A1/A1/EN 1100000460901

T901

Rhodia

Chemistry is our world, Responsibility is our way

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JUL 3 1 2009

Air/Toxics & Inspection Coordination Branch 6EN-A

July 28, 2009

Via FedEx

Chief, Environmental Enforcement Division Environment and Natural Resources Division U.S. Department of Justice Box 7611 Ben Franklin Station Washington. DC 20044-7611	David Schnare U.S. Environmental Protection Agency Headquarters Ariel Rios South Building, Rm #2117B 1200 Pennsylvania Avenue, N.W. Mailcode 2242A Washington D.C. 20460
Jan Gerro U.S. Environmental Protection Agency Region 6 1445 Ross Avenue, Suite 1200 Mailcode 6RCEA Dallas, TX 75202	Himanshu Vyas U.S. Environmental Protection Agency Region 6 1445 Ross Avenue, Suite 1200 Mailcode 6ENAT Dallas, TX 75202

Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting document enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me. Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:gsl
Enclosure

Jeffrey S. Lang, Senior Counsel, Health, Safety and Environment
Rhodia Inc., CN 7500, Cranbury, NJ 08512-7500; Telephone: (609) 860-3432; Fax: (609) 860-5446
Courier Address: 8 Cedar Brook Drive, Cranbury, NJ 08512; E-Mail: Jeffrey.lang@us.rhodia.com

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering January 1 to June 30, 2009
Civil Action No.: 2: 07-CV-134-WCL

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1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for # 8 Unit. The SO_2 abatement was started up on November 19, 2008.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period and does not expect to have any issues with meeting the long term SO_2 limit of 1.7 lbs/ton on July 1, 2010.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

   Houston Title V air permit O-01609 renewal application was submitted on June 12, 2007, but missed the submittal deadline by 1 day. A new Title V permit application was submitted on May 30, 2008, O-03049. Rhodia is currently reviewing a draft of O-03049 which has been prepared by the Texas Commission on Environmental Quality (TCEQ). Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) will be included for both Houston #8 and Regen #2 and compliance with the Consent Decree SO_2 emission rates for Houston #8.

bcc: F. Dickerson
J. Richardson
F. Sardo

5. Status of Permit Applications

Houston Title V air permit O-01609 renewal application was submitted on June 12, 2007, but missed the submittal deadline by 1 day. A new Title V permit application was submitted on May 30, 2008, O-03049. Rhodia is currently reviewing a draft of O-03049 which has been prepared by the Texas Commission on Environmental Quality (TCEQ). Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) will be included for both Houston #8 and Regen #2 and compliance with the Consent Decree SO_2 emission rates for Houston #8.

6. Operation and Maintenance Work

The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

7. Reports to Agencies

Rhodia has installed a new dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

The initial Relative Accuracy Test Audit (RATA) on the CEMS was conducted during the week of January 27, 2009 with the CEMS passing the performance test. The TCEQ stack test group had representatives observe the test. Test results were submitted to USEPA and TCEQ on March 12, 2009. A copy of the summary pages is attached for your review.

A second RATA was conducted on May 29, 2009 when a new O_2 CEMS was placed in service. A new RATA was conducted on the SO_2 CEMS so the performance testing timing would be the same for both monitors. Both monitors passed the performance test. The report is pending and will be included in subsequent certification report.

An acid mist test was conducted on Houston #8 during the week of January 27, 2009 with the demonstrated acid mist emission rate at 0.037 lbs/ton. The TCEQ stack test group had representatives observe the test. Test results were submitted to USEPA on March 12, 2009. A copy of the summary pages is attached for your review.

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering January 1 to June 30, 2009
Civil Action No.: 2: 07-CV-134-WCL

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants

Signature: William McConnell

Date: 7/23/09

SULFURIC ACID MIST AND SULFUR DIOXIDE EMISSIONS AND RELATIVE ACCURACY TEST AUDIT REPORT RHODIA, INC. SULFURIC ACID UNIT NO. 8 HOUSTON, TEXAS

Prepared for:

RHODIA, INC.
8615 Manchester Street
Houston, TX 77012

Prepared by:

WESTON SOLUTIONS, INC.
1400 Weston Way
P.O. Box 2653
West Chester, Pennsylvania 19380

March 2009

W.O. No. 12143.061.001.0001

2. RESULTS AND DISCUSSION

Tables 2-1 through 2-3 compare the testing results to the limits established in the consent decree. As shown in Tables 2-1 and 2-2, sulfuric acid mist and sulfur dioxide emissions were below the allowable limits for all test runs.

The CEM certification results are shown in Table 2-3. The test results for relative accuracy met the performance specification criteria for each CEMS tested. Nine reference method test runs were conducted at the stack CEM location. The relative accuracy was based upon all nine runs. The test results for 7-day calibration drift represent the greater value of zero and span error percentages. These test parameters also met the performance specification criteria for each CEMS tested. Any differences between the calculated results shown in the appendices and the reported results in the summary table are due to rounding the results for presentation.

Appendix C provides detailed summaries of the relative accuracy and performance specification testing.

Table 2-1

Rhodia, Inc.
Summary of Unit 8 Sulfuric Acid Mist Test Results

Test Run Number	Test Date	Test Period (DCS Time)[1]	Production Rate	Sulfuric Acid Mist Emissions		Allowable Limit
			ton/hr	lb/hr	lb/ton	lb/ton
1	1/27/09	0850-1113	102.7	4.05	0.039	0.150
2	1/27/09	1345-1548	102.0	4.09	0.040	0.150
3	1/28/09	0915-1128	104.3	3.34	0.032	0.150
Average			103.0	3.83	0.037	0.150

1 Times corresponding to Unit 8 Distributive Control System (DCS)

Table 2-2

Rhodia, Inc.
Summary of Unit 8 Sulfur Dioxide Test Results

Test Run Number	Test Date	Test Period (DCS Time)[1]	Sulfur Dioxide Emission Results			
			Compliance Test Mass Rate lb/hr	Production Rate ton/hr	Emission Rate lb/ton	Allowable Rate lb/ton[2]
1	1/27/09	0850-1113	154.6	102.7	1.51	3.0 (1.7)
2	1/27/09	1345-1548	159.8	102.0	1.57	3.0 (1.7)
3	1/28/09	0915-1128	151.6	104.3	1.45	3.0 (1.7)
4	1/28/09	1332-1457	162.6	102.6	1.58	3.0 (1.7)
5	1/28/09	1511-1648	157.9	103.1	1.53	3.0 (1.7)
6	1/29/09	0812-0938	151.5	102.5	1.48	3.0 (1.7)
7	1/29/09	0957-1117	153.2	101.0	1.52	3.0 (1.7)
8	1/29/09	1203-1325	149.7	99.5	1.50	3.0 (1.7)
9	1/29/09	1337-1500	151.9	102.8	1.48	3.0 (1.7)
Average			154.8	102.3	1.51	3.0 (1.7)

1 Times corresponding to Unit 8 Distributive Control System (DCS)
2 Short term limit is 3.0 lb/ton, long term is 1.7 lb/ton

Table 2-3

Summary of CEM Performance Specification Test Results

Stack Analyzers	Relative Accuracy		7-Day Calibration Drift		7 – Day Zero Drift	
	Performance Required (%)	Performance Demonstrated (%)	Performance Required (%)	Performance Demonstrated (%)	Performance Required (%)	Performance Demonstrated (%)
SO_2	20	4.53	≤ 2.5	0.6 (Low) 1.0 (High)	≤ 2.5	0.4 (Low) 0.4 (High)

AY/AY/EN

110000460 901
Steve 7901
VI
Thompson

Rhodia

Eco Services Enterprise
Houston/Baytown Plants

RHODIA INC.
8615 MANCHESTER STREET
HOUSTON, TX. 77012

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JAN 27 2010
Air/Toxics & Inspection
Coordination Branch
N-A

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7008 1830 0000 4280 6203)

January 18, 2010

Air Section Manager
Texas Commission on Environmental Quality
Region 12
5425 Polk Street, Suite H
Houston, Texas 77023-1486

RECEIVED
10 JAN 21 PM 2:16
SUPERFUND DIV.
DIRECTOR'S OFC.

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the July to December 2009 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period). Compliance is to be demonstrated by July 1, 2010.

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Samuel E. Keen, PE at 713-924-1484.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Mr. Badruddin (Bud) Karachiwala, Director, Pollution Control Department, Harris County Public Health and Environmental Services
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

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NSPS Excess Emissions Report
July – December, 2009

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	July 1 – December 31, 2009
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	10/14/09
CEMS span values per the AMP (Stack) [(1)]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[(1)] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
July – December, 2009

Emission data summary – Long-Term Limit (Effective November 18, 2009)

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
July – December, 2009

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	10 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	99.5 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	109.5 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.4 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	10 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	95.5 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	109.5 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.4 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand-held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
July – December, 2008

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/ Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?**
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods? +	Notes	
Stack SO_2, ppm	3Q09, 4Q09	CGA	No		No
Stack O_2, %	3Q09, 4Q09	CGA	No		No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

William J McConnell
Signature

___Plant Manager_____
Title

1/18/2010
Date

QUARTERLY CYLINDER GAS AUDIT WORKSHEET

Analyzer: #8 STACK SO_2

Date: 7/16/09 Time: 15:00 Technician: Steven Allison

Serial Number: VE-920-8700-2 Signature: [illegible]

EXP DATE	04-09-11		04-09-11			
Cylinder ID number	ALM049345		ALM048359			
Date of Certification	04-09-2009		03-31-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 126 ppm SO_2		EPA Protocol 272 ppm SO_2			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126 ppm	272 ppm	126 ppm	272 ppm	126 ppm	272 ppm
CEM Response value C_m (ppm)	124 ppm	274 ppm	123 ppm	269 ppm	124 ppm	269 ppm
Accuracy A (% or ppm)	1.587%	0.735%	2.381%	1.103%	1.587%	1.103%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM
_CERTIFICATE_OF_ACCURACY:_Interference_Free__Multi-Component_EPA_Protocol_Gas_____

Assay_Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056IA INC
Project No.:2466-002

Customer_
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

_ANALYTICAL_INFORMATION_____

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

Cylinder Number: ALM049305 Certification Date:Apr2009 Exp. Date:9Apr2011
Cylinder Pressure***: 1912 PSIG

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

_ANALYZER_READINGS_____

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

First Triad Analysis
OXYGEN
Date: 08Apr2009onse Unit:VOLTS
Z1=0.000001=0.99000T1=0.57210
R2=0.990002=0.00000T2=0.57170
Z3=0.000003=0.57140R3=0.98950
Avg. Concentration: %

Second Triad Analysis
SULFUR DIOXIDE *
Date: 02Apr2009onse Unit:PPM
Z1=-0.17978=255.85031=273.1567
R2=255.9913=0.38507T2=274.0137
Z3=0.388753=274.30733=256.2128
Avg. Concentration: PPM

Date: 09Apr2009onse Unit: PPM
Z1=-0.64785=255.2667=273.4320
R2=255.3414=-0.17780=273.9350
Z3=0.046553=274.0129=255.5704
Avg. Concentration: PPM

Calibration Curve
Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885
D= E=

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0=3.00000E-6
D=0.00000E+0=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: _____
Peter Brandon

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

Customer
P.O. No.: ALAS-44414/32923999IA
Project No.:2334-001
PO#4500699213
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011
Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis
Second Triad Analysis
Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 7/16/09 Time: 13:00 Technician: Shawn Allchin / Frank Cortes

Serial Number: VE-920-8700-2 Signature: [illegible] / [illegible]

Exp. Date	3/31/12		3/31/12			
Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3-31-2009		3-31-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	921 ppm SO_2 EPA-1		2000 ppm SO_2 EPA1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_e (ppm)	921 ppm	2000 ppm	921 ppm	2000 ppm	921 ppm	2000 ppm
CEM Response value C_m (ppm)	913 ppm	1985 ppm	914 ppm	1988 ppm	912 ppm	1987 ppm
Accuracy A (% or ppm)	0.86%	0.75%	0.76%	0.60%	0.98%	0.65%

where $A = \frac{(C_m - C_e)}{C_e} X\ 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

Customer
HOUSTON TX 77012

P.O. No.: ALAS-44414/32924643IA
Project No.:2341-001 PO#4500699213

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis	Second Triad Analysis	Calibration Curve
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

Customer

P.O. No.: ALAS-44414/32924771IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2342-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012

Cylinder Pressure***: 1961 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	2,000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
TIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis	Second Triad Analysis	Calibration Curve
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.09484=2383.3091=1982.431	Z1=-0.10409=2384.951=1985.128	r=9.99988E-1
R2=2384.241=0.52271T2=1983.385	R2=2386.811=0.440912=1986.040	Constants: A=0.00000E+0
Z3=0.959453=1984.8833=2385.906	Z3=0.794043=1986.489=2387.704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

ecial Notes: DOC# PAS00014

PPROVED BY: _____
Ramien JR

QUARTERLY CYLINDER GAS AUDIT WORKSHEET

Analyzer: #8 STACK O_2

Date: 7/16/09 Time: 15:00 Technician: Steven Allen

Serial Number: VE - 920 - 8700 - 2 Signature: [signature]

Exp. Date	04-09-11		03-31-11			
Cylinder ID number	ALM049305		ALM048359			
Date of Certification	04-09-2009		03-31-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-1 13.6% O_2		EPA-1 5.25% O_2			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25%	13.6%	5.25%	13.6%	5.25%	13.6%
CEM Response value C_m (ppm)	5.28%	13.7%	5.25%	13.8%	5.28%	13.8%
Accuracy A (% or ppm)	0.03%	0.10%	0.0%	0.20%	0.03%	0.2%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056IA INC
Project No.:2466-002

Customer
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa
Procedure G-1; September, 1997.
Cylinder Number: ALM049305 Certification Date:Apr2009 Exp. Date:9Apr2011
Cylinder Pressure***: 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
OXYGEN		
Date: 08Apr2009onse Unit:VOLTS		Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=0.000001=0.99000T1=0.57210		r=0.9999978
R2=0.990002=0.00000T2=0.57170		Constants: A=-0.00703813
Z3=0.000003=0.57140R3=0.98950		B=23.71576885
Avg. Concentration: %		D= E=
SULFUR DIOXIDE *		
Date: 02Apr2009onse Unit:PPM	Date: 09Apr2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.17978=255.85031=273.1567	Z1=-0.64785=255.2667=273.4320	r=9.99988E-1
R2=255.9913=0.38507T2=274.0137	R2=255.3414=-0.17780=273.9350	Constants: A=0.00000E+0
Z3=0.388753=274.30733=256.2128	Z3=0.046553=274.0129=255.5704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: _____
Peter Brandon

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM
_CERTIFICATE_OF_ACCURACY:_Interference_Free__Multi-Component_EPA_Protocol_Gas_____

Assay_Laboratory Customer_
P.O. No.: ALAS-44414/32923999IA
AIR LIQUIDE AMERICA SPECIALTY GAProject No.:2334-001 PO#4500699213
9810 BAY AREA BLVD
PASADENA, TX 77507 HOUSTON TX 77012

_ANALYTICAL_INFORMATION_____

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa
Procedure G-1; September, 1997.
Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011
Cylinder Pressure***: 1950 PSIG

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

_ANALYZER_READINGS_____

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

First Triad Analysis / Second Triad Analysis / Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *

First Triad Analysis	Second Triad Analysis	Calibration Curve
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.00023=254.19041=124.6734	Z1=-0.03914=254.1434=125.7700	r=9.99995E-1
R2=254.2501=0.15346T2=125.0360	R2=254.4486=0.084472=126.0405	Constants: A=0.00000E+0
Z3=0.258713=125.31913=254.2770	Z3=0.170743=126.1121=254.6616	B=9.97420E-1=0.00000E+0
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

QUARTERLY CYLINDER GAS AUDIT WORKSHEET

Analyzer: Yokogawa #8 Stack O_2

Date: 7/24/09 Time: 11:00AM Technician: Steven Atkins

Serial Number: U1I602504 Signature: [signature]

Exp. date	03-31-11		04-09-11			
Cylinder ID number	ALM048359		ALM049305			
Date of Certification	03-31-09		04-09-09			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 5.25% O_2		EPA Protocol 1 13.6% O_2			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25%	13.6%	5.25%	13.6%	5.25%	13.6%
CEM Response value C_m (ppm)	5.31%	13.8%	5.30%	13.8%	5.31%	13.8%
Accuracy A (% or ppm)	0.06%	0.20%	0.05%	0.20%	0.06%	0.20%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory — Customer

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA — Project No.:2334-001 — PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507 — HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis — Second Triad Analysis — Calibration Curve

OXYGEN

Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *

Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

Customer
P.O. No.: ALAS-44414/32924056IA INC
Project No.:2466-002
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 Certification Date:Apr2009 Exp. Date:9Apr2011
Cylinder Pressure***: 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

OXYGEN

First Triad Analysis	Calibration Curve
Date: 08Apr2009onse Unit:VOLTS	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=0.000001=0.99000T1=0.57210	r=0.9999978
R2=0.990002=0.00000T2=0.57170	Constants: A=-0.00703813
Z3=0.000003=0.57140R3=0.98950	B=23.71576885
Avg. Concentration: %	D= E=

SULFUR DIOXIDE *

First Triad Analysis	Second Triad Analysis	Calibration Curve
Date: 02Apr2009onse Unit:PPM	Date: 09Apr2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.17978=255.85031=273.1567	Z1=-0.64785=255.2667=273.4320	r=9.99988E-1
R2=255.9913=0.38507T2=274.0137	R2=255.3414=-0.17780=273.9350	Constants: A=0.00000E+0
Z3=0.388753=274.30733=256.2128	Z3=0.046553=274.0129=255.5704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: _____
Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 10/14/10 Time: 2:40 pm Technician: F. Cortez
Serial Number: VE-920-8960-12 Signature: F. Cortez

Cylinder ID number	ALM049559		ALM049305			
Date of Certification	4/22/10		4/22/10			
Type of certification (e.g. EPA Protocol 1 or CRM).	Rata Class Dual Analyzed Cal. 124ppm		Rata Class Dual Analyzed Cal 272ppm			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126	272	126 ~~272~~	272	126	272
CEM Response value C_m (ppm)	127	269	124	266	123	266
Accuracy A (% or ppm)	0.794%	1.103%	1.587%	2.206%	2.381%	2.206%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

TM

_CERTIFICATE_OF_ACCURACY:_Interference_Free__Multi-Component_EPA_Protocol_Gas_____

Assay_Laboratory

Customer_

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GAProject No.:2334-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL_INFORMATION_____

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

OMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
XYGEN	5.25	%	+/- 1%	Direct NIST and NMi
ULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
ITROGEN		BALANCE		

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

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

EFERENCE_STANDARD_____

TPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
TRM 2350	01Apr2012	A6820	23.51	OXYGEN
TRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

ISTRUMENTATION____

STRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
TIR//000929060	23Mar2009	FTIR
IR//000929060	11Mar2009	FTIR

NALYZER_READINGS_____

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

First Triad Analysis | Second Triad Analysis | Calibration Curve

XYGEN

ate: 25Mar2009onse Unit:VOLLT
L=0.000001=0.99000T1=0.22180
2=0.989702=0.00070T2=0.22100
3=0.000803=0.22070R3=0.98900
vg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

ULFUR DIOXIDE *

ate: 24Mar2009onse Unit:PPM
=-0.00023=254.19041=124.6734
=254.2501=0.15346T2=125.0360
=0.258713=125.31913=254.2770
g. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

cial Notes: PAS00021

PROVED BY: _____

Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011
Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pro

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

First Triad Analysis		
Date: 08Apr2009	Response Unit:VOLTS	
Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950
Avg. Concentration:	13.56	%

Second Triad Analysis:

Calibration Curve	
Concentration=A+Bx+Cx2+Dx3+Ex4	
r=0.9999978	
Constants:	A=-0.00703813
B=23.71576885	C=
D=	E=

SULFUR DIOXIDE *

First Triad Analysis		
Date: 02Apr2009	Response Unit:PPM	
Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128
Avg. Concentration:	272.1	PPM

Second Triad Analysis		
Date: 09Apr2009	Response Unit: PPM	
Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704
Avg. Concentration:	272.7	PPM

Calibration Curve	
Concentration=A+Bx+Cx2+Dx3+Ex4	
r=9.99988E-1	
Constants:	A=0.00000E+0
B=1.00080E+0	C=3.00000E-6
D=0.00000E+0	E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 10/14/09 Time: 2:35 pm Technician: F. Cortes
Serial Number: VE-920-8700-2 Signature: F Cortes

Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3/31/09		3/31/09			
Type of certification (e.g. EPA Protocol 1 or CRM).	Rata Class Dual-Analyzed Cal 921 ppm		Rata Class Dual Analyzed Cal 2000 ppm			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921 ppm	2000 ppm	921 ppm	2000 ppm	921 ppm	2000 ppm
CEM Response value C_m (ppm)	920 ppm	1987 ppm	926 ppm	1994 ppm	929 ppm	1995
Accuracy A (% or ppm)	0.109%	0.650%	0.543%	0.300%	0.869%	0.250%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924771IA
Project No.:2342-001

Customer
PO#4500699213
HOUSTON TX 77012

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa
Procedure G-1; September, 1997.
Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1961 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	2,000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis	Second Triad Analysis	Calibration Curve
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.09484=2383.3091=1982.431	Z1=-0.10409=2384.951=1985.128	r=9.99988E-1
R2=2384.241=0.52271T2=1983.385	R2=2386.811=0.440912=1986.040	Constants: A=0.00000E+0
Z3=0.959453=1984.8833=2385.906	Z3=0.794043=1986.489=2387.704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00014

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory — Customer

P.O. No.: ALAS-44414/32924643IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2341-001 PO#4500699213
9810 BAY AREA BLVD
PASADENA, TX 77507 HOUSTON TX 77012

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa
Procedure G-1; September, 1997.
Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

QUARTERLY CYLINDER GAS AUDIT WORKSHEET

Analyzer: #8 STACK O_2

Date: 10/14/09 Time: 2:10 PM Technician: F. Cortes
Serial Number: VE-920-8700-2 Signature: F. Cortes

EXP DATE	3/31/11		4/9/11			
Cylinder ID number	AL0048359		AL0049305			
Date of Certification	4/2/09		4/9/09			
Type of certification (e.g. EPA Protocol 1 or CRM).	RATA CLASS Dual Analyzed Cal 5.25% O2		RATA CLASS Dual Analyzed Cal 13.6% O2			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25%	13.6%	5.25%	13.6%	5.25%	13.6%
CEM Response value C_m (ppm)	5.27%	13.8%	5.25%	13.8%	5.24%	13.8%
Accuracy A (% or ppm)	0.02%	0.20%	0.0%	0.20%	0.01%	0.20%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

_CERTIFICATE_OF_ACCURACY:_Interference_Free__Multi-Component_EPA_Protocol_Gas_____
Assay_Laboratory

P.O. No.: ALAS-44414/32923999IA
Customer_
AIR LIQUIDE AMERICA SPECIALTY GAProject No.:2334-001 PO#4500699213
9810 BAY AREA BLVD
PASADENA, TX 77507

HOUSTON TX 77012

_ANALYTICAL_INFORMATION_____
This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa
Procedure G-1; September, 1997.
Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011
Cylinder Pressure***: 1950 PSIG

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
TRM 2350	01Apr2012	A6820	23.51	OXYGEN
TRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

NSTRUMENTATION____

NSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
TIR//000929060	23Mar2009	FTIR
TIR//000929060	11Mar2009	FTIR

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

First Triad Analysis

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Second Triad Analysis

ULFUR DIOXIDE *
ate: 24Mar2009onse Unit:PPM
1=-0.00023=254.19041=124.6734
2=254.2501=0.15346T2=125.0360
3=0.258713=125.31913=254.2770
vg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

ecial Notes: PAS00021

PPROVED BY: _____
Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011
Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.
* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Prot

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009	Response Unit:VOLTS	
Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950
Avg. Concentration:	13.56	%

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009	Response Unit:PPM	
Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128
Avg. Concentration:	272.1	PPM

Date: 09Apr2009	Response Unit: PPM	
Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704
Avg. Concentration:	272.7	PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: [signature]
Peter Brandon

Rhodia
Chemistry is our world, Responsibility is our way

January 29, 2010

Via FedEx

Chief, Environmental Enforcement Division
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington. DC 20044-7611

David Schnare
U.S. Environmental Protection Agency
Headquarters
Ariel Rios South Building, Rm #2117B
1200 Pennsylvania Avenue, N.W.
Mailcode 2242A
Washington D.C. 20460

Jan Gerro
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6RCEA
Dallas, TX 75202

Himanshu Vyas
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6ENAT
Dallas, TX 75202

Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting documents enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me. Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:gsl
Enclosure

Jeffrey S. Lang, Senior Counsel, Health, Safety and Environment
Rhodia Inc., CN 7500, Cranbury, NJ 08512-7500; Telephone: (609) 860-3432; Fax: (609) 860-5446
Courier Address: 8 Cedar Brook Drive, Cranbury, NJ 08512; E-Mail: Jeffrey.lang@us.rhodia.com

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering July 1 to December 31, 2009
Civil Action No.: 2: 07-CV-134-WCL

1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for # 8 Unit. The SO_2 abatement was started up on November 19, 2008.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period and does not expect to have any issues with meeting the long term SO_2 limit of 1.7 lbs/ton on July 1, 2010. The SO_2 emissions have averaged 1.5 lbs/ton since start up in November 2008.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

   Houston Title V air permit O-01609 renewal application was submitted on June 12, 2007, but missed the submittal deadline by 1 day. A new Title V permit application was submitted on May 30, 2008, O-03049. The Title V permit has gone through the public comment period. US Environmental Protection Agency (USEPA) Region 6 submitted an objection letter to the Texas Commission on Environmental Quality (TCEQ) on language in the draft permit. TCEQ is currently reviewing USEPA comments. Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) will be included for both Houston #8 and Regen #2 and compliance with the Consent Decree SO_2 emission rates for Houston #8.

5. Operation and Maintenance Work

The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

6. Reports to Agencies

Rhodia has installed a dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

The third and fourth quarterly cylinder gas audits on the stack SO_2 and O_2 CEMS were conducted on July 16, 2009 and October 14, 2009. The CEMS passed the gas audit tests. A copy of the Excess Emission Report and Data Assessment Report are attached for your review.

The report for the RATA conducted on May 27, 2009 on the SO_2 and O_2 CEMS, but was not available for the semiannual report for the period covering January 1 to June 30, 2009 is also included in this report.

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants

Signature: William J. McConnell

Date: 1/21/10

AI/AI/EN 110000460901

Rhodia

Eco Services Enterprise
Houston Plant

RECEIVED
JUL 23 2010
Air/Toxics & Inspection
Coordination Branch
EN-A

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7010 0290 0000 3114 0765)

July 14, 2010

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the January 1 to June 30, 2010 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Michael Schaffer, Director, Harris County Public Health and Environmental Services
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

RECEIVE
JUL 23 2010
Air/Toxics & Inspection
Coordination Branch
6EN-A

NSPS Excess Emissions Report
January – June, 2010

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	January 1 – June 30, 2010
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	June 9, 2010
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
January – June, 2010

Emission data summary – Long-Term Limit (Effective June 30, 2010)

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
January – June, 2010

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	25 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.1 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	123.1 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.8 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	18.25 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.1 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	116.35hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.7 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
January – June, 2010

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?**
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods? +	Notes	
Stack SO_2, ppm	1Q10	RATA 3/17 -18/10	No		No
	2Q10	CGA 5/30/10 RATA 6/9/10	No No		No
Stack O_2, %	1Q10	RATA 3/17 -18/10	No		No
	2Q10	CGA 5/30/10 RATA 6/9/2010	No No		No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

_____
Signature

___Plant Manager_____
Title

7/14/10
Date

ENTECH ENGINEERING INC.

P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

RHODIA INC.
HOUSTON PLANT
VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101)
OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2)
CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)
RELATIVE ACCURACY TEST AUDIT (RATA)
(REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330
TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)

(ENTECH REPORT NO. ER2010-04-103)

PREPARED BY

ENTECH ENGINEERING INC.
LEAGUE CITY, TEXAS

MARCH 2010

PREPARED FOR

RHODIA INC.
HOUSTON, TEXAS

SAMPLING LOCATION

VIRGIN SULFURIC ACID UNIT NO. 8 STACK (EPN 101)
RHODIA INC.
HOUSTON, HARRIS COUNTY, TEXAS

SECTION 1.0 SUMMARY

Entech Engineering Inc. (Entech) was retained by Rhodia Inc. (Rhodia) to conduct an oxygen (O_2) and sulfur dioxide (SO_2) Continuous Emission Monitoring System (CEMS) Relative Accuracy Test Audit (RATA) at Rhodia's Virgin Sulfuric Acid Unit No. 8 in Houston, Harris County, Texas. The objective of this program was to quality assure the continuous performance of the O_2 and SO_2 CEMS according to the specifications of EPA 40 CFR, Part 60, Appendix F.

In this program, the quality assurance test, i.e. RATA was conducted according to the 40CFR60, Appendix F, Section 5.1.1 specifications following the procedures of 40CFR60, Appendix B, Performance Specification 2 and 3 for the SO_2 and O_2 CEMS, respectively. A Performance Specification (PS) test consists of two parts, a Calibration Drift (CD) Determination and a Relative Accuracy (RA) Determination; however, a RATA only requires that the RA determination be conducted. For this program, the RATA was conducted on March 17 and 18, 2010 and was coordinated by Mr. Wesley Carter of Rhodia Inc. TCEQ was notified of the test, but did not attend.

The Virgin Sulfuric Acid Unit No. 8 is designated in the Texas Commission on Environmental Quality (TCEQ) permit as Emission Point Number (EPN) 101. Its CEMS comprises of a Bovar/Western Research O_2/SO_2 analyzer (Model 920, Serial Number VE-920-8700-2). Flue gas samples are continuously extracted from the stack for analysis on a wet basis. During testing, operational parameters were monitored and recorded by Rhodia personnel at fifteen-minute intervals for demonstration of process conditions.

Results of the O_2 and SO_2 CEMS RATA results are presented in Table 1. A comprehensive summary which includes individual test data is presented in Table 2 and 3. Test methods and equipment descriptions are presented in Section 2.0 and results and discussions are presented in Section 3.0.

Table 1.
Rhodia Inc.
Houston Plant
Virgin Sulfuric Acid Unit No. 8 (EPN 101)
Oxygen(O_2) and Sulfur Dioxide (SO_2) CEMS Relative Accuracy Test Audit (RATA)
Regulated Entity No. RN100220581; Customer Reference No. CN600125330
TCEQ Account ID No. HG-0697-O; Permit No. 19282
March 17 and 18, 2010

Performance Specification Test Parameters	Continuous Emission Monitoring Systems (CEMS)	
	Oxygen (O_2)	Sulfur Dioxide (SO_2)
RA Test	NA	Failed
RA Allowed	+/- 1.0% O_2	20% (RM) or 10% (STD)
RA	NA	11.32% (STD)

(RM) - Reference Method
(STD) - Emission Standard or Performance Specification Standard
RA - Relative Accuracy Test
NA - Not Applicable

ENTECH ENGINEERING INC.

P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

June 11, 2010

Mr. Floyd Dickerson
Environmental Manager, Eco Services
Rhodia Inc.
8615 Manchester
Houston, Texas 77012

SUBJECT: **TRANSMITTAL OF ENTECH REPORT NO. ER2010-06-173 ENTITLED "RHODIA INC., HOUSTON PLANT, VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101) OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2) CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) RELATIVE ACCURACY TEST AUDIT (RATA) (REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330; TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)"**

Entech Engineering Inc. conducted a RATA on the Virgin Sulfuric Acid Unit No. 8 (EPN 101) O_2 and SO_2 CEMS on June 9, 2010. The program was performed under Rhodia Inc.'s verbal purchase order.

Three copies and one CD of the Entech Engineering final report that documents the findings and results of this program are enclosed. Please note that the results presented in this report only relate to the items tested or the samples as received by Entech's lab; further, this report will not be reproduced, without the written approval of the client. Please contact us at our League City, Texas office if you have any questions or comments concerning the findings of this program.

Sincerely,

Jared Vawter
Environmental Scientist II

Approved by:

Joseph Muir
Senior Environmental Scientist

Approved by:

Edward J. Pasternak
Technical Manager

ENTECH ENGINEERING INC.

P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

SECTION 1.0 SUMMARY

Entech Engineering Inc. (Entech) was retained by Rhodia Inc. (Rhodia) to conduct an oxygen (O_2) and sulfur dioxide (SO_2) Continuous Emission Monitoring System (CEMS) Relative Accuracy Test Audit (RATA) at Rhodia's Virgin Sulfuric Acid Unit No. 8 in Houston, Harris County, Texas. The objective of this program was to quality assure the continuous performance of the O_2 and SO_2 CEMS according to the specifications of EPA 40 CFR, Part 60, Subpart G and Permit # 19282.

In this program, the quality assurance test, i.e. RATA was conducted according to the 40CFR60, Appendix F, Section 5.1.1 specifications following the procedures of 40CFR60, Appendix B, Performance Specification 2 and 3 for the SO_2 and O_2 CEMS, respectively. A Performance Specification (PS) test consists of two parts, a Calibration Drift (CD) Determination and a Relative Accuracy (RA) Determination; however, a RATA only requires that the RA determination be conducted. For this program, the RATA was conducted on June 9, 2010 and was coordinated by Mr. Wesley Carter of Rhodia Inc. TCEQ was notified of the test, but did not attend.

The Virgin Sulfuric Acid Unit No. 8 is designated in the Texas Commission on Environmental Quality (TCEQ) permit as Emission Point Number (EPN) 101. Its CEMS comprises of a Bovar/Western Research O_2/SO_2 analyzer (Model 920, Serial Number VE-920-8700-2). Flue gas samples are continuously extracted from the stack for analysis on a wet basis. During testing, operational parameters were monitored and recorded by Rhodia personnel at one-minute intervals for demonstration of process conditions.

Results of the O_2 and SO_2 CEMS RATA results are presented in Table 1. A comprehensive summary which includes individual test data is presented in Table 2. Test methods and equipment descriptions are presented in Section 2.0 and results and discussions are presented in Section 3.0.

Table 1.
Rhodia Inc.
Houston Plant
Virgin Sulfuric Acid Unit No. 8 (EPN 101)
Oxygen(O_2) and Sulfur Dioxide (SO_2) CEMS Relative Accuracy Test Audit (RATA)
Regulated Entity No. RN100220581; Customer Reference No. CN600125330
TCEQ Account ID No. HG-0697-O; Permit No. 19282
June 9, 2010

Performance Specification Test Parameters	Continuous Emission Monitoring Systems (CEMS)	
	Oxygen (O_2)	Sulfur Dioxide (SO_2)
RA Test	Passed	Passed
RA Allowed	+/- 1.0% O_2	20% (RM) or 10% (STD)
RA	NA	14.05% (RM)

(RM) - Reference Method
(STD) - Emission Standard or Performance Specification Standard
RA - Relative Accuracy Test
NA - Not Applicable

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8) Low Range

Date: 5/30/10 Time: 9:00 Technician: Paul Barnett

Serial Number: VE-920-8700-2 Signature: Paul Barnett

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3/31/2009		4/9/2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	126 ppm SO2 EPA Protocol 1		272 ppm SO2 EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126 ppm	272 ppm	126	272	126	272
CEM Response value C_m (ppm)	125 ppm	274 ppm	124	273	125	275
Accuracy A (% or ppm)	-1 ppm	+2 ppm	-2 ppm	+1 ppm	-1 ppm	+3 ppm

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas™

Customer Assay Laboratory

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2334-001 PO#4500699213

9810 BAY AREA BLVD HOUSTON TX 77012

PASADENA, TX 77507

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa

Procedure G-1; September, 1997.

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLIT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011
Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pro

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8) High Range

Date: 5/30/10 Time: 9:30 Technician: Paul Barnett

Serial Number: VE-920-8700-2 Signature: Paul Barnett

Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3/31/2009		3/31/2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	921 ppm SO2 EPA Protocol 1		2000 ppm SO2 EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921	2000	921	2000	921	2000
CEM Response value C_m (ppm)	925	1999	924	1999	922	2001
Accuracy A (% or ppm)	+ 4 ppm	-1 ppm	+ 3 ppm	-1 ppm	+ 2 ppm	+ 1 ppm

where $A = \frac{(C_m - C_a)}{C_a} X 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924643IA
Project No.:2341-001

Customer
PO#4500699213

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924771IA
Project No.:2342-001

Customer
PO#4500699213

HOUSTON TX 77012

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standa
Procedure G-1; September, 1997.
Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1961 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	2,000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.09484=2383.3091=1982.431
R2=2384.241=0.52271T2=1983.385
Z3=0.959453=1984.8833=2385.906
Avg. Concentration: PPM

Second Triad Analysis

Date: 31Mar2009onse Unit: PPM
Z1=-0.10409=2384.951=1985.128
R2=2386.811=0.440912=1986.040
Z3=0.794043=1986.489=2387.704
Avg. Concentration: PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0=3.00000E-6
D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00014

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack O_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 5/30/10 Time: 9:00 Technician: Paul Barnett

Serial Number: VE-920-8700-2 Signature: Paul Barnett

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3/31/2009		4/9/2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	5.25% O2 EPA Protocol 1		13.6% EPA Protocol			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25%	13.6%	5.25%	13.6%	5.25%	13.6%
CEM Response value C_m (ppm)	5.26%	13.6%	5.25%	13.5%	5.24%	13.6%
Accuracy A (% or ppm)	+.01%	0%	0%	-.1%	-.01%	0%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

Customer

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2334-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011
Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	
SULFUR DIOXIDE *	272	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pro

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978

Constants:	A=-0.00703813
B=23.71576885	C=
D=	E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1

Constants:	A=0.00000E+0
B=1.00080E+0	C=3.00000E-6
D=0.00000E+0	E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

AE/AL/EN

1100004600901

T901

VI

Rhodia

Chemistry is our world, Responsibility is our way

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JUL 23 2010

Toxics & Inspection
Coordination Branch
EN-A

July 21, 2010

Via FedEx

Chief, Environmental Enforcement Division
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington. DC 20044-7611

David Schnare
U.S. Environmental Protection Agency
Headquarters
Ariel Rios South Building, Rm #2117B
1200 Pennsylvania Avenue, N.W.
Mailcode 2242A
Washington D.C. 20460

Jan Gerro
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6RCEA
Dallas, TX 75202

Himanshu Vyas
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6ENAT
Dallas, TX 75202

Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting documents enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me. Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:gsl
Enclosure

Jeffrey S. Lang, Senior Counsel, Health, Safety and Environment
Rhodia Inc., CN 7500, Cranbury, NJ 08512-7500; Telephone: (609) 860-3432; Fax: (609) 860-5446
Courier Address: 8 Cedar Brook Drive, Cranbury, NJ 08512; E-Mail: Jeffrey.lang@us.rhodia.com

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering July 1 to December 31, 2009
Civil Action No.: 2: 07-CV-134-WCL

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JUL 23 2010
Auditors & Inspection
Coordination Branch
EN-A

1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for # 8 Unit. The SO_2 abatement was started up on November 19, 2008.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period. The Houston #8 unit averaged 1.58 lbs SO_2/ton of acid produced from July 1, 2009 to June 30, 2010.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

   Houston Title V air permit O-01609 renewal application was submitted on June 12, 2007, but missed the submittal deadline by 1 day. A new Title V permit application was submitted on May 30, 2008, O-03049. The Title V permit has gone through the public comment period. US Environmental Protection Agency (USEPA) Region 6 submitted an objection letter to the Texas Commission on Environmental Quality (TCEQ) on language in the draft permit. TCEQ is currently reviewing USEPA comments. Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) will be included for both Houston #8 and Regen #2 and compliance with the Consent Decree SO_2 emission rates for Houston #8.

5. Operation and Maintenance Work

The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

6. Reports to Agencies

Rhodia has installed a dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

The SO_2 CEMs did not pass the RATA conducted in March 2010. A cylinder gas audit was conducted on May 30, 2010 and a RATA was conducted on June 9, 2010 on the stack SO_2 and O_2. The CEMS passed these tests. A copy of the Excess Emission Report and Data Assessment Report are attached for your review.

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants

Signature: William J McConnell

Date: 7/14/10

Rhodia

Eco Services Enterprise
Houston Plant

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7010 0290 0000 3114 2318)

January 6, 2011

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the July 1 to December 31, 2010 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Michael Schaffer, Director, Harris County Public Health and Environmental Services
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

NSPS Excess Emissions Report
July 1 – December 31, 2010

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	July 1 – December 31, 2010
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	November 1, 2010
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
July 1 – December 31, 2010

Emission data summary – Long-Term Limit (Effective June 30, 2010)

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
July 1 – December 31, 2010

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	29.5 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	102.9 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	132.4 hours (1)
3. Total CEMS Downtime as percent of total source operating time	3.0 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	29.5 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	102.9 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	132.4 hours (1)
3. Total CEMS Downtime as percent of total source operating time	3.0 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
July 1 – December 31, 2010

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	3Q10	CGA	No	Report enclosed	No
	4Q10	CGA	No	Report enclosed	No
Stack O_2, %	3Q10	CGA	No	Report enclosed	No
	4Q10	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

_____
Signature

___Plant Manager_____
Title

_____
Date 1/6/11

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer O2

Unit Number (Circle One): 2 (8)

Date: 8-4-10 Time: 1130A Technician: David Connell

Serial Number: VE-926-8700-2 Signature: [signature]

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3-31-2011		4-19-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-600/R-97/121		EPA-600/R-97/121			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25	13.6	5.25	13.6	5.25	13.6
CEM Response value C_m (ppm)	5.32	13.7	5.32	13.9	5.32	13.9
Accuracy A (% or ppm)	1.33	.73	1.33	2.20	1.33	2.20

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5000 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Customer Assay Laboratory

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.: 2334-001 PO#4500699213

9810 BAY AREA BLVD HOUSTON TX 77012

PASADENA, TX 77507

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date: Mar2009 Exp. Date: 1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

RATA CLASS

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 8-4-10 Time: 1130A Technician: David Connell

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3-31-2011		4-9-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-600/R-97/121		EPA-600/R-97/121			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126	272	126	272	126	272
CEM Response value C_m (ppm)	127	275	127	275	127	275
Accuracy A (% or ppm)	.79	1.10	.79	1.10	.79	1.10

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas™

Customer

Assay Laboratory

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2334-001

PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

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

First Triad Analysis — Second Triad Analysis — Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

RATA CLASS

Dual-Analyzed Calibration Standard

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | SCOTT™

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576985 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 8

Date: 8-4-10 Time: 1200 P

Serial Number: VE-920-8700-2

Technician: David Connell

Signature: [illegible]

Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3-31-2012		3-31-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-600/R-97/121		EPA-600/R-97/121			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921	2000	921	2000	921	2000
CEM Response value C_m (ppm)	928	2001	935	2010	938	2012
Accuracy A (% or ppm)	.76	.05	1.52	.5	1.84	.6

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD. PASADENA. TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

Customer

P.O. No.: ALAS-44414/32924643IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2341-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012

Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory — Customer

P.O. No.: ALAS-44414/32924771IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2342-001 PO#4500699213
9810 BAY AREA BLVD
PASADENA, TX 77507 HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1961 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	2,000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.09484=2383.3091=1982.431	Z1=-0.10409=2384.951=1985.128	r=9.99988E-1
R2=2384.241=0.52271T2=1983.385	R2=2386.811=0.440912=1986.040	Constants: A=0.00000E+0
Z3=0.959453=1984.8833=2385.906	Z3=0.794043=1986.489=2387.704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00014

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer High

Unit Number (Circle One): 2 (8)

Date: 11-1-10 Time: 352

Serial Number: VE-920-8700-2

Technician: David Connell

Signature: [illegible]

Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3-31-2009		3-31-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 921		EPA Protocol 1 2000			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921	2000	921	2000	921	2000
CEM Response value C_m (ppm)	922	1999	928	2000	928	2005
Accuracy A (% or ppm)	.10	-0.05	.76	0	.76	0

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Customer
Assay Laboratory

P.O. No.: ALAS-44414/32924643IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.: 2341-001 PO#4500699213
9810 BAY AREA BLVD
PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049888 Certification Date: Mar2009 Exp. Date: 1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis — Second Triad Analysis — Calibration Curve

SULFUR DIOXIDE *

Date: 24Mar2009onse Unit:PPM
Z1=-0.21684=975.66891=921.6842
R2=976.8102=-0.119112=921.6935
Z3=0.305253=922.84413=977.0351
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.01294=976.8492=923.0907
R2=977.8269=0.272432=923.4876
Z3=0.506993=923.6709=978.0656
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99968E-1
Constants: A=0.00000E+0
B=1.00080E+0=3.00000E-6
D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD. PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory — Customer

P.O. No.: ALAS-44414/32924771IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2342-001 PO#4500699213
9810 BAY AREA BLVD
PASADENA, TX 77507 HOUSTON TX 77012

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Stands
Procedure G-1; September, 1997.
Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1961 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	2.000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.09484=2383.3091=1982.431	Z1=-0.10409=2384.951=1985.128	r=9.99988E-1
R2=2384.241=0.52271T2=1983.385	R2=2386.811=0.440912=1986.040	Constants: A=0.00000E+0
Z3=0.959453=1984.8833=2385.906	Z3=0.794043=1986.489=2387.704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00014

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer Low

Unit Number (Circle One): 2 (8)

Date: 11-1-10 Time: 305 Technician: David Connell

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM048559		ALM049305			
Date of Certification	3-31-2009		4-9-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 126		EPA Protocol 1 272			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126	272	126	272	126	272
CEM Response value C_m (ppm)	126	273	125	272	125	272
Accuracy A (% or ppm)	0	.36	-.79	0	-.79	0

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas™

Assay Laboratory

Customer

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2334-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NM1
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NM1
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

RATA CLASS

Dual-Analyzed Calibration Standard

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

Phone: 281-474-5800 Fax: 281-474-5857

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer
RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011
Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.
* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: _____
Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack O_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 11-1-10 Time: 305 Technician: David Connell

Serial Number: VE-420-8700-2 Signature: [illegible]

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3-31-2009		4-9-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 5.25		EPA Protocol 1 13.6			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25	13.6	5.25	13.6	5.25	13.6
CEM Response value C_m (ppm)	5.22	13.6	5.22	13.6	5.22	13.6
Accuracy A (% or ppm)	.57	0	.57	0	.57	0

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory

Customer

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.:2334-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis | Second Triad Analysis | Calibration Curve

OXYGEN

Date: 25Mar2009onse Unit:VOLLT

Z1=0.000001=0.99000T1=0.22180

R2=0.989702=0.00070T2=0.22100

Z3=0.000803=0.22070R3=0.98900

Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4

r=.9999978

Constants: A=-.00703813

B=23.71576885

D= E=

SULFUR DIOXIDE *

Date: 24Mar2009onse Unit:PPM

Z1=-0.00023=254.19041=124.6734

R2=254.2501=0.15346T2=125.0360

Z3=0.258713=125.31913=254.2770

Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM

Z1=-0.03914=254.1434=125.7700

R2=254.4486=0.084472=126.0405

Z3=0.170743=126.1121=254.6616

Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4

r=9.99995E-1

Constants: A=0.00000E+0

B=9.97420E-1=0.00000E+0

D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____

Ramien JR

RATA CLASS

Dual-Analyzed Calibration Standard

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: _____
Peter Brandon

AC/AC/EN

110000460901

TX901 V.1

Rhodia

Eco Services Enterprise
Houston Plant

RECEIVE

JAN 18 2011

Air/Toxics & Inspection
Coordination Branch
6EN-A

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7010 0290 0000 3114 2318)

Steve Thompson

January 6, 2011

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the July 1 to December 31, 2010 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Michael Schaffer, Director, Harris County Public Health and Environmental Services
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

RECEIVE
JAN 18 2011
Air/Toxics & Inspection
Coordination Branch
6EN

NSPS Excess Emissions Report
July 1 – December 31, 2010

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	July 1 – December 31, 2010
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	November 1, 2010
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
July 1 – December 31, 2010

Emission data summary – Long-Term Limit (Effective June 30, 2010)

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
July 1 – December 31, 2010

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	29.5 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	102.9 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	132.4 hours (1)
3. Total CEMS Downtime as percent of total source operating time	3.0 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	29.5 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	102.9 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	132.4 hours (1)
3. Total CEMS Downtime as percent of total source operating time	3.0 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
July 1 – December 31, 2010

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	3Q10	CGA	No	Report enclosed	No
	4Q10	CGA	No	Report enclosed	No
Stack O_2, %	3Q10	CGA	No	Report enclosed	No
	4Q10	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

_____
Signature

___Plant Manager_____
Title

_____
Date 1/6/11

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer O2

Unit Number (Circle One): 2 (8)

Date: 8-4-10 Time: 1130A Technician: David Connell

Serial Number: VE-920-8700-2 Signature: [signature]

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3-31-2011		4-19-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-600/R-97/121		EPA-600/R-97/121			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25	13.6	5.25	13.6	5.25	13.6
CEM Response value C_m (ppm)	5.32	13.7	5.32	13.9	5.32	13.9
Accuracy A (% or ppm)	1.33	.73	1.33	2.20	1.33	2.20

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Customer Assay Laboratory

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.: 2334-001 PO#4500699213

9810 BAY AREA BLVD
PASADENA, TX 77507

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date: Mar2009 Exp. Date: 1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

RATA CLASS

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pro

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 8-4-10 Time: 1130A Technician: David Connell

Serial Number: VE-92D-8700-2 Signature: [illegible]

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3-31-2011		4-9-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-600/R-97/121		EPA-600/R-97/121			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126	272	126	272	126	272
CEM Response value C_m (ppm)	127	275	127	275	127	275
Accuracy A (% or ppm)	.79	1.10	.79	1.10	.79	1.10

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GA Project No.: 2334-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507

Customer

HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date: Mar2009 Exp. Date: 1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

RATA CLASS

Dual-Analyzed Calibration Standard

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9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pr

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 8-4-10 Time: 1200 P Technician: David Connell

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3-31-2012		3-31-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA-600/R-97/121		EPA-600/R-97/121			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921	2000	921	2000	921	2000
CEM Response value C_m (ppm)	928	2001	935	2010	938	2012
Accuracy A (% or ppm)	.76	.05	1.52	.5	1.84	.6

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE_OF_ACCURACY: EPA_Protocol_Gas

Assay_Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924643IA
Project No.:2341-001

Customer
PO#4500699213
HOUSTON TX 77012

ANALYTICAL_INFORMATION

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

Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE_STANDARD

TYPE/SRM_NO.	EXPIRATION_DATE	CYLINDER_NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE_LAST_CALIBRATED	ANALYTICAL_PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER_READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

_CERTIFICATE_OF_ACCURACY:_EPA_Protocol_Gas_____

Assay_Laboratory Customer_

P.O. No.: ALAS-44414/32924771IA

AIR LIQUIDE AMERICA SPECIALTY GAProject No.:2342-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507 HOUSTON TX 77012

_ANALYTICAL_INFORMATION_____

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

Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012

Cylinder Pressure***: 1961 PSIG

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
SULFUR DIOXIDE *	2,000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

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

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
FTIR//000929060	12Mar2009	FTIR

_ANALYZER_READINGS_____

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.09484=2383.3091=1982.431	Z1=-0.10409=2384.951=1985.128	r=9.99988E-1
R2=2384.241=0.52271T2=1983.385	R2=2386.811=0.440912=1986.040	Constants: A=0.00000E+0
Z3=0.959453=1984.8833=2385.906	Z3=0.794043=1986.489=2387.704	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00014

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer High

Unit Number (Circle One): 2 8

Date: 11-1-10 Time: 352 Technician: David Connell

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM049888		ALM056870			
Date of Certification	3-31-2009		3-31-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 921		EPA Protocol 1 2000			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921	2000	921	2000	921	2000
CEM Response value C_m (ppm)	922	1999	928	2000	928	2005
Accuracy A (% or ppm)	.10	-0.05	.76	0	.76	0

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924643IA
Project No.:2341-001

Customer
PO#4500699213
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *		
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

_CERTIFICATE_OF_ACCURACY:_EPA_Protocol_Gas_____

Assay_Laboratory

AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924771IA
Project No.:2342-001

Customer_
PO#4500699213

HOUSTON TX 77012

_ANALYTICAL_INFORMATION_____

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

Cylinder Number: ALM056870 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1961 PSIG

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
SULFUR DIOXIDE *	2,000	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 1664	02Oct2011	ALM059631	2402.PM	SULFUR DIOXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
FTIR//000929060	12Mar2009	FTIR

_ANALYZER_READINGS_____

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

First Triad Analysis

SULFUR DIOXIDE *
Date: 24Mar2009onse Unit:PPM
Z1=-0.09484=2383.3091=1982.431
R2=2384.241=0.52271T2=1983.385
Z3=0.959453=1984.8833=2385.906
Avg. Concentration: PPM

Second Triad Analysis

Date: 31Mar2009onse Unit: PPM
Z1=-0.10409=2384.951=1985.128
R2=2386.811=0.440912=1986.040
Z3=0.794043=1986.489=2387.704
Avg. Concentration: PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0=3.00000E-6
D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00014

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer Low

Unit Number (Circle One): 2 (8)

Date: 11-1-10 Time: 305

Serial Number: VE-420-8700-2

Technician: David Connell

Signature: [illegible]

Cylinder ID number	ALM048559		ALM049305			
Date of Certification	3-31-2009		4-9-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 126		EPA Protocol 1 272			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	126	272	126	272	126	272
CEM Response value C_m (ppm)	126	273	125	272	125	272
Accuracy A (% or ppm)	0	.36	-.79	0	-.79	0

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
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RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM

_CERTIFICATE_OF_ACCURACY:_Interference_Free__Multi-Component_EPA_Protocol_Gas_____

Assay_Laboratory Customer_

P.O. No.: ALAS-44414/32923999IA

AIR LIQUIDE AMERICA SPECIALTY GAProject No.:2334-001 PO#4500699213

9810 BAY AREA BLVD

PASADENA, TX 77507 HOUSTON TX 77012

_ANALYTICAL_INFORMATION_____

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp Date:1Mar2011

Cylinder Pressure***: 1950 PSIG

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL_ACCURACY**	TRACEABILITY__
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMI
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMI
NITROGEN		BALANCE		

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

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

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE__
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

_ANALYZER_READINGS_____

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

First Triad Analysis Second Triad Analysis Calibration Curve

OXYGEN

Date: 25Mar2009onse Unit:VOLLT

Z1=0.000001=0.99000T1=0.22180

R2=0.989702=0.00070T2=0.22100

Z3=0.000803=0.22070R3=0.98900

Avg. Concentration: %

Concentration=A+Bx+Cx2+Dx3+Ex4

r=.9999978

Constants: A=-.00703813

B=23.71576885

D= E=

SULFUR DIOXIDE *

Date: 24Mar2009onse Unit:PPM

Z1=-0.00023=254.19041=124.6734

R2=254.2501=0.15346T2=125.0360

Z3=0.258713=125.31913=254.2770

Avg. Concentration: PPM

Date: 31Mar2009onse Unit: PPM

Z1=-0.03914=254.1434=125.7700

R2=254.4486=0.084472=126.0405

Z3=0.170743=126.1121=254.6616

Avg. Concentration: PPM

Concentration=A+Bx+Cx2+Dx3+Ex4

r=9.99995E-1

Constants: A=0.00000E+0

B=9.97420E-1=0.00000E+0

D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____

Ramien JR

RATA CLASS

Dual-Analyzed Calibration Standard

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

Phone: 281-474-5800 Fax: 281-474-5857

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pro

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack O_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 11-1-10 Time: 305

Serial Number: VE-420-5700-2

Technician: David Connell

Signature: [illegible]

Cylinder ID number	ALM048359		ALM049305			
Date of Certification	3-31-2009		4-9-2009			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1 5.25		EPA Protocol 1 13.6			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.25	13.6	5.25	13.6	5.25	13.6
CEM Response value C_m (ppm)	5.22	13.6	5.22	13.6	5.22	13.6
Accuracy A (% or ppm)	.57	0	.57	0	.57	0

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

TM

CERTIFICATE OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32923999IA
Project No.:2334-001

Customer
PO#4500699213
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM048359 Certification Date:Mar2009 Exp. Date:1Mar2011
Cylinder Pressure***: 1950 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	5.25	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	126	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	23Mar2009	FTIR
FTIR//000929060	11Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis

OXYGEN
Date: 25Mar2009onse Unit:VOLLT
Z1=0.000001=0.99000T1=0.22180
R2=0.989702=0.00070T2=0.22100
Z3=0.000803=0.22070R3=0.98900
Avg. Concentration: %

Second Triad Analysis

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999978
Constants: A=-.00703813
B=23.71576885
D= E=

SULFUR DIOXIDE *

First Triad Analysis
Date: 24Mar2009onse Unit:PPM
Z1=-0.00023=254.19041=124.6734
R2=254.2501=0.15346T2=125.0360
Z3=0.258713=125.31913=254.2770
Avg. Concentration: PPM

Second Triad Analysis
Date: 31Mar2009onse Unit: PPM
Z1=-0.03914=254.1434=125.7700
R2=254.4486=0.084472=126.0405
Z3=0.170743=126.1121=254.6616
Avg. Concentration: PPM

Calibration Curve
Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99995E-1
Constants: A=0.00000E+0
B=9.97420E-1=0.00000E+0
D=0.00000E+0=0.00000E+0

Special Notes: PAS00021

APPROVED BY: _____
Ramien JR

RATA CLASS

Dual-Analyzed Calibration Standard

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: ALAS-44414/32924056
Project No.: 04-72466-002

Customer

RHODIA INC
PO#4500699213
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049305 **Certification Date:** 09Apr2009 **Exp. Date:** 09Apr2011

Cylinder Pressure*:** 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	13.6	%	+/- 1%	Direct NIST and NMi
SULFUR DIOXIDE *	272	PPM	+/- 1%	
NITROGEN		BALANCE		

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

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

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Pro

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	01Apr2012	A6820	23.51 %	OXYGEN
NTRM 0260	02Oct2012	ALM038515	254.4 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SERVOMEX/MODEL 244A/701/716	23Mar2009	PARAMAGNETIC
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

OXYGEN

Date: 08Apr2009 Response Unit:VOLTS

Z1=0.00000	R1=0.99000	T1=0.57210
R2=0.99000	Z2=0.00000	T2=0.57170
Z3=0.00000	T3=0.57140	R3=0.98950

Avg. Concentration: 13.56 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.9999978
Constants: A=-0.00703813
B=23.71576885 C=
D= E=

SULFUR DIOXIDE *

Date: 02Apr2009 Response Unit:PPM

Z1=-0.17978	R1=255.8503	T1=273.1567
R2=255.9913	Z2=0.38507	T2=274.0137
Z3=0.38875	T3=274.3073	R3=256.2128

Avg. Concentration: 272.1 PPM

Date: 09Apr2009 Response Unit: PPM

Z1=-0.64785	R1=255.2667	T1=273.4320
R2=255.3414	Z2=-0.17780	T2=273.9350
Z3=0.04655	T3=274.0129	R3=255.5704

Avg. Concentration: 272.7 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99988E-1
Constants: A=0.00000E+0
B=1.00080E+0 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Special Notes: LOT # PAS00063

APPROVED BY: Peter Brandon

AY/AY/EN 110000460901

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V1

Rhodia
Chemistry is our world, Responsibility is our way

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Air/Toxics & Inspection
Coordination Branch
6EN-A

January 28, 2011

Via FedEx

Chief, Environmental Enforcement Division
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington. DC 20044-7611

David Schnare
U.S. Environmental Protection Agency
Headquarters
Ariel Rios South Building, Rm #2117B
1200 Pennsylvania Avenue, N.W.
Mailcode 2242A
Washington D.C. 20460

Jan Gerro
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6RCEA
Dallas, TX 75202

Himanshu Vyas
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6ENAT
Dallas, TX 75202

Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting documents enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me. Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:gsl
Enclosure

Jeffrey S. Lang, Senior Counsel, Health, Safety and Environment
Rhodia Inc., CN 7500, Cranbury, NJ 08512-7500; Telephone: (609) 860-3432; Fax: (609) 860-5446
Courier Address: 8 Cedar Brook Drive, Cranbury, NJ 08512; E-Mail: Jeffrey.lang@us.rhodia.com

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering July 1 to December 31, 2010
Civil Action No.: 2: 07-CV-134-WCL

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1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for # 8 Unit. The SO_2 abatement was started up on November 19, 2008.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period. The Houston #8 unit averaged 1.56 lbs SO_2/ton of acid produced from January 1, 2010 to December 31, 2010.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

   Houston Title V air permit O-01609 renewal application was submitted on June 12, 2007, but missed the submittal deadline by 1 day. A new Title V permit application was submitted on May 30, 2008, O-03049. The Title V permit has gone through the public comment period. US Environmental Protection Agency (USEPA) Region 6 submitted an objection letter to the Texas Commission on Environmental Quality (TCEQ) on language in the draft permit. TCEQ is currently reviewing USEPA comments. Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) will be included for both Houston #8 and Regen #2 and compliance with the Consent Decree SO_2 emission rates for Houston #8.

5. Operation and Maintenance Work

The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

6. Reports to Agencies

Rhodia has installed a dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

A cylinder gas audit was conducted on August 4, 2010 and on November 1, 2010 on the stack SO_2 and O_2. The CEMS passed these tests. A copy of the Excess Emission Report and Data Assessment Report are attached for your review.

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants

Signature: William J McConnell

Date: 1/18/11

AI/AI/EN 110000460901

V

433201 TX 901 V.2

Rhodia

Eco Services Enterprise
Houston Plant

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Air/Toxics & Inspection
Coordination Branch
SEN-A

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7010 0290 0000 3114 1748)

July 14, 2011

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the January 1 to June 30, 2011 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Bob Allen, Director, Harris County Pollution Control
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

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NSPS Excess Emissions Report
January 1 – June 30, 2011

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	January 1 – June 30, 2011
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	June 4, 2011
CEMS span values per the AMP (Stack) [(1)]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[(1)] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
January 1 – June 30, 2011

Emission data summary – Long-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
January 1 – June 30, 2011

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	16.25 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.1 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	114.35 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.6 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	16.25 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.1 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	114.35 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.6 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
January 1 – June 30, 2011

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	1Q11	RATA	No	Report enclosed	No
	2Q11	CGA	No	Report enclosed	No
Stack O_2, %	1Q11	RATA	No	Report enclosed	No
	2Q11	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

_____
Signature

___Plant Manager_____
Title

_____
Date

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

ENTECH ENGINEERING INC.

P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

RHODIA INC.
HOUSTON PLANT
VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101)
OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2)
CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)
RELATIVE ACCURACY TEST AUDIT (RATA)
(REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330
TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)

(ENTECH REPORT NO. ER2011-03-087)

PREPARED BY

ENTECH ENGINEERING INC.
LEAGUE CITY, TEXAS

FEBRUARY 2011

PREPARED FOR

RHODIA INC.
HOUSTON, TEXAS

SAMPLING LOCATION

VIRGIN SULFURIC ACID UNIT NO. 8 STACK (EPN 101)
RHODIA INC.
HOUSTON, HARRIS COUNTY, TEXAS

SECTION 1.0 SUMMARY

Entech Engineering Inc. (Entech) was retained by Rhodia Inc. (Rhodia) to conduct an oxygen (O_2) and sulfur dioxide (SO_2) Continuous Emission Monitoring System (CEMS) Relative Accuracy Test Audit (RATA) at Rhodia's Virgin Sulfuric Acid Unit No. 8 in Houston, Harris County, Texas. The objective of this program was to quality assure the continuous performance of the O_2 and SO_2 CEMS according to the specifications of EPA 40 CFR, Part 60, Appendix F.

In this program, the quality assurance test, i.e. RATA was conducted according to the 40CFR60, Appendix F, Section 5.1.1 specifications following the procedures of 40CFR60, Appendix B, Performance Specification 2 and 3 for the SO_2 and O_2 CEMS, respectively. A Performance Specification (PS) test consists of two parts, a Calibration Drift (CD) Determination and a Relative Accuracy (RA) Determination; however, a RATA only requires that the RA determination be conducted. For this program, the RATA was conducted on February 23 and 24, 2011 and was coordinated by Mr. Wesley Carter of Rhodia Inc. TCEQ was notified of the test, but did not attend.

The Virgin Sulfuric Acid Unit No. 8 is designated in the Texas Commission on Environmental Quality (TCEQ) permit as Emission Point Number (EPN) 101. Its CEMS comprises of a Bovar/Western Research O_2/SO_2 analyzer (Model 920, Serial Number VE-920-8700-2). Flue gas samples are continuously extracted from the stack for analysis on a wet basis. During testing, operational parameters were monitored and recorded by Rhodia personnel at fifteen-minute intervals for demonstration of process conditions.

Results of the O_2 and SO_2 CEMS RATA results are presented in Table 1. A comprehensive summary which includes individual test data is presented in Table 2. Test methods and equipment descriptions are presented in Section 2.0 and results and discussions are presented in Section 3.0.

Table 1.
Rhodia Inc.
Houston Plant
Virgin Sulfuric Acid Unit No. 8 (EPN 101)
Oxygen(O_2) and Sulfur Dioxide (SO_2) CEMS Relative Accuracy Test Audit (RATA)
Regulated Entity No. RN100220581; Customer Reference No. CN600125330
TCEQ Account ID No. HG-0697-O; Permit No. 19282
February 23 and 24, 2011

Performance Specification Test Parameters	Continuous Emission Monitoring Systems (CEMS)	
	Oxygen (O_2)	Sulfur Dioxide (SO_2)
RA Test	Passed	Passed
RA Allowed	+/- 1.0% O_2	20% (RM) or 10% (STD)
RA	NA	6.59% (RM)

(RM) - Reference Method
(STD) - Emission Standard or Performance Specification Standard
RA - Relative Accuracy Test
NA - Not Applicable

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 6/4/11 Time: 250 Pm Technician: David Connell

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM049868		CC205491			
Date of Certification	3-31-2012		10-23-2012			
Type of certification (e.g. EPA Protocol 1 or CRM).	921 EPA		2000 EPA			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	921	2000	921	2000	921	2000
CEM Response value C_m (ppm)	928	1999	929	2003	929	2003
Accuracy A (% or ppm)	.76	-0.05	.86	.15	.86	.15

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Scott Specialty Gases
www.scottgas.com

RATA CLASS

Dual-Analyzed Calibration Standard

9810 BAY AREA BLVD, PASADENA, TX 77507 Phone: 281-474-5800 Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory
AIR LIQUIDE AMERICA SPECIALTY GA
9810 BAY AREA BLVD
PASADENA, TX 77507

Customer
HOUSTON TX 77012

P.O. No.: ALAS-44414/32924643IA
Project No.:2341-001
PO#4500699213

ANALYTICAL INFORMATION

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

Cylinder Number: ALM049888 Certification Date:Mar2009 Exp. Date:1Mar2012
Cylinder Pressure***: 1968 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	921	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	15May2010	KAL003254	975.0PM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	12Mar2009	FTIR

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis	Second Triad Analysis	Calibration Curve
Date: 24Mar2009onse Unit:PPM	Date: 31Mar2009onse Unit: PPM	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=-0.21684=975.66891=921.6842	Z1=-0.01294=976.8492=923.0907	r=9.99988E-1
R2=976.8102=-0.119112=921.6935	R2=977.8269=0.272432=923.4876	Constants: A=0.00000E+0
Z3=0.305253=922.84413=977.0351	Z3=0.506993=923.6709=978.0656	B=1.00080E+0=3.00000E-6
Avg. Concentration: PPM	Avg. Concentration: PPM	D=0.00000E+0=0.00000E+0

Special Notes: DOC# PAS00013

APPROVED BY: _____
Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC SCOTT™

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4500699263
Project No.: 04-77445-001

Customer

RHODIA INC LAB
PO# 4500699263
8615 MANCHESTER
HOUSTON TX 77012

ANALYTICAL INFORMATION

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

Cylinder Number: CC205491 **Certification Date:** 23Oct2009 **Exp. Date:** 23Oct2012
Cylinder Pressure*:** 1866 PSIG **Batch No:** LAP0002810

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	2,000	PPM	+/- 2%	NIST and VSL
NITROGEN		BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM043439	2402. PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	13Oct2009	FTIR

Special Notes: CERTS AND TAGS: RHODIA INC LAB
PO# 4500699263

APPROVED BY: _____
Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 6/4/11 Time: 202 PM Technician: David Connell

Serial Number: VE 92087002 Signature: [signature]

Cylinder ID number	ALM02590		ALM036115			
Date of Certification	5-20-2013		5-20-2013			
Type of certification (e.g. EPA Protocol 1 or CRM).	125 EPA		274 EPA			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	125	274	125	274	125	274
CEM Response value C_m (ppm)	127	277	129	278	130	280
Accuracy A (% or ppm)	1.6	1.09	3.2	1.45	4	2.18

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Rhodia

Eco Services - Houston

02

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 6/4/11 Time: 202 Technician: David Connell

Serial Number: VE42087002 Signature: [illegible]

Cylinder ID number	ALM002590		ALM036115			
Date of Certification	5-20-2013		5-20-2013			
Type of certification (e.g. EPA Protocol 1 or CRM).	5.09% O2 EPA		15.3% O2 EPA			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.09	15.3	5.09	15.3	5.09	15.3
CEM Response value C_m (ppm)	5.01	15.5	5.01	15.4	5.03	15.5
Accuracy A (% or ppm)	-1.57	1.30	-1.57	.65	-1.17	1.3

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Air Liquide America
Specialty Gases LLC

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590
Cylinder Pressure*:** 1936 PSIG
Certification Date: 20May2011
Exp. Date: 20May2013
Batch No: LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *

Date: 13May2011 Response Unit: PPM

Z1 = 0.01023	R1 = 253.7089	T1 = 123.9645
R2 = 253.7350	Z2 = 0.07108	T2 = 124.0038
Z3 = 0.09222	T3 = 124.1083	R3 = 253.8609

Avg. Concentration: 124.8 PPM

OXYGEN

Date: 19May2011 Response Unit: VOLTS

Z1 = 0.00000	R1 = 0.94000	T1 = 0.20370
R2 = 0.94000	Z2 = 0.00000	T2 = 0.20400
Z3 = 0.00000	T3 = 0.20400	R3 = 0.94000

Avg. Concentration: 5.093 %

Second Triad Analysis

Date: 20May2011 Response Unit: PPM

Z1 = 0.00195	R1 = 253.7032	T1 = 123.9691
R2 = 253.8925	Z2 = 0.10441	T2 = 124.0436
Z3 = 0.12747	T3 = 124.0462	R3 = 254.0720

Avg. Concentration: 124.8 PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99985E-1
Constants: A = 0.00000E+0
B = 9.94451E-1 C = 0.00000E+0
D = 0.00000E+0 E = 0.00000E+0

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = .9999987
Constants: A = .000249421
B = 24.9768807 C =
D = E =

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: _____
Ramien JR

Air Liquide America
Specialty Gases LLC

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-006

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM036115 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1934 PSIG **Batch No:** LAP0041227

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	274	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	15.3	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

SULFUR DIOXIDE *

First Triad Analysis:
Date: 13May2011 Response Unit: PPM
Z1=-0.06656 R1=256.6585 T1=275.1549
R2=256.8202 Z2=0.11493 T2=275.4641
Z3=0.15836 T3=275.6497 R3=256.8364
Avg. Concentration: 274.1 PPM

Second Triad Analysis:
Date: 20May2011 Response Unit: PPM
Z1=-0.32212 R1=255.5447 T1=274.2461
R2=255.6349 Z2=0.15853 T2=274.5593
Z3=0.33653 T3=274.7581 R3=256.5102
Avg. Concentration: 274.1 PPM

Calibration Curve:
Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99998E-1
Constants: A=0.00000E+0
B=9.99951E-1 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

OXYGEN

First Triad Analysis:
Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.61100
R2=0.94000 Z2=0.00000 T2=0.61140
Z3=0.00000 T3=0.61140 R3=0.94000
Avg. Concentration: 15.27 %

Calibration Curve:
Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768807 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: _____
Ramien JR

AI/AI/EN

110000460901

RECEIVE

JUL 13 2012

Air/Toxics & Inspection Coordination Branch

6EN-A

Rhodia

A Member of the Solvay Group
Houston Plant

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7011 2000 0001 4575 2986)

Ste

Thompson

T901 V2

July 9, 2012

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the January 1 to June 30, 2012 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Bob Allen, Director, Harris County Pollution Control
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

NSPS Excess Emissions Report
January 1 – June 30, 2012

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	January 1 – June 30, 2012
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	April 3, 2012
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
January 1 – June 30, 2012

Emission data summary – Long-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
January 1 – June 30, 2012

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.7 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	98.7 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.26 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.7 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	98.7 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.26 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
January 1 – June 30, 2012

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	1Q12	RATA	No	Report enclosed	No
	2Q12	CGA	No	Report enclosed	No
Stack O_2, %	1Q12	RATA	No	Report enclosed	No
	1Q12	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

_____
Signature

___Plant Manager_____
Title

7/9/2012
_____
Date

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

ENTECH ENGINEERING INC.
P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

RHODIA INC.
HOUSTON PLANT
VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101)
OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2)
CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)
RELATIVE ACCURACY TEST AUDIT (RATA)

(REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330
TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)

(ENTECH REPORT NO. ER2012-04-140)

PREPARED BY

ENTECH ENGINEERING INC.
LEAGUE CITY, TEXAS

MARCH 13, 2012

PREPARED FOR

RHODIA INC.
HOUSTON, TEXAS

SAMPLING LOCATION

VIRGIN SULFURIC ACID UNIT NO. 8 STACK (EPN 101)
RHODIA INC.
HOUSTON, HARRIS COUNTY, TEXAS

SECTION 1.0 SUMMARY

Entech Engineering Inc. was retained by Rhodia Inc. to conduct an oxygen (O_2) and sulfur dioxide (SO_2) Continuous Emission Monitoring System (CEMS) Relative Accuracy Test Audit (RATA) at Rhodia's Virgin Sulfuric Acid Unit No. 8 in Houston, Harris County, Texas. The objective of this program was to quality assure the continuous performance of the O_2 and SO_2 CEMS according to the specifications of EPA 40 CFR, Part 60, Appendix F.

In this program, the quality assurance test, i.e. RATA was conducted according to the 40CFR60, Appendix F, Section 5.1.1 specifications following the procedures of 40CFR60, Appendix B, Performance Specification 2 and 3 for the SO_2 and O_2 CEMS, respectively. A Performance Specification (PS) test consists of two parts, a Calibration Drift (CD) Determination and a Relative Accuracy (RA) Determination; however, a RATA only requires that the RA determination be conducted. For this program, the RATA was conducted on March 13, 2012 and was coordinated by Mr. Floyd Dickerson of Rhodia Inc. TCEQ was notified of the test, but did not attend.

The Virgin Sulfuric Acid Unit No. 8 is designated in the Texas Commission on Environmental Quality (TCEQ) permit as Emission Point Number (EPN) 101. Its CEMS comprises of a Bovar/Western Research O_2/SO_2 analyzer (Model 920, Serial Number VE-920-8700-2). Flue gas samples are continuously extracted from the stack for analysis on a wet basis. During testing, operational parameters were monitored and recorded by Rhodia personnel at fifteen-minute intervals for demonstration of process conditions.

Results of the O_2 and SO_2 CEMS RATA are presented in Table 1. A comprehensive summary which includes individual test data is presented in Table 2. Test methods and equipment descriptions are presented in Section 2.0 and results and discussions are presented in Section 3.0.

ENTECH ENGINEERING INC.
P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

Table 1.
Rhodia Inc.
Houston Plant
Virgin Sulfuric Acid Unit No. 8 (EPN 101)
Oxygen(O_2) and Sulfur Dioxide (SO_2) CEMS Relative Accuracy Test Audit (RATA)
Regulated Entity No. RN100220581; Customer Reference No. CN600125330
TCEQ Account ID No. HG-0697-O; Permit No. 19282
March 13, 2012

Performance Specification Test Parameters	Continuous Emission Monitoring Systems (CEMS)	
	Oxygen (O_2)	Sulfur Dioxide (SO_2)
RA Test	Passed	Passed
RA Allowed	+/- 1.0% O_2	20% (RM) or 10% (STD)
RA	NA	12.36% (RM)

(RM) - Reference Method
(STD) - Emission Standard or Performance Specification Standard
RA - Relative Accuracy Test
NA - Not Applicable

Rhodia

Eco Services - Houston

02

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 4/3/12 Time: 1035A Technician: Rudy Barraza / Heath Plant
Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM 002590		ALM 036115			
Date of Certification	5/20/2011		5/20/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.09	15.3	5.09	15.3	5.09	15.3
CEM Response value C_m (ppm)	4.79	14.9	4.80	14.9	4.81	14.9
Accuracy A (% or ppm)	-5.89%	-2.61%	-5.69%	-2.61%	-5.50%	-2.61%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 4/3/12 Time: 10:35A Technician: Rudy Barraza / Heath Plant
Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM 002590		ALM 036115			
Date of Certification	5/20/2011		5/20/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	125	274	125	274	125	274
CEM Response value C_m (ppm)	126	279	127	278	126	278
Accuracy A (% or ppm)	.8%	1.82%	1.6%	1.45%	.8%	1.45%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 · Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-006

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM036115 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1934 PSIG **Batch No:** LAP0041227

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	274	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	15.3	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

	First Triad Analysis	Second Triad Analysis	Calibration Curve
SULFUR DIOXIDE *	Date: 13May2011 Response Unit: PPM Z1=-0.06656 R1=256.6585 T1=275.1549 R2=256.8202 Z2=0.11493 T2=275.4641 Z3=0.15836 T3=275.6497 R3=256.8364 Avg. Concentration: 274.1 PPM	Date: 20May2011 Response Unit: PPM Z1=-0.32212 R1=255.5447 T1=274.2461 R2=255.6349 Z2=0.15853 T2=274.5593 Z3=0.33653 T3=274.7581 R3=256.5102 Avg. Concentration: 274.1 PPM	Concentration=A+Bx+Cx2+Dx3+Ex4 r=9.99998E-1 Constants: A=0.00000E+0 B=9.99951E-1 C=3.00000E-6 D=0.00000E+0 E=0.00000E+0
OXYGEN	Date: 19May2011 Response Unit: VOLTS Z1=0.00000 R1=0.94000 T1=0.61100 R2=0.94000 Z2=0.00000 T2=0.61140 Z3=0.00000 T3=0.61140 R3=0.94000 Avg. Concentration: 15.27 %		Concentration=A+Bx+Cx2+Dx3+Ex4 r=.9999987 Constants: A=.000249421 B=24.9768807 C= D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1936 PSIG **Batch No:** LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *

Date: 13May2011 Response Unit: PPM
Z1=0.01023 R1=253.7089 T1=123.9645
R2=253.7350 Z2=0.07108 T2=124.0038
Z3=0.09222 T3=124.1083 R3=253.8609
Avg. Concentration: 124.8 PPM

OXYGEN

Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.20370
R2=0.94000 Z2=0.00000 T2=0.20400
Z3=0.00000 T3=0.20400 R3=0.94000
Avg. Concentration: 5.093 %

Second Triad Analysis

Date: 20May2011 Response Unit: PPM
Z1=0.00195 R1=253.7032 T1=123.9691
R2=253.8925 Z2=0.10441 T2=124.0436
Z3=0.12747 T3=124.0462 R3=254.0720
Avg. Concentration: 124.8 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99985E-1
Constants: A=0.00000E+0
B=9.94451E-1 C=0.00000E+0
D=0.00000E+0 E=0.00000E+0

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768807 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 4/3/12 Time: 11:25a Technician: Rudy Barraza / Heath Plant
Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM 045898		ALM 058443			
Date of Certification	7/18/2011		7/19/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	909	1970	909	1970	909	1970
CEM Response value C_m (ppm)	912	1993	918	1995	919	1996
Accuracy A (% or ppm)	.33%	1.16%	.99%	1.26%	1.10%	1.31%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document # : 42303115-003

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM045893
Cylinder Pressure***: 1970 PSIG
Certification Date: 18Jul2011
Exp. Date: 17Jul2014
Batch No: LAP0044990

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	909	PPM	+/- 2%	NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	01Jun2016	KAL003078	975.0 PPM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F, CGA 660 RDIAQRTY005

APPROVED BY: GARY WRIGHT

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott™

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document # : 42303115-004

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM058443 **Certification Date:** 19Jul2011 **Exp. Date:** 18Jul2014
Cylinder Pressure*:** 1963 PSIG **Batch No:** LAP0045081

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	1,970 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM043439	2402 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F CGA 660 RDIAQRTY006
PO# 4501452424 ITEM 150

APPROVED BY: GARY WRIGHT

Weston Solutions, Inc.
1400 Weston Way
P.O. Box 2653
West Chester, Pennsylvania 19380
610-701-3000 Fax 610-701-3186
www.westonsolutions.com

The Trusted Integrator for Sustainable Solutions

12 July 2012

Nathan Frank
U. S. Environmental Protection Agency
Region 5, AE-17J
77 West Jackson Blvd.
Chicago, IL 60604

David Caillet
Engineering Section
Air Quality Assessment Division
Office of Environmental Assessment
LDEQ
P.O. Box 4314
Baton Rouge, Louisiana 70821-4314

Himanshu Vyas
U. S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200 Mailcode 6ENAT
Dallas, TX 75202

Dear Mr. Frank, Mr. Caillet and Mr. Vyas:

Rhodia Inc. has entered into a Consent Decree with the U.S. Environmental Protection Agency, the U.S. Department of Justice and the Louisiana Department of Environmental Quality.

As part of the Consent Decree, Rhodia Inc. was required to perform initial performance testing and continuous emission monitoring assessments on Sulfuric Acid Regeneration Unit Number 1 at the Baton Rouge, LA facility.

The enclosed report provides the results for the Consent Decree and RATA testing.

If you have any questions regarding this report, please contact me at 610-701-3067 or Paul.Meeter@westonsolutions.com or Mr. John Richardson of Rhodia at 225-359-3768 or John.Richardson@us.rhodia.com.

Sincerely,

WESTON SOLUTIONS INC.

Paul M. Meeter
Air Quality Client Service Manager

cc: John Richardson – RHODIA

A.3 RHODIA CONVERTER INLET SO_2 CEM DATA

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/4/2012 Time 10:07 AM Technician AB
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi 2300
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 9.90 %SO2 Span Gas cylinder psi 190
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.10 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: _____ %SO2
Analyzer Response to Span Gas: _____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/5/2012 Time 7.30am. Technician s.s
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good x Repair Needed ____
Functional Check: Good x Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi ____
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 10.00 %SO2 Span Gas cylinder psi ____
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.00 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: ____ %SO2
Analyzer Response to Span Gas: ____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/6/2012 Time 10:50 AM Technician RB
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 9.90 %SO2 Span Gas cylinder psi _____
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.10 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: _____ %SO2
Analyzer Response to Span Gas: _____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/7/2012 Time 8:50 AM Technician RB
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi ____
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 10.00 %SO2 Span Gas cylinder psi ____
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.00 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: ____ %SO2
Analyzer Response to Span Gas: ____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/8/2012 Time 9.55am. Technician s.s
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good x Repair Needed ____
Functional Check: Good x Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 10.00 %SO2 Span Gas cylinder psi _____
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.00 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: _____ %SO2
Analyzer Response to Span Gas: _____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/9/2012 Time 6.20am. Technician s.s
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good x Repair Needed ____
Functional Check: Good x Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi ____
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 10.00 %SO2 Span Gas cylinder psi ____
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.00 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: ____ %SO2
Analyzer Response to Span Gas: ____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit MGB SO2 Analyzer

Date 6/10/2012 Time 6.20am. Technician s.s
Serial Number _____ Signature _____

Flow Meter:

Visual Inspection: Good x Repair Needed ____
Functional Check: Good x Repair Needed ____

Flow Meter Reading 2 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:

Analyzer Response to Zero Gas: 0.00 %SO2 Zero Gas cylinder psi ____
Actual Zero Gas: 0.00 %SO2 (Zero Gas must be between 0% and 20% of span)
Drift: OK 0.00 %SO2

Analyzer Response to Span Gas: 10.00 %SO2 Span Gas cylinder psi ____
Actual Span Gas: 10.00 %SO2 (Span Gas must be between 50% and 100% of span)
Drift: OK 0.00 %SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 0.375 %SO2 ON ZERO OR SPAN GAS (i.e. >2.5% of span).
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF DRIFT EXCEEDS 1.0% SO2 ON ZERO OR SPAN GAS:

1. GENERATE A WORK ORDER TO CHECK DRIFT THE FOLLOWING DAY.
2. NOTIFY THE AREA/SHIFT SUPERVISOR, I/E SUPERVISOR, & ENVIRONMENTAL DEPARTMENT.

Analyzer Response to Zero Gas: ____ %SO2
Analyzer Response to Span Gas: ____ %SO2

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854480

APPENDIX B
LABORATORY ANALYTICAL DATA

Inter-Office Memorandum

1625 Pumphrey Avenue, Auburn, AL 36832
334.466.5600

TO: Paul Meeter, Project Manager

cc: File

FROM: Tracy Landers, Laboratory Manager

Date: 15 June 2012

PROJECT: Rhodia Inc., Baton Rouge, LA

W.O. NO: 12143.078.011.0001

JOB NO.: 2012-147

SUBJECT: EPA Method 8 Analytical Results

ACTION: Analysis of samples received on 11 June 2012

NARRATIVE:

This memo and analytical report constitutes our report of the samples submitted to the laboratory for analysis. The samples arrived in good condition and in accordance with the chain-of-custody. The samples were prepared and analyzed on 13 June 2012. The analysis was performed following EPA Method 8, *Determination of Sulfuric Acid and Sulfur Dioxide Emissions From Stationary Sources*.

Enclosed is a copy of the Chain-of Custody record, acknowledging receipt of these samples. Please note that any unused portion of the samples will be discarded 90 days after the date of receipt.

These results meet all requirements of TNI, unless otherwise specified.

These results of this report relate only to the samples listed in the body of this report.

This report shall not be reproduced by any organization outside of Weston Solutions, Inc. in part or in full, without the written approval from Weston Solutions, Inc.

QUALITY ASSURANCE AND QUALITY CONTROL:

Quality control procedures conformed to the requirements of the reference method and our laboratory quality assurance program.

Substantiating data is on file and available upon request.

Attachments

Analytical Laboratory
1625 Pumphrey Ave., Auburn, AL 36832
334.466.5600

Analysis Report
per EPA Method 8

Client : Rhodia Inc., Baton Rouge, LA
WESTON W.O. # : 12143.078.011.0001

Lab Job # 2012-147

Date Received : 6/11/2012
Date Analyzed : 6/13/2012
Lowest Measurement Level (mL): 0.1
Barium Chloride Normality 0.01000

Analyst: TAL
Sample Matrix: IPA
Titration Burret Size (mL) 25

Source ID	Date Collected	Lab ID	Sample Volume (mL)	Trial #	Aliquot Volume (mL)	Titrant Volume (mL)	Sulfuric Acid (mg)	**Average Sulfuric Acid (mg)**
Rhodia - Unit 1 - STK - 1 - M8 - H2SO4	6/4/2012	AN 1866	400	1	100	5.70	11.0	**10.9**
				2	100	5.60	10.8	
Rhodia - Unit 1 - STK - 2 - M8 - H2SO4	6/4/2012	AN 1867	400	1	100	5.90	11.4	**11.3**
				2	100	5.80	11.2	
Rhodia - Unit 1 - STK - 3 - M8 - H2SO4	6/4/2012	AN 1868	400	1	100	6.10	11.8	**11.9**
				2	100	6.20	12.0	
Rhodia - Unit 1 - STK - 4 - M8 - H2SO4	6/5/2012	AN 1869	400	1	100	5.80	11.2	**11.3**
				2	100	5.90	11.4	
Rhodia - Unit 1 - STK - 5 - M8 - H2SO4	6/5/2012	AN 1870	400	1	100	6.00	11.6	**11.7**
				2	100	6.10	11.8	
Rhodia - Unit 1 - STK - 6 - M8 - H2SO4	6/5/2012	AN 1871	400	1	100	7.00	13.5	**13.5**
				2	100	7.00	13.5	
Rhodia - Unit 1 - STK - 7 - M8 - H2SO4	6/5/2012	AN 1872	400	1	100	6.60	12.8	**12.8**
				2	100	6.60	12.8	
Rhodia - Unit 1 - STK - 8 - M8 - H2SO4	6/5/2012	AN 1873	400	1	100	6.80	13.1	**13.1**
				2	100	6.80	13.1	
Rhodia - Unit 1 - STK - 9 - M8 - H2SO4	6/5/2012	AN 1874	400	1	100	6.20	12.0	**12.0**
				2	100	6.20	12.0	
Rhodia - Unit 1 - STK - SB - M8 - ISO	6/5/2012	AN 1875	200	1	100	0.10	0.10	**0.10**
				2	100	0.10	0.10	

-Samples are blank corrected using the field blank titration. The field blank is not blank corrected.

Tracy A. Landers, Laboratory Manager

WESTON SOLUTIONS
Analytical Laboratory
1625 Pumphrey Ave., Auburn, AL 36832
334.466.5600

Analysis Report
per EPA Method 8

Client : Rhodia Inc., Baton Rouge, LA
WESTON W.O. # : 12143.078.011.0001

Lab Job # 2012-147

Date Received : 6/11/2012
Date Analyzed : 6/13/2012
Lowest Measurement Level (mL): 0.1
Barium Chloride Normality 0.01000

Analyst: TAL
Sample Matrix: IPA
Titration Burret Size (mL) 25

Source ID	Date Collected	Lab ID	Sample Volume (mL)	Trial #	Aliquot Volume (mL)	Titrant Volume (mL)	Sulfur Dioxide (mg)	**Sulfur Dioxide (mg)**
Rhodia - Unit 1 - STK - 2 - M8 - SO2	6/4/2012	AN 1876	1000	1	20	4.50	72.1	**71.3**
				2	20	4.40	70.5	
Rhodia - Unit 1 - STK - 2 - M8 - SO2	6/4/2012	AN 1877	1000	1	20	4.60	73.7	**73.7**
				2	20	4.60	73.7	
Rhodia - Unit 1 - STK - 3 - M8 - SO2	6/4/2012	AN 1878	1000	1	20	20.3	325	**323**
				2	20	20.0	320	
Rhodia - Unit 1 - STK - 4 - M8 - SO2	6/5/2012	AN 1879	1000	1	20	24.6	394	**393**
				2	20	24.5	392	
Rhodia - Unit 1 - STK - 5 - M8 - SO2	6/5/2012	AN 1880	1000	1	20	22.8	365	**364**
				2	20	22.6	362	
Rhodia - Unit 1 - STK - 6 - M8 - SO2	6/5/2012	AN 1881	1000	1	20	22.4	359	**359**
				2	20	22.4	359	
Rhodia - Unit 1 - STK - 7 - M8 - SO2	6/5/2012	AN 1882	1000	1	20	22.6	362	**360**
				2	20	22.4	359	
Rhodia - Unit 1 - STK - 8 - M8 - SO2	6/5/2012	AN 1883	1000	1	20	23.0	368	**368**
				2	20	23.0	368	
Rhodia - Unit 1 - STK - 9 - M8 - SO2	6/5/2012	AN 1884	1000	1	20	22.2	356	**356**
				2	20	22.2	356	
Rhodia - Unit 1 - STK - SB - M8 - H2O	6/5/2012	AN 1885	200	1	20	0.10	0.32	**0.32**
				2	20	0.10	0.32	

Tracy A Landers, Laboratory Manager

Analytical Laboratory
1625 Pumphrey Ave., Auburn, AL 36832
334.466.5600

Analysis Report
per EPA Method 8

Client : Rhodia Inc., Baton Rouge, LA
WESTON W.O. # : 12143.078.011.0001

Lab Job # 2012-147

Date Received : 6/11/2012
Date Analyzed : 6/13/2012
Lowest Measurement Level (mL): 0.1
Barium Chloride Normality (meq): 0.01000

Analyst: TAL
Titration Burret Size (mL) 25

Source ID	Lab ID	Sample Volume (mL)	Trial #	Aliquot Volume (mL)	Titrant Volume (mL)	Sulfuric Acid (mg)	**Sulfuric Acid (mg)**	**Assigned Value (mg)**	*% Difference*
LCS - E011-1144	n/a	1000	1 2	20 20	1.20 1.20	29.4 29.4	**29.4**	**27.4**	*7%*
80% IPA Matrix Blank	9506-48	200	1 2	20 20	0.00 0.00	< 0.49 < 0.49	**< 0.49**	**n/a**	*n/a*

Trial Number	1	2
Acid Volume (mL)	20.0	10.0
Acid Normality (meq/mL)	0.010	0.010
Titrant Volume:		
Start (mL)	0.00	0.00
End (mL)	20.0	10.0
Net (mL)	20.0	10.0
Titrant Normality (meq/mL)	0.0100	0.0100
Avg. Normality (meq/mL)	0.01000	

Tracy A. Landers, Laboratory Manager

Lab Tracking Number
2012-147

Chain-of-Custody Record/Lab Work Request

WESTON SOLUTIONS

Client	Rhodia Inc, Baton Rouge, LA		
Work Order Number	12143.078.011.0001	Phone Number	610-701-3067
Contact Person	Paul Meeter	Turn Around Time	Standard

Lab ID	Field Sample ID	Sample Collection Date	Analyses Requested/Other Info: Analysis	H2SO4	SO2	TSV	Sample Check-off
AN 1866	Rhodia - Unit 1 - STK - 1 - M8 - 4JUN2012 - H2SO4 *	6/4/12	M8	X		400	
AN 1876	Rhodia - Unit 1 - STK - 1 - M8 - 4JUN2012 - SO2		M8		X	1000	
AN 1867	Rhodia - Unit 1 - STK - 2 - M8 - 4JUN2012 - H2SO4 *		M8	X		400	
AN 1877	Rhodia - Unit 1 - STK - 2 - M8 - 4JUN2012 - SO2		M8		X	1000	
AN 1868	Rhodia - Unit 1 - STK - 3 - M8 - 4JUN2012 - H2SO4 *		M8	X		400	
AN 1878	Rhodia - Unit 1 - STK - 3 - M8 - 4JUN2012 - SO2		M8		X	1000	
PMW	[redacted]						

Notes:

M8 - Analysis per EPA Method 8

TSV = Total Sample Volume, mls

* Ship aliquot of IPA samples for Sodium analysis after M8

Relinquished By	Received By	Date	Time	Lab Use Only	
[signature]	Seb. T. Harrison	6/11/12	1015	Shipper	Air Bill #
				Opened By	Date/Time
				Temp °C Ambient	Condition good
				Custody Seals: Yes No None N/A	

Laboratory Comments:

Copyright Roy F Weston Inc Jan 1999-2003PV

Lab Tracking Number
2012-147

Chain-of-Custody Record/Lab Work Request

WESTON SOLUTIONS

Client	Rhodia Inc, Baton Rouge, LA		
Work Order Number	12143.078.011.0001	Phone Number	610-701-3067
Contact Person	Paul Meeter	Turn Around Time	Standard

Lab ID	Field Sample ID	Sample Collection Date	Analysis	H2SO4	SO2	TSV	Sample Check-o
			Analyses Requested/Other Info				
AN 1869	Rhodia - Unit 1 - STK - 4 - M8 - 5JUN2012 - H2SO4 ★	6/5/12	M8	X		400	
AN 1879	Rhodia - Unit 1 - STK - 4 - M8 - 5JUN2012 - SO2		M8		X	1000	
AN 1870	Rhodia - Unit 1 - STK - 5 - M8 - 5JUN2012 - H2SO4 ★		M8	X		400	
AN 1880	Rhodia - Unit 1 - STK - 5 - M8 - 5JUN2012 - SO2		M8		X	1000	
AN 1871	Rhodia - Unit 1 - STK - 6 - M8 - 5JUN2012 - H2SO4 ★		M8	X			
AN 1881	Rhodia - Unit 1 - STK - 6 - M8 - 5JUN2012 - SO2		M8		X	1000	
	[redacted]		[redacted]				
PMW	[redacted]		[redacted]				

Notes: M8 - Analysis per EPA Method 8

TSV = Total Sample Volume, mls

★ Ship aliquot of IPA for Sodium analysis after M8 analysis

Relinquished By	Received By	Date	Time	Lab Use Only	
	Seth T. Harrison	6/11/12	1015	Shipper	Air Bill #
				Opened By	Date/Time
				Temp °C Ambient	Condition good
				Custody Seals: Yes No None (N/A)	

Laboratory Comments:

Copyright Roy F Weston Inc Jan 1999-2003PV

Lab Tracking Number
2012-147

Chain-of-Custody Record/Lab Work Request

WESTON SOLUTIONS

Client	Rhodia Inc, Baton Rouge, LA		
Work Order Number	12143.078.011.0001	Phone Number	610-701-3067
Contact Person	Paul Meeter	Turn Around Time	Standard

Lab ID	Field Sample ID	Sample Collection Date	Analysis	H2SO4	SO2	TSV	Sample Check-off
AN 1872	Rhodia - Unit 1 - STK - 7 - M8 - 5JUN2012 - H2SO4 *	6/5/12	M8	X		400	
AN 1882	Rhodia - Unit 1 - STK - 7 - M8 - 5JUN2012 - SO2		M8		X	1000	
AN 1873	Rhodia - Unit 1 - STK - 8 - M8 - 5JUN2012 - H2SO4 *		M8	X		400	
AN 1883	Rhodia - Unit 1 - STK - 8 - M8 - 5JUN2012 - SO2		M8		X	1000	
AN 1874	Rhodia - Unit 1 - STK - 9 - M8 - 5JUN2012 - H2SO4 *		M8	X		400	
AN 1884	Rhodia - Unit 1 - STK - 9 - M8 - 5JUN2012 - SO2		M8		X	1000	
AN 1875	Rhodia - Unit 1 - STK - SB - M8 - 5JUN2012 - ISO *		M8	X	~~200~~ AN	200	
AN 1885	Rhodia - Unit 1 - STK - SB - M8 - 5JUN2012 - H2O2		M8		X	200	

Notes:

M8 - Analysis per EPA Method 8

TSV = Total Sample Volume, mls

* Ship aliquote of IPA for Sodium analysis after M8 analysis

Relinquished By	Received By	Date	Time	Lab Use Only	
	Seth T. Harrison	6/11/12	1015	Shipper	Air Bill #
				Opened By	Date/Time
				Temp °C Ambient	Condition good
				Custody Seals: Yes No None (N/A)	

Laboratory Comments:

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USEPA CONSENT DECREE TESTING AND RELATIVE ACCURACY TEST AUDIT REPORT
RHODIA, INC.
SULFURIC ACID REGENERATION UNIT NO. 2
BATON ROUGE, LOUISIANA
TEST DATES: 4-5 JUNE 2012

Prepared for:

RHODIA, INC.
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July 2012

W.O. No. 12143.078.011.0001

RHODIA INC.

USEPA CONSENT DECREE TESTING AND RELATIVE ACCURACY TEST AUDIT REPORT

TEST DATES: 4-5 June 2012

Weston Solutions, Inc. (WESTON®) is a commercial laboratory operating within full accreditation of the Louisiana Environmental Laboratory Accreditation Program under Certificate Number 03024. The qualifications to provide defensible quality data as a certified commercial environmental testing firm as Agency Interest No. 30815 was granted by the Louisiana Department of Environmental Quality under the Louisiana Administrative Code of LAC 33.1 Chapter 45 et al.

I certify that I have personally examined and am familiar with the information contained herein. Based on my inquiries of the individuals immediately responsible for obtaining the information, I believe the contents of this report deliverable to be true, accurate, and complete, to the best of my knowledge.

Paul M. Meeter
Weston Solutions, Inc.

John Richardson
Rhodia Inc.

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1. TEST PROGRAM SUMMARY

1.1 INTRODUCTION

Rhodia Inc. has entered into a consent decree with the US Environmental Protection Agency, the US Department of Justice and the Louisiana Department of Environmental Quality (LDEQ) to address alleged violations of NSPS and PSD standards at its North America sulfuric acid production sites. As part of the consent decree, the Baton Rouge, LA facility is required to perform initial performance testing and continuous emissions monitoring assessments. These performance test requirements can be found in paragraph 14 of the consent decree which also details the emission rate limits for the Baton Rouge Plant. This report provides a detailed description of the sampling, analytical and monitoring procedures that were used to demonstrate compliance with the NSPS and consent decree requirements.

Section 1 provides a summary of the overall test program, test parameters, applicable limits, and schedule. Section 2 provided a summary of test results. A description of process operations, test locations, sampling and analytical procedures are provided in Sections 3 through 6, respectively. Detailed test data and test results are presented in Section 7.

1.2 SAMPLE PROGRAM MATRIX

Table 1-1 provides a summary of test parameters and test procedures. All testing was performed on 4 and 5 June 2012 by Weston Solutions, Inc. (LELAP Certificate No. 03024) except for the Converter Inlet SO_2 audit conducted on 7 June 2012.

Table 1-1

Sample Program Matrix

Sample Parameter	Test Method	Number of Tests	Comments
Sulfuric Acid Mist	EPA Method 8	3	lb/hr and lb/ton of 100% acid produced
Sulfur Dioxide	EPA Method 8	9	lb/hr and lb/ton of 100% acid produced
Oxygen/Carbon Dioxide	EPA Method 3A	3	
Sulfur Dioxide (Stack)	EPA 6C	9	Relative Accuracy Test Audit
Sulfur Dioxide (Converter Inlet)	Performance Specification 2 Alternate Method 16.2	2 x 3[1]	Relative Accuracy Test Audit
Opacity	EPA 9	30[2]	% opacity

1. Two reference gas cylinders were used, each cylinder challenged the SO_2 analyzer with the known SO_2 concentration three separate times.
2. For purposes of determining initial compliance, the minimum total time of observations was 3 hours (30 6-minute averages) for the performance test.

2. RESULTS AND DISCUSSION

Tables 2-1 through 2-4 compare the testing results to the limits established in the consent decree and the NSPS requirements. As shown in Tables 2-1 and 2-2, sulfuric acid mist and sulfur dioxide emissions were below the allowable limits for all test runs.

The CEMS certification results are shown in Table 2-3. The stack SO_2 CEMS consist of both a primary and a backup (secondary) analyzer. Both analyzers were certified. The test results for relative accuracy met the performance specification criteria for each CEMS tested. Twelve reference method test runs were conducted at the stack CEM location on the primary analyzer and the secondary (backup) analyzer. The relative accuracy was based upon the best nine runs on each analyzer. The test results for 7-day calibration drift represent the greater value of zero and span error percentages. These test parameters also met the performance specification criteria for each CEMS tested. Any differences between the calculated results shown in the appendices and the reported results in the summary table are due to rounding the results for presentation.

Appendix C provides detailed summaries of the relative accuracy and performance specification testing.

The visible emissions observations test results are shown in Table 2-4. All results were below the allowable limit for all test runs.

Table 2-1

Rhodia, Inc.
Summary of Unit 1 Sulfuric Acid Mist Test Results

Test Run Number	Test Date	Test Period (DCS Time)[1]	Production Rate	Sulfuric Acid Mist Emissions		Allowable Limit
			ton/hr	lb/hr	lb/ton	lb/ton
1	6/4/12	1500-1602	28.97	1.97	0.07	0.150
2	6/4/12	1620-1722	28.97	2.02	0.07	0.150
3	6/4/12	1731-1834	28.96	2.14	0.07	0.150
Average			28.97	2.04	0.07	0.150

1 Times corresponding to Unit 1 Distributive Control System (DCS)

Table 2-2

Rhodia, Inc.
Summary of Unit 1 Sulfur Dioxide Test Results

Test Run Number	Test Date	Test Period (DCS Time)[1]	Sulfur Dioxide Emission Results			
			Compliance Test Mass Rate lb/hr	Production Rate ton/hr	Emission Rate lb/ton	Emission Limit lb/ton[2]
1	6/4/12	1500-1602	12.6	28.97	0.43	3.00
2	6/4/12	1620-1722	12.9	28.97	0.45	3.00
3	6/4/12	1731-1834	57.8	28.96	2.00	3.00
4	6/5/12	0906-1012	71.2	29.10	2.45	3.00
5	6/5/12	1059-1204	66.7	29.10	2.29	3.00
6	6/5/12	1249-1352	65.2	29.11	2.24	3.00
7	6/5/12	1415-1518	66.3	29.10	2.28	3.00
8	6/5/12	1535-1638	67.2	29.08	2.31	3.00
9	6/5/12	1651-1753	64.7	29.10	2.22	3.00
Average			53.8	29.05	1.85	3.00

1 Times corresponding to Unit 1 Distributive Control System (DCS).
2 The short term (3-hour rolling average) emission limit is 3.00 lb/ton. The unit also has a long term (365-day rolling) emission limit of 1.90 lb/ton.

Table 2-3

Summary of CEM Performance Specification Test Results

Analyzers	Relative Accuracy		7-Day Calibration Drift		7 – Day Zero Drift	
	Performance Required (%)	Performance Demonstrated (%)	Performance Required (%)	Performance Demonstrated (%)	Performance Required (%)	Performance Demonstrated (%)
SO_2 Stack (Primary)	20	11.08	≤ 2.5	1.7 (low) 0.9 (high)	≤ 2.5	0.56
SO_2 Stack (Secondary)	20	4.04	≤ 2.5	0.52	≤ 2.5	0.25

Converter Inlet Analyzer	Calibration Error		7-Day Calibration Drift		7 – Day Zero Drift	
	Performance Required (%)	Performance Demonstrated (%)	Performance Required (%)	Performance Demonstrated (%)	Performance Required (%)	Performance Demonstrated (%)
SO_2	15	(low conc.) 0.7 (high conc.) 2.1	≤ 2.5	0.10	≤ 2.5	0.0

Table 2-4

Summary of Visible Emissions Test Results

Observation Period[1]	Date	Number of 6-minute Readings	Highest 6-minute Average, %	Opacity Limit, %
1500-1559	6/4/12	10	5	10
1600-1659	6/4/12	10	5	10
1700-1759	6/4/12	10	5	10

1. All times correspond to Unit 1 DCS.

3. DESCRIPTION OF PROCESS OPERATIONS

3.1 DESCRIPTION OF SULFURIC ACID REGENERATION UNIT NO. 1

Baton Rouge Unit No. 1 is a sulfuric acid regeneration unit. RHODIA typically injects and atomizes spent sulfuric acids and molten sulfur (collectively called raw materials), and fuels into the industrial furnace for processing. After decomposition, the gas passes through a waste heat boiler, then enters gas purification and acid production equipment. The process gas stream, which typically contains 7-10% sulfur dioxide, is cooled and scrubbed to remove impurities. The sulfur dioxide is then converted to sulfur trioxide, and absorbed in sulfuric acid to final product specifications.

3.2 PROPOSED SULFURIC ACID PRODUCTION RATE

RHODIA operated Unit 1 at 95-100% of maximum daily capacity acid production. During the test program, 100% sulfuric acid production was calculated using spent sulfuric acid feed rate and sulfur feed rates and the conversion rate of sulfur dioxide to sulfur trioxide. The following equations were utilized:

Spent sulfuric acid

$$\frac{\text{gallons per minute} \times 60 \text{ minutes/hour} \times 8.34 \text{ pounds/gallon} \times \text{specific gravity} \times \text{weight \% sulfuric acid} \times 24 \text{ hours/day}}{2{,}000 \text{ pound/ton}} = \text{as 100\% sulfuric acid feed rate}$$

100% sulfuric acid feed rate x (1- weak acid loss as a fraction of total sulfuric acid feeds) x conversion rate = 100% sulfuric acid produced

Sulfur

$$\frac{\text{gallons per minute} \times 60 \text{ minutes/hour} \times 8.34 \text{ pounds/gallon} \times \text{specific gravity} \times 98/32 \times 24 \text{ hours/day}}{2{,}000 \text{ pound/ton}} = \text{as 100\% sulfuric acid feed rate}$$

100% sulfuric acid feed rate x (1- weak acid loss as a fraction of total sulfuric acid feeds) x conversion rate = 100% sulfuric acid produced

4. DESCRIPTION OF SAMPLING LOCATIONS AND MONITORING EQUIPMENT

4.1 SULFURIC ACID REGENERATION UNIT NO. 1 SAMPLING LOCATION

There is one sampling platform on the Unit No. 1 stack. The sampling platform is located approximately 25 feet above the top of the scrubber and approximately 38 feet below the stack exit. Four sample ports are located at 90° angles at this location. The stack diameter is 54 inches.

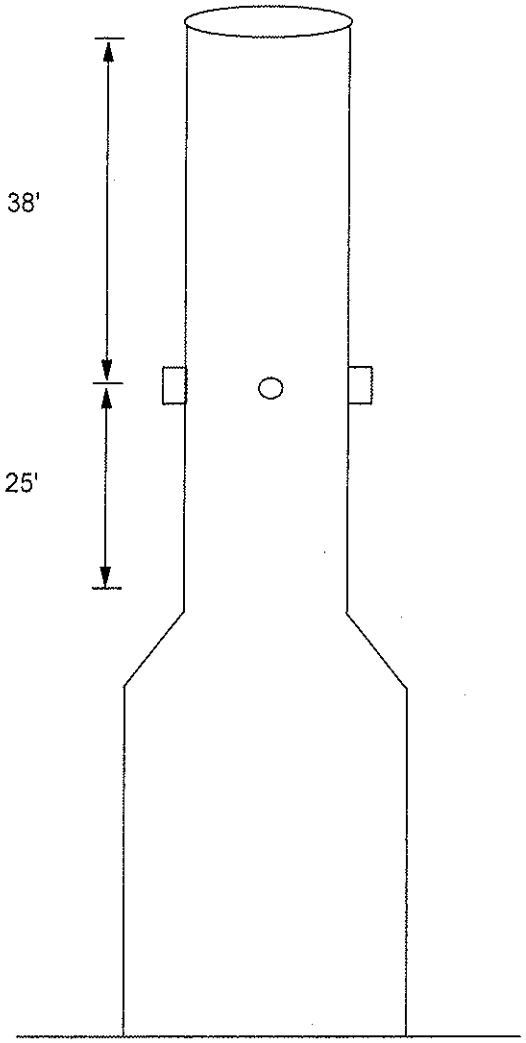
The sampling location for Unit No. 2 does not meet the 8- and 2-diameter criteria specified in EPA Reference Method 1; therefore, the number of traverse points for a circular stack with a diameter of greater than 0.61 meters was 20 traverse points, 10 points per port. See Figure 4-1.

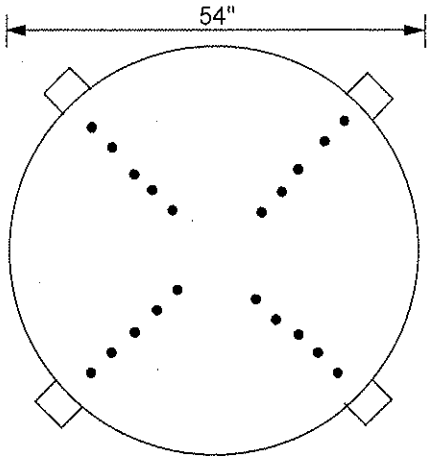
4.2 SULFUR DIOXIDE CONTINUOUS EMISSIONS MONITORS (CEMs), LOCATIONS AND SPECIFICATIONS

RHODIA operates CEMs to measure SO_2 concentrations at the stack and the converter inlet. The SO_2 CEM specifications are:

Location	Manufacturer	Model Number	Range
Stack (Primary)	Siemens	Ultramat 6	Dual range: Normal: 0-500 ppm SO_2 SSM: 0-3,600 ppm SO_2
Stack (Secondary)	DuPont	Model 460	Single range: 0-5000 ppm SO_2
Converter Inlet	Siemens	Ultramat 6	Single range: 0-15% SO_2

RHODIA performed a seven-day calibration drift test as part of the SO_2 CEMS evaluation. This information is included in Appendix A.





Traverse Point Number	Distance from Inside Near Wall (Inches)
1	1 3/8
2	4 3/8
3	7 7/8
4	12 1/4
5	18 1/2
6	35 1/2
7	41 3/4
8	46 1/8
9	49 5/8
10	52 5/8

DRAWING NOT TO SCALE

FIGURE 4-1
SULFURIC ACID REGENERATION UNIT NO. 1 STACK
SAMPLE PORT AND TRAVERSE POINT LOCATIONS

5. SAMPLING AND AUDITING PROCEDURES

5.1 PRELIMINARY TESTS

Preliminary test data was obtained at the stack location. Stack geometry measurements were recorded, and traverse point distances calculated. A preliminary velocity traverse and cyclonic flow check was performed utilizing a calibrated "S" type pitot tube and an inclined manometer to determine velocity profiles. The cyclonic flow check was acceptable ($\leq$ 20°). Flue gas temperatures were observed with a calibrated direct readout panel meter equipped with a chromel-alumel thermocouple. Water vapor content was estimated from saturation tables.

Preliminary test data was used for nozzle sizing and sampling rate determinations for isokinetic sampling procedures.

5.2 FORMAL TESTS

5.2.1 EPA Method 8

A series of nine EPA Method 8 test runs were conducted to measure sulfuric acid mist (first three runs) and sulfur dioxide emissions (all nine runs). Each test was 60 minutes in duration and sufficient to collect at least 30 dscf of sample volume. The sample rate did not exceed 1.0 cfm. Following completion of each test, the impinger portion of the sample train was purged with ambient air for 15 minutes to expel any SO_2 in the isopropanol.

During compliance testing, RHODIA monitored all appropriate operation parameters and determined sulfuric acid production rates.

5.2.2 Sulfur Dioxide Relative Accuracy Test Audit (RATA)

Nine to twelve EPA Method 6C sample runs, each 21 minutes in duration, were performed on the stack for comparison to the RHODIA SO_2 CEMS and to calculate the relative accuracy.

These results were compared with the output of the RHODIA SO_2 CEMS data acquisition system to evaluate the performance of the SO_2 CEMS using the equation shown below.

$$Relative\ Accuracy = \frac{|\bar{d}| + \left|\frac{2.306}{\sqrt{9}} \times Sd\right|}{Reference\ method\ mean\ or\ applicable\ standard} \times 100$$

5.3 EPA METHOD 8 SULFURIC ACID MIST AND SULFUR DIOXIDE SAMPLING TRAIN

The sampling train utilized to perform the sulfuric acid mist and sulfur dioxide sampling at the stack location was an EPA Method 8 train (see Figure 5-1). A calibrated glass nozzle was attached to a heated borosilicate probe. The probe was connected to the first impinger by a glass connector. The first impinger contained 200 ml of 80 percent isopropyl alcohol; followed by an unheated filter holder containing an unweighed glass fiber filter. The second and third impingers each contained 100 ml of 3% hydrogen peroxide, and the fourth impinger contained 300 grams of dry silica gel. The first and third impingers were standard Greenburg-Smith types; the second and fourth were of a modified design. All impingers were maintained in a crushed ice bath. A control console with a leakless vacuum pump, a calibrated dry gas meter, a calibrated orifice, and inclined manometers were connected to the final impinger via a vacuum line to complete the train.

Flue gas velocity was measured with a calibrated "S" type pitot tube (provided with extensions) fastened alongside the sampling probe. Flue gas temperature was monitored with a calibrated direct readout panel meter equipped with a chromel-alumel thermocouple positioned near the sampling nozzle. Impinger exit gas temperatures were monitored with a calibrated direct readout panel meter equipped with chromel-alumel thermocouple positioned after the last impinger.

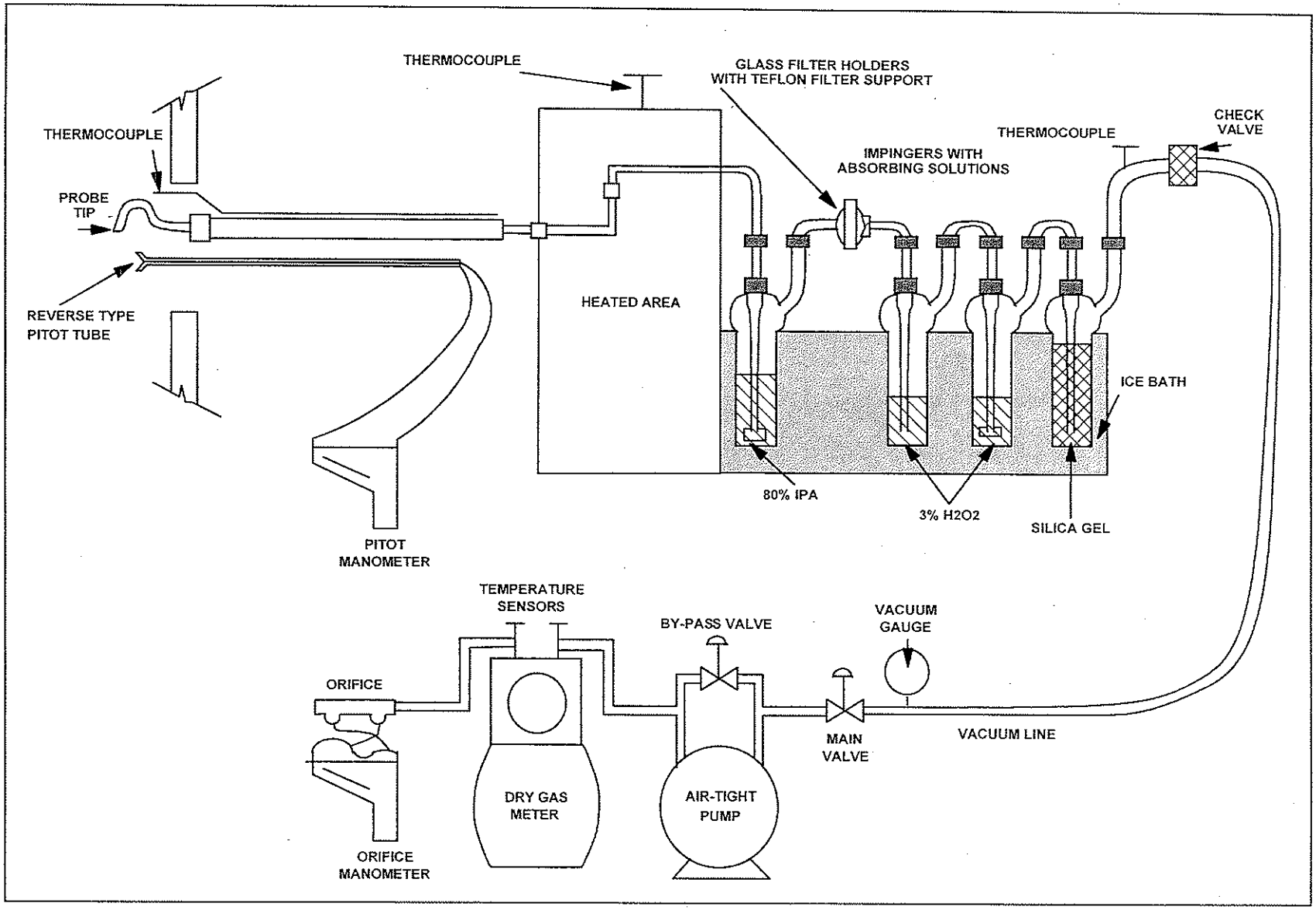


FIGURE 5-1
SULFUR OXIDES SAMPLING TRAIN
EPA METHOD 8

IASDATA\RHODIC BR\12143.078.011\FIGURE 5-1 EPA8

5.3.1 Sulfuric Acid Mist and Sulfur Dioxide Sample Recovery

At the conclusion of each test, the sampling train was dismantled, the openings sealed, and the components transported to the field laboratory. The sample train was purged with ambient air for 15 minutes prior to sample recovery.

A consistent procedure was employed for sample recovery:

1. The internal surfaces of the nozzle, probe and glass connectors were rinsed with 80% isopropyl alcohol into a container while brushing a minimum of three times. The brush was also rinsed into the same container (sample type 1).

2. The contents of the first impinger were weighed to the nearest 0.1 gram and the value recorded. An 80% isopropyl alcohol rinse of the impinger, glass connectors and front-half of the unheated filter holder was combined with the first impinger contents. The unheated filter was added to the 80% isopropyl alcohol impinger contents and wash. The first impinger contents, acid mist filter and rinses were all added to the sample type 1 container.

3. The total liquid in the second and third impingers was weighed to the nearest 0.1 gram and the value recorded. The impinger contents along with a distilled water rinse were combined for analysis as sample type 2.

4. The silica gel was removed from the last impinger and immediately weighed to the nearest one tenth gram. The weight gain was recorded.

5. The filter, isopropanol and hydrogen peroxide blank samples were placed into plastic containers and sealed with a Teflon liner for analysis.

Each container was labeled to clearly identify its contents. The height of the fluid level was marked on the container of each liquid sample to determine whether or not leakage occurred during transport. All samples were transported to the laboratory under chain of custody for analysis.

5.4 EPA METHOD 3A (GAS STREAM COMPOSITION) AND 6C (SULFUR DIOXIDE)

Stack dry gas stream composition (carbon dioxide and oxygen concentrations) was determined utilizing EPA Method 3A and also in combination with Method 6C procedures discussed in the following sections. See Figure 5-2.

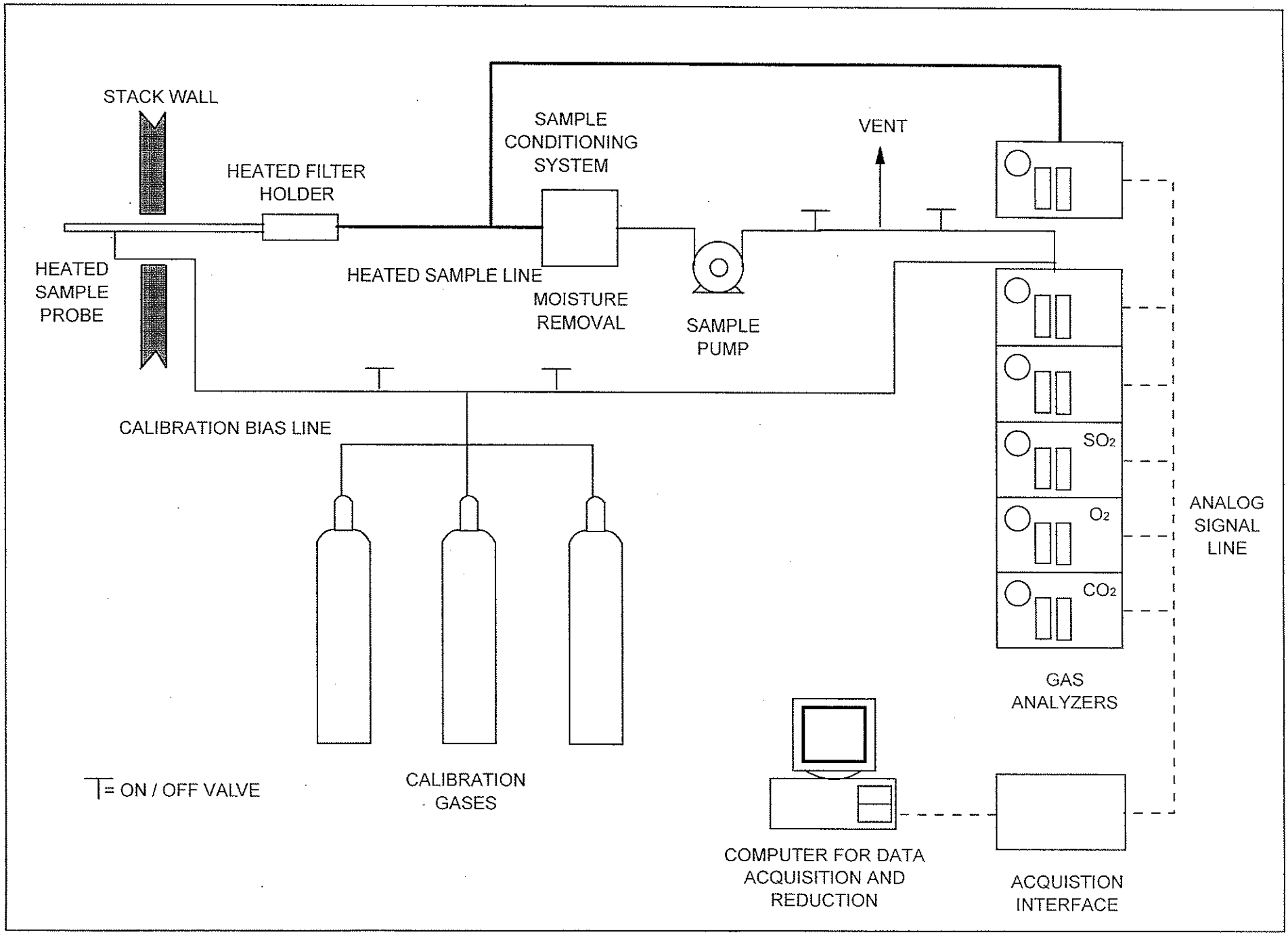


FIGURE 5-2
EPA METHOD 3A AND 6C SAMPLING SYSTEM

The sample was withdrawn from the source through a heated probe, filter, and sample line to a sample conditioner which removes moisture from the gas stream. The sample was then transported to the CO_2, O_2 and SO_2 analyzers.

Data was acquired electronically using a portable computer. This system converted electronic signals into concentrations, and provided one-minute averages during each sample run and an average concentration over the duration of the sample run.

At the time of analysis, CO_2, O_2 and SO_2 in nitrogen calibration gases (certified according to EPA Protocol) were used to calibrate the analyzers and to determine a bias correction factors for the entire system bias in accordance with EPA Reference Method 7E.

The calibration gases were introduced directly to the analyzer to generate a calibration curve. A zero gas and upscale calibration gases were introduced at the probe and returned through the sampling and analytical system. Bias correction factors were then calculated using the ratio of the measured concentration of the bias gas and concentration certified by the vendor. Sample run averages were corrected for system bias results.

5.5 ALTERNATIVE RA PROCEDURE

The RHODIA SO_2 CEM at the converter was challenged with certified cylinder gases of known concentrations at two measurement points within the ranges shown below.

- 20 – 30% of span value
- 50 – 60% of span value

A separate cylinder gas was used for measurement points 1 and 2. The CEMS were challenged and the responses recorded three times at each measurement point. The average of the three responses was used in determining relative accuracy.

RHODIA operated the SO_2 monitor in its normal sampling mode as nearly as possible. The cylinder gas passed through all filters, scrubbers, conditioners, and other monitor components used during normal sampling and as much of the sampling probe as practical. The CEMS were

challenged at each measurement point for a sufficient period of time to assure that the CEMS response had stabilized.

The cylinder gases were certified as manufacturer's standards, ± 2.0% accuracy traceable to NIST reference materials.

The differences between the known concentrations of the cylinder gases and the concentrations indicated by the CEMS were used to assess the accuracy of the CEMS. The calculations and limits of acceptable relative accuracy are as follows:

$$RA = \left| \left(\frac{\mathrm{d}}{\mathrm{AC}} \right) 100 \right| \leq 15 \; percent$$

where:

d	=	Average difference between responses and the concentration/responses
AC	=	The known concentration/response of the cylinder gas

5.6 VISIBLE EMISSIONS MEASUREMENTS

Plume opacity measurements were recorded by a certified visible emissions observer. These measurements were taken at 15 second intervals over 30 6-minute periods during the EPA Method 8 testing. A copy of the visible emissions observer certification is included in Appendix E.

6. SAMPLE ANALYSIS PROCEDURES

Weston Solutions, Inc., LELAP certificate 03024, performed the EPA Method 8 sample analysis discussed in the following subsections.

6.1 SULFURIC ACID MIST AND SULFUR DIOXIDE SAMPLE ANALYSIS

6.1.1 Sulfuric Acid Mist

Aliquots of sample type 1 were pipetted into a 250 ml Erlenmeyer flask. Two to four drops of thorin indicator were added and the solution titrated to a pink end point with 0.01 N barium perchlorate. Aliquot volumes depended on concentration and range of titration. The titration was repeated on a second aliquot of each sample and the titrant volumes averaged. A reagent blank was analyzed in like fashion. The sulfuric acid mist values from sample type 1 were used to calculate the sulfuric acid mist concentration and mass rate for each test run.

6.1.2 Sulfur Dioxide

Each SO_2 sample (sample type 2) was analyzed as follows:

An aliquot was pipetted into a 250 ml Erlenmeyer flask and diluted with four parts isopropyl alcohol. Two to four drops of thorin indicator were added and the mixture was titrated to a pink end point with 0.01 N barium perchlorate. The titration was repeated on a second aliquot and on a reagent blank. The SO_2 values from sample type 2 were used to calculate the SO_2 concentration and mass rate for each test run.

7. DETAILED TEST DATA AND TEST RESULTS

Section 2 provides a summary of test results for the sulfuric acid mist, sulfur dioxide, and visible emissions tests and for the CEM certification tests. Tables 7-1 through 7-3 provide detailed test data and test results for the nine EPA Method 8 tests. Detailed RATA results and calculations are presented in Appendix C.

The test program was performed on 4-5 June 2012.

No sampling or analytical problems were encountered.

RHODIA, INC.
Baton Rouge, LA
TABLE 7-1
SULFURIC ACID MIST AND SULFUR DIOXIDE TEST DATA AND TEST RESULTS

TEST DATA:			
Test run number	1	2	3
Location		UNIT 1 STACK	
Test date	6/4/12	6/4/12	6/4/12
Test time period	1500-1602	1620-1722	1731-1834
SAMPLING DATA:			
Sampling duration, min.	60.0	60.0	60.0
Nozzle diameter, in.	0.190	0.190	0.190
Cross sectional nozzle area, sq.ft.	0.000197	0.000197	0.000197
Barometric pressure, in. Hg	29.60	29.60	29.60
Avg. orifice press. diff., in H_2O	1.46	1.47	1.44
Avg. dry gas meter temp., deg F	95.0	95.1	94.3
Avg. abs. dry gas meter temp., deg. R	555	555	554
Total liquid collected by train, ml	32.8	35.5	37.9
Std. vol. of H_2O vapor coll., cu.ft.	1.5	1.7	1.8
Dry gas meter calibration factor	0.9810	0.9810	0.9810
Sample vol. at meter cond., dcf	40.630	40.798	40.078
Sample vol. at std. cond., dscf (1)	37.633	37.782	37.168
Percent of isokinetic sampling	98.4	99.3	98.9
GAS STREAM COMPOSITION DATA:			
CO_2, % by volume, dry basis	7.7	7.5	7.5
O_2, % by volume, dry basis	8.1	8.2	8.5
N_2, % by volume, dry basis	84.2	84.3	84.0
Molecular wt. of dry gas, lb/lb mole	29.56	29.53	29.54
H_20 vapor in gas stream, prop. by vol.	0.039	0.042	0.046
H_20 vapor at saturation, prop. by vol.	0.031	0.033	0.033
Mole fraction of dry gas	0.969	0.967	0.967
Molecular wt. of wet gas, lb/lb mole	29.19	29.15	29.16
GAS STREAM VELOCITY AND VOLUMETRIC FLOW DATA:			
Static pressure, in. H_2O	1.60	1.60	1.60
Absolute pressure, in. Hg	29.72	29.72	29.72
Avg. temperature, deg. F	77	78	78
Avg. absolute temperature, deg.R	537	538	538
Pitot tube coefficient	0.84	0.84	0.84
Total number of traverse points	20	20	20
Avg. gas stream velocity, ft./sec.	57.1	56.9	56.2
Stack/duct cross sectional area, sq.ft.	15.904	15.904	15.904
Avg. gas stream volumetric flow, wacf/min.	54469	54314	53645
Avg. gas stream volumetric flow, dscf/min.	51489	51220	50609
SULFURIC ACID MIST EMISSIONS			
Average concentration, lb/dscf	6.38E-07	6.58E-07	7.04E-07
Average concentration, ppm/v	2.5	2.6	2.8
Average concentration, mg/cu.m	10.2	10.5	11.3
Mass emission rate, lbs/hr	1.97	2.02	2.14
SULFUR DIOXIDE EMISSIONS:			
Average concentration, lb/dscf	4.08E-06	4.20E-06	1.90E-05
Average concentration, ppm/v	24.6	25.3	114.7
Average concentration, mg/cu.m	65.4	67.3	305.0
Mass emission rate, lbs/hr	12.6	12.9	57.8

(1) Standard conditions = 68 deg. F. (20 deg. C.) and 29.92 inches Hg (760mm Hg).

RHODIA, INC.
Baton Rouge, LA
TABLE 7-2
SULFUR DIOXIDE TEST DATA AND TEST RESULTS

TEST DATA:			
Test run number	4	5	6
Location		UNIT 1 STACK	
Test date	6/5/12	6/5/12	6/5/12
Test time period	0906-1012	1059-1204	1249-1352
SAMPLING DATA:			
Sampling duration, min.	60.0	60.0	60.0
Nozzle diameter, in.	0.190	0.190	0.190
Cross sectional nozzle area, sq.ft.	0.000197	0.000197	0.000197
Barometric pressure, in. Hg	29.50	29.50	29.50
Avg. orifice press. diff., in H_2O	1.48	1.40	1.46
Avg. dry gas meter temp., deg F	78.1	85.7	91.3
Avg. abs. dry gas meter temp., deg. R	538	546	551
Total liquid collected by train, ml	40.9	32.9	37.7
Std. vol. of H_2O vapor coll., cu.ft.	1.9	1.6	1.8
Dry gas meter calibration factor	0.9810	0.9810	0.9810
Sample vol. at meter cond., dcf	40.089	39.233	40.320
Sample vol. at std. cond., dscf (1)	38.172	36.828	37.473
Percent of isokinetic sampling	97.9	96.6	97.6
GAS STREAM COMPOSITION DATA:			
CO_2, % by volume, dry basis	7.8	7.7	7.7
O_2, % by volume, dry basis	7.7	8.1	8.1
N_2, % by volume, dry basis	84.5	84.2	84.2
Molecular wt. of dry gas, lb/lb mole	29.56	29.56	29.56
H_20 vapor in gas stream, prop. by vol.	0.048	0.040	0.045
H_20 vapor at saturation, prop. by vol.	0.034	0.034	0.034
Mole fraction of dry gas	0.966	0.966	0.966
Molecular wt. of wet gas, lb/lb mole	29.17	29.17	29.17
GAS STREAM VELOCITY AND VOLUMETRIC FLOW DATA:			
Static pressure, in. H_2O	1.60	1.60	1.60
Absolute pressure, in. Hg	29.62	29.62	29.62
Avg. temperature, deg. F	79	79	79
Avg. absolute temperature, deg.R	539	539	539
Pitot tube coefficient	0.84	0.84	0.84
Total number of traverse points	20	20	20
Avg. gas stream velocity, ft./sec.	58.7	57.4	57.8
Stack/duct cross sectional area, sq.ft.	15.904	15.904	15.904
Avg. gas stream volumetric flow, wacf/min.	56034	54775	55198
Avg. gas stream volumetric flow, dscf/min.	52483	51341	51709
SULFUR DIOXIDE EMISSIONS:			
Average concentration, lb/dscf	2.26E-05	2.17E-05	2.10E-05
Average concentration, ppm/v	136.2	130.5	126.5
Average concentration, mg/cu.m	362.2	347.0	336.5
Mass emission rate, lbs/hr	71.2	66.7	65.2

(1) Standard conditions = 68 deg. F. (20 deg. C.) and 29.92 inches Hg (760mm Hg).

RHODIA, INC.
Baton Rouge, LA
TABLE 7-3
SULFUR DIOXIDE TEST DATA AND TEST RESULTS

TEST DATA:			
Test run number	7	8	9
Location		UNIT 1 STACK	
Test date	6/5/12	6/5/12	6/5/12
Test time period	1415-1518	1535-1638	1651-1753
SAMPLING DATA:			
Sampling duration, min.	60.0	60.0	60.0
Nozzle diameter, in.	0.190	0.190	0.190
Cross sectional nozzle area, sq.ft.	0.000197	0.000197	0.000197
Barometric pressure, in. Hg	29.50	29.50	29.50
Avg. orifice press. diff., in H_2O	1.44	1.44	1.40
Avg. dry gas meter temp., deg F	96.6	100.7	97.0
Avg. abs. dry gas meter temp., deg. R	557	561	557
Total liquid collected by train, ml	38.5	41.3	37.0
Std. vol. of H_2O vapor coll., cu.ft.	1.8	1.9	1.7
Dry gas meter calibration factor	0.9810	0.9810	0.9810
Sample vol. at meter cond., dcf	40.001	40.623	39.826
Sample vol. at std. cond., dscf (1)	36.821	37.120	36.628
Percent of isokinetic sampling	96.4	97.1	97.5
GAS STREAM COMPOSITION DATA:			
CO_2, % by volume, dry basis	7.8	7.8	7.9
O_2, % by volume, dry basis	8.1	8.1	8.1
N_2, % by volume, dry basis	84.1	84.1	84.0
Molecular wt. of dry gas, lb/lb mole	29.57	29.57	29.59
H_20 vapor in gas stream, prop. by vol.	0.047	0.050	0.045
H_20 vapor at saturation, prop. by vol.	0.033	0.033	0.033
Mole fraction of dry gas	0.967	0.967	0.967
Molecular wt. of wet gas, lb/lb mole	29.19	29.19	29.21
GAS STREAM VELOCITY AND VOLUMETRIC FLOW DATA:			
Static pressure, in. H_2O	1.60	1.60	1.60
Absolute pressure, in. Hg	29.62	29.62	29.62
Avg. temperature, deg. F	78	78	78
Avg. absolute temperature, deg.R	538	538	538
Pitot tube coefficient	0.84	0.84	0.84
Total number of traverse points	20	20	20
Avg. gas stream velocity, ft./sec.	57.4	57.4	56.5
Stack/duct cross sectional area, sq.ft.	15.904	15.904	15.904
Avg. gas stream volumetric flow, wacf/min.	54803	54772	53918
Avg. gas stream volumetric flow, dscf/min.	51454	51453	50609
SULFUR DIOXIDE EMISSIONS:			
Average concentration, lb/dscf	2.15E-05	2.18E-05	2.13E-05
Average concentration, ppm/v	129.3	131.1	128.3
Average concentration, mg/cu.m	344.0	348.8	341.2
Mass emission rate, lbs/hr	66.3	67.2	64.7

(1) Standard conditions = 68 deg. F. (20 deg. C.) and 29.92 inches Hg (760mm Hg).

APPENDIX A
OPERATIONS DATA

A.1 Process Operations Data

A.2 Rhodia Stack SO_2 CEM Data

A.3 Rhodia Converter Inlet SO_2 CEM Data

A.1 PROCESS OPERATIONS DATA

Run	Start	End	Primary Stack SO2 (ppm) 10AI875_44A.PNT	Backup Stack SO2 (ppm) 10AT342	Production Rate (TPD) U1 Instantaneous Acid Production Rate	Stack Gas Flow Rate (SCFM) 10FI875_43.PNT	10CEMS_E_3HR_AVG
1	6/4/2012 15:00	6/4/2012 15:01	22.6	48.6	696.0	53801.8	0.3
1	6/4/2012 15:01	6/4/2012 15:02	22.5	49.5	695.9	53944.2	0.3
1	6/4/2012 15:02	6/4/2012 15:03	22.4	50.1	695.9	53975.8	0.3
1	6/4/2012 15:03	6/4/2012 15:04	22.3	51.4	695.5	53993.3	0.3
1	6/4/2012 15:04	6/4/2012 15:05	22.2	48.2	694.8	53878.0	0.3
1	6/4/2012 15:05	6/4/2012 15:06	22.1	49.0	695.2	53821.8	0.3
1	6/4/2012 15:06	6/4/2012 15:07	22.1	48.4	695.0	53663.9	0.3
1	6/4/2012 15:07	6/4/2012 15:08	22.0	49.1	693.7	53773.4	0.3
1	6/4/2012 15:08	6/4/2012 15:09	21.9	52.0	695.7	53897.0	0.3
1	6/4/2012 15:09	6/4/2012 15:10	21.8	51.6	695.7	53951.4	0.3
1	6/4/2012 15:10	6/4/2012 15:11	21.7	51.5	696.7	53882.4	0.3
1	6/4/2012 15:11	6/4/2012 15:12	21.6	51.7	695.7	53774.7	0.3
1	6/4/2012 15:12	6/4/2012 15:13	21.5	50.4	695.1	53879.1	0.3
1	6/4/2012 15:13	6/4/2012 15:14	21.4	46.3	695.8	53901.9	0.3
1	6/4/2012 15:14	6/4/2012 15:15	21.3	47.1	695.8	53917.3	0.3
1	6/4/2012 15:15	6/4/2012 15:16	21.3	49.2	695.8	53953.9	0.3
1	6/4/2012 15:16	6/4/2012 15:17	21.2	51.9	695.9	53999.2	0.3
1	6/4/2012 15:17	6/4/2012 15:18	21.1	54.1	695.0	54005.9	0.3
1	6/4/2012 15:18	6/4/2012 15:19	21.0	54.0	695.0	54040.5	0.3
1	6/4/2012 15:19	6/4/2012 15:20	20.9	52.7	695.4	54066.3	0.3
1	6/4/2012 15:20	6/4/2012 15:21	20.8	53.2	695.5	54243.0	0.3
1	6/4/2012 15:21	6/4/2012 15:22	20.7	53.9	695.2	54276.1	0.3
1	6/4/2012 15:22	6/4/2012 15:23	20.6	52.2	694.9	54257.5	0.3
1	6/4/2012 15:23	6/4/2012 15:24	20.5	50.1	694.9	54158.1	0.3
1	6/4/2012 15:24	6/4/2012 15:25	20.4	49.4	694.4	54280.1	0.3
1	6/4/2012 15:25	6/4/2012 15:26	20.4	50.5	695.3	54223.4	0.3
1	6/4/2012 15:26	6/4/2012 15:27	20.3	50.9	695.6	54279.0	0.3
1	6/4/2012 15:27	6/4/2012 15:28	20.2	50.9	695.4	54315.2	0.3
1	6/4/2012 15:28	6/4/2012 15:29	20.1	48.2	694.6	54337.2	0.3
1	6/4/2012 15:29	6/4/2012 15:30	20.0	46.6	695.7	54374.9	0.3
1	6/4/2012 15:30	6/4/2012 15:31	19.9	46.5	695.5	54280.3	0.3
1	6/4/2012 15:31	6/4/2012 15:32	19.8	44.8	694.6	54424.3	0.3
1	6/4/2012 15:32	6/4/2012 15:33	19.7	44.7	694.5	54462.6	0.3
1	6/4/2012 15:33	6/4/2012 15:34	19.6	47.3	695.1	54525.5	0.3
1	6/4/2012 15:34	6/4/2012 15:35	19.6	47.9	694.0	54438.0	0.3
1	6/4/2012 15:35	6/4/2012 15:36	19.5	49.9	694.7	54464.7	0.3
1	6/4/2012 15:36	6/4/2012 15:37	19.4	49.1	694.8	54556.6	0.3
1	6/4/2012 15:37	6/4/2012 15:38	19.3	48.6	694.6	54337.1	0.3
1	6/4/2012 15:38	6/4/2012 15:39	19.2	49.8	694.9	54686.6	0.3
1	6/4/2012 15:39	6/4/2012 15:40	19.1	49.1	695.7	54441.9	0.3
1	6/4/2012 15:40	6/4/2012 15:41	19.0	49.0	695.0	54430.2	0.3
1	6/4/2012 15:41	6/4/2012 15:42	18.9	45.7	692.8	54567.5	0.3
1	6/4/2012 15:42	6/4/2012 15:43	18.8	44.3	694.8	54594.2	0.3
1	6/4/2012 15:43	6/4/2012 15:44	18.8	44.0	695.2	54467.2	0.3
1	6/4/2012 15:44	6/4/2012 15:45	18.7	47.3	695.6	54543.0	0.3
1	6/4/2012 15:45	6/4/2012 15:46	18.6	48.9	696.4	54596.9	0.3
1	6/4/2012 15:46	6/4/2012 15:47	18.5	46.3	697.4	54385.5	0.3
1	6/4/2012 15:47	6/4/2012 15:48	18.4	47.8	696.2	54252.8	0.3
1	6/4/2012 15:48	6/4/2012 15:49	18.3	48.4	695.9	54258.6	0.3
1	6/4/2012 15:49	6/4/2012 15:50	18.2	46.7	696.5	54348.0	0.3
1	6/4/2012 15:50	6/4/2012 15:51	18.1	44.7	696.1	54475.4	0.3
1	6/4/2012 15:51	6/4/2012 15:52	18.0	45.1	695.3	54368.8	0.3
1	6/4/2012 15:52	6/4/2012 15:53	17.9	45.5	694.9	54476.5	0.3
1	6/4/2012 15:53	6/4/2012 15:54	17.9	48.5	695.8	54598.4	0.3
1	6/4/2012 15:54	6/4/2012 15:55	17.8	47.8	695.2	54485.5	0.3
1	6/4/2012 15:55	6/4/2012 15:56	17.7	47.0	695.5	54508.3	0.3
1	6/4/2012 15:56	6/4/2012 15:57	17.6	46.2	694.9	54540.3	0.3
1	6/4/2012 15:57	6/4/2012 15:58	17.5	43.0	694.4	54564.4	0.3
1	6/4/2012 15:58	6/4/2012 15:59	17.4	42.4	694.1	54565.2	0.3
1	6/4/2012 15:59	6/4/2012 16:00	17.3	42.2	695.4	54503.1	0.3
1	6/4/2012 16:00	6/4/2012 16:01	17.2	43.3	696.3	54538.8	0.3
1	6/4/2012 16:01	6/4/2012 16:02	17.1	45.4	694.8	54607.6	0.3
		Run Average	**19.9**	**48.4**	**695.3**	**54261.0**	
2	6/4/2012 16:20	6/4/2012 16:21	16.7	45.3	695.4	54623.1	0.3
2	6/4/2012 16:21	6/4/2012 16:22	16.8	43.5	694.8	54596.0	0.3
2	6/4/2012 16:22	6/4/2012 16:23	16.9	42.8	695.0	54683.6	0.3
2	6/4/2012 16:23	6/4/2012 16:24	17.0	42.7	695.4	54518.6	0.3
2	6/4/2012 16:24	6/4/2012 16:25	17.1	44.3	694.5	54676.1	0.3
2	6/4/2012 16:25	6/4/2012 16:26	17.2	42.4	694.5	54707.0	0.3
2	6/4/2012 16:26	6/4/2012 16:27	17.3	39.9	695.1	54450.9	0.3
2	6/4/2012 16:27	6/4/2012 16:28	17.4	40.4	694.5	54574.6	0.3
2	6/4/2012 16:28	6/4/2012 16:29	17.5	41.4	694.3	54567.9	0.3
2	6/4/2012 16:29	6/4/2012 16:30	17.6	44.5	696.4	54598.2	0.3
2	6/4/2012 16:30	6/4/2012 16:31	17.7	44.1	696.1	54573.5	0.3
2	6/4/2012 16:31	6/4/2012 16:32	17.8	43.6	695.8	54671.5	0.3
2	6/4/2012 16:32	6/4/2012 16:33	17.9	43.4	694.7	54614.4	0.3
2	6/4/2012 16:33	6/4/2012 16:34	18.0	41.3	694.7	54624.2	0.3
2	6/4/2012 16:34	6/4/2012 16:35	18.1	35.6	695.6	54544.1	0.3
2	6/4/2012 16:35	6/4/2012 16:36	18.2	36.1	695.5	54681.7	0.3
2	6/4/2012 16:36	6/4/2012 16:37	18.3	37.2	695.6	54535.4	0.3
2	6/4/2012 16:37	6/4/2012 16:38	18.4	39.0	695.5	54536.3	0.3
2	6/4/2012 16:38	6/4/2012 16:39	18.5	37.7	695.1	54528.7	0.3
2	6/4/2012 16:39	6/4/2012 16:40	18.6	38.1	695.1	54613.5	0.3
2	6/4/2012 16:40	6/4/2012 16:41	18.7	38.6	695.5	54577.4	0.3
2	6/4/2012 16:41	6/4/2012 16:42	18.8	36.4	695.7	54592.1	0.3
2	6/4/2012 16:42	6/4/2012 16:43	18.9	33.1	695.7	54725.1	0.3
2	6/4/2012 16:43	6/4/2012 16:44	19.0	34.6	695.1	54683.3	0.3
2	6/4/2012 16:44	6/4/2012 16:45	19.1	38.0	694.9	54709.3	0.3

2	6/4/2012 16:45	6/4/2012 16:46	19.3	39.4	695.1	54764.4	0.3
2	6/4/2012 16:46	6/4/2012 16:47	19.4	39.7	694.7	54607.7	0.3
2	6/4/2012 16:47	6/4/2012 16:48	19.5	38.0	695.0	54610.4	0.3
2	6/4/2012 16:48	6/4/2012 16:49	19.6	39.9	694.3	54545.1	0.2
2	6/4/2012 16:49	6/4/2012 16:50	19.7	40.0	695.1	54601.3	0.2
2	6/4/2012 16:50	6/4/2012 16:51	19.8	38.6	696.3	54718.9	0.2
2	6/4/2012 16:51	6/4/2012 16:52	19.9	37.9	695.1	54531.3	0.2
2	6/4/2012 16:52	6/4/2012 16:53	20.0	37.8	694.2	54518.3	0.2
2	6/4/2012 16:53	6/4/2012 16:54	20.1	35.8	693.4	54650.8	0.2
2	6/4/2012 16:54	6/4/2012 16:55	20.2	36.7	695.0	54579.1	0.2
2	6/4/2012 16:55	6/4/2012 16:56	20.3	37.5	695.7	54730.5	0.2
2	6/4/2012 16:56	6/4/2012 16:57	20.4	38.9	696.6	54635.8	0.2
2	6/4/2012 16:57	6/4/2012 16:58	20.5	39.0	696.1	54576.4	0.2
2	6/4/2012 16:58	6/4/2012 16:59	20.6	38.0	694.5	54683.7	0.2
2	6/4/2012 16:59	6/4/2012 17:00	20.7	39.3	694.3	54501.8	0.2
2	6/4/2012 17:00	6/4/2012 17:01	20.8	38.3	696.0	54574.4	0.2
2	6/4/2012 17:01	6/4/2012 17:02	20.9	36.5	695.4	54539.2	0.2
2	6/4/2012 17:02	6/4/2012 17:03	21.0	37.9	695.2	54548.7	0.2
2	6/4/2012 17:03	6/4/2012 17:04	21.1	38.9	695.1	54526.1	0.2
2	6/4/2012 17:04	6/4/2012 17:05	21.2	40.2	694.6	54650.7	0.2
2	6/4/2012 17:05	6/4/2012 17:06	21.3	38.6	695.9	54532.8	0.2
2	6/4/2012 17:06	6/4/2012 17:07	21.4	38.0	695.4	54599.9	0.2
2	6/4/2012 17:07	6/4/2012 17:08	21.5	38.5	695.1	54611.2	0.2
2	6/4/2012 17:08	6/4/2012 17:09	21.6	39.2	695.1	54578.5	0.2
2	6/4/2012 17:09	6/4/2012 17:10	21.7	36.2	693.7	54642.3	0.2
2	6/4/2012 17:10	6/4/2012 17:11	21.8	33.6	696.3	54584.0	0.2
2	6/4/2012 17:11	6/4/2012 17:12	21.9	33.9	695.9	54623.5	0.2
2	6/4/2012 17:12	6/4/2012 17:13	22.1	34.7	694.6	54630.8	0.2
2	6/4/2012 17:13	6/4/2012 17:14	22.2	36.2	696.2	54645.4	0.2
2	6/4/2012 17:14	6/4/2012 17:15	22.3	36.5	695.8	54639.6	0.2
2	6/4/2012 17:15	6/4/2012 17:16	22.4	36.1	696.0	54697.3	0.2
2	6/4/2012 17:16	6/4/2012 17:17	22.5	36.2	695.0	54593.4	0.2
2	6/4/2012 17:17	6/4/2012 17:18	22.6	35.7	694.8	54588.7	0.2
2	6/4/2012 17:18	6/4/2012 17:19	22.7	33.8	694.3	54653.7	0.2
2	6/4/2012 17:19	6/4/2012 17:20	22.8	33.7	694.4	54495.8	0.2
2	6/4/2012 17:20	6/4/2012 17:21	22.9	34.6	694.9	54592.1	0.2
2	6/4/2012 17:21	6/4/2012 17:22	23.0	35.8	693.6	54629.9	0.2
		Run Average	**19.8**	**38.4**	**695.2**	**54607.1**	
3	6/4/2012 17:31	6/4/2012 17:32	24.0	43.9	695.8	54508.3	0.3
3	6/4/2012 17:32	6/4/2012 17:33	24.4	45.3	695.4	54388.8	0.3
3	6/4/2012 17:33	6/4/2012 17:34	25.2	44.0	695.3	54650.1	0.3
3	6/4/2012 17:34	6/4/2012 17:35	25.9	44.8	697.7	54555.0	0.3
3	6/4/2012 17:35	6/4/2012 17:36	26.7	45.8	696.0	54456.2	0.3
3	6/4/2012 17:36	6/4/2012 17:37	27.5	43.5	696.9	54502.8	0.3
3	6/4/2012 17:37	6/4/2012 17:38	28.2	43.2	696.0	54580.4	0.3
3	6/4/2012 17:38	6/4/2012 17:39	29.0	45.4	695.2	54232.0	0.3
3	6/4/2012 17:39	6/4/2012 17:40	29.8	48.1	696.0	54461.3	0.3
3	6/4/2012 17:40	6/4/2012 17:41	30.5	49.9	696.1	54583.6	0.3
3	6/4/2012 17:41	6/4/2012 17:42	31.3	47.8	694.6	54439.1	0.3
3	6/4/2012 17:42	6/4/2012 17:43	32.1	47.1	695.2	54450.7	0.3
3	6/4/2012 17:43	6/4/2012 17:44	32.8	45.9	696.4	54584.0	0.3
3	6/4/2012 17:44	6/4/2012 17:45	33.6	44.7	695.8	54502.2	0.3
3	6/4/2012 17:45	6/4/2012 17:46	34.4	44.3	695.4	54420.2	0.3
3	6/4/2012 17:46	6/4/2012 17:47	35.1	46.2	696.1	54449.6	0.3
3	6/4/2012 17:47	6/4/2012 17:48	35.9	48.0	696.8	54531.7	0.3
3	6/4/2012 17:48	6/4/2012 17:49	36.6	49.1	696.7	54494.0	0.3
3	6/4/2012 17:49	6/4/2012 17:50	37.4	50.6	695.4	54532.7	0.3
3	6/4/2012 17:50	6/4/2012 17:51	38.2	52.1	696.1	54559.9	0.3
3	6/4/2012 17:51	6/4/2012 17:52	38.9	52.6	695.4	54544.0	0.3
3	6/4/2012 17:52	6/4/2012 17:53	39.7	50.9	694.4	54495.1	0.3
3	6/4/2012 17:53	6/4/2012 17:54	40.5	50.5	694.0	54560.5	0.3
3	6/4/2012 17:54	6/4/2012 17:55	41.2	50.4	694.7	54499.5	0.3
3	6/4/2012 17:55	6/4/2012 17:56	42.0	54.6	695.8	54630.2	0.3
3	6/4/2012 17:56	6/4/2012 17:57	42.8	55.8	696.0	54529.3	0.3
3	6/4/2012 17:57	6/4/2012 17:58	43.5	60.8	694.4	54486.1	0.3
3	6/4/2012 17:58	6/4/2012 17:59	44.6	61.2	693.8	54541.0	0.3
3	6/4/2012 17:59	6/4/2012 18:00	48.9	63.1	694.6	54441.8	0.3
3	6/4/2012 18:00	6/4/2012 18:01	54.2	66.9	695.4	54552.0	0.3
3	6/4/2012 18:01	6/4/2012 18:02	59.5	72.7	695.4	54615.2	0.3
3	6/4/2012 18:02	6/4/2012 18:03	64.8	74.7	694.8	54548.0	0.3
3	6/4/2012 18:03	6/4/2012 18:04	70.0	80.4	693.1	54530.7	0.3
3	6/4/2012 18:04	6/4/2012 18:05	75.3	87.4	693.5	54495.4	0.3
3	6/4/2012 18:05	6/4/2012 18:06	80.6	96.1	694.0	54358.5	0.3
3	6/4/2012 18:06	6/4/2012 18:07	87.8	106.4	692.4	54426.7	0.3
3	6/4/2012 18:07	6/4/2012 18:08	101.6	115.5	692.8	54487.9	0.3
3	6/4/2012 18:08	6/4/2012 18:09	116.0	126.5	695.1	54535.5	0.4
3	6/4/2012 18:09	6/4/2012 18:10	130.3	141.9	695.6	54492.8	0.4
3	6/4/2012 18:10	6/4/2012 18:11	150.3	160.6	695.6	54461.9	0.4
3	6/4/2012 18:11	6/4/2012 18:12	177.1	185.9	695.5	54535.6	0.4
3	6/4/2012 18:12	6/4/2012 18:13	204.0	216.0	694.0	54523.6	0.4
3	6/4/2012 18:13	6/4/2012 18:14	230.3	242.7	693.6	54525.7	0.4
3	6/4/2012 18:14	6/4/2012 18:15	238.0	255.3	694.6	54656.3	0.4
3	6/4/2012 18:15	6/4/2012 18:16	236.3	253.3	695.3	54656.7	0.4
3	6/4/2012 18:16	6/4/2012 18:17	228.1	235.7	694.7	54591.4	0.4
3	6/4/2012 18:17	6/4/2012 18:18	203.0	212.7	693.6	54437.0	0.4
3	6/4/2012 18:18	6/4/2012 18:19	181.6	192.4	692.4	54564.5	0.5
3	6/4/2012 18:19	6/4/2012 18:20	163.3	170.7	693.2	54771.7	0.5
3	6/4/2012 18:20	6/4/2012 18:21	147.0	153.2	694.3	54504.1	0.5
3	6/4/2012 18:21	6/4/2012 18:22	130.7	140.2	693.3	54515.5	0.5
3	6/4/2012 18:22	6/4/2012 18:23	119.3	128.8	693.1	54500.8	0.5
3	6/4/2012 18:23	6/4/2012 18:24	112.5	119.9	693.2	54541.4	0.6
3	6/4/2012 18:24	6/4/2012 18:25	105.7	114.8	693.8	54552.8	0.6
3	6/4/2012 18:25	6/4/2012 18:26	99.0	107.4	693.8	54561.7	0.6

3	6/4/2012 18:26	6/4/2012 18:27	92.2	100.7	694.4	54672.4	0.6
3	6/4/2012 18:27	6/4/2012 18:28	85.4	97.6	694.9	54678.0	0.6
3	6/4/2012 18:28	6/4/2012 18:29	80.6	93.1	694.9	54763.3	0.6
3	6/4/2012 18:29	6/4/2012 18:30	78.0	88.2	695.9	54669.8	0.6
3	6/4/2012 18:30	6/4/2012 18:31	75.4	87.7	697.0	54613.5	0.6
3	6/4/2012 18:31	6/4/2012 18:32	72.8	85.7	696.8	54500.8	0.6
3	6/4/2012 18:32	6/4/2012 18:33	70.4	85.5	698.1	54498.8	0.6
3	6/4/2012 18:33	6/4/2012 18:34	70.2	84.0	694.9	54223.5	0.6
		Run Average	**82.4**	**95.4**	**695.0**	**54526.6**	
4	6/5/2012 9:06	6/5/2012 9:07	118.1	133.1	698.7	54045.5	1.6
4	6/5/2012 9:07	6/5/2012 9:08	118.1	132.2	698.8	54108.1	1.6
4	6/5/2012 9:08	6/5/2012 9:09	118.2	131.2	697.5	54152.7	1.6
4	6/5/2012 9:09	6/5/2012 9:10	118.2	133.5	698.7	54189.0	1.6
4	6/5/2012 9:10	6/5/2012 9:11	118.2	134.0	699.9	54227.9	1.6
4	6/5/2012 9:11	6/5/2012 9:12	118.3	134.5	698.5	54310.8	1.6
4	6/5/2012 9:12	6/5/2012 9:13	118.3	134.6	697.9	54311.6	1.6
4	6/5/2012 9:13	6/5/2012 9:14	118.4	134.1	697.4	54085.6	1.6
4	6/5/2012 9:14	6/5/2012 9:15	118.4	133.4	697.1	54187.0	1.6
4	6/5/2012 9:15	6/5/2012 9:16	118.5	132.4	698.2	54195.0	1.6
4	6/5/2012 9:16	6/5/2012 9:17	118.5	132.0	697.4	54264.6	1.6
4	6/5/2012 9:17	6/5/2012 9:18	118.6	129.9	697.4	54093.9	1.6
4	6/5/2012 9:18	6/5/2012 9:19	118.6	128.4	697.4	54071.3	1.6
4	6/5/2012 9:19	6/5/2012 9:20	118.6	127.8	698.8	54139.1	1.6
4	6/5/2012 9:20	6/5/2012 9:21	118.7	128.2	699.2	54162.8	1.6
4	6/5/2012 9:21	6/5/2012 9:22	118.7	132.7	697.0	54148.0	1.6
4	6/5/2012 9:22	6/5/2012 9:23	118.8	132.0	695.9	54173.0	1.6
4	6/5/2012 9:23	6/5/2012 9:24	118.8	129.9	698.0	54150.4	1.6
4	6/5/2012 9:24	6/5/2012 9:25	118.9	129.7	697.8	54145.9	1.6
4	6/5/2012 9:25	6/5/2012 9:26	118.9	131.4	698.7	54134.8	1.6
4	6/5/2012 9:26	6/5/2012 9:27	119.0	129.2	698.3	54146.3	1.6
4	6/5/2012 9:27	6/5/2012 9:28	119.0	129.5	698.8	54121.9	1.6
4	6/5/2012 9:28	6/5/2012 9:29	119.1	131.4	698.5	54120.7	1.7
4	6/5/2012 9:29	6/5/2012 9:30	119.1	132.2	699.3	54073.4	1.7
4	6/5/2012 9:30	6/5/2012 9:31	119.1	134.4	699.0	54091.8	1.7
4	6/5/2012 9:31	6/5/2012 9:32	119.2	133.0	698.1	54075.7	1.7
4	6/5/2012 9:32	6/5/2012 9:33	119.2	132.8	698.2	53996.6	1.7
4	6/5/2012 9:33	6/5/2012 9:34	119.3	131.0	699.1	54103.7	1.7
4	6/5/2012 9:34	6/5/2012 9:35	119.3	131.4	698.1	54107.5	1.7
4	6/5/2012 9:35	6/5/2012 9:36	119.4	129.8	698.1	54156.2	1.7
4	6/5/2012 9:36	6/5/2012 9:37	119.4	131.9	698.0	54151.3	1.7
4	6/5/2012 9:37	6/5/2012 9:38	119.5	132.6	698.6	54072.4	1.7
4	6/5/2012 9:38	6/5/2012 9:39	119.5	133.6	698.5	54122.2	1.7
4	6/5/2012 9:39	6/5/2012 9:40	119.5	133.8	698.4	54094.5	1.7
4	6/5/2012 9:40	6/5/2012 9:41	119.6	133.7	698.5	53964.1	1.7
4	6/5/2012 9:41	6/5/2012 9:42	119.6	132.1	699.1	53963.1	1.7
4	6/5/2012 9:42	6/5/2012 9:43	119.7	131.5	698.2	53998.1	1.7
4	6/5/2012 9:43	6/5/2012 9:44	119.7	130.3	698.8	53939.2	1.7
4	6/5/2012 9:44	6/5/2012 9:45	119.8	128.4	698.3	53886.7	1.7
4	6/5/2012 9:45	6/5/2012 9:46	119.8	129.7	697.7	54025.4	1.7
4	6/5/2012 9:46	6/5/2012 9:47	119.9	128.8	697.3	54088.5	1.7
4	6/5/2012 9:47	6/5/2012 9:48	119.9	129.6	697.8	54142.8	1.7
4	6/5/2012 9:48	6/5/2012 9:49	119.9	128.3	698.6	54032.7	1.7
4	6/5/2012 9:49	6/5/2012 9:50	120.0	126.0	698.2	54232.9	1.7
4	6/5/2012 9:50	6/5/2012 9:51	120.0	123.2	698.3	54098.7	1.7
4	6/5/2012 9:51	6/5/2012 9:52	120.1	120.6	697.7	54077.3	1.7
4	6/5/2012 9:52	6/5/2012 9:53	120.1	121.1	698.4	54061.0	1.7
4	6/5/2012 9:53	6/5/2012 9:54	120.2	117.5	698.6	54084.1	1.7
4	6/5/2012 9:54	6/5/2012 9:55	120.2	121.8	699.5	54162.2	1.7
4	6/5/2012 9:55	6/5/2012 9:56	120.3	120.2	699.0	53997.8	1.7
4	6/5/2012 9:56	6/5/2012 9:57	120.3	122.1	699.1	54169.8	1.7
4	6/5/2012 9:57	6/5/2012 9:58	120.3	122.7	699.0	54106.3	1.7
4	6/5/2012 9:58	6/5/2012 9:59	120.4	120.2	698.3	54064.0	1.7
4	6/5/2012 9:59	6/5/2012 10:00	120.4	119.8	698.6	54121.6	1.7
4	6/5/2012 10:00	6/5/2012 10:01	120.5	118.8	698.4	54181.8	1.7
4	6/5/2012 10:01	6/5/2012 10:02	120.5	118.3	698.4	54055.1	1.7
4	6/5/2012 10:02	6/5/2012 10:03	120.6	115.3	698.6	54190.4	1.7
4	6/5/2012 10:03	6/5/2012 10:04	120.6	113.9	700.6	54166.7	1.7
4	6/5/2012 10:04	6/5/2012 10:05	120.7	113.1	698.8	54156.1	1.7
4	6/5/2012 10:05	6/5/2012 10:06	120.7	114.5	699.0	54044.6	1.7
4	6/5/2012 10:06	6/5/2012 10:07	120.8	116.6	698.0	54153.7	1.7
4	6/5/2012 10:07	6/5/2012 10:08	120.8	117.2	696.4	54183.6	1.7
4	6/5/2012 10:08	6/5/2012 10:09	120.8	115.2	699.1	54085.6	1.7
4	6/5/2012 10:09	6/5/2012 10:10	120.7	115.4	699.0	54035.0	1.7
4	6/5/2012 10:10	6/5/2012 10:11	120.6	116.4	699.2	54053.0	1.7
4	6/5/2012 10:11	6/5/2012 10:12	120.5	114.2	697.8	54104.9	1.7
		Run Average	**119.5**	**126.9**	**698.4**	**54111.8**	
5	6/5/2012 10:59	6/5/2012 11:00	115.1	101.4	701.0	54277.0	1.7
5	6/5/2012 11:00	6/5/2012 11:01	115.0	101.2	701.7	54304.5	1.7
5	6/5/2012 11:01	6/5/2012 11:02	114.8	103.3	700.5	54216.3	1.7
5	6/5/2012 11:02	6/5/2012 11:03	114.7	103.5	700.3	54242.6	1.7
5	6/5/2012 11:03	6/5/2012 11:04	114.6	104.4	699.7	54255.1	1.7
5	6/5/2012 11:04	6/5/2012 11:05	114.5	105.8	698.8	54129.4	1.7
5	6/5/2012 11:05	6/5/2012 11:06	114.4	102.5	698.9	54268.4	1.7
5	6/5/2012 11:06	6/5/2012 11:07	114.3	103.5	698.6	54229.9	1.7
5	6/5/2012 11:07	6/5/2012 11:08	114.2	105.4	698.0	54246.4	1.7
5	6/5/2012 11:08	6/5/2012 11:09	114.0	104.8	697.6	54287.2	1.8
5	6/5/2012 11:09	6/5/2012 11:10	113.9	103.5	699.2	54251.5	1.8
5	6/5/2012 11:10	6/5/2012 11:11	113.8	101.0	698.7	54299.3	1.8
5	6/5/2012 11:11	6/5/2012 11:12	113.7	99.8	698.5	54351.5	1.8
5	6/5/2012 11:12	6/5/2012 11:13	113.6	103.7	698.4	54259.8	1.8
5	6/5/2012 11:13	6/5/2012 11:14	113.5	103.8	698.5	54338.3	1.8
5	6/5/2012 11:14	6/5/2012 11:15	113.4	101.0	698.7	54248.6	1.8

5	6/5/2012 11:15	6/5/2012 11:16	113.3	102.3	700.3	54277.6	1.8
5	6/5/2012 11:16	6/5/2012 11:17	113.1	103.6	700.7	54354.3	1.8
5	6/5/2012 11:17	6/5/2012 11:18	113.0	104.7	699.7	54315.9	1.8
5	6/5/2012 11:18	6/5/2012 11:19	112.9	104.3	699.2	54275.2	1.8
5	6/5/2012 11:19	6/5/2012 11:20	112.8	104.4	700.0	54303.0	1.8
5	6/5/2012 11:20	6/5/2012 11:21	112.7	105.0	699.8	54276.1	1.8
5	6/5/2012 11:21	6/5/2012 11:22	112.6	104.3	699.0	54331.9	1.8
5	6/5/2012 11:22	6/5/2012 11:23	112.6	103.4	697.7	54257.6	1.8
5	6/5/2012 11:23	6/5/2012 11:24	118.8	103.7	698.3	54255.4	1.8
5	6/5/2012 11:24	6/5/2012 11:25	122.2	105.6	697.1	54233.1	1.8
5	6/5/2012 11:25	6/5/2012 11:26	122.1	129.8	698.1	54208.2	1.8
5	6/5/2012 11:26	6/5/2012 11:27	122.0	132.3	698.1	54182.5	1.8
5	6/5/2012 11:27	6/5/2012 11:28	121.9	133.1	697.8	54291.4	1.8
5	6/5/2012 11:28	6/5/2012 11:29	121.8	130.9	697.8	54231.8	1.8
5	6/5/2012 11:29	6/5/2012 11:30	121.7	129.8	699.0	54349.7	1.8
5	6/5/2012 11:30	6/5/2012 11:31	121.6	131.3	698.7	54272.9	1.8
5	6/5/2012 11:31	6/5/2012 11:32	121.5	130.6	698.0	54327.2	1.8
5	6/5/2012 11:32	6/5/2012 11:33	121.5	128.3	697.4	54349.5	1.8
5	6/5/2012 11:33	6/5/2012 11:34	121.4	126.5	698.0	54291.8	1.8
5	6/5/2012 11:34	6/5/2012 11:35	121.3	126.4	698.6	54258.0	1.8
5	6/5/2012 11:35	6/5/2012 11:36	121.2	126.3	700.5	54229.5	1.8
5	6/5/2012 11:36	6/5/2012 11:37	121.1	130.1	697.1	54350.0	1.8
5	6/5/2012 11:37	6/5/2012 11:38	121.0	128.7	696.8	54370.2	1.8
5	6/5/2012 11:38	6/5/2012 11:39	120.9	126.3	695.5	54139.8	1.8
5	6/5/2012 11:39	6/5/2012 11:40	120.8	126.0	697.0	54212.5	1.8
5	6/5/2012 11:40	6/5/2012 11:41	120.7	127.6	699.4	54198.4	1.8
5	6/5/2012 11:41	6/5/2012 11:42	120.6	126.8	698.2	54307.5	1.8
5	6/5/2012 11:42	6/5/2012 11:43	120.5	125.4	697.6	54406.9	1.8
5	6/5/2012 11:43	6/5/2012 11:44	120.5	126.0	697.6	54306.1	1.8
5	6/5/2012 11:44	6/5/2012 11:45	120.4	125.3	697.3	54269.9	1.8
5	6/5/2012 11:45	6/5/2012 11:46	120.3	125.7	698.3	54125.4	1.8
5	6/5/2012 11:46	6/5/2012 11:47	120.2	125.4	698.6	54463.4	1.8
5	6/5/2012 11:47	6/5/2012 11:48	120.1	125.3	698.1	54368.2	1.8
5	6/5/2012 11:48	6/5/2012 11:49	120.0	125.6	697.7	54428.7	1.8
5	6/5/2012 11:49	6/5/2012 11:50	119.9	124.6	698.0	54390.6	1.8
5	6/5/2012 11:50	6/5/2012 11:51	119.8	124.2	697.7	54396.6	1.8
5	6/5/2012 11:51	6/5/2012 11:52	119.7	123.3	696.3	54300.5	1.8
5	6/5/2012 11:52	6/5/2012 11:53	119.6	124.6	696.9	54319.4	1.8
5	6/5/2012 11:53	6/5/2012 11:54	119.5	124.3	697.4	54390.2	1.8
5	6/5/2012 11:54	6/5/2012 11:55	119.5	125.3	696.9	54298.6	1.8
5	6/5/2012 11:55	6/5/2012 11:56	119.4	126.4	697.4	54351.5	1.8
5	6/5/2012 11:56	6/5/2012 11:57	119.3	125.4	698.0	54346.6	1.8
5	6/5/2012 11:57	6/5/2012 11:58	119.2	123.5	697.4	54153.7	1.8
5	6/5/2012 11:58	6/5/2012 11:59	119.1	122.2	697.3	54176.2	1.7
5	6/5/2012 11:59	6/5/2012 12:00	119.0	121.7	697.8	54317.3	1.7
5	6/5/2012 12:00	6/5/2012 12:01	118.9	120.4	699.0	54254.0	1.7
5	6/5/2012 12:01	6/5/2012 12:02	118.8	123.5	698.6	54339.0	1.7
5	6/5/2012 12:02	6/5/2012 12:03	118.7	124.3	698.3	54350.6	1.7
5	6/5/2012 12:03	6/5/2012 12:04	118.6	124.4	699.0	54331.7	1.7
		Run Average	**117.9**	**117.2**	**698.4**	**54288.3**	
6	6/5/2012 12:49	6/5/2012 12:50	114.4	120.0	701.6	54084.6	1.7
6	6/5/2012 12:50	6/5/2012 12:51	114.4	119.0	698.4	54024.6	1.7
6	6/5/2012 12:51	6/5/2012 12:52	114.3	117.7	696.9	54090.8	1.7
6	6/5/2012 12:52	6/5/2012 12:53	114.2	116.7	697.8	53996.1	1.7
6	6/5/2012 12:53	6/5/2012 12:54	114.1	116.5	698.3	53963.9	1.7
6	6/5/2012 12:54	6/5/2012 12:55	114.0	116.4	697.4	54024.0	1.7
6	6/5/2012 12:55	6/5/2012 12:56	113.9	119.2	697.6	53915.0	1.7
6	6/5/2012 12:56	6/5/2012 12:57	113.8	120.7	698.8	53914.0	1.7
6	6/5/2012 12:57	6/5/2012 12:58	113.7	122.5	698.7	53826.6	1.7
6	6/5/2012 12:58	6/5/2012 12:59	113.6	121.5	698.3	53702.7	1.7
6	6/5/2012 12:59	6/5/2012 13:00	113.5	121.3	699.1	53556.9	1.7
6	6/5/2012 13:00	6/5/2012 13:01	113.4	120.5	699.8	53730.9	1.7
6	6/5/2012 13:01	6/5/2012 13:02	113.4	120.5	699.5	53710.3	1.7
6	6/5/2012 13:02	6/5/2012 13:03	113.3	118.1	698.2	53772.4	1.7
6	6/5/2012 13:03	6/5/2012 13:04	113.2	116.8	698.8	53809.0	1.7
6	6/5/2012 13:04	6/5/2012 13:05	113.1	116.8	697.9	53769.8	1.7
6	6/5/2012 13:05	6/5/2012 13:06	113.0	118.4	698.6	53639.9	1.7
6	6/5/2012 13:06	6/5/2012 13:07	112.9	121.0	699.3	53840.2	1.7
6	6/5/2012 13:07	6/5/2012 13:08	112.8	119.9	698.7	53853.0	1.7
6	6/5/2012 13:08	6/5/2012 13:09	112.7	118.9	698.6	53913.0	1.7
6	6/5/2012 13:09	6/5/2012 13:10	112.6	119.1	706.3	53786.0	1.7
6	6/5/2012 13:10	6/5/2012 13:11	112.5	118.2	711.6	53831.8	1.7
6	6/5/2012 13:11	6/5/2012 13:12	112.4	118.8	712.1	53853.1	1.7
6	6/5/2012 13:12	6/5/2012 13:13	112.4	117.3	701.3	53802.7	1.7
6	6/5/2012 13:13	6/5/2012 13:14	112.3	117.2	696.0	53849.3	1.7
6	6/5/2012 13:14	6/5/2012 13:15	112.2	117.6	699.4	53684.8	1.7
6	6/5/2012 13:15	6/5/2012 13:16	112.1	118.9	695.9	53659.2	1.7
6	6/5/2012 13:16	6/5/2012 13:17	112.0	122.0	693.0	53789.4	1.7
6	6/5/2012 13:17	6/5/2012 13:18	111.9	120.3	693.8	53820.2	1.7
6	6/5/2012 13:18	6/5/2012 13:19	111.8	120.2	694.2	53933.0	1.7
6	6/5/2012 13:19	6/5/2012 13:20	111.7	119.9	694.7	53949.1	1.7
6	6/5/2012 13:20	6/5/2012 13:21	111.6	120.2	696.7	53950.8	1.7
6	6/5/2012 13:21	6/5/2012 13:22	111.5	116.8	696.5	53985.3	1.7
6	6/5/2012 13:22	6/5/2012 13:23	111.4	117.7	697.0	53901.2	1.7
6	6/5/2012 13:23	6/5/2012 13:24	111.4	116.4	701.2	53846.5	1.7
6	6/5/2012 13:24	6/5/2012 13:25	111.3	112.7	698.6	53891.2	1.7
6	6/5/2012 13:25	6/5/2012 13:26	111.2	115.4	697.3	53883.1	1.7
6	6/5/2012 13:26	6/5/2012 13:27	111.1	117.7	697.4	53861.6	1.7
6	6/5/2012 13:27	6/5/2012 13:28	111.0	117.0	696.2	53957.0	1.7
6	6/5/2012 13:28	6/5/2012 13:29	110.9	116.7	696.8	53833.7	1.7
6	6/5/2012 13:29	6/5/2012 13:30	110.8	118.5	696.8	53801.5	1.7
6	6/5/2012 13:30	6/5/2012 13:31	110.7	115.6	698.0	53845.1	1.7
6	6/5/2012 13:31	6/5/2012 13:32	110.6	115.9	698.3	53784.6	1.7

6	6/5/2012 13:32	6/5/2012 13:33	110.5	115.6	697.4	53789.1	1.7
6	6/5/2012 13:33	6/5/2012 13:34	110.4	115.4	698.2	53729.3	1.7
6	6/5/2012 13:34	6/5/2012 13:35	110.4	118.7	698.0	53720.9	1.7
6	6/5/2012 13:35	6/5/2012 13:36	110.3	116.1	698.1	53673.3	1.7
6	6/5/2012 13:36	6/5/2012 13:37	110.2	114.7	698.3	53659.5	1.7
6	6/5/2012 13:37	6/5/2012 13:38	110.1	113.6	698.2	53754.4	1.7
6	6/5/2012 13:38	6/5/2012 13:39	110.0	113.8	698.4	53739.9	1.7
6	6/5/2012 13:39	6/5/2012 13:40	109.9	111.2	698.7	53716.3	1.7
6	6/5/2012 13:40	6/5/2012 13:41	109.8	111.2	698.9	53668.1	1.7
6	6/5/2012 13:41	6/5/2012 13:42	109.7	113.6	698.6	53690.4	1.7
6	6/5/2012 13:42	6/5/2012 13:43	109.6	113.6	698.1	53779.4	1.7
6	6/5/2012 13:43	6/5/2012 13:44	109.5	117.3	697.7	53670.8	1.7
6	6/5/2012 13:44	6/5/2012 13:45	109.4	115.4	697.1	53744.9	1.7
6	6/5/2012 13:45	6/5/2012 13:46	109.4	114.0	697.4	53831.5	1.7
6	6/5/2012 13:46	6/5/2012 13:47	109.3	113.7	697.5	53886.1	1.7
6	6/5/2012 13:47	6/5/2012 13:48	109.2	113.8	698.4	53781.3	1.7
6	6/5/2012 13:48	6/5/2012 13:49	109.1	111.1	699.7	53693.1	1.7
6	6/5/2012 13:49	6/5/2012 13:50	109.0	109.2	700.6	53797.7	1.7
6	6/5/2012 13:50	6/5/2012 13:51	108.9	109.6	698.9	53667.0	1.7
6	6/5/2012 13:51	6/5/2012 13:52	108.8	110.6	699.2	53747.4	1.7
		Run Average	**111.6**	**116.9**	**698.6**	**53815.5**	
7	6/5/2012 14:15	6/5/2012 14:16	106.6	108.6	698.9	53719.7	1.7
7	6/5/2012 14:16	6/5/2012 14:17	106.5	108.9	700.0	53741.8	1.7
7	6/5/2012 14:17	6/5/2012 14:18	106.4	110.2	699.2	53809.2	1.7
7	6/5/2012 14:18	6/5/2012 14:19	106.3	113.4	699.1	53759.9	1.7
7	6/5/2012 14:19	6/5/2012 14:20	106.3	113.2	699.1	53674.1	1.7
7	6/5/2012 14:20	6/5/2012 14:21	106.2	113.9	697.3	53664.3	1.7
7	6/5/2012 14:21	6/5/2012 14:22	106.1	115.1	697.2	53695.7	1.7
7	6/5/2012 14:22	6/5/2012 14:23	106.7	116.4	696.7	53735.0	1.7
7	6/5/2012 14:23	6/5/2012 14:24	110.0	116.4	697.3	53683.5	1.7
7	6/5/2012 14:24	6/5/2012 14:25	110.3	118.4	698.1	53556.7	1.7
7	6/5/2012 14:25	6/5/2012 14:26	110.3	131.6	699.9	53705.7	1.7
7	6/5/2012 14:26	6/5/2012 14:27	110.3	132.4	698.6	53706.7	1.7
7	6/5/2012 14:27	6/5/2012 14:28	110.3	131.8	698.0	53557.6	1.7
7	6/5/2012 14:28	6/5/2012 14:29	110.3	127.9	697.4	53715.8	1.7
7	6/5/2012 14:29	6/5/2012 14:30	110.3	128.7	697.3	53658.8	1.7
7	6/5/2012 14:30	6/5/2012 14:31	110.3	129.7	698.6	53722.0	1.7
7	6/5/2012 14:31	6/5/2012 14:32	110.4	130.2	698.3	53623.4	1.7
7	6/5/2012 14:32	6/5/2012 14:33	110.4	128.4	697.7	53691.1	1.7
7	6/5/2012 14:33	6/5/2012 14:34	110.4	129.6	697.5	53717.1	1.7
7	6/5/2012 14:34	6/5/2012 14:35	110.4	130.0	696.8	53521.2	1.7
7	6/5/2012 14:35	6/5/2012 14:36	110.4	130.1	696.1	53727.0	1.7
7	6/5/2012 14:36	6/5/2012 14:37	110.4	130.7	697.9	53823.8	1.7
7	6/5/2012 14:37	6/5/2012 14:38	110.4	128.8	697.6	53711.8	1.7
7	6/5/2012 14:38	6/5/2012 14:39	110.4	129.0	698.7	53710.0	1.7
7	6/5/2012 14:39	6/5/2012 14:40	110.4	128.5	699.2	53620.6	1.7
7	6/5/2012 14:40	6/5/2012 14:41	110.4	128.2	698.6	53600.5	1.7
7	6/5/2012 14:41	6/5/2012 14:42	110.4	125.5	699.1	53591.6	1.7
7	6/5/2012 14:42	6/5/2012 14:43	110.4	125.9	698.0	53585.1	1.7
7	6/5/2012 14:43	6/5/2012 14:44	110.4	126.8	698.9	53535.6	1.7
7	6/5/2012 14:44	6/5/2012 14:45	110.4	130.9	697.4	53600.7	1.7
7	6/5/2012 14:45	6/5/2012 14:46	110.4	130.4	698.3	53446.5	1.7
7	6/5/2012 14:46	6/5/2012 14:47	110.4	129.8	697.8	53517.8	1.7
7	6/5/2012 14:47	6/5/2012 14:48	110.4	128.6	698.0	53602.4	1.7
7	6/5/2012 14:48	6/5/2012 14:49	110.4	129.6	697.6	53566.7	1.7
7	6/5/2012 14:49	6/5/2012 14:50	110.4	127.9	697.9	53542.4	1.7
7	6/5/2012 14:50	6/5/2012 14:51	110.4	128.4	698.8	53506.2	1.7
7	6/5/2012 14:51	6/5/2012 14:52	110.5	128.6	699.1	53546.5	1.7
7	6/5/2012 14:52	6/5/2012 14:53	110.5	127.6	698.8	53622.6	1.7
7	6/5/2012 14:53	6/5/2012 14:54	110.5	128.5	698.9	53666.9	1.7
7	6/5/2012 14:54	6/5/2012 14:55	110.5	129.0	698.5	53628.1	1.7
7	6/5/2012 14:55	6/5/2012 14:56	110.5	130.1	700.6	53656.9	1.7
7	6/5/2012 14:56	6/5/2012 14:57	110.5	129.5	700.2	53601.8	1.7
7	6/5/2012 14:57	6/5/2012 14:58	110.5	129.7	699.4	53600.5	1.7
7	6/5/2012 14:58	6/5/2012 14:59	110.5	126.5	699.8	53623.6	1.7
7	6/5/2012 14:59	6/5/2012 15:00	110.5	127.8	699.5	53678.6	1.7
7	6/5/2012 15:00	6/5/2012 15:01	110.5	129.6	699.7	53649.8	1.7
7	6/5/2012 15:01	6/5/2012 15:02	110.5	131.1	699.4	53624.1	1.7
7	6/5/2012 15:02	6/5/2012 15:03	110.5	131.5	698.6	53697.9	1.7
7	6/5/2012 15:03	6/5/2012 15:04	110.5	130.2	699.2	53737.7	1.7
7	6/5/2012 15:04	6/5/2012 15:05	110.5	130.1	698.4	53770.8	1.7
7	6/5/2012 15:05	6/5/2012 15:06	110.5	129.0	698.9	53638.7	1.7
7	6/5/2012 15:06	6/5/2012 15:07	110.5	126.7	697.2	53710.5	1.7
7	6/5/2012 15:07	6/5/2012 15:08	110.5	125.6	697.6	53700.3	1.7
7	6/5/2012 15:08	6/5/2012 15:09	110.5	127.0	698.5	53651.1	1.7
7	6/5/2012 15:09	6/5/2012 15:10	110.5	129.2	698.1	53782.0	1.7
7	6/5/2012 15:10	6/5/2012 15:11	110.5	132.7	699.1	53906.8	1.7
7	6/5/2012 15:11	6/5/2012 15:12	110.5	131.4	698.6	53635.7	1.7
7	6/5/2012 15:12	6/5/2012 15:13	110.6	132.4	698.6	53926.6	1.7
7	6/5/2012 15:13	6/5/2012 15:14	110.6	132.6	698.8	53796.6	1.7
7	6/5/2012 15:14	6/5/2012 15:15	110.6	132.6	698.5	53846.8	1.7
7	6/5/2012 15:15	6/5/2012 15:16	110.6	130.4	697.9	53866.9	1.7
7	6/5/2012 15:16	6/5/2012 15:17	110.6	130.8	698.5	53853.8	1.7
7	6/5/2012 15:17	6/5/2012 15:18	110.6	129.2	698.1	53691.6	1.7
		Run Average	**109.9**	**126.9**	**698.4**	**53674.1**	
8	6/5/2012 15:35	6/5/2012 15:36	110.7	130.0	696.3	53855.3	1.7
8	6/5/2012 15:36	6/5/2012 15:37	110.7	129.4	696.7	53858.3	1.7
8	6/5/2012 15:37	6/5/2012 15:38	110.7	129.9	696.5	53873.4	1.7
8	6/5/2012 15:38	6/5/2012 15:39	110.7	133.0	695.2	53790.7	1.7
8	6/5/2012 15:39	6/5/2012 15:40	110.7	130.7	695.2	53820.1	1.7
8	6/5/2012 15:40	6/5/2012 15:41	110.7	130.0	696.9	53653.3	1.7
8	6/5/2012 15:41	6/5/2012 15:42	110.7	130.2	696.9	53865.5	1.7

8	6/5/2012 15:42	6/5/2012 15:43	110.7	127.0	696.3	53582.4	1.7
8	6/5/2012 15:43	6/5/2012 15:44	110.7	125.3	697.4	53750.7	1.7
8	6/5/2012 15:44	6/5/2012 15:45	110.7	124.4	698.4	53798.8	1.7
8	6/5/2012 15:45	6/5/2012 15:46	110.7	127.8	698.7	53884.7	1.7
8	6/5/2012 15:46	6/5/2012 15:47	110.7	127.7	700.7	53674.9	1.7
8	6/5/2012 15:47	6/5/2012 15:48	110.7	129.9	709.8	53763.4	1.7
8	6/5/2012 15:48	6/5/2012 15:49	110.7	130.1	709.7	53820.9	1.7
8	6/5/2012 15:49	6/5/2012 15:50	110.7	127.7	702.8	53841.2	1.7
8	6/5/2012 15:50	6/5/2012 15:51	110.7	128.6	697.8	53711.5	1.7
8	6/5/2012 15:51	6/5/2012 15:52	110.7	130.1	694.6	53687.7	1.7
8	6/5/2012 15:52	6/5/2012 15:53	110.7	130.2	694.6	53790.6	1.7
8	6/5/2012 15:53	6/5/2012 15:54	110.7	128.2	695.2	53862.4	1.7
8	6/5/2012 15:54	6/5/2012 15:55	110.8	128.4	695.1	53897.5	1.7
8	6/5/2012 15:55	6/5/2012 15:56	110.8	129.3	694.9	53904.6	1.7
8	6/5/2012 15:56	6/5/2012 15:57	110.8	129.7	695.2	53796.8	1.7
8	6/5/2012 15:57	6/5/2012 15:58	110.8	130.2	695.8	53865.0	1.7
8	6/5/2012 15:58	6/5/2012 15:59	110.8	127.6	695.8	54014.5	1.7
8	6/5/2012 15:59	6/5/2012 16:00	110.8	125.6	696.8	53861.9	1.7
8	6/5/2012 16:00	6/5/2012 16:01	110.8	125.3	697.9	53697.1	1.7
8	6/5/2012 16:01	6/5/2012 16:02	110.8	125.5	697.4	53878.3	1.7
8	6/5/2012 16:02	6/5/2012 16:03	110.8	125.4	697.5	53826.7	1.7
8	6/5/2012 16:03	6/5/2012 16:04	110.8	125.8	698.1	53821.4	1.7
8	6/5/2012 16:04	6/5/2012 16:05	110.8	125.9	697.8	53792.2	1.7
8	6/5/2012 16:05	6/5/2012 16:06	110.8	126.7	698.8	53836.5	1.7
8	6/5/2012 16:06	6/5/2012 16:07	110.8	127.8	697.8	53841.5	1.7
8	6/5/2012 16:07	6/5/2012 16:08	110.8	125.5	697.8	53815.0	1.7
8	6/5/2012 16:08	6/5/2012 16:09	110.8	125.9	697.7	53774.8	1.7
8	6/5/2012 16:09	6/5/2012 16:10	110.8	124.9	698.2	53831.3	1.7
8	6/5/2012 16:10	6/5/2012 16:11	110.8	126.1	699.2	53744.8	1.7
8	6/5/2012 16:11	6/5/2012 16:12	110.8	123.0	698.1	53948.5	1.7
8	6/5/2012 16:12	6/5/2012 16:13	110.8	122.3	699.1	53851.2	1.7
8	6/5/2012 16:13	6/5/2012 16:14	110.8	123.5	698.9	53890.4	1.7
8	6/5/2012 16:14	6/5/2012 16:15	110.9	122.5	698.7	53836.0	1.7
8	6/5/2012 16:15	6/5/2012 16:16	110.9	125.1	698.7	53871.5	1.7
8	6/5/2012 16:16	6/5/2012 16:17	110.9	122.8	704.5	53894.4	1.7
8	6/5/2012 16:17	6/5/2012 16:18	110.9	122.3	707.6	53790.4	1.7
8	6/5/2012 16:18	6/5/2012 16:19	110.9	122.5	702.6	53720.1	1.7
8	6/5/2012 16:19	6/5/2012 16:20	110.9	121.0	697.5	53737.4	1.7
8	6/5/2012 16:20	6/5/2012 16:21	110.9	120.4	695.6	53783.6	1.7
8	6/5/2012 16:21	6/5/2012 16:22	110.9	121.3	695.1	53861.4	1.7
8	6/5/2012 16:22	6/5/2012 16:23	110.9	121.5	695.0	53771.9	1.7
8	6/5/2012 16:23	6/5/2012 16:24	110.9	118.1	696.2	53810.4	1.7
8	6/5/2012 16:24	6/5/2012 16:25	110.9	122.3	696.7	53847.0	1.7
8	6/5/2012 16:25	6/5/2012 16:26	110.9	123.3	697.3	53977.9	1.7
8	6/5/2012 16:26	6/5/2012 16:27	110.9	122.0	696.6	53917.9	1.7
8	6/5/2012 16:27	6/5/2012 16:28	110.9	122.7	696.5	53887.0	1.7
8	6/5/2012 16:28	6/5/2012 16:29	110.9	122.4	697.2	53937.5	1.7
8	6/5/2012 16:29	6/5/2012 16:30	110.9	120.5	697.5	54011.2	1.7
8	6/5/2012 16:30	6/5/2012 16:31	110.9	121.0	697.0	54009.1	1.7
8	6/5/2012 16:31	6/5/2012 16:32	110.9	122.4	699.6	53968.6	1.7
8	6/5/2012 16:32	6/5/2012 16:33	110.9	122.5	697.4	53906.3	1.7
8	6/5/2012 16:33	6/5/2012 16:34	110.9	122.2	696.4	54053.7	1.7
8	6/5/2012 16:34	6/5/2012 16:35	110.9	121.5	696.3	54018.3	1.7
8	6/5/2012 16:35	6/5/2012 16:36	111.0	122.1	698.4	54078.0	1.7
8	6/5/2012 16:36	6/5/2012 16:37	111.0	122.4	698.8	53968.4	1.7
		Run Average	**110.8**	**125.5**	**698.0**	**53845.7**	
9	6/5/2012 16:51	6/5/2012 16:52	111.0	124.3	698.9	53926.2	1.7
9	6/5/2012 16:52	6/5/2012 16:53	111.0	124.9	697.3	53792.7	1.7
9	6/5/2012 16:53	6/5/2012 16:54	111.0	122.8	698.9	53767.8	1.7
9	6/5/2012 16:54	6/5/2012 16:55	111.0	120.6	698.4	53909.9	1.7
9	6/5/2012 16:55	6/5/2012 16:56	111.0	119.7	698.4	53917.0	1.7
9	6/5/2012 16:56	6/5/2012 16:57	111.1	122.2	698.1	53874.8	1.7
9	6/5/2012 16:57	6/5/2012 16:58	111.1	124.4	698.0	53777.8	1.7
9	6/5/2012 16:58	6/5/2012 16:59	111.1	126.7	697.6	53845.6	1.7
9	6/5/2012 16:59	6/5/2012 17:00	111.1	125.8	697.7	53779.0	1.7
9	6/5/2012 17:00	6/5/2012 17:01	111.1	125.5	699.3	53799.3	1.7
9	6/5/2012 17:01	6/5/2012 17:02	111.1	125.8	698.9	53681.8	1.7
9	6/5/2012 17:02	6/5/2012 17:03	111.1	125.8	699.1	53870.3	1.7
9	6/5/2012 17:03	6/5/2012 17:04	111.1	124.2	698.7	53825.7	1.7
9	6/5/2012 17:04	6/5/2012 17:05	111.1	123.2	698.1	53718.0	1.7
9	6/5/2012 17:05	6/5/2012 17:06	111.1	122.7	698.6	53726.3	1.7
9	6/5/2012 17:06	6/5/2012 17:07	111.1	123.7	698.7	53738.5	1.7
9	6/5/2012 17:07	6/5/2012 17:08	111.1	124.6	698.0	53830.0	1.7
9	6/5/2012 17:08	6/5/2012 17:09	111.1	126.4	698.0	53860.1	1.7
9	6/5/2012 17:09	6/5/2012 17:10	111.1	125.5	698.6	53832.5	1.7
9	6/5/2012 17:10	6/5/2012 17:11	111.1	127.6	699.5	53753.0	1.7
9	6/5/2012 17:11	6/5/2012 17:12	111.1	126.9	698.4	53644.8	1.7
9	6/5/2012 17:12	6/5/2012 17:13	111.1	126.5	698.9	53679.1	1.7
9	6/5/2012 17:13	6/5/2012 17:14	111.1	124.7	699.1	53789.2	1.7
9	6/5/2012 17:14	6/5/2012 17:15	111.1	126.3	698.3	53799.5	1.7
9	6/5/2012 17:15	6/5/2012 17:16	111.1	126.3	699.0	53885.6	1.7
9	6/5/2012 17:16	6/5/2012 17:17	111.2	127.9	698.4	53883.4	1.7
9	6/5/2012 17:17	6/5/2012 17:18	111.2	128.6	697.8	53821.6	1.7
9	6/5/2012 17:18	6/5/2012 17:19	111.2	126.8	697.6	53719.9	1.7
9	6/5/2012 17:19	6/5/2012 17:20	111.2	123.8	698.7	53757.3	1.7
9	6/5/2012 17:20	6/5/2012 17:21	111.2	125.0	699.4	53849.6	1.7
9	6/5/2012 17:21	6/5/2012 17:22	111.2	123.3	698.9	53673.9	1.7
9	6/5/2012 17:22	6/5/2012 17:23	111.1	124.8	698.1	53732.2	1.7
9	6/5/2012 17:23	6/5/2012 17:24	116.1	124.6	698.6	53726.2	1.7
9	6/5/2012 17:24	6/5/2012 17:25	119.1	125.8	698.5	53689.6	1.7
9	6/5/2012 17:25	6/5/2012 17:26	118.9	132.6	698.3	53772.7	1.7
9	6/5/2012 17:26	6/5/2012 17:27	118.7	129.8	697.7	53755.2	1.7
9	6/5/2012 17:27	6/5/2012 17:28	118.4	128.6	697.4	53629.3	1.7

9	6/5/2012 17:28	6/5/2012 17:29	118.2	130.0	697.4	53761.9	1.7
9	6/5/2012 17:29	6/5/2012 17:30	118.0	130.0	697.5	53817.2	1.7
9	6/5/2012 17:30	6/5/2012 17:31	117.7	128.5	698.5	53745.0	1.7
9	6/5/2012 17:31	6/5/2012 17:32	117.5	129.1	698.4	53616.2	1.7
9	6/5/2012 17:32	6/5/2012 17:33	117.2	128.4	698.2	53694.2	1.7
9	6/5/2012 17:33	6/5/2012 17:34	117.0	127.1	698.8	53843.3	1.7
9	6/5/2012 17:34	6/5/2012 17:35	116.8	129.7	698.3	53806.9	1.7
9	6/5/2012 17:35	6/5/2012 17:36	116.5	130.9	699.4	53773.8	1.7
9	6/5/2012 17:36	6/5/2012 17:37	116.3	131.3	699.4	53752.5	1.7
9	6/5/2012 17:37	6/5/2012 17:38	116.1	133.4	699.5	53859.0	1.7
9	6/5/2012 17:38	6/5/2012 17:39	115.8	133.0	698.1	53997.7	1.7
9	6/5/2012 17:39	6/5/2012 17:40	115.6	130.6	698.6	53915.3	1.7
9	6/5/2012 17:40	6/5/2012 17:41	115.4	130.4	697.3	53785.2	1.7
9	6/5/2012 17:41	6/5/2012 17:42	115.1	131.2	696.7	53849.1	1.7
9	6/5/2012 17:42	6/5/2012 17:43	114.9	133.2	697.6	54005.7	1.7
9	6/5/2012 17:43	6/5/2012 17:44	114.6	134.4	698.2	53896.9	1.7
9	6/5/2012 17:44	6/5/2012 17:45	114.4	133.4	698.0	53803.0	1.7
9	6/5/2012 17:45	6/5/2012 17:46	114.2	133.7	698.1	53910.1	1.7
9	6/5/2012 17:46	6/5/2012 17:47	113.9	133.4	698.1	53975.0	1.7
9	6/5/2012 17:47	6/5/2012 17:48	113.7	131.8	698.4	53934.4	1.7
9	6/5/2012 17:48	6/5/2012 17:49	113.5	132.1	697.8	53847.2	1.7
9	6/5/2012 17:49	6/5/2012 17:50	113.2	128.7	698.9	53768.9	1.7
9	6/5/2012 17:50	6/5/2012 17:51	113.0	131.6	699.1	53805.5	1.7
9	6/5/2012 17:51	6/5/2012 17:52	112.7	133.9	698.2	53945.5	1.7
9	6/5/2012 17:52	6/5/2012 17:53	112.5	134.5	697.1	53906.6	1.7
		Run Average	**113.4**	**127.8**	**698.4**	**53807.3**	

A.2 RHODIA STACK SO_2 CEM DATA

Run	Start	End	Primary Stack SO2 (ppm) 10AI875_44A.PNT	Backup Stack SO2 (ppm) 10AT342	Production Rate (TPD) U1 Instantaneous Acid Production Rate	Stack Gas Flow Rate (SCFM) 10FI875_43.PNT
1	6/5/2012 9:06	6/5/2012 9:07	118.1	133.1	698.7	54045.5
1	6/5/2012 9:07	6/5/2012 9:08	118.1	132.2	698.8	54108.1
1	6/5/2012 9:08	6/5/2012 9:09	118.2	131.2	697.5	54152.7
1	6/5/2012 9:09	6/5/2012 9:10	118.2	133.5	698.7	54189.0
1	6/5/2012 9:10	6/5/2012 9:11	118.2	134.0	699.9	54227.9
1	6/5/2012 9:11	6/5/2012 9:12	118.3	134.5	698.5	54310.8
1	6/5/2012 9:12	6/5/2012 9:13	118.3	134.6	697.9	54311.6
1	6/5/2012 9:13	6/5/2012 9:14	118.4	134.1	697.4	54085.6
1	6/5/2012 9:14	6/5/2012 9:15	118.4	133.4	697.1	54187.0
1	6/5/2012 9:15	6/5/2012 9:16	118.5	132.4	698.2	54195.0
1	6/5/2012 9:16	6/5/2012 9:17	118.5	132.0	697.4	54264.6
1	6/5/2012 9:17	6/5/2012 9:18	118.6	129.9	697.4	54093.9
1	6/5/2012 9:18	6/5/2012 9:19	118.6	128.4	697.4	54071.3
1	6/5/2012 9:19	6/5/2012 9:20	118.6	127.8	698.8	54139.1
1	6/5/2012 9:20	6/5/2012 9:21	118.7	128.2	699.2	54162.8
1	6/5/2012 9:21	6/5/2012 9:22	118.7	132.7	697.0	54148.0
1	6/5/2012 9:22	6/5/2012 9:23	118.8	132.0	695.9	54173.0
1	6/5/2012 9:23	6/5/2012 9:24	118.8	129.9	698.0	54150.4
1	6/5/2012 9:24	6/5/2012 9:25	118.9	129.7	697.8	54145.9
1	6/5/2012 9:25	6/5/2012 9:26	118.9	131.4	698.7	54134.8
1	6/5/2012 9:26	6/5/2012 9:27	119.0	129.2	698.3	54146.3
Average			118.5	131.6	698.0	
2	6/5/2012 9:27	6/5/2012 9:28	119.0	129.5	698.8	54121.9
2	6/5/2012 9:28	6/5/2012 9:29	119.1	131.4	698.5	54120.7
2	6/5/2012 9:29	6/5/2012 9:30	119.1	132.2	699.3	54073.4
2	6/5/2012 9:30	6/5/2012 9:31	119.1	134.4	699.0	54091.8
2	6/5/2012 9:31	6/5/2012 9:32	119.2	133.0	698.1	54075.7
2	6/5/2012 9:32	6/5/2012 9:33	119.2	132.8	698.2	53996.6
2	6/5/2012 9:33	6/5/2012 9:34	119.3	131.0	699.1	54103.7
2	6/5/2012 9:34	6/5/2012 9:35	119.3	131.4	698.1	54107.5
2	6/5/2012 9:35	6/5/2012 9:36	119.4	129.8	698.1	54156.2
2	6/5/2012 9:36	6/5/2012 9:37	119.4	131.9	698.0	54151.3
2	6/5/2012 9:37	6/5/2012 9:38	119.5	132.6	698.6	54072.4
2	6/5/2012 9:38	6/5/2012 9:39	119.5	133.6	698.5	54122.2
2	6/5/2012 9:39	6/5/2012 9:40	119.5	133.8	698.4	54094.5
2	6/5/2012 9:40	6/5/2012 9:41	119.6	133.7	698.5	53964.1
2	6/5/2012 9:41	6/5/2012 9:42	119.6	132.1	699.1	53983.1
2	6/5/2012 9:42	6/5/2012 9:43	119.7	131.5	698.2	53998.1
2	6/5/2012 9:43	6/5/2012 9:44	119.7	130.3	698.8	53939.2
2	6/5/2012 9:44	6/5/2012 9:45	119.8	128.4	698.3	53886.7
2	6/5/2012 9:45	6/5/2012 9:46	119.8	129.7	697.7	54025.4
2	6/5/2012 9:46	6/5/2012 9:47	119.9	128.8	697.3	54088.5
2	6/5/2012 9:47	6/5/2012 9:48	119.9	129.6	697.8	54142.8
Average			119.5	131.5	698.4	
3	6/5/2012 9:48	6/5/2012 9:49	119.9	128.3	698.6	54032.7
3	6/5/2012 9:49	6/5/2012 9:50	120.0	126.0	698.2	54232.9
3	6/5/2012 9:50	6/5/2012 9:51	120.0	123.2	698.3	54098.7
3	6/5/2012 9:51	6/5/2012 9:52	120.1	120.6	697.7	54077.3
3	6/5/2012 9:52	6/5/2012 9:53	120.1	121.1	698.4	54061.0
3	6/5/2012 9:53	6/5/2012 9:54	120.2	117.5	698.6	54084.1
3	6/5/2012 9:54	6/5/2012 9:55	120.2	121.8	699.5	54162.2
3	6/5/2012 9:55	6/5/2012 9:56	120.3	120.2	699.0	53997.8
3	6/5/2012 9:56	6/5/2012 9:57	120.3	122.1	699.1	54169.8
3	6/5/2012 9:57	6/5/2012 9:58	120.3	122.7	699.0	54106.3
3	6/5/2012 9:58	6/5/2012 9:59	120.4	120.2	698.3	54064.0
3	6/5/2012 9:59	6/5/2012 10:00	120.4	119.8	698.6	54121.6
3	6/5/2012 10:00	6/5/2012 10:01	120.5	118.8	698.4	54181.8
3	6/5/2012 10:01	6/5/2012 10:02	120.5	118.3	698.4	54055.1
3	6/5/2012 10:02	6/5/2012 10:03	120.6	115.3	698.6	54190.4
3	6/5/2012 10:03	6/5/2012 10:04	120.6	113.9	700.6	54166.7
3	6/5/2012 10:04	6/5/2012 10:05	120.7	113.1	698.8	54156.1
3	6/5/2012 10:05	6/5/2012 10:06	120.7	114.5	699.0	54044.6
3	6/5/2012 10:06	6/5/2012 10:07	120.8	116.6	698.0	54153.7
3	6/5/2012 10:07	6/5/2012 10:08	120.8	117.2	696.4	54183.6
3	6/5/2012 10:08	6/5/2012 10:09	120.8	115.2	699.1	54085.6
Average			120.4	119.3	698.6	
4	6/5/2012 10:59	6/5/2012 11:00	115.1	101.4	701.0	54277.0
4	6/5/2012 11:00	6/5/2012 11:01	115.0	101.2	701.7	54304.5
4	6/5/2012 11:01	6/5/2012 11:02	114.8	103.3	700.5	54216.3
4	6/5/2012 11:02	6/5/2012 11:03	114.7	103.5	700.3	54242.6
4	6/5/2012 11:03	6/5/2012 11:04	114.6	104.4	699.7	54255.1

4		6/5/2012 11:04	6/5/2012 11:05	114.5	105.8	698.8	54129.4
4		6/5/2012 11:05	6/5/2012 11:06	114.4	102.5	698.9	54268.4
4		6/5/2012 11:06	6/5/2012 11:07	114.3	103.5	698.6	54229.9
4		6/5/2012 11:07	6/5/2012 11:08	114.2	105.4	698.0	54246.4
4		6/5/2012 11:08	6/5/2012 11:09	114.0	104.8	697.6	54287.2
4		6/5/2012 11:09	6/5/2012 11:10	113.9	103.5	699.2	54251.6
4		6/5/2012 11:10	6/5/2012 11:11	113.8	101.0	698.7	54299.3
4		6/5/2012 11:11	6/5/2012 11:12	113.7	99.8	698.5	54351.5
4		6/5/2012 11:12	6/5/2012 11:13	113.6	103.7	698.4	54259.8
4		6/5/2012 11:13	6/5/2012 11:14	113.5	103.8	698.5	54338.3
4		6/5/2012 11:14	6/5/2012 11:15	113.4	101.0	698.7	54248.6
4		6/5/2012 11:15	6/5/2012 11:16	113.3	102.3	700.3	54277.6
4		6/5/2012 11:16	6/5/2012 11:17	113.1	103.6	700.7	54354.3
4		6/5/2012 11:17	6/5/2012 11:18	113.0	104.7	699.7	54315.9
4		6/5/2012 11:18	6/5/2012 11:19	112.9	104.3	699.2	54275.2
4		6/5/2012 11:19	6/5/2012 11:20	112.8	104.4	700.0	54303.0
	Average			113.9	103.2	699.4	
5		6/5/2012 11:20	6/5/2012 11:21	112.7	105.0	699.8	54276.1
5		6/5/2012 11:21	6/5/2012 11:22	112.6	104.3	699.0	54331.9
5		6/5/2012 11:22	6/5/2012 11:23	112.6	103.4	697.7	54257.6
5		6/5/2012 11:23	6/5/2012 11:24	118.8	103.7	698.3	54255.4
5		6/5/2012 11:24	6/5/2012 11:25	122.2	105.6	697.1	54233.1
5		6/5/2012 11:25	6/5/2012 11:26	122.1	129.8	698.1	54208.2
5		6/5/2012 11:26	6/5/2012 11:27	122.0	132.3	698.1	54182.5
5		6/5/2012 11:27	6/5/2012 11:28	121.9	133.1	697.8	54291.4
5		6/5/2012 11:28	6/5/2012 11:29	121.8	130.9	697.8	54231.8
5		6/5/2012 11:29	6/5/2012 11:30	121.7	129.8	699.0	54349.7
5		6/5/2012 11:30	6/5/2012 11:31	121.6	131.3	698.7	54272.9
5		6/5/2012 11:31	6/5/2012 11:32	121.5	130.6	698.0	54327.2
5		6/5/2012 11:32	6/5/2012 11:33	121.5	128.3	697.4	54349.5
5		6/5/2012 11:33	6/5/2012 11:34	121.4	126.5	698.0	54291.8
5		6/5/2012 11:34	6/5/2012 11:35	121.3	126.4	698.6	54258.0
5		6/5/2012 11:35	6/5/2012 11:36	121.2	126.3	700.5	54229.5
5		6/5/2012 11:36	6/5/2012 11:37	121.1	130.1	697.1	54350.0
5		6/5/2012 11:37	6/5/2012 11:38	121.0	128.7	696.8	54370.2
5		6/5/2012 11:38	6/5/2012 11:39	120.9	126.3	695.5	54139.8
5		6/5/2012 11:39	6/5/2012 11:40	120.8	126.0	697.0	54212.5
5		6/5/2012 11:40	6/5/2012 11:41	120.7	127.6	699.4	54198.4
	Average			120.1	123.2	698.1	
6		6/5/2012 11:41	6/5/2012 11:42	120.6	126.8	698.2	54307.5
6		6/5/2012 11:42	6/5/2012 11:43	120.5	125.4	697.6	54406.9
6		6/5/2012 11:43	6/5/2012 11:44	120.5	126.0	697.6	54306.1
6		6/5/2012 11:44	6/5/2012 11:45	120.4	125.3	697.3	54269.9
6		6/5/2012 11:45	6/5/2012 11:46	120.3	125.7	698.3	54125.4
6		6/5/2012 11:46	6/5/2012 11:47	120.2	125.4	698.6	54463.4
6		6/5/2012 11:47	6/5/2012 11:48	120.1	125.3	698.1	54368.2
6		6/5/2012 11:48	6/5/2012 11:49	120.0	125.6	697.7	54428.7
6		6/5/2012 11:49	6/5/2012 11:50	119.9	124.6	698.0	54390.6
6		6/5/2012 11:50	6/5/2012 11:51	119.8	124.2	697.7	54396.6
6		6/5/2012 11:51	6/5/2012 11:52	119.7	123.3	696.3	54300.5
6		6/5/2012 11:52	6/5/2012 11:53	119.6	124.6	696.9	54319.4
6		6/5/2012 11:53	6/5/2012 11:54	119.5	124.3	697.4	54390.2
6		6/5/2012 11:54	6/5/2012 11:55	119.5	125.3	696.9	54298.6
6		6/5/2012 11:55	6/5/2012 11:56	119.4	126.4	697.4	54351.5
6		6/5/2012 11:56	6/5/2012 11:57	119.3	125.4	698.0	54346.6
6		6/5/2012 11:57	6/5/2012 11:58	119.2	123.5	697.4	54153.7
6		6/5/2012 11:58	6/5/2012 11:59	119.1	122.2	697.3	54176.2
6		6/5/2012 11:59	6/5/2012 12:00	119.0	121.7	697.8	54317.3
6		6/5/2012 12:00	6/5/2012 12:01	118.9	120.4	699.0	54254.0
6		6/5/2012 12:01	6/5/2012 12:02	118.8	123.5	698.6	54339.0
	Average			119.7	124.5	697.7	

7		6/5/2012 12:49	6/5/2012 12:50	114.4	120.0	701.6	54084.6
7		6/5/2012 12:50	6/5/2012 12:51	114.4	119.0	698.4	54024.6
7		6/5/2012 12:51	6/5/2012 12:52	114.3	117.7	696.9	54090.8
7		6/5/2012 12:52	6/5/2012 12:53	114.2	116.7	697.8	53996.1
7		6/5/2012 12:53	6/5/2012 12:54	114.1	116.5	698.3	53963.9
7		6/5/2012 12:54	6/5/2012 12:55	114.0	116.4	697.4	54024.0
7		6/5/2012 12:55	6/5/2012 12:56	113.9	119.2	697.6	53915.0
7		6/5/2012 12:56	6/5/2012 12:57	113.8	120.7	698.8	53914.0
7		6/5/2012 12:57	6/5/2012 12:58	113.7	122.5	698.7	53826.6
7		6/5/2012 12:58	6/5/2012 12:59	113.6	121.5	698.3	53702.7
7		6/5/2012 12:59	6/5/2012 13:00	113.5	121.3	699.1	53556.9
7		6/5/2012 13:00	6/5/2012 13:01	113.4	120.5	699.8	53730.9
7		6/5/2012 13:01	6/5/2012 13:02	113.4	120.5	699.5	53710.3
7		6/5/2012 13:02	6/5/2012 13:03	113.3	118.1	698.2	53772.4
7		6/5/2012 13:03	6/5/2012 13:04	113.2	116.8	698.8	53809.0
7		6/5/2012 13:04	6/5/2012 13:05	113.1	116.8	697.9	53769.8

7	6/5/2012 13:05	6/5/2012 13:06	113.0	118.4	698.6	53639.9
7	6/5/2012 13:06	6/5/2012 13:07	112.9	121.0	699.3	53840.2
7	6/5/2012 13:07	6/5/2012 13:08	112.8	119.9	698.7	53853.0
7	6/5/2012 13:08	6/5/2012 13:09	112.7	118.9	698.6	53913.0
7	6/5/2012 13:09	6/5/2012 13:10	112.6	119.1	706.3	53786.0
Average			113.5	119.1	699.0	
8	6/5/2012 13:10	6/5/2012 13:11	112.5	118.2	711.6	53831.8
8	6/5/2012 13:11	6/5/2012 13:12	112.4	118.8	712.1	53853.1
8	6/5/2012 13:12	6/5/2012 13:13	112.4	117.3	701.3	53802.7
8	6/5/2012 13:13	6/5/2012 13:14	112.3	117.2	696.0	53849.3
8	6/5/2012 13:14	6/5/2012 13:15	112.2	117.6	699.4	53684.8
8	6/5/2012 13:15	6/5/2012 13:16	112.1	118.9	695.9	53659.2
8	6/5/2012 13:16	6/5/2012 13:17	112.0	122.0	693.0	53789.4
8	6/5/2012 13:17	6/5/2012 13:18	111.9	120.3	693.8	53820.2
8	6/5/2012 13:18	6/5/2012 13:19	111.8	120.2	694.2	53933.0
8	6/5/2012 13:19	6/5/2012 13:20	111.7	119.9	694.7	53949.1
8	6/5/2012 13:20	6/5/2012 13:21	111.6	120.2	696.7	53950.8
8	6/5/2012 13:21	6/5/2012 13:22	111.5	116.8	696.5	53985.3
8	6/5/2012 13:22	6/5/2012 13:23	111.4	117.7	697.0	53901.2
8	6/5/2012 13:23	6/5/2012 13:24	111.4	116.4	701.2	53846.5
8	6/5/2012 13:24	6/5/2012 13:25	111.3	112.7	698.6	53891.2
8	6/5/2012 13:25	6/5/2012 13:26	111.2	115.4	697.3	53883.1
8	6/5/2012 13:26	6/5/2012 13:27	111.1	117.7	697.4	53861.6
8	6/5/2012 13:27	6/5/2012 13:28	111.0	117.0	696.2	53957.0
8	6/5/2012 13:28	6/5/2012 13:29	110.9	116.7	696.8	53833.7
8	6/5/2012 13:29	6/5/2012 13:30	110.8	118.5	696.8	53801.5
8	6/5/2012 13:30	6/5/2012 13:31	110.7	115.6	698.0	53845.1
Average			111.6	117.9	698.3	
9	6/5/2012 13:31	6/5/2012 13:32	110.6	115.9	698.3	53784.6
9	6/5/2012 13:32	6/5/2012 13:33	110.5	115.6	697.4	53789.1
9	6/5/2012 13:33	6/5/2012 13:34	110.4	115.4	698.2	53729.3
9	6/5/2012 13:34	6/5/2012 13:35	110.4	118.7	698.0	53720.9
9	6/5/2012 13:35	6/5/2012 13:36	110.3	116.1	698.1	53673.3
9	6/5/2012 13:36	6/5/2012 13:37	110.2	114.7	698.3	53659.5
9	6/5/2012 13:37	6/5/2012 13:38	110.1	113.6	698.2	53754.4
9	6/5/2012 13:38	6/5/2012 13:39	110.0	113.8	698.4	53739.9
9	6/5/2012 13:39	6/5/2012 13:40	109.9	111.2	698.7	53716.3
9	6/5/2012 13:40	6/5/2012 13:41	109.8	111.2	698.9	53668.1
9	6/5/2012 13:41	6/5/2012 13:42	109.7	113.6	698.6	53690.4
9	6/5/2012 13:42	6/5/2012 13:43	109.6	113.6	698.1	53779.4
9	6/5/2012 13:43	6/5/2012 13:44	109.5	117.3	697.7	53670.8
9	6/5/2012 13:44	6/5/2012 13:45	109.4	115.4	697.1	53744.9
9	6/5/2012 13:45	6/5/2012 13:46	109.4	114.0	697.4	53831.5
9	6/5/2012 13:46	6/5/2012 13:47	109.3	113.7	697.5	53886.1
9	6/5/2012 13:47	6/5/2012 13:48	109.2	113.8	698.4	53781.3
9	6/5/2012 13:48	6/5/2012 13:49	109.1	111.1	699.7	53693.1
9	6/5/2012 13:49	6/5/2012 13:50	109.0	109.2	700.6	53797.7
9	6/5/2012 13:50	6/5/2012 13:51	108.9	109.6	698.9	53667.0
9	6/5/2012 13:51	6/5/2012 13:52	108.8	110.6	699.2	53747.4
Average			109.7	113.7	698.4	
10	6/5/2012 14:15	6/5/2012 14:16	106.6	108.6	698.9	53719.7
10	6/5/2012 14:16	6/5/2012 14:17	106.5	108.9	700.0	53741.8
10	6/5/2012 14:17	6/5/2012 14:18	106.4	110.2	699.2	53809.2
10	6/5/2012 14:18	6/5/2012 14:19	106.3	113.4	699.1	53759.9
10	6/5/2012 14:19	6/5/2012 14:20	106.3	113.2	699.1	53674.1
10	6/5/2012 14:20	6/5/2012 14:21	106.2	113.9	697.3	53664.3
10	6/5/2012 14:21	6/5/2012 14:22	106.1	115.1	697.2	53695.7
10	6/5/2012 14:22	6/5/2012 14:23	106.7	116.4	696.7	53735.0
10	6/5/2012 14:23	6/5/2012 14:24	110.0	116.4	697.3	53683.5
10	6/5/2012 14:24	6/5/2012 14:25	110.3	118.4	698.1	53556.7
10	6/5/2012 14:25	6/5/2012 14:26	110.3	131.6	699.9	53705.7
10	6/5/2012 14:26	6/5/2012 14:27	110.3	132.4	698.6	53706.7
10	6/5/2012 14:27	6/5/2012 14:28	110.3	131.8	698.0	53557.6
10	6/5/2012 14:28	6/5/2012 14:29	110.3	127.9	697.4	53715.8
10	6/5/2012 14:29	6/5/2012 14:30	110.3	128.7	697.3	53658.8
10	6/5/2012 14:30	6/5/2012 14:31	110.3	129.7	698.6	53722.0
10	6/5/2012 14:31	6/5/2012 14:32	110.4	130.2	698.3	53623.4
10	6/5/2012 14:32	6/5/2012 14:33	110.4	128.4	697.7	53691.1
10	6/5/2012 14:33	6/5/2012 14:34	110.4	129.6	697.5	53717.1
10	6/5/2012 14:34	6/5/2012 14:35	110.4	130.0	696.8	53521.2
10	6/5/2012 14:35	6/5/2012 14:36	110.4	130.1	696.1	53727.0
Average			108.8	122.1	698.1	
11	6/5/2012 14:36	6/5/2012 14:37	110.4	130.7	697.9	53823.8
11	6/5/2012 14:37	6/5/2012 14:38	110.4	128.8	697.6	53711.8
11	6/5/2012 14:38	6/5/2012 14:39	110.4	129.0	698.7	53710.0
11	6/5/2012 14:39	6/5/2012 14:40	110.4	128.5	699.2	53620.6
11	6/5/2012 14:40	6/5/2012 14:41	110.4	128.2	698.6	53600.5
11	6/5/2012 14:41	6/5/2012 14:42	110.4	125.5	699.1	53591.6
11	6/5/2012 14:42	6/5/2012 14:43	110.4	125.9	698.0	53585.1
11	6/5/2012 14:43	6/5/2012 14:44	110.4	126.8	698.9	53535.6

11		6/5/2012 14:44	6/5/2012 14:45	110.4	130.9	697.4	53600.7
11		6/5/2012 14:45	6/5/2012 14:46	110.4	130.4	698.3	53446.5
11		6/5/2012 14:46	6/5/2012 14:47	110.4	129.8	697.8	53517.8
11		6/5/2012 14:47	6/5/2012 14:48	110.4	128.6	698.0	53602.4
11		6/5/2012 14:48	6/5/2012 14:49	110.4	129.6	697.6	53566.7
11		6/5/2012 14:49	6/5/2012 14:50	110.4	127.9	697.9	53542.4
11		6/5/2012 14:50	6/5/2012 14:51	110.4	128.4	698.8	53506.2
11		6/5/2012 14:51	6/5/2012 14:52	110.5	128.6	699.1	53546.5
11		6/5/2012 14:52	6/5/2012 14:53	110.5	127.6	698.8	53622.6
11		6/5/2012 14:53	6/5/2012 14:54	110.5	128.5	698.9	53666.9
11		6/5/2012 14:54	6/5/2012 14:55	110.5	129.0	698.5	53628.1
11		6/5/2012 14:55	6/5/2012 14:56	110.5	130.1	700.6	53656.9
11		6/5/2012 14:56	6/5/2012 14:57	110.5	129.5	700.2	53601.8
	Average			110.4	128.7	698.6	
12		6/5/2012 14:57	6/5/2012 14:58	110.5	129.7	699.4	53600.5
12		6/5/2012 14:58	6/5/2012 14:59	110.5	126.5	699.8	53623.6
12		6/5/2012 14:59	6/5/2012 15:00	110.5	127.8	699.5	53678.6
12		6/5/2012 15:00	6/5/2012 15:01	110.5	129.6	699.7	53649.8
12		6/5/2012 15:01	6/5/2012 15:02	110.5	131.1	699.4	53624.1
12		6/5/2012 15:02	6/5/2012 15:03	110.5	131.5	698.6	53697.9
12		6/5/2012 15:03	6/5/2012 15:04	110.5	130.2	699.2	53737.7
12		6/5/2012 15:04	6/5/2012 15:05	110.5	130.1	698.4	53770.8
12		6/5/2012 15:05	6/5/2012 15:06	110.5	129.0	698.9	53638.7
12		6/5/2012 15:06	6/5/2012 15:07	110.5	126.7	697.2	53710.5
12		6/5/2012 15:07	6/5/2012 15:08	110.5	125.6	697.6	53700.3
12		6/5/2012 15:08	6/5/2012 15:09	110.5	127.0	698.5	53651.1
12		6/5/2012 15:09	6/5/2012 15:10	110.5	129.2	698.1	53782.0
12		6/5/2012 15:10	6/5/2012 15:11	110.5	132.7	699.1	53906.8
12		6/5/2012 15:11	6/5/2012 15:12	110.5	131.4	698.6	53635.7
12		6/5/2012 15:12	6/5/2012 15:13	110.6	132.4	698.6	53926.6
12		6/5/2012 15:13	6/5/2012 15:14	110.6	132.6	698.8	53796.6
12		6/5/2012 15:14	6/5/2012 15:15	110.6	132.6	698.5	53846.8
12		6/5/2012 15:15	6/5/2012 15:16	110.6	130.4	697.9	53866.9
12		6/5/2012 15:16	6/5/2012 15:17	110.6	130.8	698.5	53863.8
12		6/5/2012 15:17	6/5/2012 15:18	110.6	129.2	698.1	53691.6
	Average			110.5	129.8	698.7	

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 5/29/2012 Time 9:55 AM Technician RB
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: -2.80 ppm SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK 2.80 ppm SO2

low range span
Analyzer Response to Span Gas: 402.30 ppm SO2 Low Span Gas cylinder psi _____
Actual Span Gas: 394.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK 8.30 ppm SO2

high range span
Analyzer Response to Span Gas: 2823.00 ppm SO2 High Span Gas cylinder psi _____
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 23.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	_____ ppm SO2	_____ ppm SO2
Analyzer Response to Span Gas:	_____ ppm SO2	_____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6801930

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 5/30/2012 Time 11:00 AM Technician RB
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: -1.60 ppm SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK -1.60 ppm SO2

low range span
Analyzer Response to Span Gas: 393.50 ppm SO2 Low Span Gas cylinder psi _____
Actual Span Gas: 394.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK 0.50 ppm SO2

high range span
Analyzer Response to Span Gas: 2815.00 ppm SO2 High Span Gas cylinder psi _____
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 15.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	_____ ppm SO2	_____ ppm SO2
Analyzer Response to Span Gas:	_____ ppm SO2	_____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6801930

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 5/31/2012 Time 8.05am. Technician s.s
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good x Repair Needed ____

Flow Meter:
Visual Inspection: Good x Repair Needed ____
Functional Check: Good x Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: 0.10 ppm SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK 0.10 ppm SO2

low range span
Analyzer Response to Span Gas: 396.70 ppm SO2 Low Span Gas cylinder psi _____
Actual Span Gas: 394.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK -2.70 ppm SO2

high range span
Analyzer Response to Span Gas: 2812.00 ppm SO2 High Span Gas cylinder psi _____
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 12.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	_____ ppm SO2	_____ ppm SO2
Analyzer Response to Span Gas:	_____ ppm SO2	_____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6801930

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 6/1/2012 Time 5:55 AM Technician RB
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: -0.10 ppm SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK 0.10 ppm SO2

low range span
Analyzer Response to Span Gas: 398.40 ppm SO2 Low Span Gas cylinder psi _____
Actual Span Gas: 394.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK 4.40 ppm SO2

high range span
Analyzer Response to Span Gas: 2803.00 ppm SO2 High Span Gas cylinder psi _____
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 3.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	_____ ppm SO2	_____ ppm SO2
Analyzer Response to Span Gas:	_____ ppm SO2	_____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6801930

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 6/2/2012 Time 9:20 AM Technician RB
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: -0.20 ppm SO2 Zero Gas cylinder psi ____
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK 0.20 ppm SO2

low range span
Analyzer Response to Span Gas: 393.20 ppm SO2 Low Span Gas cylinder psi ____
Actual Span Gas: 394.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK 0.80 ppm SO2

high range span
Analyzer Response to Span Gas: 2806.00 ppm SO2 High Span Gas cylinder psi ____
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 6.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	____ ppm SO2	____ ppm SO2
Analyzer Response to Span Gas:	____ ppm SO2	____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6801930

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 6/3/2012 Time 10:05 AM Technician RB
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: -0.20 ppm SO2 Zero Gas cylinder psi _____
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK 0.20 ppm SO2

low range span
Analyzer Response to Span Gas: 394.00 ppm SO2 Low Span Gas cylinder psi _____
Actual Span Gas: 394.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK 0.00 ppm SO2

high range span
Analyzer Response to Span Gas: 2791.00 ppm SO2 High Span Gas cylinder psi _____
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 9.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	_____ ppm SO2	_____ ppm SO2
Analyzer Response to Span Gas:	_____ ppm SO2	_____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.
nd analyzer

Time Completed _____ Work Order Number 6801930

DAILY CALIBRATION/MAINTENANCE LOG

#1 Unit Scrubber Exit SO2 Analyzer

Date 6/4/2012 Time 10:05 AM Technician AB
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 2.5 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration: **low range zero**
Analyzer Response to Zero Gas: -0.20 ppm SO2 Zero Gas cylinder psi #
Actual Zero Gas: 0.00 ppm SO2 (Zero Gas must be between 0% and 20% of low span)
Drift: OK 0.20 ppm SO2

low range span
Analyzer Response to Span Gas: 398.40 ppm SO2 Low Span Gas cylinder psi #
Actual Span Gas: 390.00 ppm SO2 (Span Gas must be between 50% and 100% of low span)
Drift: OK 8.40 ppm SO2

high range span
Analyzer Response to Span Gas: 2831.00 ppm SO2 High Span Gas cylinder psi #
Actual Span Gas: 2800.00 ppm SO2 (Span Gas must be between 50% and 100% of high span)
Drift: OK 31.00 ppm SO2

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 12.5 ppm for the low range span (>2.5% of span).
RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 90 ppm for the high range span (>2.5% of span).
IF DRIFT IS OUT OF CAL ON ZERO OR SPAN GAS, REPEAT TEST AND NOTIFY I&E SUPV.

RESPONSE AFTER RECALIBRATION	low range	high range
Analyzer Response to Zero Gas:	____ ppm SO2	____ ppm SO2
Analyzer Response to Span Gas:	____ ppm SO2	____ ppm SO2

- ☐ Inspect recording system for proper operation. Make adjustments as necessary
- ☐ Inspect control panel warning lights. Respond to any warning lights with appropriate action
- ☐ Inspect sample transport system for proper operation. Check flow meters and filter for obstructions and proper settings
- ☐ Verify that all water traps are working properly and that no condensed water is in the sample lines
- ☐ Inspect valves and fittings for leaks and corrosion. Repair as necessary
- ☐ Perform any other daily checks recommended by the equipment manufacturer

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6854278

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer - ~~WEDNESDAY~~ Tuesday

Date 5-29-12 Time 8:20 Technician R. Blowin
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good ✓ Repair Needed ____

Flow Meter:
Visual Inspection: Good ✓ Repair Needed ____
Functional Check: Good ✓ Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: -6 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 6 ppm Span Gas cylinder psi #REF!

Analyzer Response to Span Gas: 4047 ppm
Actual Span Gas: 4070 ppm
Drift: OK 23 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS.
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM
FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good ✓ Repair Needed ____
Accuracy/Response Good ✓ Repair Needed ____
Pen Good ✓ Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer - WEDNESDAY

Date 5-30-12 Time 11:30 Technician R. Blouin
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good ✓ Repair Needed ____

Flow Meter:
Visual Inspection: Good ✓ Repair Needed ____
Functional Check: Good ✓ Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: -8 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 8 ppm Span Gas cylinder psi #REF!

Analyzer Response to Span Gas: 4051 ppm
Actual Span Gas: 4070 ppm
Drift: OK 19 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS. NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good ✓ Repair Needed ____
Accuracy/Response Good ✓ Repair Needed ____
Pen Good ✓ Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer - ~~WEDNESDAY~~ Thursday

Date 5-31-12 Time 7:50 AM Technician S.S
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good X Repair Needed ____

Flow Meter:
Visual Inspection: Good X Repair Needed ____
Functional Check: Good X Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: 12.48 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 12.48 ppm Span Gas cylinder psi #REF!

Analyzer Response to Span Gas: 4096 ppm
Actual Span Gas: 4070 ppm
Drift: OK 26 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS.
NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM
FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good X Repair Needed ____
Accuracy/Response Good X Repair Needed ____
Pen Good X Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer ~~WEDNESDAY~~ Friday

Date 6-1-12 Time 5:40 Technician R. Blouin
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good ✓ Repair Needed ____

Flow Meter:
Visual Inspection: Good ✓ Repair Needed ____
Functional Check: Good ✓ Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: -6 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 6 ppm Span Gas cylinder psi #REF!

Analyzer Response to Span Gas: 4040 ppm
Actual Span Gas: 4070 ppm
Drift: OK 30 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS. NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good ✓ Repair Needed ____
Accuracy/Response Good ✓ Repair Needed ____
Pen Good ✓ Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer ~~WEDNESDAY~~ ~~Tuesday~~ Saturday

Date 6-2-12 Time 10:15 Technician RBloyin
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good ✓ Repair Needed ____

Flow Meter:
Visual Inspection: Good ✓ Repair Needed ____
Functional Check: Good ✓ Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: -3 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 3 ppm Span Gas cylinder psi #REF!

Analyzer Response to Span Gas: 4048 ppm
Actual Span Gas: 4070 ppm
Drift: OK 28 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS. NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good ✓ Repair Needed ____
Accuracy/Response Good ✓ Repair Needed ____
Pen Good ✓ Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer - ~~WEDNESDAY~~ Sunday

Date 6-3-12 Time 12:50 pm Technician R Blouin
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good ✓ Repair Needed ____

Flow Meter:
Visual Inspection: Good ✓ Repair Needed ____
Functional Check: Good ✓ Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: -1.7 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 1.7 ppm Span Gas cylinder psi #REF!

Analyzer Response to Span Gas: 4057 ppm
Actual Span Gas: 4070 ppm
Drift: OK 19 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS. NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good ✓ Repair Needed ____
Accuracy/Response Good ✓ Repair Needed ____
Pen Good ✓ Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

DAILY CALIBRATION/MAINTENANCE LOG

Unit #1 Stack SO2 Analyzer - ~~WEDNESDAY~~ Monday

Date 6-4-12 Time 9:52 AM Technician Andy B
Serial Number _____ Signature _____

Filters:
Visual Inspection: Good ✓ Repair Needed ____

Flow Meter:
Visual Inspection: Good ✓ Repair Needed ____
Functional Check: Good ✓ Repair Needed ____
Flow Meter Reading 3 SCFH
Flow Meter Reading with Gas Shut Off 0 SCFH

Gas Analyzer Calibration:
Analyzer Response to Zero Gas: 4.1 ppm Zero Gas cylinder psi INST AIR
Actual Zero Gas: 0 ppm
Drift: OK 4.1 ppm Span Gas cylinder psi 900 #REF!

Analyzer Response to Span Gas: 4057 ppm
Actual Span Gas: 4070 ppm
Drift: OK 19 ppm

RECALIBRATION IS REQUIRED IF DRIFT EXCEEDS 125 PPM ON ZERO OR SPAN GAS. NOTE RESPONSE AFTER RECALIBRATION BELOW. IF THE DRIFT EXCEEDS 125 PPM FIVE CONSECUTIVE DAYS, OR 500 PPM ON ANY DAY, THE SYSTEM IS OUT OF CONTROL.

Analyzer Response to Zero Gas: _____ ppm
Analyzer Response to Span Gas: _____ ppm

Chart Recorder:
Condition Good ✓ Repair Needed ____
Accuracy/Response Good ✓ Repair Needed ____
Pen Good ✓ Repair Needed ____

If "Repair Needed" was checked anywhere above, Describe problem and corrective action below.

_____

_____

Time Completed _____ Work Order Number 6847792

APPENDIX C
FIELD DATA RECORDS

C.1 EPA Method 8 Data

C.2 EPA Method 3A and 6C Data

C.3 Alternative Method 16.2 Data

C.4 EPA Method 9 Data and Certification

C.1 EPA METHOD 8 DATA

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Page 1 of ____

		Stack Conditions	Assumed	Actual
Client	Rhodia Inc			
W.O.#	12143.078.011.0001			
Project ID	Rhodia	% Moisture	3.4	
Mode/Source ID	Unit 1	Impinger Vol (ml)		~~362~~ 4.7
Samp. Loc. ID	STK	Silica gel (g)		18.7
Run No.ID	1	CO2, % by Vol	8	7.7
Test Method ID	M8	O2, % by Vol	8	8.1
Date ID	4JUN2012	Temperature (°F)	80	
Source/Location	Unit 1 Stack	Meter Temp (°F)	95	
Sample Date	6/4/12	Static Press (in H_2O)	+1.6	1.6
Baro. Press (in Hg)	29.6			
Operator	CE / NF	Ambient Temp (°F)		

Meter Box ID	A028		
Meter Box Y	0.992	0.981	
Meter Box Del H	PMW ~~1.875~~	1.834	
Probe ID / Length	5		
Probe Material	Boro		
Pitot / Thermocouple ID	P178		
Pitot Coefficient	0.84		
Nozzle ID	190		
Avg Nozzle Dia (in)	0.190		
Area of Stack (ft²)	~~8.727~~ 15.904		
Sample Time	60		
Total Traverse Pts	20		

K Factor 1.43

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft³)	0.002	0.002	0.001
Leak Check @ (in Hg)	15	15	5
Pitot good	yes / no	yes / no	yes / no
Orsat good	~~yes / no~~	~~yes / no~~	~~yes / no~~

Temp Check	Pre-Test Set	Post-Test Set
Meter Box Temp		
Reference Temp		
Pass/Fail (+/- 2°)	Pass / Fail	Pass / Fail
Temp Change Response	yes / no	yes / no

TRAVERSE POINT No.	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPINGER EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1500			395.009									
A 1	3	1503	1.10	1.55	397.16	77	94	89	130		67	3.5		
2	6	1506	1.05	1.50	399.25	77	95	90	132		65	3.0		20.189
3	9	1509	0.84	1.20	401.13	77	96	90	129		62	2.5		
4	12	1512	~~1.20~~ 0.65	~~1.70~~ 0.93	402.78	77	96	91	134		61	2.0		
5	15	1515	0.70	1.00	404.49	77	96	91	132		55	2.0		
6	18	1518	1.20	1.70	406.66	77	96	90	132		55	3.0		
7	21	1521	1.15	1.65	408.83	77	95	90	132		54	3.0		
8	24	1524	1.15	1.65	410.97	76	96	91	132		55	3.0		
9	27	1527	1.10	1.55	413.10	77	97	91	135		54	3.0		
10	30	1530	1.10	1.55	415.198	77	98	91	135		53	3.0		
—	30	1532	—	—	415.225	—	—	—	—		—	—		
B 1	~~35~~ 33	1535	1.20	1.70	417.42	77	99	92	135		56	3.5		
2	~~40~~ 36	1538	1.15	1.65	419.60	77	99	93	132		52	3.0		
3	~~45~~ 39	1541	1.15	1.65	421.77	77	99	93	130		50	3.5		
4	~~50~~ 42	1544	1.15	1.65	423.96	77	100	93	130		50	3.0		20.441
5	~~55~~ 45	1547	1.10	1.55	426.06	77	101	94	130		51	3.0		
6	48	1550	1.05	1.50	428.17	77	101	94	130		53	3.0		
7	51	1553	1.10	1.55	430.13	77	102	94	133		54	3.0		
8	54	1556	0.85	1.20	432.08	78	101	94	134		55	2.5		
9	57	1559	0.92	1.30	433.82	77	101	94	134		56	2.5		
10	60	1602	0.84	1.20	435.666	78	100	94	134		58	2.5		
			JJ	JJ	JJ	JJ	JJ							
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.0102	1.462	40.630	77.1	95.03							
				Avg Sqrt Del H	Comments:									
				1.205										

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

			Stack Conditions						
Client	Rhodia Inc		Assumed	Actual	Meter Box ID	A028		K Factor	1.44
W.O.#	12143.078.011.0001				Meter Box Y	~~0.992~~ 0.981			
Project ID	Rhodia	% Moisture	3.2		Meter Box Del H	~~1.875~~ 1.874	**Leak Checks**	Initial	Mid-Point / Final
Mode/Source ID	Unit 1	Impinger Vol (ml)		13.5	Probe ID / Length	5	Sample Train (ft³)	0.000	0.000 / 0.001
Samp. Loc. ID	STK	Silica gel (g)		22	Probe Material	Boro	Leak Check @ (in Hg)	10	10 / 5
Run No.ID	2	CO2, % by Vol	8	7.5	Pitot / Thermocouple ID	P178	Pitot good	yes / no	yes / no / yes / no
Test Method ID	M8	O2, % by Vol	8	8.2	Pitot Coefficient	0.84	Orsat good	~~yes / no~~	~~yes / no~~ / ~~yes / no~~
Date ID	4JUN2012	Temperature (°F)	78		Nozzle ID	190	**Temp Check**	Pre-Test Set	Post-Test Set
Source/Location	Unit 1 Stack	Meter Temp (°F)	96		Avg Nozzle Dia (in)	0.190	Meter Box Temp		
Sample Date	6/4/12	Static Press (in H_2O)	+1.6		Area of Stack (ft²)	15.904	Reference Temp		
Baro. Press (in Hg)	29.6				Sample Time	60	Pass/Fail (+/- 2°)	Pass / Fail	Pass / Fail
Operator	CF / NF	Ambient Temp (°F)			Total Traverse Pts	20	Temp Change Response	yes / no	yes / no

TRAVERSE POINT NO	SAMPLE TIME (min)	CLOCK TIME (planned time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)	CYC	IMPING OUT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1620			435.756									
B 1	3	1623	1.20	1.70	437.97	78	96	93	130		67	3.5		
2	6	1626	1.20	1.75	440.19	78	96	94	130		66	3.5		
3	9	1629	1.20	1.75	442.47	78	97	93	130		63	3.5		
4	12	1632	1.20	1.75	444.72	78	98	93	130		61	3.5		
5	15	1635	1.10	1.60	446.83	78	99	93	130		62	3.5		2.072
6	18	1638	1.10	1.60	448.94	78	99	93	130		65	3.5		
7	21	1641	1.15	1.65	451.10	77	99	93	131		67	3.5		
8	24	1644	1.05	1.50	453.25	77	100	93	131		66	3.5		
9	27	1647	0.89	1.30	455.12	78	100	94	131		62	3.5		
10	30	1650	0.73	1.00	456.828	78	99	93	131		61	3.0		
—	30	1652	—	—	456.855	—	—	—	—		—	—		
A 1	33	1655	0.85	1.20	458.70	78	95	93	130		65	3.0		
2	36	1658	0.77	1.10	460.51	78	96	92	130		62	3.0		
3	39	1701	0.70	1.00	462.24	78	97	92	130		60	3.0		19.724
4	42	1704	0.87	1.25	464.09	78	97	92	130		58	3.0		
5	45	1707	0.80	1.15	465.90	78	97	92	130		56	3.0		
6	48	1710	1.20	1.75	468.17	78	97	92	131		57	3.5		
7	51	1713	1.20	1.75	470.34	78	98	92	133		56	3.5		
8	54	1716	1.15	1.65	472.46	78	98	91	134		55	3.5		
9	57	1719	1.10	1.60	474.52	77	98	91	134		56	3.5		
10	60	1722	0.95	1.35	476.581	77	99	91	133		57	3.5		
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.006	1.47	40.798	778	95.13							
				Avg Sqrt Del H	Comments:									
				1.207										

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Client	Rhodia Inc
W.O.#	12143.078.011.0001
Project ID	Rhodia
Mode/Source ID	Unit 1
Samp. Loc. ID	STK
Run No.ID	3
Test Method ID	M8
Date ID	4JUN2012
Source/Location	Unit 1 Stack
Sample Date	6/4/12
Baro. Press (in Hg)	29.6
Operator	CF / NF

Stack Conditions

	Assumed	Actual
% Moisture	3.2	
Impinger Vol (ml)		~~362~~
Silica gel (g)		
CO2, % by Vol	8	7.5
O2, % by Vol	8	8.5
Temperature (°F)	78	
Meter Temp (°F)	96	
Static Press (in H_2O)	+1.6	+1.6
Ambient Temp (°F)		

Meter Box ID	A028
Meter Box Y	~~0.992~~ 0.981
Meter Box Del H	~~1.875~~ 1.834
Probe ID / Length	5
Probe Material	Boro
Pitot / Thermocouple ID	P178
Pitot Coefficient	0.84
Nozzle ID	190
Avg Nozzle Dia (in)	0.190
Area of Stack (ft²)	15.904
Sample Time	60
Total Traverse Pts	20

K Factor 1.44

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft³)	0.005	0.005	0.002
Leak Check @ (in Hg)	8	6	5
Pitot good	yes / no	yes / no	yes / no
Orsat good	~~yes / no~~	~~yes / no~~	~~yes / no~~

Temp Check	Pre-Test Set	Post-Test Set
Meter Box Temp		
Reference Temp		
Pass/Fail (+/- 2°)	Pass / Fail	Pass / Fail
Temp Change Response	yes / no	yes / no

TRAVERSE POINT No.	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPINGER EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1731			476.701									
A 1	3	1734	0.66	0.95		78	94	90	131		67	2.5		
2	6	1737	0.63	0.91	480.06	78	94	90	130		63	2.5		
3	9	1740	0.60	0.86	481.60	78	95	90	130		60	2.0		
4	12	1743	0.84	1.20	483.44	78	95	90	130		59	2.5		
5	15	1746	0.70	1.00		78	96	90	130		56	2.5		~~13.2306~~
6	18	1749	1.15	1.65		77	98	90	130		54	3.5		13.772
7	21	1752	1.15	1.65	489.20	77	98	90	130		54	3.5		
8	24	1755	1.10	1.60	491.36	77	98	90	130		54	3.5		
9	27	1758	1.05	1.50	493.45	77	99	91	131		54	3.5		
10	30	1801	0.96	1.40	495.473	77	99	91	131		55	3.5		
—	30	1804	—	—	495.529	—	—	—	—		—	—		
B 1	33	1807	1.20	1.75	497.70	77	96	91	130		63	3.5		
2	36	1810	1.10	1.60	499.84	77	98	91	130		59	3.5		
3	39	1813	1.30	1.85	502.10	77	98	91	130		58	3.5		
4	42	1816	1.25	1.80	504.36	77	99	91	130		57	3.5		
5	45	1819	1.10	1.60		78	100	91	130		58	3.5		
6	48	1822	1.05	1.50	508.63	78	100	92	130		61	3.0		21.306
7	51	1825	1.05	1.50		78	99	92	130		62	3.0		
8	54	1828	1.05	1.50	512.85	78	99	92	130		63	3.0		
9	57	1831	1.05	1.50		78	99	92	130		63	3.0		
10	60	1834	0.98	1.40	516.835	78	99	92	130		63	3.0		
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			0.994	1.436	40.078	77.6	94.3							
				Avg Sqrt Del H	Comments:									

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

SAMPLE RECOVERY FIELD DATA

EPA Method 8 - SO2 (H2SO4 & SO2)

Client: Rhodia Inc — W.O. #: 12143.078.011.0001

Location/Plant: Baton Rouge, LA — Source & Location: Unit 1 Stack

Run No. 1 — Sample Date 6/4/12 — Recovery Date 6/4/12

Sample I.D. Rhodia - Unit 1 - STK - 1 - M8 - 4JUN2012 — Analyst PMM — Filter Number —

	Impinger									
	1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	215.0	NA	219.5	211.9					349.7	
Initial	237.1 ~~200ml/~~ g		197.5 ~~100ml/~~ g	197.7 ~~100ml/~~ g					331.0 ~~300~~	
Gain	-22.1		22.0	14.2				14.2 ~~36.2~~ PMM	18.7	32.8

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

purged for 15 min

Run No. 2 — Sample Date 6/4/12 — Recovery Date 6/4/12

Sample I.D. Rhodia - Unit 1 - STK - 2 - M8 - 4JUN2012 — Analyst PMM — Filter Number —

	Impinger									
	1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	209.9	NA	221.1	214.0					375.6	
Initial	236.8 ~~200ml/~~ g		197.0 ~~100ml/~~ g	197.7 ~~100ml/~~ g					353.6 ~~300~~	
Gain	-26.9		24.1	16.3				13.5	22	35.5

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

purged for 15 min

Run No. 3 — Sample Date 6/4/12 — Recovery Date 6/4/12

Sample I.D. Rhodia - Unit 1 - STK - 3 - M8 - 4JUN2012 — Analyst PMM — Filter Number —

	Impinger									
	1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	220.3	NA	221.4	211.8					355.9	
Initial	238.6 ~~200ml/~~ g		195.8 ~~100ml/~~ g	197.7 ~~100ml/~~ g					339.4 ~~300~~	
Gain	-18.3		25.6	14.1				21.4	16.5	37.9

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

purge for 15 min

Check COC for Sample IDs of Media Blanks

WESTON SOLUTIONS

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Client	Rhodia Inc
W.O.#	12143.078.011.0001
Project ID	Rhodia
Mode/Source ID	Unit 1
Samp. Loc. ID	STK
Run No.ID	4
Test Method ID	M8
Date ID	5JUN2012
Source/Location	Unit 1 Stack
Sample Date	6-5-12
Baro. Press (in Hg)	29.5
Operator	CF / JC

Stack Conditions

	Assumed	Actual
% Moisture	3.3	
Impinger Vol (ml)		
Silica gel (g)		
CO2, % by Vol	7.6	7.8
O2, % by Vol	7.6	7.7
Temperature (°F)	79	
Meter Temp (°F)	75	
Static Press (in H_2O)	+1.6	
Ambient Temp (°F)		

Meter Box ID	A028
Meter Box Y	0.981
Meter Box Del H	1.834
Probe ID / Length	5
Probe Material	Boro
Pitot / Thermocouple ID	P178
Pitot Coefficient	0.84
Nozzle ID	190
Avg Nozzle Dia (in)	0190
Area of Stack (ft^2)	
Sample Time	60
Total Traverse Pts	20

K Factor 1.36

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft^3)	0.008	0.005	0.005
Leak Check @ (in Hg)	15	10	10
Pitot good	yes / no	yes / no	yes / no
Orsat good	~~yes / no~~	~~yes / no~~	~~yes / no~~

Temp Check	Pre-Test Set	Post-Test Set
Meter Box Temp		
Reference Temp		
Pass/Fail (+/- 2°)	Pass / Fail	Pass / Fail
Temp Change Response	yes / no	yes / no

TRAVERSE POINT NO.	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft^3)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPINGER EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	0906			516.963									
AB 1	3	0909	1.25	1.70	519.14	79	77	73	149		66	3.5		
2	6	0912	1.25	1.70	521.33	79	77	73	149		65	3.5		
3	9	0915	1.30	1.75	523.48	79	77	73	149		64	3.5		
4	12	0918	1.10	1.50	525.51	79	78	73	149		63	3.0		21.617
5	15	0921	1.10	1.50	527.66	79	79	74	150		64	3.0		
6	18	0924	1.45	1.95	529.81	79	80	74	152		66	4.0		
7	21	0927	1.55	2.10	532.19	79	81	74	153		67	4.0		
8	24	0930	1.55	2.10	534.50	79	82	75	154		67	4.0		
9	27	0933	1.10	1.50	536.54	79	83	75	153		64	4.0		
10	30	0936	1.05	1.45	538.580	79	83	75	154		58	4.0		
—	30	0942	~~0.85~~	—	538.595	—	—	—	—		—	—		
B 1	3~~3~~	0945	0.85	1.15	540.38	79	80	75	156		64	3.0		
2	3~~6~~	0948	0.86	1.15	542.18	79	81	76	154		57	3.0		
3	~~41~~39	0951	1.05	1.45	544.16	79	81	76	152		56	3.0		
4	~~49~~42	0954	1.05	1.45	546.11	79	82	76	150		54	3.0		
5	~~47~~45	0957	1.15	1.55	548.05	79	83	76	150		55	3.0		
6	~~50~~48	1000	1.10	1.50	550.00	79	83	77	151		55	3.0		18.472
7	~~53~~51	1003	0.65	0.85	551.94	79	83	77	151		56	3.0		
8	~~56~~54	1006	0.74	1.00	~~551.90~~ 553.59	79	83	77	150		58	3.0		
9	57	1009	0.81	1.10	~~553.54~~ 555.32	79	83	77	150		57	3.0		
10	60	1012	0.79	1.05	557.067	79	83	77	150		56	3.0		
				JJ	JJ	JJ		JJ						
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.179	1.475	40.089	79.0	78.1							
			1.0352	Avg Sqrt Del H 1.200	Comments:									

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Page 1 of 1

			Stack Conditions							
Client	Rhodia Inc		Assumed	Actual	Meter Box ID	A028		K Factor	1.37	
W.O.#	12143.078.011.0001				Meter Box Y	0.981				
Project ID	Rhodia	% Moisture	3.3		Meter Box Del H	1.834	**Leak Checks**	Initial	Mid-Point	Final
Mode/Source ID	Unit 1	Impinger Vol (ml)			Probe ID / Length	5	Sample Train (ft³)	0.000	—	0.000
Samp. Loc. ID	STK	Silica gel (g)			Probe Material	Boro	Leak Check @ (in Hg)	15	—	5
Run No.ID	5	CO2, % by Vol	7.6	7.7	Pitot / Thermocouple ID	P178	Pitot good	(yes) / no	~~yes / no~~	(yes) / no
Test Method ID	M8	O2, % by Vol	7.6	8.1	Pitot Coefficient	0.84	Orsat good	~~yes / no~~	~~yes / no~~	~~yes / no~~
Date ID	5JUN2012	Temperature (°F)	78		Nozzle ID	190	**Temp Check**	Pre-Test Set		Post-Test Set
Source/Location	Unit 1 Stack	Meter Temp (°F)	90		Avg Nozzle Dia (in)	0.190	Meter Box Temp			
Sample Date	6/5/12	Static Press (in H_2O)	+1.6	+1.6	Area of Stack (ft²)		Reference Temp			
Baro. Press (in Hg)	29.5				Sample Time	60	Pass/Fail (+/- 2°)	Pass / Fail		Pass / Fail
Operator	CDF	Ambient Temp (°F)			Total Traverse Pts	20	Temp Change Response	yes / no		yes / no

TRAVERSE POINT NO.	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPING EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1059			557.155									
A 1	3	1102	0.80	1.10	558.95	79	84	80	142		58	3.5		
2	6	1105	1.00	1.35	560.86	79	84	80	131		54	3.5		
3	9	1108	1.05	1.45	562.88	79	86	80	120		47	3.5		
4	12	1111	1.15	1.55	564.90	79	86	81	121		44	3.5		
5	15	1114	1.15	1.55	566.96	79	88	81	123		44	3.5		19.386
6	18	1117	0.71	0.97	568.70	79	88	82	120		47	3.5		
7	21	1120	1.00	1.35	570.61	79	89	82	120		47	3.0		
8	24	1123	1.05	1.45	572.51	79	89	82	120		47	3.5		
9	27	1126	1.05	1.45	574.53	79	90	83	121		47	3.5		
10	30	1129	1.05	1.45	576.541	78	90	83	125		47	3.5		
—	30	1134	—	—	576.541	—	—	—	—		—	—		
B 1	33	1137	0.79	1.10	578.41	79	87	83	120		59	3.0		
2	36	1140	1.20	1.65	580.50	78	89	83	120		55	3.5		19.347
3	39	1143	0.94	1.15	582.43	78	90	83	121		47	3.0		
4	42	1146	1.15	1.55	584.36	79	90	84	122		47	3.5		
5	45	1149	1.10	1.50	586.25	78	90	84	122		47	3.5		
6	48	1152	0.77	1.05	588.13	78	91	84	120		48	3.5		
7	51	1155	1.20	1.65	590.22	78	91	84	122		50	3.5		
8	54	1158	1.15	1.55	592.27	78	91	84	122		50	3.5		
9	57	1201	1.15	1.55	594.34	79	92	84	121		51	3.5		
10	60	1204	1.15	1.55	596.388	78	92	85	121		51	3.5		
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.0123	1.3985	39.233	78.6	85.73							
				Avg Sqrt Del H	Comments:									

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Client	Rhodia Inc
W.O.#	12143.078.011.0001
Project ID	Rhodia
Mode/Source ID	Unit 1
Samp. Loc. ID	STK
Run No.ID	6
Test Method ID	M8
Date ID	5JUN2012
Source/Location	Unit 1 Stack
Sample Date	6/5/12
Baro. Press (in Hg)	29.5
Operator	CDF

Stack Conditions

	Assumed	Actual
% Moisture	3.3	
Impinger Vol (ml)		
Silica gel (g)		
CO2, % by Vol	7.6	7.7
O2, % by Vol	7.6	8.1
Temperature (°F)	78	
Meter Temp (°F)	90	
Static Press (in H_2O)	+1.6	+1.6
Ambient Temp (°F)		

Meter Box ID	A028
Meter Box Y	0.981
Meter Box Del H	1.854
Probe ID / Length	5
Probe Material	Boro
Pitot / Thermocouple ID	P178
Pitot Coefficient	0.84
Nozzle ID	190
Avg Nozzle Dia (in)	0.190
Area of Stack (ft^2)	
Sample Time	60
Total Traverse Pts	20

K Factor 1.39

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft^3)	0.002	—	0.001
Leak Check @ (in Hg)	10	—	5
Pitot good	(yes) / no	~~yes / no~~	(yes) / no
Orsat good	yes / no	~~yes / no~~	~~yes / no~~

Temp Check	Pre-Test Set	Post-Test Set
Meter Box Temp		
Reference Temp		
Pass/Fail (+/- 2°)	Pass / Fail	Pass / Fail
Temp Change Response	yes / no	yes / no

TRAVERSE POINT NO	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPINGER EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1249			596.453									
B 1	3	1252	1.15	1.60	598.57	79	89	87	123		62	3.0		
2	6	1255	1.15	1.60	600.70	79	90	87	121		59	3.0		
3	9	1258	1.15	1.60	602.80	79	92	87	124		53	3.0		
4	12	1301	1.10	1.55	604.92	79	94	87	126		54	3.0		
5	15	1304	1.05	1.45	607.00	79	94	87	123		55	3.0		
6	18	1307	1.05	1.45	608.96	79	95	87	121		57	3.0		
7	21	1310	1.10	1.55	611.04	79	95	87	123		59	3.0		
8	24	1313	1.05	1.45	613.15	79	95	87	121		61	3.0		
9	27	1316	0.92	1.30	615.04	79	96	87	121		62	3.0		
10	30	1319	0.94	1.35	616.922	79	96	87	121		63	3.0		
A 1	33	1325	1.10	1.55	618.99	79	94	88	123		66	3.0		
2	36	1328	1.05	1.45	621.00	79	95	88	121		64	3.0		
3	39	1331	1.05	1.45	623.01	79	95	88	120		65	3.0		
4	42	1334	0.76	1.05	624.74	79	96	88	120		63	2.5		
5	45	1337	~~0.105~~ 0.76	1.05	626.48	79	95	88	121		60	2.5		
6	48	1340	1.20	1.65	628.56	79	96	89	123		57	3.0		
7	51	1343	1.15	1.60	630.70	79	97	89	120		55	3.0		
8	54	1346	1.10	1.55	632.75	78	97	89	119		53	3.0		
9	57	1349	1.15	1.60	634.88	78	97	89	120		54	3.5		
10	60	1352	0.90	1.25	636.773	78	98	90	121		53	2.5		
			JJ	JJ	JJ	JJ		JJ						
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.01985	1.455	40.320	78.9	91.275							

Avg Sqrt Del H

Comments:

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

SAMPLE RECOVERY FIELD DATA

EPA Method 8 - SO2 (H2SO4 & SO2)

Client: Rhodia Inc — W.O. #: 12143.078.011.0001

Location/Plant: Baton Rouge, LA — Source & Location: Unit 1 Stack

Run No. 4 — Sample Date 6/5/12 — Recovery Date 6/5/12

Sample I.D. Rhodia - Unit 1 - STK - 4 - M8 - 5JUN2012 — Analyst PMM — Filter Number —

purged for 15 min

	Impinger									
	1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	216.2	NA	223.4	212.1					366.9	
Initial	237.7 ~~200ml~~ g		198.6 ~~100ml~~ g	197.6 ~~100ml~~ g					343.8 ~~300~~	
Gain	-21.5		24.8	14.5				17.8	23.1	40.9

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

Run No. 5 — Sample Date 6/5/12 — Recovery Date 6/5/12

Sample I.D. Rhodia - Unit 1 - STK - 5 - M8 - 5JUN2012 — Analyst PMM — Filter Number —

purged for 15 min

	Impinger									
	1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	212.1	NA	216.3	212.7				357.6	~~366.9~~ PMM	
Initial	238.0 ~~200ml~~ g		197.0 ~~100ml~~ g	197.2 ~~100ml~~ g					333.1 ~~300~~	
Gain	-25.9		19.3	15.5				8.9	24.0	32.9

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

Run No. 6 — Sample Date 6/5/12 — Recovery Date 6/5/12

Sample I.D. Rhodia - Unit 1 - STK - 6 - M8 - 5JUN2012 — Analyst PMM — Filter Number —

purged for 15 min

	Impinger									
	1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	213.2	NA	222.2	213.8					345.2	
Initial	236.4 ~~200ml~~ g		197.1 ~~100ml~~ g	198.8 ~~100ml~~ g					324.4 ~~300~~	
Gain	-23.2		25.1	15.0				16.9	20.8	37.7

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

Check COC for Sample IDs of Media Blanks

WESTON SOLUTIONS

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Client	Rhodia Inc
W.O.#	12143.078.011.0001
Project ID	Rhodia
Mode/Source ID	Unit 1
Samp. Loc. ID	STK
Run No.ID	7
Test Method ID	M8
Date ID	5JUN2012
Source/Location	Unit 1 Stack
Sample Date	6/5/12
Baro. Press (in Hg)	29.5
Operator	JC

Stack Conditions

	Assumed	Actual
% Moisture		
Impinger Vol (ml)		
Silica gel (g)		
CO2, % by Vol	7.6	7.8
O2, % by Vol	7.6	8.1
Temperature (°F)	78	
Meter Temp (°F)	95	
Static Press (in H_2O)		+1.6
Ambient Temp (°F)		

Meter Box ID	A028
Meter Box Y	0.981
Meter Box Del H	1.834
Probe ID / Length	
Probe Material	Boro
Pitot / Thermocouple ID	P178
Pitot Coefficient	0.84
Nozzle ID	.190
Avg Nozzle Dia (in)	.190
Area of Stack (ft^2)	15.904
Sample Time	60
Total Traverse Pts	20

K Factor 1.4

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft^3)	.013		.012
Leak Check @ (in Hg)	15"		4"
Pitot good	yes / no	yes / no	yes / no
Orsat good	yes / no	yes / no	yes / no
Temp Check	Pre-Test Set		Post-Test Set
Meter Box Temp			
Reference Temp			
Pass/Fail (+/- 2°)	Pass / Fail		Pass / Fail
Temp Change Response	yes / no		yes / no

TRAVERSE POINT NO.	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft^3)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPINGER EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1415			636.906									
A 1	3		0.92	1.28	639.0	79	94	91	121		~~76~~	3		
2	6		0.84	1.17	640.8	79	95	91	122		~~76~~	3		
3	9		0.93	1.30	642.6	79	96	92	121		63	3		
4	12		0.89	1.24	644.7	79	96	92	124		60	3		//
5	15		1.1	1.54	646.8	79	99	92	119		55	3		20.383
6	18		0.98	1.37	648.9	78	99	92	124		55	3		
7	21		1.2	1.68	650.9	78	100	93	126		56	3		
8	24		1.2	1.68	653.0	78	100	93	120		55	3		
9	27		1.0	1.40	655.1	78	101	93	122		55	3		
10	30	1445	0.97	1.35	657.289	78	102	94	120		56	3		
B * 1	33	~~1455~~	1.2	1.68	659.2	78	99	94	123		65	3		
2	36		1.1	1.54	661.3	79	100	94	121		58	3		
3	39		1.2	1.68	—	78	101	94	121		56	3		
4	42		1.2	1.68	—	78	101	94	120		56	3		
5	45		1.0	1.4	667.9	78	102	94	121		56	3		//
6	48		1.1	1.54	669.4	78	102	95	121		57	3		19.618
7	51		1.1	1.54	671.5	78	102	95	120		58	3		
8	54		0.92	1.28	673.4	78	102	95	119		59	3		
9	57		0.87	1.21	675.3	78	102	95	120		59	3		
10	60	1518	0.90	1.26	676.975	78	102	95	120		60	3		
			//	//										
			//	1.441	//	//		//						
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.0136	~~1.4135~~	40.001	78.3	96.575							
				Avg Sqrt Del H										

Comments: * Leak check stop vol 657.357

EPA Method 8 from 40CFR Appendix A

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Client	Rhodia Inc
W.O.#	12143.078.011.0001
Project ID	Rhodia
Mode/Source ID	Unit 1
Samp. Loc. ID	STK
Run No.ID	8
Test Method ID	M8
Date ID	5JUN2012
Source/Location	Unit 1 Stack
Sample Date	6/5/12
Baro. Press (in Hg)	29.5
Operator	JC

Stack Conditions

	Assumed	Actual
% Moisture		
Impinger Vol (ml)		
Silica gel (g)		
CO2, % by Vol	7.6	7.8
O2, % by Vol	7.6	8.1
Temperature (°F)	78	
Meter Temp (°F)	98	
Static Press (in H_2O)	+1.6	1.6
Ambient Temp (°F)		

Meter Box ID	A028
Meter Box Y	0.981
Meter Box Del H	1.834
Probe ID / Length	5'
Probe Material	Boro
Pitot / Thermocouple ID	P178
Pitot Coefficient	0.84
Nozzle ID	.190
Avg Nozzle Dia (in)	.190
Area of Stack (ft^2)	
Sample Time	60
Total Traverse Pts	20

K Factor 1.40

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft^3)	.008	.008	.008
Leak Check @ (in Hg)	15"	6"	6"
Pitot good	yes / no	yes / no	yes / no
Orsat good	yes / no	yes / no	yes / no

Temp Check	Pre-Test Set	Post-Test Set
Meter Box Temp		
Reference Temp		
Pass/Fail (+/- 2°)	Pass / Fail	Pass / Fail
Temp Change Response	yes / no	yes / no

TRAVERSE POINT NO	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPING EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1535			677.205									
B 1	3		1.1	1.54	679.3	78	100	96	126		67	5		
2	6		1.2	1.68	681.5	78	100	96	124		64	5		
3	9		1.1	1.54	683.6	78	103	97	121		62	5		//
4	12		1.1	1.54	685.7	78	103	97	120		59	5		20.654
5	15		0.85	1.19	687.6	78	104	97	121		59	4		
6	18		1.1	1.54	689.5	78	104	97	120		58	4.5		
7	21		1.1	1.54	691.6	78	104	97	121		58	4.5		
8	24		1.1	1.54	—	78	104	98	120		56	4.5		
9	27		1.0	1.40	695.7	78	105	98	120		56	4.5		
10	30	1605	0.83	1.16	697.859	78	105	98	121		56	4.5		
		~~1605~~ PMW			697.916									
A 1	33	1608	1.1	1.54	699.7	78	103	98	123		64	4		
2	36		1.1	1.54	701.8	78	104	98	123		57	4.5		
3	39		1.1	1.54	704.0	78	104	98	122		56	4.5		//
4	42		1.1	1.54	706.0	78	104	98	120		56	4.5		19.969
5	45		0.88	1.23	707.9	78	105	98	123		57	4		
6	48		1.0	1.40	709.9	78	104	98	121		60	4.5		
7	51		1.2	1.68	—	78	105	98	121		60	4.5		
8	54		1.1	1.54	714.3	78	105	98	122		60	4.5		
9	57	1638	.80	1.12	716.1	78	105	98	120		61	4		
10	60	~~1638~~	.76	1.06	717.885	78	105	98	121		62	4		
		PMW												
			//	//	//	//		//						
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			1.0133	1.443	40.623	78.0	100.675							

Avg Sqrt Del H

Comments:

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

ISOKINETIC FIELD DATA SHEET

EPA Method 8 - SO2 (H2SO4 & SO2)

Client	Rhodia Inc
J.#	12143.078.011.0001
oject ID	Rhodia
Mode/Source ID	Unit 1
Samp. Loc. ID	STK
Run No.ID	9
Test Method ID	M8
Date ID	5JUN2012
Source/Location	Unit 1 Stack
Sample Date	6/5/12
Baro. Press (in Hg)	29.5
Operator	JC

Stack Conditions

	Assumed	Actual
% Moisture		
Impinger Vol (ml)		
Silica gel (g)		
CO2, % by Vol	7.6	7.9
O2, % by Vol	7.6	8.1
Temperature (°F)	78	
Meter Temp (°F)	100	
Static Press (in H_2O)	+1.6	
Ambient Temp (°F)		

Meter Box ID	A028
Meter Box Y	0.981
Meter Box Del H	1.834
Probe ID / Length	5'
Probe Material	Boro
Pitot / Thermocouple ID	P178
Pitot Coefficient	0.84
Nozzle ID	.190
Avg Nozzle Dia (in)	.190
Area of Stack (ft²)	
Sample Time	60
Total Traverse Pts	20

K Factor 1.41

Leak Checks	Initial	Mid-Point	Final
Sample Train (ft³)	.011	.009	.009
Leak Check @ (in Hg)	15"	4"	4.5"
Pitot good	yes / no	yes / no	yes / no
Orsat good	yes / no	yes / no	yes / no
Temp Check	Pre-Test Set		Post-Test Set
Meter Box Temp			
Reference Temp			
Pass/Fail (+/- 2°)	Pass / Fail		Pass / Fail
Temp Change Response	yes / no		yes / no

TRAVERSE POINT No.	SAMPLE TIME (min)	CLOCK TIME (plant time)	VELOCITY PRESSURE Delta P (in H2O)	ORIFICE PRESSURE Delta H (in H2O)	DRY GAS METER READING (ft³)	STACK TEMP (°F)	DGM INLET TEMP (°F)	DGM OUTLET TEMP (°F)	PROBE TEMP (°F)		IMPINGER EXIT TEMP (°F)	SAMPLE TRAIN VAC (in Hg)		COMMENTS
	0	1651			718.022									
A 1	3		0.93	1.311	720.0	79	98	96	121		67	3		
2	6		0.91	1.28	721.9	78	100	96	126		64	3		
3	9		0.93	1.311	—	78	100	96	122		59	3		
4	12		0.97	1.36	725.9	78	101	96	123		58	3		"
5	15		0.78	1.09	727.8	79	101	96	120		57	3		19.534
6	18		1.0	1.41	729.6	78	101	95	122		58	3		
7	21		0.97	1.36	731.6	78	101	95	120		52	3		
8	24		0.97	1.36	733.6	78	101	95	123		49	3		
9	27		1.0	1.41	735.6	78	101	95	120		48	3		
10	30	1721	0.80	1.12	737.556	78	101	95	121		47	3		
		1723			737.606			0						
B 1	33		1.1	1.55	739.4	79	99	94	121		53	3.5		
2	36		1.1	1.55	741.5	79	99	94	124		48	3.5		
3	39		1.1	1.55	743.6	78	99	94	120		46	3.5		
4	42		1.2	1.69	745.7	79	99	94	120		45	3.5		"
5	45		1.1	1.55	747.8	79	99	93	123		44	3.5		20.292
6	48		1.1	1.55	749.9	79	99	93	122		44	3.5		
7	51		1.1	1.55	—	79	99	93	120		45	3.5		
8	54		1.0	1.41	754.1	79	99	92	120		45	3.5		
9	57		0.92	1.28	756.0	78	99	92	120		45	3		
10	60	1753	0.97	1.36	757.898	78	98	92	122		45	3		
			Avg Sqrt Delta P	Avg Delta H	Total Volume	Avg Ts	Avg Tm		Min/Max	Min/Max	Max Temp	Max Vac	Max Temp	
			0.99736	1.4026	39.826	78.45	97.0							
				Avg Sqrt Del H	Comments:									
				1.1826										

WESTON SOLUTIONS

EPA Method 8 from 40CFR Appendix A

SAMPLE RECOVERY FIELD DATA

EPA Method 8 - SO2 (H2SO4 & SO2)

Client: Rhodia Inc — W.O. #: 12143.078.011.0001

Location/Plant: Baton Rouge, LA — Source & Location: Unit 1 Stack

Run No. 7 — Sample Date 6/5/12 — Recovery Date 6/5/12

Sample I.D. Rhodia - Unit 1 - STK - 7 - M8 - 5JUN2012 — Analyst PMM — Filter Number —

Purge for 5 min.

	Impinger 1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	220.4	NA	225.2	209.8					363.6	
Initial	238.8 ~~200ml~~ g		198.4 ~~100ml~~ g	196.2 ~~100ml~~ g					341.1 ~~300~~	
Gain	-18.4		26.8	13.6				22.0	16.5	38.5

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

Run No. 8 — Sample Date 6/5/12 — Recovery Date 6/5/12

Sample I.D. Rhodia - Unit 1 - STK - 8 - M8 - 5JUN2012 — Analyst PMM — Filter Number —

Purged for 5 min

	Impinger 1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	222.2	NA	223.6	213.9					382.5	
Initial	239.6 ~~200ml~~ g		198.6 ~~100ml~~ g	198.9 ~~100ml~~ g					363.8 ~~300~~	
Gain	-17.4		25.0	15.0				22.6	18.7	41.3

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

Run No. 9 — Sample Date 6/5/12 — Recovery Date 6/5/12

Sample I.D. Rhodia - Unit 1 - STK - 9 - M8 - 5JUN2012 — Analyst PMM — Filter Number —

Purge for 15 m

	Impinger 1	2	3	4	5	6	7	Imp.Total	8	Total
Contents	80% ISO	Empty	3% H2O2	3% H2O2					Silica Gel	
Final	219.4	NA	221.3	213.0					364.1	
Initial	235.5 ~~200ml~~ g		198.4 ~~100ml~~ g	199.4 ~~100ml~~ g					347.5 ~~300~~	
Gain	-16.1		22.9	13.6				20.4	16.6	37.0

Impinger Color: clear — Labeled? ✓

Silica Gel Condition: Good — Sealed? ✓

Check COC for Sample IDs of Media Blanks

WESTON SOLUTIONS

Sample and Velocity Traverse Point Data Sheet - Method 1

Client: Rhodia
Loaction/Plant: Baton Rouge
Source: Unit 1 Scrubber Stack

Operator: PMM
Date: 5/11/12
W.O. Number: 12143.078.011

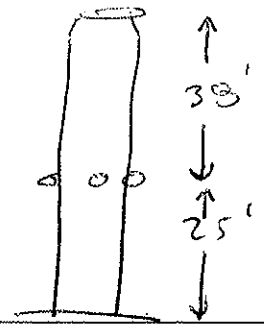
Duct Type	☒ Circular	☐ Rectangular Duct	Indicate appropriate type
Traverse Type	☒ Particulate Traverse	☐ Velocity Traverse	

Distance from far wall to outside of port (in.) = C	100
Port Depth (in.) = D	6
Depth of Duct, diameter (in.) = C-D	54"
Area of Duct (ft^2)	15.904
Total Traverse Points	20
Total Traverse Points per Port	5

Rectangular Ducts Only	
Width of Duct, rectangular duct only (in.)	NA
Total Ports (rectangular duct only)	

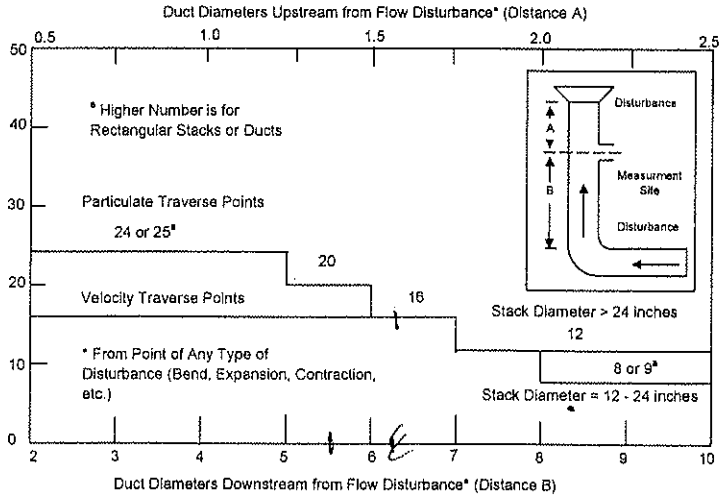
Flow Disturbances	
Upstream - A (ft)	38
Downstream - B (ft)	25
Upstream - A (duct diameters)	~~6~~ 8.4
Downstream - B (duct diameters)	~~6~~ 5.5

Diagram of Stack



Traverse Point Locations

Traverse Point	% of Duct	Distance from Inside Duct Wall (in)	Distance from Outside of Port (in)
1	.067	1 3/8	7 3/8
2	.105	4 3/8	10 3/8
3	.194	7 7/8	13 7/8
4	.325	12 1/4	18 1/4
5	.342	18 1/2	24 1/2
6	.658	35 1/2	41 1/2
7	.774	41 3/4	47 3/4
8	.854	46 1/8	52 1/8
9	.918	49 5/8	55 5/8
10	.974	52 5/8	58 5/8
11			
12			



Equivalent Diameter = (2*L*W)/(L+W)

Traverse Point Location Percent of Stack -Circular

Traverse Point Location	Number of Traverse Points: 1	2	3	4	5	6	7	8	9	10	11	12
1		14.6		6.7		4.4		3.2		2.6		2.1
2		85.4		25		14.6		10.5		8.2		6.7
3				75		29.6		19.4		14.6		11.8
4				93.3		70.4		32.3		22.6		17.7
5						85.4		67.7		34.2		25
6						95.6		80.6		65.8		35.6
7								89.5		77.4		64.4
8								96.8		85.4		75
9										91.8		82.3
10										97.4		88.2
11												93.3
12												97.9

Traverse Point Location Percent of Stack -Rectangular

Traverse Point Location	Number of Traverse Points: 1	2	3	4	5	6	7	8	9	10	11	12
1		25.0	16.7	12.5	10.0	8.3	7.1	6.3	5.6	5.0	4.5	4.2
2		75.0	50.0	37.5	30.0	25.0	21.4	18.8	16.7	15.0	13.6	12.5
3			83.3	62.5	50.0	41.7	35.7	31.3	27.8	25.0	22.7	20.8
4				87.5	70.0	58.3	50.0	43.8	38.9	35.0	31.8	29.2
5					90.0	75.0	64.3	56.3	50.0	45.0	40.9	37.5
6						91.7	78.6	68.8	61.1	55.0	50.0	45.8
7							92.9	81.3	72.2	65.0	59.1	54.2
8								93.8	83.3	75.0	68.2	62.5
9									94.4	85.0	77.3	70.8
10										95.0	86.4	79.2
11											95.5	87.5
12												95.8

Rectangular Stack Points & Matrix
9 - 3 x 3
12 - 4 x 3
16 - 4 x 4
20 - 5 x 4
25 - 5 x 5
30 - 6 x 5
36 - 6 x 6
42 - 7 x 6
49 - 7 x 7

5 ft probes x 2 ports
20 or 3 ft probes x 4 ports

WESTON MANAGERS DESIGNERS/CONSULTANTS

Method1.xls

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Determination of Stack Gas Velocity - Method 2

Client: RHODIA
Location/Plant: BATON ROUGE
Source: Unit 1 Scrubber Stack
Operator: CF/NF
Date: 6-4-12
W.O. Number: 12143.078.011
Pitot Coeff (Cp): 0.84
Stack Area, ft² (As): 15.904
Pitot Tube/Thermo ID:

Run Number	Prelim		
Time			
Barometric Press, in Hg (Pb)	29.6		
Static Press, in H_2O (Pstatic)	~~0.2~~ +1.6		
Source Moisture, % (BWS)	3.4		
O_2, %	9		
CO_2, %	9		

Cyclonic Flow Determination		Traverse Location		Leak Check good ? (Y) N		Leak Check good ? Y / N		Leak Check good ? Y / N	
Delta P at 0°	Angle yeilding zero Delta P	Port	Point	Delta P	Source Temp, F° (Ts)	Delta P	Source Temp, F° (Ts)	Delta P	Source Temp, F° (Ts)
	0	A	1	1.45	80				
	0		2	1.10	80				
	3		3	1.00	80				
	3		4	1.00	80				
	5		5	0.99	80				
	5		6	0.82	80				
	3		7	0.860	79				
	4		8	0.85	79				
	5		9	0.85	79				
	6		10	0.78	79				
	11	B	1	0.60	80				
	8		2	0.69	80				
	6		3	0.78	80				
	6		4	0.84	80				
	8		5	0.88	79				
	6		6	0.89	79				
	8		7	0.89	79				
	8		8	0.89	79				
	11		9	0.86	79				
	5		10	0.85	79				
Avg Angle	5, 6	Avg Delta P & Temp		0.894					
		avg $\sqrt{DeltaP}$		0.942					
Average gas stream velocity, ft/sec.									
Vol. flow rate @ actual conditions, wacf/min									
Vol. flow rate at standard conditions, dscf/min									

$$MWd = (0.32 * O_2) + (0.44 * CO_2) + (0.28 * (100 - (CO_2 + O_2)))$$

$$MWs = (MWd * (1 - (BWS/100))) + (18 * (BWS/100))$$

$$Tsa = Ts + 460$$

$$Ps = Pb + (Pstatic/13.6)$$

$$Vs = 85.49 * Cp * avg\sqrt{DeltaP} * \sqrt{Tsa/(Ps * MWs)}$$

$$Qs(act) = 60 * Vs * As$$

$$Qs(std) = 17.64 * (1 - (BWS/100)) * (Ps/Tsa) * Qs(act)$$

where:
MWd = Dry molecular weight source gas, lb/lb-mole.
MWs = Wet molecular weight source gas, lb/lb-mole.
Tsa = Source Temperature, absolute(oR)
Ps = Absolute stack static pressure, inches Hg.
Vs = Average gas stream velocity, ft/sec.
Qs(act) = Volumetric flow rate of wet stack gas at actual,
Qs(std) = Volumetric flow rate of dry stack gas at standard conditions, dscf/min

Comments

WESTON MANAGERS DESIGNERS/CONSULTANTS

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Dtip 1.875

Nozzle .187

C.2 EPA METHOD 3A AND 6C DATA

Rhodia
Baton Rouge, LA

W.O. No. 12143.078.011
Applicable Std.
(ppm)

Unit 1 (Primary)
SO2 Analyzer Relative Accuracy Test Results

Run No.	Date	Time Start	Time End		Reference Method Concentration (ppm)	CEMS Concentration (ppm)	Difference (ppm)
1	6/5/12	0906	0927		132	119	-13.5
2	6/5/12	0927	0948	*	136	120	-16.5
3	6/5/12	0948	1009		130	120	-9.6
4	6/5/12	1059	1120	*	130	114	-16.1
5	6/5/12	1120	1141		126	120	-5.9
6	6/5/12	1141	1202		126	120	-6.3
7	6/5/12	1249	1310		126	114	-12.5
8	6/5/12	1310	1331		124	112	-12.4
9	6/5/12	1331	1352		122	110	-12.3
10	6/5/12	1415	1436		124	109	-15.0
11	6/5/12	1436	1457		125	110	-14.6
12	6/5/12	1457	1518	*	126	111	-15.5
Mean					126.11	114.77	-11.34
Standard Deviation							3.356

* Delimiter for runs not used in RA calculations

$$RA = \frac{|mean\ diff| + \left|\frac{t_{0.975}}{\sqrt{n}} \times (Std.\ dev\ of\ diff.)\right|}{mean\ RM\ conc.\ or\ applicable\ std,\ whichever\ is\ greater} \times 100$$

$$where,\ \frac{\left|\frac{t_{0.975}}{\sqrt{n}} \times (Std.\ dev\ of\ diff.)\right|}{} = 2.5\%\ error\ confidence\ coefficient$$

$t_{0.975}$ = *degree of freedom value from Table 2-1 of CFR Part 60, APP B, Specification 2*
n = *number of runs selected for calculating RA*

$$RA = \frac{|***| + \left|\frac{2.306}{**} \times (***)\right|}{***} \times 100$$

RA= **11.04** % using the Mean Reference Method Concentration
An acceptable RA is ≤ 20% using the mean reference method conc. or ≤ 10% using the

Rhodia
Baton Rouge, LA

W.O. No. 12143.078.011
Applicable Std.
(ppm)

Unit 1 (Backup)
SO2 Analyzer Relative Accuracy Test Results

Run No.	Date	Time Start	Time End		Reference Method Concentration (ppm)	CEMS Concentration (ppm)	Difference (ppm)
1	6/5/12	0906	0927		132	132	-0.4
2	6/5/12	0927	0948		136	132	-4.5
3	6/5/12	0948	1009	*	130	119	-10.7
4	6/5/12	1059	1120	*	130	103	-26.8
5	6/5/12	1120	1141		126	123	-2.8
6	6/5/12	1141	1202		126	125	-1.5
7	6/5/12	1249	1310		126	119	-6.9
8	6/5/12	1310	1331		124	118	-6.1
9	6/5/12	1331	1352	*	122	114	-8.3
10	6/5/12	1415	1436		124	122	-1.9
11	6/5/12	1436	1457		125	129	3.7
12	6/5/12	1457	1518		126	130	3.8
Mean					127.22	125.38	-1.84
Standard Deviation							3.815

* Delimiter for runs not used in RA calculations

$$RA = \frac{|mean\ diff.| + \left|\frac{t_{0.975}}{\sqrt{n}} \times (Std.\ dev\ of\ diff.)\right|}{mean\ RM\ conc.\ or\ applicable\ std,\ whichever\ is\ greater} \times 100$$

$$where,\ \frac{\left|\frac{t_{0.975}}{\sqrt{n}} \times (Std.\ dev\ of\ diff.)\right|}{} = 2.5\%\ error\ confidence\ coefficient$$

$t_{0.975}$ = *degree of freedom value from Table 2-1 of CFR Part 60, APP B, Specification 2*
n = *number of runs selected for calculating RA*

$$RA = \frac{|***| + \left|\frac{2.306}{**} \times (***)\right|}{***} \times 100$$

RA= **3.75** % using the Mean Reference Method Concentration
An acceptable RA is ≤ 20% using the mean reference method conc. or ≤ 10% using the

METHODS AND ANALYZERS

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

File: C:\Data\Rhodia Baton Rouge\6-4-12.cem
Program Version: 2.0, built 16 May 2012 **File Version:** 2.02
Computer: WSAUB58 **Trailer:** 201
Analog Input Device: Keithley KPCMCIA 16AI

Channel 1

Analyte	O_2
Method	**EPA 3A**, Using Bias
Analyzer Make, Model & Serial No.	**Servomex 1440 Ser#4303**
Full-Scale Output, mv	**1000**
Analyzer Range, %	**20.0**
Span Concentration, %	**19.8**

Channel 2

Analyte	CO_2
Method	**EPA 3A**, Using Bias
Analyzer Make, Model & Serial No.	**Servomex 1440 Ser#4303**
Full-Scale Output, mv	**1000**
Analyzer Range, %	**20.0**
Span Concentration, %	**19.7**

Channel 5

Analyte	SO_2
Method	**EPA 6C**, Using Bias
Analyzer Make, Model & Serial No.	**Ametek 900 Asset# 205924**
Full-Scale Output, mv	**10000**
Analyzer Range, ppm	**100**
Span Concentration, ppm	**90.4**

CALIBRATION DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 13:45

O_2
Method: EPA 3A
Calibration Type: Linear Regression

Calibration Results

%	Cylinder ID	Result, mv
Zero	-	48
10.0	SG9162669BAL	422
19.8	CC31544	800

Curve Coefficients

Slope	Intercept	Corr. Coeff.
37.98	46	>0.9999

CO_2
Method: EPA 3A
Calibration Type: Linear Regression

Calibration Results

%	Cylinder ID	Result, mv
Zero	-	16
10.0	SG9162669BAL	358
19.7	CC31544	713

Curve Coefficients

Slope	Intercept	Corr. Coeff.
35.37	12	0.9998

CALIBRATION DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 13:45

SO_2
Method: EPA 6C
Calibration Type: Linear Regression

Calibration Results

ppm	Cylinder ID	Result, mv
Zero	-	-12
50.0	CC97646	5251
90.4	CC35005	9276

Curve Coefficients

Slope	Intercept	Corr. Coeff.
102.8	25	0.9999

WESTON SOLUTIONS

CALIBRATION ERROR DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 13:45

O_2
Method: EPA 3A
Span Conc. 19.8 %
Slope 37.98 **Intercept** 46.1

Standard %	Response mv	Result %	Difference %	Error %	Status
Zero	48	0.1	0.1	0.5	Pass
10.0	422	9.9	-0.1	-0.5	Pass
19.8	800	19.9	0.1	0.5	Pass

CO_2
Method: EPA 3A
Span Conc. 19.7 %
Slope 35.37 **Intercept** 12.1

Standard %	Response mv	Result %	Difference %	Error %	Status
Zero	16	0.1	0.1	0.5	Pass
10.0	358	9.8	-0.2	-1.0	Pass
19.7	713	19.8	0.1	0.5	Pass

SO_2
Method: EPA 6C
Span Conc. 90.4 ppm
Slope 102.8 **Intercept** 25.3

Standard ppm	Response mv	Result ppm	Difference ppm	Error %	Status
Zero	-12	-0.4	-0.4	-0.4	Pass
50.0	5251	50.8	0.8	0.9	Pass
90.4	9276	90.0	-0.4	-0.4	Pass

BIAS
Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 13:53

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	37	-0.2	-0.3	-1.5	Pass
Span	9.9	426	10.0	0.1	0.5	Pass

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	17	0.1	0.0	0.0	Pass
Span	9.8	360	9.8	0.0	0.0	Pass

SO_2
Method: EPA 6C
Span Conc. 90.4 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	-0.4	251	2.2	2.6	2.9	Pass
Span	50.8	4929	47.7	-3.1	-3.4	Pass

RUN DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
15:01	341	7.8	284	7.7	1943	18.6
15:02	342	7.8	283	7.7	1923	18.5
15:03	342	7.8	283	7.7	1948	18.7
15:04	342	7.8	283	7.7	1993	19.1
15:05	341	7.8	283	7.7	2061	19.8
15:06	341	7.8	283	7.7	2085	20.0
15:07	341	7.8	283	7.7	2081	20.0
15:08	341	7.8	285	7.7	2097	20.1
15:09	342	7.8	286	7.7	2162	20.8
15:10	343	7.8	286	7.7	2198	21.1
15:11	345	7.9	285	7.7	2210	21.2
15:12	346	7.9	283	7.7	2252	21.7
15:13	348	7.9	280	7.6	2259	21.7
15:14	347	7.9	281	7.6	2300	22.1
15:15	348	7.9	280	7.6	2318	22.3
15:16	348	7.9	280	7.6	2375	22.8
15:17	350	8.0	279	7.5	2400	23.1
15:18	350	8.0	282	7.6	2411	23.2
15:19	350	8.0	282	7.6	2425	23.3
15:20	351	8.0	281	7.6	2445	23.5
15:21	351	8.0	280	7.6	2481	23.9
15:22	351	8.0	281	7.6	2353	22.6
15:23	349	8.0	282	7.6	1981	19.0
15:24	348	7.9	281	7.6	1681	16.1
15:25	347	7.9	281	7.6	1425	13.6
15:26	347	7.9	281	7.6	1028	9.7
15:27	346	7.9	281	7.6	808	7.6
15:28	346	7.9	281	7.6	770	7.2
15:29	346	7.9	281	7.6	753	7.1
15:30	347	7.9	279	7.5	778	7.3
15:31	347	7.9	277	7.5	806	7.6
15:32	347	7.9	277	7.5	864	8.2
15:33	347	7.9	277	7.5	835	7.9
15:34	347	7.9	276	7.5	775	7.3
15:35	348	7.9	276	7.5	741	7.0
15:36	348	7.9	279	7.5	759	7.1
15:37	347	7.9	280	7.6	843	8.0
15:38	348	7.9	280	7.6	989	9.4
15:39	349	8.0	281	7.6	1101	10.5
15:40	348	7.9	280	7.6	1228	11.7
15:41	346	7.9	277	7.5	1328	12.7
15:42	346	7.9	278	7.5	1414	13.5

RUN DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
15:43	345	7.9	279	7.5	1479	14.1
15:44	346	7.9	278	7.5	1505	14.4
15:45	347	7.9	280	7.6	1541	14.7
15:46	348	7.9	280	7.6	1582	15.1
15:47	349	8.0	281	7.6	1652	15.8
15:48	348	7.9	281	7.6	1694	16.2
15:49	349	8.0	279	7.5	1732	16.6
15:50	350	8.0	280	7.6	1761	16.9
15:51	350	8.0	279	7.5	1776	17.0
15:52	350	8.0	279	7.5	1784	17.1
15:53	351	8.0	280	7.6	1785	17.1
15:54	351	8.0	279	7.5	1808	17.3
15:55	351	8.0	278	7.5	1811	17.4
15:56	350	8.0	277	7.5	1804	17.3
15:57	349	8.0	276	7.5	1814	17.4
15:58	350	8.0	276	7.5	1816	17.4
15:59	349	8.0	275	7.4	1794	17.2
16:00	349	8.0	273	7.4	1819	17.4
16:01	348	7.9	274	7.4	1826	17.5
16:02	348	7.9	272	7.3	1826	17.5
16:03	349	8.0	272	7.3	1840	17.6
16:04	350	8.0	273	7.4	1836	17.6
16:05	350	8.0	273	7.4	1833	17.6
Avgs	**347**	**7.9**	**280**	**7.6**	**1688**	**16.2**

RUN SUMMARY

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 15:00 to 16:05

Run Averages

	7.9	7.6	16.2

Pre-run Bias at 13:53

Zero Bias	-0.2	0.1	2.2
Span Bias	10.0	9.8	47.7
Span Gas	10.0	10.0	50.0

Post-run Bias at 16:14

Zero Bias	-0.3	0.3	1.6
Span Bias	9.8	9.7	48.5
Span Gas	10.0	10.0	50.0

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.7	15.4

BIAS AND CALIBRATION DRIFT

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 16:14

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	33	-0.3	-0.4	-2.0	Pass
Span	9.9	417	9.8	-0.1	-0.5	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	-0.2	33	-0.3	-0.1	-0.5	Pass
Span	10.0	417	9.8	-0.2	-1.0	Pass

*Bias No. 1

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	21	0.3	0.2	1.0	Pass
Span	9.8	354	9.7	-0.1	-0.5	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	0.1	21	0.3	0.2	1.0	Pass
Span	9.8	354	9.7	-0.1	-0.5	Pass

*Bias No. 1

BIAS AND CALIBRATION DRIFT

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 16:14

SO_2
Method: EPA 6C
Span Conc. 90.4 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	-0.4	193	1.6	2.0	2.2	Pass
Span	50.8	5016	48.5	-2.3	-2.5	Pass

Calibration Drift

Standard Gas	Initial* ppm	Final mv	Final ppm	Difference ppm	Drift %	Status
Zero	2.2	193	1.6	-0.6	-0.7	Pass
Span	47.7	5016	48.5	0.8	0.9	Pass

*Bias No. 1

RUN DATA

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Time	O_2 mv	O_2 %	CO_2 mv	CO_2 %	SO_2 mv	SO_2 ppm
16:21	351	8.0	273	7.4	2258	21.7
16:22	352	8.1	272	7.3	2210	21.2
16:23	351	8.0	273	7.4	2200	21.1
16:24	352	8.1	275	7.4	2213	21.3
16:25	352	8.1	275	7.4	2178	20.9
16:26	352	8.1	273	7.4	2185	21.0
16:27	350	8.0	272	7.3	2164	20.8
16:28	350	8.0	272	7.3	2138	20.5
16:29	350	8.0	272	7.3	2164	20.8
16:30	350	8.0	272	7.3	2186	21.0
16:31	351	8.0	272	7.3	2174	20.9
16:32	351	8.0	271	7.3	2176	20.9
16:33	352	8.1	271	7.3	2192	21.1
16:34	352	8.1	273	7.4	2178	20.9
16:35	353	8.1	274	7.4	2168	20.8
16:36	353	8.1	274	7.4	2205	21.2
16:37	353	8.1	273	7.4	2211	21.3
16:38	353	8.1	274	7.4	2180	21.0
16:39	352	8.1	274	7.4	2180	21.0
16:40	353	8.1	273	7.4	2180	21.0
16:41	354	8.1	273	7.4	2164	20.8
16:42	353	8.1	274	7.4	2167	20.8
16:43	353	8.1	274	7.4	2166	20.8
16:44	352	8.1	274	7.4	2174	20.9
16:45	353	8.1	274	7.4	2192	21.1
16:46	353	8.1	274	7.4	2163	20.8
16:47	353	8.1	274	7.4	2200	21.1
16:48	353	8.1	274	7.4	2167	20.8
16:49	353	8.1	275	7.4	2159	20.7
16:50	354	8.1	274	7.4	2151	20.7
16:51	352	8.1	274	7.4	2160	20.8
16:52	351	8.0	275	7.4	2153	20.7
16:53	350	8.0	274	7.4	2148	20.6
16:54	351	8.0	274	7.4	2185	21.0
16:55	351	8.0	274	7.4	2199	21.1
16:56	351	8.0	272	7.3	2199	21.1
16:57	352	8.1	269	7.3	2205	21.2
16:58	352	8.1	271	7.3	2191	21.1
16:59	352	8.1	270	7.3	2182	21.0
17:00	352	8.1	270	7.3	2212	21.3
17:01	354	8.1	270	7.3	2203	21.2
17:02	353	8.1	270	7.3	2222	21.4

RUN DATA

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
17:03	352	8.1	271	7.3	2217	21.3
17:04	352	8.1	270	7.3	2206	21.2
17:05	353	8.1	270	7.3	2196	21.1
17:06	354	8.1	271	7.3	2200	21.1
17:07	355	8.1	272	7.3	2193	21.1
17:08	354	8.1	274	7.4	2217	21.3
17:09	353	8.1	273	7.4	2208	21.2
17:10	354	8.1	270	7.3	2250	21.6
17:11	353	8.1	271	7.3	2258	21.7
17:12	351	8.0	272	7.3	2250	21.6
17:13	352	8.1	270	7.3	2298	22.1
17:14	352	8.1	271	7.3	2354	22.6
17:15	352	8.1	271	7.3	2356	22.7
17:16	352	8.1	271	7.3	2412	23.2
17:17	352	8.1	272	7.3	2465	23.7
17:18	353	8.1	272	7.3	2519	24.2
17:19	353	8.1	274	7.4	2568	24.7
17:20	351	8.0	275	7.4	2674	25.8
17:21	350	8.0	275	7.4	2774	26.7
17:22	351	8.0	274	7.4	2863	27.6
17:23	352	8.1	274	7.4	2974	28.7
17:24	352	8.1	274	7.4	3085	29.8
17:25	352	8.1	275	7.4	3177	30.6
Avgs	**352**	**8.1**	**273**	**7.4**	**2283**	**22.0**

RUN SUMMARY

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 16:20 to 17:25

Run Averages

	8.1	7.4	22.0

Pre-run Bias at 16:14

Zero Bias	-0.3	0.3	1.6
Span Bias	9.8	9.7	48.5
Span Gas	10.0	10.0	50.0

Post-run Bias at 17:26

Zero Bias	0.0	0.1	1.9
Span Bias	9.9	9.7	47.8
Span Gas	10.0	10.0	50.0

Averages corrected for the average of the pre-run and post-run bias

	8.2	7.5	21.8

BIAS AND CALIBRATION DRIFT

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 17:26

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	46	0.0	-0.1	-0.5	Pass
Span	9.9	423	9.9	0.0	0.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	-0.3	46	0.0	0.3	1.5	Pass
Span	9.8	423	9.9	0.1	0.5	Pass

*Bias No. 2

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	14	0.1	0.0	0.0	Pass
Span	9.8	355	9.7	-0.1	-0.5	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	0.3	14	0.1	-0.2	-1.0	Pass
Span	9.7	355	9.7	0.0	0.0	Pass

*Bias No. 2

BIAS AND CALIBRATION DRIFT

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 17:26

SO_2
Method: EPA 6C
Span Conc. 90.4 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	-0.4	218	1.9	2.3	2.5	Pass
Span	50.8	4944	47.8	-3.0	-3.3	Pass

Calibration Drift

Standard Gas	Initial* ppm	Final mv	Final ppm	Difference ppm	Drift %	Status
Zero	1.6	218	1.9	0.3	0.3	Pass
Span	48.5	4944	47.8	-0.7	-0.8	Pass

*Bias No. 2

WESTON SOLUTIONS

RUN DATA

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
17:32	356	8.2	275	7.4	3837	37.1
17:33	356	8.2	274	7.4	3803	36.7
17:34	357	8.2	274	7.4	3812	36.8
17:35	356	8.2	272	7.3	3829	37.0
17:36	357	8.2	270	7.3	3871	37.4
17:37	356	8.2	271	7.3	3885	37.5
17:38	356	8.2	271	7.3	3886	37.5
17:39	355	8.1	272	7.3	3905	37.7
17:40	354	8.1	272	7.3	3925	37.9
17:41	353	8.1	272	7.3	3938	38.0
17:42	354	8.1	271	7.3	3965	38.3
17:43	355	8.1	271	7.3	3983	38.5
17:44	355	8.1	272	7.3	4015	38.8
17:45	356	8.2	274	7.4	4083	39.5
17:46	357	8.2	274	7.4	4141	40.0
17:47	359	8.2	273	7.4	4244	41.0
17:48	358	8.2	274	7.4	4344	42.0
17:49	358	8.2	273	7.4	4462	43.1
17:50	359	8.2	271	7.3	4601	44.5
17:51	360	8.3	271	7.3	4762	46.1
17:52	361	8.3	271	7.3	4991	48.3
17:53	359	8.2	271	7.3	5260	50.9
17:54	359	8.2	271	7.3	5558	53.8
17:55	361	8.3	271	7.3	5916	57.3
17:56	364	8.4	268	7.2	6270	60.7
17:57	364	8.4	271	7.3	6696	64.9
17:58	365	8.4	270	7.3	7193	69.7
17:59	370	8.5	271	7.3	7812	75.7
18:00	369	8.5	270	7.3	8509	82.5
18:01	371	8.6	270	7.3	9349	90.7
18:02	372	8.6	270	7.3	9987	96.9
18:03	374	8.6	270	7.3	10000	97.0
18:04	377	8.7	269	7.3	10000	97.0
18:05	377	8.7	269	7.3	10000	97.0
18:06	378	8.7	267	7.2	10000	97.0
18:07	377	8.7	268	7.2	10000	97.0
18:08	376	8.7	269	7.3	10000	97.0
18:09	378	8.7	267	7.2	10000	97.0
18:10	379	8.8	268	7.2	10000	97.0
18:11	379	8.8	267	7.2	10000	97.0
18:12	381	8.8	267	7.2	10000	97.0
18:13	382	8.8	269	7.3	10000	97.0

RUN DATA

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
18:14	376	8.7	273	7.4	10000	97.0
18:15	376	8.7	272	7.3	10000	97.0
18:16	376	8.7	270	7.3	10000	97.0
18:17	375	8.7	268	7.2	10000	97.0
18:18	378	8.7	268	7.2	10000	97.0
18:19	378	8.7	269	7.3	10000	97.0
18:20	377	8.7	268	7.2	10000	97.0
18:21	377	8.7	269	7.3	10000	97.0
18:22	376	8.7	268	7.2	9815	95.2
18:23	376	8.7	269	7.3	9382	91.0
18:24	373	8.6	269	7.3	8938	86.7
18:25	372	8.6	271	7.3	8651	83.9
18:26	370	8.5	274	7.4	8367	81.1
18:27	369	8.5	278	7.5	8193	79.4
18:28	367	8.5	279	7.5	8007	77.6
18:29	365	8.4	278	7.5	7922	76.8
18:30	369	8.5	276	7.5	7814	75.7
18:31	371	8.6	276	7.5	7741	75.0
18:32	376	8.7	275	7.4	7667	74.3
18:33	375	8.7	275	7.4	7627	73.9
18:34	366	8.4	279	7.5	7628	73.9
18:35	364	8.4	280	7.6	7731	74.9
18:36	360	8.3	281	7.6	7851	76.1
Avgs	**367**	**8.5**	**272**	**7.3**	**7264**	**70.4**

RUN SUMMARY

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 17:31 to 18:36

Run Averages

	8.5	7.3	70.4

Pre-run Bias at 17:26

Zero Bias	0.0	0.1	1.9
Span Bias	9.9	9.7	47.8
Span Gas	10.0	10.0	50.0

Post-run Bias at 18:36

Zero Bias	0.0	0.3	1.9
Span Bias	9.9	9.6	48.2
Span Gas	10.0	10.0	50.0

Averages corrected for the average of the pre-run and post-run bias

	8.5	7.5	74.3

BIAS AND CALIBRATION DRIFT

Number 4

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 18:36

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	47	0.0	-0.1	-0.5	Pass
Span	9.9	421	9.9	0.0	0.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	0.0	47	0.0	0.0	0.0	Pass
Span	9.9	421	9.9	0.0	0.0	Pass

*Bias No. 3

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	21	0.3	0.2	1.0	Pass
Span	9.8	352	9.6	-0.2	-1.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	0.1	21	0.3	0.2	1.0	Pass
Span	9.7	352	9.6	-0.1	-0.5	Pass

*Bias No. 3

BIAS AND CALIBRATION DRIFT

Number 4

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **4 Jun 2012**

Start Time: 18:36

SO_2
Method: EPA 6C
Span Conc. 90.4 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	-0.4	218	1.9	2.3	2.5	Pass
Span	50.8	4979	48.2	-2.6	-2.9	Pass

Calibration Drift

Standard Gas	Initial* ppm	Final mv	Final ppm	Difference ppm	Drift %	Status
Zero	1.9	218	1.9	0.0	0.0	Pass
Span	47.8	4979	48.2	0.4	0.4	Pass

*Bias No. 3

METHODS AND ANALYZERS

Client:	**Rhodia**	Project Number:	**12143.078.011**
Location:	**Baton Rouge, LA**	Operator:	**RAP**
Source:	**Unit One Scrubber**	Date:	**5 Jun 2012**

File: C:\Data\Rhodia Baton Rouge\6-5-12.cem
Program Version: 2.0, built 16 May 2012 **File Version:** 2.02
Computer: WSAUB58 **Trailer:** 201
Analog Input Device: Keithley KPCMCIA 16AI

Channel 1

Analyte	O_2
Method	**EPA 3A**, Using Bias
Analyzer Make, Model & Serial No.	**Servomex 1440 Ser#4303**
Full-Scale Output, mv	**1000**
Analyzer Range, %	**20.0**
Span Concentration, %	**19.8**

Channel 2

Analyte	CO_2
Method	**EPA 3A**, Using Bias
Analyzer Make, Model & Serial No.	**Servomex 1440 Ser#4303**
Full-Scale Output, mv	**1000**
Analyzer Range, %	**20.0**
Span Concentration, %	**19.7**

Channel 5

Analyte	SO_2
Method	**EPA 6C**, Using Bias
Analyzer Make, Model & Serial No.	**Ametek 900 Asset# 205924**
Full-Scale Output, mv	**10000**
Analyzer Range, ppm	**250**
Span Concentration, ppm	**247**

CALIBRATION DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 07:51

O_2
Method: EPA 3A
Calibration Type: Linear Regression

Calibration Results

%	Cylinder ID	Result, mv
Zero	-	47
10.0	SG9162669BAL	422
19.8	CC31544	817

Curve Coefficients

Slope	Intercept	Corr. Coeff.
38.88	42	0.9998

CO_2
Method: EPA 3A
Calibration Type: Linear Regression

Calibration Results

%	Cylinder ID	Result, mv
Zero	-	14
10.0	SG9162669BAL	365
19.7	CC31544	708

Curve Coefficients

Slope	Intercept	Corr. Coeff.
35.23	14	>0.9999

CALIBRATION DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 07:51

SO_2
Method: EPA 6C
Calibration Type: Linear Regression

Calibration Results

ppm	Cylinder ID	Result, mv
Zero	-	-4
124	CC326590	4228
247	CC310382	8614

Curve Coefficients

Slope	Intercept	Corr. Coeff.
34.95	-34	0.9999

WESTON SOLUTIONS

CALIBRATION ERROR DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 07:51

O_2
Method: EPA 3A
Span Conc. 19.8 %
Slope 38.88 **Intercept** 42.4

Standard %	Response mv	Result %	Difference %	Error %	Status
Zero	47	0.1	0.1	0.5	Pass
10.0	422	9.8	-0.2	-1.0	Pass
19.8	817	19.9	0.1	0.5	Pass

CO_2
Method: EPA 3A
Span Conc. 19.7 %
Slope 35.23 **Intercept** 13.6

Standard %	Response mv	Result %	Difference %	Error %	Status
Zero	14	0.0	0.0	0.0	Pass
10.0	365	10.0	0.0	0.0	Pass
19.7	708	19.7	0.0	0.0	Pass

SO_2
Method: EPA 6C
Span Conc. 247 ppm
Slope 34.95 **Intercept** -34

Standard ppm	Response mv	Result ppm	Difference ppm	Error %	Status
Zero	-4	1	1	0.4	Pass
124	4228	122	-2	-0.8	Pass
247	8614	247	0	0.0	Pass

BIAS
Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 08:27

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	33	-0.2	-0.3	-1.5	Pass
Span	9.8	421	9.7	-0.1	-0.5	Pass

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	22	0.2	0.2	1.0	Pass
Span	10.0	361	9.9	-0.1	-0.5	Pass

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	148	5	4	1.6	Pass
Span	122	4004	116	-6	-2.4	Pass

RUN DATA

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
09:07	336	7.6	285	7.7	4291	124
09:08	336	7.6	285	7.7	4332	125
09:09	336	7.6	285	7.7	4319	125
09:10	337	7.6	285	7.7	4313	124
09:11	336	7.6	285	7.7	4307	124
09:12	335	7.5	282	7.6	4287	124
09:13	335	7.5	282	7.6	4295	124
09:14	336	7.6	285	7.7	4296	124
09:15	336	7.6	285	7.7	4290	124
09:16	334	7.5	285	7.7	4289	124
09:17	333	7.5	286	7.7	4290	124
09:18	333	7.5	285	7.7	4304	124
09:19	333	7.5	285	7.7	4292	124
09:20	333	7.5	285	7.7	4297	124
09:21	331	7.4	286	7.7	4312	124
09:22	331	7.4	286	7.7	4318	125
09:23	331	7.4	286	7.7	4320	125
09:24	332	7.4	286	7.7	4345	125
09:25	331	7.4	290	7.8	4350	125
09:26	331	7.4	290	7.8	4360	126
09:27	331	7.4	288	7.8	4377	126
Avgs	**334**	**7.5**	**286**	**7.7**	**4314**	**124**

RUN SUMMARY

Number 1

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 09:06 to 09:27

Run Averages

	7.5	7.7	124

Pre-run Bias at 08:27

Zero Bias	-0.2	0.2	5
Span Bias	9.7	9.9	116
Span Gas	10.0	10.0	124

Post-run Bias at 10:10

Zero Bias	-0.2	0.1	6
Span Bias	9.8	9.9	118
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	7.7	7.7	132

RUN DATA

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
09:28	330	7.4	287	7.8	4385	126
09:29	330	7.4	288	7.8	4405	127
09:30	330	7.4	291	7.9	4410	127
09:31	330	7.4	291	7.9	4432	128
09:32	329	7.4	291	7.9	4424	128
09:33	329	7.4	290	7.8	4454	128
09:34	328	7.3	291	7.9	4436	128
09:35	330	7.4	291	7.9	4464	129
09:36	329	7.4	289	7.8	4455	128
09:37	329	7.4	288	7.8	4467	129
09:38	329	7.4	288	7.8	4454	128
09:39	329	7.4	289	7.8	4461	129
09:40	329	7.4	288	7.8	4461	129
09:41	330	7.4	288	7.8	4449	128
09:42	332	7.4	288	7.8	4450	128
09:43	331	7.4	288	7.8	4427	128
09:44	331	7.4	287	7.8	4426	128
09:45	331	7.4	288	7.8	4421	127
09:46	332	7.4	290	7.8	4395	127
09:47	332	7.4	290	7.8	4404	127
09:48	332	7.4	291	7.9	4379	126
Avgs	**330**	**7.4**	**289**	**7.8**	**4431**	**128**

RUN SUMMARY

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 09:27 to 09:48

Run Averages

	7.4	7.8	128

Pre-run Bias at 08:27

Zero Bias	-0.2	0.2	5
Span Bias	9.7	9.9	116
Span Gas	10.0	10.0	124

Post-run Bias at 10:10

Zero Bias	-0.2	0.1	6
Span Bias	9.8	9.9	118
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	7.6	7.9	136

RUN DATA

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
09:49	333	7.5	289	7.8	4378	126
09:50	333	7.5	290	7.8	4355	126
09:51	334	7.5	290	7.8	4343	125
09:52	333	7.5	290	7.8	4322	125
09:53	332	7.4	287	7.8	4322	125
09:54	334	7.5	287	7.8	4304	124
09:55	334	7.5	290	7.8	4304	124
09:56	335	7.5	289	7.8	4283	124
09:57	334	7.5	290	7.8	4269	123
09:58	336	7.6	289	7.8	4267	123
09:59	335	7.5	289	7.8	4245	122
10:00	337	7.6	288	7.8	4223	122
10:01	338	7.6	288	7.8	4231	122
10:02	336	7.6	290	7.8	4211	121
10:03	337	7.6	290	7.8	4211	121
10:04	337	7.6	290	7.8	4196	121
10:05	336	7.6	290	7.8	4174	120
10:06	336	7.6	290	7.8	4189	121
10:07	337	7.6	288	7.8	4175	120
10:08	338	7.6	287	7.8	4172	120
10:09	339	7.6	287	7.8	4180	121
Avgs	**335**	**7.5**	**289**	**7.8**	**4255**	**123**

RUN SUMMARY

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 09:48 to 10:09

Run Averages

	7.5	7.8	123

Pre-run Bias at 08:27

Zero Bias	-0.2	0.2	5
Span Bias	9.7	9.9	116
Span Gas	10.0	10.0	124

Post-run Bias at 10:10

Zero Bias	-0.2	0.1	6
Span Bias	9.8	9.9	118
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	7.8	7.8	130

BIAS AND CALIBRATION DRIFT

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 10:10

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	34	-0.2	-0.3	-1.5	Pass
Span	9.8	422	9.8	0.0	0.0	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	-0.2	34	-0.2	0.0	0.0	Pass
Span	9.7	422	9.8	0.1	0.5	Pass

*Bias No. 1

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	18	0.1	0.1	0.5	Pass
Span	10.0	362	9.9	-0.1	-0.5	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	0.2	18	0.1	-0.1	-0.5	Pass
Span	9.9	362	9.9	0.0	0.0	Pass

*Bias No. 1

BIAS AND CALIBRATION DRIFT

Number 2

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 10:10

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	192	6	5	2.0	Pass
Span	122	4091	118	-4	-1.6	Pass

Calibration Drift

Standard Gas	Initial* ppm	mv	Final ppm	Difference ppm	Drift %	Status
Zero	5	192	6	1	0.4	Pass
Span	116	4091	118	2	0.8	Pass

*Bias No. 1

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RUN DATA

Number 4

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
11:00	345	7.8	281	7.6	4190	121
11:01	346	7.8	280	7.6	4230	122
11:02	346	7.8	280	7.6	4189	121
11:03	345	7.8	281	7.6	4218	122
11:04	345	7.8	281	7.6	4222	122
11:05	345	7.8	281	7.6	4223	122
11:06	347	7.8	281	7.6	4189	121
11:07	346	7.8	281	7.6	4212	122
11:08	347	7.8	281	7.6	4199	121
11:09	347	7.8	280	7.6	4194	121
11:10	346	7.8	281	7.6	4178	121
11:11	346	7.8	281	7.6	4192	121
11:12	346	7.8	281	7.6	4180	121
11:13	346	7.8	282	7.6	4176	120
11:14	345	7.8	281	7.6	4179	121
11:15	345	7.8	281	7.6	4176	120
11:16	346	7.8	281	7.6	4179	121
11:17	346	7.8	282	7.6	4152	120
11:18	347	7.8	282	7.6	4168	120
11:19	346	7.8	284	7.7	4155	120
11:20	347	7.8	284	7.7	4155	120
Avgs	**346**	**7.8**	**281**	**7.6**	**4188**	**121**

RUN SUMMARY

Number 4

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 10:59 to 11:20

Run Averages

	7.8	7.6	121

Pre-run Bias at 10:10

Zero Bias	-0.2	0.1	6
Span Bias	9.8	9.9	118
Span Gas	10.0	10.0	124

Post-run Bias at 12:07

Zero Bias	-0.1	0.0	3
Span Bias	9.6	9.8	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.7	130

RUN DATA

Number 5

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
11:21	347	7.8	283	7.6	4133	119
11:22	348	7.9	283	7.6	4130	119
11:23	348	7.9	283	7.6	4121	119
11:24	346	7.8	283	7.6	4112	119
11:25	346	7.8	282	7.6	4108	119
11:26	347	7.8	281	7.6	4082	118
11:27	347	7.8	280	7.6	4086	118
11:28	347	7.8	280	7.6	4079	118
11:29	348	7.9	280	7.6	4072	118
11:30	349	7.9	280	7.6	4064	117
11:31	349	7.9	280	7.6	4077	118
11:32	348	7.9	281	7.6	4080	118
11:33	348	7.9	283	7.6	4071	117
11:34	350	7.9	282	7.6	4059	117
11:35	349	7.9	280	7.6	4071	117
11:36	349	7.9	278	7.5	4060	117
11:37	349	7.9	279	7.5	4070	117
11:38	349	7.9	279	7.5	4063	117
11:39	349	7.9	280	7.6	4080	118
11:40	348	7.9	279	7.5	4070	117
11:41	349	7.9	279	7.5	4076	118
Avgs	**348**	**7.9**	**281**	**7.6**	**4084**	**118**

RUN SUMMARY

Number 5

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 11:20 to 11:41

Run Averages

	7.9	7.6	118

Pre-run Bias at 10:10

Zero Bias	-0.2	0.1	6
Span Bias	9.8	9.9	118
Span Gas	10.0	10.0	124

Post-run Bias at 12:07

Zero Bias	-0.1	0.0	3
Span Bias	9.6	9.8	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.7	126

RUN DATA

Number 6

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
11:42	350	7.9	279	7.5	4071	117
11:43	350	7.9	278	7.5	4063	117
11:44	350	7.9	279	7.5	4075	118
11:45	349	7.9	279	7.5	4090	118
11:46	350	7.9	278	7.5	4094	118
11:47	351	7.9	278	7.5	4094	118
11:48	352	8.0	278	7.5	4084	118
11:49	351	7.9	278	7.5	4090	118
11:50	350	7.9	279	7.5	4084	118
11:51	350	7.9	278	7.5	4091	118
11:52	351	7.9	278	7.5	4085	118
11:53	350	7.9	279	7.5	4083	118
11:54	350	7.9	279	7.5	4073	118
11:55	349	7.9	279	7.5	4080	118
11:56	350	7.9	277	7.5	4077	118
11:57	349	7.9	276	7.4	4061	117
11:58	348	7.9	277	7.5	4076	118
11:59	347	7.8	277	7.5	4069	117
12:00	348	7.9	277	7.5	4044	117
12:01	348	7.9	277	7.5	4078	118
12:02	348	7.9	276	7.4	4068	117
Avgs	**350**	**7.9**	**278**	**7.5**	**4078**	**118**

RUN SUMMARY

Number 6

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 11:41 to 12:02

Run Averages

	7.9	7.5	118

Pre-run Bias at 10:10

Zero Bias	-0.2	0.1	6
Span Bias	9.8	9.9	118
Span Gas	10.0	10.0	124

Post-run Bias at 12:07

Zero Bias	-0.1	0.0	3
Span Bias	9.6	9.8	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.2	7.6	126

BIAS AND CALIBRATION DRIFT

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 12:07

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	37	-0.1	-0.2	-1.0	Pass
Span	9.8	415	9.6	-0.2	-1.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	-0.2	37	-0.1	0.1	0.5	Pass
Span	9.8	415	9.6	-0.2	-1.0	Pass

*Bias No. 2

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	14	0.0	0.0	0.0	Pass
Span	10.0	358	9.8	-0.2	-1.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	0.1	14	0.0	-0.1	-0.5	Pass
Span	9.9	358	9.8	-0.1	-0.5	Pass

*Bias No. 2

BIAS AND CALIBRATION DRIFT

Number 3

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 12:07

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	60	3	2	0.8	Pass
Span	122	3901	113	-9	-3.6	Pass

Calibration Drift

Standard Gas	Initial* ppm	Final mv	Final ppm	Difference ppm	Drift %	Status
Zero	6	60	3	-3	-1.2	Pass
Span	118	3901	113	-5	-2.0	Pass

*Bias No. 2

RUN DATA

Number 7

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
12:50	344	7.8	279	7.5	4025	116
12:51	343	7.7	280	7.6	4015	116
12:52	345	7.8	279	7.5	4028	116
12:53	345	7.8	278	7.5	4021	116
12:54	345	7.8	278	7.5	4026	116
12:55	345	7.8	278	7.5	4005	116
12:56	345	7.8	278	7.5	4000	115
12:57	344	7.8	279	7.5	4006	116
12:58	344	7.8	279	7.5	3987	115
12:59	344	7.8	278	7.5	4003	116
13:00	346	7.8	277	7.5	3981	115
13:01	345	7.8	278	7.5	3993	115
13:02	345	7.8	278	7.5	3976	115
13:03	344	7.8	278	7.5	3977	115
13:04	345	7.8	277	7.5	3988	115
13:05	345	7.8	278	7.5	3962	114
13:06	343	7.7	279	7.5	3964	114
13:07	340	7.7	281	7.6	3974	115
13:08	339	7.6	282	7.6	3972	115
13:09	339	7.6	281	7.6	4002	115
13:10	344	7.8	277	7.5	4001	115
Avgs	**344**	**7.8**	**279**	**7.5**	**3996**	**115**

RUN SUMMARY

Number 7

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 12:49 to 13:10

Run Averages

	7.8	7.5	115

Pre-run Bias at 12:07

Zero Bias	-0.1	0.0	3
Span Bias	9.6	9.8	113
Span Gas	10.0	10.0	124

Post-run Bias at 13:54

Zero Bias	-0.3	0.0	5
Span Bias	9.6	9.7	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.7	126

RUN DATA

Number 8

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
13:11	348	7.9	275	7.4	3991	115
13:12	347	7.8	275	7.4	4006	116
13:13	346	7.8	276	7.4	3995	115
13:14	345	7.8	277	7.5	3994	115
13:15	346	7.8	277	7.5	3976	115
13:16	348	7.9	275	7.4	3960	114
13:17	347	7.8	276	7.4	3952	114
13:18	347	7.8	275	7.4	3939	114
13:19	347	7.8	275	7.4	3938	114
13:20	346	7.8	277	7.5	3921	113
13:21	345	7.8	278	7.5	3933	114
13:22	347	7.8	277	7.5	3915	113
13:23	348	7.9	276	7.4	3909	113
13:24	349	7.9	278	7.5	3895	112
13:25	349	7.9	278	7.5	3908	113
13:26	347	7.8	279	7.5	3900	113
13:27	347	7.8	278	7.5	3877	112
13:28	347	7.8	279	7.5	3873	112
13:29	347	7.8	279	7.5	3886	112
13:30	346	7.8	279	7.5	3881	112
13:31	346	7.8	279	7.5	3882	112
Avgs	**347**	**7.8**	**277**	**7.5**	**3930**	**113**

RUN SUMMARY

Number 8

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 13:10 to 13:31

Run Averages

	7.8	7.5	113

Pre-run Bias at 12:07

Zero Bias	-0.1	0.0	3
Span Bias	9.6	9.8	113
Span Gas	10.0	10.0	124

Post-run Bias at 13:54

Zero Bias	-0.3	0.0	5
Span Bias	9.6	9.7	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.2	7.7	124

RUN DATA

Number 9

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
13:32	346	7.8	279	7.5	3874	112
13:33	346	7.8	279	7.5	3884	112
13:34	345	7.8	279	7.5	3903	113
13:35	347	7.8	279	7.5	3876	112
13:36	347	7.8	279	7.5	3876	112
13:37	346	7.8	279	7.5	3894	112
13:38	345	7.8	280	7.6	3879	112
13:39	344	7.8	281	7.6	3891	112
13:40	344	7.8	280	7.6	3882	112
13:41	344	7.8	281	7.6	3864	112
13:42	345	7.8	279	7.5	3866	112
13:43	345	7.8	279	7.5	3864	112
13:44	344	7.8	279	7.5	3866	112
13:45	343	7.7	278	7.5	3861	111
13:46	343	7.7	278	7.5	3865	112
13:47	342	7.7	278	7.5	3850	111
13:48	342	7.7	278	7.5	3842	111
13:49	342	7.7	279	7.5	3865	112
13:50	342	7.7	279	7.5	3831	111
13:51	343	7.7	278	7.5	3844	111
13:52	343	7.7	278	7.5	3844	111
Avgs	**344**	**7.8**	**279**	**7.5**	**3868**	**112**

RUN SUMMARY

Number 9

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 13:31 to 13:52

Run Averages

	7.8	7.5	112

Pre-run Bias at 12:07

Zero Bias	-0.1	0.0	3
Span Bias	9.6	9.8	113
Span Gas	10.0	10.0	124

Post-run Bias at 13:54

Zero Bias	-0.3	0.0	5
Span Bias	9.6	9.7	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.7	122

BIAS AND CALIBRATION DRIFT

Number 4

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 13:54

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	30	-0.3	-0.4	-2.0	Pass
Span	9.8	414	9.6	-0.2	-1.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	-0.1	30	-0.3	-0.2	-1.0	Pass
Span	9.6	414	9.6	0.0	0.0	Pass

*Bias No. 3

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	13	0.0	0.0	0.0	Pass
Span	10.0	354	9.7	-0.3	-1.5	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	0.0	13	0.0	0.0	0.0	Pass
Span	9.8	354	9.7	-0.1	-0.5	Pass

*Bias No. 3

BIAS AND CALIBRATION DRIFT

Number 4

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 13:54

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	125	5	4	1.6	Pass
Span	122	3906	113	-9	-3.6	Pass

Calibration Drift

Standard Gas	Initial* ppm	mv	Final ppm	Difference ppm	Drift %	Status
Zero	3	125	5	2	0.8	Pass
Span	113	3906	113	0	0.0	Pass

*Bias No. 3

RUN DATA

Number 10

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
14:16	342	7.7	279	7.5	3916	113
14:17	342	7.7	278	7.5	3887	112
14:18	343	7.7	278	7.5	3910	113
14:19	343	7.7	278	7.5	3916	113
14:20	341	7.7	277	7.5	3906	113
14:21	341	7.7	277	7.5	3934	114
14:22	342	7.7	277	7.5	3927	113
14:23	341	7.7	277	7.5	3927	113
14:24	342	7.7	277	7.5	3929	113
14:25	341	7.7	278	7.5	3945	114
14:26	341	7.7	278	7.5	3901	113
14:27	342	7.7	278	7.5	3919	113
14:28	342	7.7	278	7.5	3906	113
14:29	342	7.7	279	7.5	3907	113
14:30	340	7.7	279	7.5	3911	113
14:31	340	7.7	279	7.5	3907	113
14:32	342	7.7	278	7.5	3897	112
14:33	342	7.7	278	7.5	3891	112
14:34	342	7.7	278	7.5	3919	113
14:35	341	7.7	279	7.5	3885	112
14:36	340	7.7	278	7.5	3895	112
Avgs	**342**	**7.7**	**278**	**7.5**	**3911**	**113**

RUN SUMMARY

Number 10

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 14:15 to 14:36

Run Averages

	7.7	7.5	113

Pre-run Bias at 13:54

Zero Bias	-0.3	0.0	5
Span Bias	9.6	9.7	113
Span Gas	10.0	10.0	124

Post-run Bias at 15:19

Zero Bias	-0.2	-0.1	5
Span Bias	9.6	9.6	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.8	124

RUN DATA

Number 11

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
14:37	341	7.7	278	7.5	3901	113
14:38	340	7.7	278	7.5	3913	113
14:39	341	7.7	277	7.5	3898	113
14:40	341	7.7	279	7.5	3897	112
14:41	341	7.7	279	7.5	3929	113
14:42	341	7.7	280	7.6	3917	113
14:43	342	7.7	280	7.6	3919	113
14:44	342	7.7	281	7.6	3925	113
14:45	342	7.7	281	7.6	3922	113
14:46	341	7.7	282	7.6	3945	114
14:47	342	7.7	281	7.6	3950	114
14:48	343	7.7	281	7.6	3964	114
14:49	343	7.7	281	7.6	3940	114
14:50	343	7.7	279	7.5	3967	114
14:51	343	7.7	280	7.6	3955	114
14:52	342	7.7	280	7.6	3958	114
14:53	343	7.7	280	7.6	3958	114
14:54	343	7.7	278	7.5	3974	115
14:55	343	7.7	279	7.5	3981	115
14:56	343	7.7	279	7.5	3973	115
14:57	343	7.7	279	7.5	3975	115
Avgs	**342**	**7.7**	**280**	**7.6**	**3941**	**114**

RUN SUMMARY

Number 11

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 14:36 to 14:57

Run Averages

	7.7	7.6	114

Pre-run Bias at 13:54

Zero Bias	-0.3	0.0	5
Span Bias	9.6	9.7	113
Span Gas	10.0	10.0	124

Post-run Bias at 15:19

Zero Bias	-0.2	-0.1	5
Span Bias	9.6	9.6	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.8	125

RUN DATA

Number 12

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
14:58	344	7.8	279	7.5	3994	115
14:59	345	7.8	278	7.5	3995	115
15:00	345	7.8	279	7.5	3975	115
15:01	344	7.8	279	7.5	3997	115
15:02	344	7.8	279	7.5	3982	115
15:03	344	7.8	279	7.5	3984	115
15:04	345	7.8	279	7.5	3978	115
15:05	345	7.8	281	7.6	3983	115
15:06	344	7.8	281	7.6	3971	115
15:07	344	7.8	281	7.6	3977	115
15:08	344	7.8	279	7.5	3957	114
15:09	344	7.8	278	7.5	3973	115
15:10	345	7.8	278	7.5	3968	115
15:11	344	7.8	278	7.5	3969	115
15:12	344	7.8	278	7.5	3960	114
15:13	344	7.8	278	7.5	3970	115
15:14	345	7.8	277	7.5	3958	114
15:15	344	7.8	278	7.5	3953	114
15:16	344	7.8	278	7.5	3960	114
15:17	344	7.8	278	7.5	3958	114
15:18	345	7.8	277	7.5	3969	115
Avgs	**344**	**7.8**	**279**	**7.5**	**3973**	**115**

RUN SUMMARY

Number 12

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 14:57 to 15:18

Run Averages

	7.8	7.5	115

Pre-run Bias at 13:54

Zero Bias	-0.3	0.0	5
Span Bias	9.6	9.7	113
Span Gas	10.0	10.0	124

Post-run Bias at 15:19

Zero Bias	-0.2	-0.1	5
Span Bias	9.6	9.6	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.2	7.8	126

BIAS AND CALIBRATION DRIFT

Number 5

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 15:19

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	33	-0.2	-0.3	-1.5	Pass
Span	9.8	414	9.6	-0.2	-1.0	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	-0.3	33	-0.2	0.1	0.5	Pass
Span	9.6	414	9.6	0.0	0.0	Pass

*Bias No. 4

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	11	-0.1	-0.1	-0.5	Pass
Span	10.0	353	9.6	-0.4	-2.0	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	0.0	11	-0.1	-0.1	-0.5	Pass
Span	9.7	353	9.6	-0.1	-0.5	Pass

*Bias No. 4

BIAS AND CALIBRATION DRIFT

Number 5

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 15:19

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	129	5	4	1.6	Pass
Span	122	3927	113	-9	-3.6	Pass

Calibration Drift

Standard Gas	Initial* ppm	mv	Final ppm	Difference ppm	Drift %	Status
Zero	5	129	5	0	0.0	Pass
Span	113	3927	113	0	0.0	Pass

*Bias No. 4

WESTON SOLUTIONS

RUN DATA

Number 13

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
15:37	344	7.8	277	7.5	4040	117
15:38	344	7.8	276	7.4	4050	117
15:39	343	7.7	276	7.4	4054	117
15:40	342	7.7	277	7.5	4045	117
15:41	342	7.7	278	7.5	4072	118
15:42	342	7.7	277	7.5	4067	117
15:43	343	7.7	277	7.5	4077	118
15:44	340	7.7	279	7.5	4066	117
15:45	337	7.6	281	7.6	4073	118
15:46	337	7.6	281	7.6	4097	118
15:47	339	7.6	279	7.5	4118	119
15:48	344	7.8	275	7.4	4116	119
15:49	347	7.8	273	7.4	4124	119
15:50	342	7.7	278	7.5	4113	119
15:51	341	7.7	280	7.6	4114	119
15:52	341	7.7	280	7.6	4111	119
15:53	340	7.7	281	7.6	4107	119
15:54	340	7.7	280	7.6	4100	118
15:55	340	7.7	280	7.6	4111	119
15:56	342	7.7	278	7.5	4098	118
15:57	343	7.7	277	7.5	4088	118
15:58	343	7.7	277	7.5	4088	118
15:59	343	7.7	277	7.5	4072	118
16:00	342	7.7	277	7.5	4058	117
16:01	342	7.7	277	7.5	4060	117
16:02	341	7.7	276	7.4	4057	117
16:03	341	7.7	277	7.5	4043	117
16:04	341	7.7	277	7.5	4044	117
16:05	342	7.7	276	7.4	4036	116
16:06	342	7.7	277	7.5	4039	117
16:07	342	7.7	277	7.5	4033	116
16:08	342	7.7	277	7.5	4032	116
16:09	343	7.7	277	7.5	4029	116
16:10	342	7.7	277	7.5	4044	117
16:11	341	7.7	277	7.5	4036	116
16:12	341	7.7	277	7.5	4024	116
16:13	342	7.7	277	7.5	4046	117
16:14	340	7.7	280	7.6	4051	117
16:15	339	7.6	280	7.6	4067	117
16:16	341	7.7	278	7.5	4066	117
16:17	343	7.7	276	7.4	4082	118
16:18	346	7.8	273	7.4	4083	118

RUN DATA

Number 13

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
16:19	345	7.8	276	7.4	4054	117
16:20	341	7.7	278	7.5	4073	118
16:21	340	7.7	279	7.5	4078	118
16:22	340	7.7	278	7.5	4066	117
16:23	341	7.7	278	7.5	4067	117
16:24	341	7.7	278	7.5	4065	117
16:25	342	7.7	277	7.5	4063	117
16:26	343	7.7	277	7.5	4070	117
16:27	342	7.7	278	7.5	4062	117
16:28	342	7.7	277	7.5	4055	117
16:29	341	7.7	278	7.5	4048	117
16:30	342	7.7	278	7.5	4056	117
16:31	342	7.7	278	7.5	4080	118
16:32	340	7.7	278	7.5	4052	117
16:33	338	7.6	278	7.5	4071	117
16:34	338	7.6	278	7.5	4070	117
16:35	337	7.6	278	7.5	4092	118
16:36	338	7.6	278	7.5	4098	118
16:37	338	7.6	278	7.5	4102	118
16:38	340	7.7	278	7.5	4108	119
16:39	339	7.6	278	7.5	4113	119
Avgs	**341**	**7.7**	**278**	**7.5**	**4071**	**117**

RUN SUMMARY

Number 13

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 15:36 to 16:39

Run Averages

	7.7	7.5	117

Pre-run Bias at 15:19

Zero Bias	-0.2	-0.1	5
Span Bias	9.6	9.6	113
Span Gas	10.0	10.0	124

Post-run Bias at 16:40

Zero Bias	-0.3	0.0	5
Span Bias	9.5	9.6	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.8	129

BIAS AND CALIBRATION DRIFT

Number 6

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 16:40

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	31	-0.3	-0.4	-2.0	Pass
Span	9.8	412	9.5	-0.3	-1.5	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	-0.2	31	-0.3	-0.1	-0.5	Pass
Span	9.6	412	9.5	-0.1	-0.5	Pass

*Bias No. 5

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	12	0.0	0.0	0.0	Pass
Span	10.0	351	9.6	-0.4	-2.0	Pass

Calibration Drift

Standard Gas	Initial* %	Final mv	Final %	Difference %	Drift %	Status
Zero	-0.1	12	0.0	0.1	0.5	Pass
Span	9.6	351	9.6	0.0	0.0	Pass

*Bias No. 5

BIAS AND CALIBRATION DRIFT

Number 6

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 16:40

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	150	5	4	1.6	Pass
Span	122	3916	113	-9	-3.6	Pass

Calibration Drift

Standard Gas	Initial* ppm	Final mv	Final ppm	Difference ppm	Drift %	Status
Zero	5	150	5	0	0.0	Pass
Span	113	3916	113	0	0.0	Pass

*Bias No. 5

RUN DATA

Number 14

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2 mv	O_2 %	CO_2 mv	CO_2 %	SO_2 mv	SO_2 ppm
16:52	339	7.6	279	7.5	4095	118
16:53	340	7.7	278	7.5	4084	118
16:54	340	7.7	278	7.5	4089	118
16:55	341	7.7	278	7.5	4072	118
16:56	340	7.7	278	7.5	4058	117
16:57	339	7.6	280	7.6	4076	118
16:58	340	7.7	279	7.5	4060	117
16:59	340	7.7	278	7.5	4046	117
17:00	340	7.7	278	7.5	4063	117
17:01	339	7.6	278	7.5	4051	117
17:02	338	7.6	279	7.5	4053	117
17:03	339	7.6	278	7.5	4042	117
17:04	340	7.7	278	7.5	4050	117
17:05	340	7.7	278	7.5	4050	117
17:06	339	7.6	279	7.5	4049	117
17:07	338	7.6	279	7.5	4052	117
17:08	339	7.6	280	7.6	4030	116
17:09	341	7.7	282	7.6	4045	117
17:10	341	7.7	281	7.6	4038	117
17:11	340	7.7	281	7.6	4012	116
17:12	339	7.6	283	7.6	4033	116
17:13	340	7.7	282	7.6	4036	116
17:14	340	7.7	281	7.6	4004	116
17:15	341	7.7	282	7.6	4023	116
17:16	340	7.7	281	7.6	4017	116
17:17	340	7.7	281	7.6	4019	116
17:18	341	7.7	281	7.6	4021	116
17:19	340	7.7	281	7.6	4003	116
17:20	342	7.7	281	7.6	4027	116
17:21	340	7.7	281	7.6	4004	116
17:22	340	7.7	282	7.6	4024	116
17:23	340	7.7	281	7.6	4021	116
17:24	341	7.7	281	7.6	4011	116
17:25	341	7.7	281	7.6	3995	115
17:26	340	7.7	282	7.6	4013	116
17:27	340	7.7	282	7.6	4005	116
17:28	340	7.7	281	7.6	4004	116
17:29	341	7.7	280	7.6	3989	115
17:30	341	7.7	278	7.5	3999	115
17:31	341	7.7	278	7.5	3989	115
17:32	340	7.7	278	7.5	3993	115
17:33	340	7.7	279	7.5	3965	114

RUN DATA

Number 14

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Time	O_2		CO_2		SO_2	
	mv	%	mv	%	mv	ppm
17:34	340	7.7	279	7.5	3984	115
17:35	341	7.7	278	7.5	3951	114
17:36	340	7.7	278	7.5	3970	115
17:37	340	7.7	278	7.5	3974	115
17:38	340	7.7	278	7.5	3963	114
17:39	340	7.7	278	7.5	3956	114
17:40	340	7.7	278	7.5	3968	115
17:41	340	7.7	279	7.5	3958	114
17:42	340	7.7	278	7.5	3960	114
17:43	340	7.7	278	7.5	3953	114
17:44	340	7.7	278	7.5	3963	114
17:45	340	7.7	279	7.5	3964	114
17:46	341	7.7	279	7.5	3957	114
17:47	340	7.7	281	7.6	3956	114
17:48	341	7.7	282	7.6	3957	114
17:49	339	7.6	281	7.6	3967	114
17:50	340	7.7	278	7.5	3965	114
17:51	341	7.7	278	7.5	3970	115
17:52	340	7.7	279	7.5	3959	114
17:53	337	7.6	279	7.5	3972	115
17:54	337	7.6	279	7.5	3980	115
Avgs	**340**	**7.7**	**280**	**7.5**	**4009**	**116**

RUN SUMMARY

Number 14

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

	O_2	CO_2	SO_2
Method	EPA 3A	EPA 3A	EPA 6C
Conc. Units	%	%	ppm

Time: 16:51 to 17:54

Run Averages

	7.7	7.5	116

Pre-run Bias at 16:40

Zero Bias	-0.3	0.0	5
Span Bias	9.5	9.6	113
Span Gas	10.0	10.0	124

Post-run Bias at 17:55

Zero Bias	-0.2	0.0	5
Span Bias	9.6	9.6	113
Span Gas	10.0	10.0	124

Averages corrected for the average of the pre-run and post-run bias

	8.1	7.9	127

BIAS AND CALIBRATION DRIFT

Number 7

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 17:55

O_2
Method: EPA 3A
Span Conc. 19.8 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.1	36	-0.2	-0.3	-1.5	Pass
Span	9.8	415	9.6	-0.2	-1.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	-0.3	36	-0.2	0.1	0.5	Pass
Span	9.5	415	9.6	0.1	0.5	Pass

*Bias No. 6

CO_2
Method: EPA 3A
Span Conc. 19.7 %

Bias Results

Standard Gas	Cal. %	Response mv	Bias %	Difference %	Error %	Status
Zero	0.0	13	0.0	0.0	0.0	Pass
Span	10.0	351	9.6	-0.4	-2.0	Pass

Calibration Drift

Standard Gas	Initial* %	mv	Final %	Difference %	Drift %	Status
Zero	0.0	13	0.0	0.0	0.0	Pass
Span	9.6	351	9.6	0.0	0.0	Pass

*Bias No. 6

BIAS AND CALIBRATION DRIFT

Number 7

Client: **Rhodia**
Location: **Baton Rouge, LA**
Source: **Unit One Scrubber**

Calibration **1**

Project Number: **12143.078.011**
Operator: **RAP**
Date: **5 Jun 2012**

Start Time: 17:55

SO_2
Method: EPA 6C
Span Conc. 247 ppm

Bias Results

Standard Gas	Cal. ppm	Response mv	Bias ppm	Difference ppm	Error %	Status
Zero	1	147	5	4	1.6	Pass
Span	122	3915	113	-9	-3.6	Pass

Calibration Drift

Standard Gas	Initial* ppm	mv	Final ppm	Difference ppm	Drift %	Status
Zero	5	147	5	0	0.0	Pass
Span	113	3915	113	0	0.0	Pass

*Bias No. 6

WESTON SOLUTIONS

C.3 ALTERNATIVE METHOD 16.2 DATA

SO_2 ANALYZER AUDIT DATA

SOURCE: Unit 1 SO_2 Blower			DATE: 6/7/12			
ANALYZER: Siemens UltraMat 6			LOCATION: Rhodia Baton Rouge, LA			
Serial Number: 10-AT-600,17B			Span: 0 – 15%			
Run Number	Audit Gas Value	Analyzer Response	Difference ZERO	Difference LOW	Difference MID	Time
1	8.209	7.99	–	.309 PMW	-.309	1340
2	3.739	3.6	–	-.139	–	1341
3	8.209	7.9	–	–	-.309	1342
4	3.739	3.7	–	-.039	–	1343
5	8.209	7.9	–	–	-.309	1344
6	3.739	3.6	–	-.139	–	1346
7	~~8.209~~					
8 PMW	~~3.739~~					
9						
Mean Difference			–	-.106	-.309	–
Calibration Error (% full scale)				0.70	2.06	–
Allowable Error			NA	15% audit cylinder		–

LOW Audit Cylinder Serial Number: CC 301015 Expiration Date: –
MID Audit Cylinder Serial Number: CC 259043 Expiration Date: –

Inject each audit gas and record analyzer response. Repeat three times for each audit gas value.
Note: Audit gas injections cannot be sequential (i.e., low, low, low, mid, mid, mid not allowed).
Note: Zero responses are not required for either audit, but may be included to separate sequential runs.

C.4 EPA METHOD 9 DATA AND CERTIFICATION

EPA METHOD 9

VISIBLE EMISSIONS OBSERVATION FORM

CLIENT: Rhodia
SOURCE: Unit 1 Scrubber Stack
SOURCE ADDRESS: Baton Rouge, LA

W.O.#: 12143.078.011.0001
DATE: 6/4/12

Control Device, Process Equipment, Operating Mode:
Emission Point Description: Stack
Source Height: ~120 ft Height Relative to Observer: ~120 ft
Distance from Observer: ~500 ft Direction from Observer: Start: SE End: SE
Plume Type: (Continuous, Fugutive, or Intermittent) Start: Cont End: Cont
Description of Emission: (Coning, Fanning, Looping, Lofting, or Fumigating) Start: End:
Plume Color: Start: white End: white
Water Droplets Present: (Y/N) Plume: (Attached, Detached, or N/A) Attached
Plume Background Description: Start: Sky End: Sky Background Color: Blue
Point in Plume Where Opacity was Determined: ~ ' from stack exit
Sky Conditions: Start: Scattered clouds End: Scattered Clouds Ambient Temperature: Start: 90 F° End: 91 F°
Wind Direction: Start: SW End: SW Wind Speed: Start: 4 mph End: 6 mph
Relative Humidity: Start: 48% End: 49% Wet Bulb Temp: Start: F° End: F°

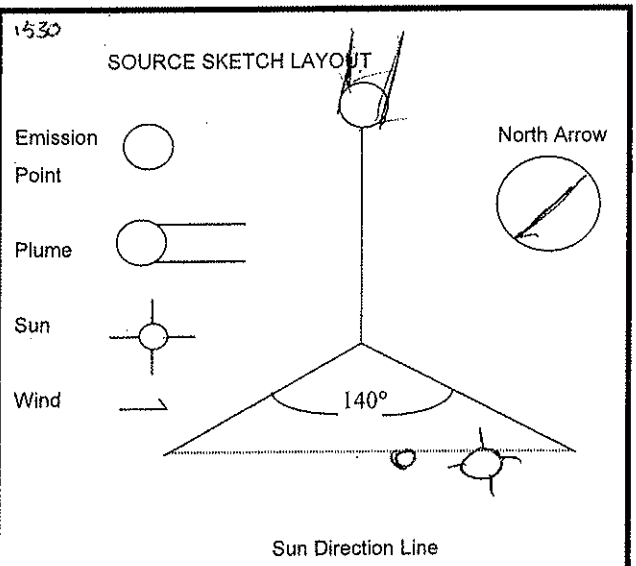
500

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

514
1515
1525

1530

SOURCE SKETCH LAYOUT



1544

1545

Highest six minute average:_____

A six minute average greater than 20% opacity occured _____ times.

A six minute average greater than 40% opacity occured _____ times.

Opacity Time: Start:_____ End:_____

60-Minute Averge: _____

Observer's Name: Louis J Carr
Certified By: Penn State
Certification #: _____ Exp. Date: _____
Signature: [signature] Date: 6/4/12

1559

WESTON SOLUTIONS

Printed on: 4/28/2011

EPA METHOD 9

VISIBLE EMISSIONS OBSERVATION FORM

CLIENT: Rhodia
SOURCE: Unit 1 Scrubber Stack
SOURCE ADDRESS: Baton Rouge, LA

W.O.#: 12143.079.011.0001
DATE: 6/4/12

Control Device, Process Equipment, Operating Mode:
Emission Point Description: Stack
Source Height: ~120 ft Height Relative to Observer: ~120 ft
Distance from Observer: ~500 ft Direction from Observer: Start: SE End: SE
Plume Type: (Continuous, Fugutive, or Intermittent) Start: Cont End: Cont
Description of Emission: (Coning, Fanning, Looping, Lofting, or Fumigating) Start: End:
Plume Color: Start: white End: white
Water Droplets Present: (Y/N) Plume: (Attached, Detached, or N/A) Attached
Plume Background Description: Start: Sky End: Sky Background Color: Blue
Point in Plume Where Opacity was Determined: ~ from stack exit
Sky Conditions: Start: Scattered clouds End: Scattered clouds Ambient Temperature: Start: 91 F° End: 90 F°
Wind Direction: Start: SW End: W Wind Speed: Start: 6 mph End: 7 mph
Relative Humidity: Start: 49% End: 50% Wet Bulb Temp: Start: F° End: F°

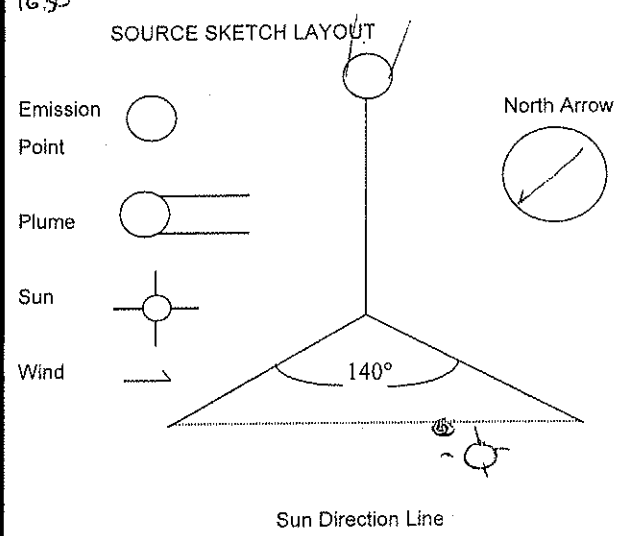
1600

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

1629 1659

1630

SOURCE SKETCH LAYOUT



1644 1645

Highest six minute average: _____

A six minute average greater than 20% opacity occured _____ times.

A six minute average greater than 40% opacity occured _____ times.

Opacity Time: Start: _____ End: _____

60-Minute Averge: _____

Observer's Name: Louis J Cone

Certified By: Penn State

Certification #: _____ Exp. Date: _____

Signature: [signature] Date: 6/4/12

WESTON SOLUTIONS

Printed on: 4/28/2011

EPA METHOD 9

VISIBLE EMISSIONS OBSERVATION FORM

CLIENT Rhodia ~~Baton Ro~~ JC
SOURCE Unit 1 Scrubber Stack
SOURCE ADDRESS Baton Rouge, LA

W.O.# 12143.078.011.0001
DATE 6/4/12

Control Device, Process Equipment, Operating Mode:
Emission Point Description: Stack
Source Height: ~120 ft Height Relative to Observer: ~120 ft
Distance from Observer: ~500 ft Direction from Observer: Start: SE End:
Plume Type: (Continuous, Fugutive, or Intermittent) Start: Cont End: Cont
Description of Emission: (Coning, Fanning, Looping, Lofting, or Fumigating) Start: End:
Plume Color: Start: white End: white
Water Droplets Present: (Y/N) Plume: (Attached, Detached, or N/A) Attached
Plume Background Description: Start: Sky End: Sky Background Color: Blue
Point in Plume Where Opacity was Determined: ~ ' from stack exit
Sky Conditions: Start: Scattered clouds End: Scattered Clouds Ambient Temperature: Start: 90 F° End: 91 F°
Wind Direction: Start: W End: SW Wind Speed: Start: 7 mph End: 6 mph
Relative Humidity: Start: 50% End: 50% Wet Bulb Temp: Start: F° End: F°

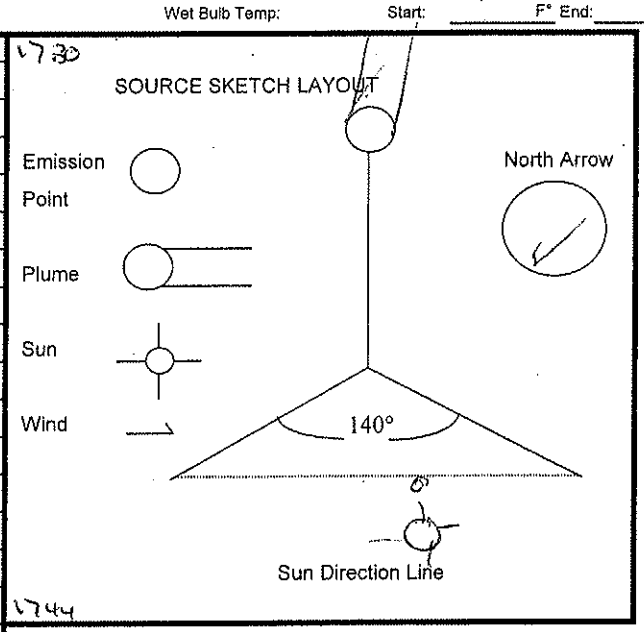
1700

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

1715 1729

1730

SOURCE SKETCH LAYOUT



1744

1745

Highest six minute average:_____

A six minute average greater than 20% opacity occured _____ times.

A six minute average greater than 40% opacity occured _____ times.

Opacity Time: Start:_____ End:_____

60-Minute Averge: _____

Observer's Name: Louis J Carr
Certified By: Penn State
Certification #: _____ Exp. Date: _____
Signature: [signature] Date: 6/4/12

1759

WESTON SOLUTIONS

Printed on: 4/28/2011

J:\000587\Metals\Air\VE Observation Form.xls

AeroMet
Engineering, Inc.
Solutions for a Changing Environment

Certification of Visible Opacity Reading

Louis Carr

qualified to conduct EPA Method 9 Tests for visible opacity in accordance with the methods established for such qualification in 40 CFR Part 60 Appendix A.

Certification Date: May 2, 2012 Expiration Date: November 2, 2012

AeroMet Instructor: Trey Beauchamp

Trey Beauchamp

APPENDIX D
EXAMPLE CALCULATIONS

SAMPLE CALCULATIONS FOR
FLOW, MOISTURE AND ISO

Client: RHODIA, INC.
Test Number: Run 1
Test Location: UNIT NUMBER 1 STACK

Plant: Baton Rouge, LA
Test Date: 6/4/12
Test Period: 1500-1602

1. Volume of dry gas sampled at standard conditions (68 deg F, 29.92 in. Hg), dscf.

$$Vm(std) = \frac{17.64 \times Y \times Vm \times \left(Pb + \frac{\text{delta H}}{13.6} \right)}{(Tm + 460)}$$

$$Vm(std) = \frac{17.64 \times 0.9810 \times 40.630 \times \left(29.60 + \frac{1.462}{13.6} \right)}{95.03 + 460} = 37.633$$

Where:

Vm(std) =	Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscf.
Vm =	Volume of gas sample measured by the dry gas meter at meter conditions, dcf.
Pb =	Barometric Pressure, in Hg.
delt H =	Average pressure drop across the orifice meter, in H_2O
Tm =	Average dry gas meter temperature , deg F.
Y =	Dry gas meter calialbration factor.
17.64 =	Factor that includes ratio of standard temperature (528 deg R) to standard pressure (29.92 in. Hg), deg R/in. Hg.
13.6 =	Specific gravity of mercury.

2. Volume of water vapor in the gas sample corrected to standard conditions, scf.

$$Vw(std) = (0.04707 \times Vwc) + (0.04715 \times Wwsg)$$

$$Vw(std) = (0.04707 \times 14.1) + (0.04715 \times 18.7) = 1.545$$

Where:

Vw(std) =	Volume of water vapor in the gas sample corrected to standard conditions, scf.
Vwc =	Volume of liquid condensed in impingers, ml.

Wwsg = Weight of water vapor collected in silica gel, g.

0.04707 = Factor which includes the density of water (0.002201 lb/ml), the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), ft^3/ml.

0.04715 = Factor which includes the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), and 453.6 g/lb, ft^3/g.

3. Moisture content

$$bws = \frac{Vw(std)}{Vw(std) + Vm(std)}$$

$$bws = \frac{1.545}{1.545 + 37.633} = 0.031$$

Where:

bws = Proportion of water vapor, by volume, in the gas stream, dimensionless.

4. Mole fraction of dry gas.

$$Md = 1 - bws$$

$$Md = 1 - 0.031 = 0.969$$

Where:

Md = Mole fraction of dry gas, dimensionless.

5. Dry molecular weight of gas stream, lb/lb-mole.

$$MWd = (0.440 \times \% CO_2) + (0.320 \times \% O_2) + (0.280 \times (\% N_2 + \% CO))$$

$$MWd = (0.440 \times 7.7) + (0.320 \times 8.1) + (0.280 \times (84.2 + 0.00))$$

$$= 29.56$$

Where:

MWd = Dry molecular weight , lb/lb-mole.

% CO2 =	Percent carbon dioxide by volume, dry basis.
% O_2 =	Percent oxygen by volume, dry basis.
% N_2 =	Percent nitrogen by volume, dry basis.
% CO =	Percent caralbon monoxide by volume, dry basis.
0.440 =	Molecular weight of carbon dioxide, divided by 100.
0.320 =	Molecular weight of oxygen, divided by 100.
0.280 =	Molecular weight of nitrogen or caralbon monoxide, divided by 100.

6. Actual molecular weight of gas stream (wet basis), lb/lb-mole.

MWs = (MWd x Md) + (18 x (1 - Md))

MWs = (29.56 x 0.969) +(18 (1 - 0.969)) = 29.19

Where:

MWs =	Molecular weight of wet gas, lb/lb-mole.
18 =	Molecular weight of water, lb/lb-mole.

7. Average velocity of gas stream at actual conditions, ft/sec.

$$Vs = 85.49 \times Cp \times ((\text{delt } p)^{1/2})avg \times \left(\frac{Ts\ (avg)}{Ps \times MWs} \right)^{1/2}$$

$$Vs = 85.49 \times 0.84 \times 1.010200 \times \left(\frac{537}{29.72 \times 29.19} \right)^{\wedge 1/2} = 57.1$$

Where:

Vs =	Average gas stream velocity, ft/sec.
85.49 =	Pitot tube constant, ft/sec x $\frac{(lb/lb\text{-}mole)(in.\ Hg)^{1/2}}{(deg\ R)(in\ H_2O)}$
Cp =	Pitot tube coefficient, dimensionless.
Ts =	Absolute gas stream temperature, deg R = Ts, deg F + 460.
Ps =	Absolute gas stack pressure, in. Hg. = Pb + $\frac{P(static)}{13.6}$
delt p =	Velocity head of stack, in. H_2O

8. Average gas stream volumetric flowrate at actual conditions, wacf/min.

Qs(act) = 60 x Vs x As

Qs(act) = 60 x 57.08 x 15.90 = 54469

Where:

Qs(act) = Volumetric flowrate of wet stack gas at actual conditions, wacf/min.

As = Cross-sectional area of stack, ft^2.

60 = Conversion factor from seconds to minutes.

9. Average gas stream dry volumetric flowrate at standard conditions, dscf/min.

$$Qs(std) = 17.64 \times Md \times \frac{Ps}{Ts} \times Qs(act)$$

$$Qs(std) = 17.64 \times 0.969 \times \frac{29.72}{537} \times 54469$$

$$= 51489$$

Where:

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/min.

10. Isokinetic variation calculated from intermediate values, percent.

$$I = \frac{17.327 \times Ts \times Vm(std)}{Vs \times O \times Ps \times Md \times (Dn)^2}$$

$$I = \frac{17.327 \times 537 \times 37.633}{57.08 \times 60 \times 29.72 \times 0.969 \times (0.190)^2} = 98.42$$

Where:

I = Percent of isokinetic sampling.

O = Total sampling time, minutes.

Dn = Diameter of nozzle, inches.

17.327 = Factor which includes standard temperature (528 deg R), standard pressure (29.92 in. Hg), the formula for calculating area of circle $D^{2/4}$, conversion of square feet to square inches (144), conversion of seconds to minutes (60), and conversion to percent (100), $\frac{(in.\ Hg)(in^2)(min)}{(deg\ R)(ft^2)(sec)}$

SAMPLE CALCULATIONS FOR SULFUR OXIDES TEST (U.S.EPA METHOD 8)

Client: Rhodia, Inc
Test Number: Run 1
Test Location: Unit 1 stack

Facility: Baton Rouge, LA
Test Date: 6/4/12
Test Period: 1500-1602

Sulfur dioxide concentration, lbs/dscf.

$$C1(SO2) = \frac{7.061 \times 10^{-5} \times (V(t) - V(tb)) \times N \times \frac{V(soln)}{V(a)} \times D}{Vm(std)}$$

$$C1(SO2) = \frac{7.061 \times 10^{-5} \times (4.4 - 0.00) \times 0.0100 \times \frac{1000}{20} \times 1.00}{37.633}$$

C1(SO2) = 4.08E-06

Where:

C1(SO2) = Sulfur dioxide concentration, lb/dscf.

V(t) = Volume of barium perchlorate titrate used for the sample, ml.

V(tb) = Volume of titrate used for the blank, ml.

N = Normality of barium perchlorate titrate, g-eg./l.

V(soln) = Total solution volume of SO2 sample (contents of third and fourth impingers + washes), ml.

V(a) = Volume of sample aliquot titrated, ml.

D = Dilution factor

7.061 x 10^-5 = Conversion factor including number of grams per gram equivalent of sulfur dioxide (32.0 g/g - eg) 453.6 g/lb, and 1,000 ml/l. (lb)(l)/ (g)(ml)

Vm(std) = Volume of sample gas pulled through the impinger, dscf.

Sulfur dioxide concentration, ppmdv.

C2(SO2) = 6.021 x 10^6 x $C1(SO_2)$

C2(SO2) = 6.021 x 10^6 x 4.08E-6

C2(SO2) = 25

Where:

C2(SO2) = Concentration of sulfur dioxide in parts per million by volume (dry basis) (ppmdv).

6.021 x 10^6 = Conversion factor including number of 0.0353 cubic feet/ liter, 453.6 g/lb, 24.06 l/g-mole wt., 64.0 g/g-mole wt. and 10^6 ppm, (ft^3)(ppm)/(lb).

Sulfur dioxide concentration, mg/m$^{3.}$

C3(SO2) = $1.602 \times 10^7 \times C1(SO_2)$

C3(SO2) = 1.602 x 10^7 x 4.08E-6

C3(SO2) = 65.4

Where:

C3(SO2) = Concentration of sulfur dioxide in mg/m^3

1.602×10^7 = Conversion factor from lb/dscf to mg/m$^{3.}$

Sulfur dioxide mass emission rate, lbs/hr.

$PR(SO_2)$ = $C1(SO_2)$ x Qs(std) x 60 min/hr

$PR(SO_2)$ = 4.08E-6 x 51490 x 60

$PR(SO_2)$ = 12.6

Where:

$PR(SO_2)$ = Sulfur dioxide mass emission rate, lbs/hr.

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/hr.

Sulfuric acid mist Concentration, lbs/dscf.

$$C1(H_2SO_4) = \frac{1.081 \times 10^{-4} \times (V(t) - V(tb)) \times N \times \frac{V(soln)}{V(a)} \times D}{Vm(std)}$$

$$C1(H_2SO_4) = \frac{1.081 \times 10^{-4} \times (5.6 - 0.00) \times 0.0100 \times \frac{400}{100} \times 1.0}{37.633}$$

$C1(H_2SO_4)$ = 6.38E-07

Where:

$C1(H_2SO_4)$ = Sulfuric acid mist concentration, lb/dscf.

V(t) = Volume of barium perchlorate titrate used for the sample, ml.

V(tb) = Volume of titrate used for the blank, ml.

N = Normality of barium perchlorate titrate, g-eg./l.

V(soln) = Total solution volume of H_2SO_4 sample (including probe and front half wash and filter),ml

V(a) = Volume of sample aliquot titrated, ml.

D = Dilution factor

1.081 x 10^-4 = Conversion factor including number of grams per gram equivalent of sulfuric acid (49.0 g/g - eg) 453.6 g/lb, and 1,000 ml/l.
(lb)(l)/ (g)(ml)

Sulfuric acid mist Concentration, ppmdv.

$C2(H_2SO_4)$ = 3.996 x 10^6 x $C1(H_2SO_4)$

$C2(H_2SO_4)$ = 3.996 x 10^6 x 6.38E-7

$C2(H_2SO_4)$ = 2.5

Where:

$C2(H_2SO_4)$ = Concentration of sulfuric acid mist in parts per million by volume (dry basis) (ppmdv).

3.996 x 10^6 = Conversion factor including number of 0.0353 cubic feet/ liter, 453.6 g/lb, 24.06 l/g-mole wt., 98.0 g/g-mole wt. and 10^6 ppm, (ft^3)(ppm)/(lb).

Sulfuric acid mist concentration, mg/m^3.

$C3(H_2SO_4)$ = $1.602 \times 10^7 \times C(H_2SO_4)$

$C3(H_2SO_4)$ = 1.602 x 10^7 x 6.38E-7

$C3(H_2SO_4)$ = 10.2

Where:

$C3(H_2SO_4)$ = Concentration of sulfuric acid mist in mg/m^3

1.602×10^7 = Conversion factor from lb/dscf to mg/m^3.

Sulfuric acid mist mass emission rate, lbs/hr.

$MR(H_2SO_4)$ = $C(H_2SO_4)$ x Qs(std) x 60 min/hr

$MR(H_2SO_4)$ = 6.38E-7 x 51490 x 60

$MR(H_2SO_4)$ = 1.97

Where:

$MR(H_2SO_4)$ = Sulfuric acid mist mass emission rate, lbs/hr.

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/hr.

EXAMPLE CALCULATIONS FOR
RELATIVE ACCURACY
SULFUR DIOXIDE

Client:	**Rhodia**	**Plant:**	**Baton Rouge, LA**
Test No.:	**1-12**	**Test Date:**	**6/5/12**
Test Location:	**Unit 1**	**Test Period:**	**0906-1518**

1. Average error between Facility CEM and Reference Method results.

xi = CEM-ARM

xi = 114.770 - 126.110

xi = -11.340

Where:

CEM = Average Facility CEM SO_2

ARM = Average Reference Method SO_2

xi = Average error for test.

2. Standard deviation.

$$sd = SQRT\left\{ \frac{(Sx^2) - [((Sxn)^2) / n]}{(n - 1)} \right\}$$

$$sd = SQRT\left\{ \frac{(1248.370) - [((-102.100)^2) / 9]}{(9 - 1)} \right\}$$

sd = 3.356

Where:

sd = Standard deviation.

n = Number of data points (test runs).

SQRT = Square root for quantity in brackets { }.

Sxn = Sum of all error terms.

Sx^2 = Sum of all squared error terms.

3. Confidence Interval.

$$CI = t_{.950} * \frac{sd}{SQRT\{ n \}}$$

$$CI = 2.306 * \frac{3.356}{SQRT\{ 9 \}}$$

$$CI = 2.580$$

Where:

CI = Confidence interval.

$t_{.950}$ = Student's t factor for single tailed distribution at a 95.0% confidence level.

4. Relative Accuracy as percent of average reference method. [1,2]

$$RA = \frac{CI + | xi |}{ARM} * 100$$

$$RA = \frac{2.580 + | 11.340 |}{126.110} * 100$$

$$RA = 11.038\%$$

Where:

RA = Relative Accuracy, %.

xi = Average error for tests.

CI = Confidence interval.

ARM = Average Reference Method SO_2.

1 **40CFR60 Appendix B Performance Specification 2.**

2 **All RATA emission parameters calculated identically except where relative accuracy is determined as percent of the emission standard. Permitted emission limits are substituted for ARM when calculating relative accuracy on emission standard basis.**

SAMPLE CALCULATIONS FOR
BIAS CORRECTION OF
Sulfur Dioxide

Client:	Rhodia	**Plant:**	Baton Rouge, LA
Test Run No.	1	**Test Date:**	6/5/12
Test Location:	Unit 1 Stack	**Test Period:**	0906-0927

Bias corrected value of Sulfur Dioxide (ppmvd).

$$Cd = \frac{(AVG - Zbias)}{(Sbias - Zbias)} \times SPAN\ GAS$$

$$Cd = \frac{124.0 - 5.5}{117.0 - 5.5} \times 124.0$$

$$Cd = 132$$

Where:

Cd = Sulfur Dioxide concentration measured on a dry basis (ppmvd), bias corre

AVG = Average SO2 concentration for the test run.

Zbias = The average of pre and post test zero bias checks.

Sbias = The average of pre and post test span bias check.

SPAN GAS = The calibration gas concentration,
which was used for the BIAS check.

APPENDIX E
EQUIPMENT CALIBRATION RECORDS

E.1 EPA Method 8 Calibration Data

E.2 EPA Method 3A and 6C Cylinder Certifications

E.1 EPA METHOD 8 CALIBRATION DATA

Y Factor Calibration Check Calculation

Method 8 TEST TRAIN
METER BOX NO. AO28
RUN NO. 9 6/5/12

MWd = Dry molecular weight source gas, lb/lb-mole.	
0.32 = Molecular weight of oxygen, divided by 100.	
0.44 = Molecular weight of carbon dioxide, divided by 100.	
0.28 = Molecular weight of nitrogen or carbon monoxide, divided by 100.	
% CO_2 = Percent carbon dioxide by volume, dry basis.	7.9
% O_2 = Percent oxygen by volume, dry basis.	8.1

$$MWd = (0.32 * O_2) + (0.44 * CO_2) + (0.28 * (100 - (CO_2 + O_2)))$$

$$MWd = (0.32 * 8.1) + (0.44 * 7.9) + (0.28 * (100 - (7.9 + 8.1)))$$

$$MWd = (2.59) + (3.48) + (23.52)$$

MWd = 29.59

Tma = Source Temperature, absolute(°R)	
Tm = Average dry gas meter temperature , deg F.	97.0

Tma = Ts + 460

Tma = 97.0 + 460

Tma = 557

Ps = Absolute meter pressure, inches Hg.	
13.60 = Specific gravity of mercury.	
delta H = Avg pressure drop across the orifice meter during sampling, in H2O	1.4026
Pb = Barometric Pressure, in Hg.	29.50

Pm = Pb + (delta H / 13.6)

Pm = 29.5 + (1.4026 / 13.6)

Pm = 29.60

Yqa = dry gas meter calibration check value, dimensionless.	
0.03 = (29.92/528)(0.75)2 (in. Hg/°/R) cfm2.	
29.00 = dry molecular weight of air, lb/lb-mole.	
Vm = Volume of gas sample measured by the dry gas meter at meter conditions, dcf.	39.826
Y = Dry gas meter calibration factor (based on full calibration)	0.9810
Delta H@ = Dry Gas meter orifice calibration coefficient, in. H2O.	1.83
avg SQRT Delta H = Avg SQRT press. drop across the orifice meter during sampling , in. H_2O	1.18260
O = Total sampling time, minutes.	60.00

Yqa = (O / Vm) * SQRT[(0.0319 * Tma * 29) / (Delta H@ * Pm * MWd)] * avg SQRT Delta H

Yqa = (60.00 / 39.83) * SQRT[(0.0319 * 557.00 * 29) / (1.83 * 29.60 * 29.59)] * 1.18

Yqa = 1.507 * SQRT[515.281 / 1,606.226] * 1.18

Yqa = 1.009

Diff = Absolute difference between Yqa and Y	

Diff = ((Y - Yqa) / Y) * 100

Diff = ((0.981 - 1.009) / 0.981) * 100

Diff = 2.85

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

WESTON SOLUTIONS
Integrated Air Services

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record readings in outlined boxes below, other columns are automatically calculated.

DATE: 2/1/12
METER PART #: AO28
METER SERIAL #: 17096207
CRITICAL ORIFICE SET SERIAL #: 1331s

	INITIAL	FINAL	AVG (P_{bar})
BAROMETRIC PRESSURE (in Hg):	29.52	29.52	29.52
Calibrated by:	JLA		

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	DGM READINGS (FT^3) NET (V_m)	AMBIENT F°	DGM F° INITIAL	DGM F° FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	(4) $\Delta H_@$
12	1	0.3258	19	296.800	307.967	11.167	68	62	61	62	26	0.59	11.174	10.886	0.974	1.893
16	2	0.4368	18	308.300	323.012	14.712	68	62	61	62	26	1.00	14.736	14.594	0.990	1.785
19	3	0.516	17	323.500	344.085	20.585	68	61	61		34	1.40	23.400	22.545	0.963	1.791
25	4	0.6753	15	344.500	367.143	22.643	68	60	61	61	26	2.50	22.808	22.563	0.989	1.867
31	5	0.8174	15	367.700	394.089	26.389	68	61	63	62	25	3.60	26.577	26.26	0.988	1.835
														AVG =	0.981	1.834

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:
The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

Individual Y's .02 from average? YES
Individual $\Delta H_@$ values 0.2 from average? YES

(1) $V_m\,(std) = K_1\, V_m \dfrac{P_{bar} + (\Delta H/13.6)}{T_m}$ = Net volume of gas sample passed through DGM, corrected to standard conditions

K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)
T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $V_{cr}\,(std) = K' \sqrt{\dfrac{P_{bar}\,\theta}{T_{amb}}}$ = Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)
K' = Average K' factor from Critical Orifice Calibration

(3) $Y = \dfrac{V_{cr}\,(std)}{V_m\,(std)}$ = DGM calibration factor

Next Calibration Due By:	2/1/2013

(4) $\Delta H_@ = \left(\dfrac{0.75\,\theta}{V_{cr}(std)}\right)^2 \Delta H$

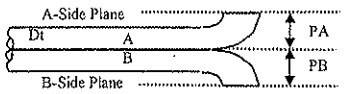
Standard Pitot Tube Inspection Data Form

Pitot Tube Identification Number: **P-178**

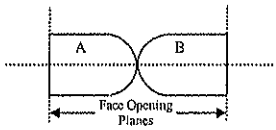
Inspection Date 12/28/11 Individual Conducting Inspection BP

If all Criteria PASS
Cp is equal to 0.84

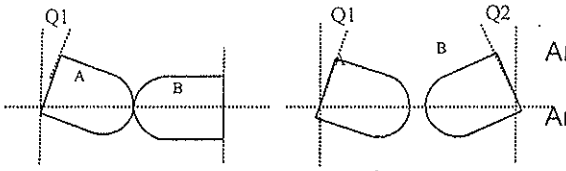
		PASS/FAIL
Distance to A Plane (PA) - inches	0.465	PASS
Distance to B Plane (PB) - inches	0.466	PASS
Pitot OD (D_t) - inches	0.375	



$1.05\ D_t < P < 1.5\ D_t$ PA must Equal PB

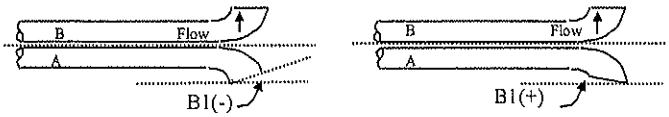


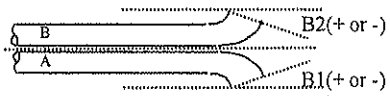
Are Open Faces Aligned Perpendicular to the Tube Axis: (●) YES ( ) NO — PASS



Angle of Q1 from vertical A Tube- degrees (absolute)	1	PASS
Angle of Q2 from vertical B Tube- degrees (absolute)	0	PASS

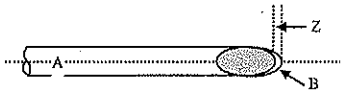
Q1 and Q2 must be ≤ 10°



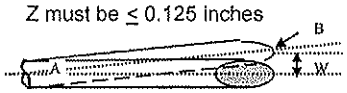


Angle of B1 from vertical A Tube- degrees (absolute)	0	PASS
Angle of B1 from vertical B Tube- degrees (absolute)	1	PASS

B1 or B2 must be ≤ 5°

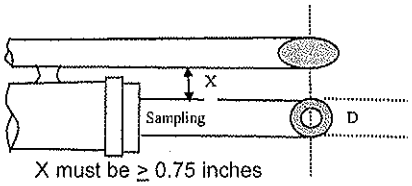


Z must be ≤ 0.125 inches



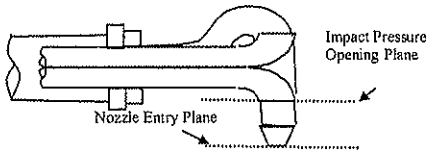
W must be ≤ 0.03125 inches

Horizontal offset between A and B Tubes (Z) - inches	0.075	PASS
Vertical offset between A and B Tubes (W) - inches	0.02	PASS

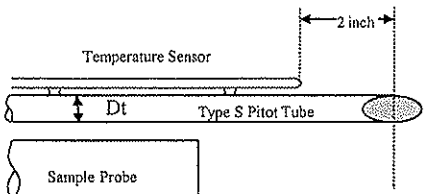


X must be ≥ 0.75 inches

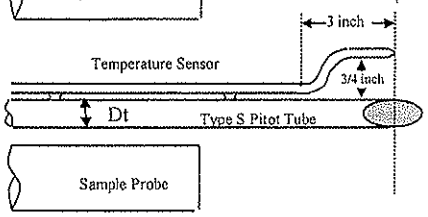
Distance between Sample Nozzle and Pitot (X) - inches	1.191	PASS



Impact Pressure Opening Plane is above the Nozzle Entry Plane: (●) YES ( ) NO ( ) NA — PASS



Thermocouple meets the Distance Criteria in the adjacent figure: ( ) YES ( ) NO (●) NA



Thermocouple meets the Distance Criteria in the adjacent figure: (●) YES ( ) NO ( ) NA — PASS

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E.2 EPA METHOD 3A AND 6C CYLINDER CERTIFICATIONS

Airgas

Airgas Specialty Gases
630 United Drive
Durham, NC 27713
Phone (919) 544-3773
Fax (919) 544-3774
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI80E15A0138	Reference Number:	122-124304150-1
Cylinder Number:	SG9162669BAL	Cylinder Volume:	151 Cu.Ft.
Laboratory:	ASG - Durham - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22012	Valve Outlet:	590
Gas Code:	OC2	Analysis Date:	Feb 21, 2012

Expiration Date: Feb 21, 2015

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

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	10.00 %	10.03 %	G1	+/- 1% NIST Traceable
OXYGEN	10.00 %	10.01 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
090606	090606	CC262103	9.921% CARBON DIOXIDE/NITROGEN	Apr 10, 2013
NTRM	82658	SG9163064BAL	9.507% OXYGEN/NITROGEN	Dec 01, 2015

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA-510 CO2	Infrared	Feb 02, 2012
Horiba MPA-510 O2 (0-25%)	Paramagnetic	Feb 02, 2012

Triad Data Available Upon Request

Notes:

Approved for Release

#5000

Airgas

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Airgas Specialty Gases
1075 Cinclare Drive
Port Allen, LA 70767
225.388.0900
FAX: 225.388.0959
www.airgas.com

Part Number:	E03NI60E15A0286	Reference Number:	83-124264114-1
Cylinder Number:	CC31544	Cylinder Volume:	160 Cu.Ft.
Laboratory:	ASG - Port Allen - LA	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 04, 2011	Valve Outlet:	590

Expiration Date: May 04, 2014

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

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	20.00 %	19.66 %	G1	+/- 1% NIST Traceable
OXYGEN	20.00 %	19.80 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	08061330	cc255640	20.09% CARBON DIOXIDE/NITROGEN	Jul 15, 2012
NTRM	00040301	CC9818	20.01% OXYGEN/NITROGEN	Oct 02, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
SCO2GM	NonDispersive Infrared	Apr 12, 2011
HO2GH	PMO2	Apr 15, 2011

Triad Data Available Upon Request

Notes:

Jean Hardin

Approved for Release

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0005	Reference Number:	82-124311759-1
Cylinder Number:	CC326590	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
PGVP Number:	B52012	Valve Outlet:	660
		Analysis Date:	Apr 16, 2012

Expiration Date: Apr 16, 2014

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

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
SULFUR DIOXIDE	125.0 PPM	123.7 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	07120207	CC238017	100.7PPM SULFUR DIOXIDE/NITROGEN	Sep 22, 2017

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 APW1100391 SO2	FTIR	Apr 12, 2012

Triad Data Available Upon Request

Notes:

Signature on file

Approved for Release

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0016	Reference Number:	83-124276107-1
Cylinder Number:	CC310382	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Port Allen - LA	Cylinder Pressure:	2015 PSIG
PGVP Number:	B42011	Valve Outlet:	660
		Analysis Date:	Aug 16, 2011

Expiration Date: Aug 16, 2013

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

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
SULFUR DIOXIDE	250.0 PPM	246.6 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	08061633	cc255784	247.0PPM SULFUR DIOXIDE/NITROGEN	Oct 15, 2012

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AMP0900119 MSO2	FTIR	Jul 21, 2011

Triad Data Available Upon Request

Notes:

Signature on file

Approved for Release

Airgas

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Airgas Specialty Gases
1075 Cinclare Drive
Port Allen, LA 70767
225.388.0900
FAX: 225.388.0959
www.airgas.com

Part Number:	X02NI96C15A0000	Reference Number:	83-124238770-2
Cylinder Number:	CC301015	Cylinder Volume:	67.9 CF
Laboratory:	ASG - Port Allen - LA	Cylinder Pressure:	915 PSIG
Analysis Date:	Oct 21, 2010	Valve Outlet:	660

Product composition verified by direct comparison to calibration standards traceable to NIST ASTM Class 1 weights and/or NIST gas mixture reference materials.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR DIOXIDE	3.750 %	3.739 %	+/- 2%
NITROGEN	Balance		

Notes:

Approved for Release

Airgas

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Airgas Specialty Gases
1075 Cinclare Drive
Port Allen, LA 70767
225.388.0900
FAX: 225.388.0959
www.airgas.com

Part Number:	X02NI91C15A0000	Reference Number:	83-124238770-1
Cylinder Number:	CC259043	Cylinder Volume:	30.7 CF
Laboratory:	ASG - Port Allen - LA	Cylinder Pressure:	408 PSIG
Analysis Date:	Oct 21, 2010	Valve Outlet:	660

Product composition verified by direct comparison to calibration standards traceable to NIST ASTM Class 1 weights and/or NIST gas mixture reference materials.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR DIOXIDE	8.250 %	8.209 %	+/- 2%
NITROGEN	Balance		

Notes:

Approved for Release

APPENDIX F
PROJECT PARTICIPANTS

The following WESTON personnel participated in this project.

Paul Meeter	Air Quality Client Service Manager
Rodney Padgett	Project Manager
Cory Foytik	Project Scientist
Nate Frye	Technician
Josh Carr	Technician

AI/AI/EN

11000046090 1

Rhodia
Member of the Solvay group

RECEIVE

JUL 30 2012

Air/Toxics & Inspection
Coordination Branch
6EN-A

July 27, 2012

Via FedEx

Chief, Environmental Enforcement Division
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington. DC 20044-7611

David Schnare
U.S. Environmental Protection Agency
Headquarters
Ariel Rios South Building, Rm #2117B
1200 Pennsylvania Avenue, N.W.
Mailcode 2242A
Washington D.C. 20460

Jan Gerro
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6RCEA
Dallas, TX 75202

Himanshu Vyas
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6ENAT
Dallas, TX 75202

Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting documents enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me. Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:gsl
Enclosure

Jeffrey S. Lang, Sr. HSE Counsel, Rhodia Inc., 8 Cedar Brook Drive, Cranbury, NJ 08512-7500 Phone 609-860-3432; Fax 609-860-5446

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering January 1 to June 30, 2012
Civil Action No.: 2: 07-CV-134-WCL

1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for #8 Unit. The SO_2 abatement was started up on November 19, 2008.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period. The Houston #8 unit operated below the permitted 1.70 lbs SO_2/ton of acid produced from July 1, 2011 to June 30, 2012.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

   Houston Title V air permit O-03049 was approved on June 28, 2012. Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) Regen #2 and compliance with the Consent Decree SO_2 emission rates for Regen #2 have been included as conditions in the Title V air permit.

   The application to amend air permit 4802 for installation of the SO_2 abatement system in Houston #2 was approved by TCEQ and USEPA on February 10, 2012.

   Operation and Maintenance Work

   The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

5. Reports to Agencies

Rhodia has installed a dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

A relative accuracy test (RATA) was conducted on March 13, 2012 on the stack SO_2 and O_2. A cylinder gas audit was conducted on April 3, 2012 on the stack SO_2 and O_2. The CEMS passed these tests.

The plant submitted Excess Emission Reports for SO_2 per 40 CFR 60.7(c)-(d) and Data Assessment Reports for SO_2 CEMS per 40 CFR Part 60, Appendix F for the first and second calendar quarters of 2012 to the US Environmental Protection Agency (USEPA) and TCEQ.

A copy of the semiannual report is attached which includes the results of the cylinder gas audits.

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants

Signature: William J McConnell

Date: 7/11/12

A Member of the Solvay Group
Houston Plant

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7011 2000 0001 4575 2986)

July 9, 2012

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the January 1 to June 30, 2012 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Bob Allen, Director, Harris County Pollution Control
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

NSPS Excess Emissions Report
January 1 – June 30, 2012

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	January 1 – June 30, 2012
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	April 3, 2012
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
January 1 – June 30, 2012

Emission data summary – Long-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
January 1 – June 30, 2012

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.7 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	98.7 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.26 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.7 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	98.7 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.26 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
January 1 – June 30, 2012

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	1Q12	RATA	No	Report enclosed	No
	2Q12	CGA	No	Report enclosed	No
Stack O_2, %	1Q12	RATA	No	Report enclosed	No
	1Q12	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

_____
Signature

___Plant Manager_____
Title

7/9/2012
_____
Date

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

ENTECH ENGINEERING INC.
P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

RHODIA INC.
HOUSTON PLANT
VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101)
OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2)
CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)
RELATIVE ACCURACY TEST AUDIT (RATA)
(REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330 TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)

(ENTECH REPORT NO. ER2012-04-140)

PREPARED BY

ENTECH ENGINEERING INC.
LEAGUE CITY, TEXAS

MARCH 13, 2012

PREPARED FOR

RHODIA INC.
HOUSTON, TEXAS

SAMPLING LOCATION

VIRGIN SULFURIC ACID UNIT NO. 8 STACK (EPN 101)
RHODIA INC.
HOUSTON, HARRIS COUNTY, TEXAS

SECTION 1.0 SUMMARY

Entech Engineering Inc. was retained by Rhodia Inc. to conduct an oxygen (O_2) and sulfur dioxide (SO_2) Continuous Emission Monitoring System (CEMS) Relative Accuracy Test Audit (RATA) at Rhodia's Virgin Sulfuric Acid Unit No. 8 in Houston, Harris County, Texas. The objective of this program was to quality assure the continuous performance of the O_2 and SO_2 CEMS according to the specifications of EPA 40 CFR, Part 60, Appendix F.

In this program, the quality assurance test, i.e. RATA was conducted according to the 40CFR60, Appendix F, Section 5.1.1 specifications following the procedures of 40CFR60, Appendix B, Performance Specification 2 and 3 for the SO_2 and O_2 CEMS, respectively. A Performance Specification (PS) test consists of two parts, a Calibration Drift (CD) Determination and a Relative Accuracy (RA) Determination; however, a RATA only requires that the RA determination be conducted. For this program, the RATA was conducted on March 13, 2012 and was coordinated by Mr. Floyd Dickerson of Rhodia Inc. TCEQ was notified of the test, but did not attend.

The Virgin Sulfuric Acid Unit No. 8 is designated in the Texas Commission on Environmental Quality (TCEQ) permit as Emission Point Number (EPN) 101. Its CEMS comprises of a Bovar/Western Research O_2/SO_2 analyzer (Model 920, Serial Number VE-920-8700-2). Flue gas samples are continuously extracted from the stack for analysis on a wet basis. During testing, operational parameters were monitored and recorded by Rhodia personnel at fifteen-minute intervals for demonstration of process conditions.

Results of the O_2 and SO_2 CEMS RATA are presented in Table 1. A comprehensive summary which includes individual test data is presented in Table 2. Test methods and equipment descriptions are presented in Section 2.0 and results and discussions are presented in Section 3.0.

Table 1.
Rhodia Inc.
Houston Plant
Virgin Sulfuric Acid Unit No. 8 (EPN 101)
Oxygen(O_2) and Sulfur Dioxide (SO_2) CEMS Relative Accuracy Test Audit (RATA)
Regulated Entity No. RN100220581; Customer Reference No. CN600125330
TCEQ Account ID No. HG-0697-O; Permit No. 19282
March 13, 2012

Performance Specification Test Parameters	Continuous Emission Monitoring Systems (CEMS)	
	Oxygen (O_2)	Sulfur Dioxide (SO_2)
RA Test	Passed	Passed
RA Allowed	+/- 1.0% O_2	20% (RM) or 10% (STD)
RA	NA	12.36% (RM)

(RM) - Reference Method
(STD) - Emission Standard or Performance Specification Standard
RA - Relative Accuracy Test
NA - Not Applicable

Rhodia

Eco Services - Houston

02

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer

Unit Number (Circle One): 2 8

Date: 4/3/12 Time: 10:35a Technician: Rudy Barraza / Heath Plant

Serial Number: VE-920-8700-2 Signature: [signature]

Cylinder ID number	ALM 002590		ALM 036115			
Date of Certification	5/20/2011		5/20/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.09	15.3	5.09	15.3	5.09	15.3
CEM Response value C_m (ppm)	4.79	14.9	4.80	14.9	4.81	14.9
Accuracy A (% or ppm)	-5.89%	-2.61%	-5.69%	-2.61%	-5.50%	-2.61%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 4/3/12 Time: 10:35A Technician: Rudy Barraza / Heath Plant

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM 002590		ALM 036115			
Date of Certification	5/20/2011		5/20/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	125	274	125	274	125	274
CEM Response value C_m (ppm)	126	279	127	278	126	278
Accuracy A (% or ppm)	.8%	1.82%	1.6%	1.45%	.8%	1.45%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-006

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM036115 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1934 PSIG **Batch No:** LAP0041227

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	274	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	15.3	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *

Date: 13May2011 Response Unit: PPM
Z1=-0.06656 R1=256.6585 T1=275.1549
R2=256.8202 Z2=0.11493 T2=275.4641
Z3=0.15836 T3=275.6497 R3=256.8364
Avg. Concentration: 274.1 PPM

OXYGEN

Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.61100
R2=0.94000 Z2=0.00000 T2=0.61140
Z3=0.00000 T3=0.61140 R3=0.94000
Avg. Concentration: 15.27 %

Second Triad Analysis

Date: 20May2011 Response Unit: PPM
Z1=-0.32212 R1=255.5447 T1=274.2461
R2=255.6349 Z2=0.15853 T2=274.5593
Z3=0.33653 T3=274.7581 R3=256.5102
Avg. Concentration: 274.1 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99998E-1
Constants: A=0.00000E+0
B=9.99951E-1 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768807 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott™

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1936 PSIG **Batch No:** LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

SULFUR DIOXIDE *

Date: 13May2011 Response Unit: PPM
Z1=0.01023 R1=253.7089 T1=123.9645
R2=253.7350 Z2=0.07108 T2=124.0038
Z3=0.09222 T3=124.1083 R3=253.8609
Avg. Concentration: 124.8 PPM

Date: 20May2011 Response Unit: PPM
Z1=0.00195 R1=253.7032 T1=123.9691
R2=253.8925 Z2=0.10441 T2=124.0436
Z3=0.12747 T3=124.0462 R3=254.0720
Avg. Concentration: 124.8 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99985E-1
Constants: A=0.00000E+0
B=9.94451E-1 C=0.00000E+0
D=0.00000E+0 E=0.00000E+0

OXYGEN

Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.20370
R2=0.94000 Z2=0.00000 T2=0.20400
Z3=0.00000 T3=0.20400 R3=0.94000
Avg. Concentration: 5.093 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768607 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

Rhodia

Eco Services - Houston

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 4/3/12 Time: 11:35A Technician: Rudy Barraza / Heath Plant
Serial Number: VE-920-8700-2 Signature:

Cylinder ID number	ALM 045898		ALM 058443			
Date of Certification	7/18/2011		7/19/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	909	1970	909	1970	909	1970
CEM Response value C_m (ppm)	912	1993	918	1995	919	1996
Accuracy A (% or ppm)	.33%	1.16%	.99%	1.26%	1.10%	1.31%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

COMPLIANCE CLASS

Dual-Analyzer Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 450145242
Document # : 42309115-003

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM045898
Cylinder Pressure***: 1970 PSIG

Certification Date: 18Jul2011

Exp. Date: 17Jul2014
Batch No: LAP0044990

COMPONENT	CERTIFIED CONCENTRATION (Molar)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	909	PPM	+/- 2%	NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	01Jun2016	KAL003078	975.0 PPM	SULFUR DIOXIDE

INSTRUMENTATION INSTRUMENT/MODEL/SERIAL#	LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F, CGA 660 RDIAQRTY005

APPROVED BY: GARY WRIGHT

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott™

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document # : 42303115-004

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION **Gas Type : SO2**

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

Cylinder Number: ALM058443 **Certification Date:** 19Jul2011 **Exp. Date:** 18Jul2014
Cylinder Pressure*:** 1963 PSIG **Batch No:** LAP0045081

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	1,970	PPM	+/- 2%	NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 1664	02Oct2011	ALM043439	2402.	PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#:	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F CGA 660 RDIAQRTY006
PO# 4501452424 ITEM 150

APPROVED BY: GARY WRIGHT

AY/AI/EN 110000460901

Rhodia

A Member of the Solvay Group
Houston Plant

RECEIVE

FEB - 4 2013

Air/Toxics & Inspection
Coordination Branch
6EN-A

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7011 2000 0001 4575 3266)

January 14, 2013

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the July 1 to December 31, 2012 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager
Rhodia Inc., Member of the Solvay Group

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Bob Allen, Director, Harris County Pollution Control
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

NSPS Excess Emissions Report
July 1 – December 31, 2012

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	January 1 – June 30, 2012
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	December 15, 2012
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
July 1 – December 31, 2012

Emission data summary – Long-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
July 1 – December 31, 2012

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	40.3 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	101.3 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	141.6 hours [(1)]
3. Total CEMS Downtime as percent of total source operating time	3.21 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	40.3 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	101.3 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	141.6 hours [(1)]
3. Total CEMS Downtime as percent of total source operating time	3.21 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
July 1 – December 31, 2012

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	3Q12	CGA	No	Report enclosed	No
	4Q12	CGA	No	Report enclosed	No
Stack O_2, %	3Q12	CGA	No	Report enclosed	No
	4Q12	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

William J McConnell
Signature

___Plant Manager_____
Title
Rhodia Inc., Member of the Solvay Group

1/14/2013
Date

Solvay
Houston Plant
8615 Manchester Street
Houston, TX 77012

Rhodia

Eco Services - Houston

High

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 8/21/12 Time: 10:00am Technician: Rudy Barraza

Serial Number: VE-920-8700-2 Signature: [signature]

Cylinder ID number	ALM045898		ALM058443			
Date of Certification	19 JUL 2011		19 JUL 2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA		EPA			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	909	1970	909	1970	909	1970
CEM Response value C_m (ppm)	907	1976	906	1977	908	1977
Accuracy A (% or ppm)	-.220%	.304%	-.330%	.355%	-.110%	.355%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

COMPLIANCE CLASS
Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document # : 42303115-003

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM045898
Cylinder Pressure***: 1970 PSIG
Certification Date: 18Jul2011
Exp. Date: 17Jul2014
Batch No: LAP0044990

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	909 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	01Jun2016	KAL003078	975.0 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F, CGA 660 RDIAORTY005

APPROVED BY: GARY WRIGHT

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document #: 42303115-004

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM058443 **Certification Date:** 19Jul2011 **Exp. Date:** 18Jul2014
Cylinder Pressure*:** 1963 PSIG **Batch No:** LAP0045081

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	1,970 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM043439	2402. PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F CGA 660 RDIAQRTY006
PO# 4501452424 ITEM 150

APPROVED BY: GARY WRIGHT

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 8/24/12 Time: 1000A Technician: Rudy Barraza

Serial Number: VE-920-8700-2 Signature: [signature]

Cylinder ID number	ALM002590		ALM036115			
Date of Certification	20 May 2011		20 May 2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA		EPA			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.09	15.3	5.09	15.3	5.09	15.3
CEM Response value C_m (ppm)	4.87	14.9	4.89	14.9	4.90	14.9
Accuracy A (% or ppm)	-4.322%	-2.614%	-3.929%	-2.614%	-3.732%	-2.614

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Rhodia

Eco Services - Houston

M.d

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 8/21/12 Time: 10:00A Technician: Rudy Barraza
Serial Number: VE-920-8700-2 Signature: [signature]

Cylinder ID number	ALM002590		ALM036115			
Date of Certification	20 MAY 2011		20 MAY 2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA		EPA			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	125	274	125	274	125	274
CEM Response value C_m (ppm)	123	276	123	275	124	276
Accuracy A (% or ppm)	-1.6%	.729%	-1.6%	.364%	.8%	.729%

where $A = \frac{(C_m - C_a)}{C_a} X 100$

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1936 PSIG **Batch No:** LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis

Date: 13May2011 Response Unit: PPM
Z1=0.01023 R1=253.7089 T1=123.9645
R2=253.7350 Z2=0.07108 T2=124.0038
Z3=0.09222 T3=124.1083 R3=253.8609
Avg. Concentration: 124.8 PPM

Second Triad Analysis

Date: 20May2011 Response Unit: PPM
Z1=0.00195 R1=253.7032 T1=123.9691
R2=253.8925 Z2=0.10441 T2=124.0436
Z3=0.12747 T3=124.0462 R3=254.0720
Avg. Concentration: 124.8 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99985E-1
Constants: A=0.00000E+0
B=9.94451E-1 C=0.00000E+0
D=0.00000E+0 E=0.00000E+0

OXYGEN

First Triad Analysis

Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.20370
R2=0.94000 Z2=0.00000 T2=0.20400
Z3=0.00000 T3=0.20400 R3=0.94000
Avg. Concentration: 5.093 %

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768607 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-006

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM036115 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1934 PSIG **Batch No:** LAP0041227

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	274	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	15.3	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis **Second Triad Analysis** **Calibration Curve**

SULFUR DIOXIDE *

Date: 13May2011 Response Unit: PPM
Z1=-0.06656 R1=256.6585 T1=275.1549
R2=256.8202 Z2=0.11493 T2=275.4641
Z3=0.15836 T3=275.6497 R3=256.8364
Avg. Concentration: 274.1 PPM

Date: 20May2011 Response Unit: PPM
Z1=-0.32212 R1=255.5447 T1=274.2461
R2=255.6349 Z2=0.15853 T2=274.5593
Z3=0.33653 T3=274.7581 R3=256.5102
Avg. Concentration: 274.1 PPM

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99998E-1
Constants: A=0.00000E+0
B=9.99951E-1 C=3.00000E-6
D=0.00000E+0 E=0.00000E+0

OXYGEN

Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.61100
R2=0.94000 Z2=0.00000 T2=0.61140
Z3=0.00000 T3=0.61140 R3=0.94000
Avg. Concentration: 15.27 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768807 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer

Unit Number (Circle One): 2 8

Date: 12/15/12 Time: 7:40 am Technician: Enrique Nieto / Rudy Barraza

Serial Number: VE- 920-8700-2 Signature:

Cylinder ID number	ALM002590		ALM036115			
Date of Certification	20 may 2011		20 may 2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA		EPA		EPA	
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	125	274	125	274	125	274
CEM Response value C_m (ppm)	125	279	124	278	124	279
Accuracy A (% or ppm)	0.000%	-1.792%	0.806%	-1.439%	0.806%	-1.792%

where $A = \frac{(C_m - C_a)}{C_a} X 100$

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 12/15/12 Time: 7:40 am Technician: Enrique Nieto / Rudy Barraza
Serial Number: VE-920-8700-2 Signature:

Cylinder ID number	ALM002590		ALM036115			
Date of Certification	20 May 2011		20 May 2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA		EPA		EPA	
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.09	15.3	5.09	15.3	5.09	15.3
CEM Response value C_m (ppm)	4.87	14.5	4.88	14.5	4.87	14.5
Accuracy A (% or ppm)	4.517%	5.517%	4.303%	5.517%	4.517%	5.517%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590 Certification Date: 20May2011 Exp. Date: 20May2013
Cylinder Pressure***: 1936 PSIG Batch No: LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis | Second Triad Analysis | Calibration Curve

SULFUR DIOXIDE *

First Triad Analysis:
Date: 13May2011 Response Unit: PPM
Z1=0.01023 R1=253.7089 T1=123.9645
R2=253.7350 Z2=0.07108 T2=124.0038
Z3=0.09222 T3=124.1083 R3=253.8609
Avg. Concentration: 124.8 PPM

Second Triad Analysis:
Date: 20May2011 Response Unit: PPM
Z1=0.00195 R1=253.7032 T1=123.9691
R2=253.8925 Z2=0.10441 T2=124.0436
Z3=0.12747 T3=124.0462 R3=254.0720
Avg. Concentration: 124.8 PPM

Calibration Curve:
Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99985E-1
Constants: A=0.00000E+0
B=9.94451E-1 C=0.00000E+0
D=0.00000E+0 E=0.00000E+0

OXYGEN

First Triad Analysis:
Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.20370
R2=0.94000 Z2=0.00000 T2=0.20400
Z3=0.00000 T3=0.20400 R3=0.94000
Avg. Concentration: 5.093 %

Calibration Curve:
Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768607 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramien JR

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011
AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB

8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590 **Certification Date:** 20May2011 **Exp. Date:** 20May2013
Cylinder Pressure*:** 1936 PSIG **Batch No:** LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis
Date: 13May2011 Response Unit: PPM
Z1=0.01023 R1=253.7089 T1=123.9645
R2=253.7350 Z2=0.07108 T2=124.0038
Z3=0.09222 T3=124.1083 R3=253.8609
Avg. Concentration: 124.8 PPM

Second Triad Analysis
Date: 20May2011 Response Unit: PPM
Z1=0.00195 R1=253.7032 T1=123.9691
R2=253.8925 Z2=0.10441 T2=124.0436
Z3=0.12747 T3=124.0462 R3=254.0720
Avg. Concentration: 124.8 PPM

Calibration Curve
Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99985E-1
Constants: A=0.00000E+0
B=9.94451E-1 C=0.00000E+0
D=0.00000E+0 E=0.00000E+0

OXYGEN

First Triad Analysis
Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.20370
R2=0.94000 Z2=0.00000 T2=0.20400
Z3=0.00000 T3=0.20400 R3=0.94000
Avg. Concentration: 5.093 %

Calibration Curve
Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768607 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY:
Remien JR

Quarterly Cylinder Gas Audit Checklist

Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 12/15/12 Time: 8:40 am Technician: Enrique Nieto / Rudy Barraza

Serial Number: VE-920-8700-2 Signature:

Cylinder ID number	ALM045898		ALM058443			
Date of Certification	19 July 2011		19 July 2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA		EPA		EPA	
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	909	1970	909	1970	909	1970
CEM Response value C_m (ppm)	916	2008	924	2013	927	2018
Accuracy A (% or ppm)	-0.764%	-1.892%	-1.623%	-2.136%	-1.942%	-2.379%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document #: 42303115-003

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM045898
Cylinder Pressure***: 1970 PSIG
Certification Date: 18Jul2011
Exp. Date: 17Jul2014
Batch No: LAP0044990

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	909 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	01Jun2016	KAL003078	975.0 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F, CGA 660 RDIAQRTY005

APPROVED BY: GARY WRIGHT

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document #: 42303115-004

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM058443 Certification Date: 19Jul2011 Exp. Date: 18Jul2014
Cylinder Pressure***: 1963 PSIG Batch No: LAP0045081

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	1,970 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM043439	2402. PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#:	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F CGA 660 RDIAQRTY006
PO# 4501452424 ITEM 150

APPROVED BY: GARY WRIGHT

AI/AI/EN

11000046090 1
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V.3

Rhodia
Member of the Solvay group

RECEIVE

FEB -4 2013

Air/Toxics & Inspection
Coordination Branch
6EN-A

January 29, 2013

Via FedEx

Chief, Environmental Enforcement Division
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington. DC 20044-7611

David Schnare
U.S. Environmental Protection Agency
Headquarters
Ariel Rios South Building, Rm #2117B
1200 Pennsylvania Avenue, N.W.
Mailcode 2242A
Washington D.C. 20460

Jan Gerro
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6RCEA
Dallas, TX 75202

Himanshu Vyas
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Mailcode 6ENAT
Dallas, TX 75202

Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting documents enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me.

Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:vkd
Enclosure

Bcc: F. Sardo

Jeffrey S. Lang, Senior Counsel, Health, Safety and Environment
Rhodia Inc., CN 7500, Cranbury, NJ 08512-7500; Telephone: (609) 860-3432; Fax: (609) 860-5446
Courier Address: 8 Cedar Brook Drive, Cranbury, NJ 08512 Email: Jeffrey.Lang@Solvay.com

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering July 1 to December 31, 2012
Civil Action No.: 2: 07-CV-134-WCL

1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for #8 Unit. The SO_2 abatement was started up on November 19, 2008.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period. The Houston #8 unit operated below the permitted 1.70 lbs SO_2/ton of acid produced from January 1, 2012 to December 31, 2012.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

   Houston Title V air permit O-03049 was approved on June 28, 2012. Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) Regen #2 and compliance with the Consent Decree SO_2 emission rates for Regen #2 have been included as conditions in the Title V air permit.

   The application to amend air permit 4802 for installation of the SO_2 abatement system in Houston #2 was approved by TCEQ and USEPA on February 10, 2012.

   The Class 2 RCRA permit modification request for permit 50095 to install the SO_2 abatement system in Houston #2 was approved by TCEQ on October 18, 2012.

Operation and Maintenance Work

The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

5. Reports to Agencies

Rhodia has installed a dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

A cylinder gas audit was conducted on August 18, 2012 and on December 15, 2012 on the stack SO_2 and O_2. The CEMS passed these tests.

The plant submitted Excess Emission Reports for SO_2 per 40 CFR 60.7(c)-(d) and Data Assessment Reports for SO_2 CEMS per 40 CFR Part 60, Appendix F for the first and second calendar quarters of 2012 to the US Environmental Protection Agency (USEPA) and TCEQ.

A copy of the semiannual report is attached which includes the results of the cylinder gas audits.

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants for Rhodia Inc. Member of the Solvay Group

Signature: William J. McConnell

Date: 1/14/2013

AI/AI/EN 110000460901

7901
V3

Rhodia

A Member of the Solvay Group
Houston Plant

RECEIVE

CERTIFIED MAIL; RETURN RECEIPT REQUESTED: (7011 2000 0001 4575 0142)

'1 -9 2013

Air/Toxics & Inspection
Coordination Branch
6EN-A

July 3, 2013

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division, MC-163
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Rhodia Inc. (CN600125330)
Houston Plant (RN100220581)
Consent Decree (Civil Action No. 2:07CV134 WL)
Air Permit 19282 and PSD-TX-1081
Excess Emission Report for SO_2 per 40 CFR 60.7(c)-(d)
Data Assessment Report for SO_2 and O_2 CEMs per 40 CFR Part 60, Appendix F

Dear Sir or Madam:

In accordance with the Consent Decree referenced above, the Rhodia Inc. (Rhodia) Houston No. 8 became subject to 40 CFR Part 60 Subpart H, Standards of Performance for Sulfuric Acid Plants on November 19, 2008. Further, the Consent Decree specifies a SO_2 emission standard that is more stringent than Subpart H and also incorporates an EPA-approved Alternative Monitoring Plan (AMP). As such, the semiannual excess emission report required by 40 CFR 60.7(c)-(d) and the semiannual data assessment report (DAR) required by 40 CFR Part 60 Appendix F, Procedure 1, Section 7 will address compliance with respect to the more stringent CD requirements and the AMP. These reports are attached for the January 1 to June 30, 2013 semiannual reporting period.

The relevant SO_2 standards required by the CD and AMP are as follows:

- Per CD paragraph 11.b.i, emissions of SO_2 are not to exceed a long term limit of 1.70 pounds per ton of 100% sulfuric acid produced (averaged over all operating hours in a rolling 365-day period).

- Per CD paragraph 11.b.ii, emissions of SO_2 are not to exceed a short term limit of 3.00 pounds per ton of 100% sulfuric acid produced (averaged over each rolling 3-hour period). This limit does not apply during periods of startup, shutdown, and malfunction.

As discussed in the AMP, Rhodia uses dual analyzers to determine the conversion factor for converting monitoring data (ppm SO_2 and % O_2) into units of the standard (lbs/ton). This exceeds the "three times daily" minimum discussed in 40 CFR 60.84(b).

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

If you have any questions or require additional information, please contact Floyd Dickerson at 713-924-1408.

Sincerely,

William McConnell
Plant Manager

Attachment(s)

cc: Air Section Manager, TCEQ Region 12
Mr. Bob Allen, Director, Harris County Pollution Control
Mr. Arturo Blanco, Bureau Chief of Air Quality Control, Health and Human Services Department, City of Houston
Mr. Huimamshu Vyas, EPA Region 6, 1445 Ross Avenue, Suite 1200, Mailcode 6ENAT, Dallas, TX 75202-2733
EPA Region 6, New Source Review Program, 1445 Ross Avenue, Dallas, TX 75202-2733

NSPS Excess Emissions Report
January 1 – June 30, 2013

General Information:

Pollutant:	Sulfur Dioxide (SO_2)
Reporting period dates:	January 1 – June 30, 2013
Emission Limitation:	3.00 lbs/ton short-term, 1.70 lbs/ton long-term
Address:	8615 Manchester Street, Houston, Texas 77012
Process Unit Description (Source Unit No):	No. 8 Sulfuric Acid Unit
Monitor Manufacturer and Model No (Stack SO2):	Ametek Model 920
Date of Latest CEMS Certification or Audit (Stack):	May 8, 2013
CEMS span values per the AMP (Stack) [1]:	Dual range: Normal: 0 – 500 ppm SO_2 SSM: 0 – 3,600 ppm SO_2

Notes:

[1] Refer to EPA approved Alternative Monitoring Plan for the Houston No. 8 Unit.

NSPS Excess Emissions Report
January 1 – June 30, 2013

Emission data summary – Long-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	0 hours
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

Emission data summary – Short-Term Limit

1. Duration of excess emissions (as defined per CD and AMP) in reporting period due to:	
a. Startup/shutdown	NA – limit does not apply during startup/shutdown
b. Control equipment problems	0 hours
c. Process problems	0 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total duration of excess emission	0 hours
3. Total duration of excess emissions as percent of total source operating time	0%

NSPS Excess Emissions Report
January 1 – June 30, 2013

Stack SO_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	12.7 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.7 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	111.4 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.55 %

Stack O_2 Analyzer

1. CEMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	12.7 hours
b. Non-Monitor equipment malfunctions	0 hours
c. Quality assurance calibration	98.7 hours
d. Other known causes	0 hours
e. Unknown causes	0 hours
2. Total CEMS Downtime	111.4 hours (1)
3. Total CEMS Downtime as percent of total source operating time	2.55 %

(1) The Houston #8 Unit followed procedures specified in an EPA approved Alternative Monitoring Plan (AMP) for CEMS malfunctions. In accordance with the AMP, during CEMS malfunctions lasting more than 24 continuous hours Rhodia generally:

- Conducted sampling with hand held monitors when the stack SO_2 and O_2 CEMS malfunctioned.

NSPS Excess Emissions Report
January 1 – June 30, 2013

Data Assessment Reports (DARs) per 40 CFR Part 60 Appendix F

Analyzer/ Pollutant/Units	Reporting Period	Accuracy Assessment			Any out-of-control periods for Calibration Drift Assessment?
		Type (RATA, CGA, or RAA)	Any Out-of-Control Periods?	Notes	
Stack SO_2, ppm	1Q13	RATA	No	Report enclosed	No
	2Q13	CGA	No	Report enclosed	No
Stack O_2, %	1Q13	RATA	No	Report enclosed	No
	2Q13	CGA	No	Report enclosed	No

Describe any changes since last quarter in CEMS, process or controls:

There have been no changes in the CEMS, process, or controls since the unit was started on November 19, 2008 .

********** Certification Statement for Summary Report per 40 CFR 60.7(d)**********

I certify that the information contained in this report is true, accurate, and complete.

__William McConnell _____
Name of Responsible Official

William J McConnell
Signature

___Plant Manager_____
Title

7/3/2013
Date

Rhodia Inc.
Houston Plant
8615 Manchester Street
Houston, TX 77012

ENTECH ENGINEERING INC.

Texas Registered Engineering Firm F-3986
P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

AirCO/HG-0697-O/RN100220581/RP
April 17, 2013

Mr. Floyd Dickerson
Environmental Manager
Rhodia Inc.
8615 Manchester
Houston, Texas 77012

SUBJECT: **TRANSMITTAL OF ENTECH REPORT NO. ER2013-03-072 ENTITLED "RHODIA INC., HOUSTON PLANT, VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101) OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2) CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) RELATIVE ACCURACY TEST AUDIT (RATA) (REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330; TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)"**

Entech Engineering Inc. conducted a RATA on the Virgin Sulfuric Acid Unit No. 8 (EPN 101) O_2 and SO_2 CEMS on February 25, 2013. The program was performed under Rhodia Inc.'s Purchase Order 4501875779.

Two copies and one CD of the Entech Engineering final report that documents the findings and results of this program are enclosed. Please note that the results presented in this report only relate to the items tested or the samples as received by Entech's lab; further, this report will not be reproduced, without the written approval of the client. Please contact us at our League City, Texas office if you have any questions or comments concerning the findings of this program.

Sincerely,

W. Banks Miller IV
Environmental Scientist

Reviewed by:

Joseph Muir
Principal Environmental Scientist

Approved by:

Edward J. Pasternak
Technical Manager

ENTECH ENGINEERING INC.

Texas Registered Engineering Firm F-3986
P. O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

RHODIA INC.
HOUSTON PLANT
VIRGIN SULFURIC ACID UNIT NO. 8 (EPN 101)
OXYGEN (O_2) AND SULFUR DIOXIDE (SO_2)
CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)
RELATIVE ACCURACY TEST AUDIT (RATA)
(REGULATED ENTITY NO. RN100220581; CUSTOMER REFERENCE NO. CN600125330
TCEQ ACCOUNT ID NO. HG-0697-O; PERMIT NO. 19282)

ENTECH REPORT NO. ER2013-03-072
(PAGE 1 OF 59)

PREPARED BY

ENTECH ENGINEERING INC.
LEAGUE CITY, TEXAS

FEBRUARY 25, 2013

PREPARED FOR

RHODIA INC.
HOUSTON, TEXAS

SAMPLING LOCATION

VIRGIN SULFURIC ACID UNIT NO. 8 STACK (EPN 101)
RHODIA INC.
HOUSTON, HARRIS COUNTY, TEXAS

Table 1.
Rhodia Inc.
Houston Plant
Virgin Sulfuric Acid Unit No. 8 (EPN 101)
Oxygen(O_2) and Sulfur Dioxide (SO_2) CEMS Relative Accuracy Test Audit (RATA)
Regulated Entity No. RN100220581; Customer Reference No. CN600125330
TCEQ Account ID No. HG-0697-O; Permit No. 19282
February 25, 2013

Performance Specification Test Parameters	Continuous Emission Monitoring Systems (CEMS)	
	Oxygen (O_2)	Sulfur Dioxide (SO_2)
RA Test	Passed	Passed
RA Allowed	+/- 1.0% O_2	20% (RM) or 10% (STD)
RA	NA	13.07% (RM)

(RM) - Reference Method
(STD) - Emission Standard or Performance Specification Standard
RA - Relative Accuracy Test
NA - Not Applicable

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 5/8/13 Time: 10:15A Technician: Ruby Barraza

Serial Number: VE-920-8700-2 Signature: [signature]

Cylinder ID number	ALM 045898		ALM 058443			
Date of Certification	7/18/2011		7/19/2011			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	909	1970	909	1970	909	1970
CEM Response value C_m (ppm)	905	1980	911	1984	912	1983
Accuracy A (% or ppm)	.442 %	.508 %	.220%	.711%	.330%	.660%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4601452424
Document # : 42303115-004

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM058443 **Certification Date:** 19Jul2011 **Exp. Date:** 18Jul2014
Cylinder Pressure*:** 1963 PSIG **Batch No:** LAP0045081

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	1,970	PPM	+/- 2%	NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1664	02Oct2011	ALM043439	2402. PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#:	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F CGA 660 RDIAQRTY006
PO# 4601452424 ITEM 150

APPROVED BY: GARY WRIGHT

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501452424
Document #: 42303115-003

Customer
RHODIA INC. STOREROOM

ATTN PAUL BARNETT
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION Gas Type : SO2

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

Cylinder Number: ALM045898 **Certification Date:** 18Jul2011 **Exp. Date:** 17Jul2014
Cylinder Pressure*:** 1970 PSIG **Batch No:** LAP0044990

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	909	PPM	+/- 2%	NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1662	01Jun2016	KAL003078	975.0 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	08Jul2011	FTIR

Special Notes: DEW POINT 40 F, CGA 660 RDIAQRTY005

APPROVED BY: GARY WRIGHT

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 5/8/13 Time: 9:25A Technician: Rudy Barraza

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM036115		ALM002590			
Date of Certification	5/20/11		5/20/11			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	125	274	125	274	125	274
CEM Response value C_m (ppm)	127	278	123	276	123	275
Accuracy A (% or ppm)	1.600%	1.460%	-1.600%	.730%	-1.600%	.365%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

Quarterly Cylinder Gas Audit Checklist
Stack SO_2 Analyzer

Unit Number (Circle One): 2 (8)

Date: 5/8/13 Time: 9:25A Technician: Rudy Barraza

Serial Number: VE-920-8700-2 Signature: [illegible]

Cylinder ID number	ALM 036115		ALM 002590			
Date of Certification	5/20/11		5/20/11			
Type of certification (e.g. EPA Protocol 1 or CRM).	EPA Protocol 1		EPA Protocol 1			
	Trial 1		Trial 2		Trial 3	
	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2	Audit Point 1	Audit Point 2
Certified audit value C_a (ppm)	5.09	15.3	5.09	15.3	5.09	15.3
CEM Response value C_m (ppm)	4.84	14.5	4.84	14.5	4.84	14.5
Accuracy A (% or ppm)	-4.912%	-5.229%	-4.912%	-5.229%	-4.912%	-5.229%

where $A = \frac{(C_m - C_a)}{C_a} \times 100$

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011
AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 4501416833
Document # : 41649621-005

Customer
RHODIA INC LAB
8615 MANCHESTER
HOUSTON TX 77012
US

ANALYTICAL INFORMATION

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

Cylinder Number: ALM002590 Certification Date: 20May2011 Exp. Date: 20May2013
Cylinder Pressure***: 1936 PSIG Batch No: LAP0041255

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	125	PPM	+/- 1%	Direct NIST and VSL
OXYGEN	5.09	%	+/- 1%	
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION		COMPONENT
NTRM 0260	15Jan2012	KAL003774	255.5	PPM	SULFUR DIOXIDE
NTRM 2350	01May2013	K026427	23.50	%	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	12May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25Apr2011	PARAMAGNETIC

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *

Date: 13May2011 Response Unit: PPM
Z1=0.01023 R1=253.7089 T1=123.9645
R2=253.7350 Z2=0.07108 T2=124.0038
Z3=0.09222 T3=124.1083 R3=253.8609
Avg. Concentration: 124.8 PPM

OXYGEN

Date: 19May2011 Response Unit: VOLTS
Z1=0.00000 R1=0.94000 T1=0.20370
R2=0.94000 Z2=0.00000 T2=0.20400
Z3=0.00000 T3=0.20400 R3=0.94000
Avg. Concentration: 5.093 %

Second Triad Analysis

Date: 20May2011 Response Unit: PPM
Z1=0.00195 R1=253.7032 T1=123.9691
R2=253.8925 Z2=0.10441 T2=124.0436
Z3=0.12747 T3=124.0462 R3=254.0720
Avg. Concentration: 124.8 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99985E-1
Constants: A=0.00000E+0
B=9.94451E-1 C=0.00000E+0
D=0.00000E+0 E=0.00000E+0

Concentration=A+Bx+Cx2+Dx3+Ex4
r=.9999987
Constants: A=.000249421
B=24.9768607 C=
D= E=

Special Notes: 660 CGA DEW POINT 40 F

APPROVED BY: Ramlen JR

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Air/Toxics & Inspection Coordination Branch 6EN-A

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July 26, 2013

Via FedEx

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Environment and Natural Resources Division
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Washington. DC 20044-7611

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Re: Rhodia Inc. – Consent Decree Semi-Annual Report
***U.S. v. Rhodia*, USDC (N.D. Ind.) Case No. 2: 07-CV-134-WCL**

Ladies and Gentlemen:

In accordance with Section VII of the Consent Decree ("CD") entered in the above-entitled matter, enclosed please find the Semi-Annual Report for Rhodia's Houston, Texas facility. The Report satisfies, together with the other supporting documents enclosed, Rhodia's obligation to report on certain matters under the CD within 30 days after the end of each half calendar year (*see* CD ¶¶ 21-23).

If you have any questions or wish to discuss this submittal, please do not hesitate to contact me.

Thank you.

Sincerely yours,

Jeffrey S. Lang

JSL:vkd
Enclosure

Bcc: F. Sardo

Jeffrey S. Lang, Senior Counsel, Health, Safety and Environment
Rhodia Inc., Member of the Solvay Group
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Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering January 1 to June 30, 2013
Civil Action No.: 2: 07-CV-134-WCL

1. Effective Dates:

   a. Houston #8 – July 1, 2009

   b. Houston #2 – April 1, 2014

2. Status of Construction or Compliance Measures Necessary to Meet Emissions Limits.

   The plant has now completed the construction and implementation of all compliance measures necessary to meet the CD emission limits for #8 Unit. The SO_2 abatement was started up on November 19, 2008.

   Construction has commenced for the Houston #2 SO_2 abatement system. The foundation has been poured, structural steel installed, the scrubber vessel has been set, and pumping and piping installation has commenced.

3. Compliance Issues and Proposed or Implemented Solutions

   (a) Houston #8 Long-Term SO_2 Limit of 1.70 lbs/ton – The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Long-Term Limit during this reporting period. The Houston #8 unit operated below the permitted 1.70 lbs SO_2/ton of acid produced from July 1, 2012 to June 30, 2013.

   (b) Houston #8 Short-term SO_2 limit of 3.00 lbs/ton - The plant continuously monitored SO_2 emissions in accordance with the Consent Decree during the reporting period. At no time did the plant exceed this Short-Term Limit during this reporting period.

   (c) During the reporting period, the plant has not encountered any problems, and does not anticipate encountering any problems, with any of the conditions of the Consent Decree or any applicable permits or any other event affecting the plant's performance under the Consent Decree.

4. Status of Permit Applications

Houston Title V air permit O-03049 was approved on June 28, 2012. Requirements for compliance with 40 CFR Part 60.83(a)(1) (sulfuric acid mist) Regen #2 and compliance with the Consent Decree SO_2 emission rates for Regen #2 have been included as conditions in the Title V air permit. An amendment to the Houston Title V air permit is being prepared to allow for the start-up of the SO_2 abatement system in Houston #2.

The application to amend air permit 4802 for installation of the SO_2 abatement system in Houston #2 was approved by TCEQ and USEPA on February 10, 2012. The permit amendment to the RCRA permit authorizing installation of the SO_2 abatement system in Houston #2 was approved by TCEQ on October 18, 2012.

Operation and Maintenance Work

The plant does not currently have any operation or maintenance work pending as a result of any of the conditions of the Consent Decree.

5. Reports to Agencies

Rhodia has installed a dual range SO_2 and a new O_2 CEMS for the Houston #8 in 2008. The SO_2 and O_2 CEMS monitor and record the 3-hour arithmetic average SO_2 emission rate in units of lbs. SO_2 per ton 100% acid produced.

The CEMS were certified and calibrated, and has been maintained and operated in accordance with the applicable requirements of 40 CFR 60.11, 60.13, Part 60, Appendix B Performance Specification 2, and Par 60 Appendix F Procedure 1.

A relative accuracy test (RATA) was conducted on February 25, 2013 on the stack SO_2 and O_2. A cylinder gas audit was conducted on May 8, 2013 on the stack SO_2 and O_2. The CEMS passed these tests.

The plant submitted Excess Emission Reports for SO_2 per 40 CFR 60.7(c)-(d) and Data Assessment Reports for SO_2 CEMS per 40 CFR Part 60, Appendix F for the first and second calendar quarters of 2013 to the US Environmental Protection Agency (USEPA) and TCEQ.

A copy of the semiannual report is attached which includes the results of the cylinder gas audits.

Rhodia Inc. - Houston #8 and #2 Plants
Consent Decree
Semi-Annual Report for Period Covering January 1 to June 30, 2013
Civil Action No.: 2: 07-CV-134-WCL

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and their attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

Name/Position: William McConnell/Plant Manager of Baytown and Houston Plants

Signature: William J McConnell

Date: 7/9/2013