469500

AI/AI/CO

SOUTHCROSS ENERGY

11005700466 4

1717 Main St.
Dallas, Tx 75201

Brian Caldronia
Environmental Manager

September 4, 2015

Mr. Ron Curry
U.S. Environmental Protection Agency Region 6
Regional Administrator
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Kelly Ruble
Air Section Manager
TCEQ Region 14 Office
6300 Ocean Drive, Unit 5839
Corpus Christi, TX 78412-5839

RECEIVE

SEP 9 2015

Air Toxics & Inspection
Coordination Branch
6EN-A

RE: 40 CFR Part 60 Subpart KKKK Performance Test Submittal
FL Rich Gas Services, LP
Lone Star Processing Facility
RN: 106476377; CN: 603741513
Operating Permit Number: O-3750
Standard Permit Registration Number: 104685

To whom it concerns,

Southcross Energy (Southcross), dba FL Rich Gas Services, LP, operates one 15-MW Titan 130-20501S axial turbine (EPN T-1) at the Lone Star Processing Facility subject to the requirements under 40 CFR Part 60, Subpart KKKK. In accordance with 40 CFR 60.4375(b) and Table 7 Part (F) of the Non-Rule Standard Permit, Southcross is hereby submitting the performance test that was conducted on the turbine on July 8, 2015.

If you have any questions regarding this submittal, please contact me at (214) 979-3753 or brian.caldronia@southcrossenergy.com.

Respectfully,

Brian Caldronia
Environmental Manager

Alliance SOURCE TESTING

TEST REPORT SUMMARY

Client Information / Test Location

FL Rich Gas Service, LP
Lone Star Processing Facility
Bee County, Texas

Source Information

Unit ID:	LS-1
Turbine Make/Model:	Titan 130-20501S
Turbine Serial Number:	LS-1
Turbine Date of Manufacture:	N/A
Turbine Date of Reconstruct:	2/18/05
Turbine Rating:	20,115 HP

Regulatory Applicability

40 CFR 60, Subpart KKKK
Permit By Rule Registration Number 104685

AST Project No.

2015-0328

Run No.	Run 1	Run 2	Run 3	Average
Date	**7/8/15**	**7/8/15**	**7/8/15**	--
Turbine Load, % *	100	100	100	100
Nitrogen Oxides Data				
Concentration, ppmvd @ 15% O_2	7.4	7.8	8.7	8.0
NSPS KKKK Limit, ppmvd @ 15% O_2	--	--	--	42
Percent of Limit, %	--	--	--	**19**

* Performance testing was conducted while the turbine was operating at the highest achievable load at current site conditions.

Alliance
SOURCE TESTING

Source Test Report

FL Rich Gas Service, LP
Lone Star Processing Facility
Unit Number: LS-1

The Alliance Advantage 2 2 2

Test Dates: July 8, 2015

AST Project No. 2015-0328

Facility Information

Site Name	Lone Star Processing Facility
County	Bee

Regulatory Information

Regulated Entity Number	RN106476377
Customer Number	CN603741513
Permit by Rule Registration Number	104685
Test Purpose	Annual
Applicable TCEQ Regulation	--
• *Compliance Requirement*	--
• *Emission Standard*	--
• *Test Methodology*	--
Applicable Federal Regulation	40CFR60, Subpart KKKK
• *Compliance Requirement*	60.4333(b)(1)
• *Emission Standard*	60.4320(a), Table 1
• *Test Methodology*	60.4400

Source Information

Turbine ID	LS-1
Turbine Serial Number	Titan 130-20501S

Contact Information

Test Location

FL Rich Gas Service, LP
Lone Star Processing Facility
Bee County, Texas

Facility Contact
Brian Caldronia
Southcross Energy
1700 Pacific Ave., Suite 2900
Dallas, Texas 75201
O: (214) 979-3753
C: (214) 577-4713
caldronia@southcrossenergy.com

Test Company

Alliance Source Testing, LLC
2122 Anthony Drive
Tyler, TX 75701

Project Manager
Parker Ferebee
parker.ferebee@stacktest.com
(501) 269-4882

Field Team Leader
Trevor Hapsic
trevor.hapsic@stacktest.com
(330) 979-3351

QA/QC Manager
Brandy Hughes
brandy.hughes@stacktest.com
(615) 476-0559

Report Coordinator
Steve Hester
steve.hester@stacktest.com
(256) 260-3978

Alliance Source Testing, LLC (AST) has completed the source testing as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and AST is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Onsite testing was conducted in accordance with approved internal Standard Operating Procedures. Any deviations or test program notes are detailed in the relevant sections on the test report.

This report is only considered valid once an authorized representative of AST has signed in the space provided below; any other version is considered draft. This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

Parker Ferebee, QSTI **Alliance Source Testing, LLC**	08/18/15 Date

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Introduction

1.0 Introduction

Alliance Source Testing, LLC (AST) was retained by FL Rich Gas Service, LP (FL Rich) to conduct compliance emissions testing at the Lone Star Processing Facility (Lone Star) located in Bee County, Texas. Testing was conducted on one (1) turbine to demonstrate compliance with 40 CFR 60, Subpart KKKK.

Compliance testing was conducted to determine the concentration of nitrogen oxides (NOx). Testing consisted of three (3) 30-minute test runs for the source. Performance testing was conducted while the turbine was operating at the highest achievable load at current site conditions. The Test Report Summary (TRS) provides the results from the compliance testing, including the three (3) run average, with comparisons to the applicable limits. Any difference between the summary results listed in the TRS and the detailed results contained in the appendices is due to rounding for presentation.

1.1 Facility and Process Description

The Lone Star Processing Facility is a natural gas gathering station where compressors and related auxiliary equipment are used for the agglomeration of natural gas in the production region.

1.2 Project Team

Personnel involved in this project are identified in the following table.

Table 1-1
Project Team

Facility Personnel	Mark Simpson – FL Rich Matt Hons – FL Rich Eddy Selinas – FL Rich
AST Personnel	Trevor Hapsic

The instruments used to conduct the compliance testing are summarized in the following table.

Table 1-2
Instrument Information

Pollutant	Manufacturer	Model	Serial Number(s)
O_2	California Analytical	ZRE	A1M5425T
NOx			

Testing Methodology

2.0 Testing Methodology

The emissions testing program was conducted in accordance with the U.S. EPA Reference Test Methods listed in Table 2-1. Method descriptions are provided below while quality assurance/quality control data is provided in Appendix C.

Table 2-1
Source Testing Methodology

Parameter	U.S. EPA Reference Test Methods	Notes/Remarks
Oxygen	3A	Instrumental Analysis
Nitrogen Oxides	7E	Instrumental Analysis
Gas Dilution System Certification	205	--

2.1 U.S. EPA Reference Test Method 3A – Oxygen

The oxygen concentration was determined in accordance with U.S. EPA Reference Test Method 3A. Data was collected online and reported in one-minute averages. The sampling system consisted of a heated probe, heated Teflon sample line(s), gas conditioning system and oxygen analyzer. The gas conditioning system was a non-contact condenser to remove moisture from the stack gas. The quality control measures are described in Section 2.4.

2.2 U.S. EPA Reference Test Method 7E – Nitrogen Oxides

The concentration of nitrogen oxides was determined in accordance with U.S. EPA Reference Test Method 7E. Data was collected online and reported in one-minute averages. The sampling system consisted of a heated stainless steel probe, heated Teflon sample line(s), gas conditioning system and nitrogen oxides analyzer. The gas conditioning system was a non-contact condenser to remove moisture from the stack gas. The quality control measures are described in Section 2.4.

2.3 U.S. EPA Reference Test Method 205 – Gas Dilution System Certification

A calibration gas dilution system field check was conducted in accordance with U.S. EPA Reference Method 205 by diluting a high concentration Protocol 1 gas with Zero Nitrogen to 5.0%, 10.0%, 50.0% and 80.0 % of the cylinder gas concentration. The flow rate was limited to force the dilution system to perform two dilutions on each flow controller. The four (4) ranges of diluted calibration gases were sent directly to the analyzer, and the analyzer response recorded in an electronic field data sheet. The analyzer response agreed within 2% of the actual diluted gas concentration. A second Protocol 1 calibration gas, with a cylinder concentration within 10% of one of the gas divider settings described above, was introduced directly to the analyzer, and the analyzer response recorded in an electronic field data sheet. The cylinder concentration and the analyzer response agreed within 2%. These steps were repeated three (3) times. Copies of the Method 205 data can be found in the Quality Assurance/Quality Control Appendix.

2.4 Quality Assurance/Quality Control – U.S. EPA Reference Methods 3A and 7E

EPA Protocol 1 Calibration Gases – Cylinder calibration gases used met EPA Protocol 1 (+/- 2%) standards. Copies of all calibration gas certificates can be found in the Quality Assurance/Quality Control Appendix.

Calibration/Bias/Drift – Each instrument was calibrated directly with zero nitrogen, mid-level and high-level (span) gases prior to initiating testing each day and additional calibrations performed as needed. Pretest Bias checks were also performed prior to initiating testing by introducing zero and mid level gases through the sampling system. Posttest Bias and Drift checks were performed after each test run by introducing zero and mid level gases through the sampling system.

An NO_2 – NO converter check was performed on the NOx analyzer prior to initiating and after completing emissions testing. An approximately 50 ppm nitrogen dioxide cylinder gas was introduced directly to the NOx analyzer and the instrument response was recorded on an electronic data sheet. The instrument response was within +/- 10 percent of the cylinder concentration.

Data Collection – A Data Acquisition System with battery backup was used to record the instrument response (analog 0-10 volt signal) in one (1) minute averages. The data was continuously stored as a *.CSV file in Excel format on the hard drive of a desktop computer. At the completion of the emissions testing the data was also saved to disk.

Alliance
SOURCE TESTING

Location: Lonestar Processing Facility
Source: LS-1
Project No.: 15-0328
Run No./Method Run 1 Outlet/ Method 7E

Stack Gas Volumetric Flow Rate (Qs), dscfm

$$Qs = \frac{F_R \times F_{HV} \times F_{Factor} \times \left(\frac{20.9}{20.9 - C_{O_2}}\right)}{1.0E + 06 \times 60}$$

where,

F_R	107,710	= fuel rate, scfh
F_{HV}	1,014	= fuel heating value, Btu/scf
F_{Factor}	8,710	= fuel factor, dscf/MMBtu
C_{O2}	15.5	= oxygen concentration, %
Qs	61,796	= dscfm

Nitrogen Oxides Concentration (C_{NOx}), ppmvd

$$C_{NOx} = (C_{obs} - C_o) \times \left(\frac{C_{MA}}{(C_M - C_o)}\right)$$

where,

C_{obs}	6.7	= average analyzer value during test, ppmvd
C_o	0.2	= average of pretest & posttest zero responses, ppmvd
C_{MA}	10.0	= actual concentration of calibration gas, ppmvd
C_M	9.8	= average of pretest & posttest calibration responses, ppmvd
C_{NOx}	6.7	= NOx concentration, ppmvd

Nitrogen Oxides Concentration @ 15% Oxygen (C_{NOxc15}), ppmvd @ 15% O_2

$$C_{NOxc15} = C_{NOx} \times \frac{20.9 - 15}{20.9 - C_{O2}}$$

where,

C_{NOx}	6.7	= NO_x concentration, ppmvd
C_{O2}	15.5	= O_2 concentration, %
C_{NOxc15}	7.4	= ppmvd @ 15% O_2

Nitrogen Oxides Emission Rate (ER_{NOx}), lb/hr

$$ER_{NOx} = \frac{C_{NOx} \times MW \times Qs \times 60 \times 28.32}{24.04 \times 1.0E + 06 \times 454}$$

where,

C_{NOx}	6.7	= NOx concentration, ppmvd
MW	46.0	= NOx (as NO2) molecular weight, g/g-mole
Qs	61,796	= stack gas volumetric flow rate at standard conditions, dscfm
ER_{NOx}	2.98	= lb/hr

Nitrogen Oxides Emission Factor (EF_{NOx}), g/hp-hr

$$EF_{NOx} = \frac{ER_{NOx} \times 454}{EBW}$$

where,

ER_{NOX}	2.98	= NOx emission rate, lb/hr
EBW	20,115	= engine brake work, HP
EF_{NOX}	0.067	= g/HP-hr

Appendix A

Appendix B

Location Lonestar Processing Facility
Source LS-1
Project No. 15-0328

Run Number		Run 1	Run 2	Run 3	Average
Date		7/8/15	7/8/15	7/8/15	--
Start Time		9:11	9:52	10:34	--
Stop Time		9:41	10:22	11:04	--
Turbine Data					
Turbine Manufacturer			Solar Turbine		
Turbine Model			Titan 130-20501S		
Turbine Serial Number			LS-1		
Turbine Date of Manufacture	DOM		2/18/05		
Turbine Output, Hz	ES	60	60	60	60
Turbine Output, KW	SP	8,015	8,015	8,015	8,015
Amps	DiT	445	445	445	445
Turbine Horsepower, HP		20,115	20,115	20,115	20,115
Maximum Turbine Horsepower, HP		20,115	20,115	20,115	20,115
Turbine Load, %		100	100	100	100
Fuel Heating Value, Btu/scf	F_{HV}	1,014	1,014	1,014	1,014
Fuel Factor, dscf/MMBtu	F_{Factor}	8,710	8,710	8,710	8,710
Fuel Rate, scfh	F_R	107,710	107,710	107,710	107,710
Volumetric Flow Rate (M19), dscfm	Qs	61,796	59,647	60,657	60,700
Calculated Data - Outlet					
O2 Concentration, % dry	C_{O2}	15.5	15.3	15.4	15.4
NOx Concentration, ppmvd	C_{NOx}	6.7	7.3	8.1	7.4
NOx Concentration, ppmvd @ 15% O2	C_{NOxc15}	7.4	7.8	8.7	8.0
NOx Emission Factor, g/HP-hr	EF_{NOx}	0.067	0.071	0.079	0.072
NOx Emission Rate, lb/hr	ER_{NOx}	3.0	3.1	3.5	3.2

Alliance SOURCE TESTING

Run 1 - CEMS Data

Location: Lonestar Processing Facility
Source: LS-1
Project No.: 15-0328
Date: 7/8/15

Time	O_2 - Outlet	NOx - Outlet
Unit	% dry	ppmvd
Status	Valid	Valid
9:11	15.0	9.7
9:12	14.9	6.4
9:13	14.8	6.9
9:14	14.9	6.7
9:15	14.9	7.4
9:16	14.9	6.9
9:17	14.9	6.2
9:18	14.9	7.1
9:19	14.9	7.1
9:20	14.9	7.1
9:21	14.9	7.0
9:22	14.9	7.2
9:23	14.9	6.7
9:24	14.9	5.9
9:25	14.9	6.2
9:26	14.8	6.8
9:27	14.9	6.4
9:28	14.9	6.3
9:29	14.9	6.8
9:30	14.9	6.5
9:31	14.9	6.7
9:32	14.9	6.7
9:33	14.9	6.6
9:34	14.9	6.2
9:35	14.9	6.3
9:36	14.9	6.4
9:37	14.9	6.6
9:38	14.9	5.7
9:39	14.9	5.5
9:40	14.9	5.6

Parameter	O2 - Outlet	NOx - Outlet
Uncorrected Run Average (C_{obs})	14.9	6.7
Cal Gas Concentration (C_{MA})	10.0	10.0
Pretest System Zero Response	0.0	0.2
Posttest System Zero Response	0.3	0.3
Average Zero Response (Co)	0.1	0.2
Pretest System Cal Response	9.7	9.9
Posttest System Cal Response	9.5	9.7
Average Cal Response (C_M)	9.6	9.8
Corrected Run Average (Corr)	15.5	6.7

Alliance SOURCE TESTING

Run 2 - CEMS Data

Location: Lonestar Processing Facility
Source: LS-1
Project No.: 15-0328
Date: 7/8/15

Time	O2 - Outlet	NOx - Outlet
Unit	% dry	ppmvd
Status	Valid	Valid
9:52	14.8	6.2
9:53	14.8	6.1
9:54	14.9	6.1
9:55	14.9	5.5
9:56	14.9	5.0
9:57	14.9	5.4
9:58	14.9	5.1
9:59	14.9	4.8
10:00	14.9	5.5
10:01	14.9	6.2
10:02	14.9	8.2
10:03	14.9	8.1
10:04	14.9	7.4
10:05	14.9	7.2
10:06	14.9	7.3
10:07	14.9	7.4
10:08	14.9	7.5
10:09	14.9	6.8
10:10	14.9	7.9
10:11	14.9	8.1
10:12	14.9	7.6
10:13	14.9	7.4
10:14	14.9	8.2
10:15	14.9	9.2
10:16	14.9	8.6
10:17	14.9	8.6
10:18	14.9	8.1
10:19	14.9	8.4
10:20	14.9	8.3
10:21	14.9	8.2

Parameter	O2 - Outlet	NOx - Outlet
Uncorrected Run Average (C_{obs})	14.9	7.2
Cal Gas Concentration (C_{MA})	10.0	10.0
Pretest System Zero Response	0.3	0.3
Posttest System Zero Response	0.2	0.4
Average Zero Response (Co)	0.2	0.4
Pretest System Cal Response	9.5	9.7
Posttest System Cal Response	10.1	9.6
Average Cal Response (C_M)	9.8	9.7
Corrected Run Average (Corr)	15.3	7.3

Alliance SOURCE TESTING

Run 3 - CEMS Data

Location: Lonestar Processing Facility
Source: LS-1
Project No.: 15-0328
Date: 7/8/15

Time Unit Status	O2 - Outlet % dry Valid	NOx - Outlet ppmvd Valid
10:34	15.0	8.6
10:35	15.0	9.3
10:36	15.1	8.5
10:37	15.2	8.3
10:38	15.2	8.9
10:39	15.1	8.1
10:40	15.2	8.2
10:41	15.2	7.0
10:42	15.2	7.3
10:43	15.1	8.0
10:44	15.1	8.3
10:45	15.2	7.9
10:46	15.2	7.9
10:47	15.2	7.7
10:48	15.2	6.9
10:49	15.2	7.7
10:50	15.2	7.7
10:51	15.1	7.7
10:52	15.2	8.5
10:53	15.2	7.3
10:54	15.1	7.9
10:55	15.2	8.2
10:56	15.2	7.5
10:57	15.2	7.5
10:58	15.1	7.9
10:59	15.2	7.9
11:00	15.1	7.2
11:01	15.2	7.5
11:02	15.2	7.8
11:03	15.2	7.7

Parameter	O2 - Outlet	NOx - Outlet
Uncorrected Run Average (C_{obs})	15.1	7.9
Cal Gas Concentration (C_{MA})	10.0	10.0
Pretest System Zero Response	0.2	0.4
Posttest System Zero Response	0.0	0.1
Average Zero Response (Co)	0.1	0.3
Pretest System Cal Response	10.1	9.6
Posttest System Cal Response	9.6	9.8
Average Cal Response (C_M)	9.8	9.7
Corrected Run Average (Corr)	15.4	8.1

Date	Time	O2	Nox
7/8/2015	8:00	0.03	1.32
7/8/2015	8:01	0.04	0.27
7/8/2015	8:02	0.04	1.2
7/8/2015	8:03	3.25	1.95
7/8/2015	8:04	9.6	1.52
7/8/2015	8:05	0.04	1.3
7/8/2015	8:06	19.85	0.95
7/8/2015	8:07	0.04	2.36
7/8/2015	8:08	0.04	8.66
7/8/2015	8:09	0.05	10.01
7/8/2015	8:10	0.06	16.51
7/8/2015	8:11	0.08	16.6
7/8/2015	8:12	0.09	19.62
7/8/2015	8:13	0.11	16.38
7/8/2015	8:14	0.13	16.48
7/8/2015	8:29	12.9	0.5
7/8/2015	8:30	7.66	0
7/8/2015	8:31	0.02	0.2
7/8/2015	8:32	2.28	0.68
7/8/2015	8:33	9.72	0.66
7/8/2015	8:34	2.07	0.73
7/8/2015	8:35	2.05	0.99
7/8/2015	8:36	1.86	9.88
7/8/2015	8:37	0.87	5.23
7/8/2015	8:38	3.28	0.31
7/8/2015	8:39	3.07	0.5
7/8/2015	9:09	20.41	1.01
7/8/2015	9:10	18.67	3.85
Date	Time	O2	Nox
7/8/2015	9:11	14.97	9.65
7/8/2015	9:12	14.85	6.41
7/8/2015	9:13	14.84	6.86
7/8/2015	9:14	14.85	6.68
7/8/2015	9:15	14.86	7.37
7/8/2015	9:16	14.86	6.88
7/8/2015	9:17	14.86	6.21
7/8/2015	9:18	14.86	7.05
7/8/2015	9:19	14.88	7.11
7/8/2015	9:20	14.89	7.1
7/8/2015	9:21	14.85	6.98
7/8/2015	9:22	14.86	7.18
7/8/2015	9:23	14.86	6.74
7/8/2015	9:24	14.86	5.92
7/8/2015	9:25	14.87	6.19
7/8/2015	9:26	14.84	6.81
7/8/2015	9:27	14.86	6.41
7/8/2015	9:28	14.87	6.33
7/8/2015	9:29	14.87	6.76
7/8/2015	9:30	14.87	6.49
7/8/2015	9:31	14.87	6.72
7/8/2015	9:32	14.87	6.73
7/8/2015	9:33	14.87	6.64
7/8/2015	9:34	14.87	6.16

7/8/2015	9:35	14.86	6.31
7/8/2015	9:36	14.85	6.41
7/8/2015	9:37	14.86	6.61
7/8/2015	9:38	14.87	5.73
7/8/2015	9:39	14.88	5.48
7/8/2015	9:40	14.89	5.64
Date	Time	O2	Nox
7/8/2015	9:41	14.87	5.12
7/8/2015	9:42	14.78	5.57
7/8/2015	9:43	6.79	3.66
7/8/2015	9:44	0.25	0.26
7/8/2015	9:45	2.69	1.12
7/8/2015	9:46	9.51	1.54
7/8/2015	9:47	3.37	1.18
7/8/2015	9:48	8.6	3.06
7/8/2015	9:49	9.3	9.68
7/8/2015	9:50	6.88	16.45
7/8/2015	9:51	13.75	11.19
Date	Time	O2	Nox
7/8/2015	9:52	14.83	6.19
7/8/2015	9:53	14.84	6.11
7/8/2015	9:54	14.88	6.1
7/8/2015	9:55	14.88	5.46
7/8/2015	9:56	14.89	5.04
7/8/2015	9:57	14.88	5.4
7/8/2015	9:58	14.89	5.12
7/8/2015	9:59	14.9	4.76
7/8/2015	10:00	14.9	5.53
7/8/2015	10:01	14.91	6.24
7/8/2015	10:02	14.91	8.2
7/8/2015	10:03	14.92	8.1
7/8/2015	10:04	14.9	7.39
7/8/2015	10:05	14.91	7.23
7/8/2015	10:06	14.9	7.32
7/8/2015	10:07	14.9	7.37
7/8/2015	10:08	14.9	7.54
7/8/2015	10:09	14.89	6.8
7/8/2015	10:10	14.9	7.86
7/8/2015	10:11	14.91	8.09
7/8/2015	10:12	14.92	7.57
7/8/2015	10:13	14.92	7.37
7/8/2015	10:14	14.92	8.24
7/8/2015	10:15	14.93	9.24
7/8/2015	10:16	14.93	8.6
7/8/2015	10:17	14.93	8.6
7/8/2015	10:18	14.92	8.09
7/8/2015	10:19	14.91	8.42
7/8/2015	10:20	14.91	8.3
7/8/2015	10:21	14.93	8.22
Date	Time	O2	Nox
7/8/2015	10:22	14.35	9.12
7/8/2015	10:23	6.56	20.97
7/8/2015	10:24	2.86	2.54
7/8/2015	10:25	0.21	0.44

7/8/2015	10:26	0.1	0.84
7/8/2015	10:27	6.05	0.87
7/8/2015	10:28	9.43	0.74
7/8/2015	10:29	10.07	0.23
7/8/2015	10:30	9.52	7.59
7/8/2015	10:31	0.62	8.62
7/8/2015	10:32	0.67	9.62
7/8/2015	10:33	0.63	9.21
Date	Time	O2	Nox
7/8/2015	10:34	15	8.59
7/8/2015	10:35	15.01	9.27
7/8/2015	10:36	15.11	8.5
7/8/2015	10:37	15.15	8.33
7/8/2015	10:38	15.16	8.92
7/8/2015	10:39	15.14	8.06
7/8/2015	10:40	15.17	8.19
7/8/2015	10:41	15.17	7
7/8/2015	10:42	15.18	7.32
7/8/2015	10:43	15.13	8.04
7/8/2015	10:44	15.14	8.27
7/8/2015	10:45	15.17	7.94
7/8/2015	10:46	15.17	7.89
7/8/2015	10:47	15.16	7.65
7/8/2015	10:48	15.15	6.92
7/8/2015	10:49	15.16	7.74
7/8/2015	10:50	15.15	7.73
7/8/2015	10:51	15.14	7.67
7/8/2015	10:52	15.15	8.46
7/8/2015	10:53	15.15	7.27
7/8/2015	10:54	15.14	7.89
7/8/2015	10:55	15.17	8.16
7/8/2015	10:56	15.16	7.54
7/8/2015	10:57	15.15	7.53
7/8/2015	10:58	15.14	7.91
7/8/2015	10:59	15.16	7.94
7/8/2015	11:00	15.14	7.23
7/8/2015	11:01	15.15	7.52
7/8/2015	11:02	15.16	7.82
7/8/2015	11:03	15.17	7.68
Date	Time	O2	Nox
7/8/2015	11:04	15.12	7.31
7/8/2015	11:05	15.15	7.16
7/8/2015	11:06	0	0.13
7/8/2015	11:07	2.36	8.93
7/8/2015	11:08	9.62	2.74
7/8/2015	11:09	2.66	0.18
7/8/2015	11:10	0.02	6.25
7/8/2015	11:11	0.11	9.84

Appendix C

Alliance
SOURCE TESTING

QA Data

Location Lonestar Processing Facility
Source LS-1
Project No. 15-0328

Parameter	O_2 - Outlet	NOx - Outlet
Make	CAI	CAI
Model	ZRE	ZRE
S/N	A1M5425T	A1M5425T
Operating Range	0% - 25%	0 - 300 ppm
Cylinder ID		
Zero	NA	NA
Low	NA	NA
Mid	EB0041236	EB0058354
High	EB0041236	EB0058354

Alliance
SOURCE TESTING

Calibration Data

Location: Lonestar Processing Facility
Source: LS-1
Project No.: 15-0328
Date: 7/8/15

Parameter	O_2 - Outlet	NOx - Outlet
Expected Average Concentration	10.0	10.0
Span Between		
Low	10.0	10.0
High	50.0	50.0
Desired Span	20.0	20.0
Low Range Gas		
Low	NA	NA
High	NA	NA
Mid Range Gas		
Low	8.0	8.0
High	12.0	12.0
High Range Gas		
Low	NA	NA
High	NA	NA
Actual Concentration (% or ppm)		
Zero	0.0	0.0
Low	NA	NA
Mid	10.0	10.0
High	20.0	20.0
Response Time (seconds)	30.0	30.0
Instrument Response (% or ppm)		
Zero	0.0	0.3
Low	NA	NA
Mid	9.6	10.0
High	19.9	19.6
Performance (% of Span or Cal. Gas Conc.)		
Zero	0.2	1.4
Low	NA	NA
Mid	2.0	0.0
High	0.7	1.9
Status		
Zero	PASS	PASS
Low	NA	NA
Mid	PASS	PASS
High	PASS	PASS

Alliance SOURCE TESTING

Bias/Drift Determinations

Location: Lonestar Processing Facility
Source: LS-1
Project No.: 15-0328

Parameter	O_2 - Outlet	NOx - Outlet
Run 1 Date 7/8/15		
Span Value	20.0	20.0
Instrument Zero Cal Response	0.0	0.3
Instrument Mid Cal Response	9.6	10.0
Pretest System Zero Response	0.0	0.2
Posttest System Zero Response	0.3	0.3
Pretest System Mid Response	9.7	9.9
Posttest System Mid Response	9.5	9.7
Bias (%)		
Pretest Zero	0.1	0.4
Posttest Zero	1.1	0.1
Pretest Span	0.6	0.6
Posttest Span	0.4	1.7
Drift (%)		
Zero	1.2	0.3
Mid	1.1	1.0
Run 2 Date 7/8/15		
Span Value	20.0	20.0
Instrument Zero Cal Response	0.0	0.3
Instrument Mid Cal Response	9.6	10.0
Pretest System Zero Response	0.3	0.3
Posttest System Zero Response	0.2	0.4
Pretest System Mid Response	9.5	9.7
Posttest System Mid Response	10.1	9.6
Bias (%)		
Pretest Zero	1.1	0.1
Posttest Zero	0.9	0.9
Pretest Span	0.4	1.7
Posttest Span	2.4	2.0
Drift (%)		
Zero	0.2	0.9
Mid	2.8	0.3
Run 3 Date 7/8/15		
Span Value	20.0	20.0
Instrument Zero Cal Response	0.0	0.3
Instrument Mid Cal Response	9.6	10.0
Pretest System Zero Response	0.2	0.4
Posttest System Zero Response	0.0	0.1
Pretest System Mid Response	10.1	9.6
Posttest System Mid Response	9.6	9.8
Bias (%)		
Pretest Zero	0.9	0.9
Posttest Zero	0.2	0.7
Pretest Span	2.4	2.0
Posttest Span	0.1	0.9
Drift (%)		
Zero	1.1	1.6
Mid	2.3	1.1

RED BALL
TECHNICAL GAS SERVICES

Assay Laboratory: Red Ball TGS
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0041236	Certification Date:	12/12/2014
Product ID Number:	124240	Expiration Date:	12/10/2022
Cylinder Pressure:	1900 PSIG	MFG Facility:	RBTGS-Shreveport-LA
COA #	EB0041236.20141208-0	Lot Number:	EB0041236.20141208
Customer PO. NO.:		Tracking Number:	065158403
Customer:		Previous Certification Dates:	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G2.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle
Carbon Dioxide	20.2 %	±0.18 %	FTIR
Oxygen	19.91 %	±0.05 %	MPA
Nitrogen	Balance		

Analyitcal Measurement Data Available Online.

Reference Standard(s)

Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
EB0055414.20140228-1(	10/07/2022	GMIS	N2	O2	23.8 %	0.505	071001
GC1106080816	09/04/2021	GMIS	N2	CO2	15.07 %	0.547	3221755.02
SG-9916836	04/15/2016	NTRM	N2	CO2	19.98 %	0.0014	101001

Analytical Instrumentation

Component	Analytical Principle	Make	Model	Serial	MPC Date
O2	MPA	Horiba	VA-3013	H0000P11	12/11/2014 2:53:02 PM
CO2	FTIR	MKS	MKS 2031DJG2EKVS13T	017146467	11/21/2014 10:11:30 AM

LaMeka Dennis

LaMeka Dennis
Analytical Chemist

Red Ball Technical Gas Service
PGVP Vendor ID # G12014
Information and Ordering
800-551-8150
Fax (318-425-6309)

RED BALL
TECHNICAL GAS SERVICES

Assay Laboratory: Red Ball TGS
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0058354	Certification Date:	07/15/2014
Product ID Number:	124043	Expiration Date:	07/13/2022
Cylinder Pressure:	1900 PSIG	MFG Facility:	RBTGS-Shreveport-LA
COA #	EB0058354.20140619-0	Lot Number:	EB0058354.20140619
Customer PO. NO.:		Tracking Number:	074331725
Customer:		Previous Certification Dates:	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G1.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle
Nitric Oxide	50.2 PPM	±0.18 PPM	NDIR
Total Oxides of Nitrogen	50.3 PPM		
Nitrogen	Balance		

Analyitcal Measurement Data Available Online.

Reference Standard(s)

Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
LD131016.152043.2G	11/30/2021	GMIS	N2	NO	540.2 PPM	0.435	2630
LD131028.083331.3-0	03/02/2021	GMIS	N2	NO	90.53 PPM	1.052	121001

Analytical Instrumentation

Component	Analytical Principle	Make	Model	Serial	MPC Date
NO	NDIR	Horiba	VIA-510 NO	F0T01S05	6/3/2014 10:30:48 AM
NO	NDIR	Horiba	VIA-510 NO	F0T01S05	7/7/2014 9:52:52 AM

Red Ball Technical Gas Service
PGVP Vendor ID # G12014
Information and Ordering
800-551-8150
Fax (318-425-6309)

LaMeka Dennis
Analytical Chemist

Alliance SOURCE TESTING

EPA Method 205
Field Calibration of Dilution System

Project No.: 15-0328
Date 7/7/15

Make	CAI
Model	ZRE
S/N	A1M5425T
Environics ID	4698
Component/Balance Gas	Nox/N2
Cylinder Gas ID (Dilution)	EB0042229
Cylinder Gas Concentration (Dilution), ppm	494
Cylinder Gas ID (Mid-Level)	EB0058354
Cylinder Gas Concentration (Mid-Level), ppm	50.2

Total Flow & Mass Flow Controller ID	Dilution System Setting (%)	Predicted Concentration (ppm)	Injection 1 Analyzer Concentration (ppm)	Injection 2 Analyzer Concentration (ppm)	Injection 3 Analyzer Concentration (ppm)	Average Analyzer Concentration (ppm)	Difference (ppm)	Average Error (± 2 %)
5 lpm, MFC's 1 & 2	80.0	395.2	395.0	395.9	395.5	395.43	0.23	0.1%
5 lpm, MFC's 1 & 2	50.0	247.0	250.7	246.6	245.5	247.63	0.63	0.3%
4 lpm, MFC's 1 & 3	10.0	49.4	49.0	48.0	48.9	48.61	-0.79	-1.6%
4 lpm, MFC's 1 & 3	5.0	24.7	24.4	24.6	24.1	24.38	-0.32	-1.3%

Average Analyzer Concentration (ppm)	Injection 1 Error (± 2 %)	Injection 2 Error (± 2 %)	Injection 3 Error (± 2 %)
395.43	-0.1%	0.1%	0.0%
247.63	1.3%	-0.4%	-0.8%
48.61	0.7%	-1.3%	0.6%
24.38	0.1%	1.0%	-1.1%

Mid-Level Supply Gas Calibration Direct to Analyzer

Calibration Gas Concentration (ppm)	Injection 1 Analyzer Concentration (ppm)	Injection 2 Analyzer Concentration (ppm)	Injection 3 Analyzer Concentration (ppm)	Average Analyzer Concentration (ppm)	Difference (ppm)	Average Error (± 2 %)
50.20	49.9	49.6	48.3	49.29	-0.91	-1.8%

RED BALL
TECHNICAL GAS SERVICES

Assay Laboratory: Red Ball TGS
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0042229	Certification Date	07/03/2014
Product ID Number:	124235	Expiration Date:	07/01/2022
Cylinder Pressure:	1900 PSIG	MFG Facility:	RBTGS-Shreveport-LA
COA #	EB0042229.20140613-0	Lot Number:	EB0042229.20140613
Customer PO. NO.:		Tracking Number:	065126750
Customer		Previous Certification Dates:	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531. using procedure G1

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle
Nitric Oxide	494 PPM	±1 PPM	NDIR
Total Oxides of Nitrogen	496 PPM		
Nitrogen	Balance		

Analyitcal Measurement Data Available Online.

Reference Standard(s)

Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
LD131016.152043.2G	11/30/2021	GMIS	N2	NO	540.2 PPM	0.435	2630
LD131013.145622.1-0	11/16/2021	GMIS	N2	NO	1446.2 PPM	0.406	2630

Analytical Instrumentation

Component	Analytical Principle	Make	Model	Serial	MPC Date
NO	NDIR	Horiba	VIA-510 NO	F0T01S05	6/18/2014 10:27:55 AM
NO	NDIR	Horiba	VIA-510 NO	F0T01S05	6/12/2014 10:48:11 AM

Red Ball Technical Gas Service
PGVP Vendor ID # G12014
Information and Ordering
800-551-8150
Fax (318-425-6309)

LaMeka Dennis
Analytical Chemist

Alliance
SOURCE TESTING

Gas Dilution System - Mass Flow Controller Calibration Report

Date: 12/22/2014

Dilution System Make/Model #: Environics 4040
System Serial #: 4698

Mass Flow Controller #: 1
Size, ccm: 10000
Make/Model: Hasting EFC-202-10L
Serial #: 4981200002

Calibration Equipment Make/Model #: Sensidyne Gilibrator 2
Unit Serial #: 501128
Flow Cell Serial #: 1002003-H *2-30 lpm*
Flow Cell Serial #: 0501057-S *0.020 - 6 lpm*
Flow Cell Serial #: 0603007-L *0.001 - 0.250 lpm*

Calibration Gas: Zero Nitrogen
Barometric Pressure, mmHg: 29.6
Ambient Temperature, °F: 66

	Set Flow (cc/min)	True Flow (cc/min)*	% Difference
5%	500.00	482.00	3.6%
10%	1000.00	999.60	0.0%
20%	2000.00	2033.00	1.7%
30%	3000.00	2997.00	0.1%
40%	4000.00	4004.00	0.1%
50%	5000.00	5008.00	0.2%
60%	6000.00	6025.00	0.4%
70%	7000.00	7005.00	0.1%
80%	8000.00	8029.00	0.4%
90%	9000.00	9037.00	0.4%
100%	10000.00	10080.00	0.8%

* Mass flow controller calibration values are used by the dilution system's operating software to improve accuracy. These calibrations are not necessarily indicative of the systems overall performance. Performance is verified by conducting a Method 205 prior to each field use.

Calibrated By: Signature 12/22/2014 Date

Alliance
SOURCE TESTING

Gas Dilution System - Mass Flow Controller Calibration Report

Date: 12/22/2014

Dilution System Make/Model #: Environics 4040
System Serial #: 4698

Mass Flow Controller #: 2
Size, ccm: 5000
Make/Model: Hasting EFC-202-5L
Serial #: 514820001

Calibration Equipment Make/Model #: Sensidyne Gilibrator 2
Unit Serial #: 501128
Flow Cell Serial #: 1002003-H *2-30 lpm*
Flow Cell Serial #: 0501057-S *0.020 - 6 lpm*
Flow Cell Serial #: 0603007-L *0.001 - 0.250 lpm*

Calibration Gas: Zero Nitrogen
Barometric Pressure, mmHg: 29.6
Ambient Temperature, °F: 66

	Set Flow (cc/min)	True Flow (cc/min)*	% Difference
5%	250.00	254.60	1.8%
10%	500.00	503.80	0.8%
20%	1000.00	1003.00	0.3%
30%	1500.00	1489.00	0.7%
40%	2000.00	1985.00	0.7%
50%	2500.00	2479.00	0.8%
60%	3000.00	2990.00	0.3%
70%	3500.00	3474.00	0.7%
80%	4000.00	3977.00	0.6%
90%	4500.00	4524.00	0.5%
100%	5000.00	5084.00	1.7%

* Mass flow controller calibration values are used by the dilution system's operating software to improve accuracy. These calibrations are not necessarily indicative of the systems overall performance. Performance is verified by conducting a Method 205 prior to each field use.

Calibrated By: Signature 12/22/2014 Date

Alliance
SOURCE TESTING

Gas Dilution System - Mass Flow Controller Calibration Report

Date: 12/22/2014

Dilution System Make/Model #: Environics 4040
System Serial #: 4698

Mass Flow Controller #: 3
Size, ccm: 1000
Make/Model: Hasting EFC-202-HL
Serial #: 5107600001

Calibration Equipment Make/Model #: Sensidyne Gilibrator 2
Unit Serial #: 501128
Flow Cell Serial #: 1002003-H *2-30 lpm*
Flow Cell Serial #: 0501057-S *0.020 - 6 lpm*
Flow Cell Serial #: 0603007-L *0.001 - 0.250 lpm*

Calibration Gas: Zero Nitrogen
Barometric Pressure, mmHg: 29.6
Ambient Temperature, °F: 66

	Set Flow (cc/min)	True Flow (cc/min)*	% Difference
5%	50.00	50.75	1.5%
10%	100.00	104.20	4.2%
20%	200.00	208.50	4.3%
30%	300.00	311.60	3.9%
40%	400.00	411.21	2.8%
50%	500.00	515.70	3.1%
60%	600.00	617.40	2.9%
70%	700.00	712.80	1.8%
80%	800.00	820.60	2.6%
90%	900.00	922.60	2.5%
100%	1000.00	1029.00	2.9%

* Mass flow controller calibration values are used by the dilution system's operating software to improve accuracy. These calibrations are not necessarily indicative of the systems overall performance. Performance is verified by conducting a Method 205 prior to each field use.

Calibrated By: Signature 12/22/2014 Date

Alliance
SOURCE TESTING

NOx Converter Efficiency Check

Location: Lonestar Processing Facility
Project No.: 15-0328

NO_2 Converter Check - #1					
Analyzer Make	CAI	**Pre-Test Date**	7/7/15	**Time**	17:03
Analyzer Model	ZRE	**Pre-Test Concentration, ppm**			47.26
Serial Number	A1M5425T	**Pre-Test Efficiency, %**			95
Cylinder ID Number	EB0021982	**Post-Test Date**	7/8/15	**Time**	11:13
Cylinder Exp. Date	4/9/19	**Post-Test Concentration, ppm**			48.22
Cylinder Concentration, ppm	49.6	**Post-Test Efficiency, %**			97

**Required Efficiency is ≥ 90 %.*

RED BALL TECHNICAL GAS SERVICES

Assay Laboratory: Red Ball TGS
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150

CERTIFICATE OF ANALYSIS
EPA PROTOCOL GAS

Cylinder Number:	EB0021982	Certification Date:	04/10/2013
Product ID Number:	124642	Expiration Date:	04/09/2019
Cylinder Pressure:	1900 PSIG	MFG Facility:	RBTGS-Shreveport-LA
COA Number:	GC1303290922-0	Lot Number:	GC1303290922
Customer PO. NO.:		Tracking Number:	48442475
Customer		Previous Certification Dates:	

This calibration standard has been certified per the 1997 EPA Traceability Protocol, Document EPA-600/97/121, using procedure G1. All values so noted are certified to be +/-1% NIST Traceable.

Do Not Use This Cylinder Below 150 psig (1.0 Megapascal).

Certified Concentration(s)

Component	Concentration	Analytical Principle	Accuracy
Nitrogen Dioxide	49.6 PPM	FTIR	+/- 1% NIST
Nitrogen	Balance		

Reference Standard(s)

Type	Component	Balance Gas	Concentration	Cylinder Number	Expiration	NIST Reference
SRM	Nitrogen Dioxide	Nitrogen	96.6 PPM	EB0004761		SRM 1684b
SRM	Nitrogen Dioxide	Nitrogen	96.6 PPM	EB0004761		SRM 1684b

PPM

Analytical Information

Component		Nitrogen Dioxide	
Analysis Date:		4/3/2013	
Z 0.058	S 89.692	C 46.211	Conc. 49.8 PPM
S 89.725	C 45.925	Z 0.005	Conc. 49.5 PPM
C 46.005	Z 0.012	S 89.526	Conc. 49.6 PPM
Analysis Date:		4/10/2013	
Z 0.004	S 90.067	C 45.677	Conc. 49.2 PPM
S 89.505	C 46.125	Z -0.004	Conc. 49.7 PPM
C 46.369	Z -0.002	S 89.297	Conc. 50.0 PPM

Component			
Analysis Date:			
Z	S	C	Conc.
S	C	Z	Conc.
C	Z	S	Conc.

Z= Zero Gas S= Span Gas C= Candidate Gas

Fred Holt

Fred Holt, CHMM
Quality Control

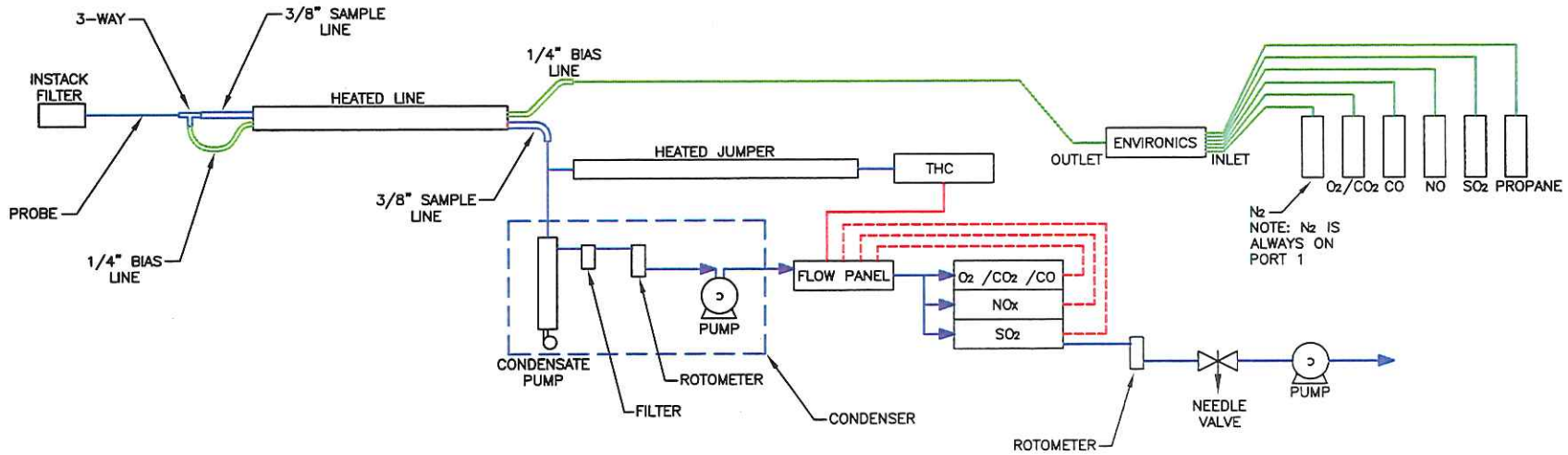
Red Ball Technical Gas Service
PGVP Vendor ID # G12013
Information and Ordering
800-551-8150
Fax (318-425-6309)

		NOx
		4
		0
		3000
		ACTIVE
Date	Time	NOx
7/7/2015	16:28	418.58
7/7/2015	16:29	394.95
7/7/2015	16:30	356.42
7/7/2015	16:31	250.73
7/7/2015	16:32	156.83
7/7/2015	16:33	48.95
7/7/2015	16:34	42.15
7/7/2015	16:35	24.4
7/7/2015	16:36	20.34
7/7/2015	16:37	39.65
7/7/2015	16:38	49.91
7/7/2015	16:39	48.6
7/7/2015	16:40	395.88
7/7/2015	16:41	457.44
7/7/2015	16:42	293.53
7/7/2015	16:43	246.62
7/7/2015	16:44	151.38
7/7/2015	16:45	47.96
7/7/2015	16:46	30.25
7/7/2015	16:47	24.63
7/7/2015	16:48	11.5
7/7/2015	16:49	27.54
7/7/2015	16:50	49.62
7/7/2015	16:51	313.24
7/7/2015	16:52	395.45
7/7/2015	16:53	393.27
7/7/2015	16:54	283.33
7/7/2015	16:55	245.54
7/7/2015	16:56	185.44
7/7/2015	16:57	48.92
7/7/2015	16:58	31.51
7/7/2015	16:59	24.11
7/7/2015	17:00	20.32
7/7/2015	17:01	48.33

Pre Nox Conv		
7/7/2015	17:02	36.52
7/7/2015	17:03	47.26

Post Nox Conv		
7/8/2015	11:13	48.22

Appendix D



COLOR CODE

BLUE – STACK GAS

GREEN– CALIBRATION GAS

RED – INSTRUMENT SIGNAL OUTPUT (0–10V)

NOTES: FLOW PANEL ROTOMETER CHANNEL

1= NOX
2= ANY INSTRUMENT
3= ANY INSTRUMENT
4= ANY INSTRUMENT
5= ANY INSTRUMENT
6= OUTLET (SHOULD ALWAYS BE OPEN)

Appendix E

SOUTHCROSS ENERGY

SouthCross Energy
1700 Pacific Av Ste 2900
Dallas TX 75201
214-979-3700

7/27/2015 9:18 AM
APRIL ALLEN

Chromatograph Report

from Contract Day 07/01/2015 to Contract Day 07/31/2015

Station ID: 1-8097
Analysis ID: EFM-1-3630
Analysis Name: Silver Oak 2 Outlet
Company Name: Southcross Energy

Effective Date	Sat. HV	As Del HV	Dry HV	Meas. HV	Water Content	Wobbe	Real Gravity	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	N2	CO2	O2	H2O	CO	H2S	H2	He
07/01/2015 09:00	0.0	0.0	1013.7	0.0		1341.9	0.5706	97.6099	1.3038	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1848	0.8874	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/02/2015 09:00	0.0	0.0	1014.4	0.0		1343.1	0.5704	97.6384	1.3266	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1600	0.8603	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/03/2015 09:00	0.0	0.0	1014.5	0.0		1344.4	0.5695	97.7634	1.2628	0.0143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1591	0.8003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/04/2015 09:00	0.0	0.0	1013.9	0.0		1344.2	0.5689	97.8984	1.1518	0.0129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1283	0.8086	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/05/2015 09:00	0.0	0.0	1014.4	0.0		1344.0	0.5697	97.7442	1.2687	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1552	0.8182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/06/2015 09:00	0.0	0.0	1014.7	0.0		1344.6	0.5695	97.7549	1.2785	0.0138	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1646	0.7882	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/07/2015 09:00	0.0	0.0	1013.4	0.0		1343.7	0.5688	97.8900	1.1310	0.0134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1761	0.7895	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/08/2015 09:00	0.0	0.0	1013.7	0.0		1344.0	0.5689	97.8684	1.1585	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1740	0.7856	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/09/2015 09:00	0.0	0.0	1013.5	0.0		1343.7	0.5689	97.8812	1.1364	0.0141	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1700	0.7983	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/10/2015 09:00	0.0	0.0	1012.6	0.0		1343.0	0.5685	97.9771	1.0350	0.0132	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1686	0.8060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/11/2015 09:00	0.0	0.0	1012.6	0.0		1341.4	0.5699	97.7533	1.1634	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1988	0.8704	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/12/2015 09:00	0.0	0.0	1012.4	0.0		1341.5	0.5695	97.8303	1.1030	0.0144	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1745	0.8774	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/13/2015 09:00	0.0	0.0	1012.1	0.0		1341.8	0.5689	97.9262	1.0328	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1803	0.8471	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/14/2015 09:00	0.0	0.0	1013.1	0.0		1342.9	0.5691	97.8508	1.1328	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1822	0.8203	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/15/2015 09:00	0.0	0.0	1014.1	0.0		1343.3	0.5699	97.6974	1.2763	0.0153	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1885	0.8226	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/16/2015 09:00	0.0	0.0	1013.4	0.0		1343.6	0.5689	97.8879	1.1304	0.0141	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1704	0.7972	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/17/2015 09:00	0.0	0.0	1014.3	0.0		1344.4	0.5692	97.8222	1.2034	0.0209	0.0010	0.0012	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.1617	0.7894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/18/2015 09:00	0.0	0.0	1013.4	0.0		1343.2	0.5693	97.8242	1.1658	0.0148	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1752	0.8200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/19/2015 09:00	0.0	0.0	1013.2	0.0		1343.1	0.5690	97.8760	1.1176	0.0171	0.0005	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1735	0.8147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/20/2015 09:00	0.0	0.0	1013.0	0.0		1342.4	0.5695	97.8255	1.1442	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1617	0.8547	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/21/2015 09:00	0.0	0.0	1013.7	0.0		1343.2	0.5696	97.7819	1.2059	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1638	0.8342	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/22/2015 09:00	0.0	0.0	1013.2	0.0		1342.2	0.5698	97.7963	1.1680	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1323	0.8896	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/23/2015 09:00	0.0	0.0	1014.5	0.0		1343.4	0.5703	97.6559	1.3223	0.0157	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1540	0.8521	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
07/24/2015 09:00	0.0	0.0	1013.3	0.0		1342.7	0.5695	97.7995	1.1725	0.0153	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1684	0.8442	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Flow Weighted Average:	0.0	0.0	1013.5	0.0			0.5694	97.8065	1.1822	0.0145	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1686	0.8281	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Appendix F

Alliance Source Testing, LLC Contact Info	Facility Name & Contact Info
2212 Anthony Drive Tyler, TX 75701	FL Rich Gas Service, LP (CN603741513) Lone Star Processing Facility (RN106476377)
Project Manager – Parker Ferebee * (501) 269-4882 parker.ferebee@stacktest.com *Assigned at initial project scheduling, subject to change.*	Brian Caldronia Southcross Energy 1700 Pacific Ave., Suite 2900 Dallas, Texas 75201 O: (214) 979-3753 C: (214) 577-4713 caldronia@southcrossenergy.com

Facility Info

Site Name	*County*	*Permit #*	*Turbine ID*	*Model*	*Turbine HP*	*Control*	*S/N*	*DOM*	*Applicability*
Lone Star Processing Facility	Bee	104685	LS-1 (EPN: T-1)	Titan 130-20501S	20,115	Oxidation Catalyst	TBD	Recons. After 2/18/2005	40 CFR 60, Subpart KKKK

Purpose of Testing

Testing will be conducted to determine the emission rate of nitrogen oxides (NOx) at the exhaust of one (1) turbine to demonstrate compliance with the limits listed within 40 CFR 60, Subpart KKKK.

Process & Control System Descriptions

The Lone Star Processing Facility is a natural gas processing station where compressors and related auxiliary equipment are used for the agglomeration and treatment of natural gas in the production region.

Process/Control System Data	Target Operating Rate	Comments
RPM	≥ 90% of Max	
HP		
Suction/Discharge Pressure		
Fuel Consumption Rate		

Test Program Information

Source	*Target Parameter*	*Proposed Test Method*	*Number of Test Runs*	*Test Run Duration*	*Comments*
Turbine	VFR	19	3	30 min	Oxygen, F-Factor, Fuel Flow, Gas Heating Value
	O_2	3A			Instrumental Analysis
	NO_x	7E / 20			Instrumental Analysis

All testing will be conducted in accordance with the most recent revisions of U.S. EPA Reference Test Methods unless otherwise noted. The proposed sampling locations will meet the minimum U.S. EPA Reference Test Method 1 criteria for acceptable measurement sites unless otherwise noted. All testing equipment has been calibrated in accordance with applicable U.S. EPA Reference Test Methods and/or upon suggested manufacturer schedule. All applicable calibration gases meet U.S. EPA Protocol 1 standards unless otherwise noted. Copies of all calibration data will be included in the final report submittal.

Additional Test Program Information

A gas dilution system certification will be conducted prior to testing in accordance with U.S. EPA Reference Test Method 205.

Proposed Test Program Schedule

Source	*Day*	*Date*	*Comment*
Turbine	1	7/8/15	Equipment Setup and Pre-Test QC Checks, Conduct Performance Testing
	2	7/9/15	Contingency Day (if needed)

Plant Entry and Safety Requirements

☐ TVTC Training ☐ Online Training ☒ Facility Specific Onsite Training ☐ Other

☒ Hardhat ☒ Safety Glasses ☒ Steel-toed Boots ☐ Other

On-Site Test Personnel Responsibilities

The Test Team Leader is responsible for all field activities while on site, including safety, set-up of test equipment, communications with customer and agency representatives, coordination with plant operators, performance and oversight of testing, leadership of field personnel and collection and review of field data sheets. Technicians work under the Test Team Leader and perform tasks as directed.

Attachments to Source Testing Protocol Form

None.

Appendix G

CAREER SUMMARY

Mr. Hapsic is a graduate of Youngtown State University with a degree in Chemical Engineering. He has been involved with field testing activities within several different industry types. He has developed skills in several areas of emission testing including mobile laboratory operation and field team leader.

Education
BS, Chemical Engineering, Youngstown State University, Youngstown, Ohio

Experience
4 Months

Joined Firm
2014

CORE SKILLS

- Perform Multiple EPA Reference Test Methods
- Mobile Laboratory Operation
- Meter Box Console Operation
- Field Team Leader

REPRESENTATIVE PROJECTS

Texas Midstream Gas Services, LLC - Texas

Conducted multiple NSPS, Subpart JJJJ and state permit compliance tests on natural gas-fired compressor engines at multiple stations throughout Texas. Responsibilities included mobile laboratory and meter box console operation. Testing parameters included nitrogen oxides, carbon monoxide and non-methane volatile organic compounds. EPA Methods 3A, 7E, 10, 19 and 25A.

U.S. Silica - Louisiana

Conducted compliance and performance specification testing on sources at varying operating conditions to demonstrate compliance with federal and state requirements. Testing involved isokinetic sampling and instrumental analysis including U.S. EPA Reference Test Methods 5 (particulate matter), 3/3A Oxygen/Carbon Dioxide and 4 (Moisture Content).

Enterprise - Louisiana

Conducted and field managed NSPS, Subpart JJJJ and state permit compliance tests on natural gas-fired compressor engines in Louisiana. Responsibilities included project coordination and mobile laboratory and meter box console operation. Testing parameters included nitrogen oxides, carbon monoxide and non-methane volatile organic compounds. EPA Methods 3A, 7E, 10, 19 and 25A.

Training

- BOP Training
- CPR and First Aid
- Safeland

Last Page of Report

11 00 (-4 844 69/ 449500
A1/A1/CO

SOUTHCROSS ENERGY

RECEIVE

1700 Pacific, Suite 2900
Dallas, TX 75201

Matthew Gross
Environmental Specialist

FEB 19 2015
Air Toxics & Inspection
Coordination Branch
6EN-A

February 11, 2015

US EPA Region 6
Regional Administrator
1445 Ross Avenue
Suite 1200
Dallas, Texas 75202

Certified Mail No. 7012 3460 0002 8636 3922
Return Receipt Requested

TCEQ Region 14 Office
Air Section Manager
6300 Ocean Drive, Unit 5839
Corpus Christi, TX 78412-5839

Certified Mail No. 7012 3460 0002 8636 3939
Return Receipt Requested

RE: Initial Startup Notification-40 CFR 60 Subpart KKKK
FL Rich Gas Services, LP – Lone Star Processing Facility
Regulated Entity Number 106476377
Customer Reference Number 603741513
Standard Permit Registration No. 104685

To Whom It May Concern:

FL Rich Gas Services, LP (FL Rich Gas) operates the Lone Star Processing Facility under the above reference registration. On January 28, 2015, FL Rich Gas installed one 15MW Titan Axial Turbine (T-1) at the Lone Star Facility. This submittal serves as the initial startup notification required by 40 CFR 60.7(a)(3) for the operational startup of this turbine.

If you have any questions or require any additional information, please do not hesitate to contact me at (214) 979-3776 or via email at matthew.gross@southcrossenergy.com.

Respectfully,

Matthew Gross
Environmental Specialist

480367

1717 Main St. Suite 5200
Dallas, TX 75201

SOUTHCROSS ENERGY

RECEIVED
US EPA, DALLAS, TX
ASSOCIATE DIRECTOR
17 APR 26 PM 5:14
COMPLIANCE ASSURANCE
& ENFORCEMENT DIV.

Stacy Sanderson
Environmental Specialist

1 10 0649 44691

April 19, 2017

TCEQ Region 14 Office
Air Section Manager
6300 Ocean Drive, Unit 5839
Corpus Christi, TX 78412

Certified Mail #: 7015 3010 0002 1513 8535
Return Receipt Requested

AI / AI / CO

Mr. Ron Curry
EPA, Region 6 Main Office
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Certified Mail #: 7015 3010 0002 1513 8542
Return Receipt Requested

11 0057 0041 6064

TY

Re: Title V Semi-Annual Deviation Report
FL Rich Gas Services, LP (CN603741513)
Lone Star Processing Facility (RN106476377)
Permit No. O3750
Bee County, Texas

To Whom It May Concern:

FL Rich Gas Services, LP respectfully submits the enclosed semi-annual deviation report for the referenced regulated entity for the period of Sepetember 21, 2016 through March 20, 2017. This deviation report includes the following:

1. Form OP-CRO1, Certification by a Responsible Official
2. Form DevRep, Federal Operating Permit Deviation Report Form.

Should you have any questions or concerns, please feel free to contact me at (214) 979-9833 or at stacy.sanderson@southcrossenergy.com.

Sincerely,

Stacy Sanderson

Stacy Sanderson
Environmental Specialist
Southcross Energy

Form OP-CRO1
Certification by Responsible Official
Federal Operating Permit Program

All initial permit application, revision, renewal, and reopening submittals requiring certification must be addressed using this form. Updates to site operating permit (SOP) and temporary operating permit (TOP) applications, other than public notice verification materials, must be certified prior to authorization of public notice or start of public announcement. Updates to general operating permit (GOP) applications must be certified prior to receiving an authorization to operate under a GOP.

I. Identifying Information		
RN: 106476377	CN: 603741513	Account No.: BEA004D
Permit No.: 3750	Project No.: TBA	
Area Name: Lone Star Processing Facility	Company Name: FL Rich Gas Services	

II. Certification Type *(Please mark the appropriate box)*

☒ Responsible Official ☐ Duly Authorized Representative

III. Submittal Type *(Please mark the appropriate box) (Only one response can be accepted per form)*

☐ SOP/TOP Initial Permit Application ☐ Update to Permit Application

☐ GOP Initial Permit Application ☐ Permit Revision, Renewal, or Reopening

☒ Other: Semi-Annual Deviation Report

IV. Certification of Truth

This certification does not extend to information which is designated by the TCEQ as information for reference only.

I, Ben Day *(Certifier Name printed or typed)* certify that I am the RO *(RO or DAR)*

and that, based on information and belief formed after reasonable inquiry, the statements and information dated during the time period or on the specific date(s) below, are true, accurate, and complete:

Note: Enter Either a Time Period OR Specific Date(s) for each certification. This section must be completed. The certification is not valid without documentation date(s).

Time Period: From _____ *Start Date* to _____ *End Date*

Specific Dates: 04/19/2017 *Date 1* _____ *Date 2* _____ *Date 3* _____ *Date 4* _____ *Date 5* _____ *Date 6*

Signature: [signature] Signature Date: 4/19/17

Title: Vice President of Engineering

AIR CO/_____/RP

Texas Commission on Environmental Quality
Federal Operating Permit Deviation Report Form
Form Dev Rep (Part 1)

Permit Holder Name	FL Rich Gas Services					**Customer Number**	**CN603741513**
Area Name	Lone Star Processing Facility					**Account Number**	**BEA004D**
Report Period Start Date	9/21/2017	**Report Period End Date**	3/20/2017	**Operating Permit Number**	**O3750**	**Report Submittal Date**	4/19/2017

Operating Permit Requirement for Which Deviations are Being Reported

ID Number		Term & Condition No.	Pollutant	Regulatory Requirement Citation	Type of Requirement	SOP or GOP Index Number	Monitoring Method	Monitoring Frequency
Unit ID	**Group ID**							
C-1, C-2	C-1, C-2	(b)(2)	NA	40 CFR 60.5420(b)	Reporting	NA	NA	NA

Dev Item No.	STEERS Incident No.	Deviation Period				No. of Dev	Cause of Deviation	Corrective Action Taken to Remedy or Mitigate Deviation Situation
		Start		End				
		Date	Time	Date	Time			
1	NA	03/1/ 2017	23:59	4/20/ 2017	12:00	1	Failure to submit annual NSPS OOOO Report by due date 3/1/2017	The annual report will be submitted on 4/20/2017
					Total Deviations:	1	**Is there a Part 3 Miscellaneous Monitoring/Credible Evidence form supporting this deviation report?**	☐ YES X NO

AIR CO/_____/RP

Texas Commission on Environmental Quality
Federal Operating Permit Deviation Report Form
Form Dev Rep (Part 2)
30 TAC Chapter 101 Non-Reportable Emission Events

Permit Holder Name	FL Rich Gas Services					**Customer Number**	**CN603741513**
Area Name	Lone Star Processing Facility					**Account Number**	**BEA004D**
Report Period Start Date	9/21/2017	**Report Period End Date**	3/20/2017	**Operating Permit Number**	**O3750**	**Report Submittal Date**	4/19/2017

Operating Permit Requirement for Which Deviations are Being Reported

ID Number		Term & Condition No.	Pollutant	Regulatory Requirement Citation	Type of Requirement	SOP or GOP Index Number	Monitoring Method	Monitoring Frequency
Unit ID	Group ID							
FL-1	NA	(b)(43)(b)	PM2.5, PM10	NA	NA	514-04-001	NA	NA

Dev Item No.	Deviation Period				No. of Dev	Cause of Deviation	Corrective Action Taken to Remedy or Mitigate Deviation Situation
	Start		End				
	Date	Time	Date	Time			
1	2/23/2017	15:45	2/23/2017	18:00	1	Power generation shutdown losing power to the Cryo facility	Tower ended relieving to flare. The flare was monitored and isolated
Total Deviations:					1	**Is there a Part 3 Miscellaneous Monitoring/Credible Evidence form supporting this deviation report?**	☐ YES **X** NO

Texas Commission on Environmental Quality
Federal Operating Permit Deviation Report Form
Form Dev Rep (Part 2)
30 TAC Chapter 101 Non-Reportable Emission Events

Permit Holder Name	FL Rich Gas Services					**Customer Number**	**CN603741513**
Area Name	Lone Star Processing Facility					**Account Number**	**BEA004D**
Report Period Start Date	9/21/2017	**Report Period End Date**	3/20/2017	**Operating Permit Number**	**O3750**	**Report Submittal Date**	4/19/2017

Operating Permit Requirement for Which Deviations are Being Reported

ID Number		Term & Condition No.	Pollutant	Regulatory Requirement Citation	Type of Requirement	SOP or GOP Index Number	Monitoring Method	Monitoring Frequency
Unit ID	**Group ID**							
FL-102	NA	(b)(43)(b)	PM2.5, PM10	NA	NA	514-04-001	NA	NA

Dev Item No.	Deviation Period				No. of Dev	Cause of Deviation	Corrective Action Taken to Remedy or Mitigate Deviation Situation
	Start		End				
	Date	Time	Date	Time			
1	12/26/2017	10:47	12/26/2017	10:48	1	Pilot C on FL-102 flame was out. Sent 20 seconds of Flash Gas to flare to relight Pilot VI PCV-400 with a control output of 10%	Relit pilot. Closed PCV-400 to flare
				Total Deviations:		**Is there a Part 3 Miscellaneous Monitoring/Credible Evidence form supporting this deviation report?**	☐ YES **X** NO