CleanAir.

CleanAir Engineering 500 W. Wood Street Palatine, IL 60067-4975 800-627-0033 www.cleanair.com



Wheelabrator South Broward, Inc. 4400 South State Road 7 Ft. Lauderdale, FL 33314

REPORT ON RELATIVE ACCURACY TEST AUDIT

Performed for: WHEELABRATOR SOUTH BROWARD, INC. UNITS 1, 2 AND 3 FF OUTLETS FT. LAUDERDALE, FL

> CleanAir Project No: 10955-3 Revision 0: May 5, 2010

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

Submitted by,

Scott Brown Project Manager sbrown@cleanair.com (800) 627-0033 ext. 4544 Reviewed by,

Scott Lehmann Midwest Engineering Group Leader slehmann@cleanair.com (800) 627-0033 ext. 4660



Wheelabrator South Broward Inc.

A Waste Management Company

4400 South State Road 7 Ft. Lauderdale, FL 33314 (954) 581-6606 (954) 581-6705 Fax

May 6, 2010

UPS#70072680000087713974

Mr. Lennon Anderson Air Program Administrator Florida Department of Environmental Protection Southeast District 400 North Congress Ave., Suite 200 West Palm Beach, FL 33401

Wheelabrator South Broward

RECEIVED

MAY 07 2010 BUREAU OF AIR REGULATION

Dear Mr. Anderson:

Re:

Please find enclosed a copy of the final compliance stack test report and the continuous emissions monitoring system certification RATA report for testing conducted on March 22-24 of this year by Clean Air Engineering, Inc.

1, the undersigned, am a responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this submittal. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements and information in this document are true, accurate and complete.

If there are any questions, please contact this office at (954) 581-6606.

2010 Annual Compliance Stack Test and RATA Reports

Sincerely,

Ganeesh Siewrattan Operations Manager

cc: USEPA, Region IV, Pesticides and Toxics Management Division, Air & EPCRA Enforcement Branch, Air Enforcement Section (with) UPS#70072680000087713981 FDEP, Tallahassee, Bureau of Air Regulation, New Source Review Section, (with) UPS#70072680000087713998 Broward County Department of Planning and Environmental Protection, Air Quality Division (with) UPS#70072680000087714001

Chuck Faller (with) Ram Tewari – BCWRS (without) Tim Porter (without) Rob French – MPI (with) UPS#70072680000087714018





Revision:

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WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

ii

REVISION HISTORY REPORT ON RELATIVE ACCURACY TEST AUDIT DRAFT REPORT REVISION HISTORY Date Pages Comments 04/23/10 All Draft version of original document. FINAL REPORT REVISION HISTORY

Date	Pages	Comments
05/05/10	All	Final version of original document.



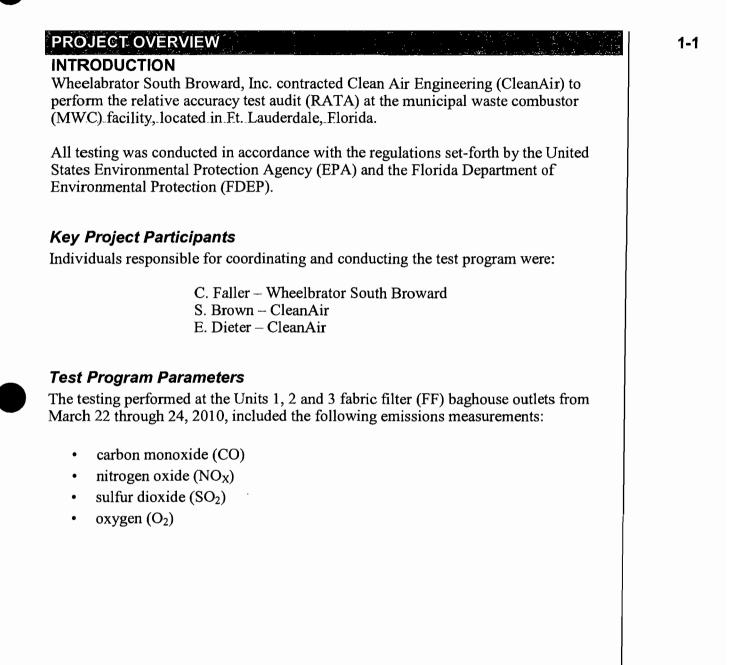
WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

iii

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1	PROJECT OVERVIEW
	INTRODUCTION
	Key Project Participants
	Test Program Parameters
	Results Summary 1-2 Table 1-1: Summary of Test Results 1-2
	Discussion of Test Program
2	RESULTS
	Table 2-1: Relative Accuracy Unit 1 FF Outlet - Oxygen
	Table 2-2: Relative Accuracy Unit 1 FF Outlet - Sulfur Dioxide
	Table 2-3: Relative Accuracy Unit 1 FF Outlet - Nitrogen Oxides
	Table 2-4: Relative Accuracy Unit 1 FF Outlet - Carbon Monoxide
	Table 2-5: Relative Accuracy Unit 2 FF Outlet - Oxygen
	Table 2-6: Relative Accuracy Unit 2 FF Outlet - Sulfur Dioxide
	Table 2-7: Relative Accuracy Unit 2 FF Outlet - Nitrogen Oxides
	Table 2-8: Relative Accuracy Unit 2 FF Outlet - Carbon Monoxide
	Table 2-9: Relative Accuracy Unit 3 FF Outlet - Oxygen
	Table 2-10: Relative Accuracy Unit 3 FF Outlet - Sulfur Dioxide
	Table 2-11: Relative Accuracy Unit 3 FF Outlet - Nitrogen Oxides 2-6
	Table 2-12: Relative Accuracy Unit 3 FF Outlet - Carbon Monoxide
3	DESCRIPTION OF INSTALLATION
	PROCESS DESCRIPTION
	CEMS GENERAL DESCRIPTION 3-1
	PERKIN ELMER MCS-100 /E ANALYZER 3-1
	ESC DAS
	CEM CALIBRATION
	CEMS SCHEMATIC
	Figure 3-1: General CEMS Schematic 3-3
	Figure 3-2: Process Flow Diagram and CEM Locations
	DESCRIPTION OF SAMPLING LOCATIONS
	Table 3-1: Sampling Points
	Figure 3-3: Units 1, 2 and 3 FF Outlets – RATA Sampling Point Determination (PS 2) 3-6
4	METHODOLOGY 4-1
	Table 4-1: Summary of Sampling Procedures 4-1
5	APPENDIX
	TEST METHOD SPECIFICATIONS
	SAMPLE CALCULATIONSB
	PARAMETERS
	QA/QC DATAD
	REFERENCE METHOD FIELD DATA
	CEM MONITOR AND PROCESS DATA F





PROJECT OVERVIEW

TEST PROGRAM SYNOPSIS

Results Summary

Table 1-1 summarizes the results of the test program. A more detailed presentation of the test conditions and results of analysis are shown in Tables 2-1 through 2-12 on pages 2-1 through 2-6. The O_2 RATA results are presented for comparison purposes only.

Summary of Test Results Relative Relative									
Constituent	CEM Serial Number	RM Avg	CEM Avg	Difference	95% CC	Accuracy Result	Limit	Basis of Limit	
Unit 1 FF Outlet CEMS (units	of RATA)		•						
SO ₂ (ppmdv @ 7% O ₂)	278	4.3	3.4	1.0	0.198	4.0%	20%	S1	
NO _x (ppmdv @ 7% O ₂)	278	196.7	198.9	-2.2	0.705	1.4%	10%	S ²	
CO (ppmdv @ 7% O ₂)	278	12.9	13.3	-0.3	0.180	0.5%	5%	S³	
Unit 2 FF Outlet CEMS (units	of RATA)								
SO ₂ (ppmdv @ 7% O ₂)	277	12.0	10.6	1.4	0.178	5.5%	20%	S	
NO _X (ppmdv @ 7% O ₂)	277	187.2	185.6	1.5	0.508	1.0%	10%	S ²	
CO (ppmdv @ 7% O₂)	277	7.6	8.8	-1.2	0.095	1.3%	5%	S³	
Unit 3 FF Outlet CEMS (units	of RATA)								
SO ₂ (ppmdv @ 7% O ₂)	279	13.6	11.7	1.9	0.355	7.7%	20%	S ¹	
NO _X (ppmdv @ 7% O₂)	279	178.9	195.2	-16.3	0.271	8.1%	10%	S²	
CO (ppmdv @ 7% O ₂)	279	8.9	10.9	-2.0	0.189	2.2%	5%	S3	

¹SO₂ FF Outlet Relative Accuracy calculated as a percentage of the 29 ppm standard as per Performance Specification 2, Section 13.2.

² NO_X FF Outlet Relative Accuracy calculated as a percentage of the 205 ppm standard as per Performance Specification 2, Section 13.2.
³ CO FF Outlet Relative Accuracy calculated as a percentage of the 100 ppm standard as per Performance Specification 4A, Section 13.2.

Basis of Limit: S = Standard

Discussion of Test Program

Each boiler was operated at greater than 50% (96,000 lbs/hr steam flow) during each RATA. The steam load is presented in Appendix F with the plant CEM run data.

All RATA runs were 27 minutes in duration. Ten (10) runs were performed on all three (3) units.

A NO_X analyzer converter check was performed after each day's calibration error check. The converter check data is presented in Appendix E.

End of Section 1 – Project Overview

CleanAir Project No: 10955-3

CleanAir Project No: 10955-3

RESULT	Sur Basala and Brogassian	e e <u>e e</u> cher			- the distance of the second second	25 Marsh at San San Santa.
			Table 2-1			
		Relative Acc	uracy Unit 1 F	F Outlet - Ox	ygen	
Run No.	Start Time	Date (2010)	RM Data (%dv)	CEMS Data (%dv		Percent Difference
	8:03	Mar 23	8.88	8.80	· · ·	0.90%
	8:37	Mar 23	9.08	9.00		0.90%
	9:11	Mar 23	8.89	8.80		1.00%
	9:45	Mar 23	8.63	8.60		0.30%
; [10:19	Mar 23	9.02	9.00		0.21%
	10:52	Mar 23	9.47	9.40	0.07	0.79%
,	11:26	Mar 23	9.04	8.90		1.60%
	12:00	Mar 23	9.24	9.20		0.46%
	12:33	Mar 23	9.24	9.20		0.46%
0	13:07	Mar 23	8.72	8.70		0.22%
verage			9.02	8.97	0.05	0.59%
tandard Dev	viation		0.029			
Confidence C	Coefficient (CC)		0.022			
				Limit		
			0.07	N/A		
•	e Diff. + CC (%dv at the run was no	-	0.07 RATA calculatio Table 2-2:			
•	at the run was no	ot included in the	RATA calculatio Table 2-2: y Unit 1 FF O	utlet - Sulfur	Dioxide	Percent
ndicates the	at the run was no	ot included in the	RATA calculation	ıs.	Difference	Percent Difference
ndicates the	at the run was no Rela Start Time 8:03	ot included in the	Table 2-2: Table 2-2: Unit 1 FF O RM Data (ppm@7%O2) 7.43	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10	Difference (ppm@7%O2) 1.33	Difference 17.88%
dicates the	at the run was no Rela Start Time 8:03 8:37	ot included in the tive Accurac Date (2010) Mar 23 Mar 23	RATA calculatio Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10	Difference (ppm@7%O2) 1.33 1.33	Difference 17.88% 24.47% *
ndicates th	at the run was no Rela Start Time 8:03 8:37 9:11	tive Accurac Date (2010) Mar 23 Mar 23 Mar 23 Mar 23	RATA calculation Table 2-2: Table 2-2:	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50	Difference (ppm@7%O2) 1.33 1.33 1.15	Difference 17.88% 24.47% * 24.67%
ndicates the	Rela Start Time 8:03 8:37 9:11 9:45	tive Accurac Date (2010) Mar 23 Mar 23 Mar 23 Mar 23 Mar 23	RATA calculation Table 2-2: Table 2-2:	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81	Difference 17.88% 24.47% * 24.67% 26.83%
ndicates the	Rela Start Time 8:03 8:37 9:11 9:45 10:19	tive Accurac Date (2010) Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23	RATA calculation Table 2-2: Table 2-2:	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17	Difference 17.88% 24.47% * 24.67% 26.83% 26.20%
ndicates the	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52	tive Accurac Date (2010) Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82%
ndicates the	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26	tive Accurac Date (2010) Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51%
Indicates the	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00	tive Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74%
ndicates the	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33	tive Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57 2.59	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90 2.00	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67 0.59	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74% 22.76%
In No.	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00	tive Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57	utlet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74%
un No.	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33	tive Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57 2.59 5.38	ns. CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90 2.00 4.40	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67 0.59 0.98	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74% 22.76% 18.14%
un No.	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07	tive Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57 2.59 5.38	ns. CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90 2.00 4.40	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67 0.59 0.98	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74% 22.76% 18.14%
Indicates the Run No.	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07	tive Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57 2.59 5.38 4.33	ns. Litet - Sulfur CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90 2.00 4.40 3.37	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67 0.59 0.98	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74% 22.76% 18.14%
Indicates the Run No.	Rela Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07	ot included in the Ative Accurac Date (2010) Mar 23 Mar 23	RATA calculation Table 2-2: y Unit 1 FF O RM Data (ppm@7%O2) 7.43 5.43 4.65 3.01 4.47 4.79 3.13 3.57 2.59 5.38 4.33 0.257	ns. CEMS Data (ppm@7%O2) 6.10 4.10 3.50 2.20 3.30 3.60 2.30 2.90 2.00 4.40	Difference (ppm@7%O2) 1.33 1.33 1.15 0.81 1.17 1.19 0.83 0.67 0.59 0.98	Difference 17.88% 24.47% 24.67% 26.83% 26.20% 24.82% 26.51% 18.74% 22.76% 18.14%

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WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

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1.14			Table 2-3		100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100	
	Relat	ive Accuracy	y Unit 1 FF Ou		n Oxides	
			RM Data	CEMS Data	Difference	Percent
un No.	Start Time	Date (2010)	(ppm@7%O2)	(ppm@7%O2)	(ppm@7%O2)	Difference
	8:03	Mar 23	192.57	195.90	-3.33	-1.73% *
ļ	8:37	Mar 23	194.34	196.30	-1.96	-1.01%
	9:11	Mar 23	196.05	198.10	-2.05	-1.04%
	9:45	Mar 23	192.14	195.40	-3.26	-1.70%
	10:19	Mar 23	201.41	204.60	-3.19	-1.58%
	10:52	Mar 23	213.22	216.20	-2.98	-1.40%
	11:26	Mar 23	191.82	193.50	-1.68	-0.87%
	12:00	Mar 23	193.64	196.50	-2.86	-1.48%
	12:33	Mar 23	193.18	194.30	-1.12	-0.58%
	13:07	Mar 23	194.13	194.90	-0.77	-0.40%
rage			196.66	198.87	-2.21	-1.12%
			0.017			
andard De	eviation		0.917			
nfidence	Coefficient (CC)		0.705			
muence	Coemcient (OO)		0.700	Limits		
lative Acr	curacy (as % of R	M	1.5%	20.0%		
				20:0,70		
andard = :	curacy (as % of Ap 205 (ppm@7%O2	2)	1.4%	10.0%		
andard = :	• • •	2)		ns.		
andard = :	205 (ppm@7%O2 hat the run was no	t included in the	RATA calculatio Table 2-4: Unit 1 FF Out	ns. Iet - Carbon I		
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relati n) ot included in the ve Accuracy	RATA calculatio Table 2-4: Unit 1 FF Out RM Data	ns. let - Carbon I CEMS Data	Difference	Percent
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time) ot included in the ve Accuracy Date (2010)	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2)	ns. Iet - Carbon CEMS Data (ppm@7%O2)	Difference (ppm@7%O2)	Difference
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03) ot included in the ve Accuracy Date (2010) Mar 23	e RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87	ns. let - Carbon CEMS Data (ppm@7%O2) 19.50	Difference (ppm@7%O2) -0.63	Difference -3.35%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37) ot included in the ve Accuracy Date (2010) Mar 23 Mar 23	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81	ns. let - Carbon CEMS Data (ppm@7%O2) 19.50 13.40	Difference (ppm@7%O2) -0.63 -0.59	Difference -3.35% -4.62%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50	Difference (ppm@7%O2) -0.63 -0.59 -0.13	Difference -3.35% -4.62% -1.00%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08	Difference -3.35% -4.62% -1.00% -0.68%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29	Difference -3.35% -4.62% -1.00% -0.68% -3.07%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63%
andard = 2 ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% *
andard = : ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%
ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% *
andard = : ndicates t	205 (ppm@7%O2 hat the run was no Relativ Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%
andard = : ndicates t n No.	205 (ppm@7%O2 hat the run was no Relative Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%
andard = : ndicates ti in No. erage andard De	205 (ppm@7%O2 hat the run was no Relative Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07 eviation	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47 12.94	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%
andard = : ndicates ti in No. erage andard De	205 (ppm@7%O2 hat the run was no Relative Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07	b) b) b) b) b) b) b) b) b) b) b) b) b) b	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47 12.94	ns. CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%
andard = : ndicates ti in No. erage andard De	205 (ppm@7%O2 hat the run was no Relative Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07 eviation Coefficient (CC)	b) t included in the ve Accuracy Date (2010) Mar 23 Mar 23	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47 12.94 0.234	Iet - Carbon CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50 13.27	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%
andard = : ndicates ti in No. erage andard De	205 (ppm@7%O2 hat the run was no Relative Start Time 8:03 8:37 9:11 9:45 10:19 10:52 11:26 12:00 12:33 13:07 eviation	b) t included in the ve Accuracy Date (2010) Mar 23 Mar 23	RATA calculatio Table 2-4: Unit 1 FF Out RM Data (ppm@7%O2) 18.87 12.81 13.37 11.52 9.51 12.50 12.51 13.87 16.07 11.47 12.94 0.234	Iet - Carbon CEMS Data (ppm@7%O2) 19.50 13.40 13.50 11.60 9.80 12.90 13.10 14.10 17.20 11.50 13.27	Difference (ppm@7%O2) -0.63 -0.59 -0.13 -0.08 -0.29 -0.40 -0.59 -0.23 -1.13 -0.03	Difference -3.35% -4.62% -1.00% -0.68% -3.07% -3.21% -4.69% -1.63% -7.01% * -0.22%

2-2

2-3

RESUL	TS	in the second							
Table 2-5: Relative Accuracy Unit 2 FF Outlet - Oxygen									
		Celative Acc	RM Data	CEMS Data		Percent			
Run No.	Start Time	Date (2010)	(%dv)	(%dv		Difference			
1	7:38	Mar 24	9.07	9.00	. ,	0.81%			
2	8:12	Mar 24	9.00	8.90	0.10	1.08%			
3	8:46	Mar 24	9.18	8.90	0.28	3.07%			
4	9:20	Mar 24	9.37	9.10	0.27	2.91%			
5	9:54	Mar 24	9.39	9.30	0.09	1.00%			
6	10:28	Mar 24	9.03	8.90		1.43%			
7	11:02	Mar 24	8.93	8.60		3.69% *			
8	11:36	Mar 24	9.13	8.90		2.51%			
9	12:10	Mar 24	9.36	9.30		0.68%			
10	12:44	Mar 24	9.21	9.00	0.21	2.25%			
Average			9.19	9.03	0.16	1.75%			
			RATA						
Standard I	Deviation		0.087						
			0.007						
Confidenc	e Coefficient (CC)		0.067						
	· · ·			Limit					
Avg. Abso	lute Diff. + CC (%dv	/)	0.23	NA					
-	-	-		NA					
-	that the run was no	-		NA					
-	-	-		NA ns.					
-	that the run was no	ot included in the	RATA calculation Table 2-6: y Unit 2 FF O	NA ns. utlet - Sulfur					
* Indicates	that the run was no	ot included in the	RATA calculation Table 2-6: Unit 2 FF O RM Data	NA ns. utlet - Sulfur CEMS Data	Difference	Percent			
* Indicates	that the run was no Rela Start Time	tincluded in the tive Accurac Date (2010)	RATA calculation Table 2-6: y Unit 2 FF O RM Data (ppm@7%O2)	NA ns. utlet - Sulfur		Percent Difference			
* Indicates	that the run was no Rela Start Time 7:38	tincluded in the tive Accurac Date (2010) Mar 24	RATA calculation Table 2-6: y Unit 2 FF O RM Data (ppm@7%O2) 13.48	NA ns. utlet - Sulfur CEMS Data (ppm@7%O2) 12.40	Difference (ppm@7%O2) 1.08	Difference 8.00%			
Run No.	that the run was no Rela Start Time 7:38 8:12	t included in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: Sy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88	NA ns. CEMS Data (ppm@7%O2) 12.40 5.10	Difference (ppm@7%O2) 1.08 1.78	Difference 8.00% 25.87% *			
* Indicates Run No. 1 2 3	that the run was no Rela Start Time 7:38 8:12 8:46	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: EV Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11	NA ns. CEMS Data (ppm@7%O2) 12.40 5.10 7.50	Difference (ppm@7%O2) 1.08 1.78 1.61	Difference 8.00% 25.87% * 17.71%			
* Indicates Run No. 1 2 3 4	that the run was no Rela Start Time 7:38 8:12 8:46 9:20	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: EXPUNIT 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79	NA ns. CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49	Difference 8.00% 25.87% 17.71% 10.79%			
* Indicates Run No. 1 2 3 4 5	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: EVANDE 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77	NA ns. CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27	Difference 8.00% 25.87% * 17.71% 10.79% 8.60%			
* Indicates Run No. 1 2 3 4 5 6	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28	t included in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: cy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09	NA ns. CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16%			
* Indicates Run No. 1 2 3 4 5 6 7	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: cy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03	NA ns. CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41%			
* Indicates Run No. 1 2 3 4 5 6 7 8	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: cy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12%			
* Indicates Run No. 1 2 3 4 5 6 7 8 9	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36 12:10	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: cy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75%			
* Indicates Run No. 1 2 3 4 5 5 6 7 3 9 10	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24 Mar 24	RATA calculation Table 2-6: EVINIT 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25 13.72	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70 12.40	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55 1.55 1.32	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75% 9.63%			
* Indicates Run No. 1 2 3 4 5 5 6 7 3 9 10	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36 12:10	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: cy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75%			
* Indicates Run No. 1 2 3 4 5 6 7 8 9 10	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36 12:10	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: EVINIT 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25 13.72	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70 12.40	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55 1.55 1.32	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75% 9.63%			
* Indicates Run No. 1 2 3 4 5 5 6 7 3 9 10 Average	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36 12:10 12:44	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: EVINIT 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25 13.72	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70 12.40	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55 1.55 1.32	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75% 9.63%			
Run No. 1 2 3 4 5 5 6 7 3 9 10 Average	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36 12:10 12:44	tincluded in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: EVUNIT 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25 13.72 12.04	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70 12.40	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55 1.55 1.32	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75% 9.63%			
* Indicates Run No. 1 2 3 4 5 6 7 8 9 10 Average Standard E Confidence	that the run was no Rela Start Time 7:38 8:12 8:46 9:20 9:54 10:28 11:02 11:36 12:10 12:44 Peviation	t included in the tive Accurac Date (2010) Mar 24 Mar 24	RATA calculation Table 2-6: Sy Unit 2 FF O RM Data (ppm@7%O2) 13.48 6.88 9.11 13.79 14.77 13.09 12.03 9.15 9.25 13.72 12.04 0.231	NA ns. Utlet - Sulfur CEMS Data (ppm@7%O2) 12.40 5.10 7.50 12.30 13.50 11.50 10.90 7.40 7.70 12.40	Difference (ppm@7%O2) 1.08 1.78 1.61 1.49 1.27 1.59 1.13 1.75 1.55 1.55 1.32	Difference 8.00% 25.87% * 17.71% 10.79% 8.60% 12.16% 9.41% 19.12% 16.75% 9.63%			

CleanAir.

WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

2-4

RESUL	TS					
	a anna an 146 a Bhrannach an		Table 2-7		and the second	 Schwarz (1997) 121
	Rela	tive Accurac	y Unit 2 FF Ou	<u>itlet - Nitroge</u>	n Oxides	
			RM Data	CEMS Data		Percent
Run No.	Start Time	Date (2010)	(ppm@7%O2)		(ppm@7%O2)	Difference
1	7:38	Mar 24	187.00	185.50	1.50	0.80%
2	8:12	Mar 24	188.49	187.30	1.19	0.63%
3	8:46	Mar 24	189.33	186.60	2.73	1.44%
4	9:20	Mar 24	189.90	187.70	2.20	1.16%
5	9:54	Mar 24	183.91	182.00	1.91	1.04%
6	10:28	Mar 24	181.53	180.30	1.23	0.68%
7	11:02	Mar 24	191.87	191.60	0.27	0.14%
В	11:36	Mar 24	186.73	185.10	1.63	0.87%
9	12:10	Mar 24	180.27	177.70	2.57	1.43%
10	12:44	Mar 24	194.72	193.30	1.42	0.73%
Average			187.16	185.61	1.55	0.83%
Standard	Deviation		0.661			
Confidenc	e Coefficient (CC)		0.508			
Connaonio			0.000	Limits		
Relative A	ccuracy (as % of F	RM)	1.1%_	20.0%_		
Deletive A	ccuracy (as % of A	Appliable Std)	1.0%	10.0%		
	= 205 (ppm@7%O	,	1.0%	10.0%		
Indicates	s that the run was r	not included in the	e RATA calculation	ns.		
			T -11 0 0			
	Relat	ive Accuracy	Table 2-8: Unit 2 FF Out		Monoxide	
T			RM Data	CEMS Data	Difference	Percent
Run No.	Start Time	Date (2010)	(ppm@7%O2)	(ppm@7%O2)		Difference
1	7:38	Mar 24	9.68	10.90	-1.22	-12.64%
2	8:12	Mar 24	7.71	9.00	-1.29	-16.75%
3	8:46	Mar 24	7.15	8.50	-1.35	-18.80%
í í	9:20	Mar 24	6.59	7.70	-1.11	-16.93%
5	9:54	Mar 24	8.73	9.90	-1.17	-13.40%
5	10:28	Mar 24	6.85	8.10	-1.25	-18.16%
	11.00					

	Relative Accuracy Unit 2 FF Outlet - Carbon Monoxide									
			RM Data	CEMS Data	Difference	Percent				
Run No.	Start Time	Date (2010)	(ppm@7%O2)	(ppm@7%O2)	(ppm@7%O2)	Difference				
1	7:38	Mar 24	9.68	10.90	-1.22	-12.64%				
2	8:12	Mar 24	7.71	9.00	-1.29	-16.75%				
3	8:46	Mar 24	7.15	8.50	-1.35	-18.80% *				
4	9:20	Mar 24	6.59	7.70	-1.11	-16.93%				
5	9:54	Mar 24	8.73	9.90	-1.17	-13.40%				
6	10:28	Mar 24	6.85	8.10	-1.25	-18.16%				
7	11:02	Mar 24	7.36	8.50	-1.14	-15.45%				
8	11:36	Mar 24	6.43	7.60	-1.17	-18.22%				
9	12:10	Mar 24	7.96	9.30	-1.34	-16.80%				
10	12:44	Mar 24	7.49	8.40	-0.91	-12.15%				
Average			7.64	8.82	-1.18	-15.41%				
Standard I	Deviation		0.124							
Confidenc	e Coefficient (CC)		0.095							
Relative A	ccuracy (as % of R	M)	16.7%	Limits 10.0%						
· · · · · · · · · ·	ccuracy (as % of A = 100 (ppm@7%O2	,	1.3%	5.0%						

S.C.S. die

WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

RESUL	TS		Table 2.0				2
		Polotivo Aco	Table 2-9 uracy Unit 3 F				
		Relative Acc	RM Data	CEMS Data	Difference	Percent	
Run No	Start_Time	Date (2010)	(%dv)	(%dv)	I	Difference	
1	7:44	Mar 22	9.68	9.70	. ,	-0.20%]
2	8:20	Mar 22	9.39	9.50		-1.20%	[
3	8:54	Mar 22	10.07	10.00		0.70%	
1	9:28	Mar 22	10.15	10.20		-0.51%	
5	10:01	Mar 22	9.80	9.80		0.04%	
5	10:35	Mar 22	9.21	9.30		-0.96%	}
	11:09	Mar 22	9.58	9.60		-0.25%	
3	11:43	Mar 22	9.49	9.50		-0.08%	
	12:17	Mar 22	9.29	9.40		-1.21%	
0	12:51	Mar 22	9.18	9.30		-1.26% *	
verage			9.63	9.67		-0.39%	
Standard I	Deviation		0.060				
Confidenc	e Coefficient (CC)		0.046				
			0.010	Limit			
va. Abso	lute Diff. + CC (%	dv)	0.10	NA			
•	that the run was r	-					}
	Rel	ative Accurac	Table 2-10 y Unit 3 FF O		Dioxide		
			RM Data	CEMS Data		Percent	ĺ
tun No.	Start Time	Date (2010)	(ppm@7%O2)	(ppm@7%O2)	(ppm@7%O2)	Difference	1
	7:44	Mar 22	13.30	12.00	1.30	9.74%	
	8:20	Mar 22	15.15	12.90	2.25	14.83%	
	8:54	Mar 22	13.51	11.30	2.21	16.33%	
	9:28	Mar 22	14.03	11.40	2.63	18.77%	
	10:01	Mar 22	13.97	12.10	1.87	13.38%	
	10:35	Mar 22	11.66	9.40	2.26	19.40% *	
1	11:09	Mar 22	14.68	12.90	1.78	12.15%	
	11:43	Mar 22	9.64	7.60	2.04	21.15%	
				10 50	1.22	8.90%	
	12:17	Mar 22	13.72	12.50			
	12:17 12:51	Mar 22 Mar 22	13.99	12.40	1.59	11.37%	
			13.99 13.55				
verage	12:51		13.99 13.55 RATA	12.40	1.59	11.37%	
0 verage	12:51		13.99 13.55	12.40	1.59	11.37%	
0 verage tandard D	12:51		13.99 13.55 RATA	12.40 11.68	1.59	11.37%	
	12:51	Mar 22	13.99 13.55 RATA 0.461	12.40	1.59	11.37%	

CleanAir Project No: 10955-3

2-6

RESULTS	S					an a			
			Table 2-11:		0.11				
Relative Accuracy Unit 3 FF Outlet - Nitrogen Oxides RM Data CEMS Data Difference Percent									
Run No.	Start Time	Date (2010)	(ppm@7%O2)		(ppm@7%O2)	Difference			
4	7:44	Mar 22	178.10	195.50	-17.40				
$\frac{1}{2}$	8:20	Mar 22		195.50		-9.77%			
2			178.33		-16.37	-9.18%			
3	8:54	Mar 22	179.96	196.60	-16.64	-9.25%			
4	9:28	Mar 22	182.99	199.70	-16.71	-9.13%			
5	10:01	Mar 22	176.31	192.90	-16.59	-9.41%			
6	10:35	Mar 22	179.70	195.90	-16.20	-9.02%			
7	11:09	Mar 22	179.04	195.10	-16.06	-8.97%			
8	11:43	Mar 22	176.77	192.70	-15.93	-9.01%			
9	12:17	Mar 22	177.93	193.60	~15.67	-8.81%			
10	12:51	Mar 22	179.40	195.50	-16.10	-8.97%			
Average			178.94	195.19	-16.25	-9.08%			
			RATA						
Standard De	viation		0.353						
Confidence (Coefficient (CC)		0.271						
				Limits					
Relative Acc	uracy (as % of RI	V1)	9.2%	20.0%					
	uracy (as % of Ap 205 (ppm@7%O2		8.1%	10.0%					

Table 2-12:

	Relative Accuracy Unit 3 FF Outlet - Carbon Monoxide										
			RM Data	CEMS Data		Percent					
Run No.	Start Time	Date (2010)	(ppm@7%O2)	(ppm@7%O2)	(ppm@7%O2)	Difference					
1	7:44	Mar 22	8.61	11.10	-2.49	-28.95%					
2	8:20	Mar 22	8.42	10.40	-1.98	-23.59%					
3	8:54	Mar 22	8.55	10.60	-2.05	-23.98%					
4	9:28	Mar 22	11.13	13.70	-2.57	-23.07% *					
5	10:01	Mar 22	12.01	14.00	-1.99	-16.57%					
6	10:35	Mar 22	9.35	11.00	-1.65	-17.70%					
7	11:09	Mar 22	7.89	9.90	-2.01	-25.44%					
8	11:43	Mar 22	9.09	11.30	-2.21	-24.26%					
9	12:17	Mar 22	7.98	9.70	-1.72	-21.56%					
10	12:51	Mar 22	7.82	9.80	-1.98	-25.30%					
Average			8.86	10.87	-2.01	-22.69%					
			RATA								
Standard D	Deviation		0.246								
Confidence	e Coefficient (CC)		0.189	Linsite							
Relative Ar	ccuracy (as % of RM	Л)	24.8%	Limits 10.0%							
	ccuracy (as % of Ap = 100 (ppm@7%O2)		2.2%	5.0%							



DESCRIPTION OF INSTALLATION

PROCESS DESCRIPTION

The South Broward Resource Recovery facility, located in Ft. Lauderdale, Florida, operates three (3) 750 tons-per-day municipal refuse-fired, water-wall boiler trains. The trains were manufactured by Babcock and Wilcox to produce electricity for sale to a local utility company. Each boiler is equipped with a spray dryer absorber (SDA) for acid gas removal, followed by an FF baghouse for the control of particulate emissions. The control equipment is manufactured by Wheelabrator Air Pollution Control, Inc. Each FF baghouse is followed by an induced draft fan, which directs the flue gas to a dedicated flue in a common stack.

CEMS GENERAL DESCRIPTION

The CEMs was supplied by Aldora Technologies and consists of the following major components: three (3) Perkin Elmer MCS-100 /e infrared-based multi-gas measurement analyzers (one for each unit) and an Environmental System Corporation (ESC) UNIX-based data acquisition system (DAS). With the recent addition of M and C chillers, the MCS-100 /e analyzers measure pollutant and diluent concentrations on a cold-dry basis.

Each MCS-100 /e system includes the following: a SICK 100 /e analyzer with integrated zirconium oxide-based O_2 analyzer, programmable logic controller (PLC) and heated probe and sample line. The FF outlet 100 /e systems monitor oxygen (O_2), carbon dioxide (CO_2), carbon monoxide (CO), sulfur dioxide (SO_2) and nitrogen oxides (NO_X) from the respective stack ductwork.

The ESC DAS consists of three (3) Model 8816 data loggers (one for each MWC unit), a central polling (located in the CEM shelter), data archiving and reporting computer, and a remote engineering workstation (located in the control room). An environmentally-controlled shelter houses the MCS-100 /e analyzers, calibration gas systems and ESC Model 8816 data loggers. A general CEMs schematic is shown in Figure 3-1 on page 3-3.

PERKIN ELMER MCS-100 /E ANALYZER

The analyzer uses multiple infrared measurements, including Gas Filter Correlation for measuring NO_X and CO, a single beam-dual wavelength for SO₂ and an integrated heated zirconium oxide (ZrO_2) electrochemical cell for O₂, which is controlled by the 100 /e motherboard. All measurements are performed on a cold-dry basis in a single once-through sample cell with common optical bench (infrared source, filters, chopper wheel and detector). All sampling components (probe, sample line, pump) and measurement cell are maintained at 385°F to prevent condensation prior to the chillers.



CleanAir Project No: 10955-3

3-1

DESCRIPTION OF INSTALLATION

PERKIN ELMER MCS-100 /E ANALYZER (CONTINUED)

The MSC-100 /e includes an integrated PLC that controls all analyzer functions, including optical bench operation, detector signal processing, dynamic gas calibrations, sample system operation and operational status alarms. The dry-based SO₂, NO_X, CO, CO₂ and O₂ measurement signals and operational status outputs are sent to the ESC 8816 data logger.

ESC DAS

The DAS consists of three (3) Model 8816 data loggers, a central data polling and reporting computer and engineering workstation. The 8816 data loggers receive the measurement signals from the MCS-100 /e analyzers, and transmit the data to the central computer. The 8816 data loggers also receive the necessary status inputs from the MCS-100 /e to properly record analyzer calibrations, provide appropriate status flags to data and generate alarms to alert operators of CEM problems or excess emissions events.

The data loggers store up to four (4) weeks of hourly CEM data. Consequently, in the event the central computer goes down, data recording and archiving is not affected. The data logger also receives the steam flow rate and fabric filter temperature signals from the control room to provide calculation of appropriate averages and permanent recording.

The Central Polling and Reporting Computer, located in the CEMS building, receives all data from the 8816 data loggers, calculates the required emission units and averaging times, generates the daily calibration reports and provides all required Subpart Cb data recording and reporting. Data from this computer is used for the relative accuracy testing and calibration drift determinations. The computer also provides the necessary permanent data storage using data storage tapes. The engineering workstation provides a remote link to the central computer for data review and generation of reports.

CEM CALIBRATION

The outlet CEM systems are calibrated daily using the appropriate calibration gases. Calibration gases are injected at the probes to provide a complete assessment of CEM response. The MCS-100 /e performs an automatic zero adjustment to all measurement channels after the calibration is completed and the zero and span responses recorded by the 8816 data logger. No other adjustments or corrections are performed on the data.

CleanAir Project No: 10955-3

3-2

Revision 0, Final

3-3

DESCRIPTION OF INSTALLATION

CEMS SCHEMATIC

Figure 3-1 is a general schematic of each of the outlet CEM systems. Figure 3-2 on page <u>3-4 presents the RM and CEM outlet sampling locations</u>, as well as a general facility process flow diagram.

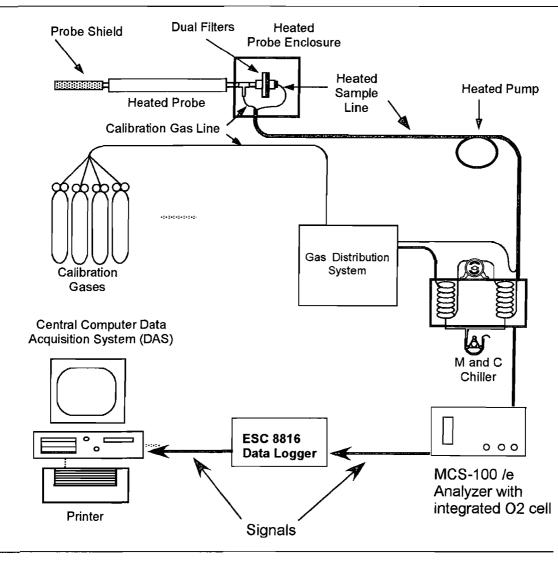
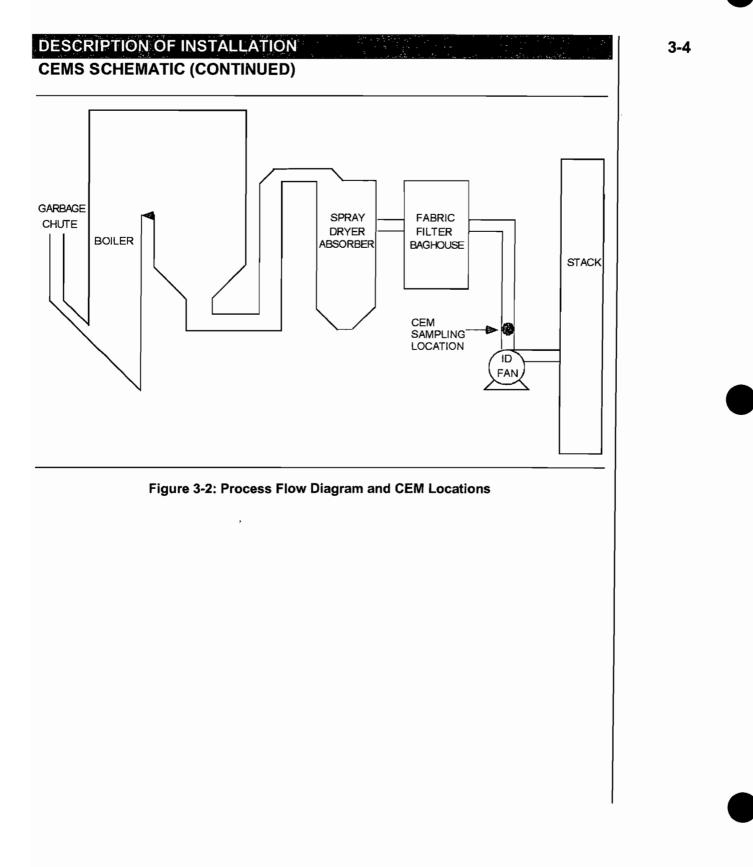


Figure 3-1: General CEMS Schematic

CleanAir Project No: 10955-3



DESCRIPTION OF INSTALLATION

3-5

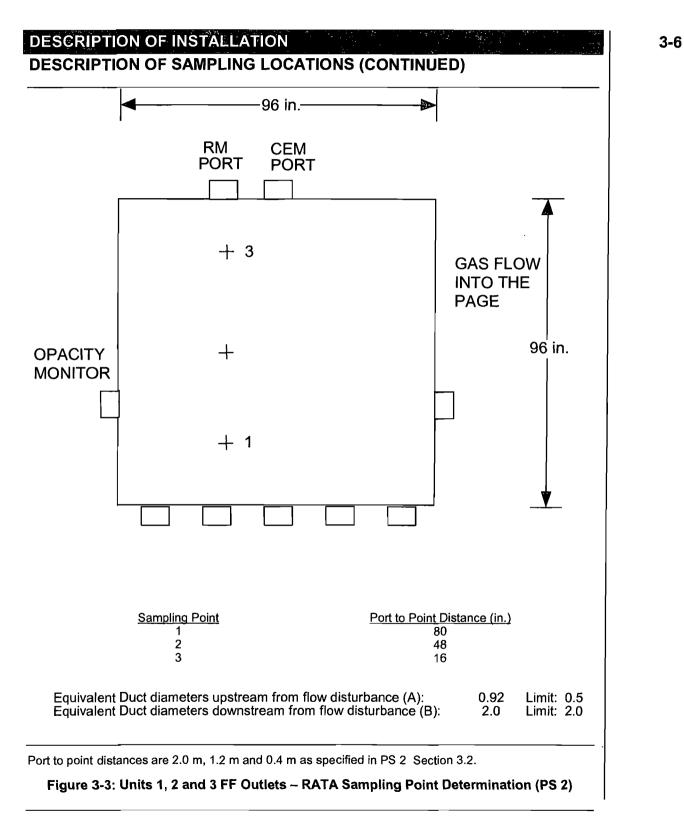
DESCRIPTION OF SAMPLING LOCATIONS

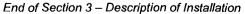
Sampling point locations were determined according to EPA Method 1.

Table 3-1 outlines the sampling point configurations. Figure 3-3 on page 3-6 illustrates the sampling points and orientation of sampling ports for each of the sources tested in the program.

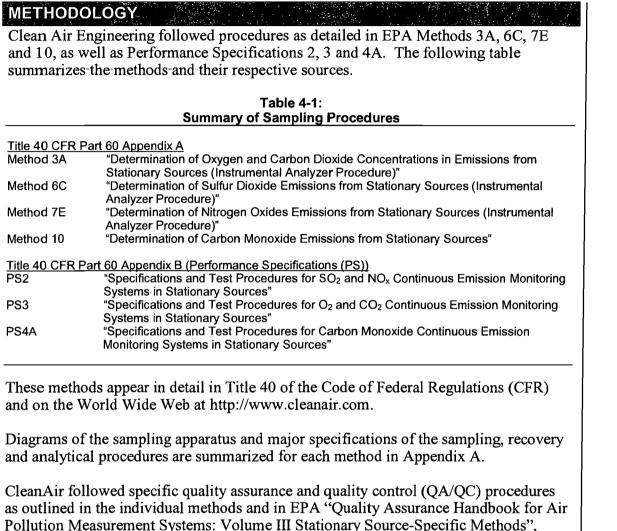
Table 3-1: Sampling Points							
Location Constituent	Methods	Run No.	Ports	Points per Port	Minutes per Point	Total Minutes	Figure
<u>Unit 1 FF Outlets</u> CEM	3A, 6C, 7E, 10	1-10	1	3	9	27	3-3
<u>Unit 2_FF Outlet</u> CEM	3A, 6C, 7E, 10	1-10	1	3	9	27	3-3
<u>Unit 3_FF Outlet</u> CEM	3A, 6C, 7E, 10	1-10	1	3	9	27	3-3

CleanAir Project No: 10955-3





4-1



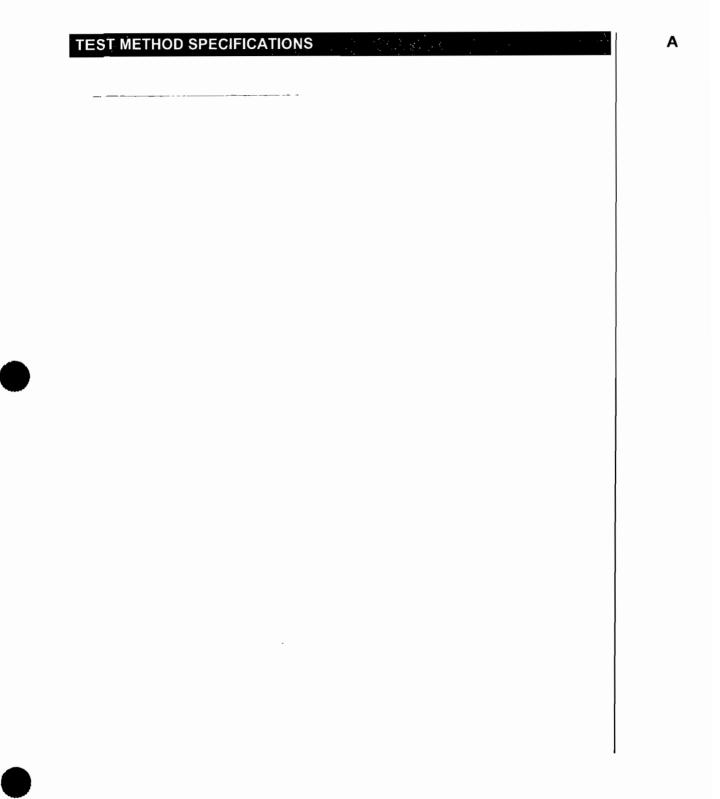
EPA/600/R-94/038C. Additional QA/QC methods, as prescribed in CleanAir's internal Quality Manual, were also followed. Results of all QA/QC activities performed by CleanAir are summarized in Appendix D.

End of Section 4 – Methodology

CleanAir Project No: 10955-3

APPENDIX	5-1
TEST METHOD SPECIFICATIONS	A
SAMPLE CALCULATIONS	В
PARAMETERS	C
QA/QC-DATA	D
REFERENCE METHOD FIELD DATA	E
CEM MONITOR AND PROCESS DATA	F

CleanAir Project No: 10955-3



Revision 0, Final

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Specification Sheet for

-

EPA Methods 6C, 7E and 10

Source Location Name(s)Units 1, 2 and 3 FF OutletsPollutant(s) to be DeterminedSulfur Dioxide (SO2), Nitrogen (Other Parameters to be Determined from TrainOther Parameters to be Determined from TrainO2 and CO2 (EPA Method 3A)

Units 1, 2 and 3 FF Outlets Sulfur Dioxide (SO_2) , Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) O2 and CO2 (EPA Method 3A)

Delludent Compline Information	Standard Method Specification	Actual Specification Used
Pollutant Sampling Information		07 minutes
Duration of Run	N/A	27 minutes
No. of Sample Traverse Points	N/A	3
Sample Time per Point	N/A	9 minutes
Sampling Rate	Constant Rate	Constant Rate
Sampling Probe		
Nozzle Material	N/A	None
Nozzle Design	N/A	N/A
Probe Liner Material	Stainless Steel or Pyrex Glass	Stainless Steel
Effective Probe Length	Sufficient to Traverse Points	3 points (16", 48" and 80")
Probe Temperature Set-Point	Prevent Condensation	248°F±25°F
Particulate Filter		
In-Stack Filter	Yes	Yes
In-Stack Filter Material	Non-reactive to gas	Fritted Stainless Steel
External Filter	Yes	Yes
External Filter Material	Borosilicate, Quartz Glass Wool or Fiber Mat	Borosilicate Glass Fiber Mat
External Filter Set-Point	Prevent Condensation	248°F±25°F
Sample Delivery System		
Heated Sample Line Material	Stainless Steel or Teflon	Teflon
Heated Sample Line Set-Point	Prevent Condensation	248'F±25'F
Heated Sample Line Connections	Probe Exit to Moisture Removal System	Probe to Moisture Removal System
Moisture Removal System	Refrigerator-type condenser or similar	Refrigerator-type condenser
Sample Pump Type	Leak-Free, minimal response time	Diaphragm
Sample Pump Material	Non-reactive to sample gases	Teflon
Sample Flow Control	Constant Rate	Constant Rate (±10%)
Non-Heated Sample Line Material	Stainless Steel or Teflon	Teflon
Non-Heated Sample Line Connections	Moisture Removal to Sample Gas Manifold	Moisture Removal to Sample Gas Manifold
Additional Filters	Optional	No
Additional Filter Type	N/A	N/A
Additional Filter Location	Optional	N/A
Filter Material	Non-reactive to sample gases	N/A
Analyzer Description		
Dxygen (O_2)	EPA Method 3A (Paramagnetic)	EPA Method 3A (Paramagnetic)
Carbon Dioxide (CO ₂)	EPA Method 3A (NDIR)	EPA Method 3A (NDIR)
Sulfur Dioxide (SO ₂)	EPA Method 6C (UV, NDIR or Fluorescence)	EPA Method 6C (UV Absorption)
litrogen Oxides (NO _x)	EPA Method 7E (Chemiluminescent)	EPA Method 7E (Chemiluminescent)
Carbon Monoxide (CO)	EPA Method 10 (Gas Filter Correlation IR)	EPA Method 10 (Gas Filter Correlation IR)
otal Hydrocarbon (THC)	N/A	
lydrogen Chloride (HCI)	N/A	
mmonia (NH ₃)	N/A	

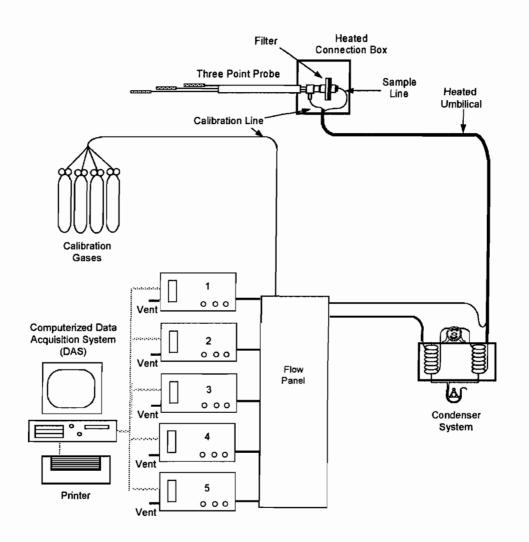
Specification Sheet for

EPA Methods 6C, 7E and 10

	Standard Method Specification	Actual Specification Used
Instrument Span Range		
Oxygen (O ₂)	1.33 x Expected Maximum	0-14.1
Carbon Dioxide (CO ₂)	1.33 x Expected Maximum	0-13.9%
Sulfur Dioxide (SO ₂)	1.33 x Expected Maximum	0-89.9 ppm
Nitrogen Oxides (NO _x)	1.33 x Expected Maximum	0-453 ppm
Carbon Monoxide (CO)	< 1.33 x Expected Maximum	0-98.5 ppm
Total Hydrocarbon (THC)	 N/A	N/A
Hydrogen Chloride (HCI)	N/A	N/A
Ammonia (NH ₃)	N/A	N/A
Data Acquisition		
Data Recorder	Strip chart, Analog Computer or Digital Recorder	Digital Recorder
Recorder Resolution	0.5 Percent of Span	0.1 Percent of Span
Data Storage	Manually or Automatic	Automatic
Measurement Freq. <60 min. Sample Time	1-min. intervals or 30 measurements (less restrictive)	One reading per second
Recording Freq. <60 min. Sample Time	1-min. intervals or 30 measurements (less restrictive)	One Minute Average (60, 1 second readings)
Measurement Freq. >60 min. Sample Time	2-min. intervals or 96 measurements (less restrictive)	N/A
Recording Freq. >60 min. Sample Time	2-min. intervals or 96 measurements (less restrictive)	N/A
Calibration Gas Specifications		
Oxygen (O ₂)	EPA Protocol 1	EPA Protocol 1
Carbon Dioxide (CO ₂)	EPA Protocol 1	EPA Protocol 1
Sulfur Dioxide (SO ₂)	EPA Protocol 1	EPA Protocol 1
Nitrogen Oxides (NO _x)	EPA Protocol 1	EPA Protocol 1
Carbon Monoxide (CO)	EPA Protocol 1	EPA Protocol 1
Total Hydrocarbon (THC)	N/A	
Hydrogen Chloride (HCI)	N/A	
Ammonia (NH ₃)	N/A	

EPA Methods 3A, 6C, 7E and 10 Sampling Train Configuration

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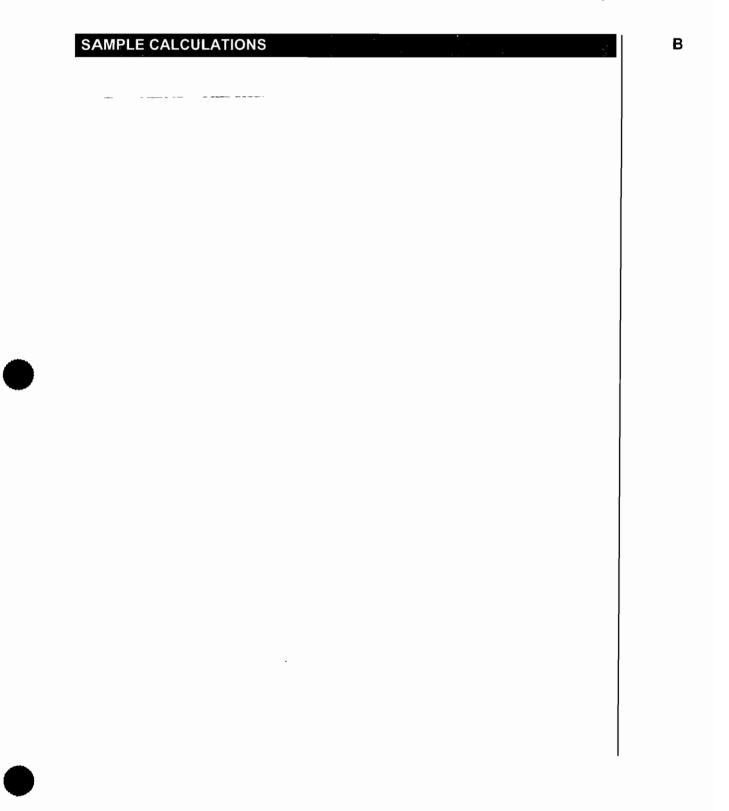


				Calibration Gas
Number	Gas	Monitor	Range Used	Concentrations
1	NOx	T.E.I. 42i-HL	0-453 ppm	0, 225, 453
2	SO ₂	Western Research 921L	0-89.9 ppm	0, 44.9, 89.9
3	co	T.E.I. 48i	0-95.48 ppm	0, 48.2, 95.48
4	O2	Servomex 1420C	0-14.1 %	0, 6.01, 14.1
5	CO ₂	Servomex 1415C	0-13.9 %	0, 5.91, 13.9



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CleanAir Project No: 10955-3



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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

CEM Field Sample Calculations for SO2 FF Outlet 1

Sample data taken from

and Channel 3

041410 125417

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

1. Average of a calibration series

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

Where:

C ₁ ,C ₂ ,C ₃	= concentrations of 3 consecutive gas samples that are representative of the calibration gas			
C _{mce}	= average concentration of a calibration series In this case the low cal series for channel 3	=	43.504	ppmdv

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

E _{HC} Where:	$= abs \left \frac{C_{mce} - C_{ma}}{C_{ma}} \right \le l_{cal}$		-	·
C _{mce}	= average concentration of a calibration series	=	43.504	ppmd∨
	In this case the low cal series for channel 3			
C _{ma}	= concentration of actual calibration gas value	=	44.900	ppmdv
I _{cal}	= limit for calibration error for hydrocarbons	=	5.0%	
E _{HC}	= calibration error check value	=	NA	

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

E Where:	$= abs \left \frac{C_{mce} - C_{ma}}{Span} \right \le l_{cal}$			
C _{mce}	= average concentration of a calibration series	=	43.504	ppmdv
	In this case the low cal series for channel 3			
Cma	= concentration of actual callbration gas value	=	44.900	ppmdv
Span	= instrument span value	=	89.900	
I _{cal}	= limit for calibration error for non-hydrocarbons	=	2.0%	
E	= calibration error check value	=	1.55%	Pass

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

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

Where:

in this case the Low cal series for channel 3 C _{mf} = calibration error response concentration for Cal01 = 41.530 ppm Span = instrument span value = 89.900 ppm	l _{bias} E _{blas}	 limit for system bias error calibration bias error check value 	=	5.0% 2.20%	Pass
in this case the Low cal series for channel 3 C_{mf} = calibration error response concentration for Cal01 = 41.530 ppm					ppmdv
-		•	=	41.530	ppmdv
$G_{\rm eff}$ = average concentration of a calibration series = 43.504 ppr	C _{mce}	= average concentration of a calibration series in this case the Low cal series for channel 3	=	43.504	ppmdv

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

Preparad by Clean Air Engineering Proprietary Software SS CEM Version 08-2004a

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CEM Lab Calculations

Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

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

Where:

C _{mf} C _{mi} Span I _{drift}	 calibration error response concentration for Cal01 (final) calibration error response concentration for Cal00 (initial) instrument span value limit for system drift error 	= = =	41.530 41.691 89.900 3.0%	ppmdv ppmdv ppmdv
Edrift	= calibration drift error check value	=	0.18%	Pass

5. Average Concentration for an entire Run

=

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

C Where:

Vhere:	14		i=1	
Ci	= All concentration readings for the entirety of Run 1 for the monitor looking for SO2 on channel 3	=	5.351	ppmd∨
Ν	= total number of readings in Run 1	=	27	
с	= average SO2 concentration for Run 1	=	5.978	ppmd∨

6. Drift-Corrected Average Concentration for an entire Run

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

/

C _{me} C C _{mf} C _{ml}	 concentration of actual calibration gas value average SO2 concentration for Run 1 calibration error response concentration for Cal01 (final) calibration error response concentration for Cal00 (initial) 	= = =	44.900 5.978 41.530 41.691	ppmdv ppmdv ppmdv ppmdv
Cof	= calibration error response concentration for Cal01 (final)	=	0.050	ppmdv
C _{oi}	for zero gas = calibration error response concentration for Cal00 (initial) for zero gas	=	0.007	ppmdv
C _{DC}	= drift corrected average concentration for Run 1	=	6.423	ppmdv

Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

CEM Emissions Sample Calculations for SO2 FF Outlet 1

Sample data taken from Run 1 and Channel 3

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

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1. SO2 concentration (ppmdv)

C(ppmdv)	$= k_1 \times C_{DC}$	if	dry	gas	5
C(ppmdv)	$=\frac{k_1 \times C_{DC}}{\left(1 - \frac{B_{W}}{100}\right)}$	if	wet	gas	5
Where:	(7100)				
C _{DC}	= drift corrected average concentration		=	6.423	ppmdv
B _w	= actual water vapor in gas (% v/v)		=	0.000	% v/v
100	= conversion factor to change percentage to de	cimal	=	100	

k1	= ppm/% to ppm conversion factor for diluent gases	=	1	
C (ppmdv)	= SO2 concentration (ppmdv)	=	6.423	ppmdv

2. SO2 concentration (lb/dscf)

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

Where:

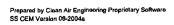
C (ppmdv)	≈ SO2 concentration (ppmdv)	=	6.423	ppmdv
MW	= Molecular Weight of SO2 gas		64.0628	lb/lb-mole
10 ⁶	⇐ conversion factor from decimal to ppm	=	1.00E+06	dscf/lb-mole
385.3	⇐ molar volume	=	385.3	
C (lb/dscf)	= SO2 concentration (lb/dscf)	=	1.068E-06	lb/dscf

3. SO2 concentration (mg/dscm)

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

Where:

C (lb/dscf)	 SO2 concentration (lb/dscf) conversion factor from lb to mg conversion factor from dscf to dscm 	=	1.068E-06	lb/dscf
k ₂		=	453515	mg/lb
35.31		=	35.31	ft ³ /m ³
C (mg/dscm)	= SO2 concentration (mg/dscm)	=	17.103	mg/dscm



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CleanAir Project No. 10955

Ft. Lauderdale, FL

FF Outlet 1

4. SO2 concentration (mg/Nm3 dry)

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

Where:

C (lb/dscf) k ₂ 35.31 68 32 460	 = SO2 concentration (lb/dscf) = conversion factor from lb to mg = conversion factor from dscf to dscm = standard temperature (°F) = normal temperature (°F) = °F to °R conversion constant 		1.068E-06 453515 35.31 68 32 460	lb/dscf mg/lb ft ³ /m ³ °F °F
C (mg/Nm3 dry)		=	18.354	mg/Nm ³ dry

5. SO2 concentration corrected to 7% O2 (ppmdv example)

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

Where:

C (ppmdv)	SO2 concentration (ppmdv)	=	6.423	ppmdv
x	= oxygen content of corrected gas (%)	=	7.00	%
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	8.880	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
C (ppmdv - O2)	= SO2 concentration corrected to 7% O2 (ppmdv example)	=	7.428	ppmdv @ 7%O2

6. SO2 concentration corrected to 12% CO2 (ppmdv example)

$$C(ppmdv @ y\%C0_2) = C(ppmdv) \times \left(\frac{y}{CO_2}\right)$$

Where:

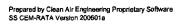
C (ppmdv)	= SO2 concentration (ppmdv)	=	6.423	ppmdv
У	= carbon dioxide content of corrected gas (%)	=	12.00	%
CO2	= proportion of carbon dioxide in the gas stream by volume (%)	=	10.222	%

C (ppmdv -CO2) = SO2 concentration corrected to 12% CO2 (ppmdv example) = 7.541 ppmdv @ 12%CO2

Wheelabrator South Broward Clean Air Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

CEM RATA Sample Calculations for SO2 FF Outlet 1

		0		
		Sample	e data taken fr a	om Run 1 Ind Channel 3
ilts using a calculator	ting the results are generated electronically from raw data. It . The reference method data, results and all calculations are	carried to	ossible to exact	
en decimal places th	nroughout. The final table is formatted to an appropriate num	ber of significa	nt figures.	
4.000	and Alexandria Direct OCM Data and Class Air DM Data (see @	70/ 0.0		041410 125632
	nce between Plant CEM Data and CleanAir RM Data (ppm@	(1%02)		
D	$= C_R - C_P$			
Where:				
CP	= SO2 value from Plant CEM Data	=	6.100	ppm@7%O2
C _R	= SO2 value from CleanAir RM Data	=	7.428	ppm@7%O2
D	= SO2 value difference between 2 methods	=	1.328	ppm@7%O2
$D_{\%}$ Where:	$= \frac{D}{C_{R}}$			
C _R	= SO2 value from CleanAir RM Data	=	7.428	ppm@7%O2
D	= SO2 value difference between 2 methods	=	1.328	ppm@7%O2
D%	= SO2 value difference as a percentage of RM Data	=	17.9%	
3. Average SO2 Valu $C_{p,avg}$	ue (Plant CEM Data example) (ppm@7%O2) = $\frac{\sum_{i=1}^{N} C_{p,i}}{N}$			
	N			
Where:	= SO2 value from Plant CEM Data for ith run	=	i≕1 6.100	ppm@7%O2
C _{p,i} N	= soz value form plant CEM Data for full full = total number of runs included in the CEM data	=	9	γpm@1%02



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CleanAir Project No. 10955

Ft. Lauderdale, FL

FF Outlet 1

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

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

Where:

C _{R,i} C _{p,i} N	 SO2 value from CleanAir RM Data for ith run SO2 value from Plant CEM Data for ith run total Number of RATA Runs 	= = =	7.428 6.100 9	ppm@7%O2 ppm@7%O2
STDEV	= standard deviation of plant CEM data and CleanAir RM data	=	0.257	ppm@7%O2

5. Confidence Coefficient

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

Where:

STDEV t N	 standard deviation of plant CEM data and CleanAir RM data confidence factor total Number of RATA Runs 	= = =	0.257 2.306 9	ppm@7%O2
сс	= confidence coefficient	=	0.198	ppm@7%O2

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

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

Where:

C _{R,i}	= SO2 value from CleanAir RM Data for ith run	=	7.428	ppm@7%O2
C _{p,i}	= SO2 value from Plant CEM Data for ith run	=	6.100	ppm@7%O2
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	=	0.198	ppm@7%O2
RA	= relative accuracy (as a percentage of the reference method)	=	26.879%	
	Limit	t =	20.000%	

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CEM RATA Calculations

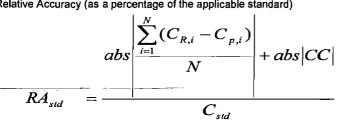
Wheelabrator South Broward

CleanAir Project No. 10955

Ft. Lauderdale, FL

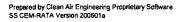
FF Outlet 1

7. Relative Accuracy (as a percentage of the applicable standard)



Where:

wwitche.				
C _{R,i}	= SO2 value from CleanAir RM Data for ith run	=	7.428	ppm@7%O2
C _{p,i}	SO2 value from Plant CEM Data for ith run	Ξ	6.100	ppm@7%O2
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	=	0.198	
C _{std}	SO2 value of applicable standard	=	29.000	ppm@7%O2
RA	= relative accuracy (as percentage of the applicable standard) Lin	= nit =	4.017% 20.000%	



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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

CEM Field Sample Calculations for NOX FF Outlet 1

Sample data taken from Read and Channel 4

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

041410 125657

1. Average of a calibration series $C_{mce} = \frac{(C_1 + C_2 + C_3)}{3}$

Where:

vnere: C ₁ ,C ₂ ,C ₃	= concentrations of 3 consecutive gas samples that are representative of the calibration gas			
C _{mce}	= average concentration of a calibration series In this case the low cal series for channel 4	=	226.086	ppmdv

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

E _{HC} Where:	$= abs \left \frac{C_{mce} - C_{ma}}{C_{ma}} \right \le l_{cal}$			
C _{mce}	= average concentration of a calibration series	=	226.086	ppmdv
	In this case the low cal series for channel 4			
C _{ma}	= concentration of actual calibration gas value	=	225.000	ppmdv
l _{cal}	= limit for calibration error for hydrocarbons	=	5.0%	
Е _{нс}	= calibration error check value	=	NA	

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

E Where:	$= abs \left \frac{C_{mce} - C_{ma}}{Span} \right \le l_{cal}$			
Cmce	= average concentration of a calibration series	=	226.086	ppmdv
	In this case the low cal series for channel 4			
C _{ma}	= concentration of actual calibration gas value	=	225.000	ppmd∨
Span	≃ instrument span value	=	453.000	
I _{cal}	= limit for calibration error for non-hydrocarbons	=	2.0%	
Е	= calibration error check value	=	0.24%	Pass

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

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

Where:

Span I _{bies}	= instrument span value = limit for system bias error	=	453.000 5.0%	ppmdv
	•			ppmdv
Ebias	= calibration bias error check value	=	0.88%	Pass

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

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

.

Where:

C _{mf} Č _{mi} Span I _{drift}	 = calibration error response concentration for Cal01 (final) = calibration error response concentration for Cal00 (initial) = instrument span value = limit for system drift error 	= = =	222.122 222.181 453.000 3.0%	ppmdv ppmdv ppmdv
E _{drift}	= calibration drift error check value	=	0.01%	Pass

5. Average Concentration for an entire Run

=

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

CW

Where:			i=1	
. C _i	= All concentration readings for the entirety of Run 1 for the monitor looking for NOX on channel 4	=	153.468	ppmdv
N	= total number of readings in Run 1	=	27	
с	= average NOX concentration for Run 1	=	164.50 9	ppmdv

6. Drift-Corrected Average Concentration for an entire Run

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

.

C _{ma}	= concentration of actual calibration gas value	=	225.000	ppmdv
С	= average NOX concentration for Run 1	=	164.509	ppmdv
C _{mf}	= calibration error response concentration for Cal01 (final)	=	222.122	ppmdv
C _{mi}	= calibration error response concentration for Cal00 (initial)	=	222.181	ppmdv
Cof	 = calibration error response concentration for Cal01 (final) for zero gas 	=	0.717	ppmdv
C _{oi}	= calibration error response concentration for Cal00 (initial) for zero gas	=	-0.011	ppmdv
CDC	= drift corrected average concentration for Run 1	=	166.525	ppmdv

CEM Emissions Sample Calculations for NOX FF Outlet 1

Sample data taken from Run 1 and Channel 4

166.525

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

041410 125657

ppmdv

1. NOX concentration (ppmdv)

C(ppmdv)	$= k_1 \times C_{DC}$	if	dry	gas	
C(ppmdv)	$=\frac{k_1 \times C_{DC}}{\left(1 - \frac{B_W}{100}\right)}$	if	wet	gas	
Where:	(* /100)				
CDC	= drift corrected average concentration		=	166.525	ppmdv
Bw	= actual water vapor in gas (% v/v)		=	0.000	% v/v
100	= conversion factor to change percentage to decima	al	=	100	
k1	= ppm/% to ppm conversion factor for diluent gases	1	=	1	

2. NOX concentration (lb/dscf)

C (ppmdv)

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

= NOX concentration (ppmdv)

Where:

C (ppmdv) MW 10 ⁶ 385.3	 ≈ NOX concentration (ppmdv) ≈ Molecular Weight of NOX gas ≈ conversion factor from decimal to ppm ≈ molar volume 	2 2 2 2	166.525 46.0055 1.00E+06 385.3	ppmdv lb/lb-mole dscf/lb-mole
C (lb/dscf)	= NOX concentration (lb/dscf)	=	1.988E-05	lb/dscf

3. NOX concentration (mg/dscm)

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

Where:

C (lb/dscf) k ₂ 35.31	 NOX concentration (lb/dscf) conversion factor from lb to mg conversion factor from dscf to dscm 	= =	1.988E-05 453515 35.31	lb/dscf mg/lb ft ³ /m ³
C (mg/dscm)	= NOX concentration (mg/dscm)	=	318.405	mg/dscm

CEM Analyte Calculations

Wheelabrator South Broward

CleanAir Project No. 10955

Ft. Lauderdale, FL

FF Outlet 1

4. NOX concentration (mg/Nm3 dry)

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

Where:

 C (lb/dscf)	= NOX concentration (lb/dscf)	z	1.988E-05	lb/dscf
k ₂	= conversion factor from lb to mg	=	453515	mg/lb
35.31	= conversion factor from dscf to dscm	2	35.31	ft ³ /m ³
68	= standard temperature (°F)	2	68	°F
32	= normal temperature (°F)	=	32	°F
460	= °F to °R conversion constant	=	460	
C (mg/Nm3 dry)	= NOX concentration (mg/Nm3 dry)	=	341.703	mg/Nm ³ dry

5. NOX concentration corrected to 7% O2 (ppmdv example)

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

Where:

WILLETE.				
C (ppmdv)	= NOX concentration (ppmdv)	=	166.525	ppmdv
x	= oxygen content of corrected gas (%)	=	7.00	%
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	8.880	%
20.9	≃ oxygen content of ambient air (%)	=	20.9	%
C (ppmdv - O2)	≈ NOX concentration corrected to 7% O2 (ppmdv example)	=	192.572	ppmdv @ 7%O2

6. NOX concentration corrected to 12% CO2 (ppmdv example)

$$C(ppmdv @ y\%C0_2) = C(ppmdv) \times \left(\frac{y}{CO_2}\right)$$

Where:

C (ppmdv) y CO ₂	 = NOX concentration (ppmdv) = carbon dioxide content of corrected gas (%) = proportion of carbon dioxide in the gas stream by volume (%) 	= =	166.525 12.00 10.222	ppmdv % %
C (ppmdv -CO2)	NOX concentration corrected to 12% CO2 (ppmdv example)	=	195.499	ppmdv @ 12%CO2

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CEM RATA Sample Calculations for NOX FF Outlet 1

	IOF NOX FF Outlet 1			
		Sampl	le data taken fr	
				nd Channel 4
Its using a calcula	enting the results are generated electronically from raw data. It tor. The reference method data, results and all calculations are s throughout. The final table is formatted to an appropriate numb	carried to		ly duplicate these
		in a agrinite	in ngu ou.	041410 125657
1. NOX value diff	erence between Plant CEM Data and CleanAir RM Data (ppm@	7%02)		041410 120657
D	$= C_R - C_P$			
Where:				
Cp	= NOX value from Plant CEM Data	=	195.900	ppm@7%O2
C _R	= NOX value from CleanAir RM Data	=	192.572	ppm@7%O2
D	= NOX value difference between 2 methods	=	-3.328	ppm@7%O2
2 . Percent Value D	Difference (%) $= \frac{D}{2}$			
Where:	C_{R}			
C _R	= NOX value from CleanAir RM Data	=	192.572	ppm@7%O2
D	= NOX value difference between 2 methods	=	-3.328	ppm@7%O2
D%	= NOX value difference as a percentage of RM Data	=	-1.7%	
3. Average NOX	/alue (Plant CEM Data example) (ppm@7%O2)			
	$= \frac{\sum_{i=1}^{N} C_{p,i}}{N}$			
C p, ave	$= \frac{i=1}{N}$			
Where:			i=1	
C _{p,i}	= NOX value from Plant CEM Data for ith run	=	195.900	ppm@7%O2
N	⇒ total number of runs included in the CEM data	=	9	

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FF Outlet 1

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

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

Where:

C _{R,i} C _{p,i} N	 NOX value from CleanAir RM Data for ith run NOX value from Plant CEM Data for ith run total Number of RATA Runs 	= = =	192.572 195.900 9	ppm@7%O2 ppm@7%O2
STDEV	= standard deviation of plant CEM data and CleanAir RM data	=	0.917	ppm@7%O2

5. Confidence Coefficient

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

Where:

STDEV t N	 standard deviation of plant CEM data and CleanAir RM data confidence factor total Number of RATA Runs 	= = =	0.917 2.306 9	ppm@7%O2
сс	= confidence coefficient	=	0.705	ppm@7%O2

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

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

Where:

C _{R,i}	= NOX value from CleanAir RM Data for ith run	=	192.572	ppm@7%02
C _{p,i}	= NOX value from Plant CEM Data for ith run	=	195.900	ppm@7%O2
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	=	0.705	ppm@7%O2
RA	= relative accuracy (as a percentage of the reference method)	=	1.481%	
	Lim	it =	20.000%	

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CEM RATA Calculations

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FF Outlet 1

7. Relative Accuracy (as a percentage of the applicable standard)

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

Where:

$C_{R,i}$	= NOX value from CleanAir RM Data for ith run	=	192,572	ppm@7%O2
C _{p,i}	= NOX value from Plant CEM Data for ith run	=	195.900	ppm@7%O2
N	= total Number of RATA Runs	×	9	
CC	= confidence coefficient	=	0.705	
C_{std}	= NOX value of applicable standard	=	205.000	ppm@7%O2
RA	= relative accuracy (as percentage of the applicable standard)	#	1.421%	
	Lim	it =	10.000%	

CEM Field Sample Calculations for CO FF Outlet 1

Sample data taken from and Channel 5

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

041410 125721

1. Average of a calibration series $C_{mce} = \frac{(C_1 + C_2 + C_3)}{3}$

Where:

C ₁ ,C ₂ ,C ₃	= concentrations of 3 consecutive gas samples that are representative of the calibration gas			
C _{mce}	= average concentration of a calibration series In this case the low cal series for channel 5	=	49.020	ppmdv

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

E _{HC} Where:	$= abs \left \frac{C_{mce} - C_{ma}}{C_{ma}} \right \le l_{cal}$			
C _{mce}	= average concentration of a calibration series	=	49.020	ppmdv
	In this case the low cal series for channel 5			
C _{ma}	= concentration of actual calibration gas value	=	48.200	ppmdv
I _{cal}	= limit for calibration error for hydrocarbons	=	5.0%	
E _{HC}	= calibration error check value	=	NA	

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

E Where:	$= abs \left \frac{C_{mce} - C_{ma}}{Span} \right \le l_{cal}$			
C _{mce}	= average concentration of a calibration series	=	49.020	ppmdv
	In this case the low cal series for channel 5			
C _{mé}	= concentration of actual calibration gas value	=	48.200	ppmdv
Span	= instrument span value	=	98.500	
l _{cal}	= limit for calibration error for non-hydrocarbons	=	2.0%	
Е	= calibration error check value	=	0. 8 3%	Pass

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

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

Where:

E _{bias}	= calibration bias error check value	=	0.04%	Pass
l _{bias}	= limit for system bias error	=	5.0%	
Span	= instrument span value	=	98.500	ppmdv
C _{mf}	= calibration error response concentration for Cal01	=	48.977	ppmdv
C _{mce}	= average concentration of a calibration series in this case the Low cal series for channel 5	=	49.020	pprnd∨
VIICIE.				

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

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

Where:

C _{mf} C _{mi} Span I _{dritt}	 = calibration error response concentration for Cal01 (final) = calibration error response concentration for Cal00 (initial) = instrument span value = limit for system drift error 		48.977 49.007 98.500 3.0%	ppmdv ppmdv ppmdv
Eddft	= calibration drift error check value	=	0.03%	Pass

5. Average Concentration for an entire Run

=

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

С Whe

Where:			i=1	
Ci	= All concentration readings for the entirety of Run 1 for the monitor looking for CO on channel 5	=	18.545	ppmdv
N	≃ total number of readings in Run 1	=	27	
С	= average CO concentration for Run 1	=	16.206	ppmdv

6. Drift-Corrected Average Concentration for an entire Run

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

Cma	= concentration of actual calibration gas value	=	48.200	ppmdv
C	= average CO concentration for Run 1	=	16.206	ppmdv
Cmf	= calibration error response concentration for Cal01 (final)	=	48.977	ppmdv
Cmi	= calibration error response concentration for Cal00 (initial)	=	49.007	ppmdv
Cof	 = calibration error response concentration for Cal01 (final) for zero gas 	=	-0.557	ppmdv
Col	= calibration error response concentration for Cal00 (initial) for zero gas	=	-0.588	ppmdv
CDC	= drift corrected average concentration for Run 1	=	16.316	ppmdv

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CEM Analyte Calculations

CEM Emissions Sample Calculations for CO FF Outlet 1

Sample data taken from Run 1 and Channel 5

1.186E-06

lb/dscf

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

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1. CO concentration (ppmdv)

C(ppmdv)	$= k_1 \times C_{DC}$	if	dry	gas	
C(ppmdv)	$=\frac{k_1 \times C_{DC}}{\left(1 - \frac{B_{W}}{100}\right)}$	if	wet	gas	
Where:	(* /100)				
C _{DC}	= drift corrected average concentration		=	16.316	ppmdv
в	= actual water vener in and (%, v/v)			0.000	01

C _{DC} B _w	 = drift corrected average concentration = actual water vapor in gas (% v/v) 	=	16.316 0.000	ppmdv % v/v
-₩ 100 k₁	 = conversion factor to change percentage to decimal = ppm/% to ppm conversion factor for diluent gases 	= =	100 1	<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
C (ppmdv)	= CO concentration (ppmdv)	=	16.316	ppmdv

2. CO concentration (lb/dscf)

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

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	16.316	ppmd∨
MW	= Molecular Weight of CO gas	=	28.0106	lb/lb-mole
10 ⁶	= conversion factor from decimal to ppm	=	1.00E+06	
385.3	≍ molar volume	=	385.3	dscf/lb-mole

3. CO concentration (mg/dscm)

C (lb/dscf)

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

= CO concentration (lb/dscf)

Where:

C (lb/dscf) k ₂ 35.31	 = CO concentration (lb/dscf) = conversion factor from lb to mg = conversion factor from dscf to dscm 	H H	1.186E-06 453515 35.31	lb/dscf mg/lb ft ³ /m ³
C (mg/dscm)	= CO concentration (mg/dscm)	=	18.994	mg/dscm

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CleanAir Project No. 10955

Ft. Lauderdale, FL

FF Outlet 1

4. CO concentration (mg/Nm3 dry)

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

Where:

C (Ib/dscf)	= CO concentration (lb/dscf)	=	1.186E-06	lb/dscf
k ₂	= conversion factor from lb to mg	=	453515	mg/lb
35.31	= conversion factor from dscf to dscm	=	35.31	ft ³ /m ³
68	= standard temperature (°F)	=	68	°F
32	= normal temperature (°F)	=	32	°F
460	= °F to °R conversion constant	=	460	

C (mg/Nm3 dry) = CO concentration (mg/Nm3 dry) = 20.384 mg/Nm³ dry

5. CO concentration corrected to 7% O2 (ppmdv example)

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

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	16.316	ppmdv
x	= oxygen content of corrected gas (%)	=	7.00	%
O ₂	= proportion of oxygen in the gas stream by volume (%)	=	8.880	%
20.9	= oxygen content of ambient air (%)	=	20.9	%
C (ppmdv - O2)	= CO concentration corrected to 7% O2 (ppmdv example)	=	18.868	ppmdv @ 7%O2

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

$$C(ppmdv@y\%C0_2) = C(ppmdv) \times \left(\frac{y}{CO_2}\right)$$

Where:

C (ppmdv)	= CO concentration (ppmdv)	=	16.316	ppmdv	
у	= carbon dioxide content of corrected gas (%)	=	12.00	%	
CO2	= proportion of carbon dioxide in the gas stream by volume (%)	=	10.222	%	

C (ppmdv -CO2) = CO concentration corrected to 12% CO2 (ppmdv example) = 19.155 ppmdv @ 12%CO2

CEM RATA Sample Calculations for CO FF Outlet 1

		Sample	e data taken fr a	om Run 1 nd Channel 5
results using a calculato	nting the results are generated electronically from raw data. It may r. The reference method data, results and all calculations are can hroughout. The final table is formatted to an appropriate number of	ried to		ly duplicate these
1. CO value differen	nce between Plant CEM Data and CleanAir RM Data (ppm@7%O)	2)		041410 125756
D	$= C_{R} - C_{P}$	-)		
Where:				
C _P .	= CO value from Plant CEM Data	=	19.500	ppm@7%02
C _R	= CO value from CleanAir RM Data	=	18.868	ppm@7%O2
D	= CO value difference between 2 methods	=	-0.632	ppm@7%O2
2. Percent Value Di	fference (%)	,		
$D_{\%}$	$=\frac{D}{2}$			
Where:	C_{R}			
C _R	= CO value from CleanAir RM Data	=	18.868	ppm@7%O2
D	= CO value difference between 2 methods	=	-0.632	ppm@7%O2
D _%	= CO value difference as a percentage of RM Data	=	-3.3%	
3. Average CO Valu	e (Plant CEM Data example) (ppm@7%O2) = $\frac{\sum_{i=1}^{N} C_{p,i}}{\sum_{i=1}^{N} C_{p,i}}$			
$C_{p,avg}$	$=\frac{i=1}{N}$			
Where:			i=1	
C _{p,i}	= CO value from Plant CEM Data for ith run	=	19.500	ppm@7%O2
N	= total number of runs included in the CEM data	=	9	
$C_{p,avg}$	= Average CO value from Plant CEM Data	=	13.267	ppm@7%02

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FF Outlet 1

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

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

Where:

C _{R,i} C _{p,i} N	 CO value from CleanAir RM Data for ith run CO value from Plant CEM Data for ith run total Number of RATA Runs 	=	18.868 19.500 9	ppm@7%O2 ppm@7%O2
STDEV	= standard deviation of plant CEM data and CleanAir RM data	=	0.234	ppm@7%O2

5. Confidence Coefficient

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

Where:

STDEV t N	 standard deviation of plant CEM data and CleanAir RM data confidence factor total Number of RATA Runs 	* *	0.234 2.306 9	ppm@7%O2
CC	= confidence coefficient	=	0.180	ppm@7%O2

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

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

Where:

C _{R.i}	= CO value from CleanAir RM Data for ith run	=	18.868	ppm@7%O2
C _{p,i}	= CO value from Plant CEM Data for ith run	=	19.500	ppm@7%O2
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	=	0.180	ppm@7%O2
RA	= relative accuracy (as a percentage of the reference method)	=	3.937%	
		it =	10.000%	

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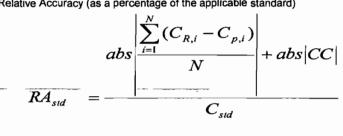
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CleanAir Project No. 10955

Ft. Lauderdale, FL

FF Outlet 1

7. Relative Accuracy (as a percentage of the applicable standard)



Where:

C _{R,i}	= CO value from CleanAir RM Data for ith run	=	18.868	ppm@7%O2
C _{p,i}	= CO value from Plant CEM Data for ith run	=	19.500	ppm@7%O2
N	= total Number of RATA Runs	=	9	
CC	= confidence coefficient	±	0.180	
C _{std}	= CO value of applicable standard	=	100.000	ppm@7%O2
RA	= relative accuracy (as percentage of the applicable standard) Lir	≕ mit =	0.509% 5.000%	

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CleanAir Project No: 10955-3

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Continuous Emissions Monitoring Parameters							
Run Number	1	-					
Date (2010)	Mar 23						
Start Time	8:03						
End Time	8:30						
Elapsed Time (hh:mm)	00:27						
Channel	1	2	3	4	5		
Parameter	CO2	02	SO2	NOX	со		
Location	FF Outlet 1						
Measurement Units	%d∨	%dv	ppmdv	ppmdv	ppmdv		
Measured Average (drift-corrected)	10.22	8.88	6.42	166.53	16.32		
Concentration (ppmdv)			6.42	166.53	16.32		
Concentration (lb/dscf)			1.068E-06	1.988E-05	1.186E-06		
Concentration (%dv)	10.222	8.880	0.00064	0.01665	0.00163		
Concentration (mg/dscm)			17.10	318.41	18.99		
Concentration (mg/Nm3)			18.35	341.70	20.38		
Concentration @7%O2 (ppm)			7.43	192.57	18.87		
Concentration @12%CO2 (ppm)			7.54	195.50	19.15		
Concentration @7%O2 (lb/scf)			1.235E-06	2.299E-05	1.372E-06		
Concentration @12%CO2 (lb/scf)			1.254E-06	2.334E-05	1.393E-06		
Concentration @7%O2 (mg/scm)			19.78	368.21	21.97		
Concentration @12%CO2 (mg/scm)			20.08	373.80	22.30		
Concentration @7%O2 (mg/Nm3)			21.22	395.15	23.57		
Concentration @12%CO2 (mg/Nm3)			21.55	401.16	23.93		



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Continuous Emissions Monitoring Parameters							
Run Number	2						
Date (2010)	Mar 23						
Start Time	8:37						
End Time	9:04						
Elapsed Time (hh:mm)	00:27						
Channel	1	2	3	4	5		
Parameter	CO2	O2	SO2	NOX	CO		
Location	FF Outlet 1						
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv		
Measured Average (drift-corrected)	10.10	9.08	4.62	165.24	10.89		
Concentration (ppmdv)			4.62	165.24	10.89		
Concentration (lb/dscf)			7.673E-07	1.973E-05	7.917E-07		
Concentration (%dv)	10.102	9.082	0.00046	0.01652	0.00109		
Concentration (mg/dscm)			12.29	315.94	12.68		
Concentration (mg/Nm3)			13.19	339.06	13.61		
Concentration @7%O2 (ppm)			5.43	194.34	12.81		
Concentration @12%CO2 (ppm)			5.48	196.28	12.94		
Concentration @7%O2 (lb/scf)			9.025E-07	2.320E-05	9.312E-07		
Concentration @12%CO2 (lb/scf)			9.115E-07	2.344E-05	9.405E-07		
Concentration @7%O2 (mg/scm)			14.45	371.59	14.91		
Concentration @12%CO2 (mg/scm)			14.60	375.30	15.06		
Concentration @7%O2 (mg/Nm3)			15.51	398.78	16.00		
Concentration @12%CO2 (mg/Nm3)			15.66	402.77	1 6 .16		

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Continuous Emissions Monitoring Parameters						
Run Number	3	-				
Date (2010)	Mar 23					
Start Time	9:11					
End Time	9:38					
Elapsed Time (hh:mm)	00:27					
Channel	1	2	3	4	5	
Parameter	CO2	O2	SO2	NOX	со	
Location	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmd∨	
Measured Average (drift-corrected)	10.23	8.89	4.01	169.41	11.55	
Concentration (ppmdv)			4.01	169.41	11.55	
Concentration (lb/dscf)			6.675E-07	2.023E-05	8.396E-07	
Concentration (%dv)	10.231	8.889	0.00040	0.01694	0.00115	
Concentration (mg/dscm)			10.69	323.92	13.45	
Concentration (mg/Nm3)			11.47	347.62	14.43	
Concentration @7%O2 (ppm)			4.65	196.05	13.37	
Concentration @12%CO2 (ppm)			4.71	198.71	13.55	
Concentration @7%O2 (lb/scf)			7.725E-07	2.341E-05	9.717E-07	
Concentration @12%CO2 (lb/scf)			7.830E-07	2.373E-05	9.849E-07	
Concentration @7%O2 (mg/scm)			12.37	374.87	15.56	
Concentration @12%CO2 (mg/scm)			12.54	379. 9 4	15.77	
Concentration @7%O2 (mg/Nm3)			13.28	402.30	16.70	
Concentration @12%CO2 (mg/Nm3)			13.46	407.74	16.93	

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Continuous Emis	sions Monit	oring Param	eters		
Run Number	4	-			
Date (2010)	Mar 23				
Start Time	9:45				
End Time	10;12				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	СО
Location	FF Outlet 1				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.46	8.63	2.65	169.66	10.17
Concentration (ppmdv)			2.65	169.66	10.17
Concentration (lb/dscf)			4.414E-07	2.026E-05	7.396E-07
Concentration (%dv)	10.458	8.626	0.00027	0.01697	0.00102
Concentration (mg/dscm)			7.07	324.40	11.84
Concentration (mg/Nm3)			7.59	348.14	12.71
Concentration @7%O2 (ppm)			3.01	192.14	11.52
Concentration @12%CO2 (ppm)			3.05	194.67	11.67
Concentration @7%O2 (lb/scf)			4.999E-07	2.294E-05	8.376E-07
Concentration @12%CO2 (lb/scf)			5.065E-07	2.324E-05	8.486E-07
Concentration @7%O2 (mg/scm)			8.01	367.38	13.41
Concentration @12%CO2 (mg/scm)			8.11	372.23	13.59
Concentration @7%O2 (mg/Nm3)			8.59	394.26	14.39
Concentration @12%CO2 (mg/Nm3)			8.70	399.46	14.58

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Continuous Emis	ssions Monit	oring Param	eters		
Run Number	5	-			
Date (2010)	Mar 23				
Start Time	10:19				
End Time	10:46				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	со
Location	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.17	9.02	3.82	172.16	8.13
Concentration (ppmdv)			3.82	172.16	8.13
Concentration (lb/dscf)			6.355E-07	2.056E-05	5.908E-07
Concentration (%dv)	10.166	9.019	0.00038	0.01722	0.00081
Concentration (mg/dscm)			10.18	329.17	9.46
Concentration (mg/Nm3)			10.92	353.26	10.15
Concentration @7%O2 (ppm)			4.47	201.41	9.51
Concentration @12%CO2 (ppm)			4.51	203.21	9.59
Concentration @7%O2 (lb/scf)			7.435E-07	2.405E-05	6.912E-07
Concentration @12%CO2 (lb/scf)			7.501E-07	2.426E-05	6.974E-07
Concentration @7%O2 (mg/scm)			11.91	385.11	11.07
Concentration @12%CO2 (mg/scm)			12.01	388.55	11.17
Concentration @7%O2 (mg/Nm3)			12.78	413.29	11.88
Concentration @12%CO2 (mg/Nm3)			12.89	416.99	11.99



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Continuous Emissions Monitoring Parameters						
Run Number	6					
Date (2010)	Mar 23					
Start Time	10:52					
End Time	11:19					
Elapsed Time (hh:mm)	00:27					
Channel	1	2	3	4	5	
Parameter	CO2	O2	SO2	NOX	CO	
Location	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmd∨	
Measured Average (drift-corrected)	9.79	9.47	3.94	175.25	10.27	
Concentration (ppmdv)			3.94	175.25	10.27	
Concentration (lb/dscf)			6.544E-07	2.093E-05	7.469E-07	
Concentration (%dv)	9.786	9.475	0.0003 9	0.01753	0.00103	
Concentration (mg/dscm)			10.48	335.09	11.96	
Concentration (mg/Nm3)			11.25	359.61	12.84	
Concentration @7%O2 (ppm)			4.79	213.22	12.50	
Concentration @12%CO2 (ppm)			4.83	214.90	12.60	
Concentration @7%O2 (lb/scf)			7.962E-07	2.546E-05	9.087E-07	
Concentration @12%CO2 (lb/scf)			8.025E-07	2.566E-05	9.158E-07	
Concentration @7%O2 (mg/scm)			12.75	407.68	14.55	
Concentration @12%CO2 (mg/scm)			12.85	410.90	14.67	
Concentration @7%O2 (mg/Nm3)			13.68	437.51	15.62	
Concentration @12%CO2 (mg/Nm3)			13.79	440.96	15.74	

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Continuous Emissions Monitoring Parameters

Run Number	7				
Date (2010)	Mar 23				
Start Time	11:26				
End Time	11:53				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 1				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.12	9.04	2.67	163.61	10.67
Concentration (ppmdv)			2.67	163.61	10.67
Concentration (lb/dscf)			4.439E-07	1.954E-05	7.759E-07
Concentration (%dv)	10.118	9.044	0.00027	0.01636	0.00107
Concentration (mg/dscm)			7.11	312.83	12.42
Concentration (mg/Nm3)			7.63	335.72	13.33
Concentration @7%O2 (ppm)			3.13	191.82	12.51
Concentration @12%CO2 (ppm)			3.17	194.05	12.66
Concentration @7%O2 (lb/scf)			5.204E-07	2.290E-05	9.097E-07
Concentration @12%CO2 (lb/scf)			5.264E-07	2.317E-05	9.203E-07
Concentration @7%O2 (mg/scm)			8.33	366.78	14.57
Concentration @12%CO2 (mg/scm)			8.43	371.03	14.74
Concentration @7%O2 (mg/Nm3)			8.94	393.62	15.63
Concentration @12%CO2 (mg/Nm3)			9.05	398.18	15.81



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Continuous Emis	sions Monit	oring Param	eters		
Run Number	8				
Date (2010)	Mar 23				
Start Time	12:00				
End Time	12:27				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	02	SO2	NOX	CO
Location	FF Outlet 1				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.96	9.24	2.99	162.40	11.64
Concentration (ppmdv)			2.99	162.40	11.64
Concentration (lb/dscf)			4.977E-07	1.939E-05	8.459E-07
Concentration (%dv)	9.963	9.242	0.00030	0.01624	0.00116
Concentration (mg/dscm)			7.97	310.51	13.55
Concentration (mg/Nm3)			8.55	333.23	14.54
Concentration @7%O2 (ppm)			3.57	193.64	13.87
Concentration @12%CO2 (ppm)			3.61	195.61	14.02
Concentration @7%O2 (lb/scf)			5.934E-07	2.312E-05	1.009E-06
Concentration @12%CO2 (lb/scf)			5.994E-07	2.336E-05	1.019E-06
Concentration @7%O2 (mg/scm)			9.50	370.25	16.15
Concentration @12%CO2 (mg/scm)			9.60	374.02	16.32
Concentration @7%O2 (mg/Nm3)			10.20	397.34	17.33
Concentration @12%CO2 (mg/Nm3)			10.30	401.38	17.51

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Continuous Emis	ssions Monit	oring Param	eters		
Run Number	9	•			
Date (2010)	Mar 23				
Start Time	12:33				
End Time	13:00				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	со
Location	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.03	9.24	2.17	162.01	13.48
Concentration (ppmdv)			2.17	162.01	13.48
Concentration (lb/dscf)			3.611E-07	1.934E-05	9.800E-07
Concentration (%dv)	10.031	9.243	0.00022	0.01620	0.00135
Concentration (mg/dscm)			5.78	309.78	15.69
Concentration (mg/Nm3)			6.20	332.45	16.84
Concentration @7%O2 (ppm)			2.59	193.18	16.07
Concentration @12%CO2 (ppm)			2.60	193.81	16.13
Concentration @7%O2 (lb/scf)			4,305E-07	2.307E-05	1.168E-06
Concentration @12%CO2 (lb/scf)			4.319E-07	2.314E-05	1.172E-06
Concentration @7%O2 (mg/scm)			6.89	369.37	18.71
Concentration @12%CO2 (mg/scm)			6.92	370.58	18.77
Concentration @7%O2 (mg/Nm3)			7.40	396.40	20.08
Concentration @12%CO2 (mg/Nm3)			7.42	397.70	20.15



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Continuous Emis	ssions Monit	oring Param	eters		
Run Number	10	-			
Date (2010)	Mar 23				
Start Time	13:07				
End Time	13:34				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	со
Location	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.43	8.72	4.71	170.12	10.06
Concentration (ppmdv)			4.71	170.12	10.06
Concentration (lb/dscf)			7.832E-07	2.031E-05	7.310E-07
Concentration (%dv)	10.425	8.719	0.00047	0.01701	0.00101
Concentration (mg/dscm)			12.54	325.28	11.71
Concentration (mg/Nm3)			13.46	349.08	12.56
Concentration @7%O2 (ppm)			5.38	194.13	11.47
Concentration @12%CO2 (ppm)			5.42	195.81	11.57
Concentration @7%O2 (lb/scf)			8.937E-07	2.318E-05	8.342E-07
Concentration @12%CO2 (lb/scf)			9.014E-07	2.338E-05	8.414E-07
Concentration @7%O2 (mg/scm)			14.31	371.19	13.36
Concentration @12%CO2 (mg/scm)			14.44	374.41	13.47
Concentration @7%O2 (mg/Nm3)			15.36	398.35	14.34
Concentration @12%CO2 (mg/Nm3)			15.49	401.80	14.46

QA/QC_____ Date_____

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Continuous Emissions Monitoring Parameters

Run Number	. 1				
Date (2010)	Mar 24				
Start Time	7:38				
End Time	8:05				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 2				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.22	9.07	11.47	159.11	8.23
Concentration (ppmdv)			11.47	159.11	8.23
Concentration (lb/dscf)			1.907E-06	1.900E-05	5.986E-07
Concentration (%dv)	10.216	9.073	0.001	0.016	0.001
Concentration (mg/dscm)			30.53	304.22	9.59
Concentration (mg/Nm3)			32.77	326.48	10.29
Concentration @7%O2 (ppm)			13.48	187.00	9.68
Concentration @12%CO2 (ppm)			13.47	186.89	9.67
Concentration @7%O2 (lb/scf)			2.241E-06	2.233E-05	7.035E-07
Concentration @12%CO2 (lb/scf)			2.240E-06	2.231E-05	7.031E-07
Concentration @7%O2 (mg/scm)			35.89	357.56	11.27
Concentration @12%CO2 (mg/scm)			35.86	357.34	11.26
Concentration @7%O2 (mg/Nm3)			38.51	383.72	12.09
Concentration @12%CO2 (mg/Nm3)			38.49	383.49	12.08



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Continuous Emissions Monitoring Parameters						
Run Number	2	-				
Date (2010)	Mar 24					
Start Time	8:12					
End Time	8:39					
Elapsed Time (hh:mm)	00:27					
Channel	1	2	3	4	5	
Parameter	CO2	02	SO2	NOX	CO	
Location	FF Outlet 2					
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv	
Measured Average (drift-corrected)	10.21	9.00	5.89	161.41	6.60	
Concentration (ppmdv)			5.89	161.41	6.60	
Concentration (lb/dscf)			9.796E-07	1.927E-05	4.799E-07	
Concentration (%dv)	10.211	8.997	0.001	0.016	0.001	
Concentration (mg/dscm)			15.69	308.63	7.68	
Concentration (mg/Nm3)			16.83	331.21	8.25	
Concentration @7%O2 (ppm)			6.88	188.49	7.71	
Concentration @12%CO2 (ppm)			6.92	189.69	7.76	
Concentration @7%O2 (lb/scf)			1.144E-06	2.251E-05	5.604E-07	
Concentration @12%CO2 (lb/scf)			1.151E-06	2.265E-05	5.640E-07	
Concentration @7%O2 (mg/scm)			18.32	360.40	8.97	
Concentration @12%CO2 (mg/scm)			18.44	362.70	9.03	
Concentration @7%O2 (mg/Nm3)			19.66	386.77	9.63	
Concentration @12%CO2 (mg/Nm3)			19.78	389.24	9.69	

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Continuous Emi	ssions Monit	oring Param	eters		
Run-Number	. 3	•			
Date (2010)	Mar 24				
Start Time	8:46				
End Time	9:13				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	02	SO2	NOX	CO
Location	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.05	9.18	7.68	159.61	6.03
Concentration (ppmdv)			7.68	159.61	6.03
Concentration (lb/dscf)			1.278E-06	1.906E-05	4.385E-07
Concentration (%dv)	10.053	9.182	0.001	0.016	0.001
Concentration (mg/dscm)			20.46	305.19	7.02
Concentration (mg/Nm3)			21.96	327.52	7.54
Concentration @7%O2 (ppm)			9.11	189.33	7.15
Concentration @12%CO2 (ppm)			9.17	190.52	7.20
Concentration @7%O2 (lb/scf)			1.515E-06	2.261E-05	5.201E-07
Concentration @12%CO2 (lb/scf)			1.525E-06	2.275E-05	5.234E-07
Concentration @7%O2 (mg/scm)			24.27	362.00	8.33
Concentration @12%CO2 (mg/scm)			24.42	364.29	8.38
Concentration @7%O2 (mg/Nm3)			26.04	388.49	8.94
Concentration @12%CO2 (mg/Nm3)			26.21	390.94	9.00

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Continuous Emissions Monitoring Parameters					
Run Number	4	-			
Date (2010)	Mar 24				
Start Time	9:20				
End Time	9:47				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	со
Location	FF Outlet 2				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.89	9.37	11.43	157.48	5.46
Concentration (ppmdv)			11.43	157.48	5.46
Concentration (lb/dscf)			1.901E-06	1.880E-05	3.970E-07
Concentration (%dv)	9.894	9.373	0.001	0.016	0.001
Concentration (mg/dscm)			30.44	301.11	6.36
Concentration (mg/Nm3)			32.67	323.14	6.82
Concentration @7%O2 (ppm)			13.79	189.90	6.59
Concentration @12%CO2 (ppm)			13.87	191.00	6.62
Concentration @7%O2 (lb/scf)			2.292E-06	2.267E-05	4.787E-07
Concentration @12%CO2 (lb/scf)			2.306E-06	2.281E-05	4.815E-07
Concentration @7%O2 (mg/scm)			36.71	363.09	7.67
Concentration @12%CO2 (mg/scm)			36.92	365.19	7.71
Concentration @7%O2 (mg/Nm3)			39.40	389.66	8.23
Concentration @12%CO2 (mg/Nm3)			39.62	391.91	8.28

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Continuous Emissio	ons Monitoring Parameters
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Run Number	5				
Date (2010)	Mar 24				
Start Time	9:54				
End Time	10:21				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 2				
Measurement Units	%dv	%d∨	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.91	9.39	12.23	152.24	7.23
Concentration (ppmdv)			12.23	152.24	7.23
Concentration (lb/dscf)			2.033E-06	1.818E-05	5.253E-07
Concentration (%dv)	9.914	9.394	0.001	0.015	0.001
Concentration (mg/dscm)			32.55	291.09	8.41
Concentration (mg/Nm3)			34.94	312.39	9.03
Concentration @7%O2 (ppm)			14.77	183.91	8.73
Concentration @12%CO2 (ppm)			14.80	184.26	8.75
Concentration @7%O2 (lb/scf)			2.456E-06	2.196E-05	6.346E-07
Concentration @12%CO2 (lb/scf)			2.460E-06	2.200E-05	6.358E-07
Concentration @7%O2 (mg/scm)			39.33	351.65	10.16
Concentration @12%CO2 (mg/scm)			39.40	352.32	10.18
Concentration @7%O2 (mg/Nm3)			42.20	377.38	10.91
Concentration @12%CO2 (mg/Nm3)			42.28	378.10	10. 9 3



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Continuous Emissions Monitoring Parameters					
Run Number	6				
Date (2010)	Mar 24				
Start Time	10:28				
End Time	10:55				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 2				
Measurement Units	%dv	%d∨	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.19	9.03	11.18	155.02	5.85
Concentration (ppmdv)			11.18	155.02	5.85
Concentration (lb/dscf)			1.859E-06	1.851E-05	4.256E-07
Concentration (%dv)	10.186	9.029	0.001	0.016	0.001
Concentration (mg/dscm)			29.77	296.41	6.82
Concentration (mg/Nm3)			31.95	318.10	7.31
Concentration @7%O2 (ppm)			13.09	181.53	6.85
Concentration @12%CO2 (ppm)			13.17	182.64	6.90
Concentration @7%O2 (lb/scf)			2.177E-06	2.167E-05	4.983E-07
Concentration @12%CO2 (lb/scf)			2.190E-06	2.181E-05	5.014E-07
Concentration @7%O2 (mg/scm)			34.86	347.09	7.98
Concentration @12%CO2 (mg/scm)			35.07	349.21	8.03
Concentration @7%O2 (mg/Nm3)			37.41	372.49	8.56
Concentration @12%CO2 (mg/Nm3)			37.64	374.76	8.62

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Continuous Emi	ssions Monit	oring Param	eters		
Run Number	7				7
Date (2010)	Mar 24				
Start Time	11:02				
End Time	11:29				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	co
Location	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
Measurement Units	%d∨	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.28	8.93	10.36	165.24	6.34
Concentration (ppmdv)			10.36	165.24	6.34
Concentration (lb/dscf)			1.723E-06	1.973E-05	4.609E-07
Concentration (%dv)	10.285	8.929	0.001	0.017	0.001
Concentration (mg/dscm)			27.59	315.95	7.38
Concentration (mg/Nm3)			29.61	339.07	7.92
Concentration @7%O2 (ppm)			12.03	191.87	7.36
Concentration @12%CO2 (ppm)			12.09	192.80	7.40
Concentration @7%O2 (lb/scf)			2.001E-06	2.291E-05	5.352E-07
Concentration @12%CO2 (lb/scf)			2.010E-06	2.302E-05	5.378E-07
Concentration @7%O2 (mg/scm)			32.04	366.86	8.57
Concentration @12%CO2 (mg/scm)			32.19	368.65	8.61
Concentration @7%O2 (mg/Nm3)			34.38	393.71	9.20
Concentration @12%CO2 (mg/Nm3)			34.55	395.62	9.24

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Continuous Emissions Monitoring Parameters					
Run Number	8				
Date (2010)	Mar 24				
Start Time	11:36				
End Time	12:03				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	02	SO2	NOX	CO
Location	FF Outlet 2				
Measurement Units	%dv	%d∨	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.06	9.13	7.75	158.13	5.44
Concentration (ppmdv)			7.75	158.13	5.44
Concentration (lb/dscf)			1.288E-06	1.888E-05	3.958E-07
Concentration (%dv)	10.062	9.129	0.001	0.016	0.001
Concentration (mg/dscm)			20.63	302.35	6.34
Concentration (mg/Nm3)			22.14	324.48	6.80
Concentration @7%O2 (ppm)			9.15	186.73	6.43
Concentration @12%CO2 (ppm)			9.24	188.59	6.49
Concentration @7%O2 (lb/scf)			1.521E-06	2.230E-05	4.674E-07
Concentration @12%CO2 (lb/scf)			1.536E-06	2.252E-05	4.720E-07
Concentration @7%O2 (mg/scm)			24.36	357.03	7.48
Concentration @12%CO2 (mg/scm)			24.60	360.59	7.56
Concentration @7%O2 (mg/Nm3)			26.14	383.15	8.03
Concentration @12%CO2 (mg/Nm3)			26.40	386.97	8.11

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Continuous Emissions Monitoring Parameters					
Run Númber	9				
Date (2010)	Mar 24				
Start Time	12:10				
End Time	12:37				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	со
Location	FF Outlet 2				
Measurement Units	%d∨	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.93	9.36	7.68	149.62	6.61
Concentration (ppmdv)			7.68	149.62	6.61
Concentration (lb/dscf)			1.276E-06	1.787E-05	4.804E-07
Concentration (%dv)	9.929	9.363	0.001	0.015	0.001
Concentration (mg/dscm)			20.44	286.09	7.69
Concentration (mg/Nm3)			21.94	307.02	8.26
Concentration @7%O2 (ppm)			9.25	180.27	7.96
Concentration @12%CO2 (ppm)			9.28	180.84	7.99
Concentration @7%O2 (lb/scf)			1.538E-06	2.153E-05	5.788E-07
Concentration @12%CO2 (lb/scf)			1.543E-06	2.159E-05	5.807E-07
Concentration @7%O2 (mg/scm)			24.63	344.69	9.27
Concentration @12%CO2 (mg/scm)			24.70	345.78	9.30
Concentration @7%O2 (mg/Nm3)			26.43	369.92	9.95
Concentration @12%CO2 (mg/Nm3)			26.51	371.08	9.98

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Continuous Emissions Monitoring Parameters					
Run Number	10	-			
Date (2010)	Mar 24				
Start Time	12:44				
End Time	13:11				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	, CO
Location	FF Outlet 2				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.03	9.21	11.54	163.80	6.30
Concentration (ppmdv)			11.54	163.80	6.30
Concentration (lb/dscf)			1.919E-06	1.956E-05	4.580E-07
Concentration (%dv)	10.031	9.208	0.001	0.016	0.001
Concentration (mg/dscm)			30.73	313.19	7.33
Concentration (mg/Nm3)			32.98	336.11	7.87
Concentration @7%O2 (ppm)			13.72	194.72	7.49
Concentration @12%CO2 (ppm)			13.81	195.94	7.54
Concentration @7%O2 (lb/scf)			2.281E-06	2.325E-05	5.445E-07
Concentration @12%CO2 (lb/scf)			2.296E-06	2.340E-05	5.479E-07
Concentration @7%O2 (mg/scm)			36.53	372.32	8.72
Concentration @12%CO2 (mg/scm)			36.76	374.65	8.77
Concentration @7%O2 (mg/Nm3)			39.21	399.57	9.36
Concentration @12%CO2 (mg/Nm3)			39.45	402.07	9.42

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Continuous Emissions Monitoring Parameters

Run Number	<u> </u>				
Date (2010)	Mar 22				
Start Time	7:44				
End Time	8:11				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 3				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.72	9.68	10.73	143.75	6.95
Concentration (ppmdv)			10.73	143.75	6.95
Concentration (lb/dscf)			1.784E-06	1.716E-05	5.051E-07
Concentration (%dv)	9.718	9.681	0.00107	0.0144	0.00069
Concentration (mg/dscm)			28.57	274.85	8.09
Concentration (mg/Nm3)			30.66	294.96	8.68
Concentration @7%O2 (ppm)			13.30	178.10	8.61
Concentration @12%CO2 (ppm)			13.25	177.51	8.58
Concentration @7%O2 (lb/scf)			2.211E-06	2.126E-05	6.258E-07
Concentration @12%CO2 (lb/scf)			2.203E-06	2.119E-05	6.237E-07
Concentration @7%O2 (mg/scm)			35.40	340.53	10.02
Concentration @12%CO2 (mg/scm)			35.28	339.40	9.99
Concentration @7%O2 (mg/Nm3)			37.99	365.45	10.75
Concentration @12%CO2 (mg/Nm3)			37.86	364.23	10.72

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Continuous Emis	sions Monit	oring Parame	eters		
Run Number	2	· .			
Date (2010)	Mar 22				
Start Time	8:20				
End Time	8:47				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.89	9.39	12.54	147.70	6.97
Concentration (ppmdv)			12.54	147.70	6.97
Concentration (lb/dscf)			2.086E-06	1.764E-05	5.067E-07
Concentration (%dv)	9.895	9.387	0.00125	0.0148	0.00070
Concentration (mg/dscm)			33.40	282.41	8.11
Concentration (mg/Nm3)			35.84	303.08	8.71
Concentration @7%O2 (ppm)			15.15	178.33	8.42
Concentration @12%CO2 (ppm)			15.21	179.13	8.45
Concentration @7%O2 (lb/scf)			2.518E-06	2.129E-05	6.118E-07
Concentration @12%CO2 (lb/scf)			2.530E-06	2.139E-05	6.145E-07
Concentration @7%O2 (mg/scm)			40.33	340.98	9.80
Concentration @12%CO2 (mg/scm)			40.51	342.51	9.84
Concentration @7%O2 (mg/Nm3)			43.28	365.93	10.51
Concentration @12%CO2 (mg/Nm3)			43.47	367.57	10.56

Continuous Emis	ssions Monit	oring Parame	eters		
Run Number	3	-			
Date (2010)	Mar 22				,
Start Time	8:54				
End Time	9:21				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	со
Location	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.37	10.07	10.52	140.20	6.66
Concentration (ppmdv)			10.52	140.20	6.66
Concentration (lb/dscf)			1.749E-06	1.674E-05	4.842E-07
Concentration (%dv)	9.375	10.071	0.00105	0.0140	0.00067
Concentration (mg/dscm)			28.02	268.07	7.75
Concentration (mg/Nm3)			30.07	287.68	8.32
Concentration @7%O2 (ppm)			13.51	179.96	8.55
Concentration @12%CO2 (ppm)			13.47	179.46	8.53
Concentration @7%O2 (lb/scf)			2.246E-06	2.149E-05	6.216E-07
Concentration @12%CO2 (lb/scf)			2.239E-06	2.143E-05	6.199E-07
Concentration @7%O2 (mg/scm)			35.96	344.08	9.95
Concentration @12%CO2 (mg/scm)			35.86	343.14	9.93
Concentration @7%O2 (mg/Nm3)			38.59	369.26	10.68
Concentration @12%CO2 (mg/Nm3)			38.48	368.24	10.65



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C - 25

Continuous Emis	sions Monit	oring Parame	eters		
Run Number	4	-			
Date (2010)	Mar 22				
Start Time	9:28				
End Time	9:55				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.39	10.15	10.86	141.55	8.61
Concentration (ppmdv)			10.86	141.55	8.61
Concentration (lb/dscf)			1.805E-06	1.690E-05	6.260E-07
Concentration (%dv)	9.387	10.148	0.00109	0.0142	0.00086
Concentration (mg/dscm)			28.90	270.65	10.02
Concentration (mg/Nm3)			31.02	290.45	10.76
Concentration @7%O2 (ppm)			14.03	182.99	11.13
Concentration @12%CO2 (ppm)			13.88	180.95	11.01
Concentration @7%O2 (lb/scf)			2.333E-06	2.185E-05	8.092E-07
Concentration @12%CO2 (lb/scf)			2.307E-06	2.161E-05	8.002E-07
Concentration @7%O2 (mg/scm)			37.37	349.89	12.96
Concentration @12%CO2 (mg/scm)			36.95	345.98	12.81
Concentration @7%O2 (mg/Nm3)			40.10	375.49	13.91
Concentration @12%CO2 (mg/Nm3)			39.65	371.30	13.75

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Continuous Emissions Monitoring Parameters

Run-Number	- 5				
Date (2010)	Mar 22				
Start Time	10:01				
End Time	10:28				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 3				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.69	9.80	11.15	140.74	9.59
Concentration (ppmdv)			11.15	140.74	9.59
Concentration (lb/dscf)			1.854E-06	1.681E-05	6.970E-07
Concentration (%dv)	9.688	9.804	0.00112	0.0141	0.00096
Concentration (mg/dscm)			29.69	269.11	11.16
Concentration (mg/Nm3)			31.86	288.80	11.98
Concentration @7%O2 (ppm)			13.97	176.31	12.01
Concentration @12%CO2 (ppm)			13.81	174.34	11.88
Concentration @7%O2 (lb/scf)			2.323E-06	2.105E-05	8.731E-07
Concentration @12%CO2 (lb/scf)			2.297E-06	2.082E-05	8.633E-07
Concentration @7%O2 (mg/scm)			37.19	337.12	13.98
Concentration @12%CO2 (mg/scm)			36.78	333.35	13.82
Concentration @7%O2 (mg/Nm3)			39.92	361.79	15.00
Concentration @12%CO2 (mg/Nm3)			39.47	357.74	14.84

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QA/QC____ Date

Continuous Emis	ssions Monit	oring Parame	eters		
Run Number	6				
Date (2010)	Mar 22				
Start Time	10:35				
End Time	11:02				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	02	SO2	NOX	со
Location	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.10	9.21	9.81	151.11	7.86
Concentration (ppmdv)			9.81	151.11	7.86
Concentration (lb/dscf)			1.631E-06	1.804E-05	5.713E-07
Concentration (%dv)	10.100	9.211	0.00098	0.0151	0.00079
Concentration (mg/dscm)			26 <i>.</i> 11	288.93	9.15
Concentration (mg/Nm3)			28.02	310.07	9.82
Concentration @7%O2 (ppm)			11.66	179.70	9.35
Concentration @12%CO2 (ppm)			11.65	179.54	9.34
Concentration @7%O2 (lb/scf)			1.939E-06	2.146E-05	6.794E-07
Concentration @12%CO2 (lb/scf)			1.937E-06	2.144E-05	6.788E-07
Concentration @7%O2 (mg/scm)			31.05	343.59	10.88
Concentration @12%CO2 (mg/scm)			31.02	343.30	10.87
Concentration @7%O2 (mg/Nm3)			33.32	368.73	11.68
Concentration @12%CO2 (mg/Nm3)			33.29	368.41	11.67

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Continuous	Emissions	Monitoring	Parameters
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Run-Number	7				
Date (2010)	Mar 22				
Start Time	11:09				
End Time	11:36				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	02	SO2	NOX	CO
Location	FF Outlet 3				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.81	9.58	11.96	145.86	6.43
Concentration (ppmdv)			11.96	145.86	6.43
Concentration (lb/dscf)			1.989E-06	1.742E-05	4.674E-07
Concentration (%dv)	9.811	9.576	0.00120	0.0146	0.00064
Concentration (mg/dscm)			31.85	278.88	7.49
Concentration (mg/Nm3)			34.18	299.29	8.03
Concentration @7%O2 (ppm)			14.68	179.04	7.89
Concentration @12%CO2 (ppm)			14.63	178.40	7.86
Concentration @7%O2 (lb/scf)			2.441E-06	2.138E-05	5.737E-07
Concentration @12%CO2 (lb/scf)			2.433E-06	2.130E-05	5.717E-07
Concentration @7%O2 (mg/scm)			39.10	342.32	9.19
Concentration @12%CO2 (mg/scm)			38.96	341.11	9.16
Concentration @7%O2 (mg/Nm3)			41.96	367.37	9.86
Concentration @12%CO2 (mg/Nm3)			41.81	366.07	9.83



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Continuous Emis	ssions Monit	oring Parame	eters		
Run Number	8				
Date (2010)	Mar 22				
Start Time	11:43				
End Time	12:10				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	02	SO2	NOX	CO
Location	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.86	9.49	7.91	145.07	7.46
Concentration (ppmdv)			7.91	145.07	7.46
Concentration (lb/dscf)			1.315E-06	1.732E-05	5.426E-07
Concentration (%dv)	9.865	9.492	0.00079	0.0145	0.00075
Concentration (mg/dscm)			21.06	277.39	8.69
Concentration (mg/Nm3)			22.60	297.69	9.32
Concentration @7%O2 (ppm)			9.64	176.77	9.09
Concentration @12%CO2 (ppm)			9.62	176.48	9.08
Concentration @7%O2 (lb/scf)			1.603E-06	2.111E-05	6.611E-07
Concentration @12%CO2 (lb/scf)			1.600E-06	2.107E-05	6.600E-07
Concentration @7%O2 (mg/scm)			25.66	337.99	10.59
Concentration @12%CO2 (mg/scm)			25.62	337.44	10.57
Concentration @7%O2 (mg/Nm3)			27.54	362,72	11.36
Concentration @12%CO2 (mg/Nm3)			27.50	362.13	11.34

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Continuous	Emissions	Monitoring	Parameters
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Run Number	9				
Date (2010)	Mar 22				
Start Time	12:17				
End Time	12:44				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 3				
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	9.99	9.29	11.46	148.65	6.67
Concentration (ppmdv)			11.46	148.65	6.67
Concentration (lb/dscf)			1.906E-06	1.775E-05	4.846E-07
Concentration (%dv)	9.987	9.288	0.00115	0.0149	0.00067
Concentration (mg/dscm)			30.52	284.22	7.76
Concentration (mg/Nm3)			32.75	305.02	8.33
Concentration @7%O2 (ppm)			13.72	177.93	7.98
Concentration @12%CO2 (ppm)			13.77	178.61	8.01
Concentration @7%O2 (lb/scf)			2.281E-06	2.125E-05	5.801E-07
Concentration @12%CO2 (lb/scf)			2.290E-06	2.133E-05	5.823E-07
Concentration @7%O2 (mg/scm)			36.53	340.21	9.29
Concentration @12%CO2 (mg/scm)			36.67	341.51	9.32
Concentration @7%O2 (mg/Nm3)			39.21	365.11	9.97
Concentration @12%CO2 (mg/Nm3)			39.36	366.50	10.01



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QA/QC___ Date___

Continuous Emis	sions Monit	oring Parame	eters		
Run Number	10	-			
Date (2010)	Mar 22				
Start Time	12:51				
End Time	13:18				
Elapsed Time (hh:mm)	00:27				
Channel	1	2	3	4	5
Parameter	CO2	O2	SO2	NOX	CO
Location	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
Measurement Units	%dv	%dv	ppmdv	ppmdv	ppmdv
Measured Average (drift-corrected)	10.08	9.18	11.79	151.21	6.59
Concentration (ppmdv)			11. 79	151.21	6.59
Concentration (lb/dscf)			1.961E-06	1.806E-05	4.792E-07
Concentration (%dv)	10.081	9.184	0.00118	0.0151	0.00066
Concentration (mg/dscm)			31.40	289.13	7.67
Concentration (mg/Nm3)			33.70	310.28	8.24
Concentration @7%O2 (ppm)			13.99	179.40	7.82
Concentration @12%CO2 (ppm)			14.04	180.00	7.85
Concentration @7%O2 (lb/scf)			2.326E-06	2.142E-05	5.686E-07
Concentration @12%CO2 (lb/scf)			2.334E-06	2.149E-05	5.705E-07
Concentration @7%O2 (mg/scm)			37.25	343.03	9.10
Concentration @12%CO2 (mg/scm)			37.38	344.16	9.14
Concentration @7%O2 (mg/Nm3)			39.98	368.13	9.77
Concentration @12%CO2 (mg/Nm3)			40.11	369.35	9.80

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Date	

WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

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				RAT	TA CLASS															
	Air Sp	r Liquide America Decialty Gases LL	6 (S) scott	_	Analyzed Calibra	tion Standard														
1290	COMBERMI	ERE STREET, 1	(ROY, MI 48083		Phone: 248-589-295	0 Fax: 248-589-2														
CERTIFIC	ATE OF	ACCURA	CY: Interfere	nce Free [™] Multi•	Component EF	A Protocol Gas														
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				NTRATION (Moles)	ACCURACY**	TRACEABILITY														
CARBON DIOX	IDE		10.2 225	% PPM PPM	+/- 1%	Direct NIST and VSL Direct NIST and VSL														
SULFUR DIOXI		E	44.9	PPM BALANCE	+/- 1%	Direct NIST and VSL														
	OF NITRO	GEN	225.	PPM		Reference Value Only														
TRM 1800	EXPIRATION 01 Mar 2009) k	CYLINDER NUMBER	CONCENTRATION 17.87 %	COMPONENT CARBON DIOXID	E														
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YPE/SAM NO. TRM 1800 TRM 1893 YSTRUMENTAL ISTRUMENT/MO IR//0928621 TIR//0928621 FIR//0928621 FIR//0928621 CARBON DIOXIE Date: 1250/2008 Z1 = -0.00238	EXPIRATION Of Mar2009 Of Sep2010 Of Dec2011 TION DEL/SERIAL# READINGS Tind Analysis DE Response Unit ~ 17.78265	2 = Zero {Z = Zero it:% T1 = 10,09628	006478 AL003525 AL004073 Gas R = Reference	17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR 04Sep2008 28Aug2008 18Sep2008	CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE ATED AN FTI FTI r = Correlation Coe Calibra Concentration r = 9.99988E-1	ALYTICAL PRINCIPLE R R R fficient) Mon Curve =A+Bx+Cx2+Dx3+Ex4														
YPE/SAM NO. TRM 1800 TRM 1800 TRM 1893 VSTRUMENTAL ISTRUMENT/MO TRI/0928621 TIR//0928621 TIR//0928621 First TI CARBON DIOXIE Date: 125092008 21 = -0.00238 21 = -0.00238 23 = 0.00421 T3	EXPIRATION 01 Mar 2009 01 Sep 2010 01 Dec 2011 TION DEL/SERIAL# READINGS Find Analysis DE Response Unit ≈ 17.78265 ≈ 0.00216 ≈ 10.10938	} {Z ⇒ Zero i::%	006478 AL003525 AL004073 Gas R = Reference	17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR 04Sep2008 28Aug2008 18Sep2008	CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE FTI FTI r = Correlation Coe Calibra Concentration r = 9.999888-1 Constants: B = 9.31146E-1	IALYTICAL PRINCIPLE R R R fficient) Maan Curve = A + Bx + Cx2 + Dx3 + £x4 A ⇔ 0.00000E + 0														
YPE/SAM NO. TRM 1800 TRM 1800 TRM 1893 VSTRUMENTAL ISTRUMENTAL ITR/0928621 ANALYZER R First TI CARBON DIOXIE Date: 12Sep2008 ITR: 2= 17.78894 IST-0.00421 IST-0.00421 IST-0.00421 IST-0.00421 IST-0.00421 ISTRIC OXIDE Date: 12Sep2008	EXPIRATION 01Mar2009 01Sep2010 01Dec2011 TION DEL/SERIAL# READINGS NE	Z => Zero (Z => Zero it: % T1 = 10,09628 T2 = 10,09698 A3 = 17.79053 % t:PPM	COD6478 (ALCO3525 (ALCO4073 Gas R = Reference Second Date: 1969p2000	17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR O4Sep2008 28Aug2008 18Sep2008 9 Gás T = Test Gás Triad Analysis	CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE FTI FTI r=Correlation Coe Calibra Concentration r=9.99988E-1 Constants: B=9.31146E-1 D=0.00000E +	$\frac{ALYTICAL PRINCIPLE}{R}$ R R R fficient) adon Curve $=A + Bx + Cx2 + Dx3 + Ex4$ $A = 0.0000E + 0$ $C = 1.22400E - 2$														
TPE/SAM NO. TRM 1800 TRM 1800 TRM 1893 VSTRUMENTAL ISTRUMENT/MO ISTRUMENT/MO TR/0928621 TR//0928621 ANALYZER R First Tr CARBON DIOXIE Date: 1250p2008 21 = 0.00238 23 = 0.00421 Y3 Avg. Concentration NITRIC OXIDE Date: 1250p2008 21 = 0.01885 R1 = 249.0275	EXPIRATION 01 Mar 2009 01 Sep 2010 01 Dec 2011 TION DEL/SERIAL# Response Uni ≈ 17.78265 ≈ 10.10938 n: 10.15 Response Uni ≈ 248.7477 ~0.12571	(Z = Zero (Z = Zero it: % T1 = 10,09628 T2 = 10,09698 A3 = 17.79053 % t: PPM T1 = 226.2887 T2 = 226,6309	COD6478 (ALCO3525 (ALCO4073 Gas R = Reference Second Date: 195ep2000 21 =-0.34230 R R2 = 248.1205 Z	17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR 04Sep2008 28Aug2008 18Sep2008 9 Gas T = Test Gas Triad Analysis 8 Response Unit: PPM 11 = 248,0816 T1 = 226.580 2 = 0.32020 T2 = 226.817	CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE FTI FTI r = Correlation Coe Calibra Concentration r = 9.99988E-1 D = 0.00000E -1 Concentration = 3 r = 9.9998E-1 3 Concentration =	$\frac{ ALYT CAL PRINC PLE}{R}$ R R R R R R R R R R R R R R R R R R														
YPE/SAM NO. TRM 1800 TRM 1800 TRM 1893 VSTRUMENTAL VSTRUMENT/MO IR//0928621 IR//0928621 ANALYZER R First Tr CARBON DIOXIE Date: 12592008 21 = -0.00238 R1 R2 = 17.78884 Z2 Z3 = 0.00421 T3 Avg. Concentration NITRIC OXIDE Date: 12592008 11 = 0.01885 R1 22 249.0275 Z2 23 = 0.46283 T3	EXPIRATION 01Mar2000 01Sep2010 01Dec2011 TION DEL/SERIAL# READINGS Tad Analysis DE Response Uni = 17.78265 ~0.00216 = 10.10938 n: 10.15 Response Uni = 248.7477 ~0.12571 = 226.8421	(Z = Zero (Z = Zero it: % T1 = 10,09628 R3 = 17.79053 % t:PPM T1 = 226.2887	COD6478 (ALCO3525 (ALCO4073 Gas R = Reference Second Date: 195ep2000 21 =-0.34230 R R2 = 248.1205 Z	17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR 04Sep2008 28Aug2008 18Sep2008 9 Gas T = Test Gas Triad Analysis 8 Response Unit: PPM 11 = 248,0816 T1 = 226.5803 2 = 0.32020 T2 = 226.8173 3 = 227.1357 R3 = 248.2153	CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE SULFUR DIOXIDE ATED AN FTI FTI FTI FTI r = Correlation Coe Calibra Concentration r = 9.99988-1 Concentration: B = 9.31146E-1 D = 0.00000E + Concentration: 3 r = 9.99998E-1 3 constants: B = 9.44080E-1 S = 9.44080E-1	$\frac{ALYTICAL PRINCIPLE}{R}$ R R R R R R R R R R R R R R R R R R														
YPE/SAM NO. TRM 1800 TRM 1800 TRM 1893 VSTRUMENTAL VSTRUMENT/MO IR//0928621 ANALYZER R First Tr CARBON DIOXIE Date: 12592008 21 = -0.00238 R1 R2 = 17.78894 Z2 23 = 0.00421 T3 Avg. Concentration NITRIC OXIDE Date: 12592008 1 = 0.01885 R1: 22 = 240.0275 Z22 3 = 0.46283 T3 Avg. Concentration SULFUR DIOXIDE Date: 12592008	EXPIRATION Of Mar2000 Of Sep2010 Of Dec2011 TION DEL/SERIAL# READINGS Response Unit = 17.78285 ~0.00216 = 10.10938 n: 10.15 Response Unit = 248.7477 ~0.12571 = 226.8421 N: 224.8 E = Response Unit	(Z = Zero 1 it: % T1 = 10,09628 T2 = 10,09698 R3 = 17.79053 % t:PPM T1 = 226,2887 T2 = 226,6309 R3 = 249,3030 PPM	COD6478 (ALC03525 (ALC04073 Gas R = Reference Second Date: 196sp2000 Z1 =-0.34230 R R2 = 248.1205 Z Z3 = 0.37723 T Avg. Concentrati	17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR 04Sep2008 28Aug2008 18Sep2008 9 Gas T = Test Gas Triad Analysis 8 Response Unit: PPM 11 = 248,0816 T1 = 226.5803 2 = 0.32020 T2 = 226.8173 3 = 227.1357 R3 = 248.2153	CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE SULFUR DIOXIDE FTI SULFUE Concentration S F S F S F S	$\frac{ A_{L}YT CA_{L} PRINCIPLE}{R}$ R R R R R R R R R R R R R R R R R R														
TPE/SAM NO. TRM 1800 TRM 1800 TRM 1893 VSTRUMENTAL ISTRUMENTAL ITR/0928621 ANALYZER R First TI CARBON DIOXIE Date: 125092008 12 = 0.01885 12 = 0.01885 12 = 0.01885 12 = 0.01885 12 = 0.010016 12 = 0.00016 12 = 0.00016 12 = 0.00016 12 = 0.00016 12 = 0.00016 <tr td=""> <!--</td--><td>EXPIRATION Of Mar2009 Of Sep2010 Of Dec 2011 TION DEL/SERIAL# Reaponse Unit = 17.78265 = 0.00216 = 10.10938 n: 10.15 Response Unit = 248.7477 = 0.12571 = 224.8421 N: 224.8 = 50.25512 = 0.06038</td><td>Z = Zero it: % T1 = 10,09628 T2 = 10,09698 A3 = 17.79053 % t:PPM T1 = 226.2887 T2 = 426.309 R3 = 249.3030 PPM t:PPM T1 = 44.99951 T2 = 45.03611</td><td>CO06478 (ALCO3525 (ALCO4073 Gas R = Reference Second Date: 195ep2000 21 =-0.34230 R R2 = 248.1205 Z Z3 = 0.37723 T Avg. Concentrati Date: 195ep2000 Z1 =0.03964 R</td><td>17.87 % 247.1 PPM 50.20 PPM DATE LAST CALIBR 045ep2008 28Aug2008 18Sep2008 9 Gas T = Test Gas Triad Analysis 8 Response Unit: PPM 11 = 248.0816 21 = 226.817: 3 = 227.1357 R3 = 248.215: on: 225.9</td><td>CARBON DIOXID NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE FTI FTI r=Correlation Coe Calibra Concentration r=9.99988E-1 Concentration= Concentration= r=9.99988E-1 D=0.00000E+ D=0.00000E+ D=0.00000E+ D=0.00000E+ Concentration= r=9.9998E-1</td><td>$\frac{ALYTICAL PRINCIPLE}{R}$ R R R R R R R R R R R R R R R R R R</td></tr> <tr><td>YPE/SAM NO. 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CERTIFICATE OF	F ACCURAC	CY: Interfere	nce Free [™] Multi	-Component EP	A Protocol Gas
Assay Laboratory AIR LIQUIDE AMERICA SI 1290 COMBERMERE STR			859-66-65000 05-84187-001	Customer CLEAN AIR ENGINEERI SCOTT BROWN	NG
TROY, MI 48083				500 WEST WOOD STI PALATINE IL 60067	REET
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This certification was perf Procedure G-1; September	, 1997.			15	
Cylinder Number: Cylinder Pressure***:	CC124384 1888		ion Date: 28Jan2	2010 Exp. Date	: 28Jan2012
OMPONENT	<u>C</u>		NTRATION (Moles)		TRACEABILITY
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FERENCE STANDARD					
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201	12 KOC 10 KAL	LINDER NUMBER 00696 L003496 L004124	CONCENTRATION 13.93 % 490.0 PPM 100.4 PPM	COMPONENT CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDE	
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S 01Jun201 STRUMENTATION S 01 S	2 KOC 10 KAI 12 KAI	00696	13.93 % 490.0 PPM 100.4 PPM	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDE	
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PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S STRUMENTATION STRUMENT/MODEL/SERIAL R/0928621 R/0928621 R/0928621 R/0928621 R/0928621 STRUMENT/MODEL/SERIAL R/0928621 SARBON DIOXIDE Iate: 19Jan2010 Response U 1 = 0.00116 R1 = 13.91162 2 = 13.91811 Z2 = 0.00130 3 = 0.01087 T3 = 10.01880	$Z = \frac{12}{10}$ KOC 10 KAU Z = Zero Ga is Z = 10.01153 T2 = 10.01366 R3 = 13.91889	00696 L003496 L004124 as R = Reference	13.93 % 490.0 PPM 100.4 PPM DATE LAST_CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas_T=Test Gas	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDE AATED ANA FTIR FTIR r = Correlation Coeff Calibrati Concentration = . r = 9.9994E-1 Constants: B = 9.29116E-1	icient) on Curve A+Bx+Cx2+Dx3+Ex4
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S STRUMENTATION STRUMENT/MODEL/SERIAL IR//0928621 IR//0928621 RMALYZER READINGS STRUMENT/MODEL/SERIAL IR//0928621 STRUMENT/MODEL/SERIAL IR//0928621 STRUMENT/MODEL/SERIAL IR//0928621 SARBON DIOXIDE Date: 19Jan2010 Response U 1 = 0.00116 R1 = 13.91162 2 = 13.91811 Z2 = 0.00130 3 = 0.01087 T3 = 10.01880 vg. Concentration: 10.02 ITRIC OXIDE 10.02	2 KOC 10 KAC 12 KAC 13 KAC 14 KAC	00696 L003496 L004124 as R = Reference Second	13.93 % 490.0 PPM 100.4 PPM DATE LAST_CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas_T=Test Gas	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDE AATED ANA FTIR FTIR r = Correlation Coeff Calibrati Concentration =. r = 9.99994E-1 Constants: B = 9.29116E-1 D = 0.00000E + C	icient) ion Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E-2
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S STRUMENTATION STRUMENT/MODEL/SERIAL RI/0928621 RI/0928621 RI/0928621 RI/0928621 RI/0928621 RI/0928621 STRUMENT/MODEL/SERIAL RI/0928621 RI/0928621 STRUMENT/MODEL/SERIAL RI/0928621 RINCOURS First Triad Analysi CARBON DIOXIDE Iate: 19Jan2010 Response U 1=0.00116 R1=13.91162 2=13.91811 Z2=0.00130 3=0.01087 T3=10.01880 vg. Concentration: 10.02 ITRIC OXIDE ate: 19Jan2010 Response U 1=-0.03529 R1=488.9653	2 KOC 10 KAC 12 KAC	D0696 L003496 L004124 as R = Reference Second Date: 28Jan2010 Z1 = 0.35355 F	13.93 % 490.0 PPM 100.4 PPM DATE LAST CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T = Test Gas Triad Analysis 0 Response Unit: PPM 81 = 490.4896 T1 = 450.895	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE FTIR FTIR r = Correlation Coeff Calibrati Concentration = - r = 9.9994E-1 Constants: B = 9.29116E-1 D = 0.0000E + C Concentration = - r = 9.99995E-1	icient) on Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E - 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S 01Jun201 STRUMENTATION STRUMENT/MODEL/SERIAL RI/0928621 RI/0928621 RI/0928621 RI/0928621 RIR/0928621 RI/0928621 RIR/0928621 RIMALYZER READINGS CARBON DIOXIDE DIOXIDE Date: 19Jan2010 Response U 1 = 0.00116 R1 = 13.91162 2 = 13.91811 Z2 = 0.00130 3 = 0.01087 T3 = 10.01880 vg. Concentration: 10.02 ITRIC OXIDE ate: 19Jan2010 Response U ate: 19Jan2010 Response U 1 = -0.03529 R1 = 488.9653 2 = 490.2213 Z2 = 0.37681 3 = 0.69378 T3 = 455.3191	$\frac{12}{10} \frac{10}{10} 10$	D0696 L003496 L004124 as R = Reference Second Date: 28Jan2010 Z1 = 0.35355 F R2 = 491.2955 Z	13.93 % 490.0 PPM 100.4 PPM DATE LAST CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T = Test Gas Triad Analysis 0 Response Unit: PPM 1=490.4896 T1 = 450.895 22=0.72792 T2 = 453.312 3=454.9297 R3 = 491.366	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDE SULFUR DIOXIDE AATED r = Correlation Coeff Calibrati Concentration = - r = 9.99994E-1 Constants: B = 9.29116E-1 D = 0.00000E + C Concentration = - R = 9.99995E-1 Societation = - R = 9.9995E-1 Constants: B = 8.97507E-1	icient) on Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E + 0 E = 0.00000E + 0
TRM 1675 B 020ct201 TRM 1686 01Sep201 TRM 1694 S 01Jun201 ISTRUMENTATION STRUMENT/MODEL/SERIAL IR/0928621 IR/0928621 IR/0928621 IR/0928621 IR/0928621 IR/0928621 CARBON DIOXIDE Dioxid Analysi Date: 19Jan2010 Response Ut 18.000116 R1 = 13.91162 13.001087 T3 = 10.01880 Avg. Concentration: 10.02 ITRIC OXIDE Date: Date: 19Jan2010 Response Ut 1.0.03529 R1 = 488.9653 12.2.490.2213 22.2.0.37681 3.2.450.378 T3 = 455.3191 vg. Concentration: 453.6 ULFUR DIOXIDE *	2 KOC 10 KAU 12 KAU 13 KAU 12 KAU 13 KAU 14 KAU 14 KAU 15 KAU	Date: 28Jan201 Z1 = 0.35355 F R2 = 491.2955 Z Z3 = 1.26294 T Avg. Concentrat	13.93 % 490.0 PPM 100.4 PPM DATE LAST CALIB! 31Dec2009 08Jan2010 14Jan2010 e Gas T=Test Gas Triad Analysis 0 Response Unit: PPM 11=490.4896 T1=450.895 22=0.72792 T2=453.312 3=454.9297 R3=491.366 ion: 452.0 PPM	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDERATEDANA FTIR FTIR FTIR FTIR FTIR FTIR FTIR Calibratir = Correlation Coeff CalibratiConcentration = - r = 9.9994E-1 Constants: B = 9.29116E-1 D = 0.00000E + 0Concentration = - r = 9.9995E-1 Constants: B = 8.97507E-1 D = 0.00000E + 0	icient) on Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E + 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 3.40000E + 2 E = 0.00000E + 0
YPE/SRM NO. EXPIRAT IRM 1675 B 020ct201 IRM 1686 01Sep201 IRM 1694 S ISTRUMENTATION STRUMENT/MODEL/SERIAL IR//0928621 IR//0928621 IR//0928621 IR//0928621 IR//0928621 CARBON DIOXIDE Date: 19Jan2010 Response U 12 = 0.00116 R1 = 13.91162 13 = 0.01087 T3 = 10.01880 Nag. Concentration: 10.02 ITRIC OXIDE Date: Date: 19Jan2010 Response U 12 = 0.03529 R1 = 488.9653 12 = 490.2213 Z2 = 0.37681 3 = 0.69378 T3 = 455.3191 Nag. Concentration: 453.6 ULFUR DIOXIDE * Tate: Tate: 19Jan2010	2 KOC 10 KAU 12 KAU 13 T2 T0.01153 T2 T0.01366 R3 T1.01153 T2 T0.01366 R3 T1.01153 T2 T0.01366 R3 T1.00155 R3 T1.0055 R3	Date: 28Jan2010 Z3 = 1.26294 T Avg. Concentrat Date: 28Jan2010 Z1 = 0.35355 F R2 = 491.2955 Z Z3 = 1.26294 T Avg. Concentrat	13.93 % 490.0 PPM 100.4 PPM DATE LAST CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T = Test Gas Triad Analysis D Response Unit: PPM 81 = 490.4896 T1 = 450.895 12 = 0.72792 T2 = 453.312 13 = 454.9297 R3 = 491.366 ion: 452.0 PPM D Response Unit: PPM	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDESATEDANA FTIR FTIR FTIR FTIR FTIR FTIR FTIR Calibrati $r = Correlation CoeffCalibraticoncentration = -r = 9.9994E-1Constants:B = 9.29116E-1D = 0.00000E + C18r = 9.99994E-1Constants:B = 9.29116E-1D = 0.00000E + C18r = 9.99995E-1Constants:B = 8.97507E-1D = 0.00000E + C19Concentration = AConcentration = A$	icient) in Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E - 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 3.40000E - 5
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S 01Jun201 STRUMENTATION STRUMENT/MODEL/SERIAL RI/0928621 RI/0928621 RI/0928621 RI/0928621 RIR/0928621 RI/0928621 RI/0928621 RI/0928621 RI/0928621 RI/0928621 RI/0928621 RI/0928621 RIR/0928621 RI RI/0928621 RI RI/0928621 READINGS CARBON DIOXIDE READINGS Date: 19Jan2010 Response U 1 = 0.00116 R1 = 13.91162 2 = 13.91811 Z2 = 0.00130 3 = 0.01087 T3 = 10.01880 vg. Concentration: 10.02 ITRIC OXIDE ate: 19Jan2010 Response U ate: 19Jan2010 Response U 1 = -0.03529 R1 = 488.9653 2 = 490.2213 Z2 = 0.37681 3 = 0.69378 T3 = 455.3191 vg. Concentration: 453.6 ULFUR DIOXIDE * ate: 19Jan2010 Response U ate: 19Jan2010 Response U 1 = -0.00177 R1 = 101.3279 2 = 101.5012 Z2 = 0.03768 <td< td=""><td>I2 KOC I0 KAU I2 I0.01153 I2 I0.01366 R3<= 13.91889</td> % I1<= 451.6460</td<>	I2 KOC I0 KAU I2 I0.01153 I2 I0.01366 R3<= 13.91889	Do696 L003496 L004124 as R = Reference Second Z1 = 0.35355 F R2 = 491.2955 Z Z3 = 1.26294 T Avg. Concentrat Date: 28Jan2010 Z1 = -0.03477 F R2 = 101.4765 Z	13.93 % 490.0 PPM 100.4 PPM DATE LAST CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T = Test Gas Triad Analysis 0 Response Unit: PPM 22=0.72792 T2=453.312 3=454.9297 R3=491.366 ion: 452.0 PPM 0 Response Unit: PPM 1=101.4266 T1=90.6807 22=0.02790 T2=90.8163	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDESATEDANA FTIR FTIR FTIR FTIR FTIR FTIR Calibratir = Correlation Coeff Calibraticoncentration = r r = 9.99994E-1 Constants: B = 9.29116E-1 D = 0.00000E + Cconcentration = A r = 9.99995E-1 D = 0.00000E + Cconcentration = A Concentration = A P = 9.99995E-1 D = 0.00000E + Cconcentration = A Concentration = A R r = 9.99995E-1 D = 0.00000E + Cconcentration = A Concentration = A Concentration = A Concentration = A S r = 9.99995E-1	icient) in Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E - 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 3.40000E - 5 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0
YPE/SRM NO. EXPIRAT IRM 1675 B 020ct201 IRM 1686 01Sep201 IRM 1694 S ISTRUMENTATION STRUMENT/MODEL/SERIAL IR//0928621 IR//0928621 IR//0928621 IR//0928621 IR//0928621 CARBON DIOXIDE Date: 19Jan2010 Response U 12 = 0.00116 R1 = 13.91162 13 = 0.01087 T3 = 10.01880 Nag. Concentration: 10.02 ITRIC OXIDE Date: Date: 19Jan2010 Response U 12 = 0.03529 R1 = 488.9653 12 = 490.2213 Z2 = 0.37681 3 = 0.69378 T3 = 455.3191 Nag. Concentration: 453.6 ULFUR DIOXIDE * Tate: Tate: 19Jan2010	Z = KOC 10 KAU 12 KAU (Z = Zero Ga is 0 11 = 10.01153 T2 = 10.01366 R3 = 13.91889 % nit:PPM T1 = 451.6460 T2 = 454.1722 R3 = 490.9652 PPM nit:PPM T1 = 91.01780	Do696 L003496 L004124 as R = Reference Second Z1 = 0.35355 F R2 = 491.2955 Z Z3 = 1.26294 T Avg. Concentrat Date: 28Jan2010 Z1 = -0.03477 F R2 = 101.4765 Z	13.93 % 490.0 PPM 100.4 PPM DATE LAST_CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T=Test Gas Triad Analysis D Response Unit: PPM 81=490.4896 T1=450.899 22=0.72792 T2=453.312 33=454.9297 R3=491.366 ion: 452.0 PPM D Response Unit: PPM PPM 1=101.4266 T1=90.6807 2=-0.02790 T2=90.8163 3=90.94830 R3=101.613	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDESATEDANA FTIR FTIR FTIR FTIR FTIR FTIR DEDATEr = Correlation Coeff CalibratiConcentration = A r = 9.99994E-1 Constants: B = 9.29116E-1 D = 0.00000E + CConcentration = A r = 9.99995E-1 D = 0.00000E + CConcentration = A Concentration = A r = 9.99995E-1 D = 0.00000E + CConcentration = A concentration = A t = 9.99995E-1 D = 0.00000E + CConcentration = A Concentration = A 8 r = 9.99995E-1 0 = 0.00000E + 0	icient) in Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E - 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 3.40000E + 0 C = 3.40000E + 0 A + Bx + Cx2 + Dx3 + Ex4
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S 01Jun201 STRUMENTATION STRUMENT/MODEL/SERIAL IR/0928621 IR/0928621 IR/0928621 IR/0928621 IR/0928621 IR/0928621 STRUMENT/MODEL/SERIAL IR/0928621 IR/0928621 IR/0928621 SARBON DIOXIDE Date: 19Jan2010 Response U Date: 19Jan2010 Response U 12 = 0.00116 R1 = 13.91162 12 = 13.91811 22 = 0.0130 3 = 0.01087 T3 = 10.0180 vg. Concentration: 10.02 ITRIC OXIDE ate: 19Jan2010 Response U 1 = -0.03529 R1 = 488.9653 2 = 490.2213 Z2 = 0.37681 3 = 0.69378 T3 = 455.3191 vg. Concentration: 453.6 ULFUR DIOXIDE * ate: 19Jan2010 Response U ate: 19Jan2010 Response U 1 = -0.00177 R1 = 101.3279 2 = 101.5012 Z2 = 0.03768 3 = 0.15600 T3	I2 KOC 10 KAR 12 KAR S T1 = 10.01153 T1 = 451.01366 R3 = 13.91889 % Mit:PPM T1 = 451.6460 T2 = 454.1722 R3 = 490.9652 PPM nit:PPM T1 = 91.01780 T2 = 91.02749 R3 = 101.6885	Date: 28Jan201 200696 2003496 2004124 Date: 28Jan201 21 = 0.35355 F R2 = 491.2955 2 23 = 1.26294 T Avg. Concentrat Date: 28Jan201 21 = -0.03477 F R2 = 101.4765 Z 23 = 0.10977 T	13.93 % 490.0 PPM 100.4 PPM DATE LAST_CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T=Test Gas Triad Analysis D Response Unit: PPM 81=490.4896 T1=450.899 22=0.72792 T2=453.312 33=454.9297 R3=491.366 ion: 452.0 PPM D Response Unit: PPM PPM 1=101.4266 T1=90.6807 2=-0.02790 T2=90.8163 3=90.94830 R3=101.613	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDESATEDANA FTIR FTIR FTIR FTIR FTIR FTIR DEDATEr = Correlation Coeff CalibratiConcentration = A r = 9.99994E-1 Constants: B = 9.29116E-1 D = 0.00000E + CConcentration = A r = 9.99995E-1 D = 0.00000E + CConcentration = A Concentration = A r = 9.99995E-1 D = 0.00000E + CConcentration = A concentration = A t = 9.99995E-1 D = 0.00000E + CConcentration = A Concentration = A 8 r = 9.99995E-1 0 = 0.00000E + 0	icient) in Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E - 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 3.40000E - 5 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 6.00000E + 0
PE/SRM NO. EXPIRAT RM 1675 B 020ct201 RM 1686 01Sep201 RM 1694 S 01Jun201 STRUMENTATION STRUMENT/MODEL/SERIAL RI/0928621 RI/0928621 R/0928621 RI/0928621 ANALYZER READINGS First Triad Analysi CARBON DIOXIDE 10.00116 R1 = 13.91162 13.91811 Z2 = 0.00130 3 = 0.01087 T3 = 10.01880 vg. Concentration: 10.02 ITRIC OXIDE ate: 19Jan2010 Response U 1 = -0.03529 R1 = 488.9653 2 = 430.2213 Z2 = 0.37681 3 = 0.69378 T3 = 455.3191 vg. Concentration: 453.6 ULFUR DIOXIDE * ate: 19Jan2010 Response U 1 = -0.00177 R1 = 101.3279 2 = 101.5012 Z2 = 0.03768 3 = 0.15600 T3 = 91.04919 vg. Concentration: yg. Concentration: 90.03 90.03 91.04919	I2 KOC 10 KAR 12 KAR S T1 = 10.01153 T1 = 451.01366 R3 = 13.91889 % Mit:PPM T1 = 451.6460 T2 = 454.1722 R3 = 490.9652 PPM nit:PPM T1 = 91.01780 T2 = 91.02749 R3 = 101.6885	Date: 28Jan201 200696 2003496 2004124 Date: 28Jan201 21 = 0.35355 F R2 = 491.2955 2 23 = 1.26294 T Avg. Concentrat Date: 28Jan201 21 = -0.03477 F R2 = 101.4765 Z 23 = 0.10977 T	13.93 % 490.0 PPM 100.4 PPM DATE LAST_CALIBI 31Dec2009 08Jan2010 14Jan2010 e Gas T=Test Gas Triad Analysis D Response Unit: PPM 81=490.4896 T1=450.899 22=0.72792 T2=453.312 33=454.9297 R3=491.366 ion: 452.0 PPM D Response Unit: PPM PPM 1=101.4266 T1=90.6807 2=-0.02790 T2=90.8163 3=90.94830 R3=101.613	CARBON DIOXIDE NITRIC OXIDE SULFUR DIOXIDESATEDANA FTIR FTIR FTIR FTIR FTIR FTIR DEDATEr = Correlation Coeff CalibratiConcentration = A r = 9.99994E-1 Constants: B = 9.29116E-1 D = 0.00000E + CConcentration = A r = 9.99995E-1 D = 0.00000E + CConcentration = A Concentration = A r = 9.99995E-1 D = 0.00000E + CConcentration = A concentration = A t = 9.99995E-1 D = 0.00000E + CConcentration = A Concentration = A 8 r = 9.99995E-1 0 = 0.00000E + 0	icient) in Curve A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 1.26900E - 2 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 3.40000E - 5 E = 0.00000E + 0 A + Bx + Cx2 + Dx3 + Ex4 A = 0.00000E + 0 C = 6.00000E + 0

	RATA CLASS
AIR LIQUIDE Air Liquide America Specialty Gases LLC	T [™] Dual-Analyzed Calibration Standard
1290 COMBERMERE STREET, TROY, MI 48083	Phone: 248-589-2950 Fax: 248-589-2134
CERTIFICATE OF ACCURACY: EPA Pr	otocol Gas
-Assay-Laboratory	Customer
	57858-71-65000 CLEAN AIR ENGINEERING
AIR LIQUIDE AMERICA SPECIALTY GASES LLC Project No 1290 COMBERMERE STREET	.: 05-83307-001 DON ALLEN 500 W, WOOD STREET
TROY, MI 48083	PALATINE IL 60067
ANALYTICAL INFORMATION	
	lity Protocol For Assay & Certification of Gaseous Calibration Standards;
Procedure G-1; September, 1997.	,,,
	ation Date: 04Jan2010 Exp. Date: 03Jan2013
Cylinder Pressure***: 1849 PSIG	ANALYTICAL
COMPONENT CERTIFIED CONC	ENTRATION (Moles) ACCURACY** TRACEABILITY
CARBON MONOXIDE 48.2	PPM +/- 1% Direct NIST and VSL
NITROGEN	BALANCE
TYPE/SRM NO. EXPIRATION DATE CYLINDER NUMBER NTRM 1679 1 020ct2010 KAL003109	101.0 PPM CARBON MONOXIDE
INSTRUMENT/MODEL/SERIAL# FTIR//0928621	DATE LAST CALIBRATED ANALYTICAL PRINCIPLE 24Dec 2009 FTIR
ANALYZER READINGS [Z=Zero Gas R=Referen	nce Gas T=Test Gas r=Correlation Coefficient)
First Triad Analysis Secon	nd Triad Analysis Calibration Curve
CARBON MONOXIDE	
Date: 280ec2009 Response Unit:PPM Oate: 04Jan201	10 Response Unit: PPM Concentration = A + Bx + Cx2 + Dx3 + Ex4
Z1=0.03183 R1=101.1945 T1=48.26642 Z1=0.01474	R1 = 101.1599 T1 = 48.20196 r = 9.999005-1
25=0.00765 13=40.33357 13=101.2767 125=0.10127 Avg. Concentration: 48.18 PPM Avg. Concentration:	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	R1 = 101.1699 T1 = 48.20196 r = 8.39980E-1 Z2 = 0.05407 T2 = 48.37728 Constants: A = 0.00000E+0 T3 = 48.45435 R3 = 101.2630 B = 9.81711E-1 C = 6.28000E-4

AIR LIQUIDE Air Liquide America	F	RATA CLASS
AIR LIQUIDE Air Liquide America Specialty Gases LLC	S Scott	ual-Analyzed Calibration Standard
1290 COMBERMERE STREET, TR	OY, MI 48083	Phone: 248-589-2950 Fax: 248-589-2134
CERTIFICATE OF ACCURA	CY: EPA Protocol Gas	
Assay Laboratory		
AIR LIQUIDE AMERICA SPECIALTY GASES	P.O. No.: 57534-71-65000 S LLC Project No.: 05-78153-002	CLEAN AIR ENGINEERING DON ALLEN
1290 COMBERMERE STREET		500 W. WOOD STREET
TROY, MI 48083		PALATINE IL 60067
ANALYTICAL INFORMATION	to FPA Traceshility Protocol For Ass	ay & Certification of Gaseous Calibration Standards;
Procedure G-1; September, 1997.	to the fraceability frotocol for Assa	
Cylinder Number: ALMOS Cylinder Pressure***: 1983 F		3Jul2009 Exp. Date: 27Jul2012
		ANALYTICAL
COMPONENT CARBON MONOXIDE	ERTIFIED CONCENTRATION (Mole: 98.5 PPM	s) ACCURACY** TRACEABILITY +/- 1% Direct NIST and NMi
NITROGEN	BALANCE	
NSTRUMENTATION NSTRUMENT/MODEL/SERIAL# TIR//0928621	DATE LAST O	
ANALYZER READINGS		
(Z=Zero C First Triad Analysis	Sas R=Reference Gas T=Test Second Triad Analysis	Gas r=Correlation Coefficient] Calibration Curve
CARBON MONOXIDE		
Date: 21Jul2009 Response Unit:PPM	Date: 28Jul2009 Response Unit: PPM 21=0.04130 81=101.1553 11=9	
	Z1≈0.04130 R1∝101.1553 T1⇒9	
Date: 21Jul2009 Response Unit:PPM Z1=-0.02819 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13816	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.83000E-4
Date: 21Jul2009 Response Unit:PPM 21=-0.02619 R1=25.05672 T1=98.05983 R2=25.09750 22=0.03499 Y2=98.21467	Z1~0.04130 R1=107.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94	8.43124 r=9.999916-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.63000E-4
Date: 21Jul/2009 Response Unit:PPM Z1=-0.02619 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13916	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.999916-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.63000E-4
Date: 21Jul/2009 Response Unit:PPM Z1=-0.02619 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13916	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.999916-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.937195-1 C=8.630006-4
Date: 21Jul/2009 Response Unit:PPM Z1=-0.02819 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13816	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.83000E-4
Date: 21Jul/2009 Response Unit:PPM Z1=-0.02819 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13816	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.83000E-4
Date: 21Jul2009 Response Unit:PPM Z1=-0.02819 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13816	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.83000E-4
Date: 21Jul2009 Response Unit:PPM 21=-0.02619 R1=25.05672 T1=98.05983 R2=25.09750 22=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13816	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.63000E-4
Date: 21Jul2009 Response Unit:PPM Z1=-0.02819 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13816	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.63000E-4
Date: 21Jul/2009 Response Unit:PPM Z1=-0.02619 R1=25.05672 T1=98.05983 R2=25.09750 Z2=0.03499 Y2=98.21467 Z3=0.11000 T3=98.44034 R3=25.13916	Z1~0.04130 R1=101.1553 T1=94 R2~101.2594 Z2=0.09861 T2=94 Z3~0.16955 T3=98.51880 R3=10	8.43124 r=9.99991E-1 8.44001 Constants: A=0.00000E+0 01.2611 B=9.93719E-1 C=8.83000E-4

	RATA CLASS
AIR LIQUIDE Air Liquide America	Dual-Analyzed Calibration Standard
1290 COMBERMERE STREET, TROY, MI 48083	Phone: 248-589-2950 Fax: 248-589-21
CERTIFICATE OF ACCURACY: EPA Protocol Ga	as
Assay Laboratory	Customer
P.O. No.: 57534-71-656	
AIR LIQUIDE AMERICA SPECIALTY GASES LLC Project No.: 05-78153-0 1290 COMBERMERE STREET	003 DON ALLEN 500 W. WOOD STREET
TROY, MI 48083	PALATINE IL 60067
ANALYTICAL INFORMATION	
This certification was performed according to EPA Traceability Protocol F	or Assay & Certification of Gaseous Calibration Standards;
Procedure G-1; September, 1997. Cylinder Number: ALM033730 Certification Date:	27Ju 2009 Exp. Date: 26Ju 2012
Cylinder Pressure***: 2000 PSIG	2730/2003 Exp. Date. 2030/2012
	ANALYTICAL
COMPONENT CERTIFIED CONCENTRATION	
CARBON DIOXIDE 5.91 %	+/- 1% Direct NIST and NMi
OXYGEN 14.1 % NITROGEN BALAN	+/- 1% Direct NIST and NMi
NITROGEN BALAN	
NTRM 2300 01Nov2010 1D002807 NTRM 2350 01Dec2011 K016398	23.04 % CARBON DIOXIDE 23.20 % OXYGEN
INSTRUMENTATION INSTRUMENT/MODEL/SERIAL# DATE DATE	LAST CALIBRATED ANALYTICAL PRINCIPLE
PIR/2000/609015	16Jul2009 NDIR
CAI/110P/V03018	01Jul2009 PARAMAGNETIC
ANALYZER READINGS	
Z=Zero Gas R=Reference Gas T First Triad Analysis Second Triad Analy	
· · · · · · · · · · · · · · · · · · ·	
	······
Date: 27Jul2009 Response Unit:MV	Concentration = A + Bx + Cx2 + Dx3 + Ex4
21=0.00000 R1=102.5000 T1=43.00000 R2=102.5000 Z2=0.00000 T2=43.00000	r = 0.599992 Constants: A=-0.00322681
23=0.00000 T3=43.00000 R3=102.5000	B=0.13617338 C=-0.0005754
Avg. Concentration: 5.909 %	D= 1.40218E-06 E=0
OXYGEN	Concentration = A + Bx + Cx2 + Dx3 + Ex4
Date; 28Jul2009 Response Unit:% 21≈0.00000 R1=23.20000 T1≈14.05000	Goncentration = A + Bx + Cx2 + Dx3 + Ex4 f = 0.999992
R2 ≈ 23.20000 Z2 = 0.00000 T2 = 14.08000	Constants: A=-0.00875558
Z3 = 0.00000 T3 = 14.06000 R3 = 23.20000	B=0.399864575 C=0
Avg. Concentration: 14.05 %	D=0 E≠0
 نر	
APPROVED BY:	

	-544-		TA CLASS	
AIR LIQUIDE Air Liquide Ame Specialty Gases		Dual	-Analyzed Calibration	Standard 🧼
1290 COMBERMERE STREET	r, TROY, MI 48083		Phone: 248-589-2950	Fax: 248-589-213
CERTIFICATE OF ACCU	RACY: EPA Pro	tocol Gas		
Assay Laboratory			Customer	
•	P.O. No.: 5	7439-71-65000	CLEAN AIR ENGINEERING	
AIR LIQUIDE AMERICA SPECIALTY GA	ASES LLC Project No.:	05-76738-005	DON ALLEN	
1290 COMBERMERE STREET			500 W. WOOD STREET PALATINE IL 60067	
TROY, MI 48083			FALATINE IL 00007	
ANALYTICAL INFORMATION				
This certification was performed accor	ding to EPA Traceabilit	y Protocol For Assay &	Certification of Gaseous Cali	pration Standards;
Procedure G-1; September, 1997.				0.1
-,		tion Date: 09Jun	2009 Exp. Date: (08Jun2012
Cylinder Pressure***: 20	00 PSIG		ANALYTICAL	
COMPONENT	CERTIFIED CONCE	NTRATION (Moles)		CEABILITY
CARBON DIOXIDE	13.9	%		ct NIST and NMi
OXYGEN	6.01	%	+/- 1% Dire	ct NIST and NMi
NITROGEN		BALANCE		
REFERENCE STANDARD TYPE/SRM NO. EXPIRATION DATE NTRM 1875 020ct2012	CYLINDER NUMBER K006645	CONCENTRATION 13.93 %	COMPONENT	
NTRM 2658 01Jan2010	K001290	10.03 %	OXYGEN	
NSTRUMENTATION NSTRUMENT/MODEL/SERIAL#		DATE LAST CALIB	RATED ANALY	ICAL PRINCIPLE
PIR/2000/609015		11May2009	NDIR	
CAI/110P/V03018		01Jun2009	PARAMA	GNETIC
ANALYZER READINGS				
	ro Gas R=Referen	ce Gas T=Test Gas	r=Correlation Coefficie	nt)
First Triad Analysis	Second	l Triad Analysis	Calibration	Curve
CARBON DIOXIDE	-			
Date: 09Jun2009 Response Unit:MV			Concentration = A + Bx +	Cx2+Dx3+Ex4
Z1=0.00000 R1=80.60000 T1=80.3000	1 1		r = 0.999998 Constants:	A= -0.00492643
R2 = 80.60000 Z2 = 0.00000 T2 = 80.3000 Z3 = 80.30000 R3 = 80.6000 R3 = 80.60	1 1			=0.00014738
Avg. Concentration: 13.86 %				=0
			I,	
Date: 09Jun2009 Response Unit:%			Concentration = A + Bx +	5x2 + 0x3 + Ex4
21=0.00000 R1=10.05000 T1=6.01000 R2=10.06000 22=0.00000 T2=6.01000			r = 0.999998 Constants: A	=-0.00970246
Z3=0.00000 T3=6.01000 R3=10.0600	1 1			=0
Avg. Concentration: 6.005 %			D=0 E	∝0
APPROVED BY:				
JEFF GROTEA	.U			

+	248-589-2134 500	TT SPECIALTY GA	<u> </u>	557 P02	MAR 11 '10
AIR LIQUIDE	Air Liquide America Specialty Gases LLC	(S) scott-			
Shipped From:	1290 COMBERM TROY Phone: 248-58 CERTIF:	MI 9-2950		ax: 248-589- LYSIS	2134
CLEAN AIR	ENGINEERING		PROJECT #	‡: 05-76361-	.001
SCOTT BROW	N		PO#: 245	559-66-65000	
200 MEST M	OOD STREET		ITEM #: DATE: 29N		AL
PALATINE		IL 60067			
	#: AAL14589 SSURE: 02000	PSIG			
PURE MATER	IAL: NITROGEN		C	S# 7727-37-	9
GRADE :	ZERO GA	S			
PURITY: 99	9988				
	IMPURITY THC	MAXIMUM CONCENTR 0.5			
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NALYST:	adrie				

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	cott	CERTIFIED MASTER CLASS Single-Certified Calibration Standard
1290 COMBERMERE STREET, TROY, MI 48083 CERTIFICATE OF ACCURACY:		248-589-2960 Fax: 248-589-2134
Product Information Project No.: 05-76093-001 Item No.: 05020002680PAL P.O. No.: 57397-71-65000 Cylinder Number: ALM000611 Cylinder Size: AL Certification Date: 19May2009 Expiration Date: 19May2011		Customer CLEAN AIR ENGINEERING DON ALLEN 500 W. WOOD STREET PALATINE, IL 60067
CERTIFIED CONCENTRATION Component Name	Concentration (Moles)	Accuracy (+/-%)
NITROGEN DIOXIDE NITROGEN TRACEABILITY	49.7 PPM BALANC	2 E
<u>Traceable To</u> Scott Reference Standard		
APPROVED BY: HILARYOMATCHER	Page 1 of 2	DATE: 5127109

7E-4 Inte	rference Res	Donse
Date of Test	8/23/2007	
Analyzer Type	Thermo	
Model No	48iHL	
Serial Number	605114590	
CleanAir Asset#	204533	
Instrument Range	100.00 ppm	
Span Cal Response	90 ppm	
Zero Cal Response	-0.07 ppm	Test Location: CleanAir
2.5% of Calibration Span	2.25 ppm	500 West

Tester

CleanAir.

Art Dean Palatine, IL 60067

500 West Wood St.

You may introduce the appropriate interference test gasses into the analyzer separately or as mixtures. This test must be performed both with and without CO. Interferences are gasses that are potentially encountered during a test. The total interference response must not be greater than 2,5% of the calibration span for the analyzer tested.

Cossiliantes			
Test Gas Type	Sector and any sector	AND ADD THE THE ADD THE	Anteoble Strop
NO	13.73 ppm	89.50	0.56%
NO2	15.50 ppm	90.00	0,00%
HCL	9.48 ppm	90.00	0.00%
H2	45.41 ppm	90.30	0.33%
SO2	17.50 ppm	90.00	0.00%
CH4	44.93 ppm	90.00	0.00%
NH3	8.88 ppm	90.00	0.00%
CO	45.56 ppm	NA	NA
N2O	9.06 ppm	89.70	0.33%
CO2 High	15.43 %	82.50	8.33%
CO2 Low	4.52 %	86.10	4.33%
H2O	2.00 %	87.40	0.91%
The second second will be a			
Reparts / Shippiteling			
Test Gas Type		LADEL VIE PUBLICONS	
NO	15.15 ppm	0.00	0.00%
NO2	17.1 ppm	0.00	0.00%
HCL	10.46 ppm	0.00	0.00%
H2	50.1 ppm	0.00	0.00%
SO2	19.31 ppm	0.00	0.00%
CH4	49.57 ppm	0.00	0.00%
NH3	9.8 ppm	0.00	0.00%
<u>co</u>	50.27 ppm	NA	NA

NH3	0.0 ppm	0.00	0.0076
CO	50.27 ppm	NA	NA
N20	10 ppm	-0.62	0.69%
CO2 High	17.02 %	-6.35	7.06%
CO2 Low	4.99 %	-3.50	3.89%
H2O	2 %	-1.40	1.56%

	Carls Gong Albin and	
NO	15.15 ppm	AAL20914
NO2	17.1 ppm	1L1652
HCL	10.46 ppm	NA25733
H2	50.1 ppm	ALM52896
SO2	19.31 ppm	ALM46049
CH4	49.57 ppm	AAL21367
NH3	9.80 ppm	ALM52993
со	50.27 ppm	ALM10054
N2O	10.00 ppm	ALM51673
CO2 High	17.02 %	ALM 36532
CO2	4.99 %	ALM37876
%H2O	2.00 %	MKS205321
N2	99.99 %	K24662
CO High Span	961 ppm	ALM47921



Tester:

7E-4 Inte	rference Res	oonse
Date of Test	9/5/2007	anta 2000 meni afterationa de construir de la compañía.
Analyzer Type	Ametek	
Model No	921CE SO2	
Serial Number	AD-921-S051	
CleanAlr Asset#	204589	
Instrument Range	100.00 ppm	
Span Cal Response	90 ppm	
Zero Cal Response	0.00 ppm	Test Location: (
2.5% of Calibration Span	2.25 ppm	
Tester	Art Dean	



ocation: CleanAir 500 West Wood St. Palatine, IL 60067

You may introduce the appropriate interference test gasses into the analyzer separate	ely or as mixtures.
This test must be performed both with and without SO2.	

Interferences are gasses that are potentially encountered during a test. The total interference response must not be greater than 2,5% of the calibration span for the analyzer tested.

2048 - WARD (1998)			
Test Gas Type	15.00 (d. 16)	vanalivaci) Kangoroma	ARSONIC PROP
NO	13.71 ppm	90.00	0.00%
NO2	15.47 ppm	90.20	0.22%
HCL	9.46 ppm	90.00	0.00%
H2	45.33 ppm	90.00	0.00%
SO2	17.47 ppm	NA	NA
CH4	44.85 ppm	90.00	0.00%
NH3	8.87 ppm	90.00	0.00%
CO	45.49 ppm	90.00	
N2O	9.05 ppm	90.00	0.00%
CO2 High	15.40 %	89.90	0.11%
CO2 Low	4.52 %	90.00	0.00%
H2O	1.04 %	89.10	0.04%
EXPLOYING SCHOOL MADE			
Calibratic Stellar and			
Test Gas Type	Strand Late	Entoretes stated	Agaz) (6: 5:57)
NO	15.15 ppm	0.00	0.00%
NO2	17.1 ppm	0.20	0.22%
HCL	10.46 ppm	0.00	0.00%
H2	50.1 ppm	0.00	0.00%
SO2	19.31 ppm	NA	NA
CH4	49.57 ppm	0.00	0.00%
NH3	9.8 ppm	0.00	0.00%
CO	50.27 ppm	0.00	0.00%
N2O	10 ppm	0.00	0.00%
CO2 High	17.02 %	0.00	0.00%
CO2 Low	4.99 %	0.00	0.00%
H2O	1.035 %	0.00	0.00%

Weis Sype 22 August State	Conegour a	State Culture #
NO	15.15 ppm	AAL20914
NO2	17.1 ppm	1L1652
HCL	10.46 ppm	NA25733
H2	50.1 ppm	ALM52896
SO2	19.31 ppm	ALM46049
CH4	49.57 ppm	AAL21367
NH3	9.80 ppm	ALM52993
CO	50.27 ppm	ALM10054
N2O	10.00 ppm	ALM51673
CO2 High	17.02 %	ALM 36532
CO2	4.99 %	ALM37876
%H2O	1.04 %	MKS209040
N2	99.99 %	K24662
SO2 High Span	945.7 ppm	ALM57777

Tester:

7E-4 Inte	rference Res	oonse
Date of Test	8/31/2007	ALTERNIE ALTERNIE ALTERNIE ALTERNIE
Analyzer Type	Thermo	
Model No	48i	
Serial Number	713421694	
CleanAir Asset#	205209	
Instrument Range	100.00 ppm	
Span Cal Response	90 ppm	
Zero Cal Response	0.00 ppm	Test Location:
2.5% of Calibration Span	2.25 ppm	
Tester	Art Dean	



est Location: CleanAir 500 West Wood St. Palatine, IL 60067

You may introduce the appropriate interference test gasses into the analyzer separately or as mixtures. This test must be performed both with and without CO. Interferences are gasses that are potentially encountered during a test. The total interference response must not be greater than 2.5% of the calibration span for the analyzer tested.

Test Gas Type		Antoniczer Steeprones	Alterative Constant
NO	13.73 ppm	89.70	0.33%
NO2	15.50 ppm	89.70	
HCL	9.48 ppm	89.70	0.33%
H2	45.41 ppm	89.60	
SO2	17.50 ppm	89.70	0,33%
CH4	44.93 ppm	90.00	0.00%
NH3	8.88 ppm	89.90	0.11%
CO	45.56 ppm	NA	NA
N2O 2	9.06 ppm	89.70	
CO2 High	15.43 %	94.70	5.22%
CO2 Low	4.52 %	91.00	1.11%
H2O	1.40 %	90.00	1.42%
EXTERIO AL XOLDING AVALUATE	ine diampical diampic		
(Čravstirans) (svenskarvetre) (v			-
Test Gas Type		LARE MORT SECONSE	 All setted and set setted and s
NO	15.15 ppm	-0.38	0.42%
NO2	17.1 ppm	-0.38	0.42%
HCL	10.46 ppm	-0.38	0.42%
H2	50.1 ppm	-0.39	0.43%
SO2	19.31 ppm	-0.34	0.38%
CH4	49.57 ppm	0.00	0.00%
NH3	9.8 ppm	-0.13	0.14%
CO	50.27 ppm	NA	NA
N2O	10 ppm	-0.38	0.42%
CO2 High	17.02 %	-0.30	0.33%
CO2 Low	4.99 %	0.00	0.00%
H2O	1.4 %	0.11	0.12%

	11.02 76	-0.30
CO2 Low	4.99 %	0.00
H2O	1.4 %	0.11
CCC FUNDER AND ADDRESS OF ADDRES ADDRESS OF ADDRESS OF ADDRES ADDRESS OF ADDRESS OF ADDR		res contera en
NO	15.15 ppm	AAL20914
NO2	17.1 ppm	1L1652
HCL	10.46 ppm	NA25733
H2	50.1 ppm	ALM52896
SO2	19.31 ppm	ALM46049
CH4	49.57 ppm	AAL21367
NH3	9.80 ppm	ALM52993
СО	50.27 ppm	ALM10054
N2O	10.00 ppm	ALM51673
CO2 High	17.02 %	ALM 36532
CO2	4.99 %	ALM37876
%H2O	1.40 %	MKS205321
N2	99.99 %	K24662
CO Span Gas	961 ppm	ALM47921



Tester:

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WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

REFERENCE METHOD FIELD DATA		
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Wheelabrator South Broward		Date:		rch 23, 2010	
CleanAir Project No. 10955			Start Time	7:36	
Ft. Lauderdale, FL.			Stop Time	8:01	
FF Outlet 1		CALI	BRATION EI	RROR	
	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
	CO2	02	SO2	NOX	co
	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
	%dv	%dv	ppmdv	ppmdv	ppmdv
Instrument Infor	mation				
Manufacturer:	Servomex		Wstrn	T.E.I.	T.E.I.
Model:	1415C		Rsrch 921L	42i-HL	48i
Detection:	NDIR	Paramagn.	UV Photo.	Chemilumi.	GFC/NDIR
Asset or Serial No:	204217	205832	205184	205956	205194
Calibration Spar	n Value (CS)			·	
	13.900	14.100	89.900	453.000	98.500
System Respons	se Time (sec	onds)			
	45	45	45	45	45
Manufacturer Ce	-		-	.	
Zero	0.000	0.000	0.000	0.000	0.000
Low	5.910	6.010	44.900	225.000	48.200
Mid High	13.900	14.100	89.900	453.000	98.500
-			00.000	400.000	50.000
Actual gas to be					
	5.910	14.100	44.900	225.000	48.200
Cylinder ID					
Zero	AAL14589	AAL14589	AAL14589	AAL14589	AAL14589
Low	ALM033730	ALM046255	ALM010885	ALM010885	EB0011451
Mid	AL MOACOEE	ALM033730	CC124384	CC124384	ALM054744
Hìgh	ALM046255		00124304	00124304	ALW004744
Analyzer Calibra				<u> </u>	0.045
Zero	0.006	0.002	-0.110	0.038	-0.345
Low	5.942	6.015	43.504	226.086	49.020
Mid High i	<u>9.884</u>	0.056	53.932	<u>392.153</u> 453.635	-0.686 98.828
· · · ·					
Analyzer Calibration Error (ACE) (LImIt = 2% Zero	%, iwetriou ∠ 5 0.0%	0.0%	or gas value -0.1%	;) 0.0%	-0.4%
Low	0.2%	0.0%	-1.6%	0.0%	0.8%
Mid	N/A	N/A	N/A	N/A	N/A
High	0.1%	0.0%	0.1%	0.1%	0.3%
Calibration Error	Status				
Zero	OK	ок	ок	ок	ок
Low	OK	OK	OK	OK	OK
Mid	N/A	N/A	N/A	N/A	N/A
High	OK	OK	OK	OK	OK
-					
41410 130218 07:36:02	0.020	0.009	-0.236	7.424	5.761
07:36:17	0.015	0.008	-0.269	0.814	2.055
07:36:32	0.012	0.006	-0.293	0.480	0.549
07:36:47	0.006	0.006	-0.217	0.179	-0.294
07:37:02	0.008	0.005	-0.080	0.033	-0.366
07:37:17	0.004	-0.005	-0.034	-0.098	-0.376
07:37:32	1.572	5.834	-0.049	-0.122	-0.366
07:37:47	5.534	13.581	-0.088	-0.122	-0.346

Prepared by Clean Air Engineering Proprietary Software SS CEM Version 06-2004a

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QA/QC_____ Date_____ .

Date:	March 23	3, 2010		
-	Start Time	7:36		
	Stop Time	8:01		
CALIBRATION ERROR				

CO2SO2NOXCOFF Outlet 1FF Outlet 1FF Outlet 1FF Outlet 1FF Outlet 1FF Outlet 1FF Outlet 107:38:025.92114.012-0.098-0.089-0.31207:38:175.94914.102-0.049-0.089-0.16507:38:476.88912.158-0.070-0.106-0.10307:39:0212.8436.624-0.140-0.22-0.07007:39:1713.8106.037-0.127-0.146-0.23507:39:2113.9156.013-0.034-0.138-0.46407:40:2213.9186.012-0.023-0.098-0.46907:40:3210.1150.42969.76368.702-0.46107:40:3210.1150.42969.76368.702-0.66107:41:179.914-0.00889.592452.356-0.66207:41:219.914-0.00889.592452.356-0.66207:41:329.815-0.02389.592452.356-0.66207:41:329.816-0.02990.97453.960-0.67907:42:279.906-0.01675.835454.147-0.73107:42:279.906-0.01675.835454.147-0.73107:42:279.906-0.01675.835245.147-0.68107:42:179.010-0.01543.528226.935-0.66607:42:279.906-0.01643.047226.935-0.68107:43:171		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
%dv%dvppmdvppmdvppmdv07:38:02 5.921 14.071 -0.098 -0.098 -0.098 07:38:17 5.949 14.102 -0.054 -0.114 -0.233 07:38:37 5.934 14.109 -0.049 -0.089 -0.165 07:38:47 6.889 12.158 -0.070 -0.106 -0.103 07:39:1713.810 6.037 -0.127 -0.146 -0.2235 07:39:3213.901 6.018 -0.077 -0.106 -0.340 07:39:4713.915 6.012 -0.023 -0.098 -0.468 07:40:0213.918 6.012 -0.023 -0.098 -0.464 07:40:3210.115 0.429 69.763 68.702 -0.461 07:40:47 9.925 0.106 86.931 250.313 -0.440 07:41:47 9.914 -0.002 89.368 448.514 -0.601 07:41:47 9.914 -0.002 89.368 448.514 -0.661 07:41:47 9.916 -0.099 90.997 453.960 -0.679 07:42:20 9.915 -0.009 90.997 453.960 -0.679 07:42:32 9.719 0.160 75.835 454.147 -0.731 07:43:02 10.000 -0.015 43.240 226.935 -0.684 07:43:02 10.006 -0.016 43.407 226.219 -0.735 07:43:02 10.006 -0.016 43.240 226.935 -0.684		CO2	02	SO2	NOX	со
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07:59:410.0771.0331.13664.60711.42207:59:560.0231.0070.96239.3495.959						
07:59:56 0.023 1.007 0.962 39.349 5.959						
		0.023	1.007			
	08:00:11	0.018	1.007	0.928	43.183	2.357

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QA/QC____ Date____

E - 4

Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1			Date:	Mai Start Time Stop Time BRATION EF	rch 23, 2010 7:36 8:01 RROR	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
<u>-</u>		FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv
08:0	00:26	0.012	1.005	0.928	44.379	0.174
08:0	0:41	0.007	1.003	0.933	44.795	-0.255
08:0	0:56	0.008	1.003	0.936	45.063	-0.361
08:0)1:11	0.009	1.004	0.949	45.242	-0.364
				<u>NOX Convers</u> NO2 = 49.7 Efficiency =	sion Efficienc 90.9%	Y

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QA/QC_____ Date_____

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Wheelabrator South					rch 23, 2010	
CleanAir Project No	. 10955			Start Time	7:53	
Ft. Lauderdale, FL			• • • •	Stop Time	7:57	
FF Outlet 1			CALI	BRATION BL	AS 00	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
				FF Outlet 1		
		%dv	%dv	ppmdv	ppmdv	ppmdv
	System Response to	Calibration G	asses (C _s)			
	C _{of} Zero gas	0.020	0.022	0.007	-0.011	-0.588
	Cuf Upscale gas	5.934	13.946	41.691	222.181	49.007 ⁻
	Analyzer Calibration					
	Coce Zero gas	0.006	0.002	-0.110	0.038	-0.345
	C _{mce} Upscale gas	5.942	14.094	43.504	226.086	49.020
	Actual Upscale Gas					
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span Val	•••				
		13.900	14.100	89.900	453.000	98.500
	System Bias as Perc					
	Zero gas	0.1%	0.1%	0.1%	0.0%	-0.2%
	Upscale gas	-0.1%	-1.0%	-2.0%	-0.9%	0.0%
	System Blas Status					
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	OK
	Previous System Re	-				
	C _{oi} Zero gas	N/A	N/A	N/A	.N/A	N/A
	C _{ui} Upscale gas	N/A	N/A	N/A	N/A	N/A
	Drift Assessment as					
	Zero gas	N/A	N/A	N/A	N/A	N/A
	Upscale gas	N/A	N/A	N/A	N/A	N/A
	Drift Assessment Sta					
	Zero gas	N/A	N/A	N/A	N/A	N/A
	Upscale gas	N/A	N/A	N/A	N/A	N/A
041410 130218						
	07:53:09		0.021	0.011	-0.008	49.000
	07:53:24		0.023	0.005	-0.008	49.011
	07:53:39		0.022	0.006	-0.016	49.009
	07:53:54 07:54:09		0.023	0.036	-0.024	48.975
	07:54:09		0.011 0.004	14.890 34.388	13.268 62.491	47.953 39.214
	07:54:39		0.004	38.634	171.901	23.320
	07:54:54		0.004	39.450	218.950	8.661
	07:55:09		-0.005	40.381	221.775	1.968
	07:55:24		0.000	41.050	221.954	-0.155
	07:55:39	9.900	0.000	41.437	222.100	-0.558
	07:55:54	9.911	0.000	41.708	222.189	-0.591
	07:56:09		0.001	41.928	222.255	-0.586
	07:56:24		2.775	40.073	222.100	-0.586
	07:56:39		12.597	16.034	221.571	-0.521
	07:56:54		13.877	4.549	138.682	-0.249
	07:57:09 07:57:24	1	13.933	2.354 1.591	11.933	0.002
	07:57:39		13.949 13.956	1.591	3.085 0.944	0.099 0.065
	01.01.00	L	10,000	1.210	0.044	0.000

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leanAir Project No t. Lauderdale, FL F Outlet 1	n Bro 9. 109			REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 8:03 8:30 D RUN 1	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
			FF Outlet 1- %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet ppmd
	Cali	bration Checks					
	Coi	Initial zero	0.020	0.022	0.007	-0.011	-0.58
	Cui	Initial upscale	5.934	13.946	41.691	222.181	49.00
	Cof	Final zero	0.051	0.029	0.050	0.717	-0.55
	Cuf	Final upscale	5.952	13.937	41.530	222.122	48.97
	C _{ma}	•	5.910	14.100	44.900	225.000	48.20
	Oma	Actual gas value	5.910	14.100	44.900	225.000	40.20
		yzer Averages (c		•			
	C _{Avg}	Average conc.	10.252	8.790	5.978	164.509	16.20
	C_{Gas}	Blas adjusted	10.222	8.880	6.423	166.525	16.31
410 130218	(end	of sample period) 08:04	9.767	9.346	5.351	153,468	18.54
		08:05	9.748	9.442	5.853	155.997	23.06
		08:06	9.915	9,156	5.522	156.894	24.61
		08:07	10.070	8.958	5.904	163.846	22.35
		08:08	9.831	9.284	5.839	167.108	22.08
		08:09	9.983	9.087	5.659	172.039	20.84
		08:10	10.117	8.906	5.402	174.076	24.39
		08:11	9.806	9.319	5.025	173,197	22.14
		08:12	9.909	9.172	5.035	169.813	18.05
		08:13	9.990	9.071	5.274	165.146	19.75
		08:14	10.540	8.420	5.884	172.025	20.40
		08:15	10.829	8.140	7.451	179.485	17.67
		08:16	9.954	9.138	6.295	163.128	13.352
		08:17	9.993	9.080	5.531	156.506	15.092
		08:18	40.000	8.317	E 661	158.091	14.198
			10.668		5.661		
		08:19	10.668	8.279	5.930	161.607	12.827
		08:19 08:20	10.668 10.721	8.279 8.253	5.930 6.430	161.607 169.530	12.827 12.772
		08:19 08:20 08:21	10.668 10.721 10.385	8.279 8.253 8.596	5.930 6.430 5.630	161.607 169.530 161.797	12.827 12.772 10.361
		08:19 08:20 08:21 08:22	10.668 10.721 10.385 10.995	8.279 8.253 8.596 7.999	5.930 6.430 5.630 5.937	161.607 169.530 161.797 168.567	12.827 12.772 10.361 11.270
		08:19 08:20 08:21 08:22 08:23	10.668 10.721 10.385 10.995 10.429	8.279 8.253 8.596 7.999 8.572	5.930 6.430 5.630 5.937 6.543	161.607 169.530 161.797 168.567 170.578	12.827 12.772 10.361 11.270 10.563
		08:19 08:20 08:21 08:22 08:23 08:24	10.668 10.721 10.385 10.995 10.429 10.839	8.279 8.253 8.596 7.999 8.572 8.078	5.930 6.430 5.630 5.937 6.543 6.605	161.607 169.530 161.797 168.567 170.578 169.353	12.823 12.772 10.361 11.270 10.563 10.690
		08:19 08:20 08:21 08:22 08:23 08:24 08:25	10.668 10.721 10.385 10.995 10.429 10.839 10.623	8.279 8.253 8.596 7.999 8.572 8.078 8.373	5.930 6.430 5.630 5.937 6.543 6.605 7.020	161.607 169.530 161.797 168.567 170.578 169.353 172.572	12.823 12.772 10.361 11.270 10.563 10.690 11.449
		08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26	10.668 10.721 10.385 10.995 10.429 10.839 10.623 10.107	8.279 8.253 8.596 7.999 8.572 8.078 8.373 8.947	5.930 6.430 5.630 5.937 6.543 6.605 7.020 5.855	161.607 169.530 161.797 168.567 170.578 169.353 172.572 162.452	12.825 12.772 10.361 11.270 10.563 10.690 11.449 9.123
		08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:26 08:27	10.668 10.721 10.385 10.995 10.429 10.839 10.623 10.107 10.506	8.279 8.253 8.596 7.999 8.572 8.078 8.373 8.947 8.520	5.930 6.430 5.630 5.937 6.543 6.605 7.020 5.855 6.205	161.607 169.530 161.797 168.567 170.578 169.353 172.572 162.452 163.392	12.827 12.772 10.361 11.270 10.563 10.690 11.449 9.123 10.943
		08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26	10.668 10.721 10.385 10.995 10.429 10.839 10.623 10.107	8.279 8.253 8.596 7.999 8.572 8.078 8.373 8.947	5.930 6.430 5.630 5.937 6.543 6.605 7.020 5.855	161.607 169.530 161.797 168.567 170.578 169.353 172.572 162.452	12.827 12.772 10.361 11.270 10.563 10.690 11.449 9.123 10.943 11.765 15.332



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Wheelabrator South I CleanAir Project No. Ft. Lauderdale, FL FF Outlet 1				CALI	Ma Start Time Stop Time BRATION BI/	rch 23, 2010 8:30 8:35 AS 01	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
			%d∨	%dv	ppmdv	ppmdv	ppmdv
	Syst	em Response to	Calibration G	iasses (C _s)			
	Cof	Zero gas	0.051	0.029	0.050	0.717	-0.557
	Cuf	Upscale gas	5.952	13.937	41.530	222.122	48.977
	Ana	yzer Calibration	Error Repons	ies (C _{Dir})			
		Zero gas	0.006	0.002	-0.110	0.038	-0.345
		Upscale gas	5.942	14.094	43.504	226.086	49.020
	Actu	ial Upscale Gas V	/alue (C _{MA})				
		Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calil	pration Span Valu					
			13.900	14.100	89.900	453.000	98.500
	Syst	em Bias as Perce		tion Span Va	lue (SB) (5%))	
		Zero gas	0.3%	0.2%	0.2%	0.1%	-0.2%
		Upscale gas	0.1%	-1.1%	-2.2%	-0.9%	0.0%
	Syst	em Bias Status			_		
		Zero gas	OK	OK	OK	OK	OK
	_	Upscale gas	OK	OK	OK	OK	OK
	_	ious System Res	-				
	C _{oi}	Zero gas	0.020	0.022	0.007	-0.011	-0.588
	Cui	Upscale gas	5.934	13.946	41.691	222.181	49.007
	Drift	Assessment as I					
		Zero gas	0.2%	0.1%	0.0%	0.2%	0.0%
		Upscale gas	0.1%	-0.1%	-0.2%	0.0%	0.0%
	Driπ	Assessment Sta		01/	01/	OK	01/
		Zero gas	OK OK	OK OK	OK OK	OK OK	OK OK
		Upscale gas	UK	UK	UK	UK	UK
041410 130218							
		08:30:57	0.279	0.172	2.468	95.759	18.673
		08:31:12	0.108	0.051	0.915	38.827	25.298
		08:31:27	0.078	0.038	0.420	4.387	36.700
		08:31:42 08:31:57	0.069	0.033	0.222	1.539	44.617 48.228
		08:32:12	0.049	0.030	0.034	0.635	48.907
		08:32:27		0.029	-0.002	0.611	49.014
		08:32:42	0.043	0.028	-0.021	0.456	49.011
		08:32:57	4.881	0.023	6.877	0.358	48.467
		08:33:12	9.595	0.000	30.836	56.141	41.581
		08:33:27	9.860	0.000	38.234	184.403	25.395
		08:33:42	9.898	0.000	39.922	213.700	10.497
		08:33:57 08:34:12	9.913 9.921	0.000 0.000 [40.682	221.221	2.424 0.050
		08:34:12	9.921	0.000	41.168	221.840	-0.519
		08:34:42	9.936	0.000	41.853	222.271	-0.586
		08:34:57	8.205	7.808	32.798	222.483	-0.565
		08:35:12	6.126	13.616	9.043	168.580	-0.459
		08:35:27	5.965	13.912	3.092	43.288	-0.238
		08:35:42	5.945	13.943	1.762	10.248	-0.033
		08:35:57	5.945	13.955	1.184	1.408	0.045
		-					

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Wheelabrator Sou CleanAir Project N Ft. Lauderdale, FL FF Outlet 1	lo. 109			REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 8:37 9:04 D RUN 2	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
	·		FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv
	Calìi	bration Checks					
	Coi	Initial zero	0.051	0.029	0.050	0.717	-0.557
	Cui	Initial upscale	5.952	13.937	41.530	222.122	48.977
	Cof	Final zero	0.056	0.031	0.026	0.535	-0.535
	Cuf	Final upscale	5.959	13.935	41.219	221.256	48.841
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Anal	lyzer Averages (co	oncentration	5)			
		Average conc.	10.141	- <i>7</i> . 8.987	4.287	162.972	10.628
		Bias adjusted	10.102	9.082	4.615	165.238	10.890
1410 130218							
			10.000	8.100			
		08:38	10.863	8.166	6.274	177.224	7.802
		. 08:39	10.086	9.035	6.213	171.425	7.813
_		08:39 08:40	10.086 10.771	9.035 8.279	6.213 5.943	171.425 163.981	7.813 9.691
		08:39 08:40 08:41	10.086 10.771 10.061	9.035 8.279 9.097	6.213 5.943 4.750	171.425 163.9 8 1 159.402	7.813 9.691 10.426
		08:39 08:40 08:41 08:42	10.086 10.771 10.061 10.301	9.035 8.279 9.097 8.792	6.213 5.943 4.750 3.853	171.425 163.981 159.402 158.934	7.813 9.691 10.426 9.769
		08:39 08:40 08:41 08:42 08:43	10.086 10.771 10.061 10.301 10.333	9.035 8.279 9.097 8.792 8.766	6.213 5.943 4.750 3.853 3.544	171.425 163.981 159.402 158.934 163.915	7.813 9.691 10.426 9.769 9.753
		08:39 08:40 08:41 08:42 08:43 08:44	10.086 10.771 10.061 10.301 10.333 10.237	9.035 8.279 9.097 8.792 8.766 8.892	6.213 5.943 4.750 3.853 3.544 3.735	171.425 163.981 159.402 158.934 163.915 164.967	7.813 9.691 10.426 9.769 9.753 12.077
		08:39 08:40 08:41 08:42 08:43 08:44 08:45	10.086 10.771 10.061 10.301 10.333 10.237 10.240	9.035 8.279 9.097 8.792 8.766 8.892 8.860	6.213 5.943 4.750 3.853 3.544 3.735 3.792	171.425 163.981 159.402 158.934 163.915 164.967 161.708	7.813 9.691 10.426 9.769 9.753 12.077 10.012
		08:39 08:40 08:41 08:42 08:43 08:44	10.086 10.771 10.061 10.301 10.333 10.237	9.035 8.279 9.097 8.792 8.766 8.892	6.213 5.943 4.750 3.853 3.544 3.735	171.425 163.981 159.402 158.934 163.915 164.967	7.813 9.691 10.426 9.769 9.753 12.077
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:45 08:46 08:47 08:48 08:49 08:50	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119
		. 08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:45 08:46 08:47 08:48 08:49 08:50 08:51	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465
		. 08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:51	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952
		. 08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:51 08:52 08:53	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210
		. 08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54	10.086 10.771 10.061 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55	10.086 10.771 10.061 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:55 08:56	10.086 10.771 10.061 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57	10.086 10.771 10.061 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065 10.210	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070 8.900	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559 4.683	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321 164.109	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627 9.753
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065 10.210 9.826	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070 8.900 9.393	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559 4.683 4.211	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321 164.109 161.915	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627 9.753 8.551
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065 10.210 9.826 9.673	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070 8.900 9.393 9.585	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559 4.683 4.211 3.880	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321 164.109 161.915 156.392	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627 9.753 8.551 8.431
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065 10.210 9.826 9.673 10.060	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070 8.900 9.393 9.585 9.057	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559 4.683 4.211 3.880 4.091	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321 164.109 161.915 156.392 161.657	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627 9.753 8.551 8.431 10.275
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065 10.210 9.826 9.673 10.060 10.092	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070 8.900 9.393 9.585 9.057 9.005	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559 4.683 4.211 3.880 4.091 4.275	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321 164.109 161.915 156.392 161.657 165.393	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627 9.753 8.551 8.431 10.275 11.155
		08:39 08:40 08:41 08:42 08:43 08:44 08:45 08:46 08:47 08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00	10.086 10.771 10.061 10.301 10.333 10.237 10.240 10.022 10.122 9.717 9.884 10.057 10.256 10.204 10.348 10.273 10.114 10.065 10.210 9.826 9.673 10.060	9.035 8.279 9.097 8.792 8.766 8.892 8.860 9.101 9.019 9.511 9.298 9.081 8.878 8.900 8.708 8.825 9.006 9.070 8.900 9.393 9.585 9.057	6.213 5.943 4.750 3.853 3.544 3.735 3.792 3.667 3.750 3.576 3.773 4.365 4.813 4.314 4.304 3.736 4.011 4.559 4.683 4.211 3.880 4.091	171.425 163.981 159.402 158.934 163.915 164.967 161.708 160.710 156.323 156.241 161.567 164.212 163.972 161.184 165.061 170.332 168.824 163.321 164.109 161.915 156.392 161.657	7.813 9.691 10.426 9.769 9.753 12.077 10.012 9.898 10.246 9.452 12.052 13.119 14.465 14.952 14.210 11.652 9.181 9.627 9.753 8.551 8.431 10.275

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QA/QC____ Date____

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Wheelabrator South CleanAir Project No. Ft. Lauderdale, FL FF Outlet 1			CALI	Ma Start Time Stop Time BRATION BI	rch 23, 2010 9:05 9:09 AS 02	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
		FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv
9	system Response to			PP	P.F	Plotter -
	Gof Zero gas	0.056	0.031	0.026	0.535	-0.535
	Upscale gas	5.959	13.935	41.219	221.256	48.841
	nalyzer Calibration					
	Zero gas	0.006	0.002	-0.110	0.038	-0.345
	mce Upscale gas	5.942	14.094	43.504	226.086	49.020
	ctual Upscale Gas V	alue (C _{MA})				
C	ma Upscale gas	5.910	14.100	44.900	225.000	48.200
C	alibration Span Valu	e (CS)				
	-	13.900	14.100	89.900	453.000	98.500
S	ystem Bias as Perce	nt of Calibrat	ion Span Va	lue (SB) (5%)	
	Zero gas	0.4%	0.2%	0.2%	0.1%	-0.2%
	Upscale gas	0.1%	-1.1%	-2.5%	-1.1%	-0.2%
S	ystem Bias Status					
	Zero gas	OK	ОК	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	<u>O</u> K
Р	revious System Res	ponse to Cali	bration Gas	es (C _S)		
C	🐻 Zero gas	0.051	0.029	0.050	0.717	-0.557
C	ui Upscale gas	5.952	13.937	41.530	222.122	48.977
D	rift Assessment as P	Percent of Ca	libration Spa	ın Value (D) ((3%)	
	Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%
	Upscale gas	0.1%	0.0%	-0.3%	-0.2%	-0.1%
D	rift Assessment Stat	us				
	Zero gas	ОК	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	OK
)41410 130218	00.05.44	0.000	0.045		0.400	0.0 700
	09:05:41	0.086	0.045	0.282 0.124	2.426	36.799
	09:05:56 09:06:11 [0.072	0.037	0.124	0.798	45.911 48.116
	09:06:26	0.005	0.031	0.075	0.554	48.801
	09:06:41	0.049	0.029	-0.013	0.513	48.863
	09:06:56	0.049	0.027	-0.002	0.480	48.860
	09:07:11	4.795	0.023	6.939	0.480	48.646
	09:07:26	9.599	0.006	31.378	21.523	42.133
	09:07:41	9.873	0.004	38.247	160.415	27.828
	09:07:56	9.903	0.000	39.847	215.043	10.631
	09:08:11	9.918	0.000	40.744	220.651	3.326
	09:08:26	9.928	0.000	41.284	221.180	-0.010
	09:08:41 09:08:56	9.935 8.818	0.000 L 5.888	41.628	221.212 221.376	-0.488 -0.586
	09:09:11	6.242	5.666 13.427	10.230	175.181	-0.586
	09:09:26	5.975	13.909	3.188	55.067	-0.349
	09:09:41	5.955	13.942	1.818	12.992	-0.156
	09:09:56	5.946	13.954	1.366	1.514	-0.011

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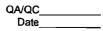
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Vheelabrator CleanAir Proje t. Lauderdale F Outlet 1	ect No.			REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 9:11 9:38 90 RUN 3	
			Channel 1 CO2	Channei 2 O2	Channel 3 SO2	Channel 4 NOX	Channel (CC
		• • •	FF Outlet 1- %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet
	Cali	bration Checks					
	Col	Initial zero	0.056	0.031	0.026	0.535	-0.535
	Cui	Initial upscale	5.959	13.935	41.219	221.256	48.841
	Cof	Final zero	0.055	0.030	-0.021	0.486	-0.501
	C _{uf}	Final upscale	5.953	13.935	41.495	221.265	48.898
		Actual gas value	5.910	13.335	44.900	225.000	48.200
		•			44.900	225.000	40.200
		lyzer Averages (co					
		Average conc. Bias adjusted	10.269 10.231	8.796 8.889	3.700 4.015	166.719 169.409	11.316 11.550
1410 130218 5	(at one	of sample period)					
	<u> </u>						
	<u> </u>	09:12	10.432	8.631	4.982	156.866	18.474
		09:13	10.432 11.066	7.911	5.444	173.020	18.259
	<u></u>	09:13 09:14	10.432 11.066 10.748	7.911 8.280	5.444 4.640	173.020 186.711	18.259 14.651
	<u> </u>	09:13 09:14 09:15	10.432 11.066 10.748 9.953	7.911 8.280 9.139	5.444 4.640 3.292	173.020 186.711 174.567	18.259 14.651 9.654
		09:13 09:14 09:15 09:16	10.432 11.066 10.748 9.953 10.476	7.911 8.280 9.139 8.529	5.444 4.640 3.292 2.851	173.020 186.711 174.567 180.346	18.259 14.651 9.654 9.811
		09:13 09:14 09:15 09:16 09:17	10.432 11.066 10.748 9.953 10.476 10.817	7.911 8.280 9.139 8.529 8.205	5.444 4.640 3.292 2.851 3.355	173.020 186.711 174.567 180.346 185.932	18.259 14.651 9.654 9.811 10.192
		09:13 09:14 09:15 09:16 09:17 09:18	10.432 11.066 10.748 9.953 10.476 10.817 10.579	7.911 8.280 9.139 8.529 8.205 8.477	5.444 4.640 3.292 2.851 3.355 4.280	173.020 186.711 174.567 180.346 185.932 183.415	18.259 14.651 9.654 9.811 10.192 9.827
		09:13 09:14 09:15 09:16 09:17 09:18 09:19	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273	7.911 8.280 9.139 8.529 8.205 8.477 8.790	5.444 4.640 3.292 2.851 3.355 4.280 4.013	173.020 186.711 174.567 180.346 185.932 183.415 166.245	18.259 14.651 9.654 9.811 10.192 9.827 9.490
		09:13 09:14 09:15 09:16 09:17 09:18	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462
		09:13 09:14 09:15 09:16 09:17 09:18 09:19 09:20	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273	7.911 8.280 9.139 8.529 8.205 8.477 8.790	5.444 4.640 3.292 2.851 3.355 4.280 4.013	173.020 186.711 174.567 180.346 185.932 183.415 166.245	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094
		09:13 09:14 09:15 09:16 09:17 09:18 09:19 09:20 09:21	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842
		09:13 09:14 09:15 09:16 09:17 09:18 09:19 09:20 09:21 09:22	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972
		09:13 09:14 09:15 09:16 09:17 09:18 09:19 09:20 09:21 09:22 09:23	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146
		09:13 09:14 09:15 09:16 09:17 09:18 09:19 09:20 09:21 09:22 09:23 09:24	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.545	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355 3.611	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146
		09:13 09:14 09:15 09:16 09:17 09:18 09:19 09:20 09:21 09:22 09:23 09:24 09:25 09:26 09:27	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.545 10.245 10.207 9.705	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355 3.611 3.846 3.863 3.370	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:25 09:26 09:27 09:28	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.545 10.245 10.207 9.705 9.946	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355 3.611 3.846 3.863 3.370 3.442	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:25 09:26 09:27 09:28 09:29	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.545 10.245 10.207 9.705 9.946 10.338	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.611 3.846 3.863 3.370 3.442 3.735	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:25 09:26 09:27 09:28 09:29 09:30	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.545 10.245 10.207 9.705 9.946 10.338 10.222	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355 3.611 3.846 3.863 3.370 3.442 3.735 3.742	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941 167.149	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:25 09:26 09:27 09:28 09:29 09:30 09:31	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.545 10.245 10.207 9.705 9.946 10.338 10.222 10.260	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815 8.759	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355 3.611 3.846 3.863 3.370 3.442 3.735 3.742 3.283	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941 167.149 165.053	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833 9.756
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:23 09:24 09:25 09:26 09:27 09:28 09:29 09:30 09:31 09:32	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.245 10.245 10.207 9.705 9.946 10.338 10.222 10.260 10.491	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815 8.759 8.492	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.355 3.611 3.846 3.863 3.370 3.442 3.735 3.742 3.283 3.360	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.237 159.719 145.482 147.471 159.941 167.149 165.053 176.455	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833 9.756 13.544
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:23 09:24 09:25 09:26 09:25 09:26 09:27 09:28 09:29 09:30 09:31 09:32 09:33	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.245 10.245 10.207 9.705 9.946 10.338 10.222 10.260 10.491 10.177	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815 8.759 8.492 8.855	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.611 3.846 3.863 3.370 3.442 3.735 3.742 3.283 3.360 3.378	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941 167.149 165.053 176.455 182.300	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833 9.756 13.544 12.174
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:23 09:24 09:25 09:26 09:27 09:28 09:29 09:30 09:31 09:32 09:33 09:34	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.245 10.245 10.245 10.207 9.705 9.946 10.338 10.222 10.260 10.491 10.177 10.026	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815 8.759 8.492 8.855 9.065	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.611 3.846 3.863 3.370 3.442 3.735 3.742 3.283 3.360 3.378 3.342	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941 167.149 165.053 176.455 182.300 178.177	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833 9.756 13.544 12.174 12.807
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:23 09:24 09:25 09:26 09:27 09:28 09:29 09:30 09:31 09:32 09:33 09:34 09:35	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.245 10.245 10.245 10.207 9.705 9.946 10.338 10.222 10.260 10.491 10.177 10.026 10.098	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815 8.759 8.492 8.855 9.065 8.947	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.611 3.846 3.863 3.370 3.442 3.735 3.742 3.283 3.360 3.378 3.342 3.225	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941 167.149 165.053 176.455 182.300 178.177 176.359	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833 9.756 13.544 12.174 12.807 12.585
		09:13 09:14 09:15 09:16 09:17 09:18 09:20 09:21 09:22 09:23 09:24 09:23 09:24 09:25 09:26 09:27 09:28 09:29 09:30 09:31 09:32 09:33 09:34	10.432 11.066 10.748 9.953 10.476 10.817 10.579 10.273 10.412 10.547 10.102 10.274 10.245 10.245 10.245 10.207 9.705 9.946 10.338 10.222 10.260 10.491 10.177 10.026	7.911 8.280 9.139 8.529 8.205 8.477 8.790 8.628 8.499 8.972 8.794 8.486 8.801 8.882 9.493 9.185 8.685 8.815 8.759 8.492 8.855 9.065	5.444 4.640 3.292 2.851 3.355 4.280 4.013 3.913 3.947 3.535 3.611 3.846 3.863 3.370 3.442 3.735 3.742 3.283 3.360 3.378 3.342	173.020 186.711 174.567 180.346 185.932 183.415 166.245 165.153 170.529 155.598 157.515 156.138 159.237 159.719 145.482 147.471 159.941 167.149 165.053 176.455 182.300 178.177	18.259 14.651 9.654 9.811 10.192 9.827 9.490 9.462 10.094 8.842 8.972 10.146 10.137 9.557 8.355 10.234 12.104 10.833 9.756 13.544 12.174 12.807



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Wheelabrator Sou CleanAir Project N Ft. Lauderdale, FL FF Outlet 1	No. 10955		March 23, 2010 Start Time 9:39 Stop Time 9:44 CALIBRATION BIAS 03				
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C	
		FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet ppmd	
	System Response t	o Calibration G	asses (C _s)				
	C _{of} Zero gas	0.055	0.030	-0.021	0.486	-0.50	
	Cuf Upscale gas	5.953	13.935	41.495	221.265	48.898	
	Analyzer Calibration	n Error Repons	es (C _{Dir})				
	Coce Zero gas	0.006	0.002	-0.110	0.038	-0.34	
	C _{mce} Upscale gas	5.942	14.094	43.504	226.086	49.020	
	Actual Upscale Gas	Value (C _{MA})					
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200	
	Calibration Span Va						
		13.900	14,100	89.900	453.000	98.50	
	System Bias as Per					00.00	
	Zero gas	0.4%	0.2%	0.1%	, 0.1%	-0.2	
	Upscale gas	0.1%	-1.1%	-2.2%	-1.1%	-0.2	
			-1.170	-2.2 /6	-1.170	-0, 1	
	System Bias Status		04		04	0	
	Zero gas	OK OK	OK OK	OK	OK OK	0	
	Upscale gas			OK	UN	0	
	Previous System Re	-			0 505	0.50	
	C _{oi} Zero gas	0.056	0.031	0.026	0.535	-0.53	
	C _{ul} Upscale gas	5.959	13.935	41.219	221.256	48.84	
	Drift Assessment as			• •			
	Zero gas	0.0%	0.0%	-0.1%	0.0%	0.0	
	Upscale gas	0.0%	0.0%	0.3%	0.0%	0.1	
	Drift Assessment St						
	Zero gas	OK	ок	OK	OK	O	
	Upscale gas	ОК	ок	OK	ОК	Oł	
4440 100040							
41410 130218	09:39:3	7 0.098	0,049	0.319	3,345	34,449	
	09:39:5		0.040	0.142	0.822	43.280	
	09:40:0		0.035	0.032	0.611	47.560	
	09:40:2	2 0.062	0.033	-0.010	0.611	48.70	
	09:40:3	7 0.054	0.030	-0.021	0.538	48.90	
	09:40:5		0.028	-0.034	0.309	48.90	
	09:41:0		0.029	0.213	0.317 [48.882	
	09:41:2		0.012	18.090	0.195	47.158	
	09:41:3		0.004	35.753	113.635	37.127	
	09:41:5		0.004 0.002	39.339	198.169 219.064	21.047	
	09:42:0 09:42:2		0.002	40.410	219.064	7.844 1.984	
	09:42:3		0.002	41.081	220.993	-0.117	
	09:42:5	-	0.000	41.823	221.300	-0.487	
	09:42:0		9.431	28.168	214.953	-0.467	
	09:43:2		13.711	6.800	181.514	-0.350	
	09:43:3		13.915	2.509	72.495	-0.296	
			13.938	1.545	4.762	-0.127	
	09:43:5	ZI 0.MOT					

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QA/QC_____ Date_____

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Wheelabrator Sout CleanAir Project N Ft. Lauderdale, FL FF Outlet 1				REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 9:45 10:12 D RUN 4	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
·			_F.F₋Outlet 1- %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet
с	alib	ration Checks					
С	al	Initial zero	0.055	0.030	-0.021	0.486	-0.50
С	ul.	Initial upscale	5.953	13.935	41.495	221.265	48.89
		Final zero	0.065	0.030	-0.010	0.548	-0.51
	•••	Final upscale	5.960	13.941	41.450	221.194	48.99
		Actual gas value	5.910	14.100	44.900	225.000	48.20
		/zer Averages (co					
	-	Average conc.	10.494	, 8.538	2.437	166.946	9.93
		Blas adjusted	10.458	8.626	2,655	169.662	10.17
		00.46	0 / 27	9 976	3 040	156 107	12.00
		09:46	9.437	9.876	3.049	156.107	
		09:47	9.566	9.705	2.814	159.235	13.77
		09:47 09:48	9.566 9.739	9.705 9.475	2.814 2.798	159.235 161.508	13.77 14.01
		09:47 09:48 09:49	9.566 9.739 10.168	9.705 9.475 8.891	2.814 2.798 2.833	159.235 161.508 164.123	13.77 14.01 16.34
		09:47 09:48	9.566 9.739	9.705 9.475	2.814 2.798	159.235 161.508	13.77 14.01 16.34 15.80
		09:47 09:48 09:49 09:50	9.566 9.739 10.168 10.285	9.705 9.475 8.891 8.758	2.814 2.798 2.833 2.733	159.235 161.508 164.123 164.945	13.77 14.01 16.34 15.80 14.10
		09:47 09:48 09:49 09:50 09:51	9.566 9.739 10.168 10.285 10.138	9.705 9.475 8.891 8.758 8.924	2.814 2.798 2.833 2.733 2.355	159.235 161.508 164.123 164.945 159.353	13.77 14.01 16.34 15.80 14.10 13.01
		09:47 09:48 09:49 09:50 09:51 09:52	9.566 9.739 10.168 10.285 10.138 10.606	9.705 9.475 8.891 8.758 8.924 8.371	2.814 2.798 2.833 2.733 2.355 2.316	159.235 161.508 164.123 164.945 159.353 163.997	13.77 14.01 16.34 15.80 14.10 13.01 12.95
		09:47 09:48 09:49 09:50 09:51 09:52 09:53 09:54 09:55	9.566 9.739 10.168 10.285 10.138 10.606 10.847	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:56	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:56 09:57 09:58	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:56 09:57 09:58 09:59	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.46
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468 8.344	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.46 9.87
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468 8.344 8.195	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124 2.267	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.46 9.87 10.08
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468 8.344	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.46 9.87 10.08 10.99
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817 10.597	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468 8.344 8.195 8.380	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124 2.267 2.250	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640 160.295	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.46 9.87 10.08 10.99 9.55
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817 10.597 10.819	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468 8.344 8.195 8.380 8.196	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124 2.267 2.250 2.545	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640 160.295 167.790	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.59 8.74 8.48 11.466 9.87 10.086 10.990 9.55 6.53
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817 10.597 10.819 10.343	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.310 8.310 8.502 8.468 8.344 8.195 8.380 8.196 8.658	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124 2.267 2.250 2.545 2.375	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640 160.295 167.790 161.726	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.59 8.74 8.48 11.466 9.87 10.086 10.990 9.55 6.53 6.17
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817 10.597 10.819 10.343 11.335	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.801 8.310 8.502 8.468 8.344 8.195 8.380 8.196 8.658 7.635	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.124 2.267 2.250 2.545 2.375 2.549	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640 160.295 167.790 161.726 167.664	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.466 10.990 9.55 6.53 6.17 4.76
		09:47 09:48 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817 10.597 10.819 10.343 11.335 10.360	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.301 8.310 8.502 8.468 8.344 8.195 8.380 8.196 8.658 7.635 8.667	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.124 2.267 2.250 2.545 2.375 2.549 2.608	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640 160.295 167.790 161.726 167.664 168.295	13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.74 8.48 11.46 9.87 10.08 10.99 9.55 6.53 6.17 4.76 4.50
1410 130218		09:47 09:48 09:49 09:50 09:51 09:52 09:53 09:54 09:55 09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09	9.566 9.739 10.168 10.285 10.138 10.606 10.847 10.906 11.005 10.684 10.659 10.183 10.660 10.489 10.573 10.632 10.817 10.597 10.819 10.343 11.335 10.360 10.765	9.705 9.475 8.891 8.758 8.924 8.371 8.143 8.038 7.962 8.260 8.310 8.301 8.301 8.301 8.502 8.468 8.344 8.195 8.380 8.196 8.658 7.635 8.667 8.196	2.814 2.798 2.833 2.733 2.355 2.316 2.279 2.059 2.170 2.128 2.208 2.205 2.318 2.306 2.316 2.316 2.124 2.267 2.250 2.545 2.375 2.549 2.608 2.449	159.235 161.508 164.123 164.945 159.353 163.997 174.229 169.994 167.674 161.416 164.756 169.772 176.390 175.513 179.929 168.972 169.640 160.295 167.790 161.726 167.664 168.295 164.365	12.09 13.77 14.01 16.34 15.80 14.10 13.01 12.95 10.39 10.72 9.05 9.96 9.59 8.744 8.486 11.467 9.875 6.533 6.17 4.764 4.508 5.969 4.133



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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

March 23, 2010 Start Time 10:13 Stop Time 10:17 CALIBRATION BIAS 04

FF Outlet 1			CALI	BRATION BI	AS 04	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
		FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
		%dv	%dv	ppmdv	ppmdv	ppmdv
	System Response to	Calibration G	asses (C.)			
	C _{of} Zero gas	0.065		-0.010	0.548	-0.514
	C _{uf} Upscale gas	5.960	13.941	41.450	221.194	48.996
	Analyzer Calibration					10.000
	Coce Zero gas	0.006	0.002	-0.110	0.038	-0.345
	C _{mce} Upscale gas	5.942	14.094	43.504	226.086	49.020
	Actual Upscale Gas					10.000
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span Val		1	11000	-20.000	10.200
		13.900	14.100	89.900	453.000	98.500
	System Bias as Perce		14.100	00.300	400.000	90.000
	•	0.4%	0.2%	0.1%	0.1%	-0.2%
	Zero gas	0.4%	-1.1%	-2.3%	-1.1%	-0.2%
	Upscale gas	0.1%	-1.170	-2.376	-1,170	0.0 %
	System Bias Status	01	01/	01/	01/	014
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	OK
	Previous System Res					
	C _{ol} Zero gas	0.055	0.030	-0.021	0.486	-0.501
	C _{ui} Upscale gas	5.953	13.935	41.495	221.265	48.898
	Drift Assessment as		-		•	
	Zero gas	0.1%	0.0%	0.0%	0.0%	0.0%
	Upscale gas	0.0%	0.0%	-0.1%	0.0%	0.1%
	Drift Assessment Sta					
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	ок	OK
041410 130218						
	10:13:59	0.081	0.035	0.050	0.644	47.015
	10: 1 4:14	0.072	0.031	0.003	0.611	48.723
	10:14:29	0.063	0.031	-0.024	0.611	48.954
	10:14:44		0.027	-0.010	0.423	49.014
	10:14:59		0.029	0.015	0.333	49.019
	10:15:14		0.013	14.403	3.223	47.352
	10:15:29	9.782	0.006	34.717	48.718	37.919
	10:15:44		0.003	39.242	185.470	20.054
	10:15:59	9.920	0.004	40.495	218.218	7.093
	10:16:14		0.002	41.070 41.525	220.912	1.327
	10:16:29 10:16:44	9.951 9.909	0.000 0.648	41.525	221.294	-0.285
	10:16:59	9.909 7.190	11.137	25.457	221.579	-0.552
	10:17:14	6.044	13.812	6.160	143.460	-0.352
	10:17:29		13.926	2.362	21.221	-0.283
	10:17:44	5.957	13.943	1.390	4.965	-0.070
	10:17:59	5.951	13.955	0.929	1.010	0.037

Wheelabrator CleanAir Proje Ft. Lauderdak FF Outlet 1	ect No.	-		REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 10:19 10:46 D RUN 5	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			−FF [.] Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv
	Cali	bration Checks					
	Coi	Initial zero	0.065	0.030	-0.010	0.548	-0.514
	Cui	Initial upscale	5.960	13.941	41.450	221.194	48.996
	Cof	Final zero	0.058	0.032	0.006	0.499	-0.535
	Cuf	Final upscale	5.951	13.934	41.450	220.893	48.938
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Ana	yzer Averages (co	oncentration	s)			
		Average conc.	10.200	8.926	3.526	169.251	7.820
		Bias adjusted	10.166	9.019	3.822	172.155	8.127
41410 130218	(at end	of sample period)					
		10,20	10 622	0 206	4 266	166 E 40	7 0 7 5
		10:20 10:21	10.633	8.386	4.256	166.548 172 821	7.875
		10:21	10.191	8.894	3.825	172.821	9.037
		10:21 10:22	10.191 10.309	8.894 8.736	3.825 3.374	172.821 174.306	9.037 9.333
		10:21 10:22 10:23	10.191 10.309 10.595	8.894 8.736 8.411	3.825 3.374 3.377	172.821 174.306 181.642	9.037 9.333 8.007
		10:21 10:22 10:23 10:24	10.191 10.309 10.595 10.152	8.894 8.736 8.411 8.941	3.825 3.374 3.377 3.483	172.821 174.306 181.642 181.506	9.037 9.333 8.007 8.172
		10:21 10:22 10:23	10.191 10.309 10.595	8.894 8.736 8.411	3.825 3.374 3.377	172.821 174.306 181.642	9.037 9.333 8.007
		10:21 10:22 10:23 10:24 10:25	10.191 10.309 10.595 10.152 10.357	8.894 8.736 8.411 8.941 8.717	3.825 3.374 3.377 3.483 3.422	172.821 174.306 181.642 181.506 177.452	9.037 9.333 8.007 8.172 8.789
		10:21 10:22 10:23 10:24 10:25 10:26	10.191 10.309 10.595 10.152 10.357 10.495	8.894 8.736 8.411 8.941 8.717 8.549	3.825 3.374 3.377 3.483 3.422 3.479	172.821 174.306 181.642 181.506 177.452 175.067	9.037 9.333 8.007 8.172 8.789 8.314
		10:21 10:22 10:23 10:24 10:25 10:26 10:27	10.191 10.309 10.595 10.152 10.357 10.495 10.264	8.894 8.736 8.411 8.941 8.717 8.549 8.843	3.825 3.374 3.377 3.483 3.422 3.479 3.342	172.821 174.306 181.642 181.506 177.452 175.067 170.659	9.037 9.333 8.007 8.172 8.789 8.314 8.466
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301 10.332	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301 10.332 10.156	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301 10.332 10.156 10.409	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301 10.332 10.156 10.409 10.444	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.990
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.990 6.269
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \\ 9.703 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407 167.349	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.920 6.269 5.290
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \\ 9.703 \\ 9.952 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407 167.349 167.477	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.920 6.269 5.290 6.853
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \\ 9.703 \\ 9.952 \\ 10.106 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234 9.045	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411 3.620	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407 167.349 167.477 166.508	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.920 6.269 5.290 6.853 7.716
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \\ 9.703 \\ 9.952 \\ 10.106 \\ 9.891 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407 167.349 167.477	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.920 6.269 5.290 6.853 7.716 8.045
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \\ 9.703 \\ 9.952 \\ 10.106 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234 9.045 9.331	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411 3.620 4.050	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.923 174.147 178.407 167.349 167.477 166.508 168.696	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.920 6.990 6.269 5.290 6.853 7.716
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301 10.332 10.156 10.409 10.444 10.433 10.689 9.703 9.952 10.106 9.891 9.758	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234 9.045 9.331 9.513	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411 3.620 4.050 4.170	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.923 174.147 178.407 167.349 167.477 166.508 168.696 163.468	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.990 6.269 5.290 6.853 7.716 8.045 8.495
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42	$\begin{array}{c} 10.191 \\ 10.309 \\ 10.595 \\ 10.152 \\ 10.357 \\ 10.495 \\ 10.264 \\ 10.570 \\ 10.396 \\ 10.301 \\ 10.332 \\ 10.156 \\ 10.409 \\ 10.444 \\ 10.433 \\ 10.689 \\ 9.703 \\ 9.952 \\ 10.106 \\ 9.891 \\ 9.758 \\ 10.043 \end{array}$	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234 9.045 9.331 9.513 9.143	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411 3.620 4.050 4.170 4.243	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407 167.349 167.477 166.508 168.696 163.468 162.436	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.990 6.269 5.290 6.853 7.716 8.045 8.495 8.844
		10:21 10:22 10:23 10:24 10:25 10:26 10:27 10:28 10:29 10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43	10.191 10.309 10.595 10.152 10.357 10.495 10.264 10.570 10.396 10.301 10.332 10.156 10.409 10.444 10.433 10.689 9.703 9.952 10.106 9.891 9.758 10.043 9.878	8.894 8.736 8.411 8.941 8.717 8.549 8.843 8.462 8.656 8.818 8.711 8.923 8.648 8.576 8.610 8.408 9.543 9.234 9.045 9.331 9.513 9.143 9.376	3.825 3.374 3.377 3.483 3.422 3.479 3.342 3.241 3.134 3.087 3.070 3.224 3.467 3.275 3.556 4.157 3.821 3.411 3.620 4.050 4.170 4.243 3.926	172.821 174.306 181.642 181.506 177.452 175.067 170.659 163.354 168.689 170.836 163.590 166.239 170.539 174.923 174.147 178.407 167.349 167.477 166.508 168.696 163.468 162.436	9.037 9.333 8.007 8.172 8.789 8.314 8.466 8.026 7.002 8.353 7.147 6.704 7.250 6.920 6.269 5.290 6.853 7.716 8.045 8.495 8.844 7.953



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Wheelabrator Sou CleanAir Project N Ft. Lauderdale, FL FF Outlet 1	No. 10			CALI	Ma Start Time Stop Time BRATION BI	rch 23, 2010 10:47 10:51 AS 05	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
			%dv	%dv	ppmdv	ppmdv	ppmdv
	Sve	tem Response to	Calibration G	asses (C.)			
	-	Zero gas	0.058	0.032	0.006	0.499	-0.535
	C _{uf}		5.951	13.934	41.450	220.893	48.938
		lyzer Callbration					
	Coce	Zero gas	0.006	0.002	-0.110	0.038	-0.345
	Cmce	Upscale gas	5.942	14.094	43.504	226.086	49.020
	Acti	ual Upscale Gas \	∕alue (C _{MA})				
		Upscale gas	5.910	14.100	44.900	225.000	48.200
	Cali	bration Span Val	ue (CS)				
			13.900	14.100	89.900	453.000	98.500
	Syst	tem Bias as Perc	ent of Calibrat		lue (SB) (5%		
		Zero gas	0.4%	0.2%	0.1%	0.1%	-0.2%
		Upscale gas	0.1%	-1.1%	-2.3%	-1.1%	-0.1%
	Sys	tem Bias Status			.		
		Zero gas	OK	OK	OK	OK	OK
	D	Upscale gas	OK	OK brotion Coo	OK	OK	ОК
		vious System Res	-			0.540	0.514
	C _{oi} C _{ui}	Zero gas Upscale gas	0.065 5.960	0.030 13.941	-0.010 41.450	0.548 221.194	-0.514 48.996
	-	t Assessment as					40.550
		Zero gas	-0.1%	0.0%	0.0%	0.0%	0.0%
		Upscale gas	-0.1%	-0.1%	0.0%	-0.1%	-0.1%
	Drif	t Assessment Sta			0.070		
		Zero gas	ОК	ок	ок	ок	ок
		Upscale gas	ОК	OK	OK	OK	OK
041410 130218		10:47:27	0.072	0.038	0.119	0.643	46.579
		10:47:42		0.036	0.035	0.496	48.539
		10:47:57		0.031	0.005	0.496	48.962
		10:48:12	0.051	0.030	-0.022	0.504	48.954
		10:48:27		0.031	0.093	0.472	48.899
		10:48:42		0.014	15.678	0.447	47.554
		10:48:57 10:49:12		0.005 0.005	35.318 39.243	112.178 196.386	36.620 20.388
		10:49:12		0.005	40.451	218.616	6.448
		10:49:42		0.000	41.174	220.521	1.350
		10:49:57		0.000	41.545	220.952	-0.342
		10:50:12	9.888	0.767	41.630	221.204	-0.565
		10:50:27		11.320	23.547	206.569	-0.566
		10:50:42		13.814	5.631	133.578	-0.474
		AA. 60					
		10:50:57 10:51:12		13.917 13.938	2.392 1.521	46.870 2.906	-0.270 -0.055

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QA/QC_____ Date____

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IeanAir Project No t. Lauderdale, FL F Outlet 1	1 Broward 9. 10955		REFERE	Start Time Stop time NCE METHO	rch 23, 2010 10:52 11:19 D RUN 6	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
		FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet ppmd
Ca	libration Checks					
Co	Initial zero	0.058	0.032	0.006	0.499	-0.53
C	Initial upscale	5.951	13.934	41.450	220.893	48.93
Co	•	0.061	0.032	-0.015	0.562	-0.56
Cut		5.964	13.929	41.462	220.605	48.95
-	Actual gas value	5.910	14.100	44.900	225.000	48.20
				-1.000	220.000	40.20
	alyzer Averages (c					
	g Average conc.	9.826	9.372	3.630	172.059	10.00
CG	as Bias adjusted	9.786	9.475	3.936	175.253	10.27
1410 130218	10:53	9.953	9.211	3.344	166.599	7.58
	10:54 10:55	9.929 9.740	9.263 9.500	3.106 3.465	170.820 168.614	8.58
	10:55 10:56	9.929 9.740 9.934	9.263 9.500 9.238	3.106 3.465 3.974	170.820 168.614 170.955	8.58 9.93 9.77
	10:55 10:56 10:57	9.929 9.740 9.934 10.138	9.263 9.500 9.238 8.971	3.106 3.465 3.974 4.425	170.820 168.614 170.955 175.476	8.58 9.93 9.77 10.71
	10:55 10:56 10:57 10:58	9.929 9.740 9.934 10.138 9.806	9.263 9.500 9.238 8.971 9.444	3.106 3.465 3.974 4.425 4.364	170.820 168.614 170.955 175.476 171.134	8.58 9.93 9.77 10.71 11.20
	10:55 10:56 10:57 10:58 10:59	9.929 9.740 9.934 10.138 9.806 9.852	9.263 9.500 9.238 8.971 9.444 9.370	3.106 3.465 3.974 4.425 4.364 3.700	170.820 168.614 170.955 175.476 171.134 170.981	8.58 9.93 9.77 10.71 11.20 10.87
	10:55 10:56 10:57 10:58 10:59 11:00	9.929 9.740 9.934 10.138 9.806 9.852 10.101	9.263 9.500 9.238 8.971 9.444 9.370 9.015	3.106 3.465 3.974 4.425 4.364 3.700 3.366	170.820 168.614 170.955 175.476 171.134 170.981 179.192	8.58 9.93 9.77 10.71 11.20 10.87 10.80
	10:55 10:56 10:57 10:58 10:59 11:00 11:01	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.630
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01 10.54
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01 10.54 8.66
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.014 8.66 9.59
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01 8.66 9.59 9.59 9.15
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.800	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624	8.58 9.93 9.77 10.71 11.20 10.87 10.87 8.63 9.72 8.63 9.59 10.01 8.66 9.59 9.59 9.86
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09 11:10	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.800 9.665	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624 172.859	8.58 9.93 9.77 10.71 11.20 10.87 10.87 8.59 8.63 9.59 10.01 8.66 9.59 9.86 9.59 9.86 10.86
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.603 9.783 9.800 9.665 9.737	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590 9.474	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292 3.525	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624 172.859 171.514	8.58 9.93 9.77 10.71 11.20 10.87 10.87 8.59 8.63 9.59 10.01 8.66 9.59 9.86 9.59 9.86 10.86 10.86 10.86
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.603 9.783 9.800 9.665 9.737 9.814	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590 9.474 9.365	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292 3.525 3.735	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624 172.859 171.514	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.014 8.66 9.59 9.155 9.863 10.868 12.210 10.473
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.603 9.783 9.800 9.665 9.737 9.814 9.461 9.368 9.763	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590 9.474 9.365 9.847 9.968 9.418	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292 3.525 3.735 3.697	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.224 171.624 172.859 171.514 175.146 167.953 170.240 173.832	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01 10.54 8.66 9.59 9.59 9.59 9.59 9.59 9.59 9.863 10.868 12.210 10.473 10.954
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.603 9.783 9.800 9.665 9.737 9.814 9.461 9.368 9.763 10.037	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590 9.474 9.365 9.847 9.968 9.418 9.048	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292 3.525 3.735 3.697 3.545 3.676 3.957	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624 172.859 171.514 175.146 167.953 170.240 173.832 172.485	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01 8.66 9.59 9.59 9.59 9.59 9.59 9.59 9.59 9
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.800 9.665 9.737 9.814 9.461 9.368 9.763 10.037 9.797	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590 9.474 9.365 9.847 9.968 9.418 9.048 9.351	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292 3.525 3.735 3.697 3.545 3.676 3.957 3.491	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624 172.859 171.514 175.146 167.953 170.240 173.832 172.485 167.751	8.58: 9.93: 9.77: 10.710 11.200 10.876 10.800 9.720 8.597 8.630 9.595 10.016 8.664 9.595 9.863 10.546 8.664 9.595 9.863 10.868 12.210 10.473 10.954 12.949 11.776 9.824
	10:55 10:56 10:57 10:58 10:59 11:00 11:01 11:02 11:03 11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16	9.929 9.740 9.934 10.138 9.806 9.852 10.101 10.057 9.928 9.833 9.662 9.744 9.783 9.603 9.783 9.603 9.783 9.800 9.665 9.737 9.814 9.461 9.368 9.763 10.037	9.263 9.500 9.238 8.971 9.444 9.370 9.015 9.062 9.252 9.413 9.646 9.515 9.481 9.693 9.429 9.395 9.590 9.474 9.365 9.847 9.968 9.418 9.048	3.106 3.465 3.974 4.425 4.364 3.700 3.366 3.181 3.184 3.302 3.852 4.240 4.340 4.151 3.726 3.305 3.292 3.525 3.735 3.697 3.545 3.676 3.957	170.820 168.614 170.955 175.476 171.134 170.981 179.192 176.223 170.442 168.319 171.650 172.155 179.412 174.294 174.422 171.624 172.859 171.514 175.146 167.953 170.240 173.832 172.485	8.58 9.93 9.77 10.71 11.20 10.87 10.80 9.72 8.59 8.63 9.59 10.01 8.66 9.59 9.59 9.59 9.59 9.59 9.59 9.59 9

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Wheelabrator South Broward
CleanAir Project No. 10955
Ft. Lauderdale, FL
FF Outlet 1

March 23, 2010 Start Time 11:20 Stop Time 11:25 CALIBRATION BIAS 06

				CAL	DIVELOU DE		
			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
			CO2	02	SO2	NOX	CO
			FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
			%dv	%dv	ppmdv	ppmdv	ppmdv
	Suc	tem Response to	Collibration G				
	Cof	Zero gas	0.061		-0.015	0.562	-0.560
	C _{of}	Upscale gas		13.929	41.462	220.605	48.953
		lyzer Calibration		_	41.402	220.000	-0.000
		-	0.006	0.002	0 1 1 0	0.020	0.245
		Zero gas	5.942	14.094	-0.110 43.504	0.038 226.086	-0.345
		Upscale gas		14.094	43.504	220.000	49.020
		ual Upscale Gas \		44400	44.000		40.000
		Upscale gas	5.910	14.100	44.900	225.000	48.200
	Call	bration Span Val	• •				
	_		13.900	14.100	89.900	453.000	98.500
	Syst	tem Bias as Perce				•	
		Zero gas	0.4%	0.2%	0.1%	0.1%	-0.2%
		Upscale gas	0.2%	-1.2%	-2.3%	-1.2%	-0.1%
	Syst	tem Bias Status					
		Zero gas	ОК	ОК	OK	OK	OK
		Upscale gas	OK	ок	OK	OK	OK
	Prev	/ious System Res	ponse to Cal	ibration Gas	es (C _s)		
	Coi	Zero gas	0.058	0.032	0.006	0.499	-0.535
	Cui	Upscale gas	5.951	13.934	41.450	220.893	48.938
	Drift	Assessment as	Percent of Ca	libration Spa	an Value (D) ((3%)	
		Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%
		Upscale gas	0.1%	0.0%	0.0%	-0.1%	0.0%
	Drift	Assessment Sta	tus				
		Zero gas	OK	ОК	ОК	ОК	ок
		Upscale gas	OK	OK	OK	OK	OK
041410 130218		11:20:31	0.108	0.053	0.396	5.991	29.068
		11:20:46	0.087	0.042	0.152	1.408	41.975
		11:21:01	0.074	0.037	0.059	0.692	47.214
		11:21:16		0.033	0.002	0.562	48.791
		11:21:31	0.061	0.031	-0.010	0.570	48.912
		11:21:46	0.055	0.031	-0.037	0.554	48.982
		11:22:01	0.397	0.032	0.129	0.521	48.966
		11:22:16	7.814	0.014	17.692	0.643	47.199
		11:22:31	9.785	0.004	35.631	56.321	36.741
		11:22:46		0.002	39.316	195.824	18.193
		11:23:01	9.911	0.002	40.518	217.224	6.535
		11:23:16	9.926	0.002	41.164	220.358	0.939
		11:23:31	9.938	0.004	41,499	220.757	-0.313
		11:23:46	9.943	0.010	41.724	220.700	-0.558
		11:24:01	8.125	8.199 13.636	31.165	221.025	-0.586
		11:24:16	<u>6.124</u> 5.975	13.636	7.964 2.865	147.814 L 62.336	-0.537 -0.337
		11:24:31 11:24:46	5.963	13.908	2.865	62.336 8.319	-0.337
		11:25:01	5.953	13.944	1.157	1.376	-0.018
		11.20.01	0.004	10.044	1.107	1.570	0.010

Prepared by Clean Alr Engineering Proprietary Software SS CEM Version 06-2004a

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Wheelabrator So CleanAir Projec Ft. Lauderdale, I FF Outlet 1	t No.			REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 11:26 11:53 10 RUN 7	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv
	Calii	bration Checks					
	Coi	Initial zero	0.061	0.032	-0.015	0.562	-0.560
	C _{ui}	Initial upscale	5.964	13.929	41.462	220.605	48.953
	C _{of}	Final zero	0.056	0.031	-0.026	0.584	-0.528
	•			13.920	41.443		
	C _{uf}	Final upscale	5.946			220.155	48.913
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Anal	yzer Averages (c	oncentration	s)			
		Average conc.	10.153	8.943	2.445	160.407	10.411
		Bias adjusted	10.118	9.044	2.670	163.610	10.673
	045						
Clock Time (a	t end	of sample period)					
041410 130218							
		11:27	9.611	9.648	3.115	163.997	9.076
		11:28	9.783	9.432	2.643	170.761	10.406
		11:29	10.293	8.765	2.644	181.337	12.011
		11:30	10.286	8.773	2.757	190.059	10.908
		11:31	9.810	9.372	2.370	187.271	8.818
		11:32	9.881	9.268	2.156	185.820	8.644
		11:33	10.152	8.931	2.189	185.513	9.752
	•	11:34	9.981	9.182	2.363	158.533	10.214
		11:35	9.568	9.731	2.361	132.369	9.716
		11:36 11:37	9.577 10.571	9.712 8.472	2.301 2.435	126.417 143.708	10.376
		11:37	10.571	8.567	∠.435 2.664	162.733	13.442 12.834
		11:39	10.433	8.477	2.582	160.606	12.034
		11:40	10.120	8.920	2.355	159.701	10.726
		11:41	10.486	8,463	2.205	158.215	10.533
		11:42	10.301	8.696	2.263	156.840	10.983
		11:43	9.890	9.222	2.203	144.027	10.146
		11:44	10.575	8.399	2.455	157.444	11.094
		11:45	10.480	8.492	2.737	166.595	9.744
		11:46	10.223	8.845	2.775	158.789	9.186
		11:47	10.160	8.892	2.500	148.706	8.192
		11:48	10.004	9.114	2.432	150.810	10.042
		11:49	10.633	8.434	2.471	159.638	10.682
		11:50	10.058	9.084	2.483	154.929	9.061
		11:51	9.906	9.272	2.161	145.950	8.372
		11:52	10.437	8.622	2.132	155.822	10.808
		11:53	10.413	8.673	2.274	164.404	13.262



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Wheelabrator South Broward Ma CleanAlr Project No. 10955 Start Time Ft. Lauderdale, FL Stop Time FF Outlet 1 CALIBRATION BI Channel 1 Channel 2 Channel 1 Channel 2 CO2 O2 System Response to Calibration Gasses (Cs) Cor Zero gas Core Zero gas O.006 0.002 Core Zero gas O.006 0.002 Core Zero gas Core Zero gas O.006 0.002 Core Zero gas	11:58 IAS 07 Channel 4 NOX	Channel 5 CO FF Outlet 1 ppmdv -0.528 48.913
Ft. Lauderdale, FL Stop Time FF Outlet 1 CALIBRATION BI CO2 O2 CO2 O2 CO2 O2 System Response to Calibration Gasses (C ₃) Cor Zero gas Cuf Upscale gas Subscale gas 0.006 Coce Zero gas Cuf Upscale gas Subscale gas 0.006 Coce Zero gas Cuf Upscale gas Subscale gas 0.006 Coce Zero gas Cuf Upscale gas Subscale gas 0.0002 Coce Zero gas Coce Zero gas Subscale gas 0.0002 Coce Zero gas Subscale gas 0.006 Subscale gas 5.942 Subscale gas 5.942	11:58 IAS 07 Channel 4 NOX FF Outlet 1 ppmdv 0.584 220.155 0.038	Channel 5 CO FF Outlet 1 ppmdv -0.528 48.913
FF Outlet 1 CALIBRATION Bill Channel 1 CO2 Channel 2 O2 Channel 3 SO2 FF Outlet 1 FF Outlet 1 FF Outlet 1 System Response to Calibration Gasses (C ₃) Co1026 Cor Zero gas 0.056 0.031. Curl Upscale gas 5.946 13.920 41.443 Analyzer Calibration Error Reponses (C _{0ir}) Cocce Zero gas 0.006 0.002 -0.110 Cocce Zero gas 5.942 14.094 43.504	IAS 07 Channel 4 NOX FF Outlet 1 ppmdv 0.584 220.155 0.038	Channel 5 CO FF Outlet 1 ppmdv -0.528 48.913
Channel 1 Channel 2 Channel 3 CO2 O2 SO2 FF Outlet 1 FF Outlet 1 %dv %dv ppmdv System Response to Calibration Gasses (C _s) Cof Zero gas 0.056 0.031. -0.026 Cuf Upscale gas 5.946 13.920 41.443 Analyzer Calibration Error Reponses (C _{Dir}) Coce Zero gas 0.006 0.002 -0.110 Coce Zero gas 5.942 14.094 43.504	Channel 4 NOX FF Outlet 1 ppmdv 0.584 220.155 0.038	CO FF Outlet 1 ppmdv
CO2O2SO2FF Outlet 1FF Outlet 1% Outlet 1FF Outlet 1%dv%dv%dvppmdvSystem Response to Calibration Gasses (C _s)CofZero gas0.056CufUpscale gas0.056CufUpscale gas13.920CoceZero gas0.006CoceZero gas </th <th>NOX FF Outlet 1 ppmdv 0.584 220.155 0.038</th> <th>CO FF Outlet 1 ppmdv </th>	NOX FF Outlet 1 ppmdv 0.584 220.155 0.038	CO FF Outlet 1 ppmdv
FF Outlet 1 FF Outlet 1 FF Outlet 1 %dv %dv ppmdv System Response to Calibration Gasses (C ₃) 0.031, -0.026 C _{of} Zero gas 0.056 0.031, -0.026 C _{uf} Upscale gas 5.946 13.920 41.443 Analyzer Calibration Error Reponses (C _{Dir}) C _{oce} Zero gas 0.006 0.002 -0.110 C _{oce} Zero gas 5.942 14.094 43.504	FF Outlet 1 ppmdv 0.584 220.155 0.038	FF Outlet 1 ppmdv -0.528 48.913
%dv %dv ppmdv System Response to Calibration Gasses (C ₃) C _{of} Zero gas 0.056 0.031. -0.026 C _{of} Zero gas 0.056 13.920 41.443 Analyzer Calibration Error Reponses (C _{0i}) C _{oce} Zero gas 0.006 0.002 -0.110 C _{oce} Zero gas 5.942 14.094 43.504	ppmdv 0.584 220.155 0.038	-0.528 48.913
%dv %dv ppmdv System Response to Calibration Gasses (C ₃) C _{of} Zero gas 0.056 0.031. -0.026 C _{of} Zero gas 0.056 13.920 41.443 Analyzer Calibration Error Reponses (C _{0i}) C _{oce} Zero gas 0.006 0.002 -0.110 C _{oce} Zero gas 5.942 14.094 43.504	ppmdv 0.584 220.155 0.038	-0.528 48.913
System Response to Calibration Gasses (C3) C _{of} Zero gas 0.056 0.031 -0.026 C _{uf} Upscale gas 5.946 13.920 41.443 Analyzer Calibration Error Reponses (C _{Dir}) Coce Zero gas 0.006 0.002 -0.110 C _{orce} Upscale gas 5.942 14.094 43.504	0.584 220.155 0.038	-0.528 48.913
Cor Zero gas 0.056 0.031. 0.026 Cur Upscale gas 5.946 13.920 41.443 Analyzer Calibration Error Reponses (Coir) Coce Zero gas 0.006 0.002 -0.110 Coce Upscale gas 5.942 14.094 43.504	220.155 0.038	48. <u>913</u>
Cor Zero gas 0.056 0.031. 0.026 Cur Upscale gas 5.946 13.920 41.443 Analyzer Calibration Error Reponses (Coir,) Coce Zero gas 0.006 0.002 -0.110 Coce Upscale gas 5.942 14.094 43.504	220.155 0.038	48. <u>913</u>
Analyzer Calibration Error Reponses (Coir)CoceZero gas0.0060.002-0.110CmceUpscale gas5.94214.09443.504	0.038	
C _{oce} Zero gas 0.006 0.002 -0.110 C _{mce} Upscale gas 5.942 14.094 43.504		
C _{mce} Upscale gas 5.942 14.094 43.504		e e
	226.086	-0.345
Actual Linecale Gas Value (C)		49.020
C _{ma} Upscale gas 5.910 14.100 44.900	225.000	48.200
Calibration Span Value (CS)		
13.900 14.100 89.900	453.000	98.500
System Bias as Percent of Calibration Span Value (SB) (5%		
Zero gas 0.4% 0.2% 0.1%		-0.2%
Upscale gas 0.4% 0.2% 0.1%		-0.2%
System Bias Status	1.070	0.170
Zero gas OK OK OK	ок	ок
Upscale gas OK OK OK	OK	OK
Previous System Response to Calibration Gases (C ₃)	U.N.	ÖK
$C_{\rm el}$ Zero gas 0.061 0.032 -0.015	0.562	-0.560
C_{ui} Upscale gas 5.964 13.929 41.462	220.605	48.953
Drift Assessment as Percent of Calibration Span Value (D)		10.000
Zero gas 0.0% 0.0% 0.0%		0.0%
Upscale gas -0.1% -0.1% 0.0%		0.0%
Drift Assessment Status	-0.170	0.070
Zero gas OK OK OK	ок	ок
Upscale gas OK OK OK	OK	OK
	UN	
041410 130218		
11:54:23 0.086 0.041 0.169	1.669	41.920
11:54:38 0.071 0.036 0.052	0.668	47.279
11:54:53 0.063 0.031 -0.021	0.611	48.724
11:55:08 0.055 0.031 -0.024 11:55:23 0.050 0.030 -0.032	0.611	48.855
11:55:23 <u>0.0500.030 -0.032</u> 11:55:380.4460.0330.115	0.529 0.448	48.920 48.966
11:55:53 7.906 0.014 17.727	0.448 L 6.959	46.891
11:56:08 9.781 0.006 35.656	52.137	36.114
11:56:23 9.880 0.006 39.360	180.912	18.468
11:56:38 9.904 0.006 40.537	217.427	6.106
11:56:53 9.914 0.005 41.087	219.829	1.000
11:57:08 9.921 0.005 41.495	220.114	-0.365
11:57:23 9.931 0.028 41.747	220.521	-0.573
11:57:38 7.957 8.778 30.252	220.456	-0.560
11:57:53 <u>6.097 13.671</u> 7.518	160.920	-0.453
11:58:08 5.960 13.901 2.746	35.352	-0.291
11:58:23 5.943 13.924 1.589	8.751	-0.116
11:58:38 5.936 13.934 1.083	1.188	-0.005

Nheelabrator South CleanAlr Project No Ft. Lauderdale, FL FF Outlet 1			REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 12:00 12:27 D RUN 8	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
		⁻FF Oütlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet
Ca	libration Checks					
Coi	Initial zero	0.056	0.031	-0.026	0.584	-0.52
Cut	Initial upscale	5.946	13.920	41.443	220.155	48.91
Cof	•	0.054	0.031	0.042	0.477	-0.49
Cuf		5.958	13,949	41.508	221.962	49.08
C _m	•	5.910	14.100	44.900	225.000	48.20
An	alyzer Averages (Co	oncentration	5)			
	Average conc.	9.996	-, 9,145	2.772	159.701	11.44
	Bias adjusted	9.963	9.242	2.993	162.398	11.63
1410 100210	12:01	10 451	8 622	3 116	157 668	13 //7
1410 150210	10.01	10 151	0.000			10.10
100210	12:01	10.451	8.622 8.728	3.116	157.558	
Mt0-100210	12:02	10.303	8.728	2.464	156.986	11.01
190210						11.01 10.23
	12:02 12:03	10.303 10.343	8.728 8.695	2.464 2.260	156.986 162.855	11.01 10.23 10.97
	12:02 12:03 12:04	10.303 10.343 10.573	8.728 8.695 8.482	2.464 2.260 2.284	156.986 162.855 175.446	11.01 10.23 10.97 10.71
	12:02 12:03 12:04 12:05	10.303 10.343 10.573 10.084	8.728 8.695 8.482 9.012	2.464 2.260 2.284 2.135	156.986 162.855 175.446 178.335	11.01 10.23 10.97 10.71 9.59
	12:02 12:03 12:04 12:05 12:06	10.303 10.343 10.573 10.084 10.125	8.728 8.695 8.482 9.012 8.994	2.464 2.260 2.284 2.135 1.965	156.986 162.855 175.446 178.335 176.089	11.01 10.23 10.97 10.71 9.59 9.82
	12:02 12:03 12:04 12:05 12:06 12:06 12:07	10.303 10.343 10.573 10.084 10.125 9.933	8.728 8.695 8.482 9.012 8.994 9.215	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030	156.986 162.855 175.446 178.335 176.089 170.440	11.01 10.23 10.97 10.71 9.59 9.82 9.95
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47 15.09
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47 15.09 13.98 12.35
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47 15.09 13.98 12.35 11.45
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98 12.35 11.45 10.82
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98 12.35 11.45 10.82 9.60
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98 12.35 11.45 10.82 9.60 9.85
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98 12.35 11.45 10.82 9.60 9.85 11.00
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576 10.234	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681 8.813	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718 3.094	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677 146.471	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98 12.35 11.45 10.82 9.60 9.85 11.00 12.81
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576 10.234 9.736	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681 8.813 9.490	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718 3.094 3.465	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677 146.471 151.592	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47 15.09 13.98 12.35 11.45 10.82 9.60 9.85 11.00 2.81 11.05
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576 10.234	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681 8.813	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718 3.094	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677 146.471	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47 15.09 13.98 12.35 10.82 9.60 9.85 11.00 2.81 11.05
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576 10.234 9.736 9.747	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681 8.813 9.490 9.435	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718 3.094 3.465 3.341	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677 146.471 151.592 146.862	11.01 10.23 10.97 9.59 9.82 9.95 11.25 12.28 12.47 15.09 13.98 12.35 10.82 9.60 9.85 11.00 212.818 11.05 11.654 13.295
	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576 10.234 9.736 9.747 10.034	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681 8.813 9.490 9.435 9.041	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718 3.094 3.465 3.341 3.417	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677 146.471 151.592 146.862 162.017	11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.47 15.09 13.98 12.35 10.82 9.60 9.85 11.00 12.81 11.05 11.05 11.654 13.295 11.272
1410 130218	12:02 12:03 12:04 12:05 12:06 12:07 12:08 12:09 12:10 12:11 12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24	10.303 10.343 10.573 10.084 10.125 9.933 9.742 10.090 10.071 9.679 9.948 9.903 9.815 10.173 10.192 9.919 9.631 9.576 10.234 9.736 9.747 10.034 9.958	8.728 8.695 8.482 9.012 8.994 9.215 9.487 9.024 9.083 9.599 9.229 9.293 9.386 8.907 8.877 9.249 9.623 9.681 8.813 9.490 9.435 9.041 9.137	2.464 2.260 2.284 2.135 1.965 1.953 1.915 2.030 2.424 2.396 2.411 2.559 2.373 2.544 2.688 2.606 2.585 2.718 3.094 3.465 3.341 3.417 3.494	156.986 162.855 175.446 178.335 176.089 170.440 164.459 161.982 165.928 157.025 153.480 153.750 150.399 151.036 160.307 161.262 148.099 138.677 146.471 151.592 146.862 162.017 165.861	13.47 11.01 10.23 10.97 10.71 9.59 9.82 9.95 11.25 12.28 12.28 12.47 15.09 13.98 12.35 10.82 9.60 9.857 11.00 12.818 11.654 13.295 11.272 10.706 10.856



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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1

March 23, 2010 Start Time 12:28 12:32 Stop Time CALIBRATION BIAS 08

	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
	CO2	02	SO2	NOX	CO
	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
	%dv	%dv	ppmdv	ppmdv	ppmdv
System Response to	Calibration G	iasses (C _s)			
C _{of} Zero gas	0.054	0.031	0.042	0.477	-0.496
C _{uf} Upscale gas	5.958	13.949	41.508	221.962	49.083
Analyzer Calibration	Error Repons	ies (C _{Dir})			
Coce Zero gas	0.006	0.002	-0.110	0.038	-0.345
Cmce Upscale gas	5.942	14.094	43.504	226.086	49.020
Actual Upscale Gas \	/alue (C _{MA})				
C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
Calibration Span Valu	ue (CS)				
	13.900	14.100	89.900	453.000	98.500
System Bias as Perce					
Zero gas	0.3%	0.2%	0.2%	, 0.1%	-0.2%
Upscale gas	0.1%	-1.0%	-2.2%	-0.9%	0.1%
System Bias Status	0.170	1.070	-2.270	-0.076	0.174
Zero gas	ок	ок	ОК	ок	ок
Upscale gas	OK	OK	OK	OK	OK
Previous System Res				. OK	ÖK
•	0.056	0.031	-0.026	0.584	-0.528
C _{ol} Zero gas C _{ul} Upscale gas	5.946	13.920	-0.020 41,443	220.155	48.913
Drift Assessment as					40.913
		0.0%	0.1%	, 3%) 0.0%	0.0%
Zero gas	0.0%	0.0%	0.1%		
Upscale gas		0.2%	0.1%	0.4%	0.2%
Drift Assessment Sta		014	014	04	014
Zero gas	OK	OK	OK	OK	OK
Upscale gas	OK	OK	OK	OK	OK
12:28:16	0.081	0.043	0.313	1.156	42.831
12:28:31	0.067	0.036	0.163	0.733	47.582
12:28:46		0.032	0.078	0.660	48.998
12:29:01	0.055	0.031	0.024	0.504	49.111
12:29:16	0.049	0.030	0.024	0.268	49.114
12:29:31	2.043	0.030	1.073	0.244	49.026
12:29:46	9.079	0.009	22.522	25.511	45.175
12:30:01	9.846	0.006	36.599	151.185	32,106
12:30:16 12:30:31	9.864 9.923	-0.020 0.003	39.481 40.544	207.611 220.952	13.828 4.410
12:30:31	9.923 9.937	0.003	40.544	220.952	4.410 0.309
12:30:40	9.937	0.002	41.610	221.815	-0.417
12:31:16	9.822	1.145	41.750	222.141	-0.544
12:31:10	6.942	11.756	24.210	211.347	-0.544
12:31:46	6.028	13.851	6.147	163.182	-0.401
12:32:01	5.968	13.934	2.574	42.581	-0.210
12:32:16	5.954	13.952	1.623	3.272	-0.026
12:32:31	5.951	13.962	1.169	0.936	0.062

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QA/QC_ Date_

E - 22

eelabrator South anAir Project No. .auderdale, FL Dutlet 1			REFERE	Ma Start Time Stop time NCE METHO	rch 23, 2010 12:33 13:00 D RUN 9	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel : C(
		∽FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet ppmd
Cali	bration Checks					
Coi	Initial zero	0.054	0.031	0.042	0.477	-0.496
Cul	Initial upscale	5.958	13.949	41.508	221,962	49.083
Cof	Final zero	0.066	0.034	0.060	0.567	-0.500
Cuf	Final upscale	5.955	13.941	41.338	220.508	49.048
C _{ut}	•	5.910	14.100	44.900	225.000	48.200
Ana	lyzer Averages (co	oncentration	sì			
	Average conc.	10.068	9.152	2.052	159.449	13.363
	Bias adjusted	10.031	9.243	2.172	162.014	13.480
130218	10-24			. :		
	12:34	10.532	8.548	7.341	168.820	
	12:35	10.565	8.490	6.895	167.713	11.929
	12:35 12:36	10.565 10.548	8.490 8.547	6.895 4.062	167.713 168.832	11.929 10.710
	12:35 12:36 12:37	10.565 10.548 10.226	8.490 8.547 8.854	6.895 4.062 2.510	167.713 168.832 156.351	11.929 10.710 10.620
	12:35 12:36 12:37 12:38	10.565 10.548 10.226 10.643	8.490 8.547 8.854 8.418	6.895 4.062 2.510 1.898	167.713 168.832 156.351 163.462	11.929 10.710 10.620 14.315
	12:35 12:36 12:37 12:38 12:39	10.565 10.548 10.226 10.643 10.088	8.490 8.547 8.854 8.418 9.026	6.895 4.062 2.510 1.898 1.390	167.713 168.832 156.351 163.462 150.808	11.929 10.710 10.620 14.315 12.139
	12:35 12:36 12:37 12:38 12:39 12:40	10.565 10.548 10.226 10.643 10.088 10.168	8.490 8.547 8.854 8.418 9.026 8.985	6.895 4.062 2.510 1.898 1.390 1.234	167.713 168.832 156.351 163.462 150.808 158.832	11.929 10.710 10.620 14.315 12.139 14.750
	12:35 12:36 12:37 12:38 12:39	10.565 10.548 10.226 10.643 10.088 10.168 10.184	8.490 8.547 8.854 8.418 9.026	6.895 4.062 2.510 1.898 1.390	167.713 168.832 156.351 163.462 150.808	11.929 10.710 10.620 14.315 12.139 14.750 13.162
	12:35 12:36 12:37 12:38 12:39 12:40 12:41	10.565 10.548 10.226 10.643 10.088 10.168	8.490 8.547 8.854 8.418 9.026 8.985 8.951	6.895 4.062 2.510 1.898 1.390 1.234 1.220	167.713 168.832 156.351 163.462 150.808 158.832 154.833	11.929 10.710 10.620 14.315 12.139 14.750 13.162 15.645
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385	11.92 10.710 10.620 14.315 12.135 14.750 13.162 15.645 16.132
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923 7.841	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783	11.929 10.710 10.620 14.315 12.139 14.750 13.162 15.645 16.132 11.540
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923 7.841 9.256	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653	11.929 10.710 10.620 14.315 12.139 14.750 13.162 15.645 16.132 11.540 10.614
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619	11.92 10.71 10.62 14.31 12.13 14.75 13.16 15.64 16.13 11.54 10.61 11.80 12.64
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044	11.92 10.71 10.62 14.31 12.13 14.75 13.16 15.64 16.13 11.54 10.61 11.80 12.64 10.24
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286	11.92 10.71 10.62 14.31 12.13 14.75 13.16 15.64 16.13 11.54 10.61 12.64 10.24 10.24 10.37
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700 10.011	8.490 8.547 8.854 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699	11.92 10.71 10.62 14.31 12.13 14.75 13.16 15.64 16.13 11.54 10.61 12.64 10.24 10.24 10.37 14.54
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700 10.011 10.495	8.490 8.547 8.854 8.418 9.026 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699 155.450	11.92 10.71 10.62 14.31 12.13 14.75 13.16 15.64 16.13 11.54 10.61 12.64 10.24 10.37 14.54 15.84 15.84
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700 10.011 10.495 10.194	8.490 8.547 8.854 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699 155.450 164.666	11.929 10.710 10.620 14.315 12.139 14.750 13.162 15.645 16.132 11.540 10.614 11.805 12.644 10.240 10.371 14.541 15.847 14.979
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52 12:53	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700 10.011 10.495 10.194 9.943	8.490 8.547 8.854 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026 9.315	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705 1.603	$\begin{array}{c} 167.713\\ 168.832\\ 156.351\\ 163.462\\ 150.808\\ 158.832\\ 154.833\\ 160.385\\ 166.783\\ 163.653\\ 162.218\\ 169.530\\ 170.619\\ 161.044\\ 154.286\\ 151.699\\ 155.450\\ 164.666\\ 161.251\\ \end{array}$	11.929 10.710 10.620 14.315 12.139 14.755 13.162 15.645 16.132 11.540 10.614 10.614 10.614 10.240 10.371 14.541 15.847 14.979 12.685
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52 12:53 12:54	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700 10.011 10.495 10.194 9.943 9.561	8.490 8.547 8.854 8.941 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026 9.315 9.805	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705 1.603 1.518	$\begin{array}{c} 167.713\\ 168.832\\ 156.351\\ 163.462\\ 150.808\\ 158.832\\ 154.833\\ 160.385\\ 166.783\\ 163.653\\ 162.218\\ 169.530\\ 170.619\\ 161.044\\ 154.286\\ 151.699\\ 155.450\\ 164.666\\ 161.251\\ 159.601 \end{array}$	11.929 10.710 10.620 14.315 12.139 14.755 13.162 15.645 16.132 11.540 10.614 10.614 10.614 10.240 10.371 14.541 15.847 14.979 12.685 12.085
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52 12:53 12:54 12:55	10.565 10.548 10.226 10.643 10.088 10.168 10.184 10.198 11.243 9.986 10.397 10.207 10.304 10.234 9.700 10.011 10.495 10.194 9.943 9.561 9.462	8.490 8.547 8.854 8.941 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026 9.315 9.805 9.950	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705 1.603 1.518 1.256	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699 155.450 164.666 161.251 159.601 158.272	11.929 10.710 10.620 14.315 12.139 14.750 13.162 15.645 16.132 11.540 10.614 10.614 10.240 10.371 14.541 15.847 14.979 12.685 12.089 12.680
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52 12:53 12:54 12:55 12:56	$\begin{array}{c} 10.565\\ 10.548\\ 10.226\\ 10.643\\ 10.088\\ 10.168\\ 10.184\\ 10.198\\ 11.243\\ 9.986\\ 10.397\\ 10.207\\ 10.304\\ 10.234\\ 9.700\\ 10.011\\ 10.495\\ 10.194\\ 9.943\\ 9.561\\ 9.462\\ 9.589\end{array}$	8.490 8.547 8.854 8.941 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026 9.315 9.805 9.950 9.784	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705 1.603 1.518 1.256 1.281	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699 155.450 164.666 161.251 159.601 158.272 161.429	11.929 10.710 10.620 14.315 12.139 14.750 13.160 15.645 16.132 11.540 10.614 10.614 10.240 10.371 14.541 15.847 14.979 12.685 12.089 12.680 13.960
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52 12:53 12:54 12:55 12:56 12:57	$\begin{array}{c} 10.565\\ 10.548\\ 10.226\\ 10.643\\ 10.088\\ 10.168\\ 10.184\\ 10.198\\ 11.243\\ 9.986\\ 10.397\\ 10.207\\ 10.304\\ 10.234\\ 9.700\\ 10.011\\ 10.495\\ 10.194\\ 9.943\\ 9.561\\ 9.462\\ 9.589\\ 9.440 \end{array}$	8.490 8.547 8.854 8.941 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026 9.315 9.805 9.950 9.784 10.001	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705 1.603 1.518 1.256 1.281 1.560	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699 155.450 164.666 161.251 159.601 158.272 161.429 157.495	11.929 10.710 10.620 14.315 12.139 14.750 13.162 15.644 16.132 11.540 10.614 10.614 10.240 10.371 14.541 15.847 14.979 12.685 12.089 12.680 13.960 16.229
	12:35 12:36 12:37 12:38 12:39 12:40 12:41 12:42 12:43 12:44 12:45 12:46 12:47 12:48 12:49 12:50 12:51 12:52 12:53 12:54 12:55 12:56	$\begin{array}{c} 10.565\\ 10.548\\ 10.226\\ 10.643\\ 10.088\\ 10.168\\ 10.184\\ 10.198\\ 11.243\\ 9.986\\ 10.397\\ 10.207\\ 10.304\\ 10.234\\ 9.700\\ 10.011\\ 10.495\\ 10.194\\ 9.943\\ 9.561\\ 9.462\\ 9.589\end{array}$	8.490 8.547 8.854 8.941 8.926 8.985 8.951 8.923 7.841 9.256 8.717 8.942 8.907 8.928 9.634 9.250 8.639 9.026 9.315 9.805 9.950 9.784	6.895 4.062 2.510 1.898 1.390 1.234 1.220 1.562 1.829 1.740 1.442 1.300 1.145 1.109 1.204 1.298 1.515 1.705 1.603 1.518 1.256 1.281	167.713 168.832 156.351 163.462 150.808 158.832 154.833 160.385 166.783 163.653 162.218 169.530 170.619 161.044 154.286 151.699 155.450 164.666 161.251 159.601 158.272 161.429	9.147 11.929 10.710 10.626 14.315 12.139 14.750 13.162 15.645 16.132 11.540 10.614 10.240 10.371 14.541 15.847 12.685 12.685 12.689 12.689 12.689 12.689 12.689 12.689 13.960 16.229 16.787 16.333



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Wheelabrator Sout	th Bro	oward			Ма	rch 23, 2010	
CleanAir Project N	o. 10	955			Start Time	13:01	
Ft. Lauderdale, FL					Stop Time	13:06	
FF Outlet 1				CALI	BRATION BI	AS 09	
			0	Cham 44		<u> </u>	0h
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			002	Ű	301	NOA	00
			FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1	FF Outlet 1
			%dv	%dv	ppmdv	ppmdv	ppmdv
	Syst	tem Response to	Calibration G	asses (C _s)			
	Cof	Zero gas	0.066	0.034	0.060	0.567	-0.500
	Cuf	Upscale gas	5.955	13.941	41.338	220.508	49.048
	Ana	lyzer Calibration	Error Repons	es (C _{Dir})			
		Zero gas	0.006	0.002	-0.110	0.038	-0.345
		Upscale gas	5.942	14.094	43.504	226.086	49.020
	Actu	al Upscale Gas \	/alue (C _{MA})				
	Cma	Upscale gas	5.910	14.100	44.900	225.000	48.200
	Cali	bration Span Valu	ue (CS)				
		-	13.900	14.100	89.900	453.000	98.500
	Syst	tem Bias as Perce	ent of Calibra	tion Span Va	lue (SB) (5%)	
	•	Zero gas	0.4%	0.2%	0.2%	, 0.1%	-0.2%
		Upscale gas	0.1%	-1.1%	-2.4%	-1.2%	0.0%
	Syst	tem Bias Status					
	•	Zero gas	ок	ОК	ОК	ок	ОК
		Upscale gas	OK	OK.	ок	ОК	ОК
	Prev	vious System Res	ponse to Cali	bration Gas	es (C _s)		
	Coi	Zero gas	0.054	0.031	0.042	0.477	-0.496
	C_{ui}	Upscale gas	5.958	13.949	41.508	221.962	49.083
	Drift	Assessment as	Percent of Ca	libration Spa	an Value (D) (3%)	
		Zero gas	0.1%	0.0%	0.0%	0.0%	0.0%
		Upscale gas	0.0%	-0.1%	-0.2%	-0.3%	0.0%
	Drift	Assessment Sta	itus				
		Zero gas	OK	OK	ок	ок	ок
		Upscale gas	ОК	ок	OK	ОК	OK
042010 144119							
042010 144110	-	13:01:45	0.104	0.049	0.493	3.671	37.656
		13:02:00		0.043	0.220	0.806	44.956
		13:02:15	0.072	0.037	0.114	0.611	48.342
		13:02:30		0.035	0.068	0.595	49.023
		13:02:45	k	0.031	-0.003	0.497	49.062
		13:03:00	0.260	0.033	0.023	0.285	49.060
		13:03:15	7.438	0.016 0.008	12.811	1.042	47.544 38.178
		13:03:30 13:03:45	9.762 9.888	0.008	33.706 38.743	50.501 189.500	19.818
		13:04:00	9.909	0.006	40.187	217.102	7.332
		13:04:15		0.006	40.928	220.196	1.294
		13:04:30	9.933	0.004	41.428	220.570	-0.204
		13:04:45	9.852	0.982	41.659	220.757	-0.505
		13:05:00	7.030	11.529	25.143	220.846	-0.550
		13:05:15	6.033	13.827	6.493	130.362	-0.444
		13:05:30		13.925	2.710	20.920	-0.268
		13:05:45		13.943	1.726	4.159	-0.049
		13:06:00	5.951	13.954	1.232	0.969	0.091

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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 1		REFERE	Ma Start Time Stop time NCE METHO	arch 23, 2010 13:07 13:34 D RUN 10	
	Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
·	FF Outlet 1 %dv	FF Outlet 1 %dv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv	FF Outlet 1 ppmdv
Calibration Check	ks				
Col Initial zero	0.066	0.034	0.060	0.567	-0.500
C _{ut} Initial upscale		13.941	41.338	220.508	49.048
C _{of} Final zero	0.067	0.030	0.148	0.423	-0.443
C _{ut} Final upscale		13.919	41.466	221.115	49.113
C _{ma} Actual gas va		14.100	44.900	225.000	48.200
Analyzer Average	s (concentration	s)			
CAva Average con	c. 10.453	8.626	4.436	167.073	9.866
C _{Gas} Bias adjuste		8.719	4.710	170.119	10.055
-					
Clock Time (at end of sample per	iod)				
041410 130218					
	10.072	8.974	2.388	172.151	15.230
	10.754	8.194	2.133	178.447	14.492
	10.810	8.199	2.572	184.282	13.185
	0:11 9.932 0:12 10.299	9.198 8.781	2.813 2.864	164.304	12.180
	10.299 113 10.734	8.279	2.864 3.104	163.952 162.147	11.808 9.933
	10.734	8.981	3.404	173.639	9.933 11.266
	10.100	8.515	2.931	156.960	10.643
	:16 10.233	8.895	2.772	168.044	12.259
	17 10.537	8.480	2.726	170.242	10.455
	:18 10.168	8.933	2.862	179.394	10.128
13	:19 10.605	8.431	2.790	176.158	9.623
13	:20 10.243	8.835	3.068	175.480	9.698
13	:21 10.984	8.017	4.091	175.519	9.999
13	:22 10.673	8.423	4.762	180.830	9.243
	:23 10.214	8.893	3.995	161.534	7.336
	:24 10.910	8.169	4.663	172.481	9.257
	:25 10.085	9.110	4.670	157.517	7.456
	:26 10.877	8.171	5.829	153.671	7.423
	27 10.454	8.694	6.795	168.380	8.281
	28 10.493	8.589	6.058	152.023	6.934
	29 10.725	8.360	6.841	169.406	8.790
	30 10.146	8.959	6.361	155.374	7.519
13:	31 10.484 32 10.198	8.614 8.908	6.821	160.501	8.062
13:		8.251	6.950 8.242	155.584	7.479
13.		9.062	8.242 7.278	167.367 155.584	10.009 7.693
15.	10.001	0.002	1.210	100.004	1.035



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CleanAir Project N				Start Time	13.35	
Ft. Lauderdale, FL				Stop Time	13:40	
FF Outlet 1			CALI	BRATION BI	AS 10	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
		EE Quitlat 4				
			FF Outlet 1			
		%dv	%dv	ppmdv	ppmdv	ppmdv
	System Response	to Calibration (Gasses (C_)			
	C _{of} Zero gas		0.030	0.148	0.423	-0.443
	C _{uf} Upscale gas	5.954		41.466	221.115	49.113
	Analyzer Calibratio				221.110	10.110
		0.006	0.002	0.440	0.020	0.245
	C _{oce} Zero gas		-	-0.110	0.038	-0.345
	C _{mce} Upscale gas	5.942	14.094	43.504	226.086	49.020
	Actual Upscale Ga					
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span V	alue (CS)				
		13.900	14.100	89.900	453.000	98.500
	System Bias as Pe	rcent of Calibra	ition Span Va	ulue (SB) (5%)	
	Zero gas	0.4%	0.2%	0.3%	, 0.1%	-0.1%
	Upscale gas	0.1%	-1.2%	-2.3%	-1.1%	0.1%
	System Bias Status					
	Zero gas	ОК	ок	ок	ОК	ОК
	Upscale gas	OK	OK	OK	OK	OK
	Previous System R				ÖK	ÖK
	-	0.066	0.034		0.567	-0.500
	C _{ol} Zero gas	5.955		0.060	0.567	
	C _{ui} Upscale gas		13.941	41.338	220.508	49.048
	Drift Assessment a					
	Zero gas	0.0%	0.0%	0.1%	0.0%	0.1%
	Upscale gas	0.0%	-0.2%	0.1%	0.1%	0.1%
	Drift Assessment S					
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	OK
041410 130218	13:35:3	34 0.091	0.040	0.441	1.042	42.763
	13:35:4		0.040	0.441	0.733	47.586
	13:36:(0.038	0.278	0.735	49.034
	13:36:		0.032	0.134	0.464	49.116
	13:36:3		0.029	0.112	0.285	49.114
	13:36:4		0.028	0.104	0.252	49.111
	13:37:0		0.020	6.763	4.721	48.554
	13:37:		0.006	31.010	49.377	42.595
	13:37:3		0.005	38.530	137.176	25.406
	13:37:4		0.005	40.283	218.193	10.797
	13:38:0		0.005	40.985	220.505	2.489
	13:38:1		0.002	41.522	221.367	0.049
	13:38:3		0.107	41.892	221.474	-0.438
	13:38:5		10.057	29.112	217.574	-0.471
	13:39:0		13.702	7.917	194.530	-0.419
	12:30:		13 007	2 052	61 367	0.254

March 23, 2010

13:35

Start Time

Prepared by Clean Air Engineering Proprietary Software SS CEM Version 06-2004a 13:39:19

13:39:34

13:39:49

13:40:04

5.966

5.951

5.944

5.951

Wheelabrator South Broward CleanAir Project No. 10955

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13.907

13.918

13.932

13.843

2.952

1.744

1.304

1.032

61.367

5.031

0.936

0.700

-0.254

-0.033

0.059

Wheelabrator South Broward CleanAir Project No. 10955		Date:	Start Time	r <u>ch 24, 2010</u> 7:13 7:09	
Ft. Lauderdale, FL FF Outlet 2		CALI	Stop Time BRATION EF	7:28 RROR	
	Channel 4	Channel B	Channel	Observat 4	Channel C
	Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
	%dv	%dv	ppmdv	ppmdv	ppmdv
Instrument Info		0			-
Manufacturer: Model:		Servomex 1420C	Wstrn Rsrch 921L	T.E.I. 42i-HL	T.E.I. 48i
Detection		Paramagn.	UV Photo.	Chemilumi.	GFC/NDIR
Asset or Serial No:		205832	205184	205956	205194
Calibration Spa	n Value (CS)				
·	13.900	14.100	89.900	453.000	98.500
System Respon	se Time (sec	on ds)			
	45	45	45	45	45
Manufacturer C	-		-	0.000	0.000
Zero Low	0.000 5.910	0.000 6.010	0.000 44.900	0.000	0.000 48.200
	5.910	0.010	44.900	225.000	40.200
High	13.900	14.100	89.900	453.000	9 8 .500
Actual gas to b	e used for bia	as checks			
	5.910	14.100	44.900	225.000	48.200
Cylinder ID					
Zero	AAL14589	AAL14589	AAL14589	AAL14589	AAL14589
Low Mid	ALM033730	ALM046255	ALM010885	ALM010885	EB0011451
High	ALM046255	ALM033730	CC124384	CC124384	ALM054744
Analyzer Calibra	ation Respon	se (C _{or})			
Zero	0.008	0.006	-0.047	-0.043	0.118
Low	5.945	6.026	43.542	226.181	49.082
Mid	9.880	0.074	72.123	441.956	-0.303
High	13.936	14.112	89.970	453.819	<u>9</u> 8.971
Analyzer Calibration Error (ACE) (Limit = 2					• • • •
Zero	0.1%	0.0%	-0.1%	0.0%	0.1%
Low Mid	0.3% N/A	0.1% N/A	-1.5% N/A	0.3% N/A	0.9% N/A
High	0.3%	0.1%	0.1%	0.2%	0.5%
Calibration Erro	r Status				
Zero	ок	ОК	ОК	OK	ок
Low	ОК	OK	OK	OK	OK
Mid	N/A	N/A	N/A	N/A	N/A
Hìgh	OK	OK	OK	OK	ОК
041410 130243	0.015	0.008	0.006	0.432	0.256
07:13:36	0.013	0.006	-0.027	0.049	-0.181
07:13:21	0.015	0.008	0.006	0.432	0.256
07:13:36	0.012	0.006	-0.027	0.049	-0.181
07:13:51	0.006	0.006	-0.040	0.016	0.124
07:14:06	0.012	0.005	-0.044	-0.024	0.125
07:14:21	0.006	0.006	-0.055	-0.122	0.106
07:14:36 07:14:51	0.864 5.254	3.893 13 194	-0.026	-0.122 -0.114	0.103
07:14:51	0.204	13.194	-0.016	-0.114	0.088

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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 2

Date:	March	24, 2010
-	Start Time	7:13
	Stop Time	7:28
CALI	BRATION ERRO	R

	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
	CO2	02	SO2	NOX	со
	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
_	%dv	%dv	ppmdv	ppmdv	ppmdv
07:15:06	5.915	14.081	-0.034	-0.122	0.120
07:15:21	5.956	14.124	-0.052	-0.106	0.122
07:15:36	5.964	14.130	-0.044	-0.106	0.122
07:15:51	6.426	12.771	-0.037	-0.122	0.155
07:16:06	12.435	6.876	-0.096	-0.122	0.155
07:16:21	13.840	6.067	-0.064	-0.016	0.122
07:16:36	13.925	6.028	-0.042	-0.089	0.101
07:16:51	13.940	6.025	-0.023	-0.114	0.028
07:17:06	13.944	6.025	-0.002	-0.114	-0.03 9
07:17:21	12.869	4.656	9.731	-0.106	-0.078
07:17:36	10.139	0.466	69.211	28.799	-0.057
07:17:51	9.935	0.024	86.976	156.712	-0.028
07:18:06	9.932	0.001	89.535	414.245	-0.099
07:18:21	9.931	-0.001	90.045	449.629	-0.225
07:18:36	9.929	-0.001	90.130	453.000	-0.317
07:18:51	9.929	0.000	89.924	453.569	-0.314
07:19:06	9.928	-0.002	89.970	454.017	-0.314
07:19:21	9. 9 27	-0.004	90.017	453.870	-0.317
07:19:36	9.774	0.182	79.818	454.123	-0.312
07:19:51	9.939	0.044	46.533	417.875	-0.280
07:20:06	10.025	-0.010	43.311	318.128	-0.317
07:20:21	10.035	-0.014	43.310	247.546	-0.314
07:20:36	10.036	-0.016	43.388	227.505	-0.312
07:20:51	10.041	-0.016	43.464	226.358	-0.319
07:21:06	10.035	-0.015	43.554	226.211	-0.335
07:21:21	10.038	-0.014 [43.608	225.974	-0.366
07:21:36	8.959	0.127	40.545	226.040	-0.317
07:21:51	1.200	0.052	11.730	198.559	2.502
07:22:06	0.090	0.007	1.577	118.079	21.719
07:22:21	0.035	0.006	0.401	31.705	53.926
07:22:36	0.031	0.006	0.169	2.108	86.822
07:22:51	0.023	0.005	0.099	0.725	97.991
07:23:06	0.023	0.005	0.098	0.627	99.521
07:23:21	0.021	0.006	0.083	0.611	99.038
07:23:36	0.014	0.006	0.068	0.611	98.932
07:23:51	0.017	0.006	0.068	0.611	98.943
07:24:06	0.128	0.134	0.228	0.611	99.012
07:24:21	0.047	0.030	0.388	0.529	95.914
07:24:36	0.016	0.006	0.174	0.578	81.139
07:24:51	0.010	0.006	0.078	0.505	66.128
07:25:06	0.009	0.004	0.070	0.122	52.873
07:25:21	0.010	0.005	0.027	-0.081	49.903
07:25:36	0.006	0.006	0.047	-0.033	49.416
07:25:51	0.006	0.004	0.047	-0.024	49.180
07:26:06	0.007	0.006	0.037	-0.008	49.037
07:26:21	0.005	0.005	0.042	-0.024	49.030
07:26:36	0.080	0.472	0.040	-0.024	49.048
07:26:51	0.040	1.001	0.353	1.449	46.543
07:27:06	0.006	1.007	0.794	8.067	33.102
07:27:21	0.006	1.007	0.933	32.080	17.786
07:27:36	0.004	1.007	0.959	42.784	5.022

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QA/QC_____ Date_____

E - 28 .

Wheelabrator South Broward			Date:	Ma	rch 24, 2010	
CleanAir Project No. 10955				Start Time	7:13	
Ft. Lauderdale, FL				Stop Time	7:28	
FF Outlet 2			CAL	BRATION E	ROR	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	co
<u> </u>		FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
		%dv	%dv	ppmdv	ppmdv	ppmdv
	07:27:51	0.000	1.007	0.993	44.640	1.146
	07:28:06	0.004	1.007	1.037	45.031	0.122
	07:28:21	0.002	1.007	1.040	45.242	0.122
				NOX Conver	sion Efficienc	Ŷ

NO2 = 49.7 Efficiency =

90.8%

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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 2

March 24, 2010 Start Time 7:32 Stop Time 7:36 CALIBRATION BIAS 00

			CALI	BRATION BI	45 00	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
		FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv
Svst	em Response to	Calibration G	iasses (C _e)			
C _{of}	Zero gas	0.012-	0.020	-0.005	0.095	-0.056
Cuf	Upscale gas	5.927	13.966	41.158	221.967	49.052
-	yzer Calibration			1,1100		10.002
	Zero gas	0.008	0.006	-0.047	-0.043	0.118
	Upscale gas	5.945	14.112	43.542	226.181	49.082
	al Upscale Gas \		14.112	40.042	220.101	49.002
	•		14 100	44.000	225.000	49 200
	Upscale gas	5.910	14.100	44.900	225.000	48.200
Calik	oration Span Valu	•••	4.4.48-	0 0 00-		
_		13.900	14.100	89.900	453.000	98.500
Syst	em Bias as Perce		-	lue (SB) (5%)		
	Zero gas	0.0%	0.1%	0.0%	0.0%	-0.2%
	Upscale gas	-0.1%	-1.0%	-2.7%	-0.9%	0.0%
Syst	em Bias Status					
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	ОК	ОК	OK
Prev	ious System Res	ponse to Cal	bration Gase	es (C _s)		
Coi	Zero gas	N/A	N/A	N/A	N/A	N/A
Cui	Upscale gas	N/A	N/A	N/A	N/A	N/A
	Assessment as I	Percent of Ca	libration Spa	n Value (D) (3%)	
	Zero gas	N/A	N/A	N/A	N/A	N/A
	Upscale gas	N/A	N/A	N/A	N/A	N/A
Drift	Assessment Sta					
51110	Zero gas	N/A	N/A	N/A	N/A	N/A
	Upscale gas	N/A	N/A	N/A	N/A	N/A
	opscale gas	N/A	10/2	N/A	IN//4	N/A
	07.00.50	0 010	0.000	0.010	0.400	10.000
	07:32:58 07:33:13	0.012 0.012	0.022	-0.013	0.122	49.038 49.037
	07:33:13	0.012	0.018 0.020	-0.005 0.002	0.114	
	07:33:43	0.643	0.020	0.002	0.049	<u>49.081</u> 49.221
	07:33:58	8.203	0.020	18.476	0.106	47.266
	07:34:13	9.776	0.004	35.692	82.890	36.389
	07:34:28	9.870	0.004	39.049	210.240	19.077
	07:34:43	9.894	0.004	40.205	219.438	6.782
	07:34:58	9.902	0.005	40.873	221.864	1.372
	07:35:13	9.913	0.005	41.304	222.011	0.089
	07:35:28	9.771	1.341	41.298	222.027	-0.139
	07:35:43	6.831	11.913	21.315	216.280	-0.113
	07:35:58	5.983	13.850	5.175	97.005	0.085
	07:36:13	5.936	13.949	2.268	26.797	0.207
	07:36:28	5.925	13.969	1.410	1.718	0.319
	07:36:43	5.919	13.980	1.050	0.888	0.330
		5.0.0				

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041410 136243

QA/QC_____ Date_____

E - 30

C C C C C C C C C C	n Initial upscale Final zero	%dv 0.012 5.927 0.056 5.948 5.910	%dv 0.020 13.966 0.036 13.968 14.100 s) 8.998 9.073 8.532 9.512	-0.005 41.158 0.146 41.681 44.900 10.631 11.467	Channel 4 NOX FF Outlet 2 ppmdv 0.095 221.967 0.584 221.218 225.000 156.799 159.109	Channel Cr FF Outlet ppmd -0.056 49.052 -0.112 48.887 48.200 8.295 8.233 8.233 8.233
C, C, C, C, C, C, C, C, Clock Time (at e	 Initial zero Initial upscale Final zero Final upscale Final upscale Actual gas value Actual gas value Average conc. Bias adjusted d of sample period) 07:39 07:40 07:41 	%dv 0.012 5.927 0.056 5.948 5.910 0ncentration 10.239 10.216	%dv 0.020 13.966 0.036 13.968 14.100 s) 8.998 9.073 8.532 9.512	-0.005 41.158 0.146 41.681 44.900 10.631 11.467	ppmdv 0.095 221.967 0.584 221.218 225.000 156.799 159.109	-0.056 49.052 -0.112 48.887 48.200 8.295 8.233 8.648
C, C, C, C, C, C, C, C, Clock Time (at e	 Initial zero Initial upscale Final zero Final upscale Final upscale Actual gas value Actual gas value Average conc. Bias adjusted d of sample period) 07:39 07:40 07:41 	5.927 0.056 5.948 5.910 0ncentration 10.239 10.216 10.672 9.818	13.966 0.036 13.968 14.100 s) 8.998 9.073 8.532 9.512	41.158 0.146 41.681 44.900 10.631 11.467 7.642 6.745	221.967 0.584 221.218 225.000 156.799 159.109	49.052 -0.112 48.887 48.200 8.295 8.233 8.648
C, C, C, Ai C, C, Clock Time (at e	ni Initial upscale ri Final zero ri Final upscale ha Actual gas value halyzer Averages (conc. ha Bias adjusted hd of sample period) 07:39 07:40 07:41	5.927 0.056 5.948 5.910 0ncentration 10.239 10.216 10.672 9.818	13.966 0.036 13.968 14.100 s) 8.998 9.073 8.532 9.512	41.158 0.146 41.681 44.900 10.631 11.467 7.642 6.745	221.967 0.584 221.218 225.000 156.799 159.109	49.052 -0.112 48.887 48.200 8.295 8.233 8.648
C, C, Ai C, C, Clock Time (at e	Final zero Final upscale Actual gas value Actual gas value Final upscale Actual gas value Final upscale Actual gas value Actual gas value Final upscale Actual gas value Actual gas value final upscale Actual gas value Actual gas valu	0.056 5.948 5.910 0ncentration 10.239 10.216 10.672 9.818	0.036 13.968 14.100 s) 8.998 9.073 8.532 9.512	0.146 41.681 44.900 10.631 11.467 7.642 6.745	0.584 221.218 225.000 156.799 159.109	-0.112 48.885 48.200 8.295 8.23 8.648
C, C, Ai C, C, Clock Time (at e	Final zero Final upscale Actual gas value Actual gas value Final upscale Actual gas value Actual	5.948 5.910 oncentration 10.239 10.216 10.672 9.818	13.968 14.100 s) 8.998 9.073 8.532 9.512	41.681 44.900 10.631 11.467 7.642 6.745	221.218 225.000 156.799 159.109	48.88 48.20 8.29 8.23 8.23
C, C, A C, C, Clock Time (at e	f Final upscale Actual gas value halyzer Averages (co vy Average conc. Bes Bias adjusted hd of sample period) 07:39 07:40 07:41	5.948 5.910 oncentration 10.239 10.216 10.672 9.818	14.100 s) 8.998 9.073 8.532 9.512	44.900 10.631 11.467 7.642 6.745	225.000 156.799 159.109 152.723	48.20 8.29 8.23 8.23
C, A C, C, Clock Time (at e	halyzer Averages (co wg Average conc. Bas Bias adjusted and of sample period) 07:39 07:40 07:41	5.910 oncentration 10.239 10.216 10.672 9.818	14.100 s) 8.998 9.073 8.532 9.512	44.900 10.631 11.467 7.642 6.745	225.000 156.799 159.109 152.723	48.20 8.29 8.23 8.23
C, C, Clock Time (at e	Average conc. Sees Bias adjusted and of sample period) 07:39 07:40 07:41	10.239 10.216 10.672 9.818	8.998 9.073 8.532 9.512	11.467 7.642 6.745	159.109 152.723	8.23 8.64
C, C, Clock Time (at e	Average conc. Sees Bias adjusted and of sample period) 07:39 07:40 07:41	10.239 10.216 10.672 9.818	8.998 9.073 8.532 9.512	11.467 7.642 6.745	159.109 152.723	8.23 8.64
C, Clock Time (at e	nd of sample period) 07:39 07:40 07:41	10.216 10.672 9.818	9.073 8.532 9.512	11.467 7.642 6.745	159.109 152.723	8.23 8.64
Clock Time (at e	nd of sample period) 07:39 07:40 07:41	10.672 9.818	8.532 9.512	7.642 6.745	152.723	8.64
		10.532				
	07:40 07:41	9.818	9.512	6.745		
		10.532				
	07:42		8.652	6.990	156.254	6.49
		10.228	9.032	7.991	155.008	7.89
	07:43	9.926	9.372	8.827	152.534	6.69
	07:44	10.434	8.782	12.605	165.659	8.14
	07:45	9,943	9.366	13.044	167.786	6.54
	07:46	10.538	8.652	12.977	165.547	7.38
	07:47	9.967	9.310	11.064	166.304 166.665	6.73 7.61
	07:48 07:49	10.423 9.989	8.755 9.313	9.549 8.825	161.007	6.43
	07:50	10.311	8.905	9.569	160.670	6.79
	07:51	10.158	9.099	11.069	159.487	7.47
	07:52	10.272	8.962	11.006	156.398	7.55
	07:53	10.498	8.738	12.202	159.911	9.25
	07:54	9,946	9.384	10.121	155.002	6.80
	07:55	10.624	8.565	10.097	155.967	7.021
	07:56	10.389	8.836	12.133	160.098	7.374
	07:57	10.357	8.833	12.160	153.502	8.046
	07:58	10.311	8.904	14.385	145.507	10.984
	07:59	10.345	8.834	14.843	148.356	11.526
	08:00	10.332	8.845	14.539	149.902	11.591
	08:01	9.968	9.325	13.060	150.690	10.496
	08:02	10.473	8.748	10.998	150.751	11.574
	08:03	9.460	9.927	8.395	148.523	10.332
	08:04 08:05	10.535 9.998	8.547 9.215	8.542 7.658	154.841 155.031	10.153 8.370

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Wheelabrator South						rch 24, 2010	
CleanAir Project No.	. 1095	5			Start Time	8:06	
Ft. Lauderdale, FL					Stop Time	8:11	
FF Outlet 2				CALI	BRATION BI	AS 01	
			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
			CO2	02	SO2	NOX	CO
			rr Outlet 2 %dv	rr Outlet ∡ %dv	ppmdv	FF Outlet 2	ppmdv
			/8 U V	/6UV	phura	ppmdv	philas
	Sys	tem Response to	Calibration G	asses (C _S)			
	Cof	Zero gas	0.056	0.036	0.146	0.584	-0.112
	Cuf	Upscale gas	5.948	13.968	41.681	221.218	48.887
		lyzer Calibration	-	• • •			
		Zero gas	0.008	0.006	-0.047	-0.043	0.118
		Upscale gas	5.945	14.112	43.542	226.181	49.082
		ual Upscale Gas \	• ••••	44.400	44.000	005 005	40.000
		Upscale gas	5.910	14.100	44,900	225.000	48.200
	Cali	bration Span Valu	• •				
	-		13.900	14.100	89.900	453.000	98.500
	Sys	tem Bias as Perce				-	0.00/
		Zero gas	0.3% 0.0%	0.2%	0.2%	0.1%	-0.2%
	6	Upscale gas	0.0%	-1.0%	-2.1%	-1.1%	-0.2%
	Jys	tem Bias Status	OK	ок	ок	ок	OK
		Zero gas Upscale gas	OK OK	OK	OK	OK	OK OK
	Prov	vious System Res				UK	ÖK
	Coi	Zero gas	0.012	0.020	-0.005	0.095	-0.056
	Cui	Upscale gas	5.927	13.966	41.158	221.967	49.052
		Assessment as I					10.002
		Zero gas	0.3%	0.1%	0.2%	0.1%	-0.1%
		Upscale gas	0.2%	0.0%	0.6%	-0.2%	-0.2%
	Drift	Assessment Sta	tus				
		Zero gas	ОК	ок	ок	ОК	OK
		Upscale gas	ОК	ОК	ОК	ОК	ок
041410 130243							
041410 150245		08:06:52	0.098	0.055	0.630	6.455	30.090
		08:07:07	0.075	0.044	0.334	0.928	42.170
		08:07:22		0.039	0.197	0.660	47.422
		08:07:37	0.057	0.036	0.137	0.611	48.778
		08:07:52		0.033	0.104	0.480	48.933
		08:08:07	0.047	0.031	0.070	0.423	48.949 48.860
		08:08:22 08:08:37	1.636 8.925	0.039 0.012	1.056 23.445	0.415 5.169	46.800
		08:08:52	9.836	0.006	37.380	76.068	33.005
		08:09:07	9.898	0.004	39.912	213.879	15.443
		08:09:22	9.916	0.005	40.907	219.341	5.172
		08:09:37	9.930	0.004	41.389	220.968	0.894
		08:09:52	9.937	0.005	41.752	221.196	0.011
		08:10:07	9.888	0.706	41.902	221.490	-0.165
		08:10:22	7.128	11.253	24.664	221.409	-0.174
		08:10:37 08:10:52	6.030 5.956	13.836	5.927 2.403	107.750 L 34.913	0.003
		08:10:52	5.956 5.946	13.951	2.403	2.043	0.135 0.231
		08:11:22	5.942	13.981	1.060	1.010	0.267

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eanAir Project N Lauderdale, FL Outlet 2	th Brow o. 109			REFERE	Ma Start Time Stop time NCE METHO	rch 24, 2010 8:12 8:39 D RUN 2	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channe (
			FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outle ppm
	Calii	bration Checks					
	Coi	Initial zero	0.056	0.036	0.146	0.584	-0.11
	Cui	Initial upscale	5.948	13.968	41.681	221.218	48.88
	Cof	Final zero	0.060	0.034	0.110	0.565	-0.10
	Cuf	Final upscale	5.959	13.966	41.665	221.430	49.02
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.2
	Anal	yzer Averages (c	oncentration	s)			
		Average conc.	10.244	8.925	5.579	158.936	6.5
		Bias adjusted	10.211	8.997	5.892	161.411	6.6
		08:13 08:14	10.630 10.100	8.416 9.069	5.781 4.633	165.869 169.294	8.5 6.2
		08:15	9.972	9.187	4.672	168.704	5.06
		08:16	10.072	9.065	5.424	169.662	7.13
		08:16 08:17	10.072 10.322	9.065 8.760	5.424 5.318	169.662 168.620	7.13 7.58
		08:16 08:17 08:18	10.072 10.322 9.930	9.065 8.760 9.259	5.424 5.318 4.403	169.662 168.620 158.726	7.13 7.58 6.09
		08:16 08:17 08:18 08:19	10.072 10.322 9.930 10.822	9.065 8.760 9.259 8.221	5.424 5.318 4.403 4.564	169.662 168.620 158.726 153.291	7.13 7.58 6.09 7.20
		08:16 08:17 08:18 08:19 08:20	10.072 10.322 9.930 10.822 10.287	9.065 8.760 9.259 8.221 8.891	5.424 5.318 4.403 4.564 4.463	169.662 168.620 158.726 153.291 153.238	7.13 7.58 6.09 7.20 8.59
		08:16 08:17 08:18 08:19 08:20 08:21	10.072 10.322 9.930 10.822 10.287 10.077	9.065 8.760 9.259 8.221 8.891 9.085	5.424 5.318 4.403 4.564 4.463 3.884	169.662 168.620 158.726 153.291 153.238 150.897	7.13 7.58 6.09 7.20 8.59 6.51
		08:16 08:17 08:18 08:19 08:20 08:21 08:22	10.072 10.322 9.930 10.822 10.287 10.077 11.683	9.065 8.760 9.259 8.221 8.891 9.085 7.336	5.424 5.318 4.403 4.564 4.463 3.884 4.340	169.662 168.620 158.726 153.291 153.238 150.897 157.179	7.13 7.58 6.09 7.20 8.59 6.51 7.99
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:23 08:24	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:23 08:24 08:25	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:25 08:26 08:27	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:25 08:26 08:27 08:28	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:25 08:26 08:27	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303 10.228	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.80
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:25 08:26 08:27 08:28 08:29	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303 10.228 10.030	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.45 5.42
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:27 08:28 08:29 08:30	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303 10.228 10.030 9.466	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.45 5.42 7.34
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:27 08:28 08:29 08:30 08:31	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303 10.228 10.030 9.466 9.856	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960 9.441	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561 6.016	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500 154.263	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.45 5.42 7.34 7.63
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303 10.228 10.030 9.466 9.856 10.008	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960 9.441 9.246	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561 6.016 6.418	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500 154.263 156.417	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.45 5.42 7.34 7.63 7.48
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35	10.072 10.322 9.930 10.822 10.287 10.077 11.683 10.675 10.129 10.015 10.225 10.303 10.228 10.030 9.466 9.856 10.008 10.693 9.754 10.623	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960 9.441 9.246 8.454 9.567 8.461	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561 6.016 6.418 7.942	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500 154.263 156.417 157.029	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.90 5.96 5.80 5.45 5.42 7.34 7.34 7.63 7.48 6.20 6.43
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36	$\begin{array}{c} 10.072\\ 10.322\\ 9.930\\ 10.822\\ 10.287\\ 10.077\\ 11.683\\ 10.675\\ 10.129\\ 10.015\\ 10.225\\ 10.303\\ 10.228\\ 10.030\\ 9.466\\ 9.856\\ 10.008\\ 10.693\\ 9.754\\ 10.623\\ 10.326\end{array}$	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960 9.441 9.246 8.454 9.567 8.461 8.799	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561 6.016 6.418 7.942 7.253 6.878 6.597	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500 154.263 156.417 157.029 153.970 155.444 156.750	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.45 5.42 7.34 7.63 7.48 6.20 6.43 6.66
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:27 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37	$\begin{array}{c} 10.072\\ 10.322\\ 9.930\\ 10.822\\ 10.287\\ 10.077\\ 11.683\\ 10.675\\ 10.129\\ 10.015\\ 10.225\\ 10.303\\ 10.228\\ 10.030\\ 9.466\\ 9.856\\ 10.008\\ 10.693\\ 9.754\\ 10.623\\ 10.326\\ 10.174\\ \end{array}$	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960 9.441 9.246 8.454 9.567 8.461 8.799 8.969	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561 6.016 6.418 7.942 7.253 6.878 6.597 6.557	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500 154.263 156.417 157.029 153.970 155.444 156.750 159.746	7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.42 7.34 7.63 7.34 6.20 6.43 6.66
		08:16 08:17 08:18 08:19 08:20 08:21 08:22 08:23 08:24 08:25 08:26 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36	$\begin{array}{c} 10.072\\ 10.322\\ 9.930\\ 10.822\\ 10.287\\ 10.077\\ 11.683\\ 10.675\\ 10.129\\ 10.015\\ 10.225\\ 10.303\\ 10.228\\ 10.030\\ 9.466\\ 9.856\\ 10.008\\ 10.693\\ 9.754\\ 10.623\\ 10.326\end{array}$	9.065 8.760 9.259 8.221 8.891 9.085 7.336 8.448 9.012 9.181 8.943 8.834 8.928 9.223 9.960 9.441 9.246 8.454 9.567 8.461 8.799	5.424 5.318 4.403 4.564 4.463 3.884 4.340 4.453 4.036 3.701 4.846 6.133 6.304 6.277 5.561 6.016 6.418 7.942 7.253 6.878 6.597	169.662 168.620 158.726 153.291 153.238 150.897 157.179 159.731 163.282 162.420 157.993 153.073 154.159 153.801 151.500 154.263 156.417 157.029 153.970 155.444 156.750	5.06 7.13 7.58 6.09 7.20 8.59 6.51 7.99 6.15 4.89 4.85 5.69 5.96 5.80 5.42 7.34 7.63 7.48 6.20 6.43 6.66 6.67 7.39 6.73

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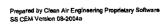
Wheelabrator South Broward
CleanAir Project No. 10955
Ft. Lauderdale, FL
FF Outlet 2

March 24, 2010 Start Time 8:40 Stop Time 8:44 CALIBRATION BIAS 02

FF Ouliel Z				CALI		43 02	
			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
			CO2	02	SO2	NOX	CO
			EE Outlot 2	EE Outlet 2	EE Outlet 2	EE Outlat 2	EE Outlat 2
			FF Outlet 2 %dv	%dv	FF Outlet 2 ppmdv	ppmdv	ppmdv
			/du v	7040	ppmav	ppindv	ppmav
	Sys	tem Response to	Calibration G	asses (C _s)			
	Cof	Zero gas	0.060	0.034	0.110	0.565	-0.161
	Cuf	Upscale gas	5.959	13.966	41.665	221.430	49.023
	Ana	lyzer Calibration	Error Repons	ies (C _{Dir})			
		Zero gas	0.008	0.006	-0.047	-0.043	0.118
	Cmce	Upscale gas	5.945	14.112	43.542	226.181	49.082
	Acti	ual Upscale Gas \	Value (C _{MA})				
	C _{ma}	Upscale gas	5.910	14.100	44.900	225.000	48.200
	Call	bration Span Val	ue (CS)				
			13.900	14.100	89.900	453.000	98.500
	Sys	tem Bias as Perce	ent of Calibra	tion Span Va	lue (SB) (5%)		
	-	Zero gas	0.4%	0.2%	0.2%	0.1%	-0.3%
		Upscale gas	0.1%	-1.0%	-2.1%	-1.0%	-0.1%
	Syst	tem Bias Status					
	-	Zero gas	ОК	ОК	ок	ок	OK
		Upscale gas	OK	ОК	ОК	ок	OK
	Prev	vious System Res	ponse to Cal	ibration Gase	es (C _s)		
	Cai	Zero gas	0.056	0.036	0.146	0.584	-0.112
	Cui	Upscale gas	5.948	13.968	41.681	221.218	48.887
		Assessment as i	Percent of Ca	libration Spa			
		Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%
		Upscale gas	0.1%	0.0%	0.0%	0.0%	0.1%
	Drift	Assessment Sta					
		Zero gas	OK	ОК	ок	ок	OK
		Upscale gas	ок	OK	OK	OK	OK
		, ,					
041410 130243		00.40.00	0.404	0.000	0.005	40.000	01.000
		08:40:29	0.131 0.092	0.068	0.985	18.682	21.906
		08:40:44 08:40:59	0.092	0.050 0.041	0.435 0.234	3.598 0.855	36.676 44.991
		08:41:14		0.041	0.234	0.635	48.324
		08:41:29		0.033	0.122	0.611	48.998
		08:41:44	1	0.033	0.065	0.448	49.032
		08:41:59	0.267	0.034	0.091	0.480	49.038
		08:42:14	7.503	0.018	14.800	0.977	47.368
		08:42:29	9.775	0.006	35.139	50.720	37.929
		08:42:44		0.006	39.479	190.606	19.880
		08:42:59	9.923	0.006	40.720	218.152	7.702
		08:43:14	9.938	0.004	41.353	221.099	1.674
		08:43:29	9.948	0.004	41.719	221.498	0.156
		08:43:44	9.940	0.348	41.924	221.693	-0.202
		08:43:59	7.416	10.541	27.279	221,913	-0.208
		08:44:14 08:44:29	<u>6.060</u> 5.971	13.803	6.410 2.369	135.409 _ 28.531	<u>-0.072</u> 0.091
		08:44:29	5.971	13.949	2.369	20.531 5,356	0.091
		D8:44:59	5.949	13.981	1.418	1.148	0.217
		50.4					0.200

Prepared by Clean Air Engineering Proprietary Software SS CEM Version 06-2004s

/heelabrator South Broward IeanAir Project No. 10955 t. Lauderdale, FL F Outlet 2			REFERE	Ma Start Time Stop time NCE METHO	rch 24, 2010 8:46 9:13 ID RUN 3		
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
			FF-Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet ppmd
	Cali	bration Checks					
	Coi	Initial zero	0.060	0.034	0.110	0.565	-0.16
	Cui	Initial upscale	5.959	13.966	41.665	221.430	49.02
	Cor	Final zero	0.051	0.023	0.066	0.475	-0.14
	Cuf	Final upscale	5.957	13,961	41.890	220.952	48.87
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20
	مند م	yzer Averages (co	oncentration	5)			
		Average conc.	10.096	9.103	7.222	157.061	5.99
		Bias adjusted	10.053	9.182	7.684	159.612	6.03
1410 130243		08:47	9.928	9.272		405.040	E 00
				-	7.389 7.033	165.313 166 848	
		08:48	10.385	8.705	7.033	166.848	6.08
			10.385 10.750	8.705 8.380	7.033 7.903	166.848 165.067	6.08 7.06
		08:48 08:49	10.385	8.705	7.033 7.903 7.152	166.848	6.08 7.06 5.41
		08:48 08:49 08:50	10.385 10.750 9.817	8.705 8.380 9.451	7.033 7.903	166.848 165.067 155.352	6.08 7.06 5.41 5.64
		08:48 08:49 08:50 08:51	10.385 10.750 9.817 10.587	8.705 8.380 9.451 8.505	7.033 7.903 7.152 6.890	166.848 165.067 155.352 152.798	6.08 7.06 5.41 5.64 6.18
		08:48 08:49 08:50 08:51 08:52	10.385 10.750 9.817 10.587 10.362	8.705 8.380 9.451 8.505 8.771	7.033 7.903 7.152 6.890 7.656	166.848 165.067 155.352 152.798 160.840	6.08 7.06 5.41 5.64 6.18 5.25
		08:48 08:49 08:50 08:51 08:52 08:53	10.385 10.750 9.817 10.587 10.362 9.937	8.705 8.380 9.451 8.505 8.771 9.274	7.033 7.903 7.152 6.890 7.656 7.511	166.848 165.067 155.352 152.798 160.840 157.348	6.08 7.06 5.41 5.64 6.18 5.25 5.58
		08:48 08:49 08:50 08:51 08:52 08:53 08:54	10.385 10.750 9.817 10.587 10.362 9.937 10.175	8.705 8.380 9.451 8.505 8.771 9.274 8.943	7.033 7.903 7.152 6.890 7.656 7.511 6.645	166.848 165.067 155.352 152.798 160.840 157.348 156.433	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.920
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.920 6.06
		08:48 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:56 08:57 08:58	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.920 6.06 5.84
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:56 08:57 08:58 08:59	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.92 6.06 5.84 5.17
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.92 6.06 5.84 5.17 5.17 5.17 5.17 5.17 5.17 5.17 5.17
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883	6.08 7.06 5.41 5.64 5.25 5.58 6.22 5.92 6.06 5.84 5.17 6 7.45 5.79
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.92 6.06 5.84 5.178 5.178 5.793 5.277
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.92 6.06 5.84 5.17 5.17 5.79 5.27 6.95
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640 159.925	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.92 6.06 5.84 5.17 5.79 5.27 6.955 5.216
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04 09:05	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640 159.925 155.993	6.08 7.06 5.41 5.64 6.18 5.25 5.58 6.22 5.92 6.06 5.84 5.17 5.27 5.27 6.95 5.21 6.30
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04 09:05 09:06	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223 9.805	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967 9.515	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106 8.831	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640 159.925 155.993 157.829	6.08 7.06 5.41 5.64 5.25 5.58 6.22 5.92 6.06 5.84 5.17 5.79 5.277 6.955 5.216 6.304 6.205
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223 9.805 10.406	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967 9.515 8.760	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106 8.831 9.490	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.883 159.965 161.640 159.925 155.993 157.829 160.944	6.08 7.06 5.41 5.64 5.25 5.58 6.229 5.920 6.069 5.84 5.176 5.277 6.955 5.216 6.304 6.205 6.304
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04 09:05 09:06	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223 9.805	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967 9.515	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106 8.831	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640 159.925 155.993 157.829	6.08 7.06 5.41 5.64 5.25 5.58 6.229 5.920 6.069 5.84 5.176 5.277 5.277 5.277 6.955 5.216 6.304 6.304 6.304
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223 9.805 10.406 9.936	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967 9.515 8.760 9.327	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106 8.831 9.490 9.580	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.883 159.965 161.640 159.925 155.993 157.829 160.944 151.925	6.08(7.06) 5.413 5.64(6.18) 5.252 5.58(6.222 5.920 6.069 5.847 5.176 5.176 5.277 6.955 5.216 6.304 6.304 6.304 6.205 6.333 6.346 6.188
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223 9.805 10.406 9.936 10.021	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967 9.515 8.760 9.327 9.214	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106 8.831 9.490 9.580 9.120	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640 159.925 155.993 157.829 160.944 151.925 147.770	5.22 6.080 7.06 5.41 5.644 6.187 5.252 5.586 6.229 5.920 6.069 5.920 6.069 5.977 6.955 5.216 6.304 6.205 6.933 6.346 6.188 5.638 6.263
		08:48 08:49 08:50 08:51 08:52 08:53 08:54 08:55 08:56 08:57 08:58 08:59 09:00 09:01 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10	10.385 10.750 9.817 10.587 10.362 9.937 10.175 10.092 9.836 10.587 9.636 9.448 10.437 9.833 9.997 10.266 9.679 10.223 9.805 10.406 9.936 10.021 9.790	8.705 8.380 9.451 8.505 8.771 9.274 8.943 9.082 9.370 8.491 9.693 9.857 8.650 9.421 9.179 8.916 9.665 8.967 9.515 8.760 9.327 9.214 9.504	7.033 7.903 7.152 6.890 7.656 7.511 6.645 6.190 5.951 7.144 6.560 5.591 6.790 6.146 6.154 6.988 6.847 8.106 8.831 9.490 9.580 9.120 7.884	166.848 165.067 155.352 152.798 160.840 157.348 156.433 162.096 156.732 158.071 157.397 160.214 163.702 163.883 159.965 161.640 159.925 155.993 157.829 160.944 151.925 147.770 147.391	6.080 7.06 5.417 5.645 6.187 5.252 5.586 6.229 5.920 6.069 5.847 5.176 5.176 5.277 6.955 5.216 6.304 6.304 6.304 6.205 6.933 6.346 6.188 5.638



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QA/QC_____ Date____ .

Wheelabrator South Broward
CleanAir Project No. 10955
Ft. Lauderdale, FL
FF Outlet 2

March 24, 2010 Start Time 9:14 Stop Time 9:18 CALIBRATION BIAS 03

Channel 1 CO2 Channel 2 CO2 Channel 3 Sol Channel 4 NOX Channel 5 CO FF Outlet 2 %dv FF Outlet 2 %dv FF Outlet 2 ppmdv FF Outlet 2 ppmdv <td< th=""><th></th><th></th><th></th><th></th><th>ÇALI</th><th>DIVATION DI</th><th>43 03</th><th></th></td<>					ÇALI	DIVATION DI	43 03	
CO2 O2 NOX CO FF Outlet 2				Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
%dv %dv ppmdv ppmdv System Response to Calibration Gasses (C ₆)								
%dv %dv ppmdv ppmdv System Response to Calibration Gasses (C ₆) -0.0475 -0.0475 -0.0475 -0.0475 C _{off} Zero gas 0.051 0.023 0.066 -0.475 -0.141- C _{off} Zero gas 0.008 0.006 -0.047 -0.043 0.118- Coss Zero gas 0.008 0.006 -0.047 -0.043 0.118 Coss Zero gas 0.908 0.006 -0.047 -0.043 0.118 Coss Zero gas 5.910 14.100 49.900 453.000 98.500 Calibration Span Value (CS) Zero gas 0.3% 0.1% 0.1% 0.1% -0.2% Zero gas 0.1% -1.1% -1.8% -1.2% -0.2% System Bias Status Zero gas 0.1% 0.1% 0.1% 0.1% Quscale gas 0.1% 0.1% 0.0% 0.4 0.06 0.034 0.110 0.565 -0.161 Cost Zero						FF Outline O		FF 0.41-4 0
System Response to Calibration Gasses (C ₄) C _{eff} Zero gas 0.051 0.023 0.066 2 0.175 4 C _{eff} Upscale gas 5.957 13.961 41.890 220.952 48.871 Analyzer Calibration Error Reponses (C _{eff}) C C 220.952 48.871 Analyzer Calibration Error Reponses (C _{eff}) C 220.952 48.871 C _{mac} Upscale gas 5.945 14.112 43.542 226.181 49.082 Actual Upscale Gas Value (C _{eff}) C C 3.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.1% -1.1% -1.8% -1.2% -0.2% System Bias Status Zero gas 0.60 0.044 0.110 0.565 -0.161 C _{eff} Zero gas 0.060 0.024 0.110 0.565 -0.161 C _{eff} Zero gas 0.060 0.024 0.110 0.565 -0.161 C _{eff} Zero gas 0.060								
C _{eff} Zero gas 0.051 0.023 0.066 · 0.475 0.141 C _{urt} Upscale gas 0.008 0.006 -0.047 -0.043 0.118 C _{mee} Upscale gas 5.945 14.112 43.542 226.181 49.082 Actual Upscale Gas Value (C _M) Cma Upscale gas 5.910 14.100 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.1% -1.1% -1.8% -1.2% -0.2% System Bias Status Zero gas 0.1% 0.1% -0.3% Upscale gas 0.1% 0.1% -0.3% Upscale gas 0.10 0.565 -0.161 C _{eff} Zero gas 0.060 0.034 0.110 0.565 -0.161 C _d 49.023 Dirit Assessment as Percent of Calibration Gases (C _g) Zero gas 0.0% 0.0% 0.0%				% av	% av	ppmav	ppmav	ppmav
C _{st} Upscale gas 5.957 13.961 41.890 ::::::::::::::::::::::::::::::::::::		Syst	tem Response to	Calibration G	asses (C _s)			
C _{st} Upscale gas 5.957 13.961 41.890 ::::::::::::::::::::::::::::::::::::		Cof	Zero gas	0.051	0.023	0.066	0.475	-0.141
Coce Zero gas 0.008 0.006 -0.047 -0.043 0.118 Cmma Upscale gas 5.945 14.112 43.542 226.181 49.082 Actual Upscale gas 5.910 14.100 44.900 225.000 48.200 Cama Upscale gas 5.910 14.100 44.900 225.000 48.200 Catibration Span Value (CS) Tais 900 14.100 49.902 453.000 98.500 System Blas Status Zero gas 0.3% 0.1% 0.1% -0.3% Upscale gas 0.600 0.034 0.110 0.565 -0.161 Cui Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.2% Dirth Assessment Status Zero gas 0.0% 0.0% 0.0% 0.0% Zero gas 0.1% 0.1% 0.0% 0.0% 0.0% 0.0% Upscale gas 0.0% 0		Cuf	Upscale gas	5.957	13.961	41.890	220.952	
C _{mes} Upscale gas 5.945 14.112 43.542 226.181 49.082 Actual Upscale gas 5.910 14.100 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Blas as Percent of Calibration Span Value (SB) (5%) Zero gas 0.3% 0.1% 0.1% 0.1% -0.2% System Blas Status Zero gas 0.1% 0.1% 0.1% -0.2% Vervious System Response to Calibration Gases (Cs) Cei Zero gas 0.060 0.034 0.110 0.565 -0.161 Cui Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.1% -0.2% Lero gas 0.01% 0.07% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas 0.01% 0.07% 0.07% 0.07% Upscale gas 0.7 0.051 0.767 16.052		Ana	lyzer Calibration	Error Repons	ies (C _{Dir})			
C _{mes} Upscale gas 5.945 14.112 43.542 226.181 49.082 Actual Upscale gas 5.910 14.100 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Blas as Percent of Calibration Span Value (SB) (5%) Zero gas 0.3% 0.1% 0.1% 0.1% -0.2% System Blas Status Zero gas 0.1% 0.1% 0.1% -0.2% Vervious System Response to Calibration Gases (Cs) Cei Zero gas 0.060 0.034 0.110 0.565 -0.161 Cui Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.1% -0.2% Lero gas 0.01% 0.07% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas 0.01% 0.07% 0.07% 0.07% Upscale gas 0.7 0.051 0.767 16.052		Coce	Zero gas	0.008	0.006	-0.047	-0.043	0.118
Cma Upscale gas 5.910 14.100 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Blas as Percent of Calibration Span Value (SB) (5%) Zero gas 0.3% 0.1% 0.1% 0.1% 0.3% Upscale gas 0.1% -1.1% -1.2% -0.2% System Blas Status Zero gas OK OK OK OK OK Ceil Zero gas 0.600 0.034 0.110 0.565 -0.161 Cuil Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas 0.0% 0.0% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas 0.0% 0.0% 0.2% -0.1% -0.2% Dift Assessment Status Zero gas 0.19 0.061 0.767 16.052 25.113 09:14:19 0.097 0.035 0.130 0.578 48.32				5.945	. 14.112	43.542	226.181	49.082
Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.3% 0.1% -1.2% -0.2% System Bias Status Zero gas 0.1% -1.1% -1.8% -1.2% -0.2% System Bias Status Zero gas 0.60 0.034 0.110 0.565 -0.161 Cal Zero gas 0.600 0.034 0.110 0.565 -0.161 Cal Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.1% 0.0% 0.0% Upscale gas 0.0% 0.0% 0.0% 0.0% 0.0% 0.2% Drift Assessment Status Zero gas 0.66 0.767 16.052 25.113 09:14:04 0.119 0.061 0.767 16.052 25.113 09:14:44 0.063		Actu	al Upscale Gas V	/alue (C _{MA})				
13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.3% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.2% System Bias Status Zero gas OK		C _{ma}	Upscale gas	5.910	14.100	44.900	225.000	48.200
13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.3% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.2% System Bias Status Zero gas OK		Çali	bration Span Valu	ue (CS)				
Zero gas 0.3% 0.1% 0.0% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.110 0.565 -0.161 0.0%			•	• •	14.100	89.900	453.000	98.500
Zero gas 0.3% 0.1% 0.0% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.2% 0.110 0.565 -0.161 0.0%		Syst	em Bias as Perce	ent of Calibra	tion Span Va)	
Upscale gas 0.1% -1.1% -1.8% -1.2% -0.2% System Bias Status Zero gas 0K 0K 0K 0K 0K 0K Upscale gas 0.660 0.034 0.110 0.565 -0.161 C _{al} Zero gas 0.060 0.034 0.110 0.565 -0.161 C _{al} Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.1% 0.0% 0.0% 0.0% Upscale gas 0.0% 0.0% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas 0K 0K 0K 0K 0K 0K 0K Upscale gas 0K 0K 0K 0K 0K 0K 0K 09:14:19 0.097 0.047 0.355 2.222 37.911 09:14:49 0.063 0.033 0.190 0.652 45.727 09:14:49 0.063 0.033 0.130 0.578 48.332 09:15:04 0.063 0.033 0.130 0.578 48.322 09:15:19 0.042 0.015 0.052 0.439 48.975 09:15:49 4.355 0.024 5.976 0.439 48.975 09:16:49 9.930 0.001 41.275 220.399 3.427 09:16:34 9.915 0.002 38.768 153.512 27.621 09:16:34 9.915 0.003 40.536 214.107 11.123 09:16:34 9.915 0.003 40.536 214.107 11.123 09:16:34 9.915 0.002 38.768 153.512 27.621 09:16:34 9.915 0.002 38.768 153.512 27.621 09:16:34 9.915 0.003 41.936 221.091 4.130 09:17:19 9.951 0.002 41.936 221.091 4.130 09:17:34 9.809 1.345 41.936 221.091 4.1306 09:17:34 9.809 1.345 41.936 221.091 40.3036 09:17:34 9.809 1.345 41.936								-0.3%
System Bias Status Zero gas OK OL Quitable gas 0.060 0.034 0.110 0.565 -0.161 Zero gas 0.01% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02% 0.07% 0.02%			•	0.1%	-1.1%	-1.8%	-1.2%	-0.2%
Upscale gas OK OK OK OK OK Coi Zero gas 0.060 0.034 0.110 0.565 -0.161 Cui Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.1% 0.0%		Syst						
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C _{ui} Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% -0.1% 0.0% 0.0% 0.0% Drift Assessment Status Zero gas OK OK <th></th> <th>Prev</th> <th></th> <th>ponse to Cal</th> <th>bration Gase</th> <th>es (C_s)</th> <th></th> <th></th>		Prev		ponse to Cal	bration Gase	es (C _s)		
Cui Upscale gas 5.959 13.966 41.665 221.430 49.023 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas -0.1% 0.0% 0.0% 0.0% Upscale gas 0.0% 0.0% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas OK OK OK OK OK OK Upscale gas OK OK <th></th> <th>_</th> <th>•</th> <th>•</th> <th></th> <th></th> <th>0.565</th> <th>-0.161</th>		_	•	•			0.565	-0.161
Zero gas -0.1% -0.1% 0.0% 0.0% 0.0% 0.0% Upscale gas 0.0% 0.0% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas OK OK OK OK OK OK Upscale gas OK OK OK OK OK OK OK 09:14:04 0.119 0.061 0.767 16.052 25.113 09:14:19 0.097 0.047 0.355 2.222 37.911 09:14:49 0.063 0.035 0.130 0.578 48.332 09:15:40 0.063 0.033 0.088 0.545 48.832 09:15:49 0.42 0.015 0.052 0.439 48.936 09:16:49 9.550 0.006 30.720 14.530 42.248 09:16:49 9.930 0.001 41.275 220.399 3.427 09:16:49 9.930 0.001 41.275 220.863 0.436			•	5.959	13.966	41.665	221.430	49.023
Zero gas -0.1% -0.1% 0.0% 0.0% 0.0% 0.0% Upscale gas 0.0% 0.0% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas OK OK OK OK OK OK Upscale gas OK OK OK OK OK OK OK 09:14:04 0.119 0.061 0.767 16.052 25.113 09:14:19 0.097 0.047 0.355 2.222 37.911 09:14:49 0.063 0.035 0.130 0.578 48.332 09:15:40 0.063 0.033 0.088 0.545 48.832 09:15:49 0.42 0.015 0.052 0.439 48.936 09:16:49 9.550 0.006 30.720 14.530 42.248 09:16:49 9.930 0.001 41.275 220.399 3.427 09:16:49 9.930 0.001 41.275 220.863 0.436		Drift	Assessment as	Percent of Ca	libration Spa	n Value (D) ((3%)	
Drift Assessment Status Zero gas OK OK <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>0.0%</th>								0.0%
Zero gas Upscale gas OK OK OK OK OK OK OK OK OK OK OK OK OK OK OK OK 09:14:19 0.0119 0.061 0.767 16.052 25.113 09:14:19 0.097 0.047 0.355 2.222 37.911 09:14:34 0.073 0.038 0.190 0.652 45.727 09:14:49 0.063 0.035 0.130 0.578 48.332 09:15:04 0.063 0.033 0.088 0.545 48.832 09:15:34 0.048 0.022 0.057 0.439 48.936 09:15:49 4.355 0.024 5.976 0.496 48.702 09:16:04 9.550 0.006 30.720 14.530 42.248 09:16:19 9.876 0.002 38.768 153.512 27.621 09:16:34 9.915 0.003 40.536 214.107 11.123 09:16:49 9.930 0.01 41.275 220.399 3.427			Upscale gas	0.0%	0.0%	0.2%	-0.1%	-0.2%
Upscale gas OK OK OK OK OK OK OK 09:14:19 180243 09:14:04 0.119 0.061 0.767 16.052 25.113 09:14:19 0.097 0.047 0.355 2.222 37.911 09:14:34 0.073 0.038 0.190 0.652 45.727 09:14:49 0.063 0.035 0.130 0.578 48.332 09:15:04 0.063 0.033 0.088 0.545 48.832 09:15:19 0.042 0.015 0.052 0.439 48.936 09:15:34 0.048 0.022 0.057 0.439 48.975 09:16:04 9.550 0.006 30.720 14.530 42.248 09:16:19 9.876 0.002 38.768 153.512 27.621 09:16:34 9.915 0.003 40.536 214.107 11.123 09:16:49 9.930 0.001 41.275 220.399 3.427 09:		Drift		tus				
Upscale gas OK OK OK OK OK OK OK 09:14:04 0.119 0.061 0.767 16.052 25.113 09:14:19 0.097 0.047 0.355 2.222 37.911 09:14:34 0.073 0.038 0.190 0.652 45.727 09:14:49 0.063 0.035 0.130 0.578 48.332 09:15:04 0.063 0.033 0.088 0.545 48.832 09:15:19 0.042 0.015 0.052 0.439 48.936 09:15:34 0.048 0.022 0.057 0.439 48.975 09:16:04 9.550 0.006 30.720 14.530 42.248 09:16:19 9.876 0.002 38.768 153.512 27.621 09:16:34 9.915 0.003 40.536 214.107 11.123 09:16:49 9.930 0.001 41.275 220.399 3.427 09:17:04 9.943 0.00			Zero gas	ок	OK	ОК	OK	OK
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				0.063	0.035	0.130	0.578	48.332
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09:17:049.9430.00341.740220.8630.43609:17:199.9510.00241.993220.903-0.08509:17:349.8091.34541.936221.091-0.19509:17:496.89111.90622.081204.705-0.19209:18:046.02913.8565.115147.472-0.03609:18:195.96613.9462.09043.3780.13709:18:345.95713.9651.2403.0360.230								
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09:18:19 5.966 13.946 2.090 43.378 0.137 09:18:34 5.957 13.965 1.240 3.036 0.230								
09:18:34 5.957 13.965 1.240 3.036 0.230								
09:18:49 <u>5.948 13.971</u> 0.884 0.904 0.257								
			09:18:49	5.948	13.971	0.884	0.904	0.257

Prepared by Clean Alt Engineering Proprietary Software SS CEM Version 08-2004a

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Wheelabrator Sou CleanAir Project N Ft. Lauderdale, FL FF Outlet 2	io. 1			REFERE	Ma Start Time Stop time NCE METHO	arch 24, 2010 9:20 9:47 DD RUN 4	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Oũtlēt 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv
Ċ	alit	oration Checks					
		Initial zero	0.051	0.023	0.066	0.475	-0.141
	ui	Initial upscale	5.957	13.961	41.890	220.952	48.871
	of	Final zero	0.054	0.029	0.043	0.434	-0.140
	-or -uf	Final upscale	5.955	13.947	41.811	221.009	49.031
_		Actual gas value	5.910	14.100	44.900		
L. L.	ma	Actual yas value	5.910	14.100	44.900	225.000	48.200
A	nai	yzer Averages (co	oncentration	s)			
C	Ava	Average conc.	9.936	9.284	10.698	154.804	5.422
C	Gas	Bias adjusted	9.894	9.373	11.434	157.481	5.461
		-					
Clock Time (at e	end o	of sample period)					
041410 130243			Sector 14		_	3	
		09:21	10.270	8.847	8.070	157.578	4.859
		09:22	10.278	8.838	7.508	156.054	4.976
		09:23	10.096	9.114	7.855	152.165	5.427
		09:24	9.881	9.361	9.088	149.976	4.822
		09:25	10.249	8.893	12.533	156.079	4.647
		09:26	10.136	9.104	14.599	160.155	5.088
		09:27 09:28	9.700 9.510	9.616 9.845	14.077 12.885	154.536	4.711 5.241
		09:28	9.871	9.845	14.134	148.683 151.984	5.514
		09:30	9.759	9.473	13.192	150.460	4.778
		09:31	10.459	8.658	13.992	152.342	5.878
		09:32	9.684	9.609	10.873	155.551	4,943
		09:33	10.097	9.037	9.464	152.892	4.880
		09:34	9.731	9.543	9.059	153.506	5.256
		09:35	9.692	9.545	9.078	151.547	4.312
		09:36	10.007	9.218	12.093	155.224	5.914
		09:37	9.501	9.819	13.659	154.750	4.936
		09:38	9.766	9.497	16.934	166.549	6.993
		09:39	9.954	9.252	17.638	168.175	6.631
		09:40	9.613	9.701	14.694	167.991	6.375
		09:41	10.253	8.844	11.617	173.399	6.181
		09:42	10.528	8.604	8.943	170.208	6.61 1
		09:43	9.681	9.587	6.276	152.859	5.676
		09:44	9.920	9.297	5.172	140.686	6.547
		09:45	9.673	9.602	4.334	135.495	5.116
		09:46 09:47	10.068 9.904	9.104 9.307	4.978 6.096	141.003 149.862	5.358 4.716
		09.47	9.304	9.307	0.090	149.002	4,7 10



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Wheelabrator Sou CleanAlr Project N Ft. Lauderdale, FL FF Outlet 2	lo. 1095			CALI	Ma Start Time Stop Time BRATION BI	rch 24, 2010 9:48 9:52 AS 04	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
			%dv	%dv	ppmdv	ppmdv	ppmdv
	Svete	m Response to	Calibration G	asses (C_)			
	-	Zero gas	0.054	0.029	0.043	0.434	-0.140
	_ • •	Upscale gas	5.955	13.947	41.811	221.009	49.031
	Analy	zer Calibration	Error Repons	es (C _{Dir})			
		Zero gas	0.008	0.006	-0.047	-0.043	0.118
	C _{mce} l	Upscale gas	5.945	14.112	43.542	226.181	49.082
	Actua	il Upscale Gas V	alue (C _{MA})				
		Upscale gas	5.910	14.100	44. 9 00	225.000	48.200
	Calibr	ration Span Valu	ie (CS)				
			13.900	14.100	89.900	453.000	98.500
	•	m Bias as Perce					
		Zero gas	0.3%	0.2%	0.1%	0.1%	-0.3%
		Upscale gas	0.1%	-1.2%	-1.9%	-1.1%	-0.1%
	-	m Blas Status	01/	01/			
		Zero gas	OK	OK	OK	OK	OK
		Upscale gas	OK	OK Con	OK	OK	OK
		ous System Res				0.475	0.1.11
	-	Zero gas	0.051 5.957	0.023 13.961	0.066 41,890	0.475 220.952	-0.141 48.871
	-	Upscale gas A ssessment as F					40.071
		Zero gas	-ercent of Ca	0.0%	0.0%		0.0%
		Jpscale gas	0.0%	-0.1%	-0.1%	0.0%	0.0%
		ssessment Stat		0.170	-0.170	0.075	0.270
		Zero gas	ОК	ОК	ОК	ОК	ок
		Jpscale gas	OK	OK	ОК	OK	OK
041410 130243		09:48:02	0.097	0.048	0.526	6.048	31.655
		09:48:17	0.079	0.040	0.274	0.977	42.772
		09:48:32	0.069	0.036	0.150	0.668	47.495
		09:48:47	0.057	0.031	0.076	0.619	48.791
		09:49:02	0.055	0.030	0.024	0.383	48.980
		09:49:17	0.050	0.025	0.027	0.301	49.055
		09:49:32 09:49:47	0.046 4.237	0.024 0.023	0.003 6.033	0.285 L 1.262	49.057
		09:50:02	9.532	0.023	31.127	5.454	40.097
		09:50:17	9.875	0.001	38.950	143.614	27.310
		09:50:32	9.913	0.000	40.641	214.750	11.831
		09:50:47	9.923	0.000	41.237	220.318	3.233
		09:51:02	9.937	0.002	41.615	220.806	0.526
		09:51:17	9.945	0.001	41.876	221.050	-0.072
		09:51:32	9.901 7.169	0.695	41.942	221.172	-0.197
		09:51:47 09:52:02	6.043	11.178 13.814	24.737 5.719	207.693 152.910	-0.182 -0.041
		09:52:17	5.963	13.930	2.214	49.532	0.124
		09:52:32	5.952	13.952	1.319	3.370	0.204
		09:52:47	5.951	13.958	0.949	0.936	0.256
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QA/QC_____ Date_____

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Vheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 2			REFERE	Ma Start Time Stop time NCE METHO	rch 24, 2010 9:54 10:21 PD RUN 5		
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			-FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv
	Calil	pration Checks					
	Col	Initial zero	0.054	0.029	0.043	0.434	-0.140
	Cut	Initial upscale	5.955	13.947	41.811	221.009	49.031
	Cof	Final zero	0.052	0.028	0.033	0.410	-0.168
	Cut	Final upscale	5.953	13.949	41.794	220,933	48.993
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Anal	yzer Averages (co	oncentration	s)			
	CAva	Average conc.	9.953	9.302	11.410	149.649	7.217
	CGas	Bias adjusted	9,914	9.394	12.226	152.238	7.226
1410 130243		00.55	0.720	0 612	10 750	140 520	4 504
135240		09:55 09:56	9.729	.9.612 8.522	10.753 10.452	149.520	4.504
		09:56	10.643	8.522	10.452	155.079	6.202
10 10240		09:56 09:57	10.643 10.058		10.452 9.366	155.079 155.415	6.202 5.616
10 13213		09:56	10.643	8.522 9.204	10.452	155.079	6.202
10 10 2 40		09:56 09:57 09:58	10.643 10.058 10.571	8.522 9.204 8.610	10.452 9.366 10.340	155.079 155.415 156.416	6.202 5.616 6.861
10103240		09:56 09:57 09:58 09:59	10.643 10.058 10.571 9.893	8.522 9.204 8.610 9.433	10.452 9.366 10.340 11.472	155.079 155.415 156.416 156.309	6.202 5.616 6.861 6.133
		09:56 09:57 09:58 09:59 10:00	10.643 10.058 10.571 9.893 10.664	8.522 9.204 8.610 9.433 8.473	10.452 9.366 10.340 11.472 15.258	155.079 155.415 156.416 156.309 152.448	6.202 5.616 6.861 6.133 6.463
		09:56 09:57 09:58 09:59 10:00 10:01	10.643 10.058 10.571 9.893 10.664 9.984	8.522 9.204 8.610 9.433 8.473 9.278	10.452 9.366 10.340 11.472 15.258 17.851	155.079 155.415 156.416 156.309 152.448 151.762	6.202 5.616 6.861 6.133 6.463 6.625
		09:56 09:57 09:58 09:59 10:00 10:01 10:02	10.643 10.058 10.571 9.893 10.664 9.984 10.263	8.522 9.204 8.610 9.433 8.473 9.278 8.909	10.452 9.366 10.340 11.472 15.258 17.851 17.642	155.079 155.415 156.416 156.309 152.448 151.762 152.562	6.202 5.616 6.861 6.133 6.463 6.625 6.154
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907
10100240		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950 7.633	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950 7.633 7.827	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950 7.633 7.827 9.088	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950 7.633 7.827 9.088 10.020	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950 7.633 7.827 9.088 10.020 12.043	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684 148.423	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771 9.757	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523 9.498	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.950 7.633 7.827 9.088 10.020 12.043 13.248	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684 148.423 147.277	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495 7.425
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771 9.757 9.791	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523 9.498 9.473	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.633 7.827 9.088 10.020 12.043 13.248 14.474	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684 148.423 147.277 142.808	6.202 5.616 6.861 6.133 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495 7.425 7.695
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771 9.757 9.791 9.660	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523 9.498 9.473 9.593	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.633 7.827 9.088 10.020 12.043 13.248 14.474 14.289	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684 148.423 147.277 142.808 139.361	6.202 5.616 6.861 6.133 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495 7.425 7.695 7.970
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771 9.757 9.791 9.660 9.700	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523 9.498 9.473 9.593 9.575	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.633 7.827 9.088 10.020 12.043 13.248 14.474 14.289 11.464	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.698 152.058 147.698 152.058 147.684 148.423 147.277 142.808 139.361 142.289	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495 7.425 7.695 7.970 8.685
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771 9.757 9.791 9.660	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523 9.498 9.473 9.593	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.633 7.827 9.088 10.020 12.043 13.248 14.474 14.289	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684 148.423 147.277 142.808 139.361	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495 7.425 7.695 7.970 8.685 7.734
		09:56 09:57 09:58 09:59 10:00 10:01 10:02 10:03 10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18	10.643 10.058 10.571 9.893 10.664 9.984 10.263 10.155 9.668 9.784 9.842 9.930 9.907 9.693 9.809 9.862 9.731 9.771 9.757 9.791 9.660 9.700 9.671	8.522 9.204 8.610 9.433 8.473 9.278 8.909 9.065 9.703 9.572 9.442 9.347 9.388 9.641 9.456 9.413 9.575 9.523 9.498 9.473 9.593 9.575 9.582	10.452 9.366 10.340 11.472 15.258 17.851 17.642 16.997 13.125 10.554 8.411 8.570 7.633 7.827 9.088 10.020 12.043 13.248 14.474 14.289 11.464 9.457	155.079 155.415 156.416 156.309 152.448 151.762 152.562 153.431 151.577 151.402 149.564 150.330 147.900 142.719 147.698 152.058 147.684 148.423 147.277 142.808 139.361 142.289 143.087	6.202 5.616 6.861 6.133 6.463 6.625 6.154 7.500 7.623 7.745 7.907 8.623 6.926 8.228 7.239 7.151 7.920 9.495 7.425 7.695 7.970 8.685



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Wheelabrator South CleanAir Project No Ft. Lauderdale, FL				Ma Start Time Stop Time	rch 24, 2010 10:21 10:26	
FF Outlet 2			CALIE	BRATION BI		
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	S02	NOX	co
		FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
		%dv	%dv	ppmdv	ppmdv	ppmdv
	System Response to	Calibration G	asses (C _e)			
	C _{of} Zero gas	0.052	,	0.033	0.410	-0.168
	C _{uf} Upscale gas	5.953		41.794	220.933	48.993
	Analyzer Calibration	Error Repons	es (C _{Dir})			
	C _{oce} Zero gas	0.008	0.006	-0.047	-0.043	0.118
	C _{mce} Upscale gas	5.945	14.112	43.542	226.181	49.082
	Actual Upscale Gas \					
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span Valu					~~~~
		13.900	14.100	89.900	453.000	98.500
	System Bias as Perce			lue (SB) (5%) 0.1%		0.20/
	Zero gas Upscale gas	0.3% 0.1%	0.2% -1.2%	-1.9%	0.1% -1.2%	-0.3% -0.1%
	System Bias Status	0.176	-1.278	-1.376	-1.2/0	-0.176
	Zero gas	ок	ок	ок	ОК	ОК
	Upscale gas	OK	OK	OK	OK	OK
	Previous System Res			es (C _s)		
	C _{oi} Zero gas	0.054	0.029	0.043	0.434	-0.140
	Cui Upscale gas	5.955	13.947	41.811	221.009	49.031
	Drift Assessment as	Percent of Cal	ibration Spa	n Value (D) (3%)	
	Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%
	Upscale gas	0.0%	0.0%	0.0%	0.0%	0.0%
	Drift Assessment Sta					
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	OK
041410 130243						
	10:21:55		0.056	0.790	14.017	25.757
	10:22:10 10:22:25		0.041 0.037	0.342 0.163	1.327 0.733	38.274 46.304
	10:22:40	0.060	0.031	0.099	0.611	48.440
	10:22:55		0.031	0.029	0.546	48.907
	10:23:10		0.029	0.039	0.333	48.956
	10:23:25		0.025	0.031	0.350	48.998
	10:23:40 10:23:55	0.679 8.276	0.027 0.009	0.337 20.440	0.390	<u>49.026</u> 46.621
	10:23:33	9.813	0.003	36.985	59.455	36.876
	10:24:25	9.911	0.000	40.028	198.600	17.538
	10:24:40	9.928	0.000	41.050	218.340	6.787
	10:24:55	9.934	0.000	41.560	220.659	1.192
	10:25:10	9.950	0.001	41.820	221.090	0.102
	10:25:25 10:25:40	9.951 9.408	0.000 L 3.268	42.001 40.128	221.050	-0.168 -0.217
	10:25:55	9.408 6.467	12.891	15.062	208.921	-0.121
	10:26:10	5.995	13.892	3.832	147.252	0.046
	10:26:25	5.960	13.938	1.812	19.357	0.138
	10:26:40	5.956	13.950	1.162	2.581	0.220
	10:26:55	5.945	13.958	0.848	0.847	0.269

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QA/QC Date_

Wheelabrato CleanAir Pro Ft. Lauderda FF Outlet 2	oject No.			REFERE	Ma Start Time Stop time NCE METHO	rch 24, 2010 10:28 10:55 D RUN 6	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel Cé
			FF-Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet ppmd
	Cali	bration Checks					
	Col	Initial zero	0.052	0.028	0.033	0.410	-0.16
	Cul	Initial upscale	5.953	13.949	41.794	220.933	48.99
	Cof	Final zero	0.063	0.029	0.101	0.504	-0.15
	Cuf	Final upscale	5.969	13.972	41.664	220.649	48.87
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20
	Ana	lyzer Averages (co	oncentrations	5)			
		Average conc.	10.232	8.950	10.441	152.266	5.80
		Bias adjusted	10.186	9.029	11.180	155.024	5.85
41410 130243							
130243		40.00	40 207	9,610	6 244	146 500	5.60
190243		10:29	10.397	8.610	6.344	146.500 146.374	
		10:30	10.358	8.730	7.155	146.374	5.20
		10:30 10:31	10.358 10.399	8.730 8.764	7.155 8.006	146.374 148.775	5.20 5.38
		10:30 10:31 10:32	10.358 10.399 9.823	8.730 8.764 9.422	7.155 8.006 7.212	146.374 148.775 152.534	5.20 5.38 4.31
		10:30 10:31	10.358 10.399	8.730 8.764	7.155 8.006	146.374 148.775	5.20 5.38 4.31 5.49
<u></u>		10:30 10:31 10:32 10:33	10.358 10.399 9.823 10.747	8.730 8.764 9.422 8.344	7.155 8.006 7.212 9.101	146.374 148.775 152.534 148.036	5.20 5.38 4.31 5.49 5.10
<u> </u>		10:30 10:31 10:32 10:33 10:34	10.358 10.399 9.823 10.747 10.232	8.730 8.764 9.422 8.344 8.920 8.429 8.565	7.155 8.006 7.212 9.101 9.833	146.374 148.775 152.534 148.036 152.674	5.20 5.38 4.31 5.49 5.10 4.93
		10:30 10:31 10:32 10:33 10:34 10:35	10.358 10.399 9.823 10.747 10.232 10.651	8.730 8.764 9.422 8.344 8.920 8.429	7.155 8.006 7.212 9.101 9.833 11.612	146.374 148.775 152.534 148.036 152.674 153.671	5.20 5.38 4.31 5.49 5.10 4.93 5.95
		10:30 10:31 10:32 10:33 10:34 10:35 10:36	10.358 10.399 9.823 10.747 10.232 10.651 10.536	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.66
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199 9.477	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.415	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.66 5.410 5.11
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.445 9.965	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.66 5.410 5.11 5.410
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.415 9.965 10.766	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.410 5.11 5.48 5.60
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.415 9.965 10.766 11.421	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.66 5.41 5.11 5.48 5.60 5.60
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:46	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218	8.730 8.764 9.422 8.344 8.920 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642 8.950	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.415 9.965 10.766 11.421 10.547	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.410 5.410 5.410 5.410 5.410 5.412 5.600 5.528
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:46 10:47	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218 10.178	8.730 8.764 9.422 8.344 8.920 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642 8.950 8.997	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.415 9.965 10.766 11.421 10.547 10.317	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483 156.846	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.66 5.66 5.41 5.41 5.41 5.41 5.42 5.60 5.60 5.528 5.35
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:46	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218	8.730 8.764 9.422 8.344 8.920 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642 8.950	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.415 9.965 10.766 11.421 10.547	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.60 5.60 5.61 5.45 5.60 5.60 5.60 5.528 5.35 5.35
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218 10.218 10.291	8.730 8.764 9.422 8.344 8.920 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642 8.950 8.997 8.881	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.415 9.965 10.766 11.421 10.547 10.317 12.633	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483 156.846 154.662	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.60 5.60 5.61 5.45 5.60 5.60 5.60 5.528 5.35 5.35 5.81 7.33
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:44 10:45 10:46 10:47 10:48 10:49	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218 10.218 10.291 10.053	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642 8.950 8.997 8.881 9.212	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.445 9.965 10.766 11.421 10.547 10.547 10.317 12.633 13.739	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.563 148.968 146.247 150.423 152.670 155.771 157.483 156.846 154.662 152.543	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.60 5.61 5.48 5.60 5.61 5.60 5.528 5.359 5.590 5.590 5.591 5.59
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:45 10:46 10:47 10:48 10:49 10:50	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218 10.218 10.218 10.291 10.053 10.204	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.199 9.477 9.312 9.184 8.642 8.950 8.997 8.881 9.212 8.992	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.415 9.965 10.766 11.421 10.547 10.547 10.547 10.317 12.633 13.739 13.140	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483 156.846 154.662 152.543 153.299	5.20 5.38 4.31 5.49 5.10 4.93 5.95 4.54 4.80 5.50 5.60 5.11 5.482 5.600 5.600 5.528 5.359
		$\begin{array}{c} 10:30\\ 10:31\\ 10:32\\ 10:33\\ 10:34\\ 10:35\\ 10:36\\ 10:37\\ 10:38\\ 10:39\\ 10:40\\ 10:41\\ 10:42\\ 10:43\\ 10:43\\ 10:44\\ 10:45\\ 10:46\\ 10:47\\ 10:48\\ 10:49\\ 10:50\\ 10:51\end{array}$	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218 10.218 10.218 10.291 10.053 10.204 10.456	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.477 9.312 9.477 9.312 9.184 8.642 8.950 8.997 8.881 9.212 8.992 8.768	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.445 9.965 10.766 11.421 10.547 10.547 10.317 12.633 13.739 13.140 14.262	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483 156.846 154.662 152.543 153.299 158.954	5.200 5.384 4.31 5.493 5.955 4.544 4.803 5.504 5.606 5.511 5.482 5.606 5.528 5.606 5.528 5.813 7.332 6.012 6.533 6.120
		10:30 10:31 10:32 10:33 10:34 10:35 10:36 10:37 10:38 10:39 10:40 10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52	10.358 10.399 9.823 10.747 10.232 10.651 10.536 9.974 10.305 10.147 10.229 10.045 9.814 9.947 10.030 10.478 10.218 10.218 10.218 10.291 10.053 10.204 10.456 9.918	8.730 8.764 9.422 8.344 8.920 8.429 8.565 9.236 8.842 9.043 8.912 9.477 9.312 9.477 9.312 9.184 8.642 8.950 8.997 8.881 9.212 8.992 8.768 9.395	7.155 8.006 7.212 9.101 9.833 11.612 10.592 8.438 8.214 8.937 9.441 9.337 9.441 9.337 9.445 9.965 10.766 11.421 10.547 10.317 12.633 13.739 13.140 14.262 12.038	146.374 148.775 152.534 148.036 152.674 153.671 155.737 153.046 152.790 153.160 148.563 148.968 146.247 150.423 152.670 155.771 157.483 156.846 154.662 152.543 153.299 158.954 149.011	5.69 5.20 5.38 4.31 5.49 5.10 5.49 5.10 4.93 5.95 4.54 4.80 5.54 5.54 5.54 5.54 5.60 5.54 5.60 5.52 5.81 7.332 6.53 6.120 8.249 7.908



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Wheelabrator Sou					rch 24, 2010	
CleanAir Project I	No. 10955			Start Time	10:56	
Ft. Lauderdale, FL	-			Stop Time	11:01	
FF Outlet 2	FF Outlet 2			BRATION BI	AS 06	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
					FF Outlet 2	
		%dv	%dv	ppmdv	ppmdv	ppmdv
	System Response to					
	C _{of} Zero gas	0.063		- 0.101	0.504	-0.151
	Cuf Upscale gas	5.969	13.972	41.664	220.649	48.870
	Analyzer Calibration	n Error Repons	ies (C _{Dir})			
	Coce Zero gas	0.008	0.006	-0.047	-0.043	0.118
	C _{mce} Upscale gas	5.945	14.112	43.542	226.181	49.082
	Actual Upscale Gas	Value (C _{MA})				
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span Va	lue (CS)				
		13.900	14.100	89.900	453.000	98.500
	System Blas as Perc	cent of Calibra	tion Span Va	lue (SB) (5%)	
	Zero gas	0.4%	0.2%	0.2%	0.1%	-0.3%
	Upscale gas	0.2%	-1.0%	-2.1%	-1.2%	-0.2%
	System Bias Status					
	Zero gas	ОК	ОК	ОК	ОК	OK
	Upscale gas	ОК	ОК	ОК	ОК	ОК
	Previous System Re	sponse to Cal	ibration Gas	es (C _s)		
	Col Zero gas	0.052	0.028	0.033	0.410	-0.168
	Cui Upscale gas	5.953	13.949	41.794	220.933	48.993
	Drift Assessment as	Percent of Ca	libration Spa	an Value (D)	(3%)	
	Zero gas	0.1%	0.0%	0.1%	0.0%	0.0%
	Upscale gas	0.1%	0.2%	-0.1%	-0.1%	-0.1%
	Drift Assessment St	atus				
	Zero gas	ОК	ОК	ОК	ок	ок
	Upscale gas	OK	OK	OK	OK	OK
041410 130243	40:50:57	0.000	0.044	0.571	2 200	27.000
	10:56:55 10:57:10		0.041 0.035	0.571 0.301	2.369 0.749	37.083 44.746
	10:57:25		0.031	0.301	0.513	48.360
	10:57:40		0.029	0.093	0.496	48.863
	10:57:55	-	0.028	0.027	0.504	48.902
	10:58:10		0.029	0.225	0.464	48.846
	10:58:25		0.008	19.233	16.776	46.572
	10:58:40		0.001	36.858	125.673	36.822
	10:58:55	5 9.924	0.000	39.989	192.983	17.514
	10:59:10		0.000	40.865	219.210	6.748
	10:59:25		0.000	41.325	220.277	1.172
	10:59:40		0.000	41.736	220.781	0.016
	10:59:55		1.091	41.931	220.887	-0.194
	11:00:10		11.747	23.446	209.906	-0.195
	11:00:25		13.860	5.433	164.973	-0.065
	11:00:40		13.955	2,216	46.797	0.114
	11:00:55		13.975 13.986	1.351 0.970	3.484 0.912	0.226 0.261
	11:01:10	0.904	13.900	0.970	0.912	0.201

Vheelabrator South Broward CleanAir Project No. 10955 ft. Lauderdale, FL FF Outlet 2			REFERE	ма Start Time Stop time NCE МЕТНО	rch 24, 2010 11:02 11:29 D RUN 7		
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
			FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet ppmd
	Cali	bration Checks					
	Coi	Initial zero	0.063	0.029	0.101	0.504	-0.15
	Cul	Initial upscale	5.969	13.972	41.664	220.649	48.87
	Cof	Final zero	0.058	0.027	0.024	0.551	-0.16
	Cuf	Final upscale	5.969	13.963	41.789	221.004	48.97
		Actual gas value	5.910	14.100	44.900	225.000	48.20
		J. J			44.500	223.000	40.20
		yzer Averages (co		•	0.070	400.040	6.00
		Average conc. Bias adjusted	10.342 10.285	8.855 8.929	9.679 10.363	162.316 1 65.242	6.30 6.34
1410 130243							
		11:03	9.800	9.513	7.918	144.274	
		11:04	10.177	9.036	6.819	153.983	6.75
		11:04 11:05	10.177 10.768	9.036 8.440	6.819 6.662	153.983 160.989	6.75 7.89
		11:04 11:05 11:06	10.177 10.768 10.047	9.036 8.440 9.222	6.819 6.662 6.670	153.983 160.989 158.287	6.75 7.89 6.67
		11:04 11:05 11:06 11:07	10.177 10.768 10.047 10.968	9.036 8.440 9.222 8.176	6.819 6.662 6.670 8.748	153.983 160.989 158.287 160.376	6.75 7.89 6.67 6.92
		11:04 11:05 11:06 11:07 11:08	10.177 10.768 10.047 10.968 10.389	9.036 8.440 9.222 8.176 8.842	6.819 6.662 6.670 8.748 8.953	153.983 160.989 158.287 160.376 164.511	6.75 7.89 6.67 6.92 5.74
		11:04 11:05 11:06 11:07 11:08 11:09	10.177 10.768 10.047 10.968 10.389 9.791	9.036 8.440 9.222 8.176 8.842 9.530	6.819 6.662 6.670 8.748 8.953 8.704	153.983 160.989 158.287 160.376 164.511 160.295	6.753 7.893 6.674 6.922 5.744 4.472
		11:04 11:05 11:06 11:07 11:08 11:09 11:10	10.177 10.768 10.047 10.968 10.389 9.791 10.788	9.036 8.440 9.222 8.176 8.842 9.530 8.382	6.819 6.662 6.670 8.748 8.953 8.704 12.267	153.983 160.989 158.287 160.376 164.511 160.295 160.033	6.755 7.893 6.674 6.92 5.744 4.472 6.152
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863	6.753 7.893 6.674 6.92 5.744 4.472 6.152 5.927
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624	6.75 7.89 6.67 6.92 5.74 4.47 6.15 5.92 5.180
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729	6.75 7.89 6.67 5.74 4.47 6.15 5.92 5.18 6.110
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624	6.75 7.89 6.674 6.92 5.74 4.472 6.152 5.927 5.180 6.110 4.862
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:12 11:13 11:14	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110	6.755 7.892 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252	6.755 7.892 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531	6.755 7.892 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890 5.710
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302	6.755 7.892 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890 5.710 7.530
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052	6.753 7.893 6.674 6.921 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890 5.710 7.530 6.585 6.880
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319	6.753 7.893 6.674 6.921 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890 5.710 7.530 6.585 6.880 6.252
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937 10.497	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322 8.610	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460 8.070	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319 165.379	6.753 7.893 6.674 6.921 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890 5.710 7.530 6.585 6.880 6.252 6.687
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937 10.497 10.526	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322 8.610 8.580	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460 8.070 8.098	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319 165.379 162.841	6.75: 7.89: 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.890 5.710 7.530 6.585 6.880 6.252 6.887 6.465
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937 10.497 10.526 10.537	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322 8.610 8.580 8.573	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460 8.070 8.098 10.520	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319 165.379 162.841 162.786	6.75: 7.89: 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.890 5.710 7.530 6.585 6.880 6.252 6.687 6.465 5.603
		$\begin{array}{c} 11:04\\ 11:05\\ 11:06\\ 11:07\\ 11:08\\ 11:09\\ 11:10\\ 11:11\\ 11:12\\ 11:13\\ 11:14\\ 11:15\\ 11:16\\ 11:17\\ 11:18\\ 11:19\\ 11:20\\ 11:21\\ 11:22\\ 11:23\\ 11:24\\ 11:25\\ \end{array}$	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937 10.497 10.526 10.537 10.444	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322 8.610 8.580 8.573 8.669	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460 8.070 8.098 10.520 13.187	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319 165.379 162.841 162.786 161.492	6.75: 7.89: 6.674 6.92 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.890 5.710 7.530 6.585 6.880 6.252 6.887 6.465 5.603 6.101
		11:04 11:05 11:06 11:07 11:08 11:09 11:10 11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937 10.497 10.526 10.537 10.444 10.281	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322 8.610 8.580 8.573 8.669 8.877	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460 8.070 8.098 10.520 13.187 11.884	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319 165.379 162.841 162.786 161.492 163.801	6.753 7.893 6.674 6.921 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.890 5.710 7.530 6.585 6.880 6.252 6.687 6.465 5.603 6.101 7.161
		$\begin{array}{c} 11:04\\ 11:05\\ 11:06\\ 11:07\\ 11:08\\ 11:09\\ 11:10\\ 11:11\\ 11:12\\ 11:13\\ 11:14\\ 11:15\\ 11:16\\ 11:17\\ 11:18\\ 11:19\\ 11:20\\ 11:21\\ 11:22\\ 11:23\\ 11:24\\ 11:25\\ \end{array}$	10.177 10.768 10.047 10.968 10.389 9.791 10.788 10.204 10.032 10.580 9.967 10.646 10.132 10.019 10.295 10.530 10.301 9.937 10.497 10.526 10.537 10.444	9.036 8.440 9.222 8.176 8.842 9.530 8.382 9.076 9.241 8.605 9.313 8.526 9.150 9.253 8.923 8.643 8.873 9.322 8.610 8.580 8.573 8.669	6.819 6.662 6.670 8.748 8.953 8.704 12.267 14.224 15.241 14.934 11.202 9.933 7.667 6.228 7.300 8.609 9.187 8.460 8.070 8.098 10.520 13.187	153.983 160.989 158.287 160.376 164.511 160.295 160.033 153.863 151.624 157.729 153.110 156.252 170.531 162.302 168.103 173.091 176.052 171.319 165.379 162.841 162.786 161.492	5.598 6.753 7.893 6.674 6.921 5.744 4.472 6.152 5.927 5.180 6.110 4.862 6.008 6.890 5.710 7.530 6.880 6.252 6.687 6.465 5.603 6.101 7.161 6.425 7.800



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Wheelabrator South Broward
CleanAir Project No. 10955
Ft. Lauderdale, FL
FF Outlet 2

March 24, 2010 Start Time 11:30 Stop Time 11:34 CALIBRATION BIAS 07

			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
			CO2	02	SO2	NOX	CO
			FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2
			%dv	%dv	ppmdv	ppmdv	ppmdv
	E vo	tem Response to	Collibration C				
	_	•			0 0 0 1	0.554	0.161
	C _{of}	· · · · · · · · · · · · · · · · · · ·	0.058	0.027	0.024	0.551	-0.161 48.975
	C _{uf}	Upscale gas Iyzer Calibration		13.963	41.789	221.004	40.970
					0.047	0.040	0.449
		Zero gas	0.008	0.006	-0.047	-0.043	0.118
		Upscale gas	5.945	14.112	43.542	226.181	49.082
		uai Upscale Gas \	-				
		Upscale gas	5.910	14.100	44.900	225.000	48.200
	Cali	bration Span Valu					
			13.900	14.100	89.900	453.000	98.500
	Syst	tem Bias as Perce					
		Zero gas	0.4%	0.2%	0.1%	0.1%	-0.3%
		Upscale gas	0.2%	-1.1%	-1.9%	-1.1%	-0.1%
	Syst	tem Bias Status					
		Zero gas	ОК	OK	ОК	ОК	ОК
		Upscale gas	ОК	ок	ок	ок	OK
	Prev	/ious System Res	ponse to Call	ibration Gase	es (C _s)		
	Col	Zero gas	0.063	0.029	0.101	0.504	-0.151
	Cui	Upscale gas	5.969	13.972	41.664	220.649	48.870
	Drift	Assessment as l	Percent of Ca	libration Spa	un Value (D) (3%)	
		Zero gas	0.0%	0.0%	-0.1%	0.0%	0.0%
		Upscale gas	0.0%	-0.1%	0.1%	0.1%	0.1%
	Drifi	Assessment Sta	tus				
		Zero gas	OK	OK	ОК	ОК	ОК
		Upscale gas	OK	OK	ОК	OK	ОК
041410 130243		11:30:25	0 102	0.046	0.609	5.674	20 870
		11:30:40	0.102 0.086	0.048	0.809	1.197	30.872 42.108
		11:30:40	0.075	0.037	0.233	0.684	47.536
		11:31:10		0.028	0.059	0.603	48.728
		11:31:25	0.058	0.028	0.008	0.611	48.916
		11:31:40		0.025	0.006	0.440	49.022
		11:31:55	0.199	0.027	0.031	0.301	48.985
		11:32:10	7.334	0.012	15.632	10.435	47.992
		11:32:25	9.784	0.002	35.898	53.423	38.113
		11:32:40	9.908	0.000	39.842	174.139	21.980
		11:32:55	9.935	0.000	40.856	218.242	7.735
		11:33:10	9.945	0.000	41.468	220.765	2.007
		11:33:25	9.962	0.000	41.825	221.066	0.119
		11:33:40	9.971	0.097	42.074	221.180	-0.179
		11:33:55	7.713	9.712	28.881	221.245	-0.197 -0.106
		11:34:10 11:34:25	6.094	13.765	6.748 2.497	167.969	0.098
		11:34:40	5.984 5.965	13.944 13.966	2.497 1.503	32.910 6.252	0.098
		11:34:55	5.965	13.979	1.056	1.091	0.131
		11.04.00	0.007	10.013	1.000	1.001	0.240

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•	heelabrator South Broward eanAir Project No. 10955 . Lauderdale, FL ⁻ Outlet 2		March 24, 2010 Start Time 11:36 Stop time 12:03 REFERENCE METHOD RUN 8				
			Channel 1 CO2	Channel 2 O2	Channel 3 . SO2	Channel 4 NOX	Channel 5 CO
• <u></u>		<u> </u>	FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv
	Calii	bration Checks					
	Coi	Initial zero	0.058	0.027	0.024	0.551	-0.161
	Cui	Initial upscale	5.969	13.963	41.789	221.004	48.975
	Cof	Final zero	0.059	0.031	0.053	0.461	-0.129
	C _{uf}	Final upscale	5.958	13.973		220.798	49.035
		•			41.743		
	Uma	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Anal	yzer Averages (co	oncentration	s)			
	CAvo	Average conc.	10.111	9.053	7.239	155.399	5.407
	CGas	Blas adjusted	10.062	9.129	7.748	158.130	5.444
		11:37					
		11:38	10.312 9.890 10.025	8.762 9.301 9.124	6.282 6.005 6.083	163.455 163.396 163.508	4.888 4.665 4 742
		11:38 11:39	9.890 10.025	9.301 9.124	6.005 6.083	163.396 163.508	4.665 4.742
		11:38	9.890	9.301	6.005 6.083 5.818	163.396	4.665
		11:38 11:39 11:40	9.890 10.025 10.041	9.301 9.124 9.107	6.005 6.083	163.396 163.508 158.899	4.665 4.742 5.487 6.027
		11:38 11:39 11:40 11:41	9.890 10.025 10.041 10.090	9.301 9.124 9.107 9.051	6.005 6.083 5.818 5.880	163.396 163.508 158.899 154.617	4.665 4.742 5.487 6.027 6.786
		11:38 11:39 11:40 11:41 11:42	9.890 10.025 10.041 10.090 10.235	9.301 9.124 9.107 9.051 8.863	6.005 6.083 5.818 5.880 6.831	163.396 163.508 158.899 154.617 150.810	4.665 4.742 5.487 6.027 6.786 6.013
		11:38 11:39 11:40 11:41 11:42 11:43	9.890 10.025 10.041 10.090 10.235 9.987	9.301 9.124 9.107 9.051 8.863 9.200	6.005 6.083 5.818 5.880 6.831 7.431	163.396 163.508 158.899 154.617 150.810 146.793	4.665 4.742 5.487 6.027 6.786 6.013 5.616
		11:38 11:39 11:40 11:41 11:42 11:43 11:44	9.890 10.025 10.041 10.090 10.235 9.987 10.066	9.301 9.124 9.107 9.051 8.863 9.200 9.068	6.005 6.083 5.818 5.880 6.831 7.431 8.015	163.396 163.508 158.899 154.617 150.810 146.793 144.438	4.665 4.742 5.487
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.799
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.799 5.017
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:53 11:54	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.799 5.017 5.309
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755 150.798	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.799 5.017 5.309 5.161
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909 10.125	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272 9.035	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313 7.452	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755 150.798 149.603	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.759 5.017 5.309 5.161 4.727
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909 10.125 10.341	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272 9.035 8.796	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313 7.452 9.239	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755 150.798 149.603 148.358	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.759 5.017 5.309 5.017 5.309 5.161 4.727 6.881
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909 10.125 10.341 9.737	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272 9.035 8.796 9.553	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313 7.452 9.239 7.870	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755 150.798 149.603 148.358 150.897	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.759 5.017 5.309 5.017 5.309 5.161 4.727 6.881 5.286
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909 10.125 10.341 9.737 10.176	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272 9.035 8.796 9.553 8.984	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313 7.452 9.239 7.870 8.274	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755 150.798 149.603 148.358 150.897 153.508	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.759 5.017 5.309 5.161 4.727 6.881 5.286 5.874
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909 10.125 10.341 9.737 10.176 9.661	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272 9.035 8.796 9.553 8.796	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313 7.452 9.239 7.870 8.274 7.647	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.074 152.755 150.798 149.603 148.358 150.897 153.508 149.658	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.759 5.017 5.309 5.161 4.727 6.881 5.286 5.874 5.845
		11:38 11:39 11:40 11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59	9.890 10.025 10.041 10.090 10.235 9.987 10.066 10.344 9.903 11.076 10.311 9.916 10.095 10.438 9.920 9.885 10.450 9.909 10.125 10.341 9.737 10.176	9.301 9.124 9.107 9.051 8.863 9.200 9.068 8.773 9.270 7.938 8.823 9.275 9.037 8.639 9.291 9.328 8.639 9.272 9.035 8.796 9.553 8.984	6.005 6.083 5.818 5.880 6.831 7.431 8.015 8.520 7.044 7.701 6.796 6.095 7.135 7.402 6.814 6.369 7.233 7.313 7.452 9.239 7.870 8.274	163.396 163.508 158.899 154.617 150.810 146.793 144.438 155.230 161.467 170.057 168.234 161.109 155.018 157.210 152.074 152.112 155.755 150.798 149.603 148.358 150.897 153.508	4.665 4.742 5.487 6.027 6.786 6.013 5.616 6.527 4.569 5.057 4.322 3.606 4.152 4.752 4.752 4.759 5.017 5.309 5.161 4.727 6.881 5.286 5.874



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Wheelabrator Sout					rch 24, 2010			
CleanAir Project N				Start Time	12:04			
Ft. Lauderdale, FL				Stop Time	12:09			
FF Outlet 2		CALIBRATION BIAS 08						
					.			
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5		
		CO2	02	SO2	NOX	CO		
		FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2	FF Outlet 2		
		%dv	%dv	ppmdv	ppmdv	ppmdv		
				FF		Philas		
	System Response to							
	Cof Zero gas	0.059	0.031	0.053	0.461	-0.129		
	C _{uf} Upscale gas	5.958		41.743	220.798	49.035		
	Analyzer Calibration							
	Coce Zero gas	0.008	0.006	-0.047	-0.043	0.118		
	C _{mce} Upscale gas	5.945	14.112	43.542	226.181	49.082		
	Actual Upscale Gas							
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200		
	Calibration Span Va							
		13.900	14.100	89.900	453.000	98.500		
	System Bias as Perc	cent of Calibrat	lon Span Va	lue (SB) (5%))			
	Zero gas	0.4%	0.2%	0.1%	0.1%	-0.3%		
	Upscale gas	0.1%	-1.0%	-2.0%	-1.2%	0.0%		
	System Bias Status							
	Zero gas	OK	OK	OK	OK	OK		
	Upscale gas	OK	OK	OK	OK	OK		
	Previous System Re	sponse to Cali	bration Gase	es (C _s)				
	Coi Zero gas	0.058	0.027	0.024	0.551	-0.161		
	C _{ui} Upscale gas	5.969	13.963	41.789	221.004	48.975		
	Drift Assessment as	Percent of Ca	libration Spa	n Value (D) (3%)			
	Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%		
	Upscale gas	-0.1%	0.1%	-0.1%	0.0%	0.1%		
	Drift Assessment Sta	atus						
	Zero gas	OK	OK	OK	OK	OK		
	Upscale gas	OK	OK	OK	OK	OK		
041410 130243								
041410 150245	12:04:39	9 0.084	0.043	0.247	1.302	40.653		
	12:04:54		0.035	0.135	0.660	47.113		
	12:05:09	0.063	0.034	0.081	0.611	48.739		
	12:05:24	4 0.061	0.031	0.049	0.513	49.003		
	12:05:39		0.027	0.029	0.260	49.045		
	12:05:54		0.030	0.114	0.268	49.057		
	12:06:09		0.012	17.646	16.492	47.556		
	12:06:24		0.005	36.318	72.666	36.355		
	12:06:39		0.004 0.001	39.816 40.902	177.411 218.388	20.278		
	12:06:54 12:07:09		0.001	40.902	210.300	6.891 1.718		
	12:07:24		0.002	41.805	220.570	0.109		
	12:07:39		0.738	41.980	221.082	-0.181		
	12:07:54		11.348	24.536	220.944	-0.181		
	12:08:09		13.836	5.560	172.324	-0.024		
	12:08:24		13.943	2,229	33.366	0.129		
	12:08:39	5.959	13.962	1.411	4.550	0.177		
	12:08:54		13.976	1.042	0.985	0.247		
	12:09:09	5.958	13.981	0.804	0.603	0.271		

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leanAir Proje	eelabrator South Broward anAir Project No. 10955 Lauderdale, FL Outlet 2		March 24, 2010 Start Time 12:10 Stop time 12:37 REFERENCE METHOD RUN 9				
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel Ci
			FF ⁻ Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outlet ppmd
	Call	bration Checks					
	Coi	Initial zero	0.059	0.031	0.053	0.461	-0.12
	Cui	Initial upscale	5.958	13.973	41.743	220.798	49.03
	Cof	Final zero	0.065	0.033	0.109	0.510	-0.12
	Cuf	Final upscale	5.968	13.956	41.834	221.259	49,11
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20
	Anal	yzer Averages (ca	oncentration	s)			
		Average conc.	9.975	9.284	7.212	147,144	6.61
		Bias adjusted	9.929	9.363	7.677	149.623	6.60
		40.44	40.040	0.005	E 404	457.000	
1410 130243							
		12:11	10.243	8.895	5.161	157.092	4.11
		12:11 12:12	10.243 10.030	8.895 9.148	5.161 5.282	157.092 151.772	
		12:12 12:13	10.030 10.100	9.148 9.068	5.282 6.196	151.772 150.688	3.79 4.47
		12:12 12:13 12:14	10.030 10.100 9.922	9.148 9.068 9.333	5.282 6.196 6.359	151.772	3.79 4.47 4.53
		12:12 12:13 12:14 12:15	10.030 10.100 9.922 9.892	9.148 9.068 9.333 9.368	5.282 6.196 6.359 8.131	151.772 150.688 147.704 147.924	3.79 4.47 4.53 4.70
		12:12 12:13 12:14 12:15 12:16	10.030 10.100 9.922 9.892 10.246	9.148 9.068 9.333 9.368 8.893	5.282 6.196 6.359 8.131 9.185	151.772 150.688 147.704 147.924 154.579	3.79 4.47 4.53 4.70 5.27
		12:12 12:13 12:14 12:15 12:16 12:17	10.030 10.100 9.922 9.892 10.246 9.939	9.148 9.068 9.333 9.368 8.893 9.323	5.282 6.196 6.359 8.131 9.185 8.842	151.772 150.688 147.704 147.924 154.579 152.047	3.79 4.47 4.53 4.70 5.27 4.77
		12:12 12:13 12:14 12:15 12:16 12:17 12:18	10.030 10.100 9.922 9.892 10.246 9.939 10.023	9.148 9.068 9.333 9.368 8.893 9.323 9.186	5.282 6.196 6.359 8.131 9.185 8.842 8.275	151.772 150.688 147.704 147.924 154.579 152.047 149.909	3.79 4.47 4.53 4.70 5.27 4.77 4.43
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 8.275 7.765 8.469	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.309 9.329 9.672	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 8.275 7.765 8.469 7.963	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.309 9.329 9.672 9.139	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:23	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.18
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.18 6.78 6.71
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.18 6.78 6.18 6.77 6.35
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854	3.79 4.47 4.53 4.70 5.27 4.43 5.80 5.28 6.85 5.33 6.78 6.18 6.78 6.18 6.77 6.35
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442	5.282 6.196 6.359 8.131 9.185 8.842 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.18 6.78 6.35 7.34 7.82
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654	5.282 6.196 6.359 8.131 9.185 8.842 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098	3.79 4.47 4.53 4.70 5.27 4.43 5.80 5.28 6.85 5.33 6.78 6.18 6.78 6.35 7.34 7.82 8.87
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702 9.801	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654 9.502	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100 7.290	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098 137.304	3.79 4.47 4.53 4.70 5.27 4.70 4.43 5.80 5.28 6.85 6.78 6.78 6.78 6.78 6.35 7.34 7.82 8.876 9.827
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702 9.801 9.821	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654 9.502 9.497	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100 7.290 6.741	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098 137.304 143.732	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.18 6.78 6.35 7.34 7.82 8.870 9.82 10.43
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702 9.801 9.821 10.327	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654 9.502 9.497 8.851	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100 7.290 6.741 6.149	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098 137.304 143.732 141.217	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.78 6.78 6.35 7.34 7.82 8.87 9.82 10.43 9.19
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:27 12:28 12:29 12:30 12:31 12:32 12:33	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702 9.801 9.821 10.327 10.604	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654 9.502 9.497 8.851 8.591	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100 7.290 6.741 6.149 5.985	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098 137.304 143.732 141.217 147.574	3.79 4.47 4.53 4.70 5.27 4.43 5.80 5.28 6.85 5.33 6.78 6.78 6.78 6.75 7.34 7.34 7.82 8.87 9.827 10.43 9.197 9.00
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702 9.801 9.821 10.327 10.604 10.012	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654 9.502 9.497 8.851	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100 7.290 6.741 6.149	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098 137.304 143.732 141.217	4.11: 3.79: 4.470 5.27: 4.70: 5.27: 4.70: 4.43: 5.80: 5.28: 6.85: 6.35: 6.75: 6.35: 7.34: 7.82: 7.82: 9.827: 10.437 9.197 9.003 6.796 7.905
		12:12 12:13 12:14 12:15 12:16 12:17 12:18 12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:27 12:28 12:29 12:30 12:31 12:32 12:33	10.030 10.100 9.922 9.892 10.246 9.939 10.023 10.023 9.943 9.964 9.658 10.083 10.074 9.642 9.817 9.829 9.867 9.702 9.801 9.821 10.327 10.604	9.148 9.068 9.333 9.368 8.893 9.323 9.186 9.230 9.309 9.329 9.672 9.139 9.150 9.738 9.476 9.506 9.442 9.654 9.502 9.497 8.851 8.591 9.219	5.282 6.196 6.359 8.131 9.185 8.842 8.275 8.275 7.765 8.469 7.963 8.030 10.050 8.437 7.408 8.017 7.997 8.100 7.290 6.741 6.149 5.985 5.139	151.772 150.688 147.704 147.924 154.579 152.047 149.909 145.067 145.236 146.321 144.963 150.456 144.681 142.804 142.792 144.854 147.859 142.098 137.304 143.732 141.217 147.574 149.894	3.79 4.47 4.53 4.70 5.27 4.77 4.43 5.80 5.28 6.85 5.33 6.78 6.78 6.78 6.75 7.34 7.34 7.82 8.87 9.827 10.437 9.197 9.003 6.796



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QA/QC_____ Date____

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Wheelabrator South Broward				Ma	rch 24, 2010	
CleanAir Project No. 10	955			Start Time	12:38	
Ft. Lauderdale, FL				Stop Time	12:43	
FF Outlet 2			CALI	BRATION BI	AS 09	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
			FF Outlet 2 %dv	FF Outlet 2		
		%dv	% uv	ppmdv	ppmdv	ppmdv
Sys	tem Response to	Calibration G	asses (C _s)			
Cor	Zero gas	0.065	0.033	0.109.	0.510	-0.127
C _{uf}	Upscale gas	5.968	13.956	41.834	221.259	49.115
	lyzer Calibration			0.047	0.042	0.440
	Zero gas	0.008 5.945	0.006 14.112	-0.047	-0.043 226,181	0.118
	, Upscale gas u al Upscale Gas \		14.132	43.542	220.101	49.082
	Upscale gas	5.910	14.100	44.900	225.000	48.200
	bration Span Valu		14.100	44.000	220.000	-0.200
		13.900	14.100	89.900	453.000	98.500
Svs	tem Bias as Perce					
	Zero gas	0.4%	0.2%	0.2%	, 0.1%	-0.2%
	Upscale gas	0.2%	-1.1%	-1.9%	-1.1%	0.0%
Sys	tem Bias Status					
	Zero gas	ОК	OK	OK	OK	ОК
_	Upscale gas	OK	OK	OK	OK	OK
	vious System Res					
C _{oi}	Zero gas	0.059 5.958	0.031 13.973	0.053	0.461	-0.129
C _{ui} Driff	Upscale gas t Assessment as l			41.743 No Value (D) (220.798	49.035
	Zero gas	0.0%	0.0%	0.1%	0.0%	0.0%
	Upscale gas	0.1%	-0.1%	0.1%	0.1%	0.1%
Drift	t Assessment Sta					
	Zero gas	OK	ок	ок	ОК	ОК
	Upscale gas	ОК	OK	ОК	OK	ОК
041410 130243						
041410 130243	12:38:53	0.097	0.047	0.425	1.921	36.603
	12:39:08	0.085	0.039	0.241	0.733	45.175
	12:39:23		0.037	0.155	0.733	48.360
	12:39:38	0.067	0.031	0.104	0.504	49.112
	12:39:53 12:40:08	0.061	0.032	0.067	0.293	49.117 49.117
	12:40:23		0.000	16.977	5.975	47.315
	12:40:38	9.801	0.008	36.270	120.480	37.491
	12:40:53		0.007	39.937	190.810	20.068
	12:41:08	9.942	0.004	40.946	219.862	7.386
	12:41:23	9.947 9.960	0.002	41.481 41.866	221.009 221.294	1.734 0.150
	12:41:38 12:41:53	9.960 9.960	0.001	41.800	221.294	-0.111
	12:42:08	7.764	9.549	30.466	218.111	-0.189
	12:42:23	6.089	13.752	7.363	199.463	-0.081
	12:42:38		13.939	2.632	66.545	0.108
	12:42:53	5.964	13.960	1.516	5.202	0.242
	12:43:08	5.960	13.970	1.058	0.985	0.299

			i				
Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL						rch 24, 2010	
					Start Time	12:44	
F Outlet 2			REFEREN	Stop time ICE METHO	13:11 PUN 10		
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channe C
			FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	FF Outlet 2 ppmdv	FF Outle ppm
	Cali	bration Checks					
	Coi	Initial zero	0.065	0.033	0.109	0.510	-0.12
	C_{ui}	Initial upscale	5.968	13.956	41.834	221.259	49.11
	Cof	Final zero	0.063	0.029	0.153	0.472	-0.12
	Cuf	Final upscale	5.967	1 3.962	41.919	220.410	48.96
	•.	•	5.910	14.100	44.900	225.000	48.20
	Ana	lyzer Averages (co	oncentration	s)			
		Average conc.	10.083	, 9.127	10.862	160.899	6.30
	C _{Gas}	Bias adjusted	10.031	9.208	11.542	163.798	6.30
1410 130243		12:45	10.161	9.003	7.724	150.967	7.58
1410 130243		12:45	10 161	0.002	7 724	150.067	7 50
		12:46	10.245	8.878	5.218	156.341	6.98
		12:47	10.478	8.659	6.196	162.912	7,79
		12:48	9. 9 51	9.256	9.779	164.678	5.99
		12:49	10.298	8.870	12.911	164.318	7.29
		12:50	9.861	9.386	12.766	166.772	6.19
		12:51	9.799	9.520	12.340	163.25 6	6.81
		12:52	9.858	9.396	12.099	161.970	6.43
		12:53	9.651	9.712	12.398	159.428	7.37
		12:54	9.817	9.479	9.450	153.378	7.08
		12:55	9.954	9.294	9.503	155.490	7.87
		12:56	10.282	9.294 8.868	9.503 9.868	155.490 163.734	7.874 8.36
		12:56 12:57	10.282 10.110	9.294 8.868 9.092	9.503 9.868 9.590	155.490 163.734 157.346	7.874 8.367 7.004
		12:56 12:57 12:58	10.282 10.110 10.308	9.294 8.868 9.092 8.857	9.503 9.868 9.590 9.265	155.490 163.734 157.346 153.893	7.87 8.36 7.00 5.73
		12:56 12:57 12:58 12:59	10.282 10.110 10.308 10.059	9.294 8.868 9.092 8.857 9.175	9.503 9.868 9.590 9.265 8.229	155.490 163.734 157.346 153.893 161.467	7.874 8.365 7.004 5.730 6.073
		12:56 12:57 12:58 12:59 13:00	10.282 10.110 10.308 10.059 10.137	9.294 8.868 9.092 8.857 9.175 9.049	9.503 9.868 9.590 9.265 8.229 9.126	155.490 163.734 157.346 153.893 161.467 161.644	7.874 8.365 7.004 5.736 6.073 4.746
		12:56 12:57 12:58 12:59 13:00 13:01	10.282 10.110 10.308 10.059 10.137 10.328	9.294 8.868 9.092 8.857 9.175 9.049 8.858	9.503 9.868 9.590 9.265 8.229 9.126 11.304	155.490 163.734 157.346 153.893 161.467 161.644 164.744	7.874 8.365 7.004 5.736 6.073 4.746 5.756
		12:56 12:57 12:58 12:59 13:00 13:01 13:02	10.282 10.110 10.308 10.059 10.137 10.328 9.986	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815	7.874 8.36 7.004 5.736 6.073 4.746 5.756 4.52
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913	7.874 8.36 7.004 5.736 6.073 4.746 5.756 4.527 5.967
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200 10.117	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029 9.071	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308 15.796	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913 169.752	7.874 8.36 7.004 5.730 6.073 4.746 5.756 4.527 5.967 5.870
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029 9.029 9.071 9.047	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308 15.796 18.175	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913 169.752 169.933	7.874 8.36 7.004 5.736 6.073 4.746 5.756 4.527 5.967 5.870 6.046
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200 10.117 10.184 9.578	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029 9.029 9.071 9.047 9.791	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308 15.796 18.175 15.321	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913 169.752 169.933 161.333	7.874 8.367 7.004 5.736 6.073 4.746 5.756 4.527 5.967 5.870 6.046 5.284
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200 10.117 10.184 9.578 10.381	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029 9.029 9.071 9.047 9.791 8.752	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308 15.796 18.175 15.321 12.647	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913 169.752 169.933 161.333 160.484	7.874 8.367 7.004 5.736 6.073 4.746 5.756 4.527 5.967 5.870 6.046 5.284 6.001
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200 10.117 10.184 9.578	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029 9.029 9.071 9.047 9.791	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308 15.796 18.175 15.321 12.647 9.753	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913 169.752 169.933 161.333 160.484 157.928	7.874 8.367 7.004 5.736 6.073 4.746 5.756 4.527 5.967 5.870 6.046 5.284 6.001 6.139
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08	10.282 10.110 10.308 10.059 10.137 10.328 9.986 10.200 10.117 10.184 9.578 10.381 10.115	9.294 8.868 9.092 8.857 9.175 9.049 8.858 9.229 9.029 9.029 9.071 9.047 9.791 8.752 9.044	9.503 9.868 9.590 9.265 8.229 9.126 11.304 12.028 14.308 15.796 18.175 15.321 12.647	155.490 163.734 157.346 153.893 161.467 161.644 164.744 161.815 168.913 169.752 169.933 161.333 160.484	7.874 8.367 7.004 5.736 6.073 4.746 5.756 4.527 5.967 5.870 6.046 5.284 6.001 6.139 5.494 5.234



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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 2			March 24, 2010 Start Time 13:12 Stop Time 13:16 CALIBRATION BIAS 10					
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO	
						_	• -	
			FF Outlet 2 %dv	FF Outlet 2 %dv	FF Outlet 2 ppmdv	PF Outlet 2 ppmdv	PF Outlet 2 ppmdv	
	Svs	tem Response to	Calibration G	asses (C _e)				
	Cof	Zero gas		0.029	0.153	0.472	-0.122	
	Cuf	Upscale gas	5.967	13.962	41.919	220.410	48.964	
	Ana	lyzer Calibration	Error Repons					
	Coce	Zero gas	0.008	0.006	-0.047	-0.043	0.118	
	Cmce	, Upscale gas	5.945	14.112	43.542	226.181	49.082	
		ual Upscale Gas \	√alue (C _{MA})					
		Upscale gas	5.910	14.100	44.900	225.000	48.200	
	Cali	bration Span Val	ue (CS)					
		-	13.900	14.100	89.900	453.000	98.500	
	Syst	tem Bias as Perci	ent of Callbra	tion Span Va	lue (SB) (5%)		
		Zero gas	0.4%	0.2%	0.2%	0.1%	-0.2%	
		Upscale gas	0.2%	-1.1%	-1.8%	-1.3%	-0.1%	
	Syst	tem Bias Status						
		Zero gas	OK	ОК	OK	OK	OK	
		Upscale gas	OK	OK	OK	OK	OK	
	Prev	/lous System Res						
	Col	Zero gas	0.065	0.033	0.109	0.510	-0.127	
	Cui	Upscale gas	5.968	13.956	41.834	221.259	49.115	
	Driff	Assessment as						
		Zero gas	0.0%	0.0%	0.0%	0.0%	0.0%	
		Upscale gas	0.0%	0.0%	0.1%	-0.2%	-0.2%	
	Drift	t Assessment Sta						
		Zero gas	OK	OK	OK	OK	OK	
		Upscale gas	ОК	OK	OK	OK	OK	
041410 130243								
		13:12:28	0.109	0.050	0.764	4.070	28.890	
		13:12:43	0.089	0.039	0.418	1.376	41.426	
		13:12:58	0.079	0.037	0.251	0.733	47.235	
		13:13:13		0.033	0.184	0.562	48.790	
		13:13:28		0.029	0.132	0.529	49.031	
		13:13:43		0.026	0.144	0.325	48.987	
		13:13:58 13:14:13	2.942 9.350	0.031 0.008	3.434 28.666	0.252 L 46.202	48.876	
		13:14:28		0.008	38.838	136.052	30.286	
		13:14:43		0.006	40.695	203.997	13.561	
		13:14:58	9.943	0.006	41.394	219.218	4.183	
		13:15:13		0.006	41.770	220.204	0.723	
		13:15:28	9.951	0.006	42.089	220.513	-0.016	
		13:15:43		1.793	<u>41.898</u>	220.513	-0.165	
		13:15:58	6.752	12.260	20.578	220.635	-0.184	
		13:16:13	6.022	13.878	4.790	139.740	-0.016	
		13:16:28		13.949	2.139	14.782	0.127	
		13:16:43	5.964	13.964	1.377	3.736	0.233	
		13:16:58	5.961	13.973	1.035	0.904	0.269	
		13, 10, 30		13.973	1.030	0.304	0.203	

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Wheelabrator South Broward		Date:		rch 22 <u>, 2010</u>	
CleanAir Project No. 10955			Start Time	6:08	
Ft. Lauderdale, FL			Stop Time	6:37	
FF Outlet 3		CALI	BRATION EF	ROR	
	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
	CO2	02	SO2	NOX	co
				FF Outlet 3	
Instrument Infor	%dv mation	%dv	ppmdv	ppmdv	ppmdv
Manufacturer:		Servomex	Wstrn	T.E.I.	T.E.I.
Model:	1415C		Rsrch 921L	42i-HL	48i
Detection:	NDIR	Paramagn.	UV Photo.	Chemilumi.	GFC/NDIR
Asset or Serial No:	204217	205832	205184	205956	205194
Calibration Spar	n Value (CS)				
Sundaria Danas	13.900	14.100	89.900	453.000	98.500
System Respons	•	•	45	45	45
Manufacturer Ce	45 ertified Cyline	45 der Value (C.	45 ,)	45	45
Zero	0.000	0.000	0.000	0.000	0.000
Low	5.910	6.010	44.900	225.000	48.200
Mid					
High	13.900	14.100	89.900	453.000	98.500
Actual gas to be	e used for bia	as checks			
	5.910	14.100	44.900	225.000	48.200
Cylinder ID					
Zero	AAL14589	AAL14589	AAL14589	AAL14589	AAL14589
Low Mid	ALM033730	ALM046255	ALM010885	ALM010885	EB0011451
High	ALM046255	ALM033730	CC124384	CC124384	ALM054744
Analyzer Calibra	tion Respon	se (Cnir)			
Zero		0.012	-0.106	0.049	0.124
Low	5.975	6.017	43.196	. 223.761	49.126
Mid	5.975	14.100	0.050	0.100	0.714
High	13,905	14.102	89.954	453.258	98:770
Analyzer Calibration Error (ACE) (Limit = 2%					
Zero	0.0%	0.1%	-0.1%	0.0%	0.1%
Low	0.5%	0.1%	-1.9%	-0.3%	0.9%
Mid High	N/A 0.0%	N/A 0.0%	N/A 0.1%	N/A 0.1%	N/A 0.3%
Calibration Error					
Zero	OK	OK	ок	OK 1	ок
Low	OK	OK	OK	OK	OK
Mid	N/A	N/A	N/A	N/A	N/A
High	OK	OK	ОК	OK	OK
41410 130313					
06:08:02	-0.045	0.015	-0.231	0.049	0.263
06:08:17	-0.008	0.015	-0.085	0.065	0.008
06:08:02	-0.045	0.015	-0.231	0.049	0.263
06:08:17	-0.008	0.015	-0.085	0.065	0.008
06:08:32	0.000	0.013	-0.098	0.057	0.103
06:08:47 06:09:02	0.000 0.000	0.012 0.012	-0.116 -0.106	0.065 0.024	0.140 0.129
06:09:02	0.000	0.012	-0.106	0.024	0.129
06:09:32	1.719	6.695	-0.100	0.081	0.101
00.00.0E					

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QA/QC____ Date____

Wheelabrator South Broward
CleanAir Project No. 10955
Ft. Lauderdale, FL
FF Outlet 3

Date:	March	22, 2010
	Start Time	6:08
	Stop Time	6:37
CALI	BRATION ERRC	R

FF Outlet 3 FF Outlet 3	15 CO
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
06:11:17 6.614 12.776 -0.106 0.081 0.17 06:11:32 12.811 6.782 -0.223 0.024 0.19 06:11:47 13.971 6.054 -0.152 0.057 0.16 06:12:02 14.015 6.022 -0.132 0.057 0.12 06:12:32 13.904 6.015 -0.125 0.073 -0.00 06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:11:32 12.811 6.782 -0.223 0.024 0.19 06:11:47 13.971 6.054 -0.152 0.057 0.16 06:12:02 14.015 6.022 -0.132 0.057 0.12 06:12:02 14.015 6.022 -0.125 0.073 -0.00 06:12:32 13.902 6.014 -0.129 0.098 -0.05 06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:11:47 13.971 6.054 -0.152 0.057 0.16 06:12:02 14.015 6.022 -0.132 0.057 0.12 06:12:02 14.015 6.022 -0.132 0.057 0.12 06:12:17 13.964 6.015 -0.125 0.073 -0.00 06:12:32 13.902 6.014 -0.129 0.098 -0.05 06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:12:02 14.015 6.022 -0.132 0.057 0.12 06:12:17 13.964 6.015 -0.125 0.073 -0.00 06:12:32 13.902 6.014 -0.129 0.098 -0.05 06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:12:17 13.964 6.015 -0.125 0.073 -0.00 06:12:32 13.902 6.014 -0.129 0.098 -0.05 06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:12:32 13.902 6.014 -0.129 0.098 -0.05 06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:12:47 13.906 6.012 -0.130 0.114 -0.06 06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:13:02 13.906 6.009 -0.101 0.098 -0.05 06:13:17 10.897 8.571 -0.016 0.122 -0.00	
06:13:17 10.897 8.571 -0.016 0.122 -0.00	
DEGRAPH E 919 19700 DDE7 D16E D40	
06:13:32 6.313 13.709 0.057 0.155 0.40 06:13:47 5.996 14.078 -0.010 0.146 1.11	
06:14:02 5.981 14.094 -0.049 0.106 1.17 06:14:17 5.972 14.102 -0.056 0.106 0.67	
06:14:17 5.972 14:102 -0.038 0.108 0.87	
06:14:32 <u>3.371</u> 14:103 -0.040 0.089 0.29 06:14:47 5.894 13.480 -0.052 0.106 0.14	
06:15:02 8.651 2.421 -0.062 25.030 0.21	
06:15:17 9.658 0.339 13.311 118.445 0.31	
06:15:32 9.872 0.031 76.565 348.042 0.30	
06:15:47 9.898 0.005 90.849 445.714 0.133	
06:16:02 9.902 0.001 92.458 447.977 0.000	
06:16:17 9.902 0.001 92.874 449.092 -0.23	
06:16:32 9.902 0.000 93.029 452.991 -0.31	
06:16:47 9.905 0.000 92.676 453.163 -0.31	
06:17:02 9.906 0.000 89.939 453.236 -0.31	
06:17:17 9.904 -0.001 89.955 453.285 -0.314	
06:17:32 9.906 0.000 89.968 453.252 -0.314	
06:17:47 9.481 0.429 80.563 453.244 -0.319	
06:18:02 9.704 0.159 39.079 400.627 -0.255	
06:18:17 9.992 0.000 40.345 225.788 -0.08	
06:18:32 10.006 -0.006 42.178 208.490 -0.060	
06:18:47 10.011 -0.012 42.728 218.852 -0.173	3
06:19:02 10.013 -0.012 42.963 222.605 -0.28	Э
06:19:17 10.012 -0.014 43.114 223.313 -0.336	C
06:19:32 10.016 -0.013 43.223 223.589 -0.369	Э
06:19:47 10.015 -0.013 4 <u>3.251</u> 223.761 -0.368	3
06:20:02 9.692 0.262 42.271 223.932 -0.338	3
06:20:17 1.895 0.250 15.025 218.136 1.983	3
06:20:32 0.133 0.017 1.996 100.806 14.143	3
06:20:47 0.042 0.006 0.498 29.988 47.167	7
06:21:02 0.032 0.006 0.223 2.149 76.345	Ĵ
06:21:17 0.031 0.006 0.098 1.164 93.324	4
06:21:32 0.029 0.004 0.072 0.798 98.201	1
06:21:47 0.030 0.007 0.022 0.684 99.060	
06:22:02 0.020 0.006 0.019 0.611 98.745	5]
06:22:17 0.019 0.006 0.021 0.611 98.769)
06:22:32 0.019 0.006 0.024 0.611 98.797	7

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Wheelabrator South Broward		Date:	Ma	rch 22, 2010	
CleanAir Project No. 10955			Start Time	6:08	
Ft. Lauderdale, FL			Stop Time	6:37	
FF Outlet 3		CALI	BRATION EI	ROR	
	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
	CO2	O2	SO2	NOX	со
	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
	%dv	%dv	ppmdv	ppmdv	ppmdv
06:22:4	47 0.025	0.014	0.021	0.611	98.802
06:23:0	0.033	0.013	0.070	0.644	97.507
06:23:	0.016	0.004	0.044	0.888	88.192
06:23:3	0.012	0.004	0.006	0.652	71.984
06:23:4	0.012	0.005	0.021	0.448	56.921
06:24:0	0.011	0.002	-0.006	0.390	51.057
06:24:1	7 0.011	0.002	0.008	0.350	49.296
06:24:3	0.012	0.004	0.013	0.350	49.043
06:24:4	7 0.011	0.002	0.024	0.342	49.038
06:36:5	9 0.012	1.009	0.876	43.492	0.183
06:37:1	4 0.012	1.010	0.904	44.380	0.147
06:37:2	9 0.012	1.008	0.933	44.982	0.144
06:37:4	4 0.010	1.007	0.933	45.275	0.132
06:37:5	9 0.010	1.007	0.962	45.551	0.140

NO2 = 49.7 Efficiency = 91.4%

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Prepared by Clean Air Engineering Proprietary Software SS CEM Version 06-2004a

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Wheelabrator South CleanAir Project No				Ma Start Time	rch 22, 2010 6:28	
Ft. Lauderdale, FL				Stop Time	6:34	
FF Outlet 3			CALI	CALIBRATION BIAS 00		
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
		FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
		%dv	%dv	ppmdv	ppmdv	ppmdv
	System Respon	se to Calibration G	iasses (C _S)			
	Cof Zero gas	0.004		-0.143	0.122	-0.144
	C _{uf} Upscale ga		13.982	41.646	223.326	49.047
	-	ation Error Repons				
	C _{oce} Zero gas	0.000	0.012	-0.106	0.049	0.124
	C _{mce} Upscale ga	аз 5.975 Gas Value (С _{ма})	14.102	43.196	223.761	49.126
	C _{ma} Upscale ga		14.100	44.900	225.000	48.200
	Calibration Spa		14.100	44.000	220.000	40.200
	ounsidion opa	13.900	14.100	89.900	453.000	98.500
	System Bias as	Percent of Calibrat				
	Zero gas	0.0%	0.2%	0.0%	0.0%	-0.3%
	Upscale ga	as -0.5%	-0.8%	-1.7%	-0.1%	-0.1%
	System Bias Sta	atus				
	Zero gas	OK	OK	OK	OK	OK
	Upscale ga		OK	OK	OK	OK
	-	m Response to Cali				
	C _{oi} Zero gas	N/A	N/A	N/A	N/A	N/A
	C _{ui} Upscale ga		N/A	N/A	N/A	N/A
	Zero gas	nt as Percent of Cal N/A	N/A	N/A	י‰) N/A	N/A
	Upscale ga		N/A	N/A	N/A	N/A
	Drift Assessme	-			19/0	
	Zero gas	N/A	N/A	N/A	N/A	N/A
	Upscale ga	is N/A	N/A	N/A	N/A	N/A
042010 144144						
		28:58 0.004	0.039			
	00.	00.40 0.007		-0.144	0.122	49.047
		29:13 0.007	0.037	-0.140	0.122	49.043
	06:	29:28 0.003	0.037 0.035	-0.140 -0.145	0.122 0.122	49.043 49.052
	06: 06:		0.037	-0.140	0.122	49.043
	06: 06: 06:	29:28 0.003 29:43 0.004	0.037 0.035 0.037	-0.140 -0.145 -0.122	0.122 0.122 0.122	49.043 49.052 49.055
	06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394	0.037 0.035 0.037 0.036 3.329 1.944	-0.140 -0.145 -0.122 -0.124 -0.129 10.144	0.122 0.122 0.122 0.122 0.122 0.114 1.375	49.043 49.052 49.055 49.050 49.045 46.020
	06: 06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394 :30:43 9.724	0.037 0.035 0.037 0.036 3.329 1.944 0.094	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060	0.122 0.122 0.122 0.122 0.114 1.375 50.786	49.043 49.052 49.055 49.050 49.045 46.020 35.189
	06: 06: 06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394 :30:43 9.724 :30:58 9.854	0.037 0.035 0.037 0.036 3.329 1.944 0.094 0.020	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060 38.066	0.122 0.122 0.122 0.122 0.114 1.375 50.786 188.751	49.043 49.052 49.055 49.050 49.045 46.020 35.189 16.436
	06: 06: 06: 06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394 :30:43 9.724 :30:58 9.854 :31:13 9.876	0.037 0.035 0.037 0.036 3.329 1.944 0.094 0.020 0.012	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060 38.066 39.678	0.122 0.122 0.122 0.122 0.114 1.375 50.786 188.751 218.331	49.043 49.052 49.055 49.050 49.045 46.020 35.189 16.436 6.408
	06: 06: 06: 06: 06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394 :30:43 9.724 :30:58 9.854	0.037 0.035 0.037 0.036 3.329 1.944 0.094 0.020	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060 38.066	0.122 0.122 0.122 0.122 0.114 1.375 50.786 188.751	49.043 49.052 49.055 49.050 49.045 46.020 35.189 16.436
	06: 06: 06: 06: 06: 06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394 :30:58 9.854 :31:13 9.876 :31:28 9.892 :31:43 9.895 :31:58 9.906	0.037 0.035 0.037 0.036 3.329 1.944 0.094 0.020 0.012 0.012 0.012 0.011 0.011	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060 38.066 39.678 40.425 40.933 41.258	0.122 0.122 0.122 0.122 0.114 1.375 50.786 188.751 218.331 222.442 223.069 223.093	49.043 49.052 49.055 49.050 49.045 46.020 35.189 16.436 6.408 1.187 0.124 -0.140
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	06: 06: 06: 06: 06: 06: 06: 06: 06: 06:	29:28 0.003 :29:43 0.004 :29:58 0.006 :30:13 0.221 :30:28 7.394 :30:43 9.724 :30:58 9.854 :31:13 9.876 :31:28 9.892 :31:58 9.906 :32:13 9.911 :32:28 9.913 :32:43 9.919 :32:58 9.808	0.037 0.035 0.037 0.036 3.329 1.944 0.094 0.020 0.012 0.012 0.012 0.011 0.011 0.008 0.009 0.009 0.989	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060 38.066 39.678 40.425 40.933 41.258 41.501 41.664 41.775 41.529	0.122 0.122 0.122 0.122 0.114 1.375 50.786 188.751 218.331 222.442 223.069 223.093 223.256 223.329 223.394 223.573	49.043 49.052 49.055 49.050 49.045 46.020 35.189 16.436 6.408 1.187 0.124 -0.140 -0.144 -0.150 -0.195
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	06: 06: 06: 06: 06: 06: 06: 06: 06: 06:	29:28 0.003 29:43 0.004 29:58 0.006 30:13 0.221 30:28 7.394 30:43 9.724 30:58 9.854 31:13 9.876 31:28 9.892 31:43 9.895 31:58 9.906 32:13 9.911 32:28 9.913 32:43 9.919 32:58 9.808 33:13 3.458 33:28 0.312 33:43 1.775 33:58 5.498 34:13 5.877	0.037 0.035 0.037 0.036 3.329 1.944 0.094 0.020 0.012 0.012 0.012 0.012 0.011 0.011 0.011 0.008 0.009 0.009 0.989 15.982 20.508 18.097 14.239 13.990	-0.140 -0.145 -0.122 -0.124 -0.129 10.144 32.060 38.066 39.678 40.425 40.933 41.258 41.501 41.664 41.775 41.529 30.567 12.671 5.156 2.406 1.227	0.122 0.122 0.122 0.122 0.114 1.375 50.786 188.751 218.331 222.442 223.069 223.093 223.256 223.329 223.394 223.573 223.557 133.887 24.762 4.933 1.416	49.043 49.052 49.055 49.050 49.045 46.020 35.189 16.436 6.408 1.187 0.124 -0.140 -0.147 -0.144 -0.150 -0.195 -0.146 0.143 0.236 0.301 0.280
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QA/QC_____ Date_____

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leanAir Project N . Lauderdale, FL ⁻ Outlet 3				March 22, 2010 Start Time 7:44 Stop time 8:11 REFERENCE METHOD RUN 1			1	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channe C	
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet ppm	
	Calil	bration Checks						
	Col	Initial zero	0.004	0.037	-0.143	0.122	-0.14	
	Cui	Initial upscale	5.905	13.982	41.646	223.326	49.04	
	Cot	Final zero	0.052	0.035	0.026	0.798	-0.02	
	Cuf	Final upscale	5.944	13.935	41.635	222.097	49.07	
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20	
	Anal	yzer Averages (co	oncentration	s)				
	CAva	Average conc.	9.723	9.595	9.908	142.449	6.99	
		Bias adjusted	9.718	9.681	10.731	143.745	6.94	
		07:45	9.760	9.517	9.684	139.092	7.94	
		07.40	9.700					
		07:46	9.365	10.036				
		07:46 07:47			8.501 7.542	139.105 138.500	7.25	
			9.365	10.036	8.501	139.105	7.25 7.48	
		07:47	9.365 9.600	10.036 9.760	8.501 7.542	139.105 138.500	7.25 7.48 6.28	
		07:47 07:48	9.365 9.600 9.442	10.036 9.760 9.935	8.501 7.542 6.939	139.105 138.500 133.203	7.25 7.48 6.28 6.79	
		07:47 07:48 07:49	9.365 9.600 9.442 9.814 9.650 10.239	10.036 9.760 9.935 9.442	8.501 7.542 6.939 6.880	139.105 138.500 133.203 137.965	7.25 7.48 6.28 6.79 7.04	
		07:47 07:48 07:49 07:50 07:51 07:52	9.365 9.600 9.442 9.814 9.650 10.239 9.339	10.036 9.760 9.935 9.442 9.678 8.934 10.070	8.501 7.542 6.939 6.880 7.906 8.218 7.733	139.105 138.500 133.203 137.965 143.441 149.542 138.317	7.25 7.48 6.28 6.79 7.04 8.07 6.24	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170	7.25 7.48 6.28 7.04 8.07 6.24 6.64 6.19 6.19 4.65	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19 4.65 6.11	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19 4.65 6.11 6.60	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19 4.65 6.11 6.60 7.33	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19 4.65 6.11 6.60 7.33 7.26	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00 08:01	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19 4.65 6.11 6.60 7.33 7.26 6.09	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00 08:01 08:02	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 6.19 4.65 6.11 6.60 7.33 7.26 6.09 5.45	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00 08:01	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726 9.829	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 4.65 6.11 6.60 7.33 7.26 6.09 5.45 6.16	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00 08:01 08:02 08:03	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552 9.637	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726 9.829 9.749	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718 13.849	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155 146.498	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 4.65 6.11 6.60 7.33 7.26 6.09 5.45 6.16 7.53	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00 08:01 08:02 08:03 08:04	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552 9.637 9.336	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.394 9.363 9.326 9.185 9.726 9.829 9.749 10.140	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718 13.849 14.007	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155 146.498 144.866	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 4.65 6.11 6.60 7.33 7.26 6.09 5.45 6.16 7.53 8.13	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:56 07:57 07:58 07:59 08:00 08:01 08:02 08:03 08:04 08:05	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552 9.637 9.336 9.752	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726 9.829 9.749 10.140 9.601	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718 13.849 14.007 16.015	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155 146.498 144.866 147.468	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 4.65 6.11 6.60 7.33 7.26 6.09 5.45 6.16 7.53 8.13 7.49	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:56 07:57 07:58 07:59 08:00 08:01 08:02 08:03 08:04 08:05 08:06	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552 9.637 9.336 9.752 9.853	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726 9.829 9.749 10.140 9.601 9.470	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718 13.849 14.007 16.015 17.418	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155 146.498 144.866 147.468 147.243	7.25 7.48 6.29 7.04 8.07 6.24 6.64 6.19 4.65 6.11 6.60 7.33 7.26 6.09 5.45 6.16 7.53 8.13 7.49 8.55	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:57 07:58 07:59 08:00 08:01 08:02 08:03 08:04 08:05 08:06 08:07	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552 9.637 9.336 9.752 9.853 9.610 9.674 9.392	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726 9.829 9.749 10.140 9.601 9.470 9.823	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718 13.849 14.007 16.015 17.418 16.477	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155 146.498 144.866 147.468 147.243 147.131	7.25 7.48 6.29 7.04 8.07 6.24 6.64 6.19 4.65 6.19 4.65 6.19 4.65 6.10 7.33 7.26 6.09 5.45 6.16 7.53 8.13 7.49 8.55 8.12	
		07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:57 07:58 07:59 08:00 08:01 08:02 08:03 08:04 08:05 08:06 08:07 08:08	9.365 9.600 9.442 9.814 9.650 10.239 9.339 9.683 10.161 9.929 9.816 9.729 9.853 9.932 10.019 9.636 9.552 9.637 9.336 9.752 9.853 9.752 9.853 9.610 9.674	10.036 9.760 9.935 9.442 9.678 8.934 10.070 9.647 8.989 9.303 9.388 9.594 9.363 9.326 9.185 9.726 9.829 9.749 10.140 9.601 9.470 9.823 9.687	8.501 7.542 6.939 6.880 7.906 8.218 7.733 7.320 7.823 8.780 8.521 8.783 9.042 9.559 10.766 11.906 12.718 13.849 14.007 16.015 17.418 16.477 11.687	139.105 138.500 133.203 137.965 143.441 149.542 138.317 140.466 143.175 147.316 136.170 140.812 134.984 142.021 142.823 144.337 142.155 146.498 144.866 147.468 147.243 147.131 145.690	7.25 7.48 6.28 6.79 7.04 8.07 6.24 6.64 6.19 4.65 6.11 6.60 7.33 7.26 6.16 7.53 8.13 7.53 8.13 7.49 8.55 8.12 7.50 7.92	



Wheelabrator South B CleanAir Project No. 1 Ft. Lauderdale, FL FF Outlet 3			CALII	Ma Start Time Stop Time BRATION BI/	rch 22, 2010 8:13 8:18 AS 01	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
		FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
		%dv	%dv	ppmdv	ppmdv	ppmdv
9	System Response to	Calibration G	asses (C _o)			
	C _{of} Zero gas	0.052	0.035	0.026	0.798	-0.029
(C _{uf} Upscale gas	5.944	13.935	41.635	222.097	49.071
	Analyzer Calibration	Error Repons	es (C _{Dir})	_		
	Coce Zero gas	0.000	0.012	-0.106	0.049	0.124
	C _{mce} Upscale gas	5.975	14.102	43.196	223.761	49.126
	Actual Upscale Gas V					
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
(Callbration Span Valu	•	44400			
	Sustan Dian as Dave	13.900	14.100	89.900	453.000	98.500
	System Bias as Perce Zero gas	0.4%	0.2%	0.1%) 0.2%	-0.2%
	Upscale gas	-0.2%	-1.2%	-1.7%	-0.4%	-0.2%
9	System Bias Status	0.270	1.270	1.7 /0	-0.470	-0.170
•	Zero gas	ОК	ОК	ОК	ОК	ок
	Upscale gas	OK	OK	OK	OK	OK
F	Previous System Res	ponse to Cali	bration Gase	es (C _s)		
	C _{oi} Zero gas	0.004	0.037	-0.143	0.122	-0.144
	C _{ui} Upscale gas	5.905	13.982	41.646	223.326	49.047
ſ	Drift Assessment as I	Percent of Ca	libration Spa	n Value (D) (3%)	
	Zero gas	0.3%	0.0%	0.2%	0.1%	0.1%
	Upscale gas	0.3%	-0.3%	0.0%	-0.3%	0.0%
ſ	Drift Assessment Stat					
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	OK	OK	OK	OK
041410 130313						
	08:13:50	0.281	0.171	1.862	84.819	18.141
	08:14:05 08:14:20	0.103 0.076	0.050 0.040	0.814 0.360	18.779 4.632	25.976 37.213
	08:14:35	0.062	0.040	0.300	1.514	46.102
	08:14:50		0.037	0.070	0.912	48.422
	08:15:05	0.051	0.035	0.014	0.749	49.063
	08:15:20	0.049	0.033	-0.006	0.733	49.070
	08:15:35 08:15:50	0.265	0.038	0.007	0.717	49.081
	08:16:05	7.502 9.758	0.023 0.005	13.302 34.479	11.380 55.808	47.785 37.314
	08:16:20	9.881	0.006	39.525	175.409	21.560
	08:16:35	9.902	0.005	40.778	219.203	7.559
	08:16:50	9.914	0.005	41.361	221.783	2.134
	08:17:05	9.921	0.004	41.688	222.108	0.163
	08:17:20	9.877	0.685	41.856	222.401	-0.081
	08:17:35	7.120	11.182	24.389	222.425	-0.099
	08:17:50 08:18:05[6.026 5.952	13.809 13.919	5.884 2.250	167.725 29.532	0.095
	08:18:20	5.952	13.919	2.250	29.532 5.356	0.186
	08:18:35	5.937	13.948	0,733	1.237	0.342

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Wheelabrator South Bi CleanAir Project No. 10 Ft. Lauderdale, FL FF Outlet 3				March 22, 2010 Start Time 8:20 Stop time 8:47 REFERENCE METHOD RUN 2)	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C	
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet ppmd	
	Calil	oration Checks						
	Col	Initial zero	0.052	0.035	0.026	0.798	-0.029	
	Cul	Initial upscale	5.944	13.935	41.635	222.097	49.07	
	Cof	Final zero	0.065	0.034	0.066	0.730	-0.03	
	Cuf	Final upscale	5.953	13.940	41.943	221.891	49.10	
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20	
		yzer Averages (co	oncontration	c)				
	_	Average conc.	9.920	9.291	11.708	145.991	7.06	
		Bias adjusted	9.895	9.387	12.545	147.701	6.97	
		08:22	9.925	9.291	12.159	143.081	7.57	
		08:21	9 <i>.</i> 671	9.655	11.343	145.706	7.379	
		08:22	9.925 9.664	9.291	12.159	138.071	7.89	
					11.952	130.071	1.09	
		08:24	10 033	9 172	12 274	141 146	9 10	
		08:24	10.033 10 185	9.172 8 949	12.274 13.254	141.146 141.500		
		08:25	10.185	8.949	13.254	141.500	7.56	
		08:25 08:26	10.185 9.775	8.949 9.500	13.254 13.506	141.500 146.744	7.56 8.61	
		08:25 08:26 08:27	10.185 9.775 9.988	8.949 9.500 9.181	13.254 13.506 12.517	141.500 146.744 145.623	7.56 8.61 8.20	
		08:25 08:26	10.185 9.775	8.949 9.500	13.254 13.506	141.500 146.744	7.564 8.612 8.203 6.684	
		08:25 08:26 08:27 08:28	10.185 9.775 9.988 9.841	8.949 9.500 9.181 9.343	13.254 13.506 12.517 11.286	141.500 146.744 145.623 147.114	7.564 8.612 8.203 6.684 7.219	
		08:25 08:26 08:27 08:28 08:29	10.185 9.775 9.988 9.841 10.351	8.949 9.500 9.181 9.343 8.748	13.254 13.506 12.517 11.286 11.071	141.500 146.744 145.623 147.114 152.550	7.564 8.612 8.203 6.684 7.219 5.713	
		08:25 08:26 08:27 08:28 08:29 08:30	10.185 9.775 9.988 9.841 10.351 9.611	8.949 9.500 9.181 9.343 8.748 9.647	13.254 13.506 12.517 11.286 11.071 10.3 7 2	141.500 146.744 145.623 147.114 152.550 147.688	7.564 8.612 8.203 6.684 7.219 5.713 5.931	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31	10.185 9.775 9.988 9.841 10.351 9.611 10.308	8.949 9.500 9.181 9.343 8.748 9.647 8.730	13.254 13.506 12.517 11.286 11.071 10.372 11.256	141.500 146.744 145.623 147.114 152.550 147.688 151.469	7.564 8.612 8.203 6.684 7.219 5.713 5.931 5.866	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:33	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367	7.56 8.612 8.203 6.684 7.219 5.713 5.931 5.866 6.129 5.424	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208	7.56 8.612 8.200 6.684 7.219 5.712 5.93 5.866 6.129 5.424 6.340	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:33 08:34 08:35 08:36	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690	7.56 8.612 8.203 6.684 7.219 5.712 5.93 5.866 6.129 5.424 6.340 5.754	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650	7.56 8.612 8.200 6.684 7.219 5.712 5.93 5.866 6.129 5.424 6.340 5.754 8.060	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389	7.56 8.612 8.200 6.684 7.219 5.712 5.93 5.860 6.129 5.424 6.340 5.754 8.060 6.846	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:39	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834	7.56 8.612 8.203 6.684 7.219 5.713 5.931 5.866 6.129 5.424 6.340 5.754 8.060 6.846 6.834	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:39 08:40	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700 10.113	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618 9.011	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074 13.468	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834 142.104	7.56 8.612 8.203 6.684 7.219 5.713 5.931 5.866 6.129 5.424 6.340 5.754 8.060 6.846 6.834 6.834	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:39 08:40 08:41	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700 10.113 9.825	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618 9.011 9.451	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074 13.468 13.763	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834 142.104 139.086	7.56 8.612 8.200 6.684 7.219 5.712 5.93 5.860 6.129 5.424 6.340 5.754 8.060 6.844 6.834 6.834 6.834 6.834 6.834 6.834	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:39 08:40 08:41 08:42	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700 10.113 9.825 10.081	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618 9.011 9.451 9.103	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074 13.468 13.763 13.270	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834 142.104 139.086 145.293	7.56 8.612 8.203 6.684 7.219 5.713 5.93 5.860 6.129 5.424 6.340 5.754 8.060 6.844 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:37 08:38 08:39 08:40 08:41 08:42 08:43	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700 10.113 9.825 10.081 9.946	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618 9.011 9.451 9.103 9.270	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074 13.468 13.763 13.270 12.319	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834 142.104 139.086 145.293 139.442	7.56 8.612 8.203 6.684 7.219 5.713 5.931 5.866 6.129 5.424 6.340 5.754 8.060 6.846 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834 6.834	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:39 08:40 08:41 08:42 08:43 08:44	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700 10.113 9.825 10.081 9.946 9.828	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618 9.011 9.451 9.103 9.270 9.398	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074 13.468 13.763 13.270 12.319 10.986	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834 142.104 139.086 145.293 139.442 137.477	7.564 8.612 8.203 6.684 7.219 5.713 5.931 5.866 6.129 5.424 6.340 6.846 6.834 6.835 6.755 6.755 6.755 6.755 6.755	
		08:25 08:26 08:27 08:28 08:29 08:30 08:31 08:32 08:33 08:34 08:35 08:36 08:37 08:38 08:37 08:38 08:39 08:40 08:41 08:42 08:43	10.185 9.775 9.988 9.841 10.351 9.611 10.308 10.053 10.277 9.591 9.962 9.557 9.876 10.074 9.700 10.113 9.825 10.081 9.946	8.949 9.500 9.181 9.343 8.748 9.647 8.730 9.061 8.803 9.690 9.224 9.759 9.394 9.089 9.618 9.011 9.451 9.103 9.270	13.254 13.506 12.517 11.286 11.071 10.372 11.256 12.164 12.718 10.976 11.818 10.885 11.582 12.414 13.074 13.468 13.763 13.270 12.319	141.500 146.744 145.623 147.114 152.550 147.688 151.469 152.892 154.436 152.367 152.208 147.690 144.650 142.389 151.834 142.104 139.086 145.293 139.442	9.105 7.564 8.612 8.203 6.684 7.219 5.713 5.931 5.866 6.129 5.424 6.340 5.754 8.060 6.834 6.834 6.834 6.834 6.837 7.978 6.815 6.705 7.595 7.050	



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QA/QC_____ Date_____

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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 3			March 22, 2010 Start Time 8:48 Stop Time 8:52 CALIBRATION BIAS 02					
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO	
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	
	Sve	tem Response to	Calibration 6	asses (C_)				
	Cof	Zero gas	0.065	0.034	0.066	0.730	-0:038	
	Cuf	Upscale gas	5.953	13.940	41.943	221.891	49.104	
		lyzer Calibration						
		Zero gas	0.000	0.012	-0.106	0.049	0.124	
		Upscale gas	5.975	14.102	43.196	223.761	49.126	
		al Upscale Gas \			101100			
		Upscale gas	5.910	14.100	44.900	225.000	48.200	
		bration Span Val		14.100	44.000	220.000	-10.200	
	Uan	bradon opan van	13.900	14.100	89.900	453.000	98.500	
	Svet	tem Bias as Perce					50.500	
	Jysi	Zero gas	0.5%	0.2%	0.2%	0.2%	-0.2%	
		Upscale gas	-0.2%	-1.2%	-1.4%	-0.4%	0.0%	
	Svet	tem Bias Status	0.270	1.270	-1.470	0,470	0.070	
	əyəi	Zero gas	ок	ок	ОК	ок	ОК	
		Upscale gas	OK	OK	OK	OK	OK	
	Dress	vious System Res				UK	UK	
		•	-			0 709	0.000	
	C°i	Zero gas	0.052	0.035	0.026	0.798	-0.029	
	C _{ui}	Upscale gas	5.944 Demost of Co	13.935	41.635	222.097	49.071	
	Driπ	Assessment as					0.00/	
		Zero gas	0.1%	0.0%	0.0%	0.0%	0.0%	
		Upscale gas	0.1%	0.0%	0.3%	0.0%	0.0%	
	Drift	Assessment Sta				014		
		Zero gas	OK	OK	OK	OK	OK	
		Upscale gas	OK	OK	ОК	OK	OK	
041410 130313								
		08:48:13	0.120	0.061	0.869	16.068	23.676	
		08:48:28	0.086	0.040	0.366	1.481	37.301	
		08:48:43	0.079	0.042	0.210	0.977	45.506	
		08:48:58		0.037	0.112	0.733	48.635	
		08:49:13	0.065	0.032	0.062	0.725	49.101	
		08:49:28	0.059	0.033	0.022	0.733	49.128	
		08:49:43	1.125	0.036	0.389	0.553	49.083	
		08:49:58	8.665	0.017 0.012	19.510	0.993	47.028	
		08:50:13	9.827 9.892	0.012	36.479 39.891	70.892 212.422	34.772 18.136	
		08:50:28 08:50:43	9.892 9.914	0.009	41.114	212.422	6.247	
		08:50:58	9.921	0.006	41.659	221.620	1.409	
		08:51:13	9.930	0.008	41.970	221.945	0.157	
		08:51:28	9.928	0.247	42.199	222.108	-0.078	
		08:51:43	7.454	10.364	28.495	222.019	-0.095	
		08:51:58	6.053	13.782	6.895	124.209	0.057	
		08:52:13	5.965	13.929	2.392	51.266 ັ	0.171	
		08:52:28	5.950	13.940	1.278	2.719	0.285	
		08:52:43	5.945	13.950	0.865	1.400	0.340	

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heelabrator eanAir Proj Lauderdal Outlet 3	ect No.			REFERE	Ma Start Time Stop time NCE METHO	erch 22, 2010 8:54 9:21 ND RUN 3	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet ppmd
	Cali	bration Checks					
	Coi	Initial zero	0.065	0.034	0.066	0.730	-0.038
	Cui	Initial upscale	5.953	13.940	41.943	221.891	49.10
	Cof	Final zero	0.056	0.034	0.075	0.633	-0.07
	Cuf	Final upscale	5.953	13.941	42.055	220.933	48.97
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20
	Anal	yzer Averages (co	oncentration	s)			
		Average conc.	9.408	9.966	9.896	138.221	6.72
		Bias adjusted	9.375	10.071	10.522	140.200	6.66
		08:55	9.456	9.942	10.414	134.438	6.14
10 130313							
		08:56	9.467	9.922	11.937	134.204	6.04
		08:56 08:57	9.467 9.416	9.922 9.963	11.937 11.756	134.204 132.963	6.04 6.17
		08:56 08:57 08:58	9.467 9.416 9.623	9.922 9.963 9.754	11.937 11.756 12.227	134.204 132.963 141.962	6.04 6.17 6.86
		08:56 08:57 08:58 08:59	9.467 9.416 9.623 9.582	9.922 9.963 9.754 9.765	11.937 11.756 12.227 14.089	134.204 132.963 141.962 139.068	6.04 6.17 6.86 7.06
		08:56 08:57 08:58 08:59 09:00	9.467 9.416 9.623 9.582 9.928	9.922 9.963 9.754 9.765 9.321	11.937 11.756 12.227 14.089 19.252	134.204 132.963 141.962 139.068 144.133	6.04 6.17 6.86 7.06 7.46
		08:56 08:57 08:58 08:59	9.467 9.416 9.623 9.582	9.922 9.963 9.754 9.765	11.937 11.756 12.227 14.089 19.252 19.529	134.204 132.963 141.962 139.068 144.133 144.204	6.04 6.17 6.86 7.06 7.46 7.05
		08:56 08:57 08:58 08:59 09:00 09:01	9.467 9.416 9.623 9.582 9.928 9.505	9.922 9.963 9.754 9.765 9.321 9.880	11.937 11.756 12.227 14.089 19.252	134.204 132.963 141.962 139.068 144.133	6.04 6.17 6.86 7.06 7.46 7.05 6.95
		08:56 08:57 08:58 08:59 09:00 09:01 09:02	9.467 9.416 9.623 9.582 9.928 9.505 9.224	9.922 9.963 9.754 9.765 9.321 9.880 10.225	11.937 11.756 12.227 14.089 19.252 19.529 13.710	134.204 132.963 141.962 139.068 144.133 144.204 144.172	6.04 6.17 6.86 7.06 7.46 7.05 6.95 5.74
		08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281	6.04 6.17 6.86 7.06 7.46 7.05 6.95 5.74 5.67
		08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040	6.04 6.17 6.86 7.06 7.46 7.05 6.95 5.74 5.67 6.25
		08:56 08:57 08:58 08:59 09:00 09:01 09:02 09:03 09:04 09:05	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971	6.04 6.17 6.86 7.06 7.46 7.05 5.74 5.67 5.74 5.67 6.25 6.64
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331	6.04 6.17 6.86 7.06 7.46 7.05 5.74 5.67 5.74 5.67 6.25 6.64 7.98
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675	6.04 6.17 6.86 7.06 7.46 7.05 5.74 5.67 6.25 6.64 7.98 7.11
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899 9.036	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302	6.04 6.17 6.86 7.06 7.46 7.05 5.74 5.67 6.25 6.64 7.98 7.11 7.05 6.26
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899 9.036 9.403	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401 9.939	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401 6.272	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181	6.04 6.17 6.86 7.06 7.46 7.05 6.95 6.25 6.25 6.64 7.98 7.11 7.05 6.26 6.26 6.26
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:12	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899 9.036 9.403 9.750	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401 9.939 9.523	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401 6.272 8.481	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293	6.04 6.17 6.86 7.06 7.46 7.05 6.95 6.95 6.25 6.64 7.98 7.11 7.05 6.26 6.26 6.26 6.066 7.052
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:12 09:13	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899 9.036 9.403 9.750 9.484	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401 9.939 9.523 9.863	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401 6.272 8.481 10.346	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921	6.04 6.17 6.86 7.06 7.46 7.05 6.95 6.25 6.25 6.64 7.98 7.11 7.05 6.26 6.26 6.26 6.066 7.05 7.30
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:11 09:12 09:13 09:14	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899 9.036 9.403 9.750 9.484 9.008	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401 9.939 9.523 9.863 10.475	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401 6.272 8.481 10.346 10.694	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921 131.864	6.14 6.04 6.17 6.86 7.06 7.46 7.05 6.95 6.95 6.25 6.25 6.64 7.98 7.111 7.05 6.26 6.264 6.066 7.05 7.306 7.306
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:07 09:08 09:09 09:11 09:11 09:12 09:13 09:14 09:15	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.590 8.899 9.036 9.403 9.750 9.484 9.008 8.873	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401 9.939 9.523 9.863 10.475 10.617	$\begin{array}{c} 11.937\\ 11.756\\ 12.227\\ 14.089\\ 19.252\\ 19.529\\ 13.710\\ 9.532\\ 7.222\\ 5.787\\ 4.781\\ 4.302\\ 4.054\\ 4.280\\ 5.401\\ 6.272\\ 8.481\\ 10.346\\ 10.694\\ 9.261\\ \end{array}$	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921 131.864 127.707	6.04 6.17 6.86 7.05 5.74 5.67 6.25 6.64 7.98 7.11 7.05 6.26 6.26 6.26 6.26 6.26 6.26 6.26 6.2
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:12 09:13 09:14 09:15 09:16	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.554 9.590 8.899 9.036 9.403 9.750 9.484 9.008 8.873 9.438	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.995 9.775 9.718 10.569 10.401 9.939 9.523 9.863 10.475 10.617 9.911	$\begin{array}{c} 11.937\\ 11.756\\ 12.227\\ 14.089\\ 19.252\\ 19.529\\ 13.710\\ 9.532\\ 7.222\\ 5.787\\ 4.781\\ 4.302\\ 4.054\\ 4.280\\ 5.401\\ 6.272\\ 8.481\\ 10.346\\ 10.694\\ 9.261\\ 9.600\\ \end{array}$	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921 131.864 127.707 132.900	6.04 6.17 6.86 7.06 7.46 7.05 5.74 5.67 6.25 6.64 7.98 7.11 7.05 6.26 6.26 6.26 6.26 6.26 6.26 6.26 5.94 5.87 5.87 6.67
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:12 09:13 09:14 09:15 09:16 09:17	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.554 9.590 8.899 9.036 9.403 9.750 9.484 9.008 8.873 9.438 9.848	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.775 9.775 9.718 10.569 10.401 9.939 9.523 9.863 10.475 10.617 9.911 9.391	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401 6.272 8.481 10.346 10.694 9.261 9.600 11.483	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921 131.864 127.707 132.900 139.616	6.04; 6.17; 6.86; 7.06; 7.05; 6.95; 5.74; 5.67; 6.25; 6.64; 7.98; 7.111 7.05; 6.264; 6
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:12 09:13 09:14 09:15 09:16 09:17 09:18	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.554 9.590 8.899 9.036 9.403 9.750 9.484 9.008 8.873 9.438 9.848 9.848 9.613	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.775 9.718 10.569 10.401 9.939 9.523 9.863 10.475 10.617 9.911 9.391 9.707	$\begin{array}{c} 11.937\\ 11.756\\ 12.227\\ 14.089\\ 19.252\\ 19.529\\ 13.710\\ 9.532\\ 7.222\\ 5.787\\ 4.781\\ 4.302\\ 4.054\\ 4.280\\ 5.401\\ 6.272\\ 8.481\\ 10.346\\ 10.694\\ 9.261\\ 9.600\\ 11.483\\ 12.825\end{array}$	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921 131.864 127.707 132.900 139.616 142.908	6.04 6.17 6.86 7.06 7.46 7.05 6.95 5.74 5.67 6.25 6.64 7.98 7.11 7.05 6.26 6.066 7.05 7.30 5.947 5.87 6.67 4 8.086 7.772
		08:56 08:57 08:58 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 09:10 09:11 09:12 09:13 09:14 09:15 09:16 09:17	9.467 9.416 9.623 9.582 9.928 9.505 9.224 9.295 9.494 9.470 9.378 9.554 9.554 9.590 8.899 9.036 9.403 9.750 9.484 9.008 8.873 9.438 9.848	9.922 9.963 9.754 9.765 9.321 9.880 10.225 10.094 9.833 9.905 9.775 9.775 9.718 10.569 10.401 9.939 9.523 9.863 10.475 10.617 9.911 9.391	11.937 11.756 12.227 14.089 19.252 19.529 13.710 9.532 7.222 5.787 4.781 4.302 4.054 4.280 5.401 6.272 8.481 10.346 10.694 9.261 9.600 11.483	134.204 132.963 141.962 139.068 144.133 144.204 144.172 140.281 139.040 142.971 143.331 141.675 141.317 139.622 134.302 133.181 135.293 134.921 131.864 127.707 132.900 139.616	6.04; 6.17; 6.86; 7.06; 7.05; 6.95; 5.74; 5.67; 6.25; 6.64; 7.98; 7.111 7.05; 6.264; 6.264; 6.264; 6.264; 6.264; 5.947; 5.874; 6.674;



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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 3

March 22, 2010 Start Time 9:21 Stop Time 9:26 CALIBRATION BIAS 03

FF Outlet 3				CALI	DRATION BIA	45 03	
			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
			CO2	02	SO2	NOX	Channel 5 CO
					FF Outlet 3		-
			%dv	%dv	ppmdv	ppmdv	ppmdv
	Sys	tem Response to	Calibration G	asses (C _s)			
	Cof	Zero gas	0.056	0.034	0.075	0.633	-0.079
	Cuf	Upscale gas	5.953	13.941	42.055	220.933	48.974
	Ana	lyzer Calibration	Error Repons	es (C _{Dir})			
	Coce	Zero gas	0.000	0.012	-0.106	0.049	0.124
	Cmce	Upscale gas	5.975	14.102	43.196	223.761	49.126
	Actu	ual Upscale Gas \	/alue (C _{MA})				
	C _{ma}	Upscale gas	5.910	14.100	44.900	225.000	48.200
	Cali	bration Span Valu	ue (CS)				
		-	13.900	14.100	89.900	453.000	98.500
	Svs	tem Blas as Perce					
	-,-	Zero gas	0.4%	0.2%	0.2%	, 0.1%	-0.2%
		Upscale gas	-0.2%	-1.1%	-1.3%	-0.6%	-0.2%
	Svs	tem Bias Status					
	-,-	Zero gas	ок	ок	ок	ОК	ок
		Upscale gas	OK	OK	OK	ок	OK
	Prev	vious System Res	-			-	
	Coi	Zero gas	0.065	0.034	0.066	0.730	-0.038
	Cui	Upscale gas	5.953	13.940	41.943	221.891	49.104
		Assessment as					
		Zero gas	-0.1%	0.0%	0.0%	0.0%	0.0%
		Upscale gas	0.0%	0.0%	0.1%	-0.2%	-0.1%
	Driff	Assessment Sta				,-	
		Zero gas	ОК	ОК	ок	ОК	ок
		Upscale gas	OK	OK	OK	OK	OK
		epocale gao				•	
041410 130313		09:21:59	0.164	0.103	1.841	45.340	15.170
		09:22:14	0.099	0.056	0.726	6.235	30.504
		09:22:29	0.080	0.044	0.363	1.042	40.983
		09:22:44	0.071	0.039	0.225	0.757	47.375
		09:22:59	0.057	0.036	0.119	0.676	48.687
		09:23:14		0.035	0.078	0.611	48.960
		09:23:29		0.031	0.027	0.611	48.975
		09:23:44		0.034	0.462	0.611	48.985
		09:23:59	8.732 9.832	0.014 0.008	20.199 36.871	0.611 96.394	46.807
		09:24:14 09:24:29	9.832 9.898	0.008	40.217	209.540	33.462 17.831
		09:24:25	9.915	0.006	41.322	218.983	5.260
		09:24:59	9.925	0.007	41.804	220.627	1.283
		09:25:14	9.931	0.004	42.076	220.928	0.029
		09:25:29	9.934	0.242	42.286	221.245	-0.150
		09:25:44	7.451	10.399	28.356	213.447	-0.109
		09:25:59	6.052	13.782	7.176	136.606	0.023
		09:26:14		13.926	2.624	58.250	0.138
		09:26:29	5.950	13.944	1.405	3.158	0.220
		09:26:44	5.946	13.952	0.960	1.351	0.295

Prepared by Clean Air Engineering Proprietary Software SS CEM Version 08-2004a

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CleanAir Projec T. Lauderdale, F Outlet 3	t No. '	3roward 10955		REFERE	Ma Start Time Stop time NCE METHO	rch 22, 2010 9:28 9:55 D RUN 4	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
	-		-FF∙Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet ppmd
	Call	bration Checks					
	Coi	Initial zero	0.056	0.034	0.075	0.633	-0.07
	Cui	Initial upscale	5.953	13.941	42.055	220.933	48.97
	Cof	Final zero	0.054	0.035	0.163	0.603	-0.07
	Cuf	Final upscale	5.959	13.959	41.471	220.578	48.86
	_	Actual gas value	5.910	14.100	44.900	225.000	48.20
	Uma	Actual gas value	5.910	14.100	44.900	225.000	40.20
	Anal	yzer Averages (co	oncentration	5)			
	CAvg	Average conc.	9.428	10.049	10.187	139.108	8.67
	C _{Gas}	Bias adjusted	9.387	10.148	10.856	141.549	8.6 1
		00.20	0.240	10 241	16 665	120 111	7 65
		09:29 09:30 09:31	9.240 8.839 8.538	10.241 10.747 11.119	16.665 14.533 12.849	139.111 135.818 135.374	7.744 7.975
		09:30 09:31 09:32	8.839 8.538 8.628	10.747 11.119 10.989	14.533 12.849 10.564	135.818 135.374 142.871	7.74 7.97 8.81
		09:30 09:31 09:32 09:33	8.839 8.538 8.628 9.213	10.747 11.119 10.989 10.231	14.533 12.849 10.564 8.773	135.818 135.374 142.871 150.433	7.74 7.97 8.810 10.079
		09:30 09:31 09:32 09:33 09:34	8.839 8.538 8.628 9.213 9.780	10.747 11.119 10.989 10.231 9.516	14.533 12.849 10.564 8.773 7.573	135.818 135.374 142.871 150.433 155.863	7.74 7.97 8.81 10.07 10.38
		09:30 09:31 09:32 09:33 09:34 09:35	8.839 8.538 8.628 9.213 9.780 9.324	10.747 11.119 10.989 10.231 9.516 10.116	14.533 12.849 10.564 8.773 7.573 6.388	135.818 135.374 142.871 150.433 155.863 150.590	7.74 7.97 8.810 10.07 10.380 10.27
		09:30 09:31 09:32 09:33 09:34 09:35 09:36	8.839 8.538 8.628 9.213 9.780 9.324 9.170	10.747 11.119 10.989 10.231 9.516 10.116 10.309	14.533 12.849 10.564 8.773 7.573 6.388 5.438	135.818 135.374 142.871 150.433 155.863 150.590 144.202	7.74 7.97 8.810 10.07 10.380 10.27 9.81
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341	7.74 7.97 8.81(10.07 10.38(10.27 9.81 8.27
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48 9.83
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48 9.83 10.42
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48 9.83 10.42 9.460
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48 9.83 10.42 9.460 7.01
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48 9.83 10.42 9.460 7.01 6.59
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151 10.218 9.932 9.543	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822	7.74 7.97 8.810 10.07 10.38 10.27 9.81 8.27 8.48 9.83 10.42 9.460 7.01 6.593 7.187
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45 09:46	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151 10.218 9.932 9.543 9.263	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359	7.74 7.97 8.810 10.07 10.380 10.27 9.81 8.27 8.489 9.83 10.422 9.460 7.015 6.593 7.187 8.385 8.945
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45 09:46 09:47	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151 10.218 9.932 9.543 9.263 9.750	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327	7.74 7.97 8.810 10.07 10.380 10.27 9.81 8.27 8.489 9.83 10.422 9.460 7.015 6.593 7.187 8.385 8.945 8.429
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:41 09:42 09:43 09:44 09:45 09:46 09:47 09:48	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728 9.451	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151 10.218 9.932 9.543 9.263 9.750 10.121	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788 12.116	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327 133.545	7.74 7.97 8.810 10.07 9.819 8.27 8.489 9.830 10.420 7.015 6.590 7.187 8.385 8.945 8.945 8.207
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45 09:46 09:47 09:48 09:49	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728 9.451 9.547	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151 10.218 9.932 9.543 9.263 9.750 10.121 10.003	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788 12.116 10.068	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327 133.545 129.111	7.74 7.97 8.810 10.07 9.819 8.27 9.83 10.422 9.460 7.015 6.593 7.187 8.385 8.945 8.429 8.207 8.206
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45 09:46 09:47 09:48 09:49 09:50	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728 9.451 9.547 10.014	10.747 11.119 10.989 10.231 9.516 10.116 10.309 10.291 10.036 9.221 8.900 9.628 10.151 10.218 9.932 9.543 9.263 9.750 10.121 10.003 9.360	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788 12.116 10.068 11.632	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327 133.545 129.111 138.702	7.74 7.97 8.810 10.07 9.815 8.27 9.815 8.27 9.83 10.42 9.460 7.015 6.593 7.187 8.385 8.945 8.945 8.207 8.206 8.155
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45 09:46 09:47 09:48 09:49 09:50 09:51	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728 9.451 9.547 10.014 9.502	$\begin{array}{c} 10.747\\ 11.119\\ 10.989\\ 10.231\\ 9.516\\ 10.116\\ 10.309\\ 10.291\\ 10.036\\ 9.221\\ 8.900\\ 9.628\\ 10.151\\ 10.218\\ 9.932\\ 9.543\\ 9.263\\ 9.750\\ 10.121\\ 10.003\\ 9.360\\ 10.080\\ \end{array}$	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788 12.116 10.068 11.632 12.972	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327 133.545 129.111 138.702 138.411	7.74 7.97 8.810 10.07 9.815 8.27 9.815 8.27 9.832 10.422 9.460 7.015 6.593 7.187 8.385 8.945 8.429 8.207 8.206 8.155 9.984
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:43 09:44 09:45 09:46 09:47 09:48 09:49 09:50 09:51 09:52	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728 9.451 9.547 10.014 9.502 8.872	$\begin{array}{c} 10.747\\ 11.119\\ 10.989\\ 10.231\\ 9.516\\ 10.116\\ 10.309\\ 10.291\\ 10.036\\ 9.221\\ 8.900\\ 9.628\\ 10.151\\ 10.218\\ 9.932\\ 9.543\\ 9.263\\ 9.750\\ 10.121\\ 10.003\\ 9.360\\ 10.080\\ 10.804\\ \end{array}$	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788 12.116 10.068 11.632 12.972 12.010	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327 133.545 129.111 138.702 138.411 118.700	7.74 7.97 8.810 10.07 9.815 8.27 9.815 8.27 9.832 10.422 9.460 7.015 6.593 7.187 8.385 8.945 8.429 8.207 8.206 8.155 9.984 8.684
		09:30 09:31 09:32 09:33 09:34 09:35 09:36 09:37 09:38 09:39 09:40 09:41 09:42 09:43 09:44 09:45 09:46 09:47 09:48 09:49 09:50 09:51	8.839 8.538 8.628 9.213 9.780 9.324 9.170 9.179 9.388 10.013 10.304 9.762 9.358 9.317 9.543 9.860 10.093 9.728 9.451 9.547 10.014 9.502	$\begin{array}{c} 10.747\\ 11.119\\ 10.989\\ 10.231\\ 9.516\\ 10.116\\ 10.309\\ 10.291\\ 10.036\\ 9.221\\ 8.900\\ 9.628\\ 10.151\\ 10.218\\ 9.932\\ 9.543\\ 9.263\\ 9.750\\ 10.121\\ 10.003\\ 9.360\\ 10.080\\ \end{array}$	14.533 12.849 10.564 8.773 7.573 6.388 5.438 4.626 4.082 4.871 7.371 8.572 8.134 7.393 8.819 11.092 12.904 12.788 12.116 10.068 11.632 12.972	135.818 135.374 142.871 150.433 155.863 150.590 144.202 133.341 132.782 139.831 150.993 152.096 137.173 132.822 133.594 141.669 146.359 141.327 133.545 129.111 138.702 138.411	7.65 7.744 7.975 8.816 10.075 10.380 10.273 9.819 8.273 8.489 9.832 10.422 9.460 7.015 6.593 7.187 8.385 8.945 8.429 8.207 8.206 8.155 9.984 8.684 7.778 8.434



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Wheelabrator South B	roward			Ма	rch 22, 2010	
CleanAir Project No. 1	0955			Start Time	9:55	
Ft. Lauderdale, FL				Stop Time	10:00	
FF Outlet 3			CALI	BRATION BI	AS 04	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	co
		EE Outlat 2	EE Quitlat 2	FF Outlet 3		EE Qualat 2
		rr Outlet 3 %dv	%dv		-	
		%uv	76 UV	ppmdv	ppmdv	ppmdv
Sy	stem Response to	Calibration G	iasses (C _S)			
Cof	Zero gas	0.054	0.035	0.163	0.603	-0.072
Cut	Upscale gas	5.959	13.959	41.471	220.578	48:869
An	alyzer Calibration	Error Repons	es (C _{Dir})			
Coo	_{ce} Zero gas	0.000	0.012	-0.106	0.049	0.124
Cm	ce Upscale gas	5.975	14.102	43.196	223.761	49.126
Ac	tual Upscale Gas \	Value (C _{MA})				
Cm	a Upscale gas	5.910	14.100	44.900	225.000	48.200
Ca	libration Span Val	ue (CS)				
		13.900	14.100	89.900	453.000	98.500
Sv	stem Bias as Perce	€ 3				
	Zero gas	0.4%	0.2%	0.3%	0.1%	-0.2%
	Upscale gas	-0.1%	-1.0%	-1.9%	-0.7%	-0.3%
Sv	stem Bias Status					
	Zero gas	, OK	OK	ок	ок	OK
	Upscale gas	OK	OK	OK	OK	OK
Pre	evious System Res	sponse to Cali	bration Gase	es (C _s)		
Col		0.056	0.034	0.075	0.633	-0.079
Cul	• • • • •	5.953	13.941	42.055	220.933	48.974
Dri	ft Assessment as	Percent of Ca	libration Spa	n Value (D) (3%)	
	Zero gas	0.0%	0.0%	0.1%	0.0%	0.0%
	Upscale gas	0.0%	0.1%	-0.7%	-0.1%	-0.1%
Dri	ft Assessment Sta	itus				
	Zero gas	OK	ОК	ОК	ок	ок
	Upscale gas	OK	OK	ОК	OK	OK
041410 130313	00.65.42	0.077	0.241	2 0 7 0	60.080	12.000
	09:55:42 09:55:57		0.241	3.272 1.161	69.280 21.669	13.923 24.179
	09:56:12		0.000	0.539	1.880	36.790
	09:56:27		0.041	0.313	0.692	45.418
	09:56:42		0.035	0.207	0.619	48.118
	09:56:57		0.036	0.139	0.611	48.789
	09:57:12		0.033	0.144	0.578	48.904
	09:57:27	0.516	0.030	0.194	0.586	48.913
	09:57:42		0.013	16.550	0.529	47.227
	09:57:57		0.006	35.953	114.562	36.993
	09:58:12		0.004	39.945	199.129	19.860
	09:58:27		0.000	41.011	218.592	6.917
	09:58:42		0.003	41.468	220.399	1.614
	09:58:57		0.001	41.897	220.627	0.083
	09:59:12 09:59:27		2.860 _ 12.786	<u>41.047</u> 17.944	220.708 199.121	-0.101 -0.124
	09:59:27	6.004	13.898	4.448	89.141	0.008
	09:59:57		13.949	1.928	24.127	0.134
	10:00:12		13.959	1.157	2.141	0.231
	10:00:27		13.968	0.830	0.904	0.301

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QA/QC_____ Date_____ .

FF Outlet 3		Broward 10955		REFERE	Ma Start Time Stop time NCE METHO	rch 22, 2010 10:01 10:28 D RUN 5	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv
	Calil	bration Checks					
	Coi	Initial zero	0.054	0.035	0.163	0.603	-0.072
	Cui	Initial upscale	5.959	13.959	41.471	220.578	48.869
	Cof	Final zero	0.054	0.031	0.108	0.529	-0.117
	Cuf	Final upscale	5.956	13.948	41.623	220.125	48.781
	-	Actual gas value	5.910	14.100	44.900	225.000	48.200
		Ū.			44.000	220.000	40.200
		yzer Averages (co Average conc.	oncentration: 9.730	s) 9.712	10.420	138.048	9.635
	-	Bias adjusted	9,688	9.804	11.151	140.744	9.587
1410 130313		10:02	9.596	9.878	6.679	136.264	12.727
		10:02	9.596	9.878	6.679	136.264	12.727
		10:03	9.633	9.845	9.208	134.959	13.105
		10:04	9.629	9.892	7.913	132.706	14.157
		10:04 10:05	9.629 9.440	9.892 10.141	7.913 8.251	132.706 132.186	14.157 12.308
		10:04 10:05 10:06	9.629 9.440 9.207	9.892 10.141 10.438	7.913 8.251 8.095	132.706 132.186 129.245	14.157 12.308 12.961
		10:04 10:05 10:06 10:07	9.629 9.440 9.207 9.322	9.892 10.141 10.438 10.289	7.913 8.251 8.095 7.644	132.706 132.186 129.245 124.927	14.157 12.308 12.961 14.238
		10:04 10:05 10:06 10:07 10:08	9.629 9.440 9.207 9.322 9.715	9.892 10.141 10.438 10.289 9.759	7.913 8.251 8.095 7.644 7.157	132.706 132.186 129.245 124.927 131.081	14.157 12.308 12.961 14.238 16.070
		10:04 10:05 10:06 10:07 10:08 10:09	9.629 9.440 9.207 9.322 9.715 9.954	9.892 10.141 10.438 10.289 9.759 9.480	7.913 8.251 8.095 7.644 7.157 7.792	132.706 132.186 129.245 124.927 131.081 138.413	14.157 12.308 12.961 14.238 16.070 14.206
		10:04 10:05 10:06 10:07 10:08 10:09 10:10	9.629 9.440 9.207 9.322 9.715 9.954 9.750	9.892 10.141 10.438 10.289 9.759 9.480 9.709	7.913 8.251 8.095 7.644 7.157 7.792 8.008	132.706 132.186 129.245 124.927 131.081 138.413 134.473	14.157 12.308 12.961 14.238 16.070 14.206 13.522
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201	14.157 12.308 12.961 14.238 16.070 14.206 13.522
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613 149.341	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20 10:21	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094 10.480	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145 8.762	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694 6.315	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613 149.341 150.091	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147 6.914
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20 10:21 10:22	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094 10.480 9.807	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145 8.762 9.523	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694 6.315 6.805	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613 149.341 150.091 135.700	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147 6.914 5.710
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20 10:21 10:22 10:23	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094 10.480 9.807 10.058	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145 8.762 9.523 9.299	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694 6.315 6.805 9.370	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613 149.341 150.091 135.700 145.816	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147 6.914 5.710 6.119
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20 10:21 10:22 10:23 10:24	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094 10.480 9.807 10.058 9.818	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145 8.762 9.523 9.299 9.541	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694 6.315 6.805 9.370 11.551	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613 149.341 150.091 135.700 145.816 129.882	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147 6.914 5.710 6.119 4.590
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20 10:21 10:22 10:23 10:24 10:25	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094 10.480 9.807 10.058 9.818 9.868	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145 8.762 9.523 9.299 9.541 9.517	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694 6.315 6.805 9.370 11.551 15.116	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.017 147.613 149.341 150.091 135.700 145.816 129.882 140.513	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147 6.914 5.710 6.119 4.590 5.903
		10:04 10:05 10:06 10:07 10:08 10:09 10:10 10:11 10:12 10:13 10:14 10:15 10:16 10:17 10:18 10:19 10:20 10:21 10:22 10:23 10:24	9.629 9.440 9.207 9.322 9.715 9.954 9.750 9.529 9.263 9.564 9.863 10.120 9.565 9.171 9.555 10.012 10.094 10.480 9.807 10.058 9.818	9.892 10.141 10.438 10.289 9.759 9.480 9.709 10.012 10.325 9.965 9.581 9.216 9.937 10.401 9.865 9.255 9.145 8.762 9.523 9.299 9.541	7.913 8.251 8.095 7.644 7.157 7.792 8.008 8.400 7.459 6.972 7.761 14.111 18.344 15.072 10.602 8.423 6.694 6.315 6.805 9.370 11.551	132.706 132.186 129.245 124.927 131.081 138.413 134.473 138.321 126.201 129.772 139.383 146.665 151.514 139.978 139.017 147.613 149.341 150.091 135.700 145.816 129.882	14.157 12.308 12.961 14.238 16.070 14.206 13.522 12.230 9.874 8.877 8.784 10.319 8.880 6.972 6.738 7.460 7.147 6.914 5.710 6.119 4.590



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Wheelabrator South Broward
CleanAir Project No. 10955
Ft. Lauderdale, FL
FF Outlet 3

March 22, 2010 Start Time 10:29 Stop Time 10:34 CALIBRATION BIAS 05

				BIGATION BI		
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	Colamera
		001	Űź	001	NOX	00
		FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
		%dv	%dv	ppmdv	ppmdv	ppmdv
				••	••	••
	System Response to					
	Cof Zero gas		0.031	0.108	0.529	-0.117
	C _{uf} Upscale gas	5.956	13.948	41.623	220.125	48.781
	Analyzer Calibration					
	C _{oce} Zero gas	0.000	0.012	-0.106	0.049	0.124
	C _{mce} Upscale gas	5.975	14.102	43.196	223.761	49.126
	Actual Upscale Gas	Value (C _{MA})				
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span Val	ue (CS)				
		13.900	14.100	89.900	453.000	98.500
	System Bias as Perc	ent of Calibra	tion Span Va	lue (SB) (5%)	
	Zero gas	0.4%	0.1%	0.2%	0.1%	-0.2%
	Upscale gas	-0.1%	-1.1%	-1.7%	-0.8%	-0.4%
	System Bias Status					
	Zero gas	ок	ок	ок	ОК	ОК
	Upscale gas	OK	OK	OK	OK	OK
	Previous System Res					
	C _{oi} Zero gas	0.054	0.035	0.163	0.603	-0.072
	C _{ul} Upscale gas	5.959	13.959	41.471	220.578	48.869
	Drift Assessment as					
	Zero gas	0.0%	0.0%	-0.1%	0.0%	0.0%
	Upscale gas	0.0%	-0.1%	0.2%	-0.1%	-0.1%
	Drift Assessment Sta					
	Zero gas	ОК	ОК	ОК	ок	ОК
	Upscale gas	OK	OK	OK	OK	OK
		•			•	
041410 130313						
	10:29:22		0.158	3.026	58.054	10.951
	10:29:37		0.061	1.140	15.710	23.311
	10:29:52		0.045	0.547	1.709	37.521
	10:30:07 10:30:22	-	0.038	0.265	0.692	45.525 48.124
	10:30:22		0.034	0.137	0.488	48.760
	10:30:52		0.030	0.055	0.488	48.781
	10:31:07	L	0.020	0.410	0.488	48.801
	10:31:22		0.009	20.037	0.488	46.245
	10:31:37		0.001	36.824	129.092	35.031
	10:31:52		0.001	40.182	201.799	17.843
	10:32:07	9.926	0.000	41.200	219.137	6.195
	10:32:22	9.936	-0.001	41.700	219.869	1.283
	10:32:37		-0.011	41.970	220.196	-0.011
	10:32:52	9.507	2.862	40.685	220.310	-0.174
	10:33:07		12.759	16.907	193.773	-0.166
	10:33:22	6.000	13.884	4.169	87.505	-0.016
	10:33:37		13.936	1.812	22.263	0.098
	10:33:52	5.955	13.949	1.087	2.157	0.199
	10:34:07	5.948	13.958	0.736	0.920	0.256

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Ft. Lauderdale FF Outlet 3	ect No.	Broward 10955		REFERE	Ma Start Time Stop time NCE METHO	rch 22, 2010 10:35 11:02 D RUN 6	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv
	Cali	bration Checks					
	Col	Initial zero	0.054	0.031	0.108	0.529	-0.117
	C _{ui}	Initial upscale	5.956	13.948	41.623	220.125	48.781
	C _{of}	Final zero	0.049	0.025	0.004	0.485	-0.187
		Final upscale	5.961	13.937	41.768	219.571	48.624
		•					
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Ana	lyzer Averages (co	oncentration	5)			
	CAVE	Average conc.	10.146	9.118	9.150	147.815	7.813
	•	Bias adjusted	10.100	9.211	9.807	151.109	7.859
Clock Time 410 130313	(at end	of sample period) 10:36	9.822	9,594	3.475	146.640	11.361
		10:35	9.822	9.381	3.475	140.040	11.706
		10:38	10.057	9.298	4.844	156.353	12.811
		10:39	10.007	9.088	5.537	155.834	
		10.40					11.410 10.215
		10:40 10:41	10.133	9.153	6.539	161.463	10.215
		10:41	10.133 10.096	9.153 9.163	6.539 6.556	161.463 153.353	10.215 8.544
			10.133	9.153	6.539	161.463 153.353 152.308	10.215
		10:41 10:42	10.133 10.096 10.179	9.153 9.163 9.074	6.539 6.556 6.330	161.463 153.353	10.215 8.544 6.839
		10:41 10:42 10:43	10.133 10.096 10.179 10.066	9.153 9.163 9.074 9.226	6.539 6.556 6.330 7.133	161.463 153.353 152.308 154.251	10.215 8.544 6.839 8.028
		10:41 10:42 10:43 10:44	10.133 10.096 10.179 10.066 10.149	9.153 9.163 9.074 9.226 9.120	6.539 6.556 6.330 7.133 8.330	161.463 153.353 152.308 154.251 149.129	10.215 8.544 6.839 8.028 7.869
		10:41 10:42 10:43 10:44 10:45	10.133 10.096 10.179 10.066 10.149 10.160	9.153 9.163 9.074 9.226 9.120 9.064	6.539 6.556 6.330 7.133 8.330 8.435	161.463 153.353 152.308 154.251 149.129 143.895	10.215 8.544 6.839 8.028 7.869 6.932
		10:41 10:42 10:43 10:44 10:45 10:46	10.133 10.096 10.179 10.066 10.149 10.160 10.235	9.153 9.163 9.074 9.226 9.120 9.064 9.018	6.539 6.556 6.330 7.133 8.330 8.435 9.142	161.463 153.353 152.308 154.251 149.129 143.895 150.018	10.215 8.544 6.839 8.028 7.869 6.932 6.346
		10:41 10:42 10:43 10:44 10:45 10:46 10:47	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031
	·	10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54 10:55	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880 10.248	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291 9.044	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226 7.637	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884 157.330	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836 19.668
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54 10:55 10:56	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880 10.248 9.926	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291 9.044 9.332	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226 7.637 6.072	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884 157.330 147.155	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836 19.668 7.407
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54 10:55 10:56 10:57	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880 10.248 9.926 9.620	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291 9.044 9.332 9.757	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226 7.637 6.072 5.566	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884 157.330 147.155 155.464	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836 19.668 7.407 7.335
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54 10:55 10:56 10:57 10:58	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880 10.248 9.926 9.620 10.229	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291 9.044 9.332 9.757 8.937	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226 7.637 6.072 5.566 5.823	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884 157.330 147.155 155.464 153.755	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836 19.668 7.407 7.335 5.860
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54 10:55 10:56 10:57 10:58 10:59	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880 10.248 9.926 9.620 10.229 10.271	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291 9.044 9.332 9.757 8.937 8.891	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226 7.637 6.072 5.566 5.823 6.965	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884 157.330 147.155 155.464 153.755 154.216	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836 19.668 7.407 7.335 5.860 5.377
		10:41 10:42 10:43 10:44 10:45 10:46 10:47 10:48 10:49 10:50 10:51 10:52 10:53 10:54 10:55 10:56 10:57 10:58	10.133 10.096 10.179 10.066 10.149 10.160 10.235 9.948 10.124 10.774 9.722 9.985 9.787 10.142 10.880 10.248 9.926 9.620 10.229	9.153 9.163 9.074 9.226 9.120 9.064 9.018 9.315 9.122 8.428 9.677 9.303 9.547 9.103 8.291 9.044 9.332 9.757 8.937	6.539 6.556 6.330 7.133 8.330 8.435 9.142 9.061 11.613 16.314 17.218 16.760 13.630 11.397 9.226 7.637 6.072 5.566 5.823	161.463 153.353 152.308 154.251 149.129 143.895 150.018 127.945 136.876 145.602 138.171 132.507 129.501 138.616 144.884 157.330 147.155 155.464 153.755	10.215 8.544 6.839 8.028 7.869 6.932 6.346 5.031 5.985 6.186 5.129 6.134 6.263 7.275 7.836 19.668 7.407 7.335 5.860

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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 3

March 22, 2010 Start Time 11:03 Stop Time 11:08 CALIBRATION BIAS 06

Channel 1 CO2 Channel 2 O2 Channel 3 SO2 Channel 4 NOX Channel 5 CO FF Outlet 3 V(d) FF Outlet 3 V(
FF Outlet 3			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
%dv %dv ppmdv ppmdv System Response to Calibration Gasses (Cg)			CO2	02	SO2	NOX	co
%dv %dv ppmdv ppmdv System Response to Calibration Gasses (Cg)			FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
System Response to Calibration Gasses (C ₆) C _{ef} Zero gas 0.049 1 0.025 0.004 0.0485 0.0187 C _{ef} Zero gas 0.049 1 0.025 0.004 0.0485 0.0187 Analyzer Calibration Error Reponses (C ₆₀) Ceves Zero gas 0.000 0.012 0.016 0.049 0.124 Ceves Zero gas 0.000 1.012 0.016 0.049 0.124 Ceve Zero gas 5.975 14.102 43.196 223.761 49.126 Actual Upscale Gas Value (C ₆₀) Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% 0.1% 0.3% Upscale gas 0.054 0.031 0.108 0.529 0.117 Zero gas 0.054 0.031 0.108 0.529 0.117 C _a Zero gas 0.054 0.031 0.108 0.529 0.117 C _a Upscale gas 0.054 0.031 0.108 0.529 0.117 C _a Zero gas 0.054 0.031 0.108 0.529 0.117 C _a Zero gas 0.054 0.031 0.108 0.529 0.117 C _a Zero gas 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% Drift Assessment as Percent of Calibration Span Value (D)(3%) Zero gas 0.0% 0.0% 0.0% 0.2% 0.1% 0.0% Drift Assessment as Per							
C _{eff} Zero gas 0.049 1.025 0.004 0.0485 -0.187. C _{uff} Upscale gas 0.961 1.3337 41.768 219.571 48.6241 Analyzer Calibration Error Reponses (C _{uff}) 0.049 0.124 0.049 0.124 C _{mec} Upscale gas 5.975 14.102 43.196 223.761 49.126 Actual Upscale Gas Value (C _M) C _{me} Upscale gas 5.910 14.100 49.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% -0.3% Upscale gas 0.1% 1.2% -1.2% -0.16% Zero gas 0.4% 0.1% 0.1% 0.3% 220.125 48.781 Drift Assessment as Percent of Calibration Gases (C ₀) 0.1% -0.2% 0.1% C _{ui} Upscale gas							
C _{vif} Upscale gas ∞:5.961 % 13.937 41.768 . : : : : : : : : : : : : : : : : : : :							
Analyzer Calibration Error Reponses (C ₀₁) C _{ees} Zero gas 0.000 0.012 -0.106 0.049 0.124 C _{meo} Upscale gas 5.975 14.102 43.196 223.761 49.126 Actual Upscale gas 5.910 14.100 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 463.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% 0.3% Upscale gas -0.1% -1.2% -1.6% -0.9% -0.5% System Bias Status Zero gas 0.4% 0.1% 0.1% 0.3% Zero gas 0.054 0.031 0.108 0.529 -0.117 C _{ei} Zero gas 0.056 13.948 41.623 220.125 48.781 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas 0.0% -0.1% -0.2% Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas 0.0% 0.1% -0.2% D	**						
Cocca Zero gas 0.000 0.012 -0.106 0.049 0.124 Cross Upscale gas 5.975 14.102 43.196 223.761 49.126 Actual Upscale gas 5.910 14.100 44.900 225.000 48.200 Case Opscale gas 5.910 14.100 49.00 225.000 48.200 Case Opscale gas 0.1% 0.1% 0.1% 0.1% 0.1% 0.3% Zero gas 0.4% 0.1% 0.3% 0.5% System Bias Status Zero gas 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.2% 0.117 Could and and and and and and and and and an					41.768	219.571	48.624
C _{mco} Upscale gas 5.975 14.102 43.196 223.761 49.126 Actual Upscale gas S.910 14.100 44.900 225.000 48.200 Camal 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (CS) 2 2 0.1% 0.1% 0.1% 0.1% -0.3% Upscale gas 0.1% 1.2% -1.6% -0.9% -0.5% System Bias Status Zero gas 0.K 0 K 0 K 0 K 0 K Zero gas 0.654 0.031 0.108 0.529 -0.117 Cat Zero gas 0.054 0.031 0.108 0.529 -0.117 Cat Upscale gas 0.056 0.331 0.108 0.529 -0.117 Cat Upscale gas 0.054 0.031 0.108 0.529 -0.11% Upscale gas 0.0% -0.1% 0.2% -0.1% 0.2% -0.2% Drift Asses							
Actual Upscale Gas Value (C _w) 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% 0.1% 0.3% Upscale gas 0.1% 0.1% 0.1% 0.1% 0.0% 0.5% System Bias Status Zero gas 0.1% 0.1% 0.1% 0.0% 0.59 Ceil Zero gas 0.054 0.031 0.108 0.529 -0.117 Cuil Upscale gas 0.054 0.031 0.108 0.529 -0.117 Cuil Upscale gas 0.0% 0.0% 0.1% 0.0% -0.1% Upscale gas 0.0% 0.0% 0.1% 0.0% -0.1% Upscale gas 0.0% 0.0% 0.0% 0.0% 0.0% Zero gas 0.0% 0.0% 0.0% 0.0% 0.0% 0.1% Zero gas 0.0% 0.0% 0.0% 0.0%							
Cma Upscale gas 5.910 14.100 44.900 225.000 48.200 Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% 0.9% -0.5% System Bias Status Zero gas OK				14.102	43.196	223.761	49 .126
Calibration Span Value (CS) 13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% -0.3% Upscale gas -0.1% -1.2% -1.6% -0.9% -0.5% System Bias Status Zero gas 0.4% OK	Act	tual Upscale Gas V	/alue (C _{MA})				
13.900 14.100 89.900 453.000 98.500 System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% 0.9% -0.3% Upscale gas 0.1% 0.1% 0.1% 0.9% -0.5% System Bias Status Zero gas OK	C _{ma}	Upscale gas	5.910	14.100	44.900	225.000	48.200
System Bias as Percent of Calibration Span Value (SB) (5%) Zero gas 0.4% 0.1% 0.1% 0.1% 0.0% -0.3% Upscale gas 0.1% 0.1% 0.1% 0.0% -0.9% -0.5% System Bias Status Zero gas OK OL Cor Zero gas O.0% O.0% O.1% OL Zero gas O.0% OL% OL Zero gas OK	Cal	ibration Span Valu	ue (CS)				
Zero gas 0.4% 0.1% 0.1% 0.1% 0.0% Upscale gas -0.1% -1.2% -1.8% -0.9% -0.5% System Bias Status Zero gas OK OK<			13.900	14.100	89.900	453.000	98.500
Zero gas 0.4% 0.1% 0.1% 0.1% 0.0% Upscale gas -0.1% -1.2% -1.8% -0.9% -0.5% System Bias Status Zero gas OK OK<	Sys	stem Bias as Perce	ent of Calibra	tion Span Va	lue (SB) (5%)	
Upscale gas -0.1% -1.2% -1.6% -0.9% -0.5% System Bias Status Zero gas OK OK <t< th=""><th>-</th><th></th><th></th><th></th><th></th><th></th><th>-0.3%</th></t<>	-						-0.3%
System Bias Štatus Zero gas OK OC		•	-0.1%	-1.2%	-1.6%	-0.9%	-0.5%
Upscale gas OK OK OK OK OK OK C _{q1} Zero gas 0.054 0.031 0.108 0.529 -0.117 C _{u1} Upscale gas 5.956 13.948 41.623 220.125 48.781 Drift Assessment as Percent of Callbration Span Value (D) (3%) Zero gas 0.0% -0.1% 0.0% -0.1% Upscale gas 0.0% -0.1% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas OK OK OK OK OK Upscale gas OK OK OK OK OK OK OK Upscale gas OK OK OK OK OK OK OK 11:03:45 0.096 0.048 0.723 6.976 28.191 11:04:16 0.065 0.034 0.143 0.774 46.8655 11:04:15 0.056 0.032 0.036 0.545 48.391 11:04:45 0.051 0.027 0.000	Svs	stem Bias Status					
Upscale gas OK OK OK OK OK C _{qi} Zero gas 0.054 0.031 0.108 0.529 -0.117 C _{ui} Upscale gas 5.956 13.948 41.623 220.125 48.781 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas 0.0% -0.1% 0.0% -0.1% Upscale gas 0.0% -0.1% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas OK OK OK OK OK Upscale gas OK OK OK OK OK OK OK Upscale gas OK OK OK OK OK OK OK 11:03:30 0.161 0.095 1.946 50.688 11.885 11:04:15 0.065 0.034 0.143 0.774 46.865 11:04:15 0.065 0.032 0.036 0.545 48.391 11:05:15 0.414 0.027 0.0062	- •		ОК	ОК	ок	ОК	ок
Previous System Response to Callbration Gases (C _s) C _{ol} Zero gas 0.054 0.031 0.108 0.529 -0.117 C _{ul} Upscale gas 5.956 13.948 41.623 220.125 48.781 Drift Assessment as Percent of Callbration Span Value (D) (3%) Zero gas 0.0% 0.0% -0.1% 0.0% -0.1% Drift Assessment Status Zero gas 0.K OK		•	ОК				OK
Col Zero gas 0.054 0.031 0.108 0.529 -0.117 Cul Upscale gas 5.956 13.948 41.623 220.125 48.781 Drift Assessment as Percent of Calibration Span Value (D) (3%) Zero gas 0.0% 0.0% -0.1% 0.2% -0.1% Upscale gas 0.0% -0.1% 0.2% -0.1% -0.2% Drift Assessment Status Zero gas OK	Pre		ponse to Cal				
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11:08:15 <u>5.953 13.951</u> 0.788 1.408 0.226							
		11:08:15	<u>5</u> .953	13.951	0.788	1.408	0.226

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QA/QC_____ Date_____

E - 66

neelabrator S eanAir Projec Lauderdale, Outlet 3	ct No.			REFERE	Ma Start Time Stop time NCE METHO	rch 22, 2010 11:09 11:36 D RUN 7	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet ppmd
	Cali	bration Checks					
	Coi	Initial zero	0.049	0.025	0.004	0.485	-0.18
	Cul	Initial upscale	5.961	13.937	41.768	219.571	48.62
	Cof	Final zero	0.054	0.028	-0.091	0.469	-0.23
	Cuf	Final upscale	5.946	13.937	41.718	219.701	48.65
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.20
	Anal	yzer Averages (co	oncentration	s)			
		Average conc.	9.850	9.474	11.089	142.546	6.30
		Bias adjusted	9.811	9.576	11.963	145.856	6.43
0 130313		of sample period)					
		11:10	0.844	0 447		120.246	4.52
		11:10	9.844	9.447	6.497	130.216	
	-	11:11	9.930	9.378	6.497 5.548	138.341	6.00
		11:11 11:12	9.930 10.130	9.378 9.087	6.497 5.548 5.056	138.341 137.131	6.00 6.46
		11:11 11:12 11:13	9.930 10.130 9.852	9.378 9.087 9.469	6.497 5.548 5.056 5.191	138.341 137.131 140.132	6.00 6.46 5.45
		11:11 11:12	9.930 10.130	9.378 9.087	6.497 5.548 5.056 5.191 6.147	138.341 137.131 140.132 138.598	6.00 6.46 5.45 6.08
		11:11 11:12 11:13 11:14	9.930 10.130 9.852 9.862	9.378 9.087 9.469 9.492	6.497 5.548 5.056 5.191	138.341 137.131 140.132	6.00 6.46 5.45 6.08 5.73
		11:11 11:12 11:13 11:14 11:15	9.930 10.130 9.852 9.862 9.507	9.378 9.087 9.469 9.492 9.939	6.497 5.548 5.056 5.191 6.147 7.185	138.341 137.131 140.132 138.598 135.633	6.00 6.46 5.45 6.08 5.73 6.31
		11:11 11:12 11:13 11:14 11:15 11:16	9.930 10.130 9.852 9.862 9.507 9.666	9.378 9.087 9.469 9.492 9.939 9.731	6.497 5.548 5.056 5.191 6.147 7.185 8.625	138.341 137.131 140.132 138.598 135.633 139.031	6.00 6.46 5.45 6.08 5.73 6.31 6.53
		11:11 11:12 11:13 11:14 11:15 11:16 11:17	9.930 10.130 9.852 9.862 9.507 9.666 9.844	9.378 9.087 9.469 9.492 9.939 9.731 9.499	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960	138.341 137.131 140.132 138.598 135.633 139.031 143.164	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209	138.341 137.131 140.132 138.598 135.833 139.031 143.164 149.156 150.639 149.219 143.885	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805	138.341 137.131 140.132 138.598 135.833 139.031 143.164 149.156 150.639 149.219 143.885 146.168	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72
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		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901	138.341 137.131 140.132 138.598 135.833 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97
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		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635	9.378 9.087 9.469 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954	138.341 137.131 140.132 138.598 135.833 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97 4.660 5.072
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863	138.341 137.131 140.132 138.598 135.833 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97 4.66 5.07 5.97
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27 11:28	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.461	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97 4.660 5.072 5.97 4.975
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27 11:28 11:29	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933 9.833	9.378 9.087 9.469 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347 9.461	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438 6.576	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.461 140.949	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.320 5.94 5.72 5.550 4.975 4.660 5.072 5.975 4.975 5.225
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27 11:28 11:29 11:30	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933 9.833 10.009	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347 9.347 9.461 9.248	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438 6.576 9.926	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.445 145.525 141.461 140.949 137.534	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97 4.66 5.07 5.97 4.97 5.22 5.34
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27 11:28 11:29	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933 9.635 9.797 9.933 9.833 10.009 10.011	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347 9.461 9.248 9.282	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438 6.576 9.926 16.604	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.445 145.525 141.445 145.525	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97 4.66 5.07 5.97 4.97 5.22 5.34 6.75
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27 11:28 11:29 11:30 11:31	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933 9.833 10.009	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347 9.461 9.248	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438 6.576 9.926	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.445 145.525 141.461 140.949 137.534	6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.94 5.72 5.94 5.72 5.94 5.72 5.97 4.66 5.07 5.97 5.97 5.22 5.34 5.34 5.34 5.34
		11:11 11:12 11:13 11:14 11:15 11:16 11:17 11:18 11:19 11:20 11:21 11:22 11:23 11:24 11:25 11:26 11:27 11:28 11:29 11:30 11:31 11:32	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933 9.635 9.797 9.933 9.833 10.009 10.011 9.850	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347 9.461 9.248 9.282 9.490	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438 6.576 9.926 16.604 21.362	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.445 145.525 141.445 145.525 141.445 145.525 141.445	6.00 6.46 5.45 6.08 5.73 6.53 7.58 8.21 7.32 5.94 5.72 5.55 4.97 4.660 5.072 5.97 4.97 5.225 5.342 5.342 5.342 5.342 5.342
		11:1111:1211:1311:1411:1511:1611:1711:1811:1911:2011:2111:2211:2311:2411:2511:2611:2711:2811:2911:3011:3111:3211:33	9.930 10.130 9.852 9.862 9.507 9.666 9.844 10.043 10.039 9.760 9.732 9.555 9.896 10.457 9.923 9.635 9.797 9.933 9.833 10.009 10.011 9.850 9.829	9.378 9.087 9.469 9.492 9.939 9.731 9.499 9.229 9.260 9.646 9.660 9.781 9.403 8.685 9.381 9.714 9.535 9.347 9.461 9.248 9.282 9.490 9.505	6.497 5.548 5.056 5.191 6.147 7.185 8.625 10.960 10.300 15.145 17.783 16.209 13.805 12.011 9.901 8.628 6.954 5.863 5.438 6.576 9.926 16.604 21.362 28.615	138.341 137.131 140.132 138.598 135.633 139.031 143.164 149.156 150.639 149.219 143.885 146.168 148.909 152.251 148.252 141.445 145.525 141.445 145.525 141.445 145.525 141.445 145.525 141.445	4.53 6.00 6.46 5.45 6.08 5.73 6.31 6.53 7.58 8.21 7.32 5.55 4.97 5.55 4.97 5.225 5.342 6.752 8.157 7.423 6.752 8.157 7.423 6.966 7.795



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Wheelabrator Sout	th Broward				Ма	rch 22, 2010	
CleanAir Project N	o. 10955				Start Time	11:37	
Ft. Lauderdale, FL					Stop Time	11:42	
FF Outlet 3				CALI	BRATION BI	AS 07	
			Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
			CO2	02	SO2	NOX	CO
			FF 0.44-4 2				
			FF Outlet 3 %dv	rr Outlet 3 %dv	FF Outlet 3	_	
					ppmdv	ppmdv	ppmdv
	System Respo	nse to					
	C _{or} Zero gas		0.054		-0.091	0.469	-0.232
	C _{uf} Upscale g		5.946	13.937	41.718	219.701	48.657
	Analyzer Calib	ration	error Repons 0.000		0 106	0.040	0.424
	C _{oce} Zero gas C _{mce} Upscale g	20	5.975	0.012 14.102	-0.106 43.196	0.04 9 223.761	0.124 49.126
	Actual Upscale g			14.102	43.190	223.701	49.120
	C _{ma} Upscale g		5.910	14.100	44.900	225.000	48.200
	Calibration Sp			14.100	44.500	220.000	-0.200
	ounoration op		13.900	14.100	89,900	453.000	98.500
	System Bias a	s Perce				}	
	Zero gas		0.4%	0.1%	0.0%	, 0.1%	-0.4%
	Upscale g	as	-0.2%	-1.2%	-1.6%	-0.9%	-0.5%
	System Blas S	tatus					
	Zero gas		OK	ОК	ОК	ОК	OK
	Upscale g		OK	OK	ОК	ОК	ок
	Previous Syste	m Res					
	C _{ol} Zero gas		0.049	0.025	0.004	0.485	-0.187
	Cul Upscale g		5.961	13.937	41.768	219.571	48.624
	Drift Assessme	ent as F		-			0.0%
	Zero gas Upscale g	~~	0.0% -0.1%	0.0% 0.0%	-0.1% -0.1%	0.0% 0.0%	0.0% 0.0%
	Drift Assessme			0.076	-0.178	0.078	0.078
	Zero gas		OK	ОК	ОК	ОК	ок
	Upscale g	as	OK	OK	ок	OK	OK
041410 130313		:37:33	0.159	0.096	1.227	70.631	18.284
		:37:48	0.095	0.050	0.466	3.321	30.222
		:38:03	0.080	0.042	0.142	1.360	41.758
		:38:18	0.067	0.037	0.006	0.757	46.838
		:38:33	0.058	0.029	-0.062	0.521	48.293
		:38:48	0.056 0.047	0.027 0.027	-0.101	0.488 0.399	48.619 48.684
		:39:03 :39:18	0.047	0.027	<u>-0.111</u> 0.337	0.366	48.668
		:39:33	8.558	0.009	20.360	13.358	46.170
		:39:48	9.805	-0.018	37.004	68.978	35.427
	11	:40:03	9.916	0.001	40.132	190.061	17.247
		:40:18	9.939	0.000	41.063	217.721	6.289
		:40:33	9.951	-0.002	41.473	219.390	1.122
		:40:48	9.961 9.927	0.001	41.796	219.804	-0.052
		:41:03 :41:18	9.927 7.144	0.638 [11.260	41.885	219.910 220.016	-0.267 -0.278
		:41:33	6.045	13.825	5.356	142.157	-0.150
		:41:48	5.944	13.926	1.812	20.505	-0.015
	11	:42:03	5.936	13.930	0.892	4.892	0.039
	11	:42:18	5.958	13.955	0.589	1.270	0.228

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Vheelabrator S CleanAir Proje T. Lauderdale, TF Outlet 3	ct No.			REFERE	Ma Start Time Stop time NCE METHO	rch 22, 2010 11:43 12:10 D RUN 8	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			.FF.Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv
	Cali	bration Checks					
	Col	Initial zero	0.054	0.028	-0.091	0.469	-0.232
	Cui	Initial upscale	5.946	13.937	41.718	219.701	48.657
	Cof	Final zero	0.053	0.025	-0.257	0.496	-0.234
	Cuf	Final upscale	5.977	13.952	41.417	219.325	48.562
	C _{ma}	Actual gas value	5.910	14.100	44.900	225.000	48.200
	Ana	yzer Averages (co	ncentration	s)			
		Average conc.	9.915	9.396	7.180	141.708	7.330
		Blas adjusted	9.865	9.492	7.911	145.074	7.463
1410 130313							
		44.44	40.000	0.007	0.004	4 4 9 . 0 4 9	0.0.40
		11:44 11-45	10.228	8.967 8.918	3.964	148.616 152 137	8.643 8.451
		11:45	10.271	8.918	4.626	152.137	8.451
		11:45 11:46	10.271 9.754	8.918 9.597	4.626 5.194	152.137 145.574	8.451 7.729
		11:45 11:46 11:47	10.271 9.754 9.685	8.918 9.597 9.719	4.626 5.194 5.399	152.137 145.574 139.587	8.451 7.729 8.740
		11:45 11:46 11:47 11:48	10.271 9.754 9.685 9.542	8.918 9.597 9.719 9.863	4.626 5.194 5.399 5.070	152.137 145.574 139.587 119.076	8.451 7.729 8.740 7.254
		11:45 11:46 11:47 11:48 11:49	10.271 9.754 9.685 9.542 9.976	8.918 9.597 9.719 9.863 9.336	4.626 5.194 5.399 5.070 5.438	152.137 145.574 139.587 119.076 140.883	8.451 7.729 8.740 7.254 6.961
	_	11:45 11:46 11:47 11:48	10.271 9.754 9.685 9.542	8.918 9.597 9.719 9.863	4.626 5.194 5.399 5.070 5.438 5.873	152.137 145.574 139.587 119.076 140.883 146.087	8.451 7.729 8.740 7.254 6.961 7.253
	_	11:45 11:46 11:47 11:48 11:49 11:50	10.271 9.754 9.685 9.542 9.976 10.115	8.918 9.597 9.719 9.863 9.336 9.181	4.626 5.194 5.399 5.070 5.438	152.137 145.574 139.587 119.076 140.883	8.451 7.729 8.740 7.254 6.961
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51	10.271 9.754 9.685 9.542 9.976 10.115 9.789	8.918 9.597 9.719 9.863 9.336 9.181 9.598	4.626 5.194 5.399 5.070 5.438 5.873 7.608	152.137 145.574 139.587 119.076 140.883 146.087 135.560	8.451 7.729 8.740 7.254 6.961 7.253 6.439
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 \142.534	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389
	_	11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00 12:01	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00 12:01 12:02	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116 6.669
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00 12:01 12:02 12:03	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878 9.910	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465 9.385	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768 3.787	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233 141.386	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116 6.669 6.922
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:55 11:56 11:57 11:58 11:59 12:00 12:01 12:02 12:03 12:04	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878 9.910 9.888	8.918 9.597 9.719 9.863 9.336 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465 9.385 9.402	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768 3.787 3.074	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233 141.386 146.577	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116 6.669 6.922 7.216
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00 12:01 12:02 12:03 12:04 12:05	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878 9.910 9.888 9.827	8.918 9.597 9.719 9.863 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465 9.385 9.465 9.385 9.402 9.505	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768 3.787 3.074 2.549	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233 141.386 146.577 146.494	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.831 5.831 5.831 5.831 5.831 5.815 6.116 6.669 6.922 7.216 8.375
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:56 11:57 11:58 11:59 12:00 12:01 12:02 12:03 12:04 12:05 12:06	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878 9.910 9.888 9.927 9.632	8.918 9.597 9.719 9.863 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465 9.385 9.465 9.385 9.402 9.505 9.736	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768 3.787 3.074 2.549 2.109	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233 141.386 146.577 146.494 140.527	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116 6.669 6.922 7.216 8.375 8.147
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00 12:01 12:02 12:03 12:04 12:05 12:06 12:07	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878 9.910 9.888 9.927 9.632 9.410	8.918 9.597 9.719 9.863 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465 9.385 9.465 9.385 9.402 9.505 9.736 10.037	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768 3.787 3.074 2.549 2.109 2.022	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233 141.386 146.577 146.494 140.527 137.265	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116 6.669 6.922 7.216 8.375 8.147 7.185
		11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:56 11:57 11:58 11:59 12:00 12:01 12:02 12:03 12:04 12:05 12:06	10.271 9.754 9.685 9.542 9.976 10.115 9.789 9.767 10.070 10.003 10.350 9.923 9.995 10.260 10.103 10.152 9.544 9.878 9.910 9.888 9.927 9.632	8.918 9.597 9.719 9.863 9.181 9.598 9.630 9.212 9.293 8.850 9.398 9.245 8.934 9.172 9.090 9.887 9.465 9.385 9.465 9.385 9.402 9.505 9.736	4.626 5.194 5.399 5.070 5.438 5.873 7.608 9.042 9.531 10.380 10.591 9.076 8.378 17.990 30.857 11.911 6.651 4.768 3.787 3.074 2.549 2.109	152.137 145.574 139.587 119.076 140.883 146.087 135.560 133.952 141.176 142.534 144.204 148.453 137.664 149.312 147.507 142.778 133.415 136.233 141.386 146.577 146.494 140.527	8.451 7.729 8.740 7.254 6.961 7.253 6.439 6.653 7.606 7.712 7.001 6.389 6.346 5.831 5.070 5.315 6.116 6.669 6.922 7.216 8.375 8.147

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Wheelabrator South Broward CleanAir Project No. 10955 Ft. Lauderdale, FL FF Outlet 3

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March 22, 2010 Start Time 12:11 Stop Time 12:16 CALIBRATION BIAS 08

		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
		FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
		%dv	%dv	ppmdv	ppmdv	ppmdv
S	ystem Response to	Calibration G	asses (Ca)			
C,		0.053	0.025	-0.257	0.496	-0.234
C,	u. 0	5.977	13.952	41.417	219.325	48.562
	nalyzer Calibration					
	zero gas	0.000	-0.106	0.049	0.124	
	mca Upscale gas	5.975	14.102	43.196	223.761	49.126
	ctual Upscale Gas \					
	ma Upscale gas	5.910	14.100	44.900	225.000	48.200
	alibration Span Valu	ue (CS)				
		13.900	14.100	89.900	453.000	98.500
Sy	ystem Bias as Perce	ent of Calibrat	ion Span Va	Jue (SB) (5%)	
•	Zero gas	0.4%	0.1%	-0.2%	0.1%	-0.4%
	Upscale gas	0.0%	-1.1%	-2.0%	-1.0%	-0.6%
S	stem Blas Status					
-	Zero gas	ОК	ОК	ОК	ОК	ОК
	Upscale gas	OK	ОК	ОК	OK	OK
Pr	revious System Res	ponse to Cali	bration Gase	es (C _s)		
C,	J Zero gas	0.054	0.028	-0.091	0.469	-0.232
C	JUpscale gas	5.946	13.937	41.718	219.701	48.657
Di	rift Assessment as I	Percent of Ca	Ilbration Spa	n Value (D) (3%)	
	Zero gas	0.0%	0.0%	-0.2%	0.0%	0.0%
	Upscale gas	0.2%	0.1%	-0.3%	-0.1%	-0.1%
Di	rift Assessment Sta	tus				
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	ОК	OK	ОК	OK
041410 130313				•		
	12:11:33	0.095	0.047	0.186	5.576	30.691
	12:11:48	0.080	0.036	-0.039	1.050	41.649
	12:12:03	0.066	0.030	-0.148	0.709	46.978
	12:12:18		0.027	-0.243	0.562	48.283
	12:12:33	0.055	0.024	-0.256	0.488	48.519
	12:12:48	0.047	0.024	-0.274	0.439	48.570
	12:13:03 12:13:18	8.581	0.025	0.093 19.692	0.366	48.596 46.525
	12:13:33	9.856	0.000	36.708	82.556	34.341
	12:13:48	9.931	0.000	39.855	207.863	18.374
	12:14:03	9.956	-0.002	40.778	216.899	5.758
	12:14:18	9.965	-0.003	41.159	218.999	1.193
	12:14:33	9.967	-0.004	41.449	219.341	-0.075
	12:14:48	9.956	0.330	41.644	219.634	-0.270
	12:15:03	7.383	10.719	26.422	215.165	-0.262
	12:15:18	6.071	13.805	5.863	122.914	-0.168
	12:15:33	5.986	13.935	1.833	50.192	0.049
	12:15:48 12:16:03	5.974 5.971	13.956 13.965	0.861 0.523	2.825 1.384	0.117 0.176
	12.10.03	J.8/1	13.803	0.020	1.304	0.170

Prepared by Clean Air Engineering Proprietary Software SS CEM Version 06-2004a

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leanAir Project No. t. Lauderdale, FL F Outlet 3	Broward . 10955		REFERE	Start Time Stop time NCE METHO	orch 22, 2010 12:17 12:44 10 RUN 9	
		Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
		−FF [.] Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet ppmd
Ca	ibration Checks					
C _{ci}	Initial zero	0.053	0.025	-0.257	0.496	-0.23
Cul	Initial upscale	5.977	13.952	41.417	219.325	48.56
C _{of}	•	0.020	0.014	-0.209	0.412	-0.25
C _{uf}		5.967	13.936	41.404	219.072	48.52
C _{ut}	•	5.910	14.100	44.900	219.072	48.20
Uma	Actual yas value	5.910	14.100	44.900	223.000	40.20
	alyzer Averages (co		•			
	Average conc.	10.067	9.191	10.399	144.969	6.50
C _{Ga}	s Blas adjusted	9.987	9.288	11.463	148.648	6.66
410 130313	12:18	10.004	0.000	4.000		0.64
	12.10	10.084	9.090	4.328	147.577	6.64
	12:19	10.623	8.488	4.626	152.698	
	12:19 12:20	10.623 10.172	8.488 9.021	4.626 5.082	152.698 154.198	6.42 6.21
	12:19 12:20 12:21	10.623 10.172 9.828	8.488 9.021 9.441	4.626 5.082 5.273	152.698 154.198 131.856	6.42 6.21 4.84
	12:19 12:20 12:21 12:22	10.623 10.172 9.828 10.041	8.488 9.021 9.441 9.206	4.626 5.082 5.273 5.217	152.698 154.198 131.856 141.192	6.42 6.21 4.84 6.13
	12:19 12:20 12:21 12:22 12:23	10.623 10.172 9.828 10.041 10.008	8.488 9.021 9.441 9.206 9.222	4.626 5.082 5.273 5.217 5.542	152.698 154.198 131.856 141.192 134,035	6.42 6.21 4.84 6.13 5.74
	12:19 12:20 12:21 12:22 12:23 12:23 12:24	10.623 10.172 9.828 10.041 10.008 10.087	8.488 9.021 9.441 9.206 9.222 9.167	4.626 5.082 5.273 5.217 5.542 7.398	152.698 154.198 131.856 141.192 134.035 142.586	6.42 6.21 4.84 6.13 5.74 6.14
	12:19 12:20 12:21 12:22 12:23 12:24 12:25	10.623 10.172 9.828 10.041 10.008 10.087 9.921	8.488 9.021 9.441 9.206 9.222 9.167 9.378	4.626 5.082 5.273 5.217 5.542 7.398 8.714	152.698 154.198 131.856 141.192 134.035 142.586 132.945	6.42 6.21 4.84 6.13 5.74 6.14 5.60
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824	6.42 6.21 4.84 6.13 5.74 5.60 6.52
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.528 6.436 6.672
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.59
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.593 6.481
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.593 6.481 6.161 6.165
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.593 6.481 6.161 6.160 6.812
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35 12:36	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 5.59 5.59 6.481 6.161 6.161 6.812 9.695
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35 12:36 12:37	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576 9.872	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574 9.413	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877 6.929	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066 143.109	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.59 6.481 6.161 6.161 6.812 9.695 7.401
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35 12:36 12:37 12:38	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576 9.872 9.688	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574 9.413 9.619	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877 6.929 7.942	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066 143.109 133.022	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.59 6.481 6.161 6.161 6.161 6.812 9.695 7.401 7.502
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35 12:36 12:37 12:38 12:39	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576 9.872 9.688 10.124	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574 9.413 9.619 9.093	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877 6.929 7.942 9.039	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066 143.109 133.022 151.964	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 5.593 6.481 6.161 6.165 6.812 9.695 7.401 7.502 7.167
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35 12:36 12:37 12:38 12:39 12:40	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576 9.872 9.688 10.124 10.137	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574 9.413 9.619 9.093 9.093	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877 6.929 7.942 9.039 13.300	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066 143.109 133.022 151.964 147.859	6.42 6.21 4.84 6.13 5.74 6.14 5.60 6.52 6.43 6.67 6.99 7.24 5.593 6.481 6.161 6.166 6.812 9.695 7.401 7.502 7.167 5.759
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:33 12:33 12:34 12:35 12:36 12:37 12:38 12:39 12:40 12:41	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576 9.872 9.688 10.124 10.137 10.095	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574 9.413 9.619 9.093 9.093 9.093 9.177	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877 6.929 7.942 9.039 13.300 17.315	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066 143.109 133.022 151.964 147.859 154.406	6.422 6.213 4.84 6.13 5.742 6.144 5.600 6.522 6.436 6.672 6.999 7.241 5.593 6.481 6.161 6.166 6.812 9.695 7.401 7.502 7.167 5.759 7.294
	12:19 12:20 12:21 12:22 12:23 12:24 12:25 12:26 12:27 12:28 12:29 12:30 12:31 12:32 12:33 12:34 12:35 12:36 12:37 12:38 12:39 12:40	10.623 10.172 9.828 10.041 10.008 10.087 9.921 9.851 9.937 10.185 10.400 10.667 9.546 10.163 9.779 10.097 9.886 10.576 9.872 9.688 10.124 10.137	8.488 9.021 9.441 9.206 9.222 9.167 9.378 9.496 9.366 9.053 8.820 8.577 9.901 9.078 9.575 9.140 9.401 8.574 9.413 9.619 9.093 9.093	4.626 5.082 5.273 5.217 5.542 7.398 8.714 9.721 10.153 13.947 16.319 18.198 15.118 11.733 8.422 6.462 5.464 5.877 6.929 7.942 9.039 13.300	152.698 154.198 131.856 141.192 134.035 142.586 132.945 135.824 136.227 144.764 150.545 162.670 159.658 153.808 148.234 141.168 139.491 149.066 143.109 133.022 151.964 147.859	6.644 6.422 6.213 4.841 6.131 5.742 6.145 5.602 6.528 6.436 6.672 6.999 7.241 5.593 6.481 6.161 6.166 6.812 9.695 7.401 7.502 7.167 5.759 7.294 5.882 6.427



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Wheelabrator Sou	th Broward			Ма	rch 22, 2010	
CleanAir Project N				Start Time	12:45	
Ft. Lauderdale, FL				Stop Time	12:50	
FF Outlet 3			CALI	BRATION BI	AS 09	
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
		CO2	02	SO2	NOX	CO
		EE Quitlat 3	EE Outlat 2	FF Outlet 3	EE Outlat 2	EE Quitlet 2
		rr Oullet 3 %dv	rr Outlet 3 %dv	ppmdv	ppmdv	ppmdv
				ppmav	philas	ppmav
	System Response to					0.070
	C _{of} Zero gas	0.020 5.967	0.014	-0.209 41,404	0.412	-0.253
	C _{uf} Upscale gas Analyzer Calibratior			41.404	219.072	48.525
	Coce Zero gas	0.000	0.012	-0.106	0.049	0.124
	C _{oce} Upscale gas	5.975	14.102	43.196	223.761	49.124
	Actual Upscale Gas		1.102	10.100	220.101	40.120
	C _{ma} Upscale gas	5.910	14.100	44.900	225.000	48.200
	Calibration Span Va					
	· ···· ··· ··· ··· ··· ··· ··· ···	13.900	14.100	89.900	453.000	98.500
	System Bias as Per					
	Zero gas	0.1%	0.0%	-0.1%	, 0.1%	-0.4%
	Upscale gas	-0.1%	-1.2%	-2.0%	-1.0%	-0.6%
	System Bias Status					
	Zero gas	ОК	ОК	ОК	ОК	OK
	Upscale gas	ок	ОК	ОК	ОК	OK
	Previous System Re	esponse to Cal	Ibration Gas	es (C _s)		
	C₀i Zero gas	0.053	0.025	-0.257	0.496	-0.234
	C _{ui} Upscale gas	5.977	13.952	41.417	219.325	48.562
	Drift Assessment as		-			
	Zero gas	-0.2%	-0.1%	0.1%	0.0%	0.0%
	Upscale gas	-0.1%	-0.1%	0.0%	-0.1%	0.0%
	Drift Assessment St	-	0.4	014	014	
	Zero gas	OK	OK	OK	OK	OK
	Upscale gas	OK	ОК	OK	OK	OK
041410 130313	10 15 0			1 959		
	12:45:3		0.643	1.050	20.122	20.386
	12:45:40 12:46:0		0.103 0.036	0.661 0.342	2.710 2.947	34.001 42.504
	12:46:10		0.030	0.055	1.767	46.675
	12:46:3		0.027	-0.075	0.537	47.970
	12:46:46	6 -0.034	-0.003	-0.186	0.455	48.231
	12:47:01		0.023	-0.217	0.415	48.519
	12:47:10		0.023	-0.223	0.366	48.553
	12:47:3		0.024	0.130	0.366	48.503
	12:47:46 12:48:01		0.000 -0.002	19.289 36.423	22.417 [–] 132.544	46.105 35.587
	12:48:16		-0.002	39.712	196.654	17.540
	12:48:3		-0.002	40.768	217.916	6.276
	12:48:40		0.000	41.267	218.910	1.089
	12:49:01	1 9.961	-0.004	41.4 1 6	219.056	-0.033
	12:49:16		0.414	41.530	219.251	-0.267
	12:49:31		10.899	26.056	215.784	-0.288
	12:49:46		13.799	5.900		-0.204
	12:50:01		13.919	1.758	48.661	0.015
	12:50:16 12:50:31		13.938 13.950	0.811 0.510	4.395 1.245	0.104 0.166
	12,00.0	. 0.000		0.010	1.270	0.100

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leanAir Project t. Lauderdale, f F Outlet 3	t No. 1	Broward 10955		REFEREI	Ma Start Time Stop time NCE METHO	rch 22, 2010 12:51 13:18 D RUN 10	
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel C
			FF Outlet 3 %dv	FF Outlet 3 %dv	FF Outlet 3 ppmdv	FF Outlet 3 ppmdv	FF Outlet
	Calif	oration Checks					
	Coi	Initial zero	0.020	0.014	-0.209	0.412	-0.253
	Cui	Initial upscale	5.967	13.936	41.404	219.072	48.52
	C _{of}	Final zero	0.059	0.023	-0.216	0.447	-0.27
	Cuf	Final upscale	5.967	13.934	41,193	218.532	48.43
		Actual gas value	5.910	14.100	44,900	225.000	48.20
		U I					
		yzer Averages (co Average conc.	10.150	s) 9.083	10.690	147.189	6.40
		Bias adjusted	10.081	9,184	11.793	151.214	6.59
		12:53	9.537	9.819	7.782	133.252	6.42
410 130313		12:52	10.388	8.887	6.682	152.766	7.17
		12:53	9.537	9.819	7.782	133.252	6.42
		12:54	9.927	9,391	8.668	149.585	7.78
		12:55	10.406	0 760			
				8.769	11.182	147.593	
		12:56	9.951	9.373	13.638	152.395	6.86
		12:56 12:57	9.951 10.015	9.373 9.225	13.638 16.504	152.395 145.006	6.86 7.00
		12:56 12:57 12:58	9.951 10.015 9.791	9.373 9.225 9.557	13.638 16.504 16.700	152.395 145.006 144.518	6.86 7.00 7.41
		12:56 12:57 12:58 12:59	9.951 10.015 9.791 10.239	9.373 9.225 9.557 9.000	13.638 16.504 16.700 18.553	152.395 145.006 144.518 144.540	6.86 7.00 7.41 8.06
		12:56 12:57 12:58 12:59 13:00	9.951 10.015 9.791 10.239 10.391	9.373 9.225 9.557 9.000 8.799	13.638 16.504 16.700 18.553 15.985	152.395 145.006 144.518 144.540 149.363	6.86 7.00 7.41 8.06 8.11
		12:56 12:57 12:58 12:59 13:00 13:01	9.951 10.015 9.791 10.239 10.391 9.860	9.373 9.225 9.557 9.000 8.799 9.456	13.638 16.504 16.700 18.553 15.985 13.010	152.395 145.006 144.518 144.540 149.363 144.923	6.86 7.00 7.41 8.06 8.11 7.26
		12:56 12:57 12:58 12:59 13:00 13:01 13:02	9.951 10.015 9.791 10.239 10.391 9.860 10.148	9.373 9.225 9.557 9.000 8.799 9.456 9.055	13.638 16.504 16.700 18.553 15.985 13.010 9.177	152.395 145.006 144.518 144.540 149.363 144.923 136.414	6.86 7.00 7.41 8.06 8.11 7.26 6.86
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247	6.86 7.00 7.41 8.06 8.11 7.26 6.86 6.51
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657	6.86 7.00 7.41 8.06 8.11 7.26 6.869 6.51 5.92
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715	6.86 7.00 7.41 8.06 8.11 7.26 6.869 6.512 5.92 4.73
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638	6.86 7.00 7.41 8.06 8.11 7.26 6.86 6.51 5.92 4.73 4.978
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422	6.86 7.00 7.41 8.06 8.11 7.26 6.86 6.51 5.92 4.73 4.978 4.53
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009	6.86 7.00 7.41 8.06 8.11 7.26 6.86 6.51 5.92 4.73 4.97 8 4.53 4.24 2
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126	6.86 7.00 7.41 8.062 8.11 7.262 6.869 6.512 5.925 4.73 4.978 4.534 4.534 4.242 5.708
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837 9.920	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009	6.86 7.00 7.41 8.062 8.11 7.262 6.869 6.512 5.925 4.73 4.978 4.534 4.534 4.534 4.534 5.708 5.508
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09 13:10	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837 9.920 10.342	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347 8.824	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804 6.984	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126 143.368	6.86 7.00 7.41 8.062 8.11 7.262 6.869 6.512 5.925 4.73 4.978 4.534 4.534 4.534 4.534 5.508 5.508
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09 13:10 13:11	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837 9.920 10.342 10.185	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347 8.824 9.028	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804 6.984 9.348	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126 143.368 147.069	6.86 7.00 7.41 8.062 8.11 7.262 6.869 6.512 5.925 4.73 4.978 4.534 4.534 4.534 4.534 5.508 5.508 5.986 6.336
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09 13:10 13:11 13:12	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837 9.920 10.342 10.185 10.748	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347 8.824 9.028 8.422	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804 6.984 9.348 12.118	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126 143.368 147.069 151.398	6.866 7.000 7.411 8.062 8.111 7.262 6.869 6.512 5.925 4.73 4.978 4.534 4.534 4.534 4.534 5.508 5.508 5.986 6.336 6.843
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09 13:10 13:11 13:12 13:13	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837 9.920 10.342 10.185 10.748 9.803	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347 8.824 9.028 8.422 9.554	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804 6.984 9.348 12.118 12.787	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126 143.368 147.069 151.398 150.374	6.866 7.000 7.411 8.062 8.113 7.262 6.869 6.512 5.925 4.731 4.978 4.534 4.242 5.708 5.508 5.986 6.336 6.843 6.525
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09 13:10 13:11 13:12 13:13 13:14	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.837 9.920 10.342 10.185 10.748 9.803 10.232	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347 8.824 9.028 8.422 9.554 8.970	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804 6.984 9.348 12.118 12.787 12.815	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126 143.368 147.069 151.398 150.374 143.718	5.903 6.864 7.000 7.415 8.062 8.113 7.262 6.869 6.512 5.925 4.731 4.978 4.534 4.242 5.708 5.508 5.508 6.336 6.843 6.525 5.779 5.751
		12:56 12:57 12:58 12:59 13:00 13:01 13:02 13:03 13:04 13:05 13:06 13:07 13:08 13:09 13:10 13:11 13:12 13:13 13:14 13:15	9.951 10.015 9.791 10.239 10.391 9.860 10.148 9.618 10.511 10.334 10.741 9.954 9.920 10.342 10.185 10.748 9.803 10.232 9.794	9.373 9.225 9.557 9.000 8.799 9.456 9.055 9.741 8.605 8.771 8.343 9.272 9.385 9.347 8.824 9.028 8.422 9.554 8.970 9.526	13.638 16.504 16.700 18.553 15.985 13.010 9.177 6.855 5.505 4.724 4.411 4.349 4.684 5.804 6.984 9.348 12.118 12.787 12.815 12.278	152.395 145.006 144.518 144.540 149.363 144.923 136.414 142.247 145.657 151.715 154.638 152.422 146.009 150.126 143.368 147.069 151.398 150.374 143.718 144.854	6.866 7.000 7.415 8.062 8.113 7.262 6.869 6.512 5.925 4.731 4.978 4.534 4.242 5.708 5.508 5.508 6.336 6.843 6.525 5.779



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Wheelabrator Sou	th Bro	oward			Ma	rch 22, 2010	
CleanAir Project N	lo. 10	955			Start Time	13:20	
Ft. Lauderdale, FL	-				Stop Time	13:24	
FF Outlet 3				CALI	BRATION BI	AS 10	
			Channel 1	Channel 2	Observal 2	Channel A	Channel F
			Channel 1 CO2	Channel 2 O2	Channel 3 SO2	Channel 4 NOX	Channel 5 CO
			002	02	302	NUA	00
			FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3	FF Outlet 3
			%dv	%dv	ppmdv	ppmdv	ppmdv
	Svs	tem Response to	Calibration G	asses (Ca)			
	C _{of}	Zero gas	0.059	0.023	-0.216	0.447	-0.271
	Cuf	Upscale gas	5.967	13.934	41.193	218.532	48.432
		lyzer Calibration					
		Zero gas	0.000	0.012	-0,106	0.049	0.124
		Upscale gas	5.975	14.102	43,196	223.761	49.126
		ual Upscale Gas V					
		Upscale gas	5.910	14.100	44.900	225.000	48.200
		bration Span Valu				0.000	
	•••••		13.900	14.100	89.900	453.000	98.500
	Svs	tem Bias as Perce					
	0,0	Zero gas	0.4%	0.1%	-0.1%	, 0.1%	-0.4%
		Upscale gas	-0.1%	-1.2%	-2.2%	-1.2%	-0.7%
	Svs	tem Bias Status			/•	1.270	5.7.70
	0,0	Zero gas	ок	ок	ок	ОК	ок
		Upscale gas	OK	OK	OK	ÖK	OK
	Prev	ious System Res		bration Gas	es (Ce)	••••	
	Col	Zero gas	0.020	0.014	-0.209	0.412	-0.253
	Cui	Upscale gas	5.967	13.936	41,404	219.072	48.525
		Assessment as					
	_	Zero gas	0.3%	0.1%	0.0%	0.0%	0.0%
		Upscale gas	0.0%	0.0%	-0.2%	-0.1%	-0.1%
	Drift	Assessment Sta	tus				
		Zero gas	ОК	ОК	ок	ОК	ок
		Upscale gas	OK	OK	OK	OK	OK
		· · · · · · · · · · · · · · · · · · ·					
041410 130313		13:20:07	0.079	0.033	0.033	0.855	45.032
		13:20:22	0.075	0.033	-0.098	0.855	47.897
		13:20:37		0.024	-0.150	0.488	48.347
		13:20:52	0.057	0.023	-0.231	0.488	48.472
		13:21:07	0.055	0.023	-0.267	0.366	48.428
		13:21:22	0.839	0.025	0.138	0.366	48.396
		13:21:37	8.525	0.004	20.057	0.529	46.538
		13:21:52	9.844	-0.002	36.441	69.564	34.274
		13:22:07	9.924	-0.003	39.673	208.596	17.577
		13:22:22	9.945	-0.002	40.640	216.069	5.800
		13:22:37 13:22:52	9.957 9.957	-0.004 -0.002	4 <u>1.1</u> 15 41.423	218.234 218.559	1.117 -0.101
		13:22:52	9.957 9.794	1.484	41.423	218.803	-0.309
		13:23:22	6.813	12.113	20.088	218.803	-0.317
		13:23:37	6.032	13.843	4.378	97.200	-0.186
		13:23:52	5.975	13.922	1.508	24.990	0.049
		13:24:07	5.965	13.939	0.743	1.994	0.096
		13:24:22	5.960	13.943	0.526	1.180	0.144

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WHEELABRATOR SOUTH BROWARD, INC. FT. LAUDERDALE, FL

CleanAir Project No: 10955-3

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Run 1 Unit 1 South

Page:

1

Plant Name: 9BWD General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Site Name: UNIT1

Data Averaging Type: lm

ſ									
Ç		SO2ORPT1	NOXRPT_1	CORPT_1	020UT_1	SO2OUT_1	NOXPPM_1	COPPM_1	STMRPT_1
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)
03/23/10	08:04	6.1	190.4	31.1	9:3	5.1	159.2	26.0	182.4
	08:05	6.2	193.7	31.1	9.5	5.1	159.0	25.6	182.7
	08:06	6.1	195.4	27.4	9.0	5.2	166.8	23.4	183.6
	08:07	5.4	203.0	25.2	9.1	5.4	172.2	21.4	183.7
	08:08	6.2	209.2	27.8	9.2	5.3	176.6	23.5	184.4
	08:09	5.7	210.2	31.1	9.0	4.9	179.4	26.5	184.8
	08:10	5.3	212.2	23.2	9.1	4.6	180.7	19.7	183.1
	08:11	5.1	210.5	21.9	9.3	4.2	175.8	18.3	183.6
	08:12	5.3	204.6	25.4	9.1	4.4	173.0	21.5	182.7
	08:13	5.6	206.3	24.2	8.9	4.8	177.8	20.8	186.6
	08:14	6.8	204.3	17.5	8.2	6.2	187.1	16.0	186.5
	08:15	7.3	200.2	17.1	8.8	6.4	174.2	14.9	184.7
	08:16	6.1	190.5	18.1	9.1	5.2	161.7	15.3	184.6
	08:17	5.5	182.9	15.8	8.7	4.8	160.6	13.9	186.7
	08:18	5.8	187.3	15.6	8.5	5.1	167.3	13.9	188.9
	08:19	6.2	189.0	12.7	8.1	5.7	174.6	11.7	187.1
	08:20	6.1	190.9	14.1	8.6	5.3	168.6	12.4	187.4
	08:21	5.5	189.2	13.5	8.3	5.0	171.7	12.2	189.8
	08:22	6.2	194.6	11.5	8.2	5.6	177.7	10.5	188.1
	08:23	6.5	198.8	14.3	8.6	5.7	176.2	12.6	191.1
	08:24	6.9	193.4	11.6	8.0	6.4	179.6	10.7	187.3
	08:25	6.3	198.2	11.2	8.8	5.5	171.9	9.7	186.9
	08:26	5.8	192.2	13.8	8.6	5.1	169.7	12.2	185.7
	08:27	6.6	188.9	15.9	8.9	5.7	163.7	13.8	186.7
(°	08:28	6.9	181.3	16.5	8.7	6.1	159.1	14.5	184.1
	08:29	6.7	187.0	18.6	9.3	5.6	156.5	15.6	183.7
-	08:30	6.3	186.0	19.8	9.1	5.3	157.5	16.7	181.1
A	verage =	6.1	195.9	19.5	8.8	5.3	170.3		185.5
Geometri	c Avg. =	6.1	195.7	18.5	8.8	5.3	170.1	16.1	185.5
M	aximum =	7.3	212.2	31.1	9.5	6.4	187.1	26.5	191.1
м	inimum =	5.1	181.3	11.2	8.0	. 4.2	156.5	9.7	181.1
Possible '	Values =	27	27	27	27	27	27	27	. 27
Included	Values =	27	27	27	27	27	27	27	27
	Total =	165.2	5290.2	525.9	238.0	143.7	4598.4	453.5	5007.7

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated



Time of Report: 03/23/10 08:38 Rolling Average Interval: 1

Run Z Unit 1 South General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Page: 1

Time of Report: 03/23/10 09:13

Site Name: UNIT1

SICE Name:	ONTAL							TIE	e or seport:	03/23/10 03:13
Dața Avera	ging Type	e: 1m						Rol	ling Average	Interval: 1
Ĺ			_							
\		SO2ORPT1	NOXRPT_1	CORPT_1	_	-	NOXPPM_1	COPPM_1		
Date	Time	(PPMDC)			(PERCENTD)			(PPMD)		
03/23/10	08:38	5.8	201.9	8.9	8.5	5.2	180.0	7.9	186.1	
	08:39	6.3	196.1	13.6	8.8	5.5	170.2	11.8	186.7	
	08:40	5.3	186.2	11.6	8.5		165.9	10.3	183.2	
	08:41	4.1	189.5	12.5			161.5	10.7	182.7	
	08:42	3.4	195.4	13.1		2.9	168.3	11.3	184.0	
	08:43	3.2	192.9	13.7			170.2	12.1	184.0	
	08:44	3.6	196.8	13.5	9.0	3.0	167.9	11.5	183.3	
	08:45	3.5	196.0	10.6	9.0	3.0	168.4	9.1	184.8	
	08:46	3.4	188.5	12.9	9.0	2.9	161.7	11.1	183.5	
	08:47	3.7	193.3	12.6	9.3	3.1	160.9	10.5	180.6	
	08:48	3.5	197.6	16.4	9.4	2.9	163.0	13.5	180.3	
	08:49	3.8	198.2	15.8	9.2	. 3.2	166.5	13.3	182.1	
	08:50	4.4	197.4	18.7	8.9	3.8	169.8	16.1	183.0	
	08:51	4.4	197.5	18.1	9.1	3.7	168.1	15.4	182.6	
	08:52	4.2	194.2	16.4	8.9	3.6	168.2	14.2	183.4	
	08:53	3.8	198.1	12.9	8.6	3.4	174.6	11.4	182.8	
	08:54	3.6	205.7	11.8	9.0	3.1	176.0	10.1	181.7	
	08:55	4.2	199.7	11.7	9.0	3.6	170.6	10.0	182.2	
	08:56	4.5	197.6	11.6	9.0	3.9	169.7	9.9	182.6	
	08:57	4.3	198.4	10.0	9.0	3.7	169.4	8.5	180.2	
	08:58	3.9	201.2	11.1	9.5	3.2	164.7	9.1	179.7	
	08:59	3.9	199.3	14.4	9.5	3.2	163.8	11.8	181.8	
	09:00	4.0	200.1	13.9	9.0	3.4	171.6	11.9	183.0	
	09:01	4.1	200.6	14.7	9.0	3.5	171.4	12.6	183.7	
r	09:02	3.9	196.3	14.7	9.0	3.3	168.7	12.7	182.3	
	09:03	3.6	191.6	13.0	9.3	3.0	160.1	10.8	181.8	
	09:04	3.6	189.2	13.3			159.1	11.2	181.6	
Av	erage =	4.1	196.3	13.4	9.0	3.5	167.8	11.4	182.7	
Geometric	Avg. =	4.0	196.2	13.2	9.0	3.4	167.7	11.3	182.7	
Ma	ximum =	6.3	205.7	18.7	9.5	5.5	180.0	16.1	186.7	
Mi	nimum =	3.2	186.2	8.9		2.9	159.1	7.9	179.7	
Possible V		27		27			27	27	27	
Included V		27		27			27	27	27	
		110.1	5299.5	361.5		94.3		308.8	4933.7	

* - excluded values (missing, OOC, invalid, suspect)

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- < - missing
- т - out-of-control
- I - invalid
- S - suspect
- exceedance н
- F - stack not operating
- invalid (PADER) в

- missing data substituted U

-999 - missing value

Ć

Run 3 Unit 1 South

Plant Name: SBWD

General Average Report

Reporting Period: 03/23/2010 to 03/23/2010

Site Name: UNIT1

Data Averaging Type: 1m

:

Time of Report: 03/23/10 09:47 Rolling Average Interval: 1

(SO2ORPT1	NOXRPT_1	CORPT_1	020UT_1	SO20UT_1	NOXPPM_1	COPPM_1	STROPT_1	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(RLB/HR)	
03/23/10	09:12	4.9	194.4	20.1	8.5	4.4	173.6	18.0	188.0	
	09:13	4.9	202.4	14.7	7.8	4.7	191.1	13.9	186.7	
	09:14	4.2	211.3	11.1	8.7	3.7	185.1	9.7	183.1	
	09:15	3.1	216.8	13.0	9.0	2.6	185.2	11.1	184.7	
	09;:16	27_	214.0-		8.4	2.5	193.0	10.9	187.5	
	09:17	3.4	213.2	11.2	8.2	3.1	194.6	10.2	187.5	
	09:18	4.0	202.1	11.5	8.7	3.6	177.8	10.1	186.3	
	09:19	3.9	196.5	12.1	8.7	3.4	171.9	10.6	187.5	
	09:20	3.6	194.2	12.2	8.5	3.2	172.7	10.9	187.6	
	09:21	3.6	192.5	10.6	8.8	3.1	167.7	9.3	186.4	
	09:22	3.2	182.9	10.2	8.8	2.8	158.9	8.8	185.3	
	09:23	3,2	184.4	13.6	8.8	2.8	160.2	11.8	186.4	
	09:24	3.3	185.3	11.1	8.5	2.9	164.7	9.9	185.9	
	09:25	3.6	186.6	12.2	8.8	3.1	163.1	10.7	184.4	
	09:26	3.6	185.6	11.1	9.2	3.0	156.5	9.3	181.4	
	09:27	3.3	181.7	14.2	9.4	2.7	149.8	11.7	182.0	·.
	09:28	3.4	188.3	14.7	9.0	2.9	160.8	12.6	185.0	
	09:29	3.5	193.9	12.5	8.6	3.1	171.3	11,1	183.9	
	09:30	3.4	195.1	12.7	8.9	2.9	169.1	11.0	183.7	
	09:31	2.9	204.4	17.4	8.7	2.6	179.0	15.3	185.5	
	09:32	2.9	212.7	14.1	8.6	2.6	188.1	12.4	184.8	
	09:33	3.1	215.4	16.5	8.9	2.7	186.3	14.3	184.0	
	09:34	3.1	216.4	15.4	9.1	2.6	183.5	13.1	184.0	
	09:35	. 3.0	205.4	15.3	9.0	2.6	175.8	13.1	182.3	
r	09:36	3.2	197.8	14.8	9.4	2.7	164.4	12.3	181.3	
	09:37	3.3	189.9	13.8	9.5	2.7	155.5	11.3	181.5	
	09:38	3.4	185.7	15.4	9.4	2.8	153.1	12.7	180.8	
Ave	arage =	3.5	198.1	13.5	8.8	3.0	172.3	11.7	184.7	
Geometric	-	3.4	197.8	13.3	8.8	3.0	171.9	11.5	184.7	
	cimum ⊨	4.9	216.8	20.1	9.5	4.7	194.6	18.0	188.0	
	nimum -	2.7	181.7	10.2	7.8	2.5	149.8	8.8	180.8	
Possible Va		27	27	27	27	27	27	27	27	
Included V		27	27	27	27	27	27	27	27	
-	Total =	93.7	5349.0	363.6	238.0	81.6	4652.7	315.8	4987.5	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- 1 invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated



F - 5

Plant Name: SBWD

General Average Report Reporting Period: 03/23/2010 to 03/23/2010 Page: 1

Site Name: UNIT1

Data Averaging Type: 1m

1°									
(SO2ORPT1	NOXRPT_1	CORPT_1	020UT_1	SO2OUT_1	NOXPPM_1	COPPM_1	STMRPT_1
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)
03/23/10	09:46	2.7	205.7	17.9	9.9	2.1	163.5	14.2	178.5
	09:47	2.8	206.7	18.1	9.7	2.3	167.1	14.7	179.9
	09:48	2.8	204.0	21.2	9.4	2.3	168.8	17.6	183.1
	09:49	2.7	196.7	18.4	8.9	2.3	170.5	15.9	183.8
	09:50	2.5	191.5	16.9	8.8	2.2	166.1	14.6	184.1
	09:51	2.2	190.8	16.4	8.9	1.9	165.4	14.2	187.2
	09:52	2.0	194.7	14.4	8.3	1.8	176.8	13.1	188.9
	09:53	1.9	196.0	12.3	8.2	1.8	178.6	11.2	189.4
	09:54	1.8	187.5	12.5	8.0	1.6	174.3	11.6	190.3
	09:55	1.9	184.6	10.0	8.1	1.7	170.2	9.2	191.4
	09:56	1.9	183.6	11.1	8.2	1.7	167.4	10.1	190.8
	09:57	2.0	194.9	11.7	8.4	1.8	174.6	10.4	187.7
	09:58	2.0	203.8	10.9	8.7	1.8	179.1	9.6	188.4
	09:59	1.9	205.4	11.5	8.5	1.7	183.5	10.3	189.4
	10:00	1.9	204.2	14.0	8.3	1.7	184.4	12.7	187.9
	10:01	1.9	206.8	11.7	8.7	1.7	182.1	10.3	188.5
	10:02	1.7	190.5	10.8	8.1	1.6	175.2	9.9	188.0
	10:03	2.0	191.9	13.4	8.5	1.8	171.8	12.0	188.6
	10:04	2.0	186.0	10.0	8.1	1.9	171.0	9.2	188.6
	10:05	2.2	190.9	7.3	8.5	2.0	170.8	6.5	187.6
	10:06	2.0	187.4	7.6	8.3	1.8	169.7	6.9	190.3
	10:07	2.1	189.3	5.7	8.0	2.0	176.3	5.3	188.7
	10:08	2.3	197.5	6.2	8.8	2.0	172.3	5.4	191.2
	10:09	2.1	190.2	6.4	7.9	1.9	177.4	6.0	190.6
(10:10	2.3	197.5	5.0	8.3	2.0	179.4	4.5	186.7
<u>с</u> .	10:11	2.4	199.3	6.6	9.0	2.1	171.2	5.7	186.8
	10:12	2.2	197.5	6.4	8.6	1.9	174.1	5.7	184.2
Av	verage =	2.2	195.4	11.6	8.6	1.9	173.4	10.3	187.4
Geometric	avg. ⇒	2.1	195.2	10.8	8.5	1.9	173.3	9.6	187.4
Ma	ximum =	2.8	206.8	21.2	9.9	2.3	184.4	17.6	191.4
Mi	nimum =	1.7	183.6	5.0	7.9	1.6	163.5	4.5	178.5
Possible V	alues ≈	27	27	27	27	27	27	27	27
Included V	alues =	27	27	27	27	27	27	27	27
	Total =	58.1	5274.8	314.4	230.9	51.4	4681.8	276.8	5060.5

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect

(

- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted

-999 - missing value

-888 - value could not be calculated





Time of Report: 03/23/10 10:21 Rolling Average Interval: 1

Run 5 Unit 1 South

Plant Name: SBWD General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Page: 1

Site Name: UNIT1 Data Averaging Type: 1m

Data Avera	ging Type	a: 1m						KOT	ling Average	Interval: 1
(SO2ORPT1	NOXRPT_1	CORPT_1	020UT_1	S0200T_1	NOXPPM_1	COPPM_1	STMRPT_1	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/23/10	10:20	3.6	206.8	10.5	8.7	3.2	180.9	9.2	183.6	
	10:21	3.2	209.2	10.5	8.8	2.8	182.1	9.1	184.1	
	10:22	3.1	212.6	10.6	8.5	2.7	189.0	9.4	184.7	
	10:23	3.3	216.8	9.1	8.8	2.8	189.1	7.9	184.7	
	10:24	3.3_	212-2	11.1	8.8	2.9	185.2	9.7	184.0	
	10:25	3.2	209.0	9.9	8.7	2.8	182.8	8.7	184.5	
	10,26	3.2	201.5	9.5	8.7	2.8	177.5	8.3	185.0	
	10:27	3.1	192.8	9.9	8.6	2.7	170.2	8.7	184.6	
	10:28	3.0	200.1	10.0	8.7	2.6	175.5	8.7		
	10:29	3,0	199.6	9.2	8.6	2.6	176.1	8.1	184.5	
	10:30	2.8	197.1	9.8	8.9	2.5	170.5	8.4		
	10:31	3.0	200.7	8.6	8.9	2.6	172.8	7.4		
	10:32	3.0	200.6	8.5	8.6	2.7	177.0	7.5		
	10:33	3.0	207.4	9.4	8.8	2.6	181.2	8.3	185.1	
	10:34	3.1	205.6	7.5	8.6	2.8	182.1	6.7		
	10:35	3.5	203.2	7.6	8.4	3.2	183.2	6.9		
	10:36	3.8	209.6	7.7	9.3	3.2	174.6	6.4		
	10:37	3.3	206.3	9.2	9.3	2.8	172.6			
	10:38	3.3	204.2	10.7	9.1	2.8	173.0	9.0		
	10:39	3.8	209.8	11.3	9.3	3.2	174.8	9.4		
	10:40	4.1	205.6	10.5	9.4	3.4	169.5	8.6	182.4	
	10:41	4.2	202.0	10.8	9.2	3.5	169.9	9.1	183.5	
	10:42	4.0	202.0	10.2	9.3	3.4	168.4	8.5	181.9	
	10:43	3.2	202.2	10.1	9.6	2.6	163.7	8.2		
C	10:44	2.8	202.0	12.4	9.6	2.3	164.2	10.1	182.2	
	10:45	3.0	202.4	11.2	9.3	2.5	168.7	9.3		
	10:46	3.3	203.0	9.7		2.6	165.0	7.9		
Av	erage =	3.3	204.6	9.8	9.0	2.8	175.5			
Geometric	Avg. =	3.3	204.5	9.8	9.0	2.8	175.4		183.5	
Ma	ximum =	4.2	216.8	12.4	9.6	3.5	189.1	10.1	186.8	
Min	nimum =	2.8	192.8	7.5	8.4	2.3	163.7	6.4		
Possible V	alues =	27	27	27	27	27	27	27	27	
Included Va	alues =	27	27	27	27	27	27	27		
,	Total =	89.3	5524.5	265.5	242.3	76.5	4739.4	227.4	4955.1	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value

-888 - value could not be calculated



F - 7

Time of Report: 03/23/10 10:54 Rolling Average Interval: 1

Run 6 Unit 1 South

Page: 1

Time of Report: 03/23/10 11:27 Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Site Name: UNIT1

Data Averaging Type: 1m

(:				
(SO2ORPT1	NOXRPT_1	CORPT_1	0200T_1	SO2OUT_1	NOXPPM_1	COPPM_1	STMRPT_1	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/23/10	10:53	2.8	206.5	10.7	9.2	2.3	174.0	9.0	181.3	
	10:54	3.0	210.3	13.2	9.3	2.5	175.2	11.0	180.3	
	10:55	3.7	213.4	12.6	9.5	3.0	174.8	10.3	181.0	
	10:56	4.1	214.8	14.5	9.2	3.4	181.2	12.2	183.0	
	10:57	4.4	212.1	13.8	9.1	3.7	180.2	11.7	181.9	
	10:58	4.3	213.7	14.4	9.5	3.5	175.6	11.8	182.8	
	10:59	3.5	219.4	13.9	9.3	2.9	183.0	11.6	184.5	
	11:00	3.1	218.5	11.7	9.1	2.7	185.7	9.9	184.9	
	11:01	3.0	212.3	10.5	9.1	2.5	180.2	8.9	183.3	
	11:02	3.1	210.0	11.5	9.3	2.6	175.2	9.6	182.8	
	11:03	3.4	214.6	11.6	9.4	2.8	177.0	9.6	181.1	
	11:04	3.9	218.3	13.1	9.7	3.2	176.0	10.5	181.4	
	11:05	4.3	224.0	12.5	9.5	3.5	184.1	10.2	182.4	
	11:06	4.3	226.1	11.0	9.6	3.5	184.4	9.0	182.6	
	11:07	4.0	223.7	12.3	9.7	3.2	181.0	10.0	182.4	
	11:08	3.5	218.7	11.9	9.5	2.9	180.1	9.8	182.2	
	11:09	3.2	218.8	13.1	9.4	2.7	180.3	10.8	181.1	
	11:10	3.3	220.3	15.0	9.6	2.7	178.7	12.2	181.9	
	11:11	3.4	220.3	15.3	9.4	2.8	181.6	12.6	182.3	
	11:12	3.7	215.7	13.6	9.4	3.0	177.9	11.2	179.1	
	11:13	3.8	221.9	15.1	9.9	3.0	175.9	12.0	178.2	
	11:14	3.7	226.4	17.8	9.8	. 3.0	180.1	14.2	180.9	
	11:15	3.9	218.7	15.1	9.3	3.3	182.0	12.6	184.2	
	11:16	3.9	208.6	12.3	9.2	3.3	176.3	10.4	184.7	1
(11:17	3.4	210.3	11.4	9.4	2.8	174.7	9.5	184.5	
V.	11:18	2.9	211.0	10.7	9.2	2.5	177.8	9.0	184.9	
	11:19	2.6	209.2	10.0	8.8	2.2	181.8	8.7	185.4	
	erage =	3.6	216.2	12.9	9.4	2.9	179.1	10.7	182.4	
Geometric	-	3.5	216.1	12.8	9.4	2.9	179.0	10.6	182.4	
	ximum =	4.4	226.4	17.8	9.9	3.7	185.7	14.2	185.4	
	nimum ⇒	2.6	206.5	10.0	8.8	2.2	174.0	8.7	178.2	
Possible V		27	27	27	27	27	27	27	27	
Included V		27	27	27	27	27	27	27	27	
	Total =	96.1	5837.6	348.5	253.4	79.5	4834.6	288.3	4925.0	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- 8 suspect
- H exceedance
- F stack not operating
- B invalid (PADER)

U - missing data substituted

-999 - missing value

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Run 7 Unit 1 South

Plant Name: SBWD

General Average Report

Reporting Period: 03/23/2010 to 03/23/2010

Page: 1

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Time of Report: 03/23/10 12:01 Rolling Average Interval: 1

Site Name: UNIT1 Data Averaging Type: 1m

(SO2ORPT1	NOXRPT 1	CORPT_1	020UT_1	SOZOUT 1	NOXPPM 1	COPPM 1	STMRPT 1	
Date	Time	(PPMDC)	_ .	(PPMDC)		(PPMD)		(PPMD)	-	
03/23/10	11:27	2.5	216.0	15.2	9.6	2.0	176.1	12.4	182.8	
	11:28	2.4	224.5	15.1	9.2	2.0	188.9	12.7	186.8	
	11:29	2.5	224.6	12.4	8.7	2.2	197.9	10.9	186.0	
	11:30	2.4	230.5	9.7	9.1	2.0	196.1	8.2	183.4	
	-11:31-	2.1-		11.8	. 9.4	1.8	195.8	9.8	183.6	
	11:32	2.1	230.5	12.9	9.2	1.8	194.5	10.9	185.9	
	11:33	2.2	197.5	12.7	9.0	1.9	168.9	10.9	184.5	
	11:34	2.4	168.6	13.1	9.5	2.0	138.1	10.7	181.6	
	11:35	2.4	162.0	15.0	9.8	1.9	129.3	12.0	182.8	
	11:36	2.2	171.1	16.8	9.1	1.9	145.0	14.2	186.5	
	11:37	2.4	187.2	13.7	8.5	2.1	167.3	12.2	186.8	
	11:38	2.4	186.1	13.5	8.5	2.2	165.7	12.0	186.6	
	11:39	2.3	189.4	13.0	8.7	2.0	165.8	11.4	186.5	
	11:40	2.2	188.5	13.1	8.8	1.9	164.4	11.4	187.9	
	11:41	2.0	181.7	12.9	8.5	1.8	161.9	11.5	186.1	
	11:42	2.1	176.6	13.1	9.1	1.8	149.9	11.1	185.7	
	11:43	2.1	183.6	13.1	8.8	1.8	159.9	11.4	187.4	
	11:44	2.4	193.5	10.9	8.5	2.1	172.7	9.8	187.7	
	11:45	2.4	186.7	10.4	8.6	2.2	165.7	9.3	186.9	
	11:46	2.4	180.7	12.0	9.1	2.0	153.9	10.2	185.7	
	11:47	2.3	182.3	13.1	9.0	2.0	155.7	11.2	186.7	
	11:48	2.2	184.8	11.7	8.6	2.0	162.9	10.4	186.2	
	11:49	2.2	186.9	10.6	8.9	1.9	161.5	9.1	184.2	
	11:50	2.2	181.5	11.1	9.3	1.8	151.3	9.3	184.1	
	11:51	2.0	184.4	15.1	8.9	1.7	159.5	13.0	185.9	
	11:52	1.9	191.2	16.4	8.6	1.7	168.7	14.5		
•.	11,53	2.1	196.4	15.7	8.7	1.8	172.8	13.8	187.8	
Av	erage =	2.3	193.5	13.1	8.9	1.9	166.3		185.7	
	Geometric Avg. =		192.5	13.0	8.9	1.9	165.4		185.7	
	ximum =	2.3 2.5	236.6	16.8	9.8	2.2	197.9	14.5	187.9	
	aimum =	1.9	162.0	9.7		1.7	129.3	8.2	181.6	
	Possible Values =		27	27	27	27	27	27	27	
Included Va		27 27	27		27	27	27	27	27	
	Total =	61.1	5223.4	354.0	241.6	52.5	4489.9	304.2	5013.3	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted

-999 - missing value



Run 8 Unit 1 South

Plant Name: SBWD General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Site Name: UNIT1

Data Averaging Type: 1m

Time of Report: 03/23/10 12:35 Rolling Average Interval: 1

(SO2ORPT1	NOXRPT 1	CORPT 1	020UT_1	S020UT 1	NOXPPM 1	COPPM 1	STMRPT 1
Date	Time	(PPMDC)	(PPMDC)			(PPMD)	-	(PPMD)	-
03/23/10	12:01	2.5	189.4	12.7	8.8	2.1	164.3	11.0	186.7
	12:02	2.1	192.6	13.0	8.7	1.9	169.1	11.4	187.1
	12:03	2.2	206.9	13.6	8.6	1.9	183.7	12.1	185.4
	12:04	2.2	217.5	11.7	9.0	1.9		10.0	185.0
	12:05	1.9	212.3	11.8	9.0	1.7	182.2	10.1	184.1
	12:06	1.9	212.3	12.2	9.3	1.6	177.9	10.2	182.5
	12:07	1.9	209.5	13.2	9.5	1.5	172.5	10.8	181.6
	12:08	1.9	199.6	16.4	9.2	1.6	168.1	13.8	183.0
	12:09	2.2	199.8	14.0	9.0	1.8	170.8	12.0	180.3
	12:10	2.3	196.5	18.5	9.5	1.9	160.7	15.1	180.5
	12:11	2.4	190.1	19.1	9.4	2.0	157.0	15.8	183.1
	12:12	2.5	189.6	15.2	9.2	2.1	159.1	12.7	182.0
	12:13	2.4	187.0	14.6	9.4	2.0	154.2	12.0	184.0
	12:14	2.5	182.6	14.1	9.0	2.2	156.4	12.0	184.0
	12:15	2.6	191.5	12.5	8.9	2.2	165.3	10.8	183.6
	12:16	25	196.4	11.6	9.1	2.1	166.2	9.8	182.6
	12:17	2.5	187.1	14.0	9.6	2.1	152.5	11.4	180.1
	12:18	2.7	177.9	15.9	9.8	2.1	142.7	12.7	181.8
	12:19	2.9	174.7	14.3	9.0	2.5	149.2	12.2	182.2
	12:20	3.4	186.0	13.6	9.3	2.9	155.8	11.4	181.2
	12:21	3.6	187.0	16.8	9.5	2.9	152.8	13.7	182.8
	12:22	3.4	196.8	14.7	9.1	2.9	166.7	12.4	184.8
	12:23	3.5	202.4	12.8	9.1	3.0	172.0	10.9	183.6
	12:24	4.1	204.1	13.8		3.3	167.3	11.3	181.2
(12:25	4.4	202.6	14.8	9.5	3.6	166.4	12.1	183.6
١	12:26	4.8	206.8	14.6	8.9	4.2	178.5	12.6	185.8
	12:27	5.8	206.5	12.4		4.9	175.0	10.5	183.2
۸v	erage =	2.9			9.2		165.7		
Geometric	Geometric Avg. = 2.7		196.2	14.0	9.2	2.3	165.3	11.8	183.2
Ma	ximum =	5.8	217.5	19.1	9.8	4.9	186.8	15.8	187.1
Mi	nimum =	1.9	174.7	11.6	8.6	1.5	142.7	9.8	180.1
Possible Values = 27		27		27	27	27	27	27	27
Included V	alues =	27	27			27	27	27	27
	Total =	77.0	5305.4	381.6	248.0	64.8	4473.2	321.1	4946.0

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)

U - missing data substituted

~999 - missing value

Run 9 Unit 1 South Page:

1

Plant Name: SBWD General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Site Name: UNIT1 Data Averaging Type: 1m

(
`.		SO2ORPT1	NOXRPT 1	CORPT 1	020UT 1	SO2OUT_1	NOXPPM_1	COPPM_1	STMRPT_1	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/23/10	12:34	7.4	197.7	15.1	8.6	6.6	175.0	13.4	189.2	
	12:35	6.7	196.0	13.1	8.5	6.0	175.0	11.7	189.2	
	12:36	3.9	190.9	12.7	8.6	3.5	169.0	11.2	187.6	
	12:37	2.4	183.9	17.2	8.8	2.1	160.4	15.0	188.6	
	12:38	1.8	185.8	14.2	8.6	1.6	165.0	12.6	186.9	
	12:39	1.5	180.4	18.9	9.0	1.3	155.0	16.2	185.7	
	12:40	1.3	189.8	15.7	9.0	1.1	162.0	13.4	184.1	
	12:41	1.3	188.4	18.5	8.9	1.1	162.0	15.9	185.5	
	12:42	1.5	189.6	19.0	8.8	1.3	165.3	16.6	190.0	
	12:43	1.6	184.8	12.8	8.0	1.5	171.3	11.8	186.6	
	12:44	1.7	195.7	12.9	9.2	1.4	164.9	10.8	185.5	
	12:45	1.4	195.1	14.8	8.8	1.2	169.8	12.9	185.2	
	12:46	1.2	202.7	16.1	8.9	1.1	175.2	13.9	185.0	
	12:47	1.1	201.8	13.5	9.0	1.0	173.1	11.5	185.2	
	12:48	1.0	194.3	13.1	9.0	0.9	165.7	11.2	183.6	
	12:49	1.1	192.0	19.3	9.5	0.9	157.1	15.8	183.9	
	12:50	1.2	186.6	19.5	9.3	1.0	156.3	16.3	185.6	
	12:51	1.4	189.2	17.4	8.7	1.3	166.5	15.3	185.7	
	12:52	1.6	199.0	15.5	9.0	1.4	169.8	13.2	186.5	
	12:53	1.6	201.4	15.1	9.4	1.3	167.3	12.6	183.8	
	12:54	1.5	205.6	16.0	9.8	1.2	164.6	12.8	180.4	
	12:55	1.4	207.7	17.9	9.9	1.1	164.2	14.2	179.1	
	12:56	1.3	209.4	21.2	9.8	1.1	166.9	16.9	179,1	
	12:57	1.6	203.9	23.1	10.0	1.2	159.7	18.1	176.5	
10	12:58	1.7	196.0	22.0	10.3	1.3	149.0	16.7	174.8	
• (12:59	1.8	188.6	25.9	10.4	1.4	142.3	19.6	177.6	
,	13:00	2.3	190.2	24.2	9.6	1.8	154.7	19.6	178.3	
	 rage =	2.0	194.3	17.2	9.2	1.7	164.0	14.4	184.0	
Geometric	-	1.7	194.2		9.1	1.5	163.8	14.2	184.0	
	imum =	7.4	209.4	25.9		6.6	175.2	19.6	190.0	
	imum =	1.0	180.4	12.7		0.9	142.3	10.8	174.8	
Possible Va		27	27			27		27	27	
Included Val		27	27			27	27	27	27	
	otal =	54.6	5246.3			46.7	4427.1	389.4	4969.0	

- excluded values (missing, OOC, invalid, suspect) ٠

- missing <
- out-of-control т
- invalid I
- suspect S
- exceedance Ħ
- stack not operating F
- invalid (PADER) в
- missing data substituted σ

-999 - missing value

-888 - value could not be calculated



Time of Report: 03/23/10 13:08 Rolling Average Interval: 1

Run 10 Unit 1 Southage: 1

Time of Report: 03/23/10 13:42

Rolling Average Interval: 1

Flant Name: SBWD General Average Report Reporting Period: 03/23/2010 to 03/23/2010

Site Namé: UNIT1

Data Averaging Type: 1m

Jaca Avera	drug tAbe	5: TW						KOI	iing wverage	Incerval: I
(SOZORPT1	NOXRPT_1	CORPT_1	020 07 _1	\$020UT_1	NOXPPM_1	Coppm_1	STMRPT_1	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/23/10	13:08	1.9	210.8	16.6	8.7	1.6	184.4	14.5	187.9	
	13:09	2.0	206.1	15.1	8.0	1.9	190.9	14.0	188.5	
	13:10	2.6	204.0	13.9	8.8	2.3	178.1	12.1	187.0	
	13:11	2.8	193.9	13.7	9.3	2.4	162.5	11.4	187.0	
	13:12	2.8	189.5	13.8	9.3	2.3	157.6	11.5	188.9	
	13:13	2.8	191.2	13.0	9.8	2.3	152.9	10.4	186.7	
	13:14	2.5	188.7	15.4	9.7	2.0	152.6	12.4	188.7	
	13:15	2.3	193.1	13.7	8.5	2.1	171.9	12.2	188.0	
	13:16	2.3	201.3	12.9	8.9	2.0	173.7	11.1	188.5	
	13:17	2.5	210.9	10.8	8.6	2.2	187.1	9.6	187.5	
	13:18	2.5	210.1	12.9	8.8	2.2	182.9	11.2	188.9	
	13:19	2.7	207.3	10.7	8.6	2.4	183.3	9.4	188.2	
	13:20	3.1	206.1	12.3	8.6	2.7	181.9	10.9	191.0	
	13:21	4.0	201.7	8.7	7.9	3.7	188.1	8.1	188.1	
	13:22	4.1	196.6	10.8	8.9	3.5	169.3	9.3	189.6	
	13:23	4.0	194.4	9.7	8.3	3.7	175.8	8.8	189.3	
	13:24	4.4	187.6	8.8	8.6	3.9	165.9	7.8	187.5	
	13:25	. 5.4	183.2	10.1	9.0	4.7	157.1	8.7	189.7	
	13:26	6.6	191.0	9.0	8.2	6.0	175.0	8.2	185.9	
	13:27	6.5	186.9	9.4	9.0	5.5	159.6	8.0	187.7	
	13:28	6.4	185.7	10.2	8.1	5.9	170.4	9.3	186.5	
	13:29	6.9	185.6	9.4	8.8	6.0	161.4	8.2	186.6	
	13:30	6.6	182.3	9.4	8.6	5.8	161.2	8.3	185.1	
	13:31	7.2	191.0	11.4	9.1	6.1	162.2	9.7	187.5	
ſ	13:32	7.8	185.7	11.7	8.2	7.1	169.2	10.7	186.0	
Ι.	13:33	8.4	187.8	8.6	8.9	7.3	162.5	7.4	186.6	
	13:34	8.0	189.4	9.3	8.5	7.2	169.2	8.3	185.2	
Av	erage =	4.4	194.9	11.5	8.7	3.9	170.6	10.1	187.7	
Geometric	Avg. =	3.9	194.7	11.3	8.7	3.4	170.3	9.9	187.7	
Ma	ximum =	8.4	210.9	16,6	9.8	7.3	190.9	14.5	191.0	
Mi	nimum -	1.9	182.3	8.6	7.9	1.6	152.6	7.4	185.1	
Possible V	alues =	27	27	27	27	27	27	27	27	

27

235.8

27

104.8

27

4606.6

27

271.6

27

5068.1

excluded values (missing, OOC, invalid, suspect)

27

119.3

27

5261.9

27

311.2

< - missing

Included Values =

- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating

Total =

B - invalid (PADER)

U - missing data substituted

-999 - missing value

Run 1 Unit 2 South

Page: 1

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2

Data Averaging Type: lm

Time of Report: 03/24/10 08:14 Rolling Average Interval: 1

(SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	\$0200T_2	NOXPPM_2	COPPM_2	STMRPT_2	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/24/10	07:39	8.8	172.7	8.2	8.2	8,1	157.7	7.4	184.3	
	07:40	8.3	194.4	8.9	9.3	6.9	162.7	7.4	184.4	
	07:41	8.1	182.8	10.5	8.8	7.1	159.2	9.2	184.6	
	07:42	9.3	180.4	9.0	8.8	8.1	157.3	7.9	182.1	
	07.:43	109_			9.3	9.1	158.7	9.3	183.2	
	07:44	14.6	196.7	9.2	8.7	12.9	172.9	8.1	182.4	
	07:45	16.1	203.8	10.2	9.1	13.6	172.7	8.6	185.9	
	07:46	15.4	194.0	9.1	8.8	13.5	169.6	8.0	183.5	
	07:47	13.7	199.9	10.1	9.3	11.5	167.3	8.5	184.5	
	07:48	11.2	194.7	8.8	9.0	9.6	167.2	7.5	183.5	
	07:49	10.5	192.7	9.2	9.3	8.8	161.1	7.7	182.6	
	07:50	11.1	192.0	10.2	9.1	9.4	163.3	8.7	183.2	
	07:51	12.7	187.4	9.7	9.1	10.7	159.0	8.3	183.1	
	07:52	12.9	185.8	12.3	9.1	11.0	157.8	10.5	184.8	
	07:53	13.4	183.8	9.4	8.8	11.7	160.2	8.2	183.1	
	07:54	12.2	186.4	9.7	9.3	10.1	155.0	8.0	184.7	
	07:55	11.5	184.7	9.8	8.9	10.0	160.1	8.5	184.5	
	07:56	13.2	182.8	10.4	8.8	11.5	159.0	9.1	184.4	
	07:57	14.0	176.2	13.5	8.9	12.0	151.9	11.6	184.5	
	07:58	16.4	169.9	14.4	8.9	14.2	146.6	12.5	183.3	
	07:59	17.3	173.2	15.0	8.9	14.9	149.3	13.0	183.9	
	08:00	17.0	175.4	13.4	8.9	14.7	151.7	11.6	182.5	
	08:01	15.7	180.4	14.7	9.2	13.3	152.1	12.4	183.2	
	08:02	12.5	175.9	13.6	8.9	10.8	152.0	11.8	180.5	
r'	08:03	10.6	187,5	13.7	9.6	8.6	151.9	11.1	183.5	
	08:04	9.4	178.4	11.3	8.6	8.3	157.9	10.0	184.4	
	08:05	9.1	186.0	9.6	9.0	7.8	159.2	8.3	183.4	
Av	erage =	12.4	185.5	10.9	9.0	10.7	159.0	9.4	183.6	
Geometric	Avg. =	12.1	185.3	10.8	9.0	10.4	158.9	9.2	183.6	
Ma	ximum =	17.3	203.8	15.0	9.6	14.9	172.9	13.0	185.9	
Mi	- mumi-	8.1	169.9	8.2	8.2	6.9	146.6	7.4	180.5	
Possible V	alues =	27	27	27	27	27	27	27	27	
Included V	alues =	27	27	27	27	27	27	27	27	
	Total =	336.0	5007.8	295.2	242.4	288.2	4293.3	253.0	4958.1	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated



F - 13

Run Z Unit 2 South

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2

Data Averaging Type: 1m

C										
(SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	\$020UT_2	NOXPPM_2	COPPM_2	STMRPT_2	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/24/10	08:13	5.2	192.6	7.7	8.3	4.7	174.7	7.0	184.4	
	08:14	4.4	202.2	7.3	9.0	3.8	173.1	6.3	183.8	
	08:15	4.7	205.6	10.3	9.2	3.9	172.5	8.7	183.7	
	08:16	5.1	201.7	10.4	9.1	4.4	171.5	8.8	185.2	
	08:17	4.5	192.5	8.1	8.9	3.9	165.6	7.0	182.8	
	08:18	3.8	186.5	10.7	9.2	3.2	156.6	9.0	186.0	
	08:19	3.7	170.7	10.5	B.3	3.4	154.7	9.5	185.0	
	08:20	3.6	179.0	8.5	9.1	3.0	152.1	7.2	184.6	
	08:21	3.1	178.4	11.1	8.8	2.7	155.6	9.7	190.1	
	08:22	3.1	165.7	7.4	7.6	3.0	159.0	7.1	187.7	
	08:23	3.4	184.9	6.9	8.6	3.0	163.3	6.1	185.6	
	08:24	3.0	193.9	7.0	9.1	2.6	165.0	6.0	184.3	
	08:25	2.9	193.4	8.6	9.2	2.5	162.7	7.2	184.0	
	08:26	4.3	183.7	8.5	9.0	3.7	156.8	7.2	182.1	
	08:27	5.3	178.9	8.0	8.9	4.6	154.7	6.9	182.8	
	08:28	5.3	180.8	7.6	8.8	4.6	157.5	6.7	184.5	
	08:29	5.5	185.8	7.7	9.3	4.6	155.4	6.4	181.9	
	08:30	5.8	195.1	11.1	9.8	4.6	156.4	8.9	180.2	
	08:31	6.1	193.3	10.5	9.4	5.1	160.0	8.7	181.0	
	08:32	7.1	187.4	10.2	8.9	6.1	161.4	8.8	184.9	
	08:33	8.0	179.3	8.0	8.4	7.1	160.7	7.1	182.2	
	08:34	7.4	189.9	9.4	9.4	6.2	157.0	7.8	186.0	
	08:35	6.6	176.7	. 8.1	8.5	5.9	157.6	7.2	183.9	
	08:36	6.3	184.7	9.0	8.9	5.4	160.1	7.8	184.0	
1	08:37	6.6	189.0	10.0	8.9	5.8	163.6	8.7	185.9	
C.	08:38	7.0	191.6	8.6	8.8	6.1	166.5	7.5	184.0	
	08:39	7.0	194.0	11.7	9.4	5.8	160.9	9.7	185.7	
Av		5.1	187.3	9.0	8.9	4.4	161.3	 7.7 [°]	184.3	
Geometric	-	4.9	187.1	8.9	8.9	4.2	161.2	7.7	184.3	
	ximum =	8.0	205.6	11.7	9.8	7.1	174.7	9.7	190.1	
	nimum =	2.9	165.7	6.9	7.6	2.5	152.1	6.0	180.2	
Possible V		27	27	27	27	27	27	27	27	
Included V		27	27	27	27	27	27	27	27	
	Total =	138.9	5057.5	243.1	240.8	119.5	4354.6	209.0	4976.2	
								200.0		

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- 9 suspect
- H exceedance
- P stack not operating
- B invalid (PADER)
- U missing data substituted

-999 - missing value

-888 - value could not be calculated



Time of Report: 03/24/10 08:48 Rolling Average Interval: 1

Run 3 Unit 2 South Page: 1

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Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2 Data Averaging Type: 1m

Time of Report: 03/24/10 09:21 Rolling Average Interval: 1

(SO2ORPT2	NOXRPT 2	CORPT 2	020UT 2	SO2OUT_2	NOXPPM 2	COPPM_2	STMRPT_2	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/24/10	08:47	7.3	198.4	9.2	9.0	6.2	169.8	7.9	186.7	
	08:48	7.9	183.1	8.0	8.2	7.2	166.9	7.3	185.7	
	08:49	7.9	185.6	7.2	9.1	6.7	158.1	6.2	184.0	
	08:50	7.2	181.5	9.0	9.0	6.2	155.3	7.7	186.1	
	08:51	75_	180.3_	7.2	8.4	6.7	161.6	6.5	185.0	
	08:52	8.0	188.3	. 8.0	9.1	6.8	159.7	6,8	185.1	
	08:53	7.0	188.2	8.5	9.2	5.9	158.9	7.2	185.7	
	08:54	6.1	188.6	8.4	8.8	5.3	163.8	7.3	182.9	
	08:55	6.2	193.6	8.4	9.4	5.1	159.9	6.9	184.2	
	08:56	6.5	183.3	8.6	8.7	5.6	160.4	7.5	185.8	
	08157	6.9	188.2	6.6	8.9	6.0	162.0	5.7	182.3	
	08:58	6.4	206.9	10.2	9.7	5.1	166.5	8.2	183.9	
	08:59	6.8	194.9	9.2	8.7	6.0	170.7	8.1	184.0	
	09:00	6.6	196.0	6.9	8.8	5.8	171.0	6.0	181.5	
	09:01	6.5	197.4	9.3	9.2	5.5	166.8	7.8	182.6	
	09:02	7.1	188.4	8.2	8.5	6.3	167.7	7.3	181.8	
	09:03	7.6	197.5	7.7	9.2	6.4	166.8	6.5	181.1	
	09:04	8.4	189.5	9.9	9.0	7.2	162.3	8.5	180.5	
	09:05	9.8	193.2	8.9	9.1	8.3	164.1	7.6	181.5	
	09:06	10.1	190.4	9.8	8.9	8.8	164.9	8.5	180.9	
	09:07	10.4	183.5	8.2	9.0	8.9	157.6	7.0	181.4	
	09:08	10.2	178.9	8.2	9.0	8.7	152.7	7.0	181.4	
	09:09	9.1	179.9	8.2	9.2	7.7	151.7	6.9	182.8	
	09:10	8.6	172.6	9.5	8.8	7.5	150.4	8.3	184.4	
r	09:11	7.0	164.6	7.4	8.5	6.3	147.1	6.6	183.4	
-(09:12	5.4	173.2	8.3	9.1	4.6	147.6	7.0	184.2	
	09:13	4.6	171.1	9.1	8.8	4.0	149.0	7.9	184.8	
Ave	erage =	7.5	186.6	8.5	8.9	6.5	160.5	7.3	183.5	
Geometric	Avg. =	7.4	186.3	8.4	8.9	6.4	160.3	7.2	183.5	
Маз	imum =	10.4	206.9	10.2	9.7	8.9	171.0	8.5	186.7	
	imum =	4.6	164.6	6.6	8.2	4.0	147.1	5.7	180.5	
Possible Va	lues -	27	27	27	27	27	27	27	27	
Included Va	lues -	27	27	27	27	27	27	27	27	
2	otal =	203.2	5037.2	228.3	241.3	174.9	4333.2	196.3	4953.7	

- excluded values (missing, COC, invalid, suspect) *

- < - missing
- т - out-of-control
- I - invalid
- s - suspect
- exceedance H
- stack not operating F
- invalid (PADER) в
- missing data substituted σ
- -999 missing value
- -888 value could not be calculated



Run 4 Unit 2 South

Page: 1

Time of Report: 03/24/10 09:58

Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2

Data Averaging Type: 1m

		SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	S020UT_2	NOXPPM_2	Соррм_2	STMRPT_2
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)
03/24/10	09:21	7.5	183.9	7.4	8.7	6.5	160.9	6.5	185.3
	09:22	7.7	178.3	6.8	8.7	6.8	156.6	6.0	182.5
	09:23	9.3	184.1	7.0	9.2	7.9	155.1	5.9	182.3
·	09:24	13.0	188.6	7.1	9.0	11.1	161.6	6.1	182.7
	09:25	15.8	. 187.8	6.4	8.7	13.8	164.2	5.6	182.5
	09:26	16.4	190.5	7.5	9.3	13.6	158.5	6.3	181.0
	09:27	15.6	190.6	8.2	9.6	12.7	154.9	6.7	180.6
	09:28	16.0	187.5	7.2	9.2	13.5	158.0	6.1	180.9
	09:29	15.8	187.0	8.1	9.3	13.3	156.5	6.7	183.0
	09:30	15.4	177.8	7.1	8.5	13.7	158.3	6.4	182.7
	09:31	13.7	189.7	7.2	9.1	11.6	160.7	6.1	183.0
	09:32	11.1	186.8	7.9	9.1	9.4	158.8	6.7	183.4
	09:33	10.4	184.6	6.2	9.0	8.9	158.2	5.3	180.7
•	09:34	10.7	192.7	8.4	9.6	8.7	156.9	6.9	181.9
	09:35	12.9	184.2	7.1	8.9	11.1	158.8	6.1	180.4
	09:36	16.3	198.9	9.1	9.7	13.1	159.8	7.3	179.9
	09:37	19.9	206.1	9.4	9.5	16.4	169.6	7.7	180.5
	09:38	21.1	206.8	9.4	9.3	17.6	172.1	7.9	180.1
	09:39	19.3	209.6	8.6	9.5	15.9	172.1	7.0	180.1
	09:40	14.6	210.6	9.5	9.1	12.4	178.6	8.1	182.8
	09:41	10.7	193.5	7.6	8.5	9.6	173.0	6.8	182.3
	09:42	8.3	185.0	8.9	9.3	6.9	154.3	7.5	183.3
	09:43	6.1	168.8	7.9	9.2	5.1	142.2	6.7	182.3
	09:44	4.9	167.0	7.3	9.4	4.0	137.7	6.0	182.2
	09:45	5.0	170.9	7.2	9.1	4.2.	144.5	6.1	181.3
<i>.</i> .	09:45	6.3	182.4	7.4	9.3	5.3	152.4	6.1	184.6
	09:47	8.2	174.2	6.4	8.5	7.3	155.8	5.7	184.7
A	verage =	12.3	187.7	7.7	9.1	10.4	158.9	6.5	182.1
Geometri	c Avg. ⊨	11.4	187.4	7.7	9.1	9.6	158.6	6.5	182.1
M	aximum =	21.1	210.6	9.5	9.7	17.6	178.6	8.1	185.3
м	inimum ⇒	4.9	167.0	6.2	8.5	4.0	137.7	5.3	179.9
ossible '	Values =	27	27	27	27	27	27	27	27
acluded	Values =	27	27	27	27	27	27	27	27
	Total =	331.9	5067.8	208.4	246.4	280.3	4290.1	176.1	4916.8

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value

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Run 5 Unit 2 South

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2 7 Averaging Type: 1m

(ding lybe								
		SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	SO2OUT_2	NOXPPM_2	COPPM_2	STMRPT_2
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(RLB/HR)
03/24/10	09:55	12.4	181.2	8.0	8.9	10.7	156.4	6.9	183.0
	09:56	11.4	185.1	8.6	9.1	9.7	157.0	7.3	182.9
	09:57	11.5	181.9	8.4	8.8	10.0	157.8	7.3	183.3
	09:58	13.5	187.9	8.6	9.3	11.3	157.3	7.2	184.1
	09:59	16.7	178.0	9.7	8.9	14.3	153.3	8.4	184.5
	10:00	21.2	178.3	7.9	9.0	18.1	152.4	6.7	183.7
	10:01	21.6	184.2	9.8	9.2	18.2	154.7	8.2	185.0
	10:02	20.6	180.3	10.4	9.0	17.7	1,54.9	9.0	182.7
	10:03	17.1	189.8	10.9	9.6	13.8	153.6	8.8	181.2
	10:04	13.5	186.9	10.7	9.6	11.0	152.5	8.7	180.5
	10:05	10.6	187.3	12.7	9.7	8.6	151.3	10.3	182.0
	10:06	9.8	182.5	9.6	9.3	8.2	152.7	8.1	181.8
	10:07	9.2	180.1	10.3	9.4	7.6	149.5	8.6	182.9
	10:08	8.9	178.8	10.8	9.5	7.3	146.7	8.8	182.1
	10:09	8.8	184.3	9.5	9.5	7.2	151.7	7.8	182.4
	10:10	10.1	184.9	9.9	9.3	8.4	154.7	8.3	182.6
	10:11	11.7	184.9	12.8	9.5	9.7	152.0	10.5	182.6
	10:12	14.0	183.7	10.8	9.5	11.5	151.1	8.9	181.9
	10:13	15.9	183.5	10.4	9.5	13.0	150.1	8.5	182.5
	10:14	17.2	174.6	10.6	9.3	14.3	145.6	8.8	182.8
	10:15	17.8	175.5	12.1	9.6	14.4	142.4	9.8	183.3
	10:16	15.0	174.3	10.4	9.4	12.3	143.7	8.5	180.3
	10:17	12.0	180.9	11.1	9.7	9.7	146.3	9.0	180.5
1	10:18	10.7	181.3	9.9	9.1	9.1	154.0	8.4	184.4
L.	10:19	11.4	174.6	8.1	8.6	10.1	154.3	7.1	184.0
	10:20	12.3	183.0	7.7	9.3	10.2	152.4	6.4	184.0
	10:21	10.5	185.6	7.6	9.1	8.9	158.1	6.5	185.7
Ave	erage =	13.5	182.0	9.9	9.3	11.3	152.1	8.3	182.8
Geometric	Avg. =	13.1	181.9	9.8	9.3	10.9	152.0	8.2	182.8
Ma	ximum =	21.6	189.8	12.8	9.7	18.2	158.1	10.5	185.7
Mit	= aumia	8.8	174.3	7.6	8.6	7.2	142.4	6.4	180.3
Possible Va	alues =	27	27	27	27	27	27	27	27
Theluded M	alues =	27	27	27	27	27	27	27	27
Incinced A									

- excluded values (missing, OOC, invalid, suspect) *

- missing <
- out-of-control т
- invalid r
- suspect S
- exceedance H
- F stack not operating
- invalid (PADER) в
- missing data substituted u
- -999 missing value
- -888 value could not be calculated

-



Time of Report: 03/24/10 10:31 Rolling Average Interval: 1

Run 6 Unit 2 South Page: 1

Time of Report: 03/24/10 11:03

Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2

a Averaging Type: 1m 1

ι									
		SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	\$020UT_2	NOXPPM_2	COPPM_2	STMRPT_2
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)
03/24/10	10:29	6.2	169.6	7.2	8.7	5.5	149.2	6.3	185.2
	10:30	7.2	170.8	7.6	8.8	6.3	148.1	6.6	186.2
	10:31.	7.9	172.6	6.2	8.7	6.9	150.9	5.4	183.0
	10:32	7.7	183.9	7.8	9.4	6.4	152.0	6.5	184.6
	10:33	8.7	168.9	6.6	8.5	7.7	150.9	5.9	183.7
	10:34	10.0	177.6	6.8	8.7	8.7	155.5	5.9	185.6
	10:35	11.7	177.4	8.1	8.5	10.5	158.4	7.2	188.0
	10:36	11.3	176.4	6,3	8.3	10.2	159.7	5.7	185.3
	10:37	9.8	184.8	6.5	9.0	8.4	158.1	5.6	185.1
	10:38	9.1	181.2	7.2	8.8	7.9	157.7	6.3	185.1
	10:39	9.7	179.8	7.7	8.9	8.4	155.7	6.6	184.9
	10:40	10.4	176.8	7.7	8.9	9.0	153.0	6.7	184.7
	10:41	10.3	176.7	7.1	9.0	8.8	151.6	6.1	182.9
	10:42	10.7	181.4	8.0	9.4	8.9	150.2	6.6	182.6
	10:43	11.3	183.5	7.6	9.2	9.5	154.0	6.4	182.6
	10:44	12.3	186.8	8.2	9.1	10.4	158.0	7.0	183.7
	10:45	12.7	183.2	7.6	8.6	11.2	161.5	6.7	184.1
	10:46	11.7	183.2	7.5	8.7	10.3	161.3	6.6	183.8
	10:47	11.5	185.8	7.8	9.1	9.8	158.1	6.7	184.9
	10:48	13.7	183.2	9.9	9.0	11.7	157.1	8.5	183.9
	10:49	15.2	181.7	8.4	9.1	12.9	154.3	7.2	182.2
	10:50	15.2	188.2	8.8	9.2	12.9	159.0	7.5	185.0
	10:51	15.6	182.0	8.0	8.8	13.6	158.8	7.0	183.0
(10:52	14.5	182.4	10.9	9.4	12.1	151.4	9.0	183.6
l	10:53	14.5	180.7	10.9	9.0	12.4	155.2	9.3	183.3
	10:54	14.9	184.2	10.6	9.0	12.7	157.6	9.0	183.1
	10:55	15.9	186.4	11.1	9.0	13.7	160.0	9.5	184.0
Av	erage =	11.5	180.3	8.1		9.9	155.4	7.0	184.2
Geometric	Avg. =	11.1	180.3	8.0	8.9	9.6	155.4	6.9	184.2
Ма	ximum =	15.9	188.2	11.1	9.4	13.7	161.5	9.5	188.0
Mi	nimm =	6.2	168.9	6.2	8.3	5.5	148.1	5.4	182.2
Possible V	alues =	27	27	27	27	27	27	27	27
Included V	alues =	27	27	27	27	27	27	27	27
	Total =	309.8	4869.3	218.0	240.7	266.8	4197.0	187.7	4974.2

* - excluded values (missing, OOC, invalid, suspect)

- missing <
- т - out-of-control
- I - invalid

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- s - suspect
- exceedance н
- F - stack not operating
- invalid (PADER) в
- missing data substituted U
- -999 missing value
- -888 value could not be calculated

Run 7 Unit 2 South

Page: 1

General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2 P > Averaging Type: 1m

Time	of	Report:	03/24/10	11:40
Rolli	ng	Average	Interval:	1

Ĩ											
(SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	SO2OUT_2	NOXPPM_2	COPPM_2	STMRPT_2	
	Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)		
	03/24/10	11:03	9.3	184.8	9.8	9.1	7.8	156.3	8.3	183.9	
		11:04	7.9	185.1	10.2	8.5	7.0	165.1	9.1	184.4	
		11:05	7.5	184.7	8.6	8.5	6.7	165.4	7.7	184.7	
		11:06	8.6	190.9	9.4	8.8	7.5	165.9	8.2		
		11:07	10.0	181.8	6.9	. 8.0	9.3	169.0	, 6.4	186.4	
	•	11:08	10.1	195.9	6.5	8.8	8.7	169.8	5.7	183.4	
		11:09	11.6	194.5	9.2	9.0	9.9	166.1	7.9	186.4	
		11:10	14.7	177.6	7.5	8.2	13.4	161.6	6.8	183.5	
		11:11	17.8	185.4	7.6	9.0	15.2	158.2	6.5	184.2	
		11:12	18.9	183.3	8.3	8.7	16.6	161.2	7.3	184.5	
		11:13	15.9	180.8	6.8	8.6	14.1	160.0	6.0	182.9	
		11:14	13.1	186.2	9.1	9.0	11.2	159.9	7.8	185.0	
		11:15	10.6	190.6	7.7	8.3	9.7	172.9	7.0	182.6	
		11:16	8.3	203.4	8.9	9.2	7.0	. 171.6	7.5	182.9	
		11:17	7.3	197.3	9.9	8.9	6.3	171.0	8.6	180.9	
		11:18	8.4	203.5	8.9	8.9	7.2	176.2	7.7	182.2	
		11:19	9.8	206.3	9.0	8.5	8.7	183.6	8.0	184.6	
		11:20	9.9	204.6	8.4	8.6	8.7	180.9	7.4	182.4	
		11:21	9.1	203.6	9.3	9.1	7.8	173.5	7.9	182.8	
		11:22	8.3	188.3	7.9	8.4	7.4	169.6	7.1	183.6	
		11:23	8.9	185.5	7.8	8.3	8.0	167.5	7.0	184.1	
		11:24	12.2	187.0	8.3	8.5	10.9	167.0	7.4	184.0	
		11:25	13.7	187.9	9.2	8.5	12.3	168.3	8.2	182.3	
_	,	11:26	11.5	195.6	9.1	8.8	10.0	170.7	8.0	184.2	
		11:27	10.2	191.3	9.8	8.2	9.3	174.3	8.9	185.2	
	` -	11:28	10.3	193.8	7.2	8.3	9.4	176.3	6.6	183.5	
		11,29	9.3	202.9	7.3		8.1	178.0	6.4	184.7	
•	Av	eraga =	10.9	191.6	8.5	8.6	9.6	168.9	7.5	184.0	
	Geometric	Avg. =	10.5	191.4	8.4	8.6	9.3	168.8	7.4	184.0	
	Maa	aimum =	18.9	206.3	10.2	9.2	16.6	183.6	9.1	189.0	
	Min	nimum =	7.3	177.6	6.5	8.0	6.3	156.3	5.7	180.9	
3	ossible V	alues =	27	27	27	27	27	27	27	27	
I	ncluded V	alues =	27	27	27	27	27	27	27	27	
	•	Total =	293.2	5172.4	228.4	233.3	258.6	4559.9	201.2	4968.4	

* - excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated



F - 19

Run 8 Unit 2 South Pages 1

Time of Report: 03/24/10 12:15

Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2

Data Averaging Type: 1m

(
N.		SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	S02 <i>0</i> UT_2	NOXPPM_2	COPPM_2	STMRPT_2	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/24/10	11:37	5.9	194.1	6.3	8.7	5.2	170.4	5.5	183.6	
	11:38	5.9	197.5	7.4	9.0	5.0	168.7	6.3	184.0	
	11:39	5.9	194.4	8.0	8.9	5.1	167.5	6.9	183.9	
	11:40	5.7	186.6	8.4	9.0	4.9	160.4	7.2	183.3	
	11:41	6.1	180.4	8.8	8.7	5.3	157.7	7.7	183.8	• `
	11:42	7.0	174.5	7.3	8.7	6.1	153.5	6.4	183.1	
	11:43	7.8	176.8	8.5	9.1	6.6	149.8	7.2	185.0	
	11:44	8.3	175.4	8.1	8.6	7.3	155.4	7.2	183.4	
	11:45	7.6	190.3	6.6	8.8	6.6	165.6	5.7	182.7	
	11:46	7.4	197.4	7.4	8.8	6.5	172.4	6.5	185.9	
	11:47	7.0	187.4	5.3	8.0	6.5	174.3	5.0	184.2	
	11:48	6.3	196.7	5.7	8.9	5.4	169.4	4.9	183.5	
	11:49	6.9	188.8	6.5	9.1	5.8	159.9	5.5	184.3	
	11:50	7.4	184.3	7.1	8.9	б.4	159.4	6.1	185.8	
	11:51	7.3	181.4	6.4	8.8	6.3	158.5	5.6	183.2	
	11:52	6.8	185.5	7.7	9.3	5.6	154.6	6.5	183.3	
	11:53	6.8	187.6	7.9	9.1	5.8	159.3	6.7	185.1	
	11:54	7.4	176.1	6.4	8.7	6.5	154.8	5.7	182.4	
	11:55	7.7	183.9	7.9	9.4	6.3	152.2	6.6	184.1	
	11:56	8.6	171.1	8.7	8.6	7.6	151.6	7.7	182.6	
	11:57	9.3	179.8	7.3	9.1	7.9	152.6	6.2	182.2	
	11:58	8.8	184.8	8.7	9.2	7.4	155.6	7.4	183.4	
	11:59	8.5	180.9	7.9	9.0	7.3	154.8	6.8	181.0	
	12:00	8.4	182.5	10.3	9.5	6.9	149.9	8.5	180.9	
(12:01	8.5	182.8	8.0	9.0	7.3	156.7	6.9	179.8	
	12:02	8.4	189.3	9.5	9.1	7.1	161.3	8.1	181.4	
	12:03	9.0	187.7	8.2	9.3	7.5	156.4	6.8	182.0	
A	verage =	7.4	185.1	7.6	8.9	6.4	159.4	6,6	183.3	
Geometri	c Avg. =	7.3	185.0	7.6	8.9	6.3	159.2	6.5	183.3	
м	aximum =	9.3	197.5	10.3	9.5	7.9	174.3	8.5	185.9	
M	inimum =	5.7	171.1	5.3	8.0	4.9	149.8	4.9	179.8	
Possible	Values ≈	27	27	27	27	27	27	27	27	
Included	Values =	27	27	27	27	27	27	27	27	
	Total =	200.4	4997.7	206.5	241.2	172.4	4302.6	177.4	4948.1	

- excluded values (missing, OOC, invalid, suspect) *

- < - missing
- т - out-of-control
- I - invalid
- 9 - suspect

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- н - exceedance
- stack not operating F
- invalid (PADER) в
- missing data substituted υ

-999 - missing value

Rung Unit 2 South

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Plant Name: SBWD General Average Report

Reporting Period: 03/24/2010 to 03/24/2010

Site	Name :	UNI	r2
Data	Averag	ging	Type:

1=

Time o	f	Report:	03/24/10	12:46
Rollin	g	Average	Interval:	1

Data Avera	iging iype						••		
S		SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	SO2OUT_2	NOXPPM_2	COPPM_2	STMRPT_2
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)
03/24/10	12:11	4.6	182.5	5.6	8.9	4.0	157.2	4.8	182.7
	12:12	5.1	183.0	6.9	9.2	4.3	154.2	5.8	183.3
	12:13	6.2	178.6	6.7	9.0	5.3	152.4	5.7	181.9
	12:14	6.7	179.0	6.8	9.2	5.6	150.3	5.7	181.7
	12:15	87	183.2_	7.7	9.3	7.3	153.3	6.4	183.4
	12:16	9.7	181.9	7.1	8.9	8.4	157.2	6.2	182.7
	12:17	9.4	181.9	6.1	9.2	8.0	153.5	5.2	182.9
	12:18	9.2	179.1	8.0	9.2	7.7	150.8	6.8	183.7
	12:19	8.9	173.9	7.6	9.2	7.5	147.0	6.4	
	12:20	8.7	177.2	9.8	9.3	7.3	148.2	8.2	183.1
	12:21	9.2	175.3	7.7	9.2	7.7	147.8	6.5	180.1
	12:22	8.9	183.7	10.0	9.6	7.2	148.7	8.1	180.8
	12:23	9.0	177.9	8.3	9.1	7.6	150.9	7.0	
	12:24	10,9	172.0	9.4	9.1	9.2	145.6	7.9	181.9
	12:25	9.6	175.3	8.9	9.6	7.8	142.8	7.2	180.7
	12:26	8.5	177.1	10.4	9.5	7.0	145.7	8.6	181.4
	12:27	8.8	178.8	10.3	9.4	7.3	148.2	8.5	182.1
	12:28	9.0	180.4	11.8	9.3	. 7.5	150.1	9.8	182.7
	12:29	9.3	173.6	13.1	9.7	7.5	140.4	10.6	182.1
	12:30	8.3	172.0	14.5	9.7	6.7	138.9	11.7	
	12:31	7.2	175.1	11.9	9.6	5.9	142.9	9.7	182.8
	12:32	6.3	168.6	11.5	9.1	5.4	143.5	9.8	185.6
	12:33	5.7	168.5	85	8.6	5.0	148.7	7.5	183.8
<i></i>	12:34	5.2	179.3	10.8	9.2	4.3	150.6	9.1	
	12:35	. 4.7	176.5	9.6	9.0	4.0	150.7		
N.,	12:36	4.7	186.1	12.0	9.7	3.7	149.5		180.3
	12:37	5.6	177.8	11.3	9.5		145.2		
Av	verage =	7.7	177.7	9.3					182.3
Geometric	Avg. =	7.5	177.7	9.1	9.3	6.2	148.6	7.6	182.3
Ма	ximum =	10.9	186.1	14.5	9.7	9.2	157.2	11.7	185.6
Mi	.nimum =	4.6	168.5	5.6	8.6	3.7	138.9	4.8	179.0
Possible V	alues =	27	27	27	27	27	27	27	27
Included V	alues =	27	27	27	27	27	27	27	27
	Total =	208.0	4798.0	252.1	250.3	173.9	4014.4	210.2	4923.2

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated



Run 10 - Unit 2 South

Plant Name: SBWD General Average Report Reporting Period: 03/24/2010 to 03/24/2010

Site Name: UNIT2

Averaging Type: lm

Time of Report: 03/24/10 13:18 Rolling Average Interval: 1

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03/24/10 12:45 7.5 184.4 9.3 9.0 6.4 157.4 7.9 185.4 12:46 5.4 184.3 9.3 8.6 4.8 153.2 8.3 184.6 12:47 7.9 139.1 8.1 8.8 6.9 166.0 7.0 183.3 12:48 12.4 195.3 10.3 9.0 10.6 167.4 8.8 153.2 12:49 15.0 199.0 8.1 9.0 12.9 171.1 7.0 181.9 12:51 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12:52 14.8 197.0 9.3 9.4 12.3 165.0 7.7 181.0 12:53 13.6 194.9 10.8 9.7 10.9 156.9 8.7 180.6 12:55 10.9 193.7 11.1 9.2 9.1 165.5 7.9 182.8 12:55 10.9 193.7 11.1 9.2 9.1 165.2 8.5 182.0 12:55 10.9 193.7 11.1 9.2 9.1 165.2 8.5 182.0 12:55 10.7 188.1 8.0 8.8 9.3 163.3 7.0 183.8 12:55 10.7 184.4 8.7 9.2 8.4 136.4 6.7 3 185.8 12:55 10.7 184.4 8.7 9.2 8.6 136.4 7.3 185.8 13:00 10.7 191.1 7.3 8.8 9.3 163.3 7.0 183.7 13:00 10.7 191.1 7.3 8.8 9.3 165.1 6.4 184.4 13:00 10.7 191.1 7.3 8.8 9.3 165.1 6.4 184.6 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.6 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.6 13:00 10.7 192.5 8.4 9.0 12.3 166.4 7.2 183.7 13:00 10.7 186.1 7.7 9.3 14.4 9.5 9.3 144.4 155.2 7.2 183.7 13:00 10.7 186.1 7.9 30.1 7.4 5.3 9.1 10.7 165.6 5.3 184.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 147.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.5 6.8 184.2 13:08 10.7 186.1 7.3 8.8 9.3 161.8 5.2 183.7 13:10 10.2 186.5 6.0 8.4 8.9 161.8 5.2 183.8 13:11 10.2 186.5 6.0 8.4 8.9 161.8 5.2 183.8 13:10 10.2 186.5 6.0 8.4 8.9 161.8 5.2 183.8 13:11 10.3 133.4 7.4 9.2 9.1 162.2 6.2 183.8 13:10 10.2 186.5			SO2ORPT2	NOXRPT_2	CORPT_2	020UT_2	S020UT_2	NOXPPM_2	COPPM_2	_		
12:46 5.4 124.3 9.3 8.6 4.8 163.2 8.3 184.6 12:47 7.9 193.1 8.1 8.8 6.9 166.0 7.0 183.3 12:48 13.4 155.3 10.3 9.0 12.9 171.1 7.0 181.9 12:49 15.0 199.0 8.1 9.0 12.9 171.1 7.0 181.9 12:50 14.9 201.9 9.2 9.2 12.6 170.2 7.8 181.9 12:51 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12:52 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12:54 11.0 189.7 10.3 9.5 156.2 8.1 182.0 12:55 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12:55 10.7 185.1 8.0 8.8 9.3 165.4 7.3 185.6 12:57 10.4 <	Date	Time	(PPMDC)	(PPMDC)	(PFMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)			
12:47 7.9 139.1 8.1 8.8 6.9 168.0 7.0 183.3 12:48 12.4 195.3 10.3 5.0 10.6 167.4 8.8 185.2 12:49 15.0 199.0 8.1 9.0 12.9 171.1 7.0 181.9 12:50 14.9 201.9 9.2 9.2 12.6 170.2 7.8 181.9 12:51 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12:52 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12:53 13.6 194.9 10.8 9.7 10.9 185.9 8.7 180.6 12:55 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12:55 10.9 193.7 11.1 9.2 8.8 156.4 7.3 185.8 12:55 10.7 168.1 8.7 9.2 8.8 156.4 7.3 185.8 12:55	03/24/10	12:45	7.5	184.4	9.3	9.0	6.4	157.4	7.9			
12148 12.4 195.3 10.3 9.0 10.6 167.4 8.8 183.2 12149 15.0 139.0 8.1 9.0 12.9 171.1 7.0 181.9 12150 14.9 201.9 9.2 9.2 12.6 170.2 7.8 181.9 12151 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12152 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12153 13.6 194.9 10.8 9.7 10.9 156.9 8.7 180.6 12155 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12157 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12157 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12157 10.4 185.4 8.7 9.2 8.8 161.3 6.1 184.5 13100		12:46	5.4	184.3	9.3	8.6	4.8	163.2	8.3	184.6		
12:49 15.0 19:0 8.1 9.0 12.9 171.1 7.0 181.9 12:50 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12:51 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12:52 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12:53 13.6 194.9 10.6 9.7 10.9 156.9 8.7 182.0 12:55 10.9 193.7 10.3 9.5 9.0 156.2 8.5 182.0 12:55 10.7 188.1 8.0 8.8 9.3 156.4 7.3 183.9 12:55 9.1 195.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.6 13:01 12.6 194.5 6.3 11.07 165.6 5.3 184.6 13:02 14.4		12:47	7.9	193.1	8.1	8.8	6.9	168.0				
12:50 14.9 201.9 9.2 9.2 12.6 170.2 7.8 181.9 12:51 14.6 204.0 9.8 9.6 11.9 165.5 7.9 192.6 12:52 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12:52 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12:52 14.9 19.7 10.3 9.5 9.0 156.2 8.5 182.0 12:55 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12:55 10.7 188.1 8.0 8.6 8.3 155.4 7.3 185.8 12:55 10.4 185.2 7.6 8.8 8.3 151.0 6.6 183.8 12:59 9.1 195.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01		12:48	12.4	195.3	10.3	9.0	10.6	167.4	8.8			
12.51 14.6 204.0 9.8 9.6 11.9 165.5 7.9 182.8 12:52 14.8 197.0 9.3 9.4 12.3 153.0 7.7 181.0 12:53 13.6 194.9 10.8 9.7 10.9 156.9 8.7 180.6 12:55 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12:55 10.7 188.1 8.0 8.6 9.3 163.3 7.0 183.9 12:55 10.7 185.2 7.6 8.8 8.3 161.0 6.6 183.8 12:55 9.1 195.0 7.3 9.3 7.6 162.9 6.1 1344.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01 12:6 195.0 7.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 166.4 7.2 183.7 13:03 <		12:49	15.0	199.0	8.1	9.0	12.9	171.1	7.0	181.9		
12:52 14.8 197.0 9.3 9.4 12.3 163.0 7.7 181.0 12:53 13.6 194.9 10.8 9.7 10.9 156.9 8.7 180.6 12:54 11.0 189.7 10.3 9.5 9.0 156.2 8.5 182.0 12:55 10.7 188.1 8.0 8.8 9.3 163.3 7.0 183.8 12:55 10.7 188.1 8.0 8.8 9.3 163.3 7.0 183.8 12:55 9.1 195.0 7.3 9.3 7.6 62.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 183.5 13:02 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:03		12:50	14.9	201.9	9.2	9.2	12.6	170.2	7.8	181.9		
12:53 13.6 194.9 10.8 9.7 10.9 156.9 8.7 180.6 12:54 11.0 189.7 10.3 9.5 9.0 156.2 8.5 182.0 12:55 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.6 12:55 10.7 188.1 8.0 8.8 9.3 163.3 7.0 183.6 12:57 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12:58 9.6 185.2 7.6 8.8 8.3 166.1 6.4 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.5 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 166.4 7.2 183.7 13:03 17.1 207.2 8.6 9.1 14.4 175.0 6.8 185.6 13:05 <t< td=""><td></td><td>12:51</td><td>14.6</td><td>204.0</td><td>9.8</td><td>9.6</td><td>11.9</td><td>165.5</td><td>7.9</td><td>182.8</td><td></td></t<>		12:51	14.6	204.0	9.8	9.6	11.9	165.5	7.9	182.8		
12:54 11.0 189.7 10.3 9.5 9.0 156.2 8.5 182.0 12:55 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12:55 10.7 188.1 8.0 8.8 9.3 163.3 7.0 183.9 12:57 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12:58 9.6 185.2 7.6 8.8 8.3 161.0 6.6 183.8 12:59 9.1 195.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.6 13:01 12.6 194.5 6.3 9.1 12.3 168.4 7.2 183.5 13:02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:05 1		12:52	14.8	197.0	9.3	9.4	12.3	163.0	7.7	181.0		
12:15 10.9 193.7 11.1 9.2 9.1 162.5 9.3 183.8 12:156 10.7 168.1 8.0 8.8 9.3 163.3 7.0 183.9 12:157 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12:158 9.6 185.2 7.6 8.8 8.3 161.0 6.6 183.8 12:159 9.1 195.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 <		12:53	13.6	194.9	10.8	9.7	10.9	156.9	8.7	180.6		
12:56 10.7 188.1 8.0 8.8 9.3 163.3 7.0 183.9 12:57 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12:59 9.1 195.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.8 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:05 10.7 186.1 7.3 8.8 9.3 161.8 5.4 186.1 13:07		12:54	11.0	189.7	10.3	9.5	9.0	156.2	8.5	182.0		
12:57 10.4 185.4 8.7 9.2 8.8 156.4 7.3 185.8 12:58 9.6 185.2 7.6 8.8 8.3 161.0 6.6 183.8 12:59 9.1 195.0 7.3 9.3 7.6 152.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 166.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.6 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:00		12:55	10.9	193.7	11.1	9.2	9.1	162.5	9.3	183.8		
12:58 9.6 185.2 7.6 8.8 8.3 161.0 6.6 183.8 12:59 9.1 195.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.5 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 166.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.6 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:09 <td< td=""><td></td><td>12:56</td><td>10.7</td><td>168.1</td><td>8.0</td><td>8.8</td><td>9.3</td><td>163.3</td><td>7.0</td><td>183.9</td><td></td></td<>		12:56	10.7	168.1	8.0	8.8	9.3	163.3	7.0	183.9		
12:59 9.1 155.0 7.3 9.3 7.6 162.9 6.1 184.5 13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.6 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:09 10.0 182.7 6.5 8.4 9.0 164.8 5.9 186.3 13:10 <t< td=""><td></td><td>12:57</td><td>10.4</td><td>185.4</td><td>8.7</td><td>9.2</td><td>8.8</td><td>156.4</td><td>7.3</td><td>185.8</td><td></td></t<>		12:57	10.4	185.4	8.7	9.2	8.8	156.4	7.3	185.8		
13:00 10.7 191.1 7.3 8.8 9.3 166.1 6.4 184.4 13:00 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.8 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 <		12:58	9.6	185.2	7.6	8.8	8.3	161.0	6.6	183.8		
13:01 12.6 194.5 6.3 9.1 10.7 165.6 5.3 184.6 13:02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.8 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:06 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:07 13.5 187.9 7.6 8.4 9.0 164.9 5.9 186.3 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 <		12:59	9.1	195.0	7.3	9.3	7.6	162.9	6.1	184.5		
13.02 14.4 196.9 8.4 9.0 12.3 168.4 7.2 183.5 13.03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13.04 19.2 201.0 7.8 8.8 16.7 175.0 6.8 185.6 13.05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13.06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13.07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13.08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13.09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13.10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13.11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average		13:00	10.7	191.1	7.3	8.8	9.3	166.1	6.4	184.4		
13:03 17.1 207.2 8.6 9.1 14.4 175.2 7.2 183.7 13:04 19.2 201.0 7.8 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 <td col<="" td=""><td></td><td>13:01</td><td>12.6</td><td>194.5</td><td>6.3</td><td>9.1</td><td>10.7</td><td>165.6</td><td>5.3</td><td>184.6</td><td></td></td>	<td></td> <td>13:01</td> <td>12.6</td> <td>194.5</td> <td>6.3</td> <td>9.1</td> <td>10.7</td> <td>165.6</td> <td>5.3</td> <td>184.6</td> <td></td>		13:01	12.6	194.5	6.3	9.1	10.7	165.6	5.3	184.6	
13:04 19.2 201.0 7.6 8.8 16.7 175.0 6.8 185.6 13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 (13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8		13:02	14.4	196.9	8.4	. 9.0	12.3	168.4	7.2	183.5		
13:05 20.3 199.6 7.4 9.0 17.4 170.4 6.3 183.6 13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 <t< td=""><td></td><td>13:03</td><td>17.1</td><td>207.2</td><td>8.6</td><td>9.1</td><td>14.4</td><td>175.2</td><td>7.2</td><td>183.7</td><td></td></t<>		13:03	17.1	207.2	8.6	9.1	14.4	175.2	7.2	183.7		
13:06 17.9 200.2 8.7 9.3 14.9 167.4 7.3 184.6 13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.6 156.2 5.2 180.6		13:04	19.2	201.0	7.8	8.8	16.7	175.0	6.8	185.6	•	
13:07 13.5 187.9 7.7 8.6 12.0 165.9 6.8 184.2 13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.8 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 27		13:05	20.3	199.6	7.4	9.0	17.4	170.4	6.3	183.6		
13:08 10.7 186.1 7.3 8.8 9.3 161.8 6.4 186.1 13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.8 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27		13:06	17.9	200.2	8.7	9.3	14.9	167.4	7.3	184.6		
13:09 10.0 182.7 6.5 8.4 9.0 164.9 5.9 186.3 13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.6 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27		13:07	13.5	187.9	7.7	8.6	12.0	165.9	6.8	184.2		
13:10 10.2 186.5 6.0 8.8 8.9 161.8 5.2 183.8 13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.6 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27	Ċ	13:08	10.7	186.1	7.3	8.8	9.3	161.8	6.4	186.1		
13:11 10.9 193.4 7.4 9.2 9.1 162.2 6.2 184.5 Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.6 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27	(13:09	10.0	182.7	6.5	8.4	9.0	164.9	5.9	186.3		
Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.6 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27	` .	13:10	10.2	186.5	6.0	8.8	8.9	161.8	5.2	183.8		
Average = 12.4 193.3 8.4 9.0 10.6 164.8 7.1 183.8 Geometric Avg. = 11.9 193.2 8.3 9.0 10.2 164.7 7.1 183.8 Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.6 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27		13:11	10.9	193.4	7.4	9.2						
Maximum = 20.3 207.2 11.1 9.7 17.4 175.2 9.3 186.3 Minimum = 5.4 182.7 6.0 8.4 4.8 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27		verage =	12.4	193.3	8.4	9.0						
Minimum = 5.4 182.7 6.0 8.4 4.8 156.2 5.2 180.6 Possible Values = 27 27 27 27 27 27 27 Included Values = 27 27 27 27 27 27 27	Geometri	ic Avg. =	11.9	193.2	8.3	9.0	10.2	164.7	7.1	183.8		
Possible Values = 27	P	faximm =	20.3	207.2	11.1	9.7	17.4	175.2	9.3	186.3		
Included Values = 27 27 27 27 27 27 27 27 27 27 27	P	tinimum =	5.4	182.7	6.0	8.4	4.8	156.2	5.2	180.6		
	Possible	Values =	27	27	27	27	27	27	27	27		
Total = 335.3 5218.1 226.8 244.1 285.5 4449.6 193.0 4963.5	Included	Values =	27	27	27	27	27	27	27	27		
		Total =	335.3	5218.1	226.8	244.1	285.5	4449.6	193.0	4963.5		

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid

Ć

- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated

Plant Name: SBWD

General Average Report

Reporting Period: 03/22/2010 to 03/22/2010

Time of Report: 03/22/10 08:21

1

Site Name: UNIT3 Data Averaging Type: 1m

(SO2ORPT3	NOXRPT 3	CORPT 3	020UT_3	SOZOUT 3	NOXPPM 3	COPPM_3	STMRPT_3	
Date	Time	(PPMDC)	(PPMDC)	-	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/22/10	07:45	15.3	190.1	11.8	9.6	12.4	154.3	9.6	184.5	
	07:46	12.5	195.1	11.6	10.0	9.8	153.6	9.1	185.0	
	07:47	10.1	191.0	10.2	9.8	8.0	152.3	8.1	183.1	
	07.:48	8.9	191.4	11.5	10.0	7.0	149.9	9.0	184.6	
	-07:49-		190.4		9.6	7.0	154.9	8.4	185.0	
	07:50	9.6	197.0	13.0	9.6	7.8	159.5	10.5	188.4	
	07:51	9.6	193.5	9.7	9.1	8.1	163.6	8.2	185.6	
	07:52	9.3	194.7	10.9	10.0	7.3	153.1	8.5	184.8	
	07:53	8.2	195.5	10.6	9.8	6.5	156.6	8.5	185.9	
	07:54	8.6	192.1	9.9	9.3	7.2	160.7	8.3	186.6	
	07:55	9.3	190.3	7.4	9.3	7.8	159.0	6.2	185.8	
	07:56	9.0	186.9	10.0	9.5	7.3	153.0	8.2	184.8	
	07:57	9.0	187.8	10.7	9.6	7.3	153.1	8.7	184.1	
	07:58	9.3	187.9	11.3	9.6	7.5	152.9	9.2	184.4	
	07:59	9.8	188.2	11.5	9.3	8.2	156.5	9.5	185.3	
	08:00	11.5	191.1	9.7	9.3	9.6	159.0	8.1	184.4	
	08:01	14.2	196.7	8.4	9.7	11.4	159.0	6.8	181.8	
	08:02	15.8	201.2	8.9	9.9	12.4	158.8	7.1	181.6	
	08:03	17.2	202.2	12.0	9.8	13.7	161.4	9.6	179.7	
	08:04	18.9	207.7	12.9	10.1	14.6	161.0	10.0	181.7	
	08:05	22.0	204.5	11.9	9.8	17.6	163.6	9.5	183.5	
	08:06	24.4	201.1	12.5	9.7	19.7	162.3	10.1	184.4	
	08:07	22.4	203.2	13.3	9.8	17.8	161.5	10.5	184.2	
	08:08	13.5	204.2	11.8	9.9	10.7	161.9	9.4	183.2	
·*	08:09	8.3	205.1	13.0	10.0	6.5	160.2	10.1	182.9	
	08:10	5.4	198.2	13.0	9.6	4.4	160.6	10.5	183.1	•
	08:11	4.1	192.1	12.6	9.5	3.4	157.8	10.3	184.5	
Av	erage =	12.0	195.5	11.1	9.7	9.7	157.8	9.0	184.2	
Geometric	-	11.1	195.4	11.0	9.7	8.9	157.7	8.9	184.2	
	ximum =	24.4	207.7	13.3	10.1	19.7	163.6	10.5	188.4	
	nimum =	4.1	186.9	7.4	9.1	3.4	149.9	6.2	179.7	
Possible V		27	27	27	27	27	27	27	27	
Included V		27	27	27	27	27	27	27	27	
	Total =	324.5	5279.1	300.2	261.3	261.2	4260.3	242.0	4973.1	

- excluded values (missing, OOC, invalid, suspect) *

- missing <
- out-of-control Ť
- invalid I
- suspect s
- exceedance н
- stack not operating F
- в - invalid (PADER)
- υ - missing data substituted

-999 - missing value

-888 - value could not be calculated



Rolling Average Interval: 1

Run 1 linit 3 South

Plant Name: SBWD Run 2 Unit 3 South Page: 1

General Average Report Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3

Data Averaging Type: 1m

Time of Report: 03/22/10 08:55 Rolling Average Interval: 1

(SO2ORPT3	NOXRPT 3	CORPT 3	020UT 3	SO2OUT_3	NOXPPM 3	соррм 3	STMRPT 3	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(RLB/HR)	
03/22/10	08:21	13.8	197.8	13.0	9.9	11.0	157.2	10.3	182.2	
	08:22	14.9	190.1	11.8	9.7	12.0	153.2	9.5	182.7	
	08:23	14.1	188.1	12.2	9.6	11.5	152.3	9.9	184.1	
	08:24	14.3	188.2	12.0	9.5	11.7	154.3	9.8	185.9	
	08:25	16.0	191.3	12.6	9.3	13.3	159.4	10.5	184.3	
	08:26	14.9	195.0	12.8	9.7	12.0	157.6	10.3	183.1	
	08:27	13.0	195.1	9.3	9.6	10.6	158.9	7.6	185.9	
	08:28	11.5	196.0	9.7	9.3	9.6	163.6	8.1	185.9	
	08:29	10.8	195.5	8.0	9.4	8.9	161.8	6.6	184.7	
	08:30	11.2	200.0	9.1	9.6	9.1	162.6	7.4	184.5	
	08:31	12.2	196.2	8.4	9.1	10.3	166.7	7.1	185.3	
	08:32	13.3	195.8	9.5	9.2	11.2	165.0	8.0	185.6	
	08:33	12.4	199.8	8.8	9.3	10.3	166.9	7.4	184.3	
	08:34	12.6	206.1	9.6	9.6	10.2	167.7	7.8	182.4	
	08:35	12.7	201.8	9.0	9.6	10.3	164.4	7.3	182.5	
	08:36	12.3	195.1	11.9	9.5	10.1	159.4	9.7	181.4	
	08:37	13.1	192.4	10.0	9.6	10.6	155.9	8.1	183.6	
	08:38	15.3	197.6	8.9	9.2	12.9	166.5	7.5	183.9	
	08:39	15.6	195.1	10.9	9.6	12.8	159.3	8.9	183.9	
	08:40	17.2	186.1	9.6	9.3	14.4	155.5	8.0	183.8	
	08:41	16.6	189.6	11.5	9.3	13.8	157.9	9.6	184.4	
	08:42	14.8	186.5	10.4	9.4	12.3	154.9	8.6	185.4	
	08:43	12.7	185.5	9.7	9.6	10.3	150.5	7.9	185.5	
	08:44	10.1	192.9	11.3	9.6	8.2	157.0	9.2	182.5	
(08:45	8.1	199.1	11.6	9.9	6.4	157.4	9.2	182.9	
(08:46	7.7	199.0	9.6	9.6	6.3	162.3	7.8	183.7	
-	08:47	7.1	201.0	10.4	9.4	5.9	166.1	8.6	184.5	
Av	erage =	12.9	194.7	10.4	9.5	10.6	159.8	8.5	184.0	
Geometric	Avg. =	12.6	194.6	10.3	9.5	10.4	159.7	8.5	184.0	
Ma	= mum =	17.2	206.1	13.0	9.9	14.4	167.7	10.5	185.9	
Mi	nimum =	7.1	185.5	8.0	9.1	5.9	150.5	6.6	181.4	
Possible V	alues =	27	27	27	27	27	27	27	27	
Included V	alues 🛥	27	27	27	27	27	27	27	27	
	Total =	348.2	5256.7	281.4	256.3	286.0	4314.4	230.7	4969.0	

- excluded values (missing, OOC, invalid, suspect) ٠

- missing <
- out-of-control т
- I - invalid
- suspect s

(

- Ħ exceedance
- F stack not operating
- в - invalid (PADER)
- σ - missing data substituted

-999 - missing value

Run 3 Unit 3 South Pages 1

Plant Name: SBWD

General Average Report

Reporting Period: 03/22/2010 to 03/22/2010

Time of Report: 03/22/10 09:29

Rolling Average Interval: 1

Site	Name :	UNIT3	
Data	Averac		1

(SO2ORPT3	NOXRPT 3	CORPT 3	020UT 3	SOZOUT 3	NOXPPM_3	COPPM_3	STMRPT_3	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	-	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/22/10	08:55	13.0	189.9	10.5	10.0	10.2	149.0	8.2	181.8	
	08:56	15.0	192.4	10.2	10.1	11.7	149.4	7.9	181.1	
	08:57	14.1	194.0	10.0	9.8	11.2	155.0	8.0	180.1	
	08:58	16.0	196.1	11.7	9.9	12.7	155.5	9.3	181.4	
	-08:59-	22.5-			9.6	18.3	159.1	9.2	184.5	
	09:00	28.5	197.8	10.2	9.6	23.3	161.1	8.3	184.6	
	09:01	24.6	204.6	9.9	10.0	19.2	159.8	7.7	182.4	
	09:02	14.3	205.5	8.4	10.4	10.9	155.5	6.3	181.3	
	09:03	8.6	197.8	8.0	10.1	6.6	153.3	6.2	181.8	
	09:04	6.1	197.9	10.3	9.9	4.8	157.2	8.2	181.8	
	09:05	4.7	204.4	11.7	10.1	3.6	158.1	9.0	184.3	
	09:06	3.7	195.9	11.5	9.9	3.0	155.0	9.1	184.9	
	09:07	· 3.3	196.7	12.4	10.0	2.6	154.1	9.7	184.4	
	09:08	3.3	201.5	9.9	10.2	2.6	155.3	7.6	181.6	
	09:09	4.0	201.6	10.1	10.5	3.0	150.5	7.6	180.9	
	09:10	5.0	196.4	10.8	10.3	3.8	149.1	8.2	182.3	
	09:11	6.1	188,8	11.3	9.8	4.8	150.8	9.0	185.2	
	09:12	9.0	187.3	10.5	9.7	7.3	150.8	8.4	184.6	
	09:13	11.2	190.7	9.8	10.1	8.7	147.5	7.6	181.4	
	09:14	11.0	196.4	8.8	10.6	8.1	145.2	6.5	179.7	
	09:15	9.6	195.1	12.1	10.5	7.2	146.6	9.1	181.9	
	09:16	10.6	189.7	12,8	9.8	8.5	152.0	10.3	185.5	
	09:17	13.4	191.2	10.9	9.5	11.0	156.5	9.0	186.5	
	09:18	14.9	199.5	10.9	10.0	11.7	156.9	8.6	184.3	
r	09:19	12.5	206.7	11.4	10.5	9.3	154.6	8.5	181.8	
	09:20	9.2	201.8	10.9	10.4	7.0	153.2	8.2	183.2	
	09:21	9.3	192.6	10.1	9.7	7.5	155.8	8.2	187.4	
Av	erage =	11.3	196.6	10.6	10.0	8.8	153.6	8.3	183.0	
Geometric	Avg. =	9.6	196.5	10.5	10.0	7.5	153.5	8.2	183.0	
Ma	ximum =	28.5	206.7	12.8	10.6	23.3	161.1	10.3	187.4	
Mi	aimum =	3.3	187.3	8.0	9.5	2.6	145.2	6.2	179.7	
Possible V	alues =	27	27	27	27	27	27	27	27	
Included V	alues =	27	27	27	27	27	27	27	27	
	Total =	303.8	5308.3	286.4	271.0	238.7	4146.8	224.0	4940.8	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted
- -999 missing value
- -888 value could not be calculated



4 Unit 3 South Page: 1 Run

Plant Name: SBWD General Average Report

Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3

Data Averaging Type: 1m

Time of Report: 03/22/10 10:03 Rolling Average Interval: 1

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(SO2ORPT3	NOXRPT_3	CORPT_3	020UT_3		NOXPPM_3	COPPM_3	STMRPT_3	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)		(PPMD)	(KLB/HR)	
03/22/10	09:29	21.5	204.2	12.1	10.6	16.0	151.7	9.0	177.6	
	09:30	19.0	211.0	14.0	11.0	13.5	150.0	10.0	175.3	
	09:31	14.2	222.0	14.8	11.1	10.0	156.2	10.4	177.3	
	09:32	10.2	224.1	15.7	10.7	7.5	164.8	11.6	183.5	
	09:33	7.7	215.6	16.4	9.9	6.1	171.2	13.1	189.9	
	09:34	6.4	207.4	15.6	9.8	5.1	165.9	12.5	190.4	
	09:35	5.3	207.7	14.1	10.3	4.0	159.0	10.8	187.3	
	09:36	4.3	199.7	14.2	10.4	3.2	150.9	10.7	183.1	
	09:37	3.6	193.2	14.2	10.2	2.8	148.6	10.9	183.7	
	09:38	3.5	194.1	14.2	9.9	2.8	154.1	11.3	187.7	
	09:39	4.7	192.8	13.4	9.2	4.0	162.6	11.3	189.1	
	09:40	6.9	201.5	12.7	9.5	5.7	165.7	10.4	188.0	
	09:41	7.3	199.6	10.2	10.2	5.7	153.6	7.8	184.2	
	09:42	6.7	195.1	11.4	10.4	5.1	147.6	8.6	181.0	
	09:43	7.1	192.5	13.3	10.3	5.4	147.1	10.1	181.2	
	09:44	9.9	195.6	13.9	9.9	7.9	154.8	11.0	184.1	
	09:45	12.7	195.1	12.7	9.6	. 10.4	159.2	10.4	185.3	
	09:46	14.0	194.8	12.1	9.7	11.2	156.6	9.7	184.0	
	09:47	13.7	190.5	13.0	10.1	10.7	148.5	10.1	182.2	
	09:48	11.6	188.5	12.3	10.1	9.0	146.0	9.5	182.6	
	09:49	11.9	191.3	13.7	9.8	9.5	153.2	11.0	184.8	
	09:50	15.0	191.1	13.9	9.6	12.2	154.9	11.3	181.4	
	09:51	15.3	185.4	13.0	10.7	11.3	136.6	9.6	178.9	
	09:52	15.1	189.0	13.6	10.6	11.1	139.5	10.0	179.2	
(09:53	18.0	197.6	13.7	10.3	13.7	150.8	10.5	180.3	
(09:54	22.1	202.3	15.5	10.1	17.1	156.7	12.0	180.7	
. .	09:55	19.4	209.9	16.4	10.3	14.9	160.4	12.5	,181.4	
Av	erage =	11.4	199.7	13.7	10.2	 8.7·	154.3	10.6,	183.1	
Geometric	Avg. =	9.9	199.5	13.6	10.1	7.7	154.1	10.5	183.1	
Ma	ximum =	22.1	224.1	16.4	11.1	17.1	171.2	13.1	190.4	
Mi	nimum =	3.5	185.4	10.2	9.2	2.8	136.6	7.8	175.3	
possible V	alues =	27	27	27	27	27	27	27	27	
Included Va	alues =	27	27	27	27	27	27	27	27	
•	Total =	307.3	5391.7	370.0	274.1	235.8	4166.0	286.0	4944.1	

- excluded values (missing, OOC, invalid, suspect) *

- missing <
- out-of-control т
- invalid I
- suspect S
- exceedance н
- F - stack not operating
- в - invalid (PADER)
- υ - missing data substituted

-999 - missing value

-888 - value could not be calculated

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Run 5 Unit 3 South Page:

1

Plant Name: SBWD General Average Report

Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3 Data Averaging Type: 1m Time of Report: 03/22/10 10:37 Rolling Average Interval: 1

(030 rm 3		NOVDEN 3	соррм з	STMRPT 3	
	T l m c	SO2ORPT3	NOXRPT_3	CORPT_3	O2OUT_3	SO2OUT_3 (PPMD)	NOXPPM_3 (PPMD)	(PPMD)	_	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPAD) 4.9	(PPRD) 154.0	(FFED /	184.2	
03/22/10	10:02	6.2	195.7	19.2 20.4	10.0 9.9	4. 5 7.5	151.1	16.2	185.5	
	10:03	9.4	190.5	20.4	9.9	6.4	149.7	13.6	185.4	
	10:04	8.1	189.0			6.4	149.7	16.0	183.3	
	10:05	8.3	191.7	20.8	10.2 10.5	6.2	147.3	15.7	182.1	
	_10:06		190.9			5.8	141.6	18.6	183.0	
	10:07	7.8	188.6	24.7	10.5		147.5	16.7	186.5	
	10:08	7.1	189.0	21.3	10.0	5.6		15.2	187.9	
	10:09	7.4	188.8	18.8	9.6	6.0 6.4	152.9 152.5	13.4	188.0	
	10:10	8.0	190.4	16.7	9.8			10.8	184.0	
	10:11	8.5	191.3	13.8	10.0	6.7	150.6	10.6	182.7	
	10:12	7.8	186.2	14.0	10.3	5.9	141.4	10.0	184.9	
	10:13	6.8	190.4	13.1	10.0	5.3	148.7		184.9	
	10:14	8.0	195.4	15.6	9.7	6.4	157.3	12.6	187.9	
	10:15	16.5	197.4	12.6	9.3	13.7	164.1	10.5	185.8	
	10:16	25.9	208.7	10.7	9.8	20.6	166.0	8.5	185.8	
	10:17	21.5	206.5	11.3	10.4	16.2	156.0	8.5		
	10:18	12.4	200.8	12.1	10.0	9.7	157.1	9.5	185.3	
	10:19	8.1	197.5	10.9	9.4	6.7	163.0	9.0	186.6	
	10:20	6.0	198.0	9.0	9.3	5.1	165.7	7.5	190.8	
	10:21	5.3	191.3	8.4	8.9	4.6	165.1	7.2	188.5	
	10:22	6.3	189.2	9.2	9.6	5.2	154.3	7.5	188.7	
	10:23	9.1	189.8	7.5	9.3	7.6	157.9	6.2	185.1	
	10:24	12.8	185.7	9.8	9.7	10.3	149.8	7.9	184.3	
	10:25	19.8	188.6	9.6	9.5	16.1	154.2	7.8	185.0	
ſ	10:26	25.7	189.5	9.7	9.4	21.3	156.9	8.0	184.5	
A .,	10:27	28.1	193.0	12.0	9.7	22.7	155.8	9.7	184.2	
	10:28	27.0	194.0	9.8	9.6	22.0	158.3	8.0	183.9	
Av	erage =	12.1	192.9	14.0.	9.8	9.7	154.1	11.1	185.6	
Geometric	Avg. =	10.4	192.8	13.3	9.8	8.3	154.0	10.6	185.6	
	kimum =	28.1	208.7	24.7	10.5	22.7	166.0	18.6	190.8	
	aimum =	5.3	185.7	7.5	8.9	4.6	141.4	6.2	182.1	
Possible Va		27	27	27	27	27	27	27	27	
Included Va		27	27	27	27	27	27	27	27	
	Fotal =	326.1	5207.7	379.0	264.4	261.2	4161.9	300.5	5012.0	

- excluded values (missing, OOC, invalid, suspect) *

- missing <
- out-of-control т
- invalid I
- suspect s
- Ħ exceedance
- stack not operating F
- invalid (PADER) в

σ - missing data substituted

- -999 missing value
- -888 value could not be calculated



F - 27

Run 6 Unit 3 South

Time of Report: 03/22/10 11:11

Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3

Data Averaging Type: 1m

(_			_			
.		SO2ORPT3	NOXRPT_3	CORPT_3	020UT_3		NOXPPM_3	COPPM_3	STMRPT_3	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)		(PPMD)	(RLB/HR)	
03/22/10	10:36	2.7	204.9	16.7	9.7	2.2	164.7	13.4	182.0	
	10:37	3.0	206.9	17.4	9.5	2.4	169.7	14.3	183.8	
	10:38	3.8	207.7	14.9	9.4	3.1	172.3	12.4	186.2	
	10:39	4.3	210.4	14.7	9.4	3.6		12.1	187.7	
	10:40	5.2	209.6	12.6	9.3			10.5	186.9	
	10:41	5.3	203.0	8.6	9.4		168.6	7.2	185.3	
	10:42	5.1	204.5	11.3	9.3		170.3	9.4	185.0	
	10:43	6.0	201.4	11.0	9.4		167.3	9.2	185.7	
	10:44	7.4	196.0	10.1	9.3		163.7	8.4	187.0	
	10:45	8.1	194.5	10.2	9.3		162.7	8.5	186.6	
	10:46	8.3	187.6	8.0	9.0		160.0	6.8	183.9	
	10:47	· 9.1	179.6	9.4	9.5		147.6	7.8	183.1	
	10:48	12.7	182.6	10.2	9.2	10.7	153.5	8.6	187.6	
	10:49	19.9	184.2	7.9	8.7	17.5	162.3	6.9	185.2	
	10:50	23.8	185.0	10.0	9.5	19.5	151.6	8.2	184.0	
	10:51	22.4	184.1	10.3	9.5	18.4	150.8	8.4	181.7	
	10:52	17.5	182.6	11.0	9.7	14.1	147.3	8.9	181.6	
	10:53	12.2	182.8	10.9	9.2	10.3	154.0	9.1	186.4	
	10:54	8.7	185.4	23.8	8.6	7.7	164.0	21.1	187.4	
	10:55	7.1	199.9	12.0	8.9	6.1	172.3	10.4	185.8	
	10:56	5.5	202.7	11.5	9.5	4.5	166.4	9.5	182.9	
	10:57	4.8	211.8	9.7	9.8	3.8	169.0	7.7	183.5	
	10:58	4.6	205.1	9.2	9.4	3.8	169.4	7.6	183.8	
	10:59	5.7	200.3	9.0	9.2	4.8	167.9	7.6	188.1	
(11:00	9.9	192.7	7.0	8.6	8.7	170.3	6.2	188.9	1
(11:01	14.0	195.3	5.6	9.0	12.0	167.6	4.8	186.9	
	11:02	17.6	188.6	4.6	9.5	14.4	154.1	3.8	184.5	
Av	erage =	9.4	195.9	11.0	9.3	7.9	163.6	9.2	185.2	
Geometric	Avg. =	7.9	195.6	10.4	9.3	6.6	163.4	8.7	185.2	
Ma	ximum =	23.8	211.8	23.8	9.8	19.5	174.9	21.1	188.9	
Mi	nimum =	2.7	179.6	4.6	8.6	2.2	147.3	3.8	181.6	
Possible V	alues =	27	27	27	27	27	27	27	27	
Included V	alues =	27	27	27	. 27	27	27	27	27	
	Total =	254.8	5289.1	297.6	250.8	213.3	4416.5	248.6	5001.7	

excluded values (missing, OOC, invalid, suspect)

- < missing
- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)

V - missing data substituted

-999 - missing value

Run 7 Unit 3 South

i

Plant Name: SBWD General Average Report Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3 Data Averaging Type: 1m

Time of Report: 03/22/10 11:44 Rolling Average Interval: 1

(WOUDDW -	(07.7%)		
`		SO2ORPT3	NOXRPT_3	CORPT_3	-	SO2OUT_3	NOXPPM_3	COPPM_3 (PPMD)	STMRPT_3 (KLB/HR)	
Date	Time	(PPMDC)			(PERCENTD)	(PPMD)	(PPMD) 146.7	(PPMD) 7.4	(KLB/HK) 180.5	
03/22/10	11:10	5.6	181.9	9.2	9.7	4.5	140.7	8.0	182.9	
	11:11	4.6	188.1	9.9	9.6	3.7	153.0	7.3	181.5	
•	11:12	4.0	184.1	8.8	9.4	3.3	156.5	6.8	182.3	
	11:13	4.4	193.1	8.4	9.6	3.5	158.5	7.4	182.1	
	11:14	5.4	187.5	9.0	9.5	4.4	153.2	8.1	180.9	
	11:15	7.2	194.9	10.2	9.9	5.7	155.0	8.1	181.8	
	11:16	9.3	195.5	10.1	9.8	7.4	161.2	9.6	181.0	
	11:17	11.4	198.0	11.8	9.6	9.3	161.2	10.5	184.5	
	11:18	11.4	200.8	12.6	9.4	9.5			185.0	
	11:19	19.9	200.9	10.4	9.3	16.5	167.1	8.6 7.0	183.4	
	11:20	24.7	201.9	8.6	9.6	20.1	164.2	7.0	183.4	
	11:21	22.6	202.8	9.1	9.7	18.1	163.1	7.1	181,8	
	11:22	17.9	205.6	9.0	9.9	14.2	162.9	6.4	183.5	
	11:23	13.2	204.6	8.0	9.7	10.6	164.8			
	11:24	9.7	197.8	7.1	9.1	8.2	167.3	6.0	187.0	
	11:25	8.0	194.4	7.1	9.5	6.5	159.9	5.8	184.4 182.7	
	11:26	6.5	199.7	8.9	9.9	5.1	157.3	7.0 6.4	182.7	
	11:27	5.0	194.9	7.9	9.7	4.0	156.7	6.9	181.7	
	11:28	4.7	193.4	8.6	9.6	3.8	156.7		182.2	
	11:29	5.9	189.4	9.2	9.7	4.7	152.9	7.4		
	11:30	10.1	186.7	9.6	9.5	8.3	153.2	7.8	183.0	
	11:31	19.9	194.5	11.0	9.5	16.3	159.0	9.0	183.7	
	11:32	28.5	196.9	11.5	9.7	22.9	158.7	9.3	183.3	
1. M	11:33	36.6	195.5	10.5	9.7	29.4	157.5	8.4	181.7	
(11:34	28.7	195.6	12.3	9.8	23.0	156.8	9.8	182.2	
N.,	11:35	14.2	193.5	13.4	9.7	11.5	156.5		181.1	
	11:36	8.0	197.0	13.8	9.8	5.4	157.9	11.1	181.9	
Ave	erage =	12.9	195.1	9.9	9.6	10.4	158.2	8.0	182.9	
Geometric	Avg. =	10.4	195.1	9.7	9.6	8.4	158.1	7.9	182.9	
Maj	cimum =	36.6	205.6	13.8	9.9	29.4	167.3	11.1	187.5	
Mir	nimum =	4.0	181.9	7.1	9.1	3.3	146.7	5.8	180.2	
Possible Va	alues =	27	27	27	27	27	27	27	27	
Included Va	alues =	27	27	27	27	27	27	27	27	
1	rotal =	347.2	5268.9	266.0	260.0	281.3	4272.1	215.6	4939.3	

 excluded values (missing, OOC, invalid, suspect) *

- missing <
- т - out-of-control
- invalid I
- suspect s
- exceedance н
- stack not operating F
- invalid (PADER) в
- missing data substituted U

-999 - missing value

Run 8 Unit 3 South Page: 1

Time of Report: 03/22/10 12:18

Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3

Data Averaging Type: 1m

		SO2ORPT3	NOXRPT_3	CORPT_3	020UT_3	\$020UT_3	NOXPPM_3	COPPM_3	STMRPT_3	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(PPMD)	(KLB/HR)	
03/22/10	11:44	3.1	199.2	13.2	9.2	2.6	168.2	11.1	187.8	
	11:45	3.9	197.4	11.5	9.1	3.3	167.5	9.8	186.9	
	11:46	4.6	194.1	12.9	9.6	3.7	157.3	10.5	185.5	
	11:47	4.5	181.3	11.2	9.9	3.5	144.1	8.9	182.5	
	11:48	4.3	181.1	10.8	9.9	3.4	143.6	8.6	182.9	
	11:49	4.5	192.2	10.6	9.4	3.7	158.3	8.8	183.9	
	11:50	5.2	191.0	10.1	9.4	4.3	157.7	8.4	183.5	
	11:51	7.6	185.5	10.6	9.7	6.1	148.9	8.5	182.7	
	11:52	9.4	190.2	11.7	9.7	7.5	152.6	9.4	185.1	
	11:53	10.7	193.2	11.4	9.3	8.9	160.5	9.5	184.5	
	11:54	11.7	190.3	10.5	9.4	9.7	157.9	8.7	187.3	
	11:55	10.5	193.3	9.0	9.0	9.0	165.4	7.7	185.6	
	11:56	9.1	193.7	9.7	9.4	7.5	159.6	8.0	183.8	
	11:57	9.2	193.1	8.8	9.3	7.7	160.6	7.3	186.0	
	11:58	29.7	195.1	8.2	9.0	25.3	166.3	7.0	186.5	
	11:59	34.5	192.2	9.0	9.2	29.0	161.4	7.5	186.2	
	12:00	13.8	188.2	10.0	9.3	11.5	157.3	8.4	181.8	
	12:01	6.3	186.2	11.6	9.8	5.0	148.2	9.2	181.8	
	12:02	4.1	190.6	11.1	9.6	3.3	155.6	9.0	180.7	
	12:03	3.1	193.3	11.6	9.5	2.5	159.1	9.5	181.1	
	12:04	2.5	198.5	13.1	9.5	2.1	162.8	10.7	183.2	
	12:05	2.1	200.3	13.0	9.7	1.7	162.0	10.5	182.7	
	12:06	1.9	196.2	11.5	9.8	1.5	156.1	9.1	180.6	
	12:07	1.8	197.4	13.1	10.1	1.4	153.9	10.2	181.7	
.*	12:08	1.8	194.0	15.2	9.7	1.5	155.7	12.2	182.3	
·~	12:09	1.9	194.2	13.6	9.4	1.6	160.1	11.2	184.7	
	12:10	2.2	201.6	11.5	9.3	1.8	168.1	9.6	183.3	
	erage =	7.6	192.7	11.3	9.5	6.3	158.1	9.2	183.9	
Geometric	•	5.3	192.6	11.2	9.5	4.3	158.0	9.2	183.9	
	ximum =	34.5	201.6	15.2	10.1	29.0	168.2	12.2	187.8	
	nimum =	1.8	181.1	8.2	9.0	1.4	143.6	7.0	180.6	
Possible V		27	. 27	27	27	27	27	27	27	
Included V		27	27	27	27	27	27	27	27	
	Total =	204.0	5203.3	304.6	256.5	169.2	4269.0	249.5	4964.3	
		202.0	5203.3	504.0	25015	107.1				

- excluded values (missing, OOC, invalid, suspect) *

- missing <
- out-of-control т
- invalid I
- suspect s

(

- exceedance Ħ
- stack not operating F
- ~ invalid (PADER) в
- missing data substituted σ

-999 ~ missing value

Plant Name: SBWD. 9 Unit 3 South General Average Report Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3 Data Averaging Type: 1m

Data Avera	drug type	5: IM								
(SO2ORPT3	NOXRPT 3	CORPT 3	020UT_3	SO20UT_3	NOXPPM_3	COPPM_3	STMRPT_3	
Date	Time	(PPMDC)	-	(PPMDC)			(PPMD)	(PPMD)	(KLB/HR)	
03/22/10	12:18	3.4	196.0	10.1	9.1	2.9	165.9	8.5	188.3	
	12:19	4.0	198.1	7.5	8.8	3.5	172.8	6.5	186.6	
	12:20	4.4	185.5	9.3	9.4	3.7	152.9	7.7	185.7	
	12:21	4.6	184.2	8.7	9.4	3.8	152.7	7.2	184.7	
	12:22	4.7	187.4	9.1	9.6	3.8	152.7	7.4	185.1	
	12:23	5.8	185.3	8.3	9.2	4.9	156.6	7.0	184.5	
	12:24	8.0	185.2	9.1	9.5	6.6	152.1	7.5	183.7	
	12:25	9.7	183.2	9.2	9.5	7.9	150.1	7.5	181.8	
	12:26	10.5	187.1	9.7	9.6	8.5	151.6	7.9	181.8	
	12:27	13.6	191.4	9.3	9.4	11.2	157.9	7.7	183.6	
	12:28	20.3	196.8	11.0	9.2	17.1	166.1	9.2	188.0	
	12:29	22.8	201.5	9.8	8.7	19.9	. 176.3	8.6		
	12:30	24.4	214.3	8.4	9.2	20.6	180.6	7.1	186.0	
	12:31	18.2	216.1	11.8	9.9	14.4	171.4	9.3	184.8	
	12:32	11.4	200.8	7.7	9.2	9.6	169.4	6.5	182.7	
	12:33	7.5	192.1	11.3	9.5	6.1	156.9	9.3	182.9	
	12:34	5.5	189.5	10.7	9.4	4.5	156.9	8.8	185.3	
	12:35	4.8	191.4	12.9	9.1	4.1	162.6	11.0	187.3	
	12:36	5.6	190.5	10.3	9.0	4.8	162.9		184.0	
	12:37	7.7	188.4	11.3	9.8	6.2	151.1	9.1	183.2	
	12:38	8.2	197.2	9.7	9.5	6.7	161.2	7.9	182.0	
	12:39	11.9	202.8	9.7	9.5	9.7	165.8	8.0	184.1	
	12:40	19.6	198.9	9.9	9.2	16.5	167.1	8.3	183.4	
	12:41	25.3	198.3	7.8	9.6	20.5	160.8	6.4	183.7	
Y.	12:42	30.1	191.4	9.3	9.4	25.0	158.8	7.7	180.8	
	12:43	27.1	189.5	10.1	9.7	21.9	153.3	8.2	180.4	
	12:44	19.4	185.3	10.2	9.4	16.1	153.5	8.4	184.5	
Av	erage =	12.5	193.6	 9.7	9.4	10.4			184.3	
Geometric	-	10.1	193.5	9.6	9.4	8.4	160.5	8.0	184.3	
	ximum =	30.1	216.1	12.9	9.9	25.0	180.6	11.0	188.5	
	nimum =	3.4	183.2	7.5	8.7	2.9	150.1	6.4	180.4	
Possible V		27	27	27	27.	27	27	27	27	
Included V		27	27	27	27	27	27	27	27	
	Total =	338.4	5228.2	262.1	252.8	280.5	4339.9	217.4	4977.4	

- excluded values (missing, OOC, invalid, suspect) *

- < - missing
- out-of-control т
- invalid I
- suspect s
- exceedance н
- F - stack not operating
- invalid (PADER) в
- missing data substituted υ
- -999 missing value
- -888 value could not be calculated



Time of Report: 03/22/10 12:53 Rolling Average Interval: 1

Run 10 Unit 3 South

Time of Report: 03/22/10 13:26

Rolling Average Interval: 1

Plant Name: SBWD General Average Report Reporting Period: 03/22/2010 to 03/22/2010

Site Name: UNIT3

Data Averaging Type: 1m

(SO2ORPT3	NOXRPT 3	CORPT 3	020UT_3	SO2OUT 3	NOXPPM 3	COPPM 3	STMRPT_3	
Date	Time	(PPMDC)	(PPMDC)	(PPMDC)	(PERCENTD)	(PPMD)	(PPMD)	(DM44)	(KLB/HR)	
03/22/10	12:52	5.6	189.3	8.5	. 8.9	4.9	163.9	7.4	183.6	
	12:53	8.4	193.2	12.5	9.9	6.7	153.3	9.9	182.8	
	12:54	9.3	199.4	10.1	9.5	7.6	164.1	8.3	185.3	
	12:55	12.7	196.4	11.1	9.1	10.8	167.1	9.4	184.4	
	12:56	17.7	202.9	10.0	9.4	14.7	168.6	8.3	184.6	
	12:57	22.8	196.9	10.9	9.4	18.8	162.8	9.0	182.8	
	12:58	24.5	196.4	11.3	9.5	20.0	160.5	9.3	185.2	
	12:59	25.4	192.7	12.7	9.2	21.4	162.6	10.7	186.8	
	13:00	22.0	195.0	10.5	9.2	18.6	164.4	8.8	185.2	
	13:01	16.2	190.0	10.1	9.6	13.2	154.7	8.3	184.9	
	13:02	9.9	187.2	10.6	9.5	8.1	153.9	8.7	182.5	
	13:03	7.1	198.9	10.3	9.9	5.6	157.7	8.2	183.2	
	13:04	4.9	191.9	7.6	9.1	4.2	163.0	6.5	184.3	
	13:05	4.1	196.3	8.0	9.0	3.5	167.7	6.8	187.6	
	13:06	3.5	194.4	6.7	8.7	3.1	170.4	5.9	186.1	
	13:07	3.6	200.2	7.2	9.4	3.0	166.1	5.9	184.0	
	13:08	4.0	201.2	8.9	9.7	3.3	162.5	7.2	181.6	
	13:09	4.8	199.4	8.6	9.5	3.9	163.2	7.1	182.1	
	13:10	6.0	189.6	9.3	9.2	5.0	159.4	7.8	182.9	
	13:11	8.8	192.6	9.1	9.2	7.5	162.6	7.7	187.3	
	13:12	12.2	194.4	10.1	8.8	10.6	169.1	8.8	184.5	
	13:13	14.2	200.6	9.9	9.6	11.6	163.0	8.1	183.3	
	13:14	13.7	195.6	9.3	9.4	11.3	161.5	7.7	180.1	
	13:15	13.9	195.6	8.9	9.6	11.3	158.7	7.2	180.0	
$\left(\right)$	13:16	16.1	193.7	9.8	9.4	13.3	160.8	8.2	182.4	
(13:17	19.5	196.4	12.4	8.8	17.0	170.7	10.8	186.6	
	13:18	24.5	198.4	9.5	8.5	21.9	177.2	8.5	186.9	
Average =		12.4	195.5	9.8	9.3	10.4	163.3	8.2	184.1	
Geometric	Avg. =	10.3	195.5	9.7	9.3	8.6	163.2	8.1	184.1	
Maa	cimum =	25.4	202.9	12.7	9.9	21.9	177.2	10.8	187.6	
Mir	nimum =	3.5	187.2	6.7	8.5	3.0	153.3	5.9	180.0	
Possible Va	alues =	27	27	27	27	27	27	27	27	
Included Va	alues =	27	27	27	27	27	27	27	27	
2	Fotal 🛱	335.4	5278.5	264.2	250.7	280.8	4409.6	220.5	4970.7	

excluded values (missing, OOC, invalid, suspect)

< - missing

- T out-of-control
- I invalid
- S suspect
- H exceedance
- F stack not operating
- B invalid (PADER)
- U missing data substituted

-999 - missing value



