06	0.00	-0.34	3.94	190.74	0.98	294.85
NOSYS_1843.LAB	2/8/2019	0	297.33	0.23	0.65	0.04	-0.01	-0.46	3.99	190.75	0.98	297.53
NOSYS_1844.LAB	2/8/2019	0	296.27	0.24	0.24	0.04	0.00	-0.50	3.98	190.73	0.98	296.41
NOSYS_1845.LAB	2/8/2019	0	296.55	0.23	-0.07	0.03	0.00	-0.28	3.98	190.71	0.98	296.81
NOSYS_1846.LAB	2/8/2019	0	297.26	0.19	0.11	0.04	0.00	-0.41	3.98	190.70	0.98	297.46
NOSYS_1847.LAB	2/8/2019	0	296.93	0.21	0.80	0.03	0.00	-0.35	3.97	190.72	0.98	297.17
NOSYS_1848.LAB	2/8/2019	0	296.91	0.30	0.39	0.03	0.00	-0.37	3.97	190.70	0.98	297.14
NOSYS_1849.LAB	2/8/2019	0	296.73	0.23	-0.43	0.02	0.01	-0.43	3.98	190.74	0.98	296.93

NOSPIKE_1887.LAB	2/8/2019	0	5.64	1.46	1.44	0.23	0.04	0.06	0.08	190.99	0.98	5.75
NOSPIKE_1888.LAB	2/8/2019	0	35.79	1.43	1.04	0.22	0.04	0.00	0.49	190.90	0.98	36.13
NOSPIKE_1889.LAB	2/8/2019	0	35.82	1.31	1.21	0.22	0.04	-0.03	0.49	190.83	0.98	36.07
NOSPIKE_1890.LAB	2/8/2019	0	24.54	1.16	0.83	0.23	0.04	0.00	0.33	190.93	0.98	24.71
NOSPIKE_1891.LAB	2/8/2019	0	20.50	1.08	0.84	0.23	0.05	0.00	0.28	191.02	0.98	20.66
NOSPIKE_1892.LAB	2/8/2019	0	20.15	1.02	0.97	0.24	0.04	-0.01	0.28	191.03	0.98	20.29
NOSPIKE_1893.LAB	2/8/2019	0	20.01	0.94	0.78	0.23	0.05	-0.01	0.27	190.96	0.98	20.19
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_1894.LAB	2/8/2019	0	11.25	0.86	0.77	0.23	0.05	0.00	0.16	190.89	0.98	11.39
NH3SPIKE_1895.LAB	2/8/2019	0	11.41	0.85	1.00	0.24	0.05	0.07	0.15	190.83	0.98	11.53
NH3SPIKE_1896.LAB	2/8/2019	0	4.93	1.10	0.83	0.26	0.05	0.04	0.15	190.82	0.98	5.02
NH3SPIKE_1897.LAB	2/8/2019	0	0.26	7.98	7.64	0.25	0.05	0.08	0.23	190.87	0.98	0.34
NH3SPIKE_1898.LAB	2/8/2019	0	0.23	12.38	12.22	0.25	0.06	0.10	0.23	190.83	0.98	0.30
NH3SPIKE_1899.LAB	2/8/2019	0	0.21	17.21	17.06	0.24	0.06	0.03	0.30	190.91	0.98	0.25
NH3SPIKE_1900.LAB	2/8/2019	0	0.31	21.90	21.73	0.24	0.05	0.04	0.34	190.92	0.98	0.42
NH3SPIKE_1901.LAB	2/8/2019	0	0.48	23.01	22.55	0.26	0.07	0.05	0.34	190.89	0.98	0.53
NH3SPIKE_1902.LAB	2/8/2019	0	0.33	23.44	23.21	0.25	0.07	0.03	0.34	190.91	0.98	0.40
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2SYS_1903.LAB	2/8/2019	0	0.24	11.70	11.99	0.20	2.24	0.13	0.19	191.16	0.98	0.29
CO2SYS_1904.LAB	2/8/2019	0	-0.05	2.28	1.97	0.08	2.49	0.08	0.00	190.97	0.98	-0.04
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
FURNACE6_1905.LAB	2/8/2019	0	1.95	2.87	2.65	0.38	0.25	0.09	0.01	190.87	0.98	2.16
FURNACE6_1906.LAB	2/8/2019	0	1.78	3.15	2.74	0.39	0.21	0.11	0.01	191.10	0.98	2.02
FURNACE6_1907.LAB	2/8/2019	0	1.86	3.07	2.50	0.40	0.21	0.06	0.01	191.35	0.98	2.12
FURNACE6_1908.LAB	2/8/2019	0	1.78	3.46	3.36	0.40	0.20	0.04	0.01	191.20	0.98	2.00
FURNACE6_1909.LAB	2/8/2019	0	1.68	3.57	3.40	0.41	0.20	0.12	0.00	191.05	0.98	1.91
FURNACE6_1910.LAB	2/8/2019	0	1.73	3.25	2.71	0.41	0.19	0.06	0.01	190.99	0.98	1.99
FURNACE6_1911.LAB	2/8/2019	0	1.61	3.13	2.99	0.41	0.19	0.01	0.00	190.97	0.98	1.81
FURNACE6_1912.LAB	2/8/2019	0	1.61	3.26	2.37	0.41	0.19	0.05	0.01	191.12	0.98	1.88
FURNACE6_1913.LAB	2/8/2019	0	1.87	3.40	2.91	0.41	0.19	0.05	0.00	191.06	0.98	2.10
FURNACE6_1914.LAB	2/8/2019	0	1.73	3.31	3.18	0.41	0.19	0.09	0.00	191.03	0.98	1.98
FURNACE6_1915.LAB	2/8/2019	0	1.72	3.08	2.58	0.41	0.19	0.05	0.01	191.28	0.98	1.97
FURNACE6_1916.LAB	2/8/2019	0	1.78	2.99	2.47	0.41	0.19	0.08	0.01	191.31	0.98	1.99
FURNACE6_1917.LAB	2/8/2019	0	1.92	3.15	2.85	0.42	0.20	0.03	0.00	191.06	0.98	2.15
FURNACE6_1918.LAB	2/8/2019	0	1.99	3.20	2.92	0.41	0.20	0.04	0.00	190.95	0.98	2.25
FURNACE6_1919.LAB	2/8/2019	0	1.93	3.13	2.58	0.41	0.19	0.03	0.01	190.90	0.98	2.18
FURNACE6_1920.LAB	2/8/2019	0	1.66	3.00	2.45	0.41	0.19	0.04	0.01	190.93	0.98	1.89
FURNACE6_1921.LAB	2/8/2019	0	1.65	2.74	2.54	0.41	0.18	0.03	0.01	190.93	0.98	1.86
FURNACE6_1922.LAB	2/8/2019	0	1.76	2.63	2.14	0.42	0.18	0.02	0.00	190.93	0.98	2.03
FURNACE6_1923.LAB	2/8/2019	0	1.59	2.47	2.07	0.42	0.18	0.06	0.01	190.92	0.98	1.83
FURNACE6_1924.LAB	2/8/2019	0	1.74	2.44	2.16	0.42	0.19	0.04	0.01	190.93	0.98	2.00
FURNACE6_1925.LAB	2/8/2019	0	1.64	2.36	1.59	0.42	0.19	0.27	0.01	190.93	0.98	1.89
FURNACE6_1926.LAB	2/8/2019	0	2.04	9.62	9.19	0.42	0.20	0.97	0.01	191.14	0.98	2.87

FURNACE6_1927.LAB	2/8/2019	0	4.52	60.40	61.42	0.42	0.24	1.45	0.01	191.41	0.98	6.58
FURNACE6_1928.LAB	2/8/2019	0	5.64	104.16	105.54	0.42	0.25	1.41	0.02	191.18	0.98	7.81
FURNACE6_1929.LAB	2/8/2019	0	10.46	97.63	99.52	0.44	0.30	3.10	0.02	191.15	0.98	15.14
FURNACE6_1930.LAB	2/8/2019	0	11.69	125.41	127.21	0.45	0.31	2.75	0.02	191.00	0.98	16.28
FURNACE6_1931.LAB	2/8/2019	0	16.96	72.93	75.66	0.46	0.35	2.71	0.01	190.95	0.98	22.89
FURNACE6_1932.LAB	2/8/2019	0	22.03	70.32	70.59	0.48	0.37	2.80	0.01	191.12	0.98	28.63
FURNACE6_1933.LAB	2/8/2019	0	21.17	90.27	91.90	0.49	0.37	2.39	0.01	190.99	0.98	26.93
FURNACE6_1934.LAB	2/8/2019	0	21.86	90.60	91.64	0.50	0.36	2.06	0.02	190.95	0.98	27.24
FURNACE6_1935.LAB	2/8/2019	0	26.20	87.11	88.65	0.51	0.40	1.96	0.01	190.92	0.98	32.09
FURNACE6_1936.LAB	2/8/2019	0	30.82	61.08	61.47	0.52	0.41	1.42	0.01	190.98	0.98	36.56
FURNACE6_1937.LAB	2/8/2019	0	30.72	42.55	42.92	0.54	0.40	0.94	0.01	191.45	0.98	35.55
FURNACE6_1938.LAB	2/8/2019	0	35.27	33.11	32.70	0.55	0.41	0.74	0.01	191.33	0.98	39.92
FURNACE6_1939.LAB	2/8/2019	0	35.93	30.51	30.11	0.55	0.41	0.68	0.01	191.06	0.98	40.38
FURNACE6_1940.LAB	2/8/2019	0	41.64	30.05	29.95	0.57	0.44	0.68	0.01	190.94	0.98	46.57
FURNACE6_1941.LAB	2/8/2019	0	49.51	37.30	37.26	0.58	0.48	0.90	0.01	190.87	0.98	55.80
FURNACE6_1942.LAB	2/8/2019	0	48.97	44.55	44.55	0.60	0.48	0.82	0.01	190.85	0.98	54.86
FURNACE6_1943.LAB	2/8/2019	0	54.74	34.70	34.46	0.61	0.48	0.57	0.01	190.95	0.98	60.25
FURNACE6_1944.LAB	2/8/2019	0	57.21	38.49	38.70	0.64	0.49	0.56	0.01	191.20	0.98	62.74
FURNACE6_1945.LAB	2/8/2019	0	54.47	37.42	37.53	0.67	0.45	0.47	0.01	191.11	0.98	59.57
FURNACE6_1946.LAB	2/8/2019	0	40.26	59.74	59.84	0.65	0.37	0.54	0.01	191.03	0.98	44.36
FURNACE6_1947.LAB	2/8/2019	0	41.86	39.31	38.94	0.63	0.35	0.36	0.01	191.02	0.98	45.42
FURNACE6_1948.LAB	2/8/2019	0	49.03	32.00	31.67	0.62	0.37	0.28	0.01	191.18	0.98	52.86
FURNACE6_1949.LAB	2/8/2019	0	53.52	30.27	30.51	0.62	0.38	0.32	0.01	191.01	0.98	57.54
FURNACE6_1950.LAB	2/8/2019	0	58.79	26.91	26.64	0.61	0.39	0.25	0.01	191.03	0.98	62.93
FURNACE6_1951.LAB	2/8/2019	0	63.36	33.64	33.56	0.67	0.43	0.34	0.01	191.10	0.98	68.41
FURNACE6_1952.LAB	2/8/2019	0	44.56	31.63	31.36	0.68	0.34	0.25	0.01	191.00	0.98	48.17
FURNACE6_1953.LAB	2/8/2019	0	47.64	30.51	30.61	0.67	0.35	0.31	0.01	190.95	0.98	51.38
FURNACE6_1954.LAB	2/8/2019	0	41.47	30.12	30.03	0.66	0.33	0.27	0.01	190.92	0.98	44.86
FURNACE6_1955.LAB	2/8/2019	0	40.97	36.03	35.78	0.66	0.32	0.30	0.01	190.94	0.98	44.31
FURNACE6_1956.LAB	2/8/2019	0	41.09	32.66	32.39	0.66	0.31	0.19	0.01	191.09	0.98	44.26
FURNACE6_1957.LAB	2/8/2019	0	52.99	34.38	34.08	0.67	0.35	0.27	0.01	191.33	0.98	57.03
FURNACE6_1958.LAB	2/8/2019	0	55.78	32.88	32.95	0.65	0.35	0.27	0.01	191.12	0.98	59.81
FURNACE6_1959.LAB	2/8/2019	0	54.62	33.50	32.92	0.62	0.35	0.27	0.01	190.98	0.98	58.72
FURNACE6_1960.LAB	2/8/2019	0	48.90	32.25	31.77	0.61	0.33	0.24	0.01	190.86	0.98	52.31
FURNACE6_1961.LAB	2/8/2019	0	57.42	32.35	31.86	0.60	0.35	0.26	0.01	190.99	0.98	61.55
FURNACE6_1962.LAB	2/8/2019	0	62.82	35.34	35.04	0.61	0.36	0.24	0.01	191.46	0.98	67.23
FURNACE6_1963.LAB	2/8/2019	0	61.73	35.61	35.45	0.61	0.36	0.29	0.01	191.19	0.98	65.99
FURNACE6_1964.LAB	2/8/2019	0	48.66	36.72	36.77	0.61	0.30	0.23	0.01	190.97	0.98	52.35
FURNACE6_1965.LAB	2/8/2019	0	48.80	44.87	45.02	0.61	0.32	0.32	0.01	190.92	0.98	52.88
FURNACE6_1966.LAB	2/8/2019	0	46.29	51.49	51.44	0.61	0.32	0.29	0.01	190.90	0.98	50.03
FURNACE6_1967.LAB	2/8/2019	0	49.26	49.12	48.79	0.61	0.32	0.32	0.01	190.91	0.98	53.02
FURNACE6_1968.LAB	2/8/2019	0	52.56	49.19	48.80	0.61	0.33	0.25	0.01	190.94	0.98	56.62
FURNACE6_1969.LAB	2/8/2019	0	47.14	52.03	51.80	0.60	0.30	0.28	0.01	190.94	0.98	50.70
FURNACE6_1970.LAB	2/8/2019	0	50.89	50.19	50.15	0.61	0.31	0.30	0.01	190.97	0.98	54.77
FURNACE6_1971.LAB	2/8/2019	0	50.57	50.18	50.43	0.61	0.32	0.26	0.01	191.06	0.98	54.38
FURNACE6_1972.LAB	2/8/2019	0	47.46	52.90	53.18	0.61	0.31	0.33	0.01	191.18	0.98	51.08

FURNACE6_1973.LAB	2/8/2019	0	32.37	48.27	47.99	0.61	0.25	0.23	0.01	191.13	0.98	34.98
FURNACE6_1974.LAB	2/8/2019	0	44.61	48.37	48.45	0.60	0.30	0.31	0.01	191.45	0.98	48.05
FURNACE6_1975.LAB	2/8/2019	0	47.83	43.83	44.01	0.60	0.29	0.18	0.01	191.27	0.98	51.10
FURNACE6_1976.LAB	2/8/2019	0	36.03	46.79	47.22	0.60	0.26	0.19	0.01	191.09	0.98	38.44
FURNACE6_1977.LAB	2/8/2019	0	40.42	76.07	76.17	0.60	0.28	0.18	0.01	190.99	0.98	43.10
FURNACE6_1978.LAB	2/8/2019	0	37.63	60.43	60.85	0.58	0.26	0.12	0.01	190.93	0.98	40.16
FURNACE6_1979.LAB	2/8/2019	0	36.53	41.64	41.72	0.58	0.26	0.20	0.01	190.94	0.98	39.04
FURNACE6_1980.LAB	2/8/2019	0	39.77	35.99	36.04	0.57	0.25	0.17	0.01	191.04	0.98	42.37
FURNACE6_1981.LAB	2/8/2019	0	39.16	34.08	33.83	0.56	0.25	0.13	0.01	191.16	0.98	41.78
FURNACE6_1982.LAB	2/8/2019	0	36.98	32.03	31.99	0.56	0.24	0.17	0.01	191.04	0.98	39.45
FURNACE6_1983.LAB	2/8/2019	0	36.69	30.49	30.27	0.57	0.25	0.14	0.01	191.00	0.98	39.06
FURNACE6_1984.LAB	2/8/2019	0	36.78	31.96	31.58	0.57	0.24	0.17	0.01	191.11	0.98	39.22
FURNACE6_1985.LAB	2/8/2019	0	41.16	32.47	31.99	0.58	0.26	0.17	0.01	191.02	0.98	43.88
FURNACE6_1986.LAB	2/8/2019	0	51.15	64.55	64.86	2.79	0.31	0.23	0.01	191.30	0.98	56.38
FURNACE6_1987.LAB	2/8/2019	0	43.64	71.40	70.99	3.00	0.29	0.17	0.02	191.39	0.98	48.08
FURNACE6_1988.LAB	2/8/2019	0	38.89	77.13	76.49	3.72	0.28	0.18	0.01	191.18	0.98	43.09
FURNACE6_1989.LAB	2/8/2019	0	62.36	55.80	55.00	4.69	0.32	0.25	0.02	191.01	0.98	69.51
FURNACE6_1990.LAB	2/8/2019	0	44.23	45.19	44.58	5.82	0.28	0.29	0.02	191.00	0.98	49.98
FURNACE6_1991.LAB	2/8/2019	0	57.47	33.22	32.48	3.41	0.30	0.18	0.01	191.01	0.98	63.06
FURNACE6_1992.LAB	2/8/2019	0	43.32	31.54	30.89	4.40	0.27	0.18	0.01	191.00	0.98	48.17
FURNACE6_1993.LAB	2/8/2019	0	45.71	28.18	27.68	2.93	0.26	0.13	0.01	190.96	0.98	49.99
FURNACE6_1994.LAB	2/8/2019	0	63.76	26.04	25.58	2.57	0.30	0.25	0.01	190.94	0.98	69.07
FURNACE6_1995.LAB	2/8/2019	0	61.81	32.86	32.61	4.08	0.30	0.19	0.02	190.94	0.98	68.20
FURNACE6_1996.LAB	2/8/2019	0	60.23	29.17	28.80	2.58	0.30	0.16	0.01	190.92	0.98	65.51
FURNACE6_1997.LAB	2/8/2019	0	50.35	26.46	26.45	2.00	0.27	0.16	0.02	190.96	0.98	54.50
FURNACE6_1998.LAB	2/8/2019	0	45.86	25.00	24.63	1.45	0.26	0.15	0.01	191.05	0.98	49.40
FURNACE6_1999.LAB	2/8/2019	0	55.40	22.29	22.24	1.27	0.27	0.12	0.01	191.37	0.98	59.34
FURNACE6_2000.LAB	2/8/2019	0	41.64	22.36	21.78	1.24	0.25	0.13	0.01	191.38	0.98	44.69
FURNACE6_2001.LAB	2/8/2019	0	50.86	24.95	24.90	2.04	0.26	0.07	0.01	191.08	0.98	54.99
FURNACE6_2002.LAB	2/8/2019	0	49.30	24.67	24.85	1.52	0.25	0.12	0.01	191.01	0.98	52.94
FURNACE6_2003.LAB	2/8/2019	0	58.33	24.77	25.09	1.41	0.27	0.17	0.01	190.96	0.98	62.54
FURNACE6_2004.LAB	2/8/2019	0	59.61	28.11	27.58	1.50	0.28	0.15	0.01	190.95	0.98	63.94
FURNACE6_2005.LAB	2/8/2019	0	65.87	26.41	26.18	1.46	0.28	0.12	0.01	190.90	0.98	70.56
FURNACE6_2006.LAB	2/8/2019	0	51.66	25.30	25.06	1.48	0.27	0.10	0.01	190.93	0.98	55.46
FURNACE6_2007.LAB	2/8/2019	0	57.87	23.66	23.42	1.36	0.27	0.16	0.01	190.93	0.98	61.97
FURNACE6_2008.LAB	2/8/2019	0	66.89	22.42	22.19	1.20	0.29	0.16	0.01	190.95	0.98	71.18
FURNACE6_2009.LAB	2/8/2019	0	60.50	20.40	20.04	1.16	0.27	0.16	0.01	190.95	0.98	64.42
FURNACE6_2010.LAB	2/8/2019	0	62.26	19.47	19.00	1.11	0.27	0.06	0.01	190.93	0.98	66.33
FURNACE6_2011.LAB	2/8/2019	0	64.44	20.09	19.90	1.07	0.28	0.14	0.01	190.94	0.98	68.66
FURNACE6_2012.LAB	2/8/2019	0	66.34	22.12	22.14	0.99	0.29	0.16	0.01	190.98	0.98	70.63
FURNACE6_2013.LAB	2/8/2019	0	63.66	22.93	22.90	0.87	0.28	0.20	0.01	191.19	0.98	67.74
FURNACE6_2014.LAB	2/8/2019	0	66.95	23.66	23.25	0.88	0.28	0.18	0.01	191.12	0.98	70.94
FURNACE6_2015.LAB	2/8/2019	0	62.61	22.39	22.18	0.93	0.27	0.21	0.01	191.03	0.98	66.35
FURNACE6_2016.LAB	2/8/2019	0	59.92	21.77	21.44	0.92	0.27	0.15	0.01	191.04	0.98	63.63
FURNACE6_2017.LAB	2/8/2019	0	60.80	21.68	21.34	0.90	0.27	0.17	0.01	191.01	0.98	64.62
FURNACE6_2018.LAB	2/8/2019	0	62.44	23.60	23.67	0.89	0.28	0.14	0.01	190.99	0.98	66.28

FURNACE6_2019.LAB	2/8/2019	0	62.34	22.33	22.43	0.88	0.27	0.10	0.01	190.98	0.98	65.96
FURNACE6_2020.LAB	2/8/2019	0	62.01	21.22	20.99	0.87	0.27	0.15	0.01	191.03	0.98	65.69
FURNACE6_2021.LAB	2/8/2019	0	60.69	20.88	20.66	0.88	0.27	0.11	0.01	191.17	0.98	64.32
FURNACE6_2022.LAB	2/8/2019	0	59.37	22.06	21.75	0.88	0.26	0.20	0.01	191.26	0.98	62.91
FURNACE6_2023.LAB	2/8/2019	0	63.71	22.67	22.77	0.89	0.27	0.15	0.01	191.15	0.98	67.64
FURNACE6_2024.LAB	2/8/2019	0	64.23	22.69	22.53	0.89	0.28	0.13	0.01	191.05	0.98	68.19
FURNACE6_2025.LAB	2/8/2019	0	60.90	22.22	21.90	0.90	0.27	0.13	0.01	191.03	0.98	64.56
FURNACE6_2026.LAB	2/8/2019	0	62.63	21.30	21.32	0.90	0.28	0.13	0.01	191.02	0.98	66.45
FURNACE6_2027.LAB	2/8/2019	0	66.93	21.49	21.20	0.91	0.29	0.16	0.01	191.09	0.98	70.91
FURNACE6_2028.LAB	2/8/2019	0	65.81	22.26	21.83	0.94	0.28	0.14	0.01	191.15	0.98	69.79
FURNACE6_2029.LAB	2/8/2019	0	68.33	22.16	22.16	1.02	0.29	0.15	0.01	191.22	0.98	72.47
FURNACE6_2030.LAB	2/8/2019	0	65.94	22.17	21.90	1.03	0.29	0.17	0.01	191.15	0.98	70.12
FURNACE6_2031.LAB	2/8/2019	0	62.77	20.96	20.87	1.04	0.28	0.13	0.01	191.02	0.98	66.67
FURNACE6_2032.LAB	2/8/2019	0	62.06	20.20	19.75	1.14	0.28	0.17	0.01	190.96	0.98	66.03
FURNACE6_2033.LAB	2/8/2019	0	61.97	20.66	20.60	1.47	0.28	0.13	0.01	191.00	0.98	66.19
FURNACE6_2034.LAB	2/8/2019	0	58.13	20.03	20.01	1.04	0.26	0.13	0.01	190.97	0.98	61.79
FURNACE6_2035.LAB	2/8/2019	0	60.39	18.71	18.66	1.15	0.27	0.07	0.01	190.99	0.98	64.16
FURNACE6_2036.LAB	2/8/2019	0	59.42	18.43	18.49	1.24	0.26	0.09	0.01	191.02	0.98	63.25
FURNACE6_2037.LAB	2/8/2019	0	60.53	18.78	18.38	1.23	0.27	0.13	0.01	191.05	0.98	64.26
FURNACE6_2038.LAB	2/8/2019	0	59.98	18.64	18.43	1.22	0.27	0.16	0.01	191.02	0.98	63.70
FURNACE6_2039.LAB	2/8/2019	0	50.70	18.03	17.51	1.22	0.24	0.15	0.01	190.99	0.98	53.84
FURNACE6_2040.LAB	2/8/2019	0	55.15	17.27	16.93	1.19	0.25	0.16	0.01	191.04	0.98	58.67
FURNACE6_2041.LAB	2/8/2019	0	47.44	17.66	17.47	1.16	0.24	0.11	0.01	191.09	0.98	50.53
FURNACE6_2042.LAB	2/8/2019	0	49.90	18.72	18.78	1.08	0.24	0.13	0.01	191.06	0.98	53.18
FURNACE6_2043.LAB	2/8/2019	0	50.13	17.66	17.55	1.02	0.24	0.15	0.01	191.28	0.98	53.30
FURNACE6_2044.LAB	2/8/2019	0	55.13	31.97	31.81	4.44	0.27	0.17	0.01	191.39	0.98	61.00
FURNACE6_2045.LAB	2/8/2019	0	56.93	36.88	36.30	4.83	0.27	0.23	0.01	191.23	0.98	63.44
FURNACE6_2046.LAB	2/8/2019	0	54.24	37.88	37.31	3.98	0.27	0.16	0.01	191.05	0.98	59.80
FURNACE6_2047.LAB	2/8/2019	0	57.62	31.92	31.65	3.32	0.26	0.16	0.01	190.97	0.98	62.31
FURNACE6_2048.LAB	2/8/2019	0	57.11	31.07	30.62	3.34	0.26	0.16	0.01	190.99	0.99	62.39
FURNACE6_2049.LAB	2/8/2019	0	59.40	31.37	30.74	2.80	0.27	0.20	0.01	190.96	0.99	64.65
FURNACE6_2050.LAB	2/8/2019	0	62.82	42.40	41.60	4.66	0.27	0.23	0.01	190.97	0.98	69.75
FURNACE6_2051.LAB	2/8/2019	0	51.64	36.25	35.45	5.16	0.25	0.27	0.02	191.01	0.98	57.84
FURNACE6_2052.LAB	2/8/2019	0	57.39	31.39	30.70	5.42	0.26	0.28	0.01	191.03	0.98	64.14
FURNACE6_2053.LAB	2/8/2019	0	56.39	25.92	25.59	3.13	0.26	0.20	0.01	191.02	0.99	61.61
FURNACE6_2054.LAB	2/8/2019	0	63.13	23.96	23.81	3.26	0.27	0.15	0.01	191.09	0.98	69.00
FURNACE6_2055.LAB	2/8/2019	0	62.09	22.89	22.50	3.12	0.26	0.14	0.01	191.15	0.98	67.71
FURNACE6_2056.LAB	2/8/2019	0	56.06	21.82	21.30	2.51	0.25	0.13	0.01	191.13	0.98	60.71
FURNACE6_2057.LAB	2/8/2019	0	61.13	22.01	21.65	2.07	0.25	0.13	0.01	191.14	0.98	65.83
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_2058.LAB	2/8/2019	0	50.51	21.67	21.08	2.41	1.44	0.10	0.02	191.14	0.99	54.74
NH3SPIKE_2059.LAB	2/8/2019	0	55.78	34.70	34.71	1.86	0.29	0.09	0.31	191.14	0.98	60.14
NH3SPIKE_2060.LAB	2/8/2019	0	54.92	39.01	38.71	1.57	0.25	0.09	0.30	191.10	0.98	58.93
NH3SPIKE_2061.LAB	2/8/2019	0	58.73	37.67	37.70	1.40	0.26	0.02	0.30	191.01	0.98	62.80
NH3SPIKE_2062.LAB	2/8/2019	0	57.14	38.93	39.08	1.29	0.25	0.07	0.30	191.01	0.98	61.04

Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O%(20)	CO2%(20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_2063.LAB	2/8/2019	0	32.14	46.10	46.70	1.12	0.16	0.14	0.42	191.04	0.98	34.41
NH3SPIKE_2064.LAB	2/8/2019	0	0.14	14.41	13.88	0.90	0.01	0.07	0.01	191.03	0.98	0.22
FURNACE6_2065.LAB	2/8/2019	0	61.44	15.80	15.51	0.97	0.25	0.22	0.01	191.03	0.98	65.18
FURNACE6_2066.LAB	2/8/2019	0	45.97	18.33	17.95	1.22	0.21	0.09	0.01	191.02	0.98	49.13
FURNACE6_2067.LAB	2/8/2019	0	7.65	13.38	13.16	1.62	0.09	0.09	0.01	191.01	0.98	8.47
FURNACE6_2068.LAB	2/8/2019	0	49.43	16.88	16.46	2.13	0.24	0.09	0.01	191.01	0.98	53.35
FURNACE6_2069.LAB	2/8/2019	0	49.92	17.82	17.36	1.74	0.24	0.13	0.01	191.04	0.98	53.53
FURNACE6_2070.LAB	2/8/2019	0	54.75	20.82	20.61	1.57	0.24	0.08	0.01	191.02	0.98	58.80
FURNACE6_2071.LAB	2/8/2019	0	57.27	19.80	19.36	1.40	0.25	0.11	0.01	190.99	0.99	61.26
FURNACE6_2072.LAB	2/8/2019	0	53.14	19.01	18.70	1.18	0.24	0.13	0.01	191.02	0.98	56.79
FURNACE6_2073.LAB	2/8/2019	0	51.42	17.21	16.99	1.01	0.23	0.10	0.01	191.01	0.99	54.74
FURNACE6_2074.LAB	2/8/2019	0	56.45	18.37	18.00	0.94	0.24	0.12	0.01	191.12	0.98	60.11
FURNACE6_2075.LAB	2/8/2019	0	55.93	19.49	19.08	0.95	0.24	0.10	0.01	191.23	0.99	59.44
FURNACE6_2076.LAB	2/8/2019	0	58.33	17.29	17.11	1.13	0.25	0.06	0.01	191.19	0.99	62.09
FURNACE6_2077.LAB	2/8/2019	0	55.67	16.20	16.39	1.04	0.25	0.07	0.01	191.17	0.99	59.22
FURNACE6_2078.LAB	2/8/2019	0	45.64	24.09	23.91	0.95	0.24	0.14	0.01	191.17	0.99	48.71
FURNACE6_2079.LAB	2/8/2019	0	40.20	24.25	24.21	0.90	0.23	0.15	0.01	191.11	0.99	42.82
FURNACE6_2080.LAB	2/8/2019	0	51.61	27.06	27.21	0.88	0.24	0.08	0.01	191.02	0.99	54.93
FURNACE6_2081.LAB	2/8/2019	0	58.27	21.95	21.51	0.85	0.24	0.12	0.01	191.04	0.99	61.87
FURNACE6_2082.LAB	2/8/2019	0	57.56	19.83	19.72	0.80	0.25	0.19	0.01	191.01	0.99	61.06
FURNACE6_2083.LAB	2/8/2019	0	55.65	22.57	22.45	0.75	0.25	0.15	0.01	191.00	0.99	59.07
FURNACE6_2084.LAB	2/8/2019	0	59.68	19.58	19.73	0.61	0.25	0.13	0.01	191.01	0.99	63.20
FURNACE6_2085.LAB	2/8/2019	0	52.32	17.85	17.84	0.60	0.23	0.11	0.01	191.03	0.99	55.38
FURNACE6_2086.LAB	2/8/2019	0	59.66	18.00	17.67	0.61	0.25	0.12	0.01	191.02	0.99	63.18
FURNACE6_2087.LAB	2/8/2019	0	62.42	18.69	18.37	0.60	0.24	0.15	0.01	191.00	0.99	65.94
FURNACE6_2088.LAB	2/8/2019	0	57.87	19.09	18.98	0.60	0.24	0.10	0.01	191.02	0.99	61.24
FURNACE6_2089.LAB	2/8/2019	0	58.86	20.37	19.88	0.59	0.24	0.13	0.01	191.04	0.99	62.25
FURNACE6_2090.LAB	2/8/2019	0	49.92	19.89	19.66	0.58	0.23	0.15	0.01	191.06	0.99	52.90
FURNACE6_2091.LAB	2/8/2019	0	58.73	19.63	19.63	0.57	0.24	0.11	0.01	191.08	0.99	62.06
FURNACE6_2092.LAB	2/8/2019	0	61.79	18.56	18.22	0.57	0.24	0.18	0.01	191.12	0.99	65.28
FURNACE6_2093.LAB	2/8/2019	0	55.86	17.13	17.07	0.58	0.23	0.13	0.01	191.08	0.99	59.03
FURNACE6_2094.LAB	2/8/2019	0	59.17	17.21	17.17	0.59	0.23	0.08	0.01	191.09	0.99	62.51
FURNACE6_2095.LAB	2/8/2019	0	35.28	25.10	25.37	0.60	0.21	0.19	0.01	191.09	0.99	37.50
FURNACE6_2096.LAB	2/8/2019	0	43.72	20.05	19.53	0.58	0.22	0.08	0.01	191.10	0.99	46.22
FURNACE6_2097.LAB	2/8/2019	0	37.06	20.50	20.38	0.58	0.21	0.05	0.01	191.16	0.99	39.14
FURNACE6_2098.LAB	2/8/2019	0	36.41	21.00	20.85	0.58	0.21	0.09	0.01	191.44	0.99	38.46
FURNACE6_2099.LAB	2/8/2019	0	46.43	20.37	20.14	0.58	0.22	0.12	0.01	191.50	0.99	48.91
FURNACE6_2100.LAB	2/8/2019	0	34.39	21.41	21.26	0.58	0.21	0.14	0.01	191.34	1.00	36.37
FURNACE6_2101.LAB	2/8/2019	0	38.65	21.82	21.80	0.59	0.21	0.12	0.01	191.17	1.00	40.87
FURNACE6_2102.LAB	2/8/2019	0	39.24	24.15	24.03	0.60	0.21	0.11	0.01	191.06	1.00	41.57
FURNACE6_2103.LAB	2/8/2019	0	38.83	22.04	21.64	0.60	0.21	0.13	0.01	191.03	1.01	41.15
FURNACE6_2104.LAB	2/8/2019	0	20.06	21.66	21.58	0.84	0.14	0.03	0.01	191.24	1.01	21.46
FURNACE6_2105.LAB	2/8/2019	0	57.50	19.03	18.60	1.07	0.22	0.10	0.01	191.43	1.01	61.10
FURNACE6_2106.LAB	2/8/2019	0	57.21	19.41	19.01	0.84	0.22	0.09	0.01	191.16	1.00	60.53

FURNACE6_2107.LAB	2/8/2019	0	54.37	17.78	17.59	0.78	0.22	0.07	0.01	191.08	1.00	57.52
FURNACE6_2108.LAB	2/8/2019	0	47.28	16.43	16.35	0.71	0.21	0.09	0.01	191.01	1.01	50.03
FURNACE6_2109.LAB	2/8/2019	0	47.41	18.59	18.07	0.72	0.21	0.14	0.01	191.05	1.01	50.21
FURNACE6_2110.LAB	2/8/2019	1	51.67	17.95	17.78	0.68	0.21	0.11	0.01	191.04	1.02	54.57
FURNACE6_2111.LAB	2/8/2019	1	56.32	22.53	22.55	0.64	0.22	0.10	0.01	191.03	1.03	59.42
FURNACE6_2112.LAB	2/8/2019	1	55.10	26.19	25.58	0.63	0.23	0.16	0.01	191.04	1.04	58.16
FURNACE6_2113.LAB	2/8/2019	1	56.00	23.40	23.11	0.62	0.22	0.18	0.01	191.08	1.04	59.16
FURNACE6_2114.LAB	2/8/2019	1	57.34	24.00	23.72	0.63	0.23	0.17	0.01	191.05	1.06	60.51
FURNACE6_2115.LAB	2/8/2019	1	53.35	23.78	23.43	0.63	0.21	0.14	0.01	191.13	1.07	56.32
FURNACE6_2116.LAB	2/8/2019	1	54.71	23.52	23.16	0.61	0.22	0.16	0.01	191.41	1.10	57.80
FURNACE6_2117.LAB	2/8/2019	1	58.97	23.07	22.18	0.60	0.22	0.13	0.01	191.47	1.13	62.20
FURNACE6_2118.LAB	2/8/2019	1	56.97	21.81	21.22	0.60	0.22	0.10	0.01	191.23	1.13	60.01
FURNACE6_2119.LAB	2/8/2019	1	61.34	22.31	21.70	0.60	0.23	0.25	0.00	191.04	1.13	64.68
FURNACE6_2120.LAB	2/8/2019	1	57.37	22.53	21.81	0.59	0.22	0.11	0.01	190.97	1.20	60.46
FURNACE6_2121.LAB	2/8/2019	1	57.36	21.98	21.19	0.57	0.22	0.09	0.00	191.00	1.21	60.38
FURNACE6_2122.LAB	2/8/2019	1	64.72	22.99	21.63	0.60	0.24	0.12	0.00	191.34	1.31	67.88
FURNACE6_2123.LAB	2/8/2019	1	53.64	22.75	21.47	0.56	0.21	0.14	0.00	191.37	1.31	56.36
FURNACE6_2124.LAB	2/8/2019	1	54.84	21.51	20.49	0.54	0.20	0.13	0.00	191.20	1.30	57.65
FURNACE6_2125.LAB	2/8/2019	1	58.12	23.41	22.65	0.55	0.22	0.20	0.00	191.02	1.19	61.27
FURNACE6_2126.LAB	2/8/2019	1	58.44	21.63	21.24	0.54	0.21	0.11	0.01	190.94	1.21	61.56
FURNACE6_2127.LAB	2/8/2019	1	57.38	23.41	22.49	0.54	0.22	0.14	0.00	190.92	1.19	60.49
FURNACE6_2128.LAB	2/8/2019	1	56.26	20.70	20.07	0.53	0.21	0.16	0.01	190.95	1.18	59.28
FURNACE6_2129.LAB	2/8/2019	1	57.77	20.57	19.69	0.53	0.22	0.17	0.00	191.01	1.22	60.83
FURNACE6_2130.LAB	2/8/2019	1	61.97	23.16	22.68	0.53	0.22	0.08	0.01	190.99	1.13	65.30
FURNACE6_2131.LAB	2/8/2019	1	60.86	21.32	21.20	0.53	0.22	0.10	0.00	190.99	1.05	64.22
FURNACE6_2132.LAB	2/8/2019	1	53.96	23.12	22.61	0.52	0.22	0.17	0.01	190.97	1.07	57.03
FURNACE6_2133.LAB	2/8/2019	1	60.33	22.02	21.56	0.52	0.23	0.16	0.01	190.97	1.09	63.77
FURNACE6_2134.LAB	2/8/2019	1	63.59	21.53	21.13	0.52	0.23	0.15	0.01	190.99	1.10	67.18
FURNACE6_2135.LAB	2/8/2019	1	62.71	21.95	21.45	0.52	0.23	0.13	0.01	190.98	1.08	66.15
FURNACE6_2136.LAB	2/8/2019	1	61.41	24.12	23.70	0.52	0.23	0.16	0.01	191.01	1.08	64.82
FURNACE6_2137.LAB	2/8/2019	1	58.55	20.76	20.05	0.51	0.22	0.18	0.01	191.00	1.12	61.66
FURNACE6_2138.LAB	2/8/2019	1	59.17	19.53	18.71	0.50	0.21	0.14	0.01	191.06	1.24	62.22
FURNACE6_2139.LAB	2/8/2019	1	55.94	19.06	18.09	0.50	0.21	0.16	0.01	191.05	1.25	58.84
FURNACE6_2140.LAB	2/8/2019	1	55.44	19.59	18.67	0.50	0.21	0.12	0.00	191.04	1.24	58.38
FURNACE6_2141.LAB	2/8/2019	1	53.09	20.42	19.38	0.49	0.21	0.16	0.00	190.99	1.27	55.90
FURNACE6_2142.LAB	2/8/2019	1	51.43	21.59	20.56	0.49	0.21	0.15	0.00	191.00	1.31	53.99
FURNACE6_2143.LAB	2/8/2019	1	49.12	19.30	18.07	0.51	0.20	0.16	0.00	191.03	1.31	51.56
FURNACE6_2144.LAB	2/8/2019	1	58.20	23.47	20.93	0.55	0.23	0.17	0.00	191.01	1.31	61.00
FURNACE6_2145.LAB	2/8/2019	1	56.85	25.50	24.55	0.52	0.22	0.14	0.00	191.10	1.24	59.93
FURNACE6_2146.LAB	2/8/2019	1	46.06	21.31	20.50	0.60	0.20	0.15	0.00	191.14	1.23	48.58
FURNACE6_2147.LAB	2/8/2019	1	57.79	18.83	17.57	0.53	0.21	0.16	0.00	191.11	1.31	60.86
FURNACE6_2148.LAB	2/8/2019	1	63.58	24.86	22.93	0.71	0.24	0.17	0.00	191.00	1.31	66.73
FURNACE6_2149.LAB	2/8/2019	1	59.38	23.02	21.77	1.33	0.22	0.13	0.01	191.02	1.31	62.67
FURNACE6_2150.LAB	2/8/2019	1	66.67	23.89	21.98	1.26	0.24	0.12	0.00	191.08	1.31	69.98
FURNACE6_2151.LAB	2/8/2019	1	67.36	21.58	19.64	0.99	0.24	0.18	0.00	191.10	1.31	70.68
FURNACE6_2152.LAB	2/8/2019	1	53.86	20.16	18.95	0.82	0.22	0.15	0.00	191.08	1.27	56.75

FURNACE6_2153.LAB	2/8/2019	1	58.89	21.58	19.72	0.83	0.23	0.15	0.00	191.07	1.31	61.71
FURNACE6_2154.LAB	2/8/2019	1	62.74	21.99	20.09	0.84	0.24	0.12	0.00	191.14	1.31	65.78
FURNACE6_2155.LAB	2/8/2019	1	56.20	19.19	17.77	0.85	0.22	0.14	0.00	191.44	1.31	58.93
FURNACE6_2156.LAB	2/8/2019	1	55.06	18.27	17.18	0.80	0.22	0.15	0.00	191.29	1.31	57.91
FURNACE6_2157.LAB	2/8/2019	1	57.48	22.36	21.32	0.77	0.21	0.13	0.01	191.11	1.30	60.69
FURNACE6_2158.LAB	2/8/2019	1	60.78	20.78	20.04	0.73	0.22	0.17	0.01	191.02	1.23	64.11
FURNACE6_2159.LAB	2/8/2019	1	58.84	21.94	20.82	0.64	0.21	0.12	0.01	190.98	1.29	61.88
FURNACE6_2160.LAB	2/8/2019	1	55.54	20.45	19.52	0.63	0.21	0.15	0.00	190.97	1.27	58.46
FURNACE6_2161.LAB	2/8/2019	1	57.89	22.89	21.90	0.63	0.21	0.14	0.01	191.00	1.22	60.95
FURNACE6_2162.LAB	2/8/2019	1	56.47	26.21	25.00	0.61	0.21	0.08	0.00	190.99	1.28	59.39
FURNACE6_2163.LAB	2/8/2019	1	49.39	22.40	21.19	0.59	0.20	0.12	0.01	191.00	1.26	51.96
FURNACE6_2164.LAB	2/8/2019	1	48.54	19.18	18.08	0.58	0.19	0.15	0.00	191.02	1.30	50.97
FURNACE6_2165.LAB	2/8/2019	1	61.98	27.23	25.01	1.63	0.23	0.15	0.00	191.03	1.31	65.79
FURNACE6_2166.LAB	2/8/2019	1	74.51	26.22	23.02	1.96	0.25	0.14	-0.01	191.04	1.31	78.74
FURNACE6_2167.LAB	2/8/2019	1	71.10	23.63	21.26	3.46	0.21	0.11	-0.01	191.04	1.31	76.16
FURNACE6_2168.LAB	2/8/2019	1	55.87	32.83	28.63	14.73	0.18	0.32	-0.02	191.04	1.31	67.28
FURNACE6_2169.LAB	2/8/2019	1	54.59	29.08	26.15	12.70	0.17	0.27	-0.01	191.01	1.31	64.91
FURNACE6_2170.LAB	2/8/2019	1	54.22	29.01	26.25	14.02	0.15	0.24	-0.01	191.02	1.31	65.04
FURNACE6_2171.LAB	2/8/2019	1	68.51	29.86	27.10	10.29	0.22	0.22	-0.02	190.99	1.31	79.22
FURNACE6_2172.LAB	2/8/2019	1	61.15	27.59	25.89	10.12	0.20	0.20	-0.01	191.02	1.22	70.25
FURNACE6_2173.LAB	2/8/2019	1	56.11	20.51	19.72	5.19	0.22	0.20	0.02	192.03	1.00	62.33
FURNACE6_2174.LAB	2/8/2019	1	58.91	16.13	16.00	3.68	0.23	0.12	0.01	192.28	1.01	64.26
FURNACE6_2175.LAB	2/8/2019	1	59.21	15.70	15.46	3.12	0.22	0.17	0.01	191.67	1.01	64.26
FURNACE6_2176.LAB	2/8/2019	1	57.72	15.97	15.78	3.42	0.23	0.13	0.01	191.18	1.00	62.83
FURNACE6_2177.LAB	2/8/2019	1	55.64	16.02	15.38	3.86	0.22	0.13	0.01	191.00	0.99	60.85
FURNACE6_2178.LAB	2/8/2019	1	49.99	16.17	16.00	2.74	0.21	0.08	0.01	190.99	0.99	54.12
FURNACE6_2179.LAB	2/8/2019	1	56.82	16.79	16.47	2.53	0.22	0.09	0.01	190.93	0.99	61.36
FURNACE6_2180.LAB	2/8/2019	1	53.00	16.22	16.11	2.44	0.21	0.14	0.01	190.88	0.99	57.05
FURNACE6_2181.LAB	2/8/2019	1	52.69	13.91	13.74	1.72	0.21	0.10	0.01	190.92	0.99	56.41
FURNACE6_2182.LAB	2/8/2019	1	53.36	13.42	13.08	1.16	0.21	0.09	0.01	190.95	0.99	56.75
FURNACE6_2183.LAB	2/8/2019	1	54.51	14.47	14.42	1.01	0.21	0.12	0.01	190.95	0.99	57.96
FURNACE6_2184.LAB	2/8/2019	1	53.75	14.68	14.49	0.99	0.21	0.11	0.01	190.92	0.99	56.96
FURNACE6_2185.LAB	2/8/2019	1	48.83	14.46	14.23	1.33	0.20	0.10	0.01	190.96	0.99	52.12
FURNACE6_2186.LAB	2/8/2019	1	51.60	14.35	13.61	0.90	0.20	0.10	0.01	190.98	0.99	54.67
FURNACE6_2187.LAB	2/8/2019	1	49.99	13.11	12.82	0.82	0.20	0.10	0.01	190.98	0.99	52.90
FURNACE6_2188.LAB	2/8/2019	1	49.07	15.86	15.66	1.81	0.20	0.11	0.02	190.98	0.99	52.57
FURNACE6_2189.LAB	2/8/2019	1	52.00	16.30	16.11	1.87	0.21	0.06	0.01	190.96	0.99	55.68
FURNACE6_2190.LAB	2/8/2019	1	54.59	14.93	14.74	1.13	0.21	0.08	0.01	190.98	0.99	58.01
FURNACE6_2191.LAB	2/8/2019	1	53.87	14.42	14.01	0.86	0.20	0.12	0.01	190.99	0.99	57.07
FURNACE6_2192.LAB	2/8/2019	1	52.11	14.50	14.41	0.83	0.20	0.14	0.01	191.03	0.99	55.18
FURNACE6_2193.LAB	2/8/2019	1	54.76	14.23	14.02	0.83	0.21	0.12	0.01	190.99	0.99	57.89
FURNACE6_2194.LAB	2/8/2019	1	49.86	15.68	15.32	0.82	0.20	0.10	0.01	190.98	0.99	52.90
FURNACE6_2195.LAB	2/8/2019	1	51.76	16.48	16.42	0.82	0.20	0.18	0.01	191.00	0.99	54.81
FURNACE6_2196.LAB	2/8/2019	1	52.02	18.74	18.83	2.03	0.21	0.04	0.01	191.03	0.99	55.90
FURNACE6_2197.LAB	2/8/2019	1	58.71	16.23	15.95	1.09	0.22	0.10	0.01	191.09	0.99	62.39
FURNACE6_2198.LAB	2/8/2019	1	59.84	16.16	15.58	0.82	0.22	0.13	0.01	191.09	0.99	63.41

FURNACE6_2199.LAB	2/8/2019	1	60.59	15.47	14.79	0.78	0.22	0.16	0.01	191.05	0.99	63.98
FURNACE6_2200.LAB	2/8/2019	1	58.64	14.61	14.35	0.77	0.22	0.14	0.01	191.08	0.99	62.05
FURNACE6_2201.LAB	2/8/2019	1	53.86	13.86	13.81	0.75	0.20	0.15	0.01	191.05	0.99	56.88
FURNACE6_2202.LAB	2/8/2019	1	55.39	13.82	13.66	0.82	0.21	0.07	0.01	191.05	0.99	58.56
FURNACE6_2203.LAB	2/8/2019	1	57.81	15.18	14.74	1.44	0.22	0.14	0.01	191.03	0.99	61.58
FURNACE6_2204.LAB	2/8/2019	1	54.94	13.67	13.11	0.90	0.21	0.15	0.01	191.05	0.99	58.08
FURNACE6_2205.LAB	2/8/2019	1	56.03	14.83	14.51	1.17	0.21	0.12	0.01	191.09	0.99	59.52
FURNACE6_2206.LAB	2/8/2019	1	56.84	14.76	14.55	1.08	0.22	0.17	0.01	191.10	0.99	60.33
FURNACE6_2207.LAB	2/8/2019	1	57.79	14.79	14.38	0.92	0.22	0.11	0.01	191.11	1.00	61.08
FURNACE6_2208.LAB	2/8/2019	1	60.59	14.39	14.19	0.84	0.22	0.08	0.01	191.11	1.00	64.00
FURNACE6_2209.LAB	2/8/2019	1	58.13	15.05	14.82	1.17	0.22	0.15	0.01	191.14	1.00	61.64
FURNACE6_2210.LAB	2/8/2019	1	57.93	15.22	15.15	1.18	0.22	0.10	0.01	191.09	1.00	61.48
FURNACE6_2211.LAB	2/8/2019	1	61.45	15.69	15.44	1.17	0.23	0.08	0.01	191.03	0.99	65.20
FURNACE6_2212.LAB	2/8/2019	1	51.20	17.74	17.24	2.34	0.21	0.13	0.01	191.03	0.99	55.10
FURNACE6_2213.LAB	2/8/2019	1	53.97	17.07	16.97	1.79	0.22	0.12	0.01	191.07	0.99	57.65
FURNACE6_2214.LAB	2/8/2019	1	58.31	17.07	16.83	1.32	0.22	0.06	0.02	191.06	0.99	61.98
FURNACE6_2215.LAB	2/8/2019	1	56.24	17.06	17.08	1.37	0.21	0.09	0.01	191.05	1.00	59.85
FURNACE6_2216.LAB	2/8/2019	1	56.90	15.95	15.81	1.25	0.22	0.10	0.01	191.03	1.00	60.47
FURNACE6_2217.LAB	2/8/2019	1	56.02	15.71	15.14	1.32	0.21	0.09	0.01	191.02	1.00	59.54
FURNACE6_2218.LAB	2/8/2019	1	60.20	15.89	15.66	1.48	0.22	0.12	0.01	190.98	1.00	64.05
FURNACE6_2219.LAB	2/8/2019	1	60.84	18.29	18.64	2.64	0.23	0.02	0.01	191.02	1.00	65.52
FURNACE6_2220.LAB	2/8/2019	1	56.65	24.37	23.64	2.53	0.23	0.11	0.01	191.03	1.00	61.04
FURNACE6_2221.LAB	2/8/2019	1	58.62	26.79	26.55	1.76	0.22	0.06	0.02	191.04	1.00	62.90
FURNACE6_2222.LAB	2/8/2019	1	56.18	21.78	21.09	1.02	0.22	0.08	0.01	191.08	1.00	59.63
FURNACE6_2223.LAB	2/8/2019	1	59.47	17.80	17.74	0.63	0.22	0.09	0.01	191.02	1.00	62.80
FURNACE6_2224.LAB	2/8/2019	1	55.23	16.58	16.36	0.61	0.21	0.07	0.01	191.04	0.99	58.28
FURNACE6_2225.LAB	2/8/2019	1	52.93	16.28	16.33	0.59	0.20	0.12	0.01	191.05	0.99	55.91
FURNACE6_2226.LAB	2/8/2019	1	52.37	18.55	18.35	0.58	0.20	0.12	0.01	191.05	0.99	55.37
FURNACE6_2227.LAB	2/8/2019	1	53.81	18.66	18.48	0.57	0.20	0.13	0.01	191.05	0.99	56.97
FURNACE6_2228.LAB	2/8/2019	1	56.08	19.38	18.93	0.57	0.21	0.12	0.01	191.25	0.99	59.26
FURNACE6_2229.LAB	2/8/2019	1	56.12	17.01	17.14	0.58	0.21	0.18	0.01	191.19	0.99	59.22
FURNACE6_2230.LAB	2/8/2019	1	46.88	15.85	15.50	0.61	0.19	0.09	0.01	191.25	0.99	49.55
FURNACE6_2231.LAB	2/8/2019	1	49.74	15.34	15.04	0.60	0.20	0.10	0.01	191.69	0.99	52.56
FURNACE6_2232.LAB	2/8/2019	1	47.63	15.67	15.48	0.60	0.19	0.21	0.01	191.66	0.99	50.37
FURNACE6_2233.LAB	2/8/2019	1	52.35	15.89	15.74	0.59	0.20	0.16	0.01	191.46	0.99	55.25
FURNACE6_2234.LAB	2/8/2019	1	55.82	16.19	16.41	0.59	0.21	0.13	0.01	191.16	0.99	58.97
FURNACE6_2235.LAB	2/8/2019	1	52.49	18.13	17.97	0.59	0.21	0.13	0.01	191.00	0.99	55.50
FURNACE6_2236.LAB	2/8/2019	1	55.26	18.13	18.14	0.60	0.21	0.15	0.01	190.97	0.99	58.44
FURNACE6_2237.LAB	2/8/2019	1	56.42	17.14	16.99	0.60	0.21	0.08	0.01	190.95	0.99	59.56
FURNACE6_2238.LAB	2/8/2019	1	56.72	15.67	15.34	0.60	0.21	0.10	0.01	190.96	0.99	59.80
FURNACE6_2239.LAB	2/8/2019	1	51.99	18.27	17.88	0.59	0.20	0.10	0.01	190.98	0.99	54.92
FURNACE6_2240.LAB	2/8/2019	1	54.41	16.59	16.72	0.58	0.20	0.08	0.01	190.99	0.99	57.37
FURNACE6_2241.LAB	2/8/2019	1	56.04	16.44	16.36	0.58	0.21	0.13	0.01	190.99	0.99	59.12
FURNACE6_2242.LAB	2/8/2019	1	53.72	16.57	16.42	0.58	0.20	0.11	0.01	191.02	0.99	56.68
FURNACE6_2243.LAB	2/8/2019	1	51.06	16.07	15.66	0.58	0.20	0.11	0.01	191.05	0.99	53.82
FURNACE6_2244.LAB	2/8/2019	1	52.92	15.92	15.43	0.57	0.20	0.09	0.01	191.06	0.99	55.81

FURNACE6_2245.LAB	2/8/2019	1	53.85	15.86	15.84	0.56	0.20	0.13	0.01	191.05	0.99	56.76
FURNACE6_2246.LAB	2/8/2019	1	53.09	16.41	16.13	0.56	0.20	0.13	0.01	191.01	0.99	56.06
FURNACE6_2247.LAB	2/8/2019	1	57.10	15.87	15.67	0.57	0.21	0.11	0.01	191.07	0.99	60.18
FURNACE6_2248.LAB	2/8/2019	1	50.77	15.75	15.18	0.57	0.20	0.06	0.01	191.07	0.99	53.55
FURNACE6_2249.LAB	2/8/2019	1	48.32	17.92	17.67	0.57	0.20	0.10	0.01	191.06	0.99	51.15
FURNACE6_2250.LAB	2/8/2019	1	52.85	17.75	17.50	0.57	0.20	0.11	0.01	191.09	0.99	55.88
FURNACE6_2251.LAB	2/8/2019	1	51.39	21.11	21.08	0.56	0.20	0.17	0.01	191.10	0.99	54.39
FURNACE6_2252.LAB	2/8/2019	1	54.47	19.56	19.42	0.56	0.20	0.10	0.01	191.08	0.99	57.56
FURNACE6_2253.LAB	2/8/2019	1	49.11	18.86	18.95	0.55	0.20	0.15	0.01	191.12	0.99	51.93
FURNACE6_2254.LAB	2/8/2019	1	50.52	21.09	20.75	0.54	0.20	0.16	0.01	191.10	0.99	53.41
FURNACE6_2255.LAB	2/8/2019	1	52.66	19.99	20.06	0.54	0.20	0.12	0.01	191.06	0.99	55.57
FURNACE6_2256.LAB	2/8/2019	1	56.20	19.07	18.98	0.53	0.21	0.10	0.01	191.06	0.99	59.29
FURNACE6_2257.LAB	2/8/2019	1	50.05	19.06	19.16	0.54	0.20	0.14	0.01	191.04	0.99	52.82
FURNACE6_2258.LAB	2/8/2019	1	52.35	17.74	17.47	0.55	0.20	0.14	0.01	191.08	0.99	55.24
FURNACE6_2259.LAB	2/8/2019	1	55.35	16.59	16.37	0.56	0.20	0.09	0.01	191.07	0.99	58.36
FURNACE6_2260.LAB	2/8/2019	1	56.76	18.68	18.58	0.57	0.21	0.13	0.01	191.10	0.99	59.90
FURNACE6_2261.LAB	2/8/2019	1	53.75	15.58	15.34	0.57	0.20	0.17	0.01	191.02	0.99	56.63
FURNACE6_2262.LAB	2/8/2019	1	52.12	16.23	16.03	0.58	0.21	0.14	0.01	191.03	0.99	54.97
FURNACE6_2263.LAB	2/8/2019	1	49.07	20.77	20.56	0.58	0.20	0.16	0.01	191.07	0.99	51.97
FURNACE6_2264.LAB	2/8/2019	1	53.47	22.15	21.90	0.59	0.21	0.09	0.01	191.11	0.99	56.51
FURNACE6_2265.LAB	2/8/2019	1	52.09	19.53	19.48	0.59	0.20	0.14	0.01	191.15	0.99	55.10
FURNACE6_2266.LAB	2/8/2019	1	46.82	23.43	23.20	0.58	0.20	0.12	0.01	191.13	0.99	49.57
FURNACE6_2267.LAB	2/8/2019	1	52.96	19.01	19.01	0.57	0.21	0.12	0.01	191.11	0.99	55.87
FURNACE6_2268.LAB	2/8/2019	1	51.37	16.92	16.66	0.56	0.20	0.12	0.01	191.09	0.99	54.21
FURNACE6_2269.LAB	2/8/2019	1	55.26	16.49	16.45	0.56	0.21	0.07	0.01	191.16	0.99	58.32
FURNACE6_2270.LAB	2/8/2019	1	55.47	16.80	16.88	0.56	0.20	0.15	0.01	191.07	0.99	58.49
FURNACE6_2271.LAB	2/8/2019	1	56.93	14.38	13.96	0.56	0.21	0.16	0.01	191.08	0.99	59.98
FURNACE6_2272.LAB	2/8/2019	1	58.63	13.90	13.48	0.58	0.21	0.10	0.01	191.09	0.99	61.79
FURNACE6_2273.LAB	2/8/2019	1	55.03	13.35	12.99	0.60	0.21	0.10	0.01	191.10	0.99	58.00
FURNACE6_2274.LAB	2/8/2019	1	56.31	12.91	12.81	0.61	0.21	0.10	0.01	191.06	0.99	59.37
FURNACE6_2275.LAB	2/8/2019	1	54.63	15.39	15.10	0.60	0.20	0.14	0.01	191.07	0.99	57.56
FURNACE6_2276.LAB	2/8/2019	1	56.66	16.39	16.47	0.60	0.21	0.07	0.01	191.07	0.99	59.69
FURNACE6_2277.LAB	2/8/2019	1	54.25	16.64	16.26	0.59	0.21	0.11	0.01	191.06	0.99	57.21
FURNACE6_2278.LAB	2/8/2019	1	55.57	14.63	14.09	0.58	0.21	0.11	0.01	191.13	0.99	58.52
FURNACE6_2279.LAB	2/8/2019	1	54.99	13.57	13.31	0.57	0.20	0.12	0.01	191.27	0.99	57.89
FURNACE6_2280.LAB	2/8/2019	1	58.42	13.42	13.09	0.57	0.21	0.15	0.01	191.39	0.99	61.56
FURNACE6_2281.LAB	2/8/2019	1	62.31	14.62	14.11	0.57	0.22	0.14	0.01	191.25	0.99	65.68
FURNACE6_2282.LAB	2/8/2019	1	60.87	17.42	17.25	0.56	0.22	0.06	0.01	191.15	0.99	64.26
FURNACE6_2283.LAB	2/8/2019	1	53.96	17.03	16.72	0.55	0.21	0.09	0.01	191.12	0.99	56.94
FURNACE6_2284.LAB	2/8/2019	1	33.27	17.50	17.33	0.66	0.16	0.08	0.01	191.26	0.99	35.32
FURNACE6_2285.LAB	2/8/2019	1	46.70	21.12	20.94	3.06	0.19	0.17	0.01	191.61	0.99	51.17
FURNACE6_2286.LAB	2/8/2019	1	36.52	30.75	30.27	9.82	0.17	0.21	0.01	191.45	0.99	42.47
FURNACE6_2287.LAB	2/8/2019	1	35.43	30.39	28.76	13.71	0.16	0.29	0.01	191.25	0.99	43.01
FURNACE6_2288.LAB	2/8/2019	1	36.90	19.20	18.87	10.21	0.17	0.18	0.01	191.16	0.99	43.12
FURNACE6_2289.LAB	2/8/2019	1	38.40	17.07	16.97	7.48	0.18	0.22	0.01	191.17	0.99	43.56
FURNACE6_2290.LAB	2/8/2019	1	37.47	13.27	13.12	4.13	0.19	0.20	0.01	191.26	0.99	41.52

FURNACE6_2291.LAB	2/8/2019	1	39.53	13.97	13.93	4.83	0.20	0.19	0.02	191.16	0.99	43.80
FURNACE6_2292.LAB	2/8/2019	1	45.14	13.25	12.97	3.42	0.21	0.16	0.01	191.08	0.99	49.15
FURNACE6_2293.LAB	2/8/2019	1	31.46	13.07	12.71	3.26	0.18	0.12	0.01	191.07	0.99	34.33
FURNACE6_2294.LAB	2/8/2019	1	47.72	12.47	12.01	2.76	0.20	0.12	0.01	191.34	0.99	51.57
FURNACE6_2295.LAB	2/8/2019	1	42.89	13.55	13.22	2.05	0.20	0.13	0.01	191.67	0.99	45.99
FURNACE6_2296.LAB	2/8/2019	1	41.14	13.90	13.68	1.79	0.19	0.18	0.01	191.52	0.99	44.03
FURNACE6_2297.LAB	2/8/2019	1	43.65	13.97	13.63	1.46	0.19	0.11	0.01	191.59	0.99	46.56
FURNACE6_2298.LAB	2/8/2019	1	37.26	13.29	13.33	1.72	0.19	0.04	0.01	193.03	0.99	39.95
FURNACE6_2299.LAB	2/8/2019	1	47.99	13.41	13.07	1.92	0.20	0.12	0.02	192.46	0.99	51.50
FURNACE6_2300.LAB	2/8/2019	1	45.40	14.55	14.56	1.54	0.20	0.11	0.01	191.54	0.99	53.40
FURNACE6_2301.LAB	2/8/2019	1	38.89	13.98	13.85	1.40	0.19	0.14	0.01	191.08	0.99	48.33
FURNACE6_2302.LAB	2/8/2019	1	37.78	13.62	13.64	1.26	0.18	0.10	0.01	190.87	0.99	41.47
FURNACE6_2303.LAB	2/8/2019	1	31.73	14.61	14.18	1.14	0.17	0.14	0.01	190.92	0.99	33.79
FURNACE6_2304.LAB	2/8/2019	1	37.15	14.28	14.41	1.11	0.18	0.13	0.01	190.98	0.99	39.50
FURNACE6_2305.LAB	2/8/2019	1	41.25	14.48	14.38	1.10	0.18	0.12	0.01	190.98	0.99	43.83
FURNACE6_2306.LAB	2/8/2019	1	40.44	14.51	14.23	1.09	0.19	0.05	0.01	191.02	0.99	43.01
FURNACE6_2307.LAB	2/8/2019	1	43.69	15.94	15.91	1.08	0.19	0.08	0.01	191.01	0.99	46.47
FURNACE6_2308.LAB	2/8/2019	1	39.26	14.70	14.48	1.04	0.18	0.14	0.01	191.03	0.99	41.68
FURNACE6_2309.LAB	2/8/2019	1	33.53	11.96	11.69	0.99	0.18	0.10	0.01	191.02	0.99	35.46
FURNACE6_2310.LAB	2/8/2019	1	35.55	10.89	11.06	0.96	0.19	0.12	0.01	191.06	0.99	37.55
FURNACE6_2311.LAB	2/8/2019	1	36.08	11.21	11.08	0.97	0.20	0.06	0.01	191.11	0.99	38.15
FURNACE6_2312.LAB	2/8/2019	1	24.76	11.33	11.15	0.98	0.19	0.07	0.01	191.40	0.99	26.24
FURNACE6_2313.LAB	2/8/2019	1	39.59	10.60	10.31	0.97	0.21	0.13	0.01	191.68	0.99	41.76
FURNACE6_2314.LAB	2/8/2019	1	40.26	8.86	8.65	0.99	0.23	0.08	0.01	191.48	0.99	42.47
FURNACE6_2315.LAB	2/8/2019	1	30.59	9.71	9.28	0.98	0.21	0.01	0.01	191.15	0.99	32.33
FURNACE6_2316.LAB	2/8/2019	1	24.54	11.27	10.78	0.97	0.19	0.09	0.01	191.04	0.99	26.05
FURNACE6_2317.LAB	2/8/2019	1	27.62	10.29	9.90	0.96	0.21	0.08	0.01	190.99	0.99	29.24
FURNACE6_2318.LAB	2/8/2019	1	40.80	10.03	9.72	1.00	0.30	0.09	0.01	190.94	0.99	43.25
FURNACE6_2319.LAB	2/8/2019	1										
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSYS_2320.LAB	2/8/2019	1	103.06	5.23	4.90	0.76	0.39	0.45	1.50	191.92	0.99	106.74
NOSYS_2321.LAB	2/8/2019	1	285.26	4.63	4.69	0.68	0.01	-0.52	3.91	191.73	0.99	288.26
NOSYS_2322.LAB	2/8/2019	1	287.25	4.10	3.77	0.67	0.00	-0.46	3.93	191.57	0.99	289.50
NOSYS_2323.LAB	2/8/2019	1	285.19	3.72	3.34	0.63	0.01	-0.41	3.93	191.47	0.99	287.19
NOSYS_2324.LAB	2/8/2019	1	286.06	3.51	2.80	0.63	-0.01	-0.54	3.94	191.32	0.99	288.06
NOSYS_2325.LAB	2/8/2019	1	287.73	3.21	3.54	0.62	0.00	-0.52	3.94	191.25	0.99	289.64
NOSYS_2326.LAB	2/8/2019	1	288.43	3.07	3.17	0.62	0.00	-0.38	3.95	191.15	0.99	290.37
NOSYS_2327.LAB	2/8/2019	1	289.14	2.93	3.06	0.62	0.00	-0.50	3.95	191.07	0.99	291.07
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SYS_2328.LAB	2/8/2019	1	90.64	65.87	74.60	0.59	0.02	-0.38	3.65	190.97	0.99	91.28
NH3SYS_2329.LAB	2/8/2019	1	1.89	204.69	201.12	0.58	0.04	-0.46	3.89	190.95	0.99	1.93
NH3SYS_2330.LAB	2/8/2019	1	0.86	240.13	234.62	0.56	0.05	-0.34	3.88	190.90	0.99	0.92
NH3SYS_2331.LAB	2/8/2019	1	0.98	256.31	251.29	0.54	0.05	-0.26	3.90	190.98	0.99	1.02
NH3SYS_2332.LAB	2/8/2019	1	0.56	264.93	259.54	0.51	0.05	-0.24	3.88	191.01	0.99	0.63

NH3SYS_2333.LAB	2/8/2019	1	0.85	271.38	264.40	0.49	0.05	-0.30	3.89	191.05	0.99	0.86
NH3SYS_2334.LAB	2/8/2019	1	0.77	276.73	270.98	0.49	0.06	-0.49	3.89	191.05	0.99	0.85
NH3SYS_2335.LAB	2/8/2019	1	0.69	280.85	275.19	0.48	0.06	-0.55	3.88	191.16	0.99	0.73
NH3SYS_2336.LAB	2/8/2019	1	0.77	284.70	278.45	0.47	0.05	-0.46	3.89	191.21	0.99	0.85
NH3SYS_2337.LAB	2/8/2019	1	0.45	286.41	280.43	0.46	0.06	-0.41	3.88	191.40	0.99	0.52
NH3SYS_2338.LAB	2/8/2019	1	0.56	287.30	280.94	0.45	0.05	-0.38	3.88	191.44	0.99	0.59
NH3SYS_2339.LAB	2/8/2019	1	0.58	288.16	282.85	0.45	0.06	-0.49	3.89	191.40	0.99	0.66
NH3SYS_2340.LAB	2/8/2019	1	0.52	289.77	283.20	0.45	0.05	-0.35	3.88	191.33	0.99	0.58
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSSYS_2341.LAB	2/8/2019	1	0.60	178.87	186.73	0.68	0.05	35.30	1.77	191.11	0.99	0.63
CTSSYS_2342.LAB	2/8/2019	1	0.53	40.39	39.27	0.63	0.01	97.72	0.02	191.08	0.99	0.48
CTSSYS_2343.LAB	2/8/2019	1	0.50	22.82	21.95	0.60	0.01	98.69	0.00	191.11	0.99	0.49
CTSSYS_2344.LAB	2/8/2019	1	0.46	16.01	14.86	0.52	0.02	98.38	0.00	191.18	0.99	0.51
CTSSYS_2345.LAB	2/8/2019	1	0.20	12.88	11.59	0.63	0.00	98.34	0.00	191.32	0.99	0.19
CTSSYS_2346.LAB	2/8/2019	1	0.48	10.36	9.13	0.64	0.01	98.75	0.00	191.38	0.99	0.55
CTSSYS_2347.LAB	2/8/2019	1	0.35	8.44	7.01	0.52	0.00	98.60	0.00	191.37	0.99	0.42
CTSSYS_2348.LAB	2/8/2019	1	0.56	7.67	6.49	0.42	0.00	98.92	0.00	191.34	0.99	0.53
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2SYS_2349.LAB	2/8/2019	1	0.26	5.53	4.58	0.33	0.00	35.40	-0.03	191.13	0.99	0.27
N2SYS_2350.LAB	2/8/2019	1	0.69	6.06	5.89	0.24	0.01	0.50	0.01	191.11	0.99	0.83
N2SYS_2351.LAB	2/8/2019	1	0.38	5.67	5.61	0.21	-0.01	0.29	0.00	191.08	0.99	0.42
N2SYS_2352.LAB	2/8/2019	1	0.10	4.69	4.52	0.21	-0.01	0.22	0.01	191.15	0.99	0.03
N2SYS_2353.LAB	2/8/2019	1	0.18	4.15	3.82	0.22	0.00	0.10	0.01	191.27	0.99	0.17
N2SYS_2354.LAB	2/8/2019	1	-0.02	3.97	3.73	0.21	0.01	0.15	0.01	191.49	0.99	-0.03
N2SYS_2355.LAB	2/8/2019	1	0.15	3.92	2.75	0.22	0.01	0.21	0.02	191.68	0.99	0.14
N2SYS_2356.LAB	2/8/2019	1	-0.07	3.67	3.65	0.22	-0.01	0.17	0.01	191.75	0.99	-0.09
N2SYS_2357.LAB	2/8/2019	1	0.09	3.47	3.88	0.22	-0.01	0.12	0.00	191.89	0.99	0.08
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CO2SYS_2358.LAB	2/8/2019	1	-0.13	2.99	3.13	0.22	1.46	0.02	0.00	191.67	0.99	-0.09
CO2SYS_2359.LAB	2/8/2019	1	0.10	2.93	2.75	0.20	2.41	0.13	0.01	191.50	0.99	0.15
CO2SYS_2360.LAB	2/8/2019	1	0.18	2.83	3.06	0.20	2.43	0.18	0.01	191.35	0.99	0.15
CO2SYS_2361.LAB	2/8/2019	1	-0.02	2.72	2.07	0.20	2.44	0.21	0.01	191.30	0.99	-0.06
CO2SYS_2362.LAB	2/8/2019	1	-0.11	2.70	2.39	0.20	2.44	0.14	0.01	191.22	0.99	-0.14
CO2SYS_2363.LAB	2/8/2019	1	0.04	2.67	2.10	0.20	2.43	0.10	0.01	191.10	0.99	0.06
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
PRESPIKE_2364.LAB	2/8/2019	1	0.00	2.46	2.35	0.29	1.32	0.12	0.00	190.86	0.99	0.05
PRESPIKE_2365.LAB	2/8/2019	1	0.00	2.10	2.03	0.30	0.06	-0.01	0.01	190.86	0.99	0.02
PRESPIKE_2366.LAB	2/8/2019	1	-0.04	1.85	1.59	0.30	0.06	-0.02	0.01	190.91	0.99	-0.02
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NOSPIKE_2367.LAB	2/8/2019	1	-0.09	1.52	1.42	0.28	1.60	0.01	0.01	190.97	0.99	-0.04
NOSPIKE_2368.LAB	2/8/2019	1	14.30	1.51	1.15	0.28	0.65	0.00	0.21	191.01	0.99	14.50

NOSPIKE_2369.LAB	2/8/2019	1	22.48	1.43	1.50	0.27	0.06	-0.09	0.32	192.17	0.99	22.75
NOSPIKE_2370.LAB	2/8/2019	1	22.82	1.33	1.26	0.28	0.05	-0.02	0.32	192.98	1.00	23.04
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3SPIKE_2371.LAB	2/8/2019	1	19.04	1.22	1.10	0.26	0.05	-0.05	0.27	191.51	1.00	19.16
NH3SPIKE_2372.LAB	2/8/2019	1	9.92	2.74	2.72	0.26	0.05	0.03	0.27	190.88	1.00	10.03
NH3SPIKE_2373.LAB	2/8/2019	1	0.17	14.09	13.85	0.26	0.05	-0.02	0.30	190.56	1.00	0.20
NH3SPIKE_2374.LAB	2/8/2019	1	0.06	19.68	19.54	0.27	0.06	0.02	0.32	190.57	1.01	0.11
NH3SPIKE_2375.LAB	2/8/2019	1	0.09	21.40	21.29	0.26	0.04	0.07	0.33	190.60	1.01	0.13
NH3SPIKE_2376.LAB	2/8/2019	1	0.12	22.20	22.16	0.26	0.05	0.02	0.33	191.08	1.01	0.14
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NODIR_2377.LAB	2/8/2019	1	288.61	2.65	2.65	0.01	0.01	-0.62	3.94	192.50	1.00	289.69
NODIR_2378.LAB	2/8/2019	1	291.54	0.97	0.38	0.01	0.01	-0.46	3.97	192.33	1.00	291.99
NODIR_2379.LAB	2/8/2019	1	292.02	0.69	0.24	0.01	0.00	-0.65	3.98	192.00	1.00	292.29
NODIR_2380.LAB	2/8/2019	1	292.06	0.54	0.87	0.01	0.01	-0.51	3.99	191.68	1.00	292.27
NODIR_2381.LAB	2/8/2019	1	291.93	0.45	-0.61	0.01	0.00	-0.55	3.99	191.45	1.00	292.10
NODIR_2382.LAB	2/8/2019	1	292.07	0.42	-0.02	0.01	0.00	-0.48	3.99	191.28	1.01	292.23
NODIR_2383.LAB	2/8/2019	1	292.45	0.34	-0.07	0.01	0.01	-0.54	3.99	191.12	1.01	292.53
NODIR_2384.LAB	2/8/2019	1	292.18	0.30	-0.77	0.01	0.01	-0.50	4.01	191.08	1.01	292.25
NODIR_2385.LAB	2/8/2019	1	292.67	0.25	0.35	0.01	0.00	-0.54	4.00	191.13	1.01	292.79
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
NH3DIR_2386.LAB	2/8/2019	1	2.31	285.57	280.23	0.01	0.06	-0.60	3.90	192.59	1.00	2.31
NH3DIR_2387.LAB	2/8/2019	1	0.17	290.60	285.86	0.00	0.06	-0.54	3.90	192.66	1.00	0.15
NH3DIR_2388.LAB	2/8/2019	1	0.30	292.43	287.84	0.01	0.06	-0.57	3.90	192.51	1.00	0.29
NH3DIR_2389.LAB	2/8/2019	1	0.31	293.43	287.86	0.01	0.07	-0.48	3.90	192.21	1.01	0.31
NH3DIR_2390.LAB	2/8/2019	1	0.22	294.44	287.79	0.01	0.05	-0.49	3.89	191.87	1.01	0.21
NH3DIR_2391.LAB	2/8/2019	1	0.34	295.46	287.48	0.00	0.06	-0.36	3.91	191.57	1.01	0.37
NH3DIR_2392.LAB	2/8/2019	1	0.51	295.47	288.26	0.00	0.06	-0.44	3.91	191.35	1.01	0.54
NH3DIR_2393.LAB	2/8/2019	1	0.28	295.85	288.00	0.01	0.06	-0.34	3.91	191.25	1.01	0.34
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
CTSDIR_2394.LAB	2/8/2019	1	0.17	17.96	16.95	0.01	0.01	95.39	0.17	191.13	1.00	0.14
CTSDIR_2395.LAB	2/8/2019	1	0.22	4.04	3.54	0.02	0.01	100.06	0.00	191.43	1.00	0.32
CTSDIR_2396.LAB	2/8/2019	1	0.11	2.42	2.10	0.01	0.02	100.04	-0.01	191.79	1.00	0.14
CTSDIR_2397.LAB	2/8/2019	1	0.16	1.78	0.90	0.01	0.01	99.56	-0.01	192.03	1.00	0.12
CTSDIR_2398.LAB	2/8/2019	1	0.09	1.45	0.96	0.01	0.01	99.55	-0.01	192.12	1.00	0.03
CTSDIR_2399.LAB	2/8/2019	1	0.29	1.14	-0.37	0.01	0.02	99.29	-0.02	192.03	1.00	0.17
CTSDIR_2400.LAB	2/8/2019	1	-0.10	0.97	-0.10	0.02	0.00	99.35	0.00	191.84	1.01	-0.19
CTSDIR_2401.LAB	2/8/2019	1	0.32	0.84	0.05	0.01	0.02	99.52	-0.02	191.65	1.01	0.26
CTSDIR_2402.LAB	2/8/2019	1	-0.12	0.72	0.02	0.00	0.01	99.60	-0.01	191.49	1.01	-0.22
Spectrum	Date	Time	NO (350,3000)	NH3 (300)	NH3 (3000)	H2O% (20)	CO2% (20)	Ethylene (100,3000)	SF6 (10)	Temp (C)	Pressure (Atm)	NOx Dry
N2DIR_2403.LAB	2/8/2019	1	-0.06	0.45	0.09	0.00	0.01	0.22	0.00	190.71	1.01	-0.14
N2DIR_2404.LAB	2/8/2019	1	0.04	0.34	-0.28	0.01	-0.01	-0.03	0.01	190.82	1.01	0.07

N2DIR_2405.LAB	2/8/2019	1	0.08	0.28	0.30	0.01	0.00	0.01	0.01	191.08	1.01	0.06
N2DIR_2406.LAB	2/8/2019	1	0.02	0.22	0.43	0.01	0.00	0.02	0.00	190.99	1.01	0.00

Impact Compliance and Testing, Inc.

APPENDIX 6

- Test Equipment QA/QC Records

ASTM D6348 Pre Test Analyses

FTIR Instrument Prechecks			
	Spectrum	Result	Criteria
Peak Signal Intensity (volts):	13	1	>0.5
Detector Linearity (volts):	13	0.004	<0.005
Instrument Resolution (cm ⁻¹):	-	0.48	<0.55
Water Frequency (cm ⁻¹):	-	3920.086	3920.095 +/- 0.075

FTIR Noise Limited Minimum Detectable Concentration (MDC)	
Noise Equivalent Absorbance (Std. Dev.):	0.16
Nitrogen Oxide Spectrum Nos.:	14 - 21
Calculated MDC (ppmv):	0.49

Sample Cell Leak Check	
Sample Pump Flowrate (L/min):	3.8
System Leak Check Flowrate (mL/min):	< 100

Mechanical System Response Time			
System Scan Rate (seconds):	15.00		
Nitrogen Oxide Response Time:	Scan Nos: 44 - 46	Response Time:	45 sec
Ethylene Response Time:	Scan Nos: 52 - 54	Response Time:	45 sec
Nitrogen Response Time:	Scan Nos: 60 - 62	Response Time:	45 sec

Derenzo Environmental Services

ASTM D6348 Calibration Transfer Standard Analyses

CTS Standard	Certified Gas Concentration (ppmv)
Ethylene	100.2

Date: 2/5/2019

Furnace No.	Run No.	Calibration		Spectra No.	FTIR Response		Response Time (sec)
		Type	Time		(ppmv)	Error (%)	
8	Pre Test 1	Direct	8:18	29	99.72	-0.48%	-
8	Pre Test 1	System	8:31	59	98.82	-1.38%	-
8	Post Test 1	System	16:46	561	99.45	-0.75%	-
8	Post Test 1	Direct	17:02	597	100.27	0.07%	-

Date: 2/6/2019

Furnace No.	Run No.	Calibration		Spectra No.	FTIR Response		Response Time (sec)
		Type	Time		(ppmv)	Error (%)	
8	Pre Test 1	Direct	7:29	621	99.49	-0.71%	-
8	Pre Test 1	System	7:54	671	99.41	-0.79%	-
8	Post Test 1	System	16:17	1158	98.63	-1.57%	-
8	Post Test 1	Direct	16:50	1204	100.18	-0.02%	-

Date: 2/7/2019

Furnace No.	Run No.	Calibration		Spectra No.	FTIR Response		Response Time (sec)
		Type	Time		(ppmv)	Error (%)	
7	Pre Test 1	Direct	7:30	1227	100.15	-0.05%	-
7	Pre Test 1	System	8:00	1285	98.83	-1.37%	-
7	Post Test 1	System	15:14	1742	98.27	-1.93%	-
7	Post Test 1	Direct	15:48	1793	99.46	-0.74%	-

Date: 2/8/2019

Furnace No.	Run No.	Calibration		Spectra No.	FTIR Response		Response Time (sec)
		Type	Time		(ppmv)	Error (%)	
6	Pre Test 1	Direct	7:24	1816	99.88	-0.32%	-
6	Pre Test 1	System	7:47	1872	98.79	-1.41%	-
6	Post Test 1	System	15:38	2348	98.92	-1.27%	-
6	Post Test 1	Direct	16:12	2401	99.52	-0.68%	-

ASTM D6348 Analyte Spiking Analysis
Summary of Results - Nitrogen Oxide

Date	Description	Dilution Factor	Bias (ppmv)	Spike Recovery	Pass
2/5/2019	Furnace No. 8 Run Spike	0.074	1.98	102%	Yes
2/6/2019	Furnace No. 8 Pre Test Spike	0.091	-0.41	98%	Yes
2/6/2019	Furnace No. 8 Post Test Spike	0.068	-0.41	102%	Yes
2/7/2019	Furnace No. 7 Pre Test Spike	0.084	-0.08	100%	Yes
2/7/2019	Furnace No. 7 Post Test Spike	0.074	-0.25	99%	Yes
2/8/2019	Furnace No. 6 Pre Test Spike	0.068	-0.09	100%	Yes
2/8/2019	Furnace No. 6 Post Test Spike	0.078	-0.32	99%	Yes

Spike Calculations:

$$DF = SF_{6\text{spike}} / SF_{6\text{direct}}$$

$$\text{Bias} = \text{Concentration}_{\text{spike}} - (\text{Concentration}_{\text{native}} * (1 - DF)) - (\text{Concentration}_{\text{standard}} * DF)$$

$$\text{Recovery} = \text{Concentration}_{\text{spike}} / (\text{Concentration}_{\text{native}} * (1 - DF)) + (\text{Concentration}_{\text{standard}} * DF) * 100$$

Where:

DF = Dilution Factor

SF_{6spike} = Diluted SF₆ concentration measured in spiked sample

SF_{6direct} = SF₆ concentration measured directly in undiluted gas sample

Concentration_{spike} = concentration of analyte in spiked sample

Concentration_{native} = concentration of analyte in unspiked sample

Concentration_{standard} = concentration of calibration standard

Criteria:

In general, spike recoveries within +/- 30% should be achievable when procedures detailed in the test method are followed.

ASTM D6348 Analyte Spiking Analysis

Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Nitrogen Oxide	296.5
Sulfur hexafluoride	3.840

Date: 2/5/2019

Description: Furnace No. 8 Run Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
8	Pre Test 1	Direct	NO	8:23	43	291.1	-1.82%
8	Pre Test 1	Direct	SF6	8:23	43	4.00	4.23%
8	Pre Test 1	System	NO	8:29	51	297.8	0.42%
8	Pre Test 1	System	SF6	8:29	51	3.97	3.44%
8	Native	System	NO	11:29	241	89.5	-
8	Native	System	SF6	11:29	241	0.01	-
8	Spike	System	NO	11:37	246	106.8	-
8	Spike	System	SF6	11:37	246	0.30	-

Dilution Factor (DF): 0.074

Spike Bias: 1.98 ppmv

Spike Recovery (%): 101.9%

Date: 2/6/2019

Description: Furnace No. 8 Pre Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
8	Pre Test 1	Direct	NO	7:32	629	293.4	-1.05%
8	Pre Test 1	Direct	SF6	7:32	629	3.99	3.83%
8	Pre Test 1	System	NO	7:52	663	294.7	-0.59%
8	Pre Test 1	System	SF6	7:52	663	3.95	2.83%
8	Native	System	NO	8:15	712	0.03	-
8	Native	System	SF6	8:15	712	0.00	-
8	Spike	System	NO	8:21	715	26.5	-
8	Spike	System	SF6	8:21	715	0.36	-

Dilution Factor (DF): 0.091

Spike Bias: -0.41 ppmv

Spike Recovery (%): 98.5%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Nitrogen Oxide	296.5
Sulfur hexafluoride	3.840

Date: 2/6/2019

Description: Furnace No. 8 Post Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
8	Pre Test 1	Direct	NO	7:32	629	293.4	-1.05%
8	Pre Test 1	Direct	SF6	7:32	629	3.99	3.83%
8	Pre Test 1	System	NO	7:52	663	294.7	-0.59%
8	Pre Test 1	System	SF6	7:52	663	3.95	2.83%
8	Native	System	NO	16:28	1172	0.25	-
8	Native	System	SF6	16:28	1172	0.00	-
8	Spike	System	NO	16:39	1180	20.66	-
8	Spike	System	SF6	16:39	1180	0.27	-

Dilution Factor (DF): 0.068

Spike Bias: 0.40 ppmv

Spike Recovery (%): 102.0%

Date: 2/7/2019

Description: Furnace No. 7 Pre Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
7	Pre Test 1	Direct	NO	7:33	1235	298.2	0.59%
7	Pre Test 1	Direct	SF6	7:33	1235	3.99	4.03%
7	Pre Test 1	System	NO	7:44	1251	294.2	-0.76%
7	Pre Test 1	System	SF6	7:44	1251	3.94	2.64%
7	Native	System	NO	8:06	1296	0.02	-
7	Native	System	SF6	8:06	1296	0.01	-
7	Spike	System	NO	8:11	1300	24.92	-
7	Spike	System	SF6	8:11	1300	0.34	-

Dilution Factor (DF): 0.084

Spike Bias: -0.08 ppmv

Spike Recovery (%): 99.7%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Nitrogen Oxide	296.5
Sulfur hexafluoride	3.840

Date: 2/7/2019

Description: Furnace No. 7 Post Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
7	Pre Test 1	Direct	NO	7:33	1235	298.2	0.59%
7	Pre Test 1	Direct	SF6	7:33	1235	3.99	4.03%
7	Pre Test 1	System	NO	7:44	1251	294.2	-0.76%
7	Pre Test 1	System	SF6	7:44	1251	3.94	2.64%
7	Native	System	NO	15:24	1757	0.03	-
7	Native	System	SF6	15:24	1757	0.01	-
7	Spike	System	NO	15:37	1768	21.76	-
7	Spike	System	SF6	15:37	1768	0.30	-

Dilution Factor (DF): 0.074

Spike Bias: -0.25 ppmv

Spike Recovery (%): 98.9%

Date: 2/8/2019

Description: Furnace No. 6 Pre Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
6	Pre Test 1	Direct	NO	7:27	1824	297.3	0.28%
6	Pre Test 1	Direct	SF6	7:27	1824	3.99	3.89%
6	Pre Test 1	System	NO	7:40	1849	296.7	0.08%
6	Pre Test 1	System	SF6	7:40	1849	3.98	3.55%
6	Native	System	NO	7:56	1886	0.06	-
6	Native	System	SF6	7:56	1886	0.00	-
6	Spike	System	NO	8:04	1893	20.01	-
6	Spike	System	SF6	8:04	1893	0.27	-

Dilution Factor (DF): 0.068

Spike Bias: -0.09 ppmv

Spike Recovery (%): 99.6%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Nitrogen Oxide	296.5
Sulfur hexafluoride	3.840

Date: 2/8/2019

Description: Furnace No. 6 Post Test Spike

Furnace No.	Run No.	Calibration		Time	Spectra No.	FTIR Response	
		Type	Gas			(ppmv)	Error (%)
6	Pre Test 1	Direct	NO	7:27	1824	297.3	0.28%
6	Pre Test 1	Direct	SF6	7:27	1824	3.99	3.89%
6	Pre Test 1	System	NO	7:40	1849	296.7	0.08%
6	Pre Test 1	System	SF6	7:40	1849	3.98	3.55%
6	Native	System	NO	15:49	2366	-0.04	-
6	Native	System	SF6	15:49	2366	0.01	-
6	Spike	System	NO	15:54	2370	22.82	-
6	Spike	System	SF6	15:54	2370	0.32	-

Dilution Factor (DF): 0.078

Spike Bias: -0.32 ppmv

Spike Recovery (%):	98.6%
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ASTM D6348 Analyte Spiking Analysis
Summary of Results - Ammonia

Date	Description	Dilution Factor	Bias (ppmv)	Spike Recovery	Pass
2/5/2019	Furnace No. 8 Pre Test Spike	0.079	-3.72	85%	Yes
2/6/2019	Furnace No. 8 Run Spike	0.086	-2.18	94%	Yes
2/6/2019	Furnace No. 8 Post Test Spike	0.084	-2.18	84%	Yes
2/7/2019	Furnace No. 7 Pre Test Spike	0.082	-3.43	87%	Yes
2/7/2019	Furnace No. 7 Run Spike	0.074	-1.64	95%	Yes
2/8/2019	Furnace No. 7 Post Test Spike	0.081	-3.74	86%	Yes
2/8/2019	Furnace No. 6 Pre Test Spike	0.086	-3.05	89%	Yes
2/8/2019	Furnace No. 6 Run Spike	0.073	-2.69	94%	Yes
2/8/2019	Furnace No. 6 Post Test Spike	0.083	-3.52	86%	Yes

Spike Calculations:

$$DF = SF_{6\text{spike}} / SF_{6\text{direct}}$$

$$\text{Bias} = \text{Concentration}_{\text{spike}} - (\text{Concentration}_{\text{native}} * (1 - DF)) - (\text{Concentration}_{\text{standard}} * DF)$$

$$\text{Recovery} = \text{Concentration}_{\text{spike}} / (\text{Concentration}_{\text{native}} * (1 - DF) + (\text{Concentration}_{\text{standard}} * DF)) * 100$$

Where:

DF = Dilution Factor

SF_{6spike} = Diluted SF₆ concentration measured in spiked sample

SF_{6direct} = SF₆ concentration measured directly in undiluted gas sample

Concentration_{spike} = concentration of analyte in spiked sample

Concentration_{native} = concentration of analyte in unspiked sample

Concentration_{standard} = concentration of calibration standard

Criteria:

In general, spike recoveries within +/- 30% should be achievable when procedures detailed in the test method are followed.

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Ammonia	290.0
Sulfur hexafluoride	4.088

Date: 2/6/2019

Description: Furnace No. 8 Pre Test Spike

Furnace No.	Run No.	Calibration Type	Gas	Time	Spectra No.	FTIR Response (ppmv)	Error (%)
8	Pre Test 1	Direct	NH3	7:35	637	286.8	-1.10%
8	Pre Test 1	Direct	SF6	7:35	637	3.91	-4.25%
8	Pre Test 1	System	NH3	8:04	696	277.1	-4.45%
8	Pre Test 1	System	SF6	8:04	696	3.89	-4.76%
8	Native	System	NH3	8:25	718	2.65	-
8	Native	System	SF6	8:25	718	0.00	-
8	Spike	System	NH3	8:33	724	21.5	-
8	Spike	System	SF6	8:33	724	0.31	-

Dilution Factor (DF): 0.079

Spike Bias: -3.72 ppmv

Spike Recovery (%): 85.3%

Date: 2/6/2019

Description: Furnace No. 8 Run Spike

Furnace No.	Run No.	Calibration Type	Gas	Time	Spectra No.	FTIR Response (ppmv)	Error (%)
8	Pre Test 1	Direct	NH3	7:35	637	286.8	-1.10%
8	Pre Test 1	Direct	SF6	7:35	637	3.91	-4.25%
8	Pre Test 1	System	NH3	8:04	696	277.1	-4.45%
8	Pre Test 1	System	SF6	8:04	696	3.89	-4.76%
8	Native	System	NH3	11:42	866	9.47	-
8	Native	System	SF6	11:42	866	0.00	-
8	Spike	System	NH3	11:50	871	31.4	-
8	Spike	System	SF6	11:50	871	0.34	-

Dilution Factor (DF): 0.086

Spike Bias: -2.18 ppmv

Spike Recovery (%): 93.5%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Ammonia	290.0
Sulfur hexafluoride	4.088

Date: 2/6/2019

Description: Furnace No. 8 Post Test Spike

Furnace No.	Run No.	Calibration			Time	Spectra No.	FTIR Response	
		Type	Gas				(ppmv)	Error (%)
8	Pre Test 1	Direct	NH3		7:35	637	286.8	-1.10%
8	Pre Test 1	Direct	SF6		7:35	637	3.91	-4.25%
8	Pre Test 1	System	NH3		8:04	696	277.1	-4.45%
8	Pre Test 1	System	SF6		8:04	696	3.89	-4.76%
8	Native	System	NH3		16:28	1172	3.50	-
8	Native	System	SF6		16:28	1172	0.00	-
8	Spike	System	NH3		16:34	1176	23.00	-
8	Spike	System	SF6		16:34	1176	0.33	-

Dilution Factor (DF): 0.084

Spike Bias: -4.53 ppmv

Spike Recovery (%): 83.5%

Date: 2/7/2019

Description: Furnace No. 7 Pre Test Spike

Furnace No.	Run No.	Calibration			Time	Spectra No.	FTIR Response	
		Type	Gas				(ppmv)	Error (%)
7	Pre Test 1	Direct	NH3		7:36	1243	291.7	0.59%
7	Pre Test 1	Direct	SF6		7:36	1243	3.92	-4.00%
7	Pre Test 1	System	NH3		7:47	1262	284.4	-1.93%
7	Pre Test 1	System	SF6		7:47	1262	3.92	-4.18%
7	Native	System	NH3		8:06	1296	2.01	-
7	Native	System	SF6		8:06	1296	0.01	-
7	Spike	System	NH3		8:19	1307	22.31	-
7	Spike	System	SF6		8:19	1307	0.33	-

Dilution Factor (DF): 0.082

Spike Bias: -3.43 ppmv

Spike Recovery (%): 86.7%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Ammonia	290.0
Sulfur hexafluoride	4.088

Date: 2/7/2019

Description: Furnace No. 7 Run Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
7	Pre Test 1	Direct	NH3	7:36	1243	291.7	0.59%
7	Pre Test 1	Direct	SF6	7:36	1243	3.92	-4.00%
7	Pre Test 1	System	NH3	7:47	1262	284.4	-1.93%
7	Pre Test 1	System	SF6	7:47	1262	3.92	-4.18%
7	Native	System	NH3	10:32	1439	14.66	-
7	Native	System	SF6	10:32	1439	0.01	-
7	Spike	System	NH3	10:38	1444	33.37	-
7	Spike	System	SF6	10:38	1444	0.30	-

Dilution Factor (DF): 0.074

Spike Bias: -1.64 ppmv

Spike Recovery (%): 95.3%

Date: 2/7/2019

Description: Furnace No. 7 Post Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
7	Pre Test 1	Direct	NH3	7:36	1243	291.7	0.59%
7	Pre Test 1	Direct	SF6	7:36	1243	3.92	-4.00%
7	Pre Test 1	System	NH3	7:47	1262	284.4	-1.93%
7	Pre Test 1	System	SF6	7:47	1262	3.92	-4.18%
7	Native	System	NH3	15:24	1757	2.60	-
7	Native	System	SF6	15:24	1757	0.01	-
7	Spike	System	NH3	15:31	1763	22.11	-
7	Spike	System	SF6	15:31	1763	0.32	-

Dilution Factor (DF): 0.081

Spike Bias: -3.74 ppmv

Spike Recovery (%): 85.5%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Ammonia	290.0
Sulfur hexafluoride	4.088

Date: 2/8/2019

Description: Furnace No. 6 Pre Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
6	Pre Test 1	Direct	NH3	7:30	1832	291.7	0.60%
6	Pre Test 1	Direct	SF6	7:30	1832	3.92	-4.17%
6	Pre Test 1	System	NH3	7:44	1864	287.2	-0.98%
6	Pre Test 1	System	SF6	7:44	1864	3.91	-4.43%
6	Native	System	NH3	7:56	1886	1.65	-
6	Native	System	SF6	7:56	1886	0.00	-
6	Spike	System	NH3	8:13	1902	23.44	-
6	Spike	System	SF6	8:13	1902	0.34	-

Dilution Factor (DF): 0.086

Spike Bias: -3.05 ppmv

Spike Recovery (%): 88.5%

Date: 2/8/2019

Description: Furnace No. 6 Run Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
6	Pre Test 1	Direct	NH3	7:30	1832	291.7	0.60%
6	Pre Test 1	Direct	SF6	7:30	1832	3.92	-4.17%
6	Pre Test 1	System	NH3	7:44	1864	287.2	-0.98%
6	Pre Test 1	System	SF6	7:44	1864	3.91	-4.43%
6	Native	System	NH3	11:05	2057	22.01	-
6	Native	System	SF6	11:05	2057	0.01	-
6	Spike	System	NH3	11:11	2062	38.93	-
6	Spike	System	SF6	11:11	2062	0.30	-

Dilution Factor (DF): 0.073

Spike Bias: -2.69 ppmv

Spike Recovery (%): 93.5%

ASTM D6348 Analyte Spiking Analysis
Detailed Individual Spike Results

Spike Standard	Certified Gas Concentration (ppmv)
Ammonia	290.0
Sulfur hexafluoride	4.088

Date: 2/8/2019

Description: Furnace No. 6 Post Test Spike

Furnace No.	Run No.	Calibration			Spectra No.	FTIR Response	
		Type	Gas	Time		(ppmv)	Error (%)
6	Pre Test 1	Direct	NH3	7:30	1832	291.7	0.60%
6	Pre Test 1	Direct	SF6	7:30	1832	3.92	-4.17%
6	Pre Test 1	System	NH3	7:44	1864	287.2	-0.98%
6	Pre Test 1	System	SF6	7:44	1864	3.91	-4.43%
6	Native	System	NH3	15:49	2366	1.85	-
6	Native	System	SF6	15:49	2366	0.01	-
6	Spike	System	NH3	16:01	2376	22.20	-
6	Spike	System	SF6	16:01	2376	0.33	-

Dilution Factor (DF): 0.083

Spike Bias: -3.52 ppmv

Spike Recovery (%)	86.3%
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ASTM D6348 Post-Test Quality Assurance / Quality Control
MG2000 Method Analyzer Results Comparison

Pollutant: Nitrogen Oxide		Furnace				
No.	Description	Spectra No.	Measured Concentration (ppmv)	Expected Concentration (ppmv)	Difference (ppmv)	Deviation
8	Outlier	763	119.05	123.7	-4.7	-3.91%
8	Average	916	84.77	86.6	-1.9	-2.21%
7	Outlier	1603	34.57	37.0	-2.5	-7.14%
7	Average	1464	67.71	66.1	1.6	2.40%
6	Outlier	2171	68.51	62.6	5.9	8.64%
6	Average	2007	57.87	54.1	3.8	6.54%

Pollutant: Ammonia		Furnace				
No.	Description	Spectra No.	Measured Concentration (ppmv)	Expected Concentration (ppmv)	Difference (ppmv)	Deviation
8	Outlier	798	23.44	23.2	0.3	1.21%
8	Average	1000	10.83	11.2	-0.3	-3.03%
7	Outlier	1534	6.73	6.6	0.2	2.31%
7	Average	1562	11.70	11.4	0.3	2.17%
6	Outlier	1930	125.41	118.0	7.4	5.91%
6	Average	2148	24.86	23.4	1.4	5.67%

Note:

1. The data was validated (i.e., expected concentrations were determined) using the MKS MG2000 Method Analyzer software.

Derenzo Environmental Services

Summary of Calibration Data

Client: Woodworth
 Source: Furnace No. 8
 Date: 2/6/2019
 O₂ 21.05 %
 CO₂ 22.49 %

Instrument: Amatek - O₂
 Span: 21.05 %

ACE Expected Values (ppm)	21.05	12.53	0	Analyzer Calibration Error (%)		
Test ID	Hi	Mid	Low	Hi	Mid	Low
Initial Calibration Response	20.68	12.30	0.01	-1.76	-1.09	0.05
Bias (ppm)						
Test ID	Upscale	Bias (%)	Drift (%)	Zero	Bias (%)	Drift (%)
Furnace No. 8, Pre Test	20.96	1.33	-	0.09	0.38	-
Furnace No. 8, Post Test	21.03	1.66	0.33	0.06	0.24	0.14

Instrument: MKS Multigas FTIR - CO₂
 Span: 22.49 %

ACE Expected Values (ppm)	22.49	2.51	0	Analyzer Calibration Error (%)		
Test ID	Hi	Mid	Low	Hi	Mid	Low
Initial Calibration Response	22.85	2.518	0.06	1.60	0.03	0.27
System Bias (ppm)						
Test ID	Upscale	Bias (%)	Drift (%)	Zero	Bias (%)	Drift (%)
Furnace No. 8, Pre Test	2.54	0.09	-	0.11	0.22	-
Furnace No. 8, Post Test	2.52	0.02	0.07	0.51	2.00	1.78

Derenzo Environmental Services

Summary of Calibration Data

Client: Woodworth
 Source: Furnace No. 7
 Date: 2/7/2019
 O₂ 21.05 %
 CO₂ 22.49 %

Instrument: Amatek - O₂
 Span: 21.05 %

ACE Expected Values (ppm)	21.05	12.53	0	Analyzer Calibration Error (%)		
Test ID	Hi	Mid	Low	Hi	Mid	Low
Initial Calibration Response	20.96	12.52	0.01	-0.43	-0.05	0.05
Bias (ppm)						
Test ID	Upscale	Bias (%)	Drift (%)	Zero	Bias (%)	Drift (%)
Furnace No. 7, Pre Test	20.96	0.00	-	0.01	0.00	-
Furnace No. 7, Post Test	20.84	-0.57	0.57	0.11	0.48	0.48

Instrument: MKS Multigas FTIR - CO₂
 Span: 22.49 %

ACE Expected Values (ppm)	22.49	2.51	0	Analyzer Calibration Error (%)		
Test ID	Hi	Mid	Low	Hi	Mid	Low
Initial Calibration Response	22.54	2.56	0.00	0.22	0.21	0.00
System Bias (ppm)						
Test ID	Upscale	Bias (%)	Drift (%)	Zero	Bias (%)	Drift (%)
Furnace No. 7, Pre Test	2.64	0.36	-	0.05	0.24	-
Furnace No. 7, Post Test	2.51	-0.23	0.59	0.05	0.24	0.00

Derenzo Environmental Services

Summary of Calibration Data

Client: Woodworth
 Source: Furnace No. 6
 Date: 2/8/2019
 O₂ 21.05 %
 CO₂ 22.49 %

Instrument: Amatek - O₂
 Span: 21.05 %

ACE Expected Values (ppm)	21.05	12.53	0	Analyzer Calibration Error (%)		
Test ID	Hi	Mid	Low	Hi	Mid	Low
Initial Calibration Response	20.73	12.33	0.01	-1.52	-0.95	0.05
Bias (ppm)						
Test ID	Upscale	Bias (%)	Drift (%)	Zero	Bias (%)	Drift (%)
Furnace No. 6, Pre Test	21.00	1.28	-	0.11	0.48	-
Furnace No. 6, Post Test	21.01	1.33	0.05	0.13	0.57	0.10

Instrument: MKS Multigas FTIR - CO₂
 Span: 22.49 %

ACE Expected Values (ppm)	22.49	2.51	0	Analyzer Calibration Error (%)		
Test ID	Hi	Mid	Low	Hi	Mid	Low
Initial Calibration Response	22.62	2.563	0.00	0.58	0.23	0.00
System Bias (ppm)						
Test ID	Upscale	Bias (%)	Drift (%)	Zero	Bias (%)	Drift (%)
Furnace No. 6, Pre Test	2.49	-0.34	-	0.07	0.31	-
Furnace No. 6, Post Test	2.44	-0.56	0.22	-0.01	-0.03	0.33

FTIR OPERATING SUMMARY

Company: Woodworth
 Location: Homer, MI
 Source Designation: Furnaces
 Date: 2-5-19
 Operator(s): AR
 Pre 1: Run N2, CTS, Cal Standard Direct
 Run Cal Standard, CTS, N2 Sample then Spike
 Post: Run CTS, N2 Sample

Cylinder ID	Analyte	Concentration	Unit

Furnace #8	Spectrum Number	Procedure	Response (ppm)	Exp. Value (ppm)	Notes
Pre Test 1 Start Time: <u>8:42</u> Stop Time: <u>15:17</u> Spectrum Count	13	N2 Dir Bkd	0.00	0	Leak Check
	21	N2 Dir	-0.106	0	< 100 mL/min @ 3.8 L/min
	29	Ethylene Dir	99.72	100.2	
	43	NOx Dir	291.1	296.5	
	51	SF6 Dir	4.002	3.84	System Response 45 sec
		NOx Sys	297.8	296.5	
	59	SF6 Sys	2.972	3.84	45 sec
		Ethylene Sys	98.8	100.2	
	67	N2 Sys	-0.019	0	45 sec
		241	Prespike NOx		
Test 2 Start Time: _____ Stop Time: _____ Spectrum Count	246	SF6		0.007	DF - 0.075
		Spike NOx		106.82	Exp. - 104.6 ppm
	307	SF6		0.304	Recovery - 102.2 %
		Prespike NH3		9.776	
	312	SF6		0.003	DF - 0.084
		Spike NH3		31.772	Exp. - 33.23 ppm
	543	SF6		0.342	Recovery - 95.6 %
		NH3 Sys	276.1	290.0	
	553	SF6 Sys	3.91	4.088	
		NOx Sys	293.9	296.5	
561	SF6 Sys	3.95	3.84		
	CTSSys	99.4	100.2		
569	N2 Sys	0.303	0		
	577	NH3 Dir	278.7	290.0	
Test 3 Start Time: _____ Stop Time: _____ Spectrum Count	585	SF6 Dir	3.92	4.088	
		NOx Dir	294.1	296.5	
	597	SF6 Dir	4.001	3.84	
		CTSDir	100.3	100.2	
	600	N2 Dir	0.089	0	
	605				2-6-19
		N2 Dir Bkd	0.000	0	Computer time is 4.5 min fast
	613	N2 Dir	-0.013	0	
		621	CTSDir	99.5	100.2
	629	NOx Dir	293.4	296.5	
SF6 Dir		3.987	3.84		
637	NH3 Dir	288.6	290.0		
	SF6 Dir	3.914	4.088		
696	NH3 Sys	277.1	290.0		
	SF6 Sys	3.894	4.088		
663	NOx Sys	294.7	296.5		
	SF6 Sys	3.949	3.84		
671	CTSSys	99.4	100.2		
	705	N2 Sys	-0.003	0	

Calibration Error = $(C_{dir} - C_v) / C_v \times 100$ (must be +/- 5%)
 Expected Spike Conc. CS = $DF * Analyte_{dir} + Analyte_{native} * (1 - DF)$

Dilution Factor (DF) = $(SF6_{spike} / SF6_{direct})$
 % Recovery = $Analyte_{spike} / CS * 100$ (must be +/- 30%)

FTIR OPERATING SUMMARY

Company: Woodworth
 Location: Homer, MI
 Source Designation: Furnaces
 Date: 2-6-19
 Operator(s): AR

Pre 1: Run N2, CTS, Cal Standard Direct
 Run Cal Standard, CTS, N2 Sample then Spike
 Post: Run CTS, N2 Sample

Cylinder ID	Analyte	Concentration	Unit

Furnace #	Spectrum Number	Procedure	Response (ppm)	Exp. Value (ppm)	Notes	
Test 1 Logger Real Start Time: <u>931 (927)</u> Stop Time: <u>1606 (1602)</u> Spectrum Count	712	NOx Prespike		0.032		
		SF6 Prespike		0.000	DF-0.091	
	715	NOx Spike		26.502	Expected - 26.67 ppm	
		SF6 Spike		0.367	Recovery - 99.4%	
	718	NH3 Prespike		2.635		
		SF6 Prespike		0.001	DF-0.079	
	724	NH3 Spike		21.533	Expected - 25.14 ppm	
		SF6 Spike		0.309	Recovery - 85.7%	
		866	NH3 Prespike		9.468	
Test 2 Start Time: <u> </u> Stop Time: <u> </u> Spectrum Count		SF6 Prespike		0.004	DF-0.079 0.086	
	871	NH3 Spike		31.386	Expected - 25.79 ppm 33.43 ppm	
		NH3 SF6 Spike		0.346	Recovery - 85.7% 93.9%	
		1172	NOx Prespike		0.247	
		SF6 Prespike		0.003	DF-0.067	
	1190	NOx Spike		20.658	Expected - 20.03 ppm	
		SF6 Spike		0.272	Recovery - 103.2%	
		1172	NH3 Prespike		3.502	
		SF6 Prespike		0.003	DF-0.084	
Test 3 Start Time: <u> </u> Stop Time: <u> </u> Spectrum Count	1176	NH3 Spike		23.005	Expected - 27.39 ppm	
		SF6 Spike		0.331	Recovery - 84%	
	1135	NOx Sys	289.6	296.5		
		SF6 Sys	3.906	3.84		
	1150	NH3 Sys	278.0	290.0		
		SF6 Sys	3.869	4.088		
	1158	CTSSys	98.6	100.2		
	1166	N2 Sys	0.404	0		
	1188	NOx Dir	296.097	296.5		
	SF6 Dir	3.997	3.84			
Test 3 Start Time: <u> </u> Stop Time: <u> </u> Spectrum Count	1196	NH3 Dir	289.003	290.0		
		SF6 Dir	3.926	4.088		
	1204	CTSDir	100.2	100.2		
	1207	N2 Dir	0.155	0		
					2-7-19	
	1211	N2 Dir Bkd	-0.000	0		
	1219	N2 Dir	0.040	0		
	1227	CTSDir	100.2	100.2		
	1235	NOx Dir	298.2	296.5		
		SF6 Dir	3.995	3.84		
	1243	NH3 Dir	291.724	290.0		
	SF6 Dir	3.924	4.088			
	1251	NOx Sys	294.248	296.5		
	SF6 Sys	3.942	3.84			

Calibration Error = $(C_{dir} - C_v) / C_v \times 100$ (must be +/- 5%)
 Expected Spike Conc. CS = $DF * Analyte_{dir} + Analyte_{native} * (1 - DF)$

Dilution Factor (DF) = $(SF6_{spike} / SF6_{direct})$
 % Recovery = $Analyte_{spike} / CS * 100$ (must be +/- 30%)

FTIR OPERATING SUMMARY

Company: Woodworth
 Location: Homer, MI
 Source Designation: Furnaces
 Date: 2-7-19
 Operator(s): AR
 Pre 1: Run N2, CTS, Cal Standard Direct
Run Cal Standard, CTS, N2 Sample then Spike
 Post: Run CTS, N2 Sample

Cylinder ID	Analyte	Concentration	Unit

Furnace #	Spectrum Number	Procedure	Response	Exp. Value	Notes
			(ppm)	(ppm)	
Test 1 Start Time: <u>825</u> Stop Time: <u>1500</u> Spectrum Count	1262	NH ₃ Sys	284.39	290.0	Data logger Time is correct
	1285	SF6 Sys	3.917	4.088	
	1285	CTS Sys	98.83	100.2	
	1293	N ₂ Sys	-0.070	0	
	1296	NO _x Prespike		0.024	
		SF6 Prespike		0.007	DF-0.084
	1300	NO _x Spike		24.92	Expected-25.18
		SF6 Spike		0.007 0.344	Recovery-99.0%
	1296	NH ₃ Prespike		2.009	
		NH ₃ SF6 Prespike		0.007	DF-0.083
Test 2 Start Time: _____ Stop Time: _____ Spectrum Count	1307	NH ₃ Spike		22.306	Expected-25.93
		SF6 Spike		0.331	Recovery-86.0%
	1439	NH ₃ Prespike		14.661	
		SF6 Prespike		0.015	DF-0.075
	1445	NH ₃ Spike	33.372	29.279	Expected-35.14 ppm
		SF6 Spike		0.305	Recovery-95.0%
	1757	NO _x Prespike		0.28	
		SF6 Prespike		0.006	DF-0.075
	1768	NO _x Spike		21.760	Expected-22.35
		SF6 Spike		0.302	Recovery-97.3%
Test 3 Start Time: _____ Stop Time: _____ Spectrum Count	1757	NH ₃ Prespike		0.006	DF-0.081
		SF6 Prespike		0.006	DF-0.081
	1763	NH ₃ Spike		22.107	Expected-26.03
		SF6 Spike		0.324	Recovery-95.0%
	1722	NO _x Sys	291.142	296.5	
		SF6 Sys	3.937	3.84	
	1734	NH ₃ Sys	283.646	290.0	
		SF6 NO _x Sys	3.870	4.088	
	1742	CTS Sys	98.270	100.2	
	1751	N ₂ Sys	0.462	0	
Test 3 Start Time: _____ Stop Time: _____ Spectrum Count	1777	NO _x Dir	293.4	296.5	
		SF6 Dir	3.974	3.84	
	1785	NH ₃ Dir	291.3	290.0	
		SF6 Dir	3.931	4.088	
	1793	CTS Dir	99.46	100.2	
	1796	N ₂ Dir	0.138	0	
					2-8-19
	1800	N ₂ Dir Bkg	-0.000	0	
	1808	N ₂ Dir	0.059	0	
	1816	CTS Dir	99.88	100.2	
1824	NO _x Dir	297.323	296.5		
	SF6 Dir	3.989	3.84		

Calibration Error = $(C_{dir} - C_v) / C_v \times 100$ (must be +/- 5%)
 Expected Spike Conc. CS = $DF * Analyte_{dir} + Analyte_{native} * (1 - DF)$

Dilution Factor (DF) = $(SF6_{spike} / SF6_{direct})$
 % Recovery = $Analyte_{spike} / CS * 100$ (must be +/- 30%)

FTIR OPERATING SUMMARY

Company: Woodworth
 Location: Homer, MI
 Source Designation: Furnaces
 Date: 2-8-19
 Operator(s): AR

Pre 1: Run N2, CTS, Cal Standard Direct
 Run Cal Standard, CTS, N2 Sample then Spike
 Post: Run CTS, N2 Sample

Cylinder ID	Analyte	Concentration	Unit

Furnace #6	Spectrum Number	Procedure	Response	Exp. Value	Notes
			(ppm)	(ppm)	
Test 1 Start Time: <u>853</u> Stop Time: <u>1528</u> Spectrum Count	1832	NH ₃ Dir	291.747	290.0	
		SF6Dir	3.918	4.088	
	1864	NH ₃ Sys	287.156	290.0	
		SF6Sys	3.907	4.088	
	1849	NO _x Sys	296.725	296.5	
		SF6Sys	3.976	3.84	
	1872	CTSSys	98.79	100.2	
	1880	N ₂ Sys	-0.057	0	
	1886	NO _x Prespike		0.055	
	1886	SF6Prespike		0.003	DF- 0.068
Test 2 Start Time: _____ Stop Time: _____ Spectrum Count	1893	NO _x Spike		20.013	Expected - 20.176
	1893	SF6Spike		0.273	Recovery - 99.2%
	1886	NH ₃ Prespike		1.651	
	1886	SF6Prespike		0.003	DF- 0.086
	1902	NH ₃ Spike		23.442	Expected - 26.60 ppm
	1902	SF6Spike		0.340	Recovery - 88.1%
	2057	NH ₃ Prespike		22.006	
		SF6Prespike		0.010	DF- 0.073
	2062	NH ₃ Spike		38.925	Expected - 41.70 ppm
		SF6Spike		0.296	Recovery - 93.4%
Test 3 Start Time: _____ Stop Time: _____ Spectrum Count	2366	NH ₃ Prespike		1.847	
		SF6Prespike		0.005	DF
	2376	NH₃ NH ₃ Spike		22.204	Expected
		SF6Spike		0.330	Recovery
	2366	NOPrespike		-0.037	
		NO SF6 Prespike		0.005	DF - 0.078
	2370	NOSpike		22.824	Expected - 23.22
		NO SF6 Spike		0.317	Recovery - 98.3%
	2327	NOSys	289.139	296.5	
		SF6Sys	3.954	3.84	
2340	NH ₃ Sys	289.774	290.0		
	SF6Sys	3.881	4.088		
2348	CTSSys	98.924	100.2		
2357	N ₂ Sys	0.090	0		
2385	NODir	292.66	296.5		
2389	SF6Dir	3.999	3.84		
2393	NH ₃ Dir	295.852	290.0		
	SF6Dir	3.911	4.088		
2401	CTSDir	99.518	100.2		
2406	N ₂ Dir	0.021	0		

Calibration Error = $(C_{dir} - C_v) / C_v \times 100$ (must be +/- 5%)
 Expected Spike Conc. CS = $DF * Analyte_{dir} + Analyte_{native} * (1 - DF)$

Dilution Factor (DF) = $(SF6_{spike} / SF6_{direct})$
 % Recovery = $Analyte_{spike} / CS * 100$ (must be +/- 30%)

CALIBRATION SUMMARY

Company: Woodworth
 Location: Homer, MI
 Source Designation: Furnaces
 Date: 2-6-19
 Operator(s): AR

Cylinder ID	Analyte	Concentration	Unit

Pre 1: Run High, Mid, Low, Zero, for CH₄, NMOC, THC
 Run High, Mid, Low (Zero) Instrument Cal, and Mid, Zero Dynamic Cal
 for NOX, O₂, CO, CO₂, SO₂

Furnace #	Time	Procedure	Response (ppm)	Exp. Value (ppm)	Notes
Furnace #8 Test 1 Start Time: <u>927</u> Stop Time: <u>1602</u>	752	O ₂ Dyn Up	20.96	21.05 20.68	2-6-19 Burn-Start-927
	754	Zero	0.09	⊖	FNC1-9:52
	733	O ₂ Inst Hi	20.68	21.05	FNC2-11:22
	739	Mid	12.30	12.58	FNC3-3:52
	717	Zero	0.01	0.0	Port Change: 10:27am, 11:27am,
	737	CO ₂ Inst Hi	22.85	22.49	12:27, 13:27, 14:29, 15:28
	740	Mid	2.518	2.512	
	735	Zero	0.06	⊖	
	756	CO ₂ Dyn Up	2.538	2.518	
	759	Zero	0.11	⊖	
Furnace #7 Test 1 Start Time: <u>825</u> Stop Time: <u>1500</u>	11621	O ₂ Dyn Up	21.03	20.68	
	11607	Zero	0.06	⊖	
	11621	CO ₂ Dyn Up	2.522	2.518	
	11612	Zero	0.51	⊖	
	752	O ₂ Inst Hi	20.96	21.05	2-7-19 Burn-Start-825
	754	Mid	12.52	12.53	FNC1-850
	728	Zero	0.01	⊖	FNC2-1020
	751	CO ₂ Inst Hi	22.54	22.49	FNC3-250
	755	Mid	2.56	2.512	Port Change: 926, 1025, 1124
	725	Zero	0.000	⊖	1225, 1324, 1424
Furnace #6 Test 1 Start Time: <u>853</u> Stop Time: <u>1528</u>	800	O ₂ Dyn Up	20.96	20.96	
	758	Zero	0.01	⊖	
	757	CO ₂ Dyn Up	2.64	2.56	
	747	Zero	0.054	⊖	
	1508	O ₂ Dyn Up	20.84	20.96	
	1506	Zero	0.11	⊖	
	1503	CO ₂ Dyn Up	2.508	2.56	
	1507	Zero	0.053	⊖	
	735	O ₂ Inst Hi	20.73	21.05	2-8-19 Burn Start-853
	738	Mid	12.33	12.53	FNC1-918
726	Zero	0.01	⊖	FNC2-1048	
732	CO ₂ Inst Hi	22.62	22.49	FNC3-1518	
733	Mid	2.563	2.512	Port Change: 953, 1055, 1156,	
723	Zero	0.000	⊖	1253, 1357, 1453	
835	O ₂ Dyn Up	21.05	20.73		
837	Zero	0.11	⊖		
829	CO ₂ Dyn Up	2.487	2.563		
813	Zero	0.069	⊖		

Calibration Error = (C_{dir} - C_s) / C_s x 100 (must be ≤ 2%)
 Initial System Bias (SB) = (C_s - C_{dir}) / C_s * 100 (must be ≤ 5%)

Calibration Drift = (SB_f - SB_i) (must be ≤ 3%)

PITOT TUBE INSPECTION CRITERIA CHECKLIST

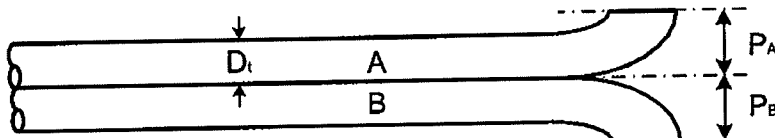
Tube #: SF-1

Date: 2-5-19

$3/16" \leq D_t \leq 3/8"$

$P_A = P_B$

$1.05D_t \leq P_{A,B} \leq 1.5D_t$



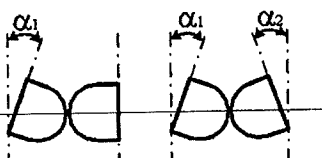
Yes No

Yes No

Yes No

α_1 and $\alpha_2 < 10^\circ$

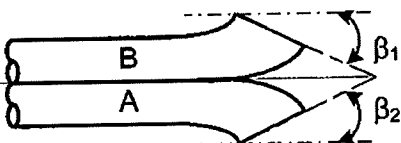
Transversal Tube Axis



Yes No

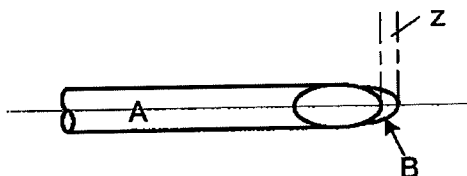
β_1 and $\beta_2 < 5^\circ$

Longitudinal Tube Axis



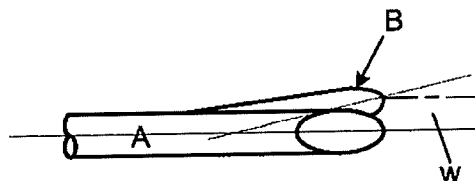
Yes No

$z < 0.32$ cm



Yes No

$w < 0.08$ cm



Yes No

Pitot Tube Correction Factor: 0.806



Airflow Sciences Corporation

Probe Calibration for Method 2

Data Collection and Analysis

Date: 1/8/2018
 Temperature (°F): 76.1
 Pressure ("Hg): 29.18
 Personnel: wgj
 Probe: 5F1-A

Wind Tunnel Target DP [I.W.C]	Wind Tunnel Actual DP [I.W.C]	S-Probe DP [I.W.C.]	C _p	C _{p(avg)}	C _p -C _{p(avg)}	σ _{max}
0.2	0.20	0.29	0.823	0.823	0.000	0.002
0.2	0.20	0.29	0.825		0.002	
0.2	0.20	0.29	0.822		-0.002	
1.81	1.82	2.60	0.828	0.829	-0.001	0.001
1.81	1.82	2.59	0.829		0.001	
1.81	1.82	2.60	0.829		0.000	
5.04	5.04	6.96	0.843	0.843	0.000	0.000
5.04	5.04	6.96	0.842		0.000	
5.04	5.04	6.95	0.843		0.000	



Airflow Sciences Corporation

Probe Calibration for Method 2

Data Collection and Analysis

Date: 1/8/2018
 Temperature (°F): 76.3
 Pressure ("Hg): 29.17
 Personnel: wgj
 Probe: 5F1-B

Wind Tunnel Target DP [I.W.C.]	Wind Tunnel Actual DP [I.W.C.]	S-Probe DP [I.W.C.]	C _p	C _{p(avg)}	C _p -C _{p(avg)}	σ _{max}
0.2	0.20	0.30	0.806	0.806	0.000	0.001
0.2	0.20	0.30	0.806		0.000	
0.2	0.20	0.30	0.807		0.001	
1.81	1.81	2.69	0.811	0.812	-0.001	0.001
1.81	1.81	2.69	0.812		0.000	
1.81	1.81	2.69	0.813		0.001	
5.04	5.04	7.33	0.821	0.822	-0.001	0.001
5.04	5.04	7.30	0.822		0.000	
5.04	5.04	7.30	0.822		0.000	



Airflow Sciences Corporation

Probe Calibration for Method 2

Wind Tunnel Facility: Airflow Sciences Corporation
 Wind Tunnel Location: Livonia, MI
 Probe Type: S-Type Pitot
 Probe ID: 5F1-A
 Probe Calibration Date: 01/08/18
 Test Point Location: center
 Ambient Temperature (°F): 76.1
 Barometric Pressure ("Hg): 29.18

Repetition	Nominal Low Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (°)	
1	30	0.20	76.1	0.29	0	0.82
2	30	0.20	76.1	0.29	0	0.82
3	30	0.20	76.1	0.29	0	0.82
Average (C _{p(avg-low)})						0.82

Repetition	Nominal Mid Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (deg)	
1	90	1.82	76.1	2.60	0	0.83
2	90	1.82	76.1	2.59	0	0.83
3	90	1.82	76.1	2.60	0	0.83
Average (C _{p(avg-high)})						0.83

$$\% \text{ Difference} = \frac{C_{p(\text{avg-low})} - C_{p(\text{avg-high})}}{C_{p(\text{avg-low})}} \times 100\% = \underline{\quad -0.65\% \quad} \quad \text{Pass}$$

Note: (1) The percent difference between the low and high velocity setting C_p values shall be within +/- 3 %.
 (2) If calibrating a 3-D probe for this method, the pitch angle setting must be 0°.

C_p = 0.826



Airflow Sciences Corporation

Probe Calibration for Method 2

Wind Tunnel Facility: Airflow Sciences Corporation
 Wind Tunnel Location: Livonia, MI
 Probe Type: S-Type Pitot
 Probe ID: 5F1-A
 Probe Calibration Date: 01/08/18
 Test Point Location: center
 Ambient Temperature (°F): 76.1
 Barometric Pressure ("Hg): 29.18

Repetition	Nominal Mid Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (°)	
1	90	1.82	76.1	2.60	0	0.83
2	90	1.82	76.1	2.59	0	0.83
3	90	1.82	76.1	2.60	0	0.83
Average (C _{p(avg-low)})						0.83

Repetition	Nominal High Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (deg)	
1	150	5.04	76.1	6.96	0	0.84
2	150	5.04	76.1	6.96	0	0.84
3	150	5.04	76.1	6.95	0	0.84
Average (C _{p(avg-high)})						0.84

$$\% \text{ Difference} = \frac{C_{p(\text{avg-low})} - C_{p(\text{avg-high})}}{C_{p(\text{avg-low})}} \times 100\% = \underline{\underline{-1.70\%}} \quad \text{Pass}$$

Note: (1) The percent difference between the low and high velocity setting C_p values shall be within +/- 3 %.
 (2) If calibrating a 3-D probe for this method, the pitch angle setting must be 0°.

C_p = 0.836



Airflow Sciences Corporation

Probe Calibration for Method 2

Wind Tunnel Facility: Airflow Sciences Corporation
 Wind Tunnel Location: Livonia, MI
 Probe Type: S-Type Pitot
 Probe ID: 5F1-B
 Probe Calibration Date: 01/08/18
 Test Point Location: center
 Ambient Temperature (°F): 76.3
 Barometric Pressure ("Hg): 29.17

Repetition	Nominal Low Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (°)	
1	30	0.20	76.3	0.30	0	0.81
2	30	0.20	76.3	0.30	0	0.81
3	30	0.20	76.3	0.30	0	0.81
Average (C _{p(avg-low)})						0.81

Repetition	Nominal Mid Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (deg)	
1	90	1.81	76.3	2.69	0	0.81
2	90	1.81	76.3	2.69	0	0.81
3	90	1.81	76.3	2.69	0	0.81
Average (C _{p(avg-high)})						0.81

$$\% \text{ Difference} = \frac{C_{p(\text{avg-low})} - C_{p(\text{avg-high})}}{C_{p(\text{avg-low})}} \times 100\% = \underline{\underline{-0.68\%}} \quad \text{Pass}$$

Note: (1) The percent difference between the low and high velocity setting C_p values shall be within +/- 3 %.
 (2) If calibrating a 3-D probe for this method, the pitch angle setting must be 0°.

C_p = 0.809



Airflow Sciences Corporation

Probe Calibration for Method 2

Wind Tunnel Facility: Airflow Sciences Corporation
 Wind Tunnel Location: Livonia, MI
 Probe Type: S-Type Pitot
 Probe ID: 5F1-B
 Probe Calibration Date: 01/08/18
 Test Point Location: center
 Ambient Temperature (°F): 76.3
 Barometric Pressure ("Hg): 29.17

Repetition	Nominal Mid Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (°)	
1	90	1.81	76.3	2.69	0	0.81
2	90	1.81	76.3	2.69	0	0.81
3	90	1.81	76.3	2.69	0	0.81
Average (C _{p(avg-low)})						0.81

Repetition	Nominal High Velocity Setting (ft/s)	Calibration Pitot		Tested Probe		Calculated C _p
		DP _{std} ("H ₂ O)	Temperature (°F)	DP ("H ₂ O)	Yaw Angle (deg)	
1	150	5.04	76.3	7.33	0	0.82
2	150	5.04	76.3	7.30	0	0.82
3	150	5.04	76.3	7.30	0	0.82
Average (C _{p(avg-high)})						0.82

$$\% \text{ Difference} = \frac{C_{p(\text{avg-low})} - C_{p(\text{avg-high})}}{C_{p(\text{avg-low})}} \times 100\% = \underline{\underline{-1.27\%}} \quad \text{Pass}$$

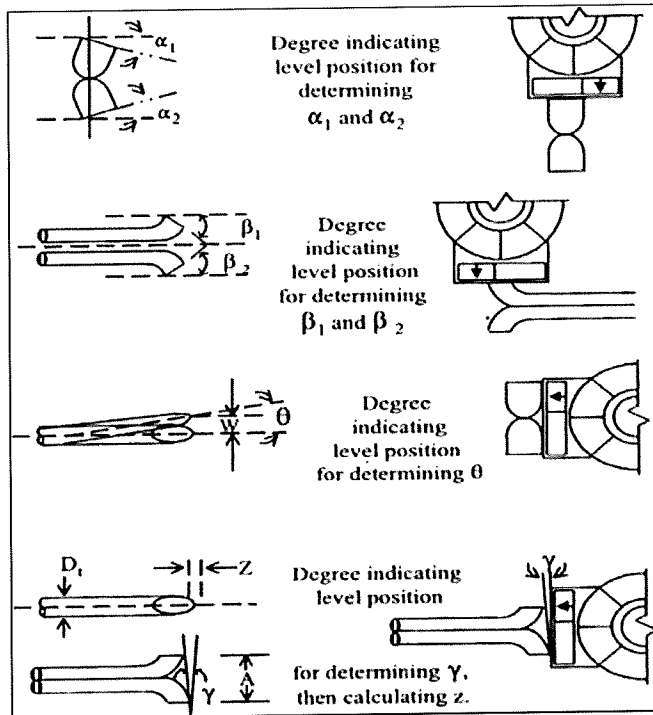
Note: (1) The percent difference between the low and high velocity setting C_p values shall be within +/- 3 %.
 (2) If calibrating a 3-D probe for this method, the pitch angle setting must be 0°.

C_p = 0.817

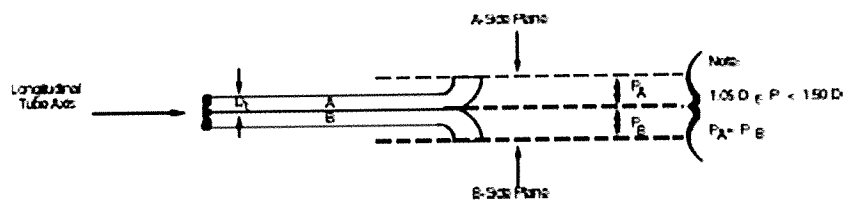


Airflow Sciences Corporation

Probe Inspection for Method 2



α_1	0.3 (°)	Pass
α_2	0.7 (°)	Pass
β_1	0.2 (°)	Pass
β_2	1.7 (°)	Pass
D_t	0.375 (")	Pass
P_a	0.434 (")	Pass
P_b	0.434 (")	Pass
z	<0.02 (")	Pass
w	0.005 (")	Pass



Certification

I certify that Type S probe ID **5F1** meets or exceeds all specifications, criteria, and applicable design features.

Certified by: Craig Rood

Date: 1/5/2018

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

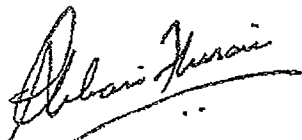
Part Number:	X03NI99C15A02C1	Reference Number:	54-401369421-1
Cylinder Number:	CC15465	Cylinder Volume:	144.4 CF
Laboratory:	124 - Chicago (SAP) - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Dec 13, 2018	Valve Outlet:	705
Lot Number:	54-401369421-1		

Expiration Date: Dec 13, 2019

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR HEXAFLUORIDE	4.000 PPM	4.088 PPM	+/- 5%
AMMONIA	300.0 PPM	290.0 PPM	+/- 2%
NITROGEN	Balance		



Approved for Release



Airgas Specialty Gases
Airgas USA, LLC
12722 S. Wentworth Ave.
Chicago, IL 60628
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X03NI99C15A0284	Reference Number:	54-401307356-1
Cylinder Number:	SG9152903BAL	Cylinder Volume:	144.4 CF
Laboratory:	124 - Chicago (SAP) - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Oct 01, 2018	Valve Outlet:	660
Lot Number:	54-401307356-1		

Expiration Date: Oct 01, 2026

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR HEXAFLUORIDE	4.000 PPM	3.840 PPM	+/- 5%
NITRIC OXIDE	300.0 PPM	296.5 PPM	+/- 2%
NITROGEN	Balance		
Total oxides of nitrogen		296.5 PPM	For Reference Only



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CERTIFICATE OF ANALYSIS
Grade of Product: PRIMARY STANDARD

Part Number:	X02NI99P15AD524	Reference Number:	141-124616906-1
Cylinder Number:	CC171222	Cylinder Volume:	144.4 CF
Laboratory:	124 - Conley Stryker - OH	Cylinder Pressure:	2015 PSIG
Analysis Date:	Apr 27, 2017	Valve Outlet:	350
Lot Number:	141-124616906-1		

Expiration Date: Apr 27, 2020

Primary Standard Gas Mixtures are traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
ETHYLENE	100.0 PPM	100.2 PPM	+/- 1%
NITROGEN	Balance		



[Signature]

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CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Customer: DERENZO & ASSOCIATES
 Part Number: E04NI56E15A0001
 Cylinder Number: CC210766
 Laboratory: 112 - Troy-32 (SAP) - MI
 PGVP Number: B62018
 Gas Code: CO,CO2,O2,BALN

Reference Number: 32-401378151-1
 Cylinder Volume: 162.0 CF
 Cylinder Pressure: 2015 PSIG
 Valve Outlet: 590
 Certification Date: Dec 20, 2018

Expiration Date: Dec 20, 2026

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.

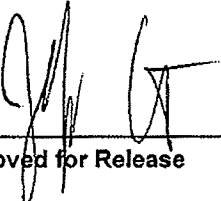
ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	1500 PPM	1492 PPM	G1	+/- 1% NIST Traceable	12/20/2018
OXYGEN	21.00 %	21.05 %	G1	+/- 1% NIST Traceable	12/20/2018
CARBON DIOXIDE	22.50 %	22.49 %	G1	+/- 1% NIST Traceable	12/20/2018
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	08012227	KAL004609	2466 PPM CARBON MONOXIDE/NITROGEN	+/-0.5%	May 09, 2024
NTRM	10010924	K021247	20.89 % OXYGEN/NITROGEN	+/-0.5%	Jun 27, 2022
NTRM	12061526	CC354795	19.87 % CARBON DIOXIDE/NITROGEN	+/-0.6%	Jan 11, 2024

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
CO2 SIEMENS ULTRAMAT 6 E/N 173	Nondispersive Infrared (NDIR)	Nov 20, 2018
CO SIEMENS ULTRAMAT 6 E/N 173	Nondispersive Infrared (NDIR)	Nov 20, 2018
O2 FS, SIEMENS OXYMAT 6 E/N 182	Paramagnetic	Dec 03, 2018

Triad-Data Available Upon Request





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CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Customer:	DERENZO & ASSOCIATES	Reference Number:	32-400861872-1
Part Number:	E02NI87E15A0480	Cylinder Volume:	145.5 CF
Cylinder Number:	CC443443	Cylinder Pressure:	2015 PSIG
Laboratory:	112 - Royal Oak-32 (SAP) - MI	Valve Outlet:	590
PGVP Number:	B62017	Certification Date:	Feb 20, 2017
Gas Code:	O2,BALN		

Expiration Date: Feb 20, 2025

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.

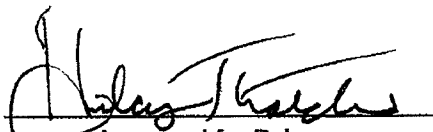
ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
OXYGEN	12.50 %	12.53 %	G1	+/- 1.0% NIST Traceable	02/20/2017
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	09060222	CC263070	9.961 % OXYGEN/NITROGEN	+/- 0.3%	Nov 08, 2018

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
O2 FS, SIEMENS OXYMAT 6 E/N 182	Paramagnetic	Jan 23, 2017

Triad Data Available Upon Request




 Approved for Release