Desert View Power, Inc. an affiliate of

Greenleaf POWER

September 23, 2016

DVP-160019

Air Division Director

U.S. Environmental Protection Agency

Attn: AIR-5

75 Hawthorne Street

San Francisco, California 94105-3901

Subject: Desert View Power Inc. 3rd quarter CGA test results 2016

RE: A-3-1

NSR 4-4-11

SE 87-01

CB-OP 99-01

Dear Sir:

In compliance with our permit, enclosed is the 3rd quarter Cylinder Gas Audit (CGA) results for 2016, for Desert View Power Inc. The enclosed CGA was performed on September 06, 2016

.

If you have questions or comments, please feel free to call me at (760)-262-1653.

Sincerely,

James Russell Huffman

Vice-President of CA Operations / Plant Manager

62-300 Gene Welmas Dr | Mecca, CA 92254
(760)396-2554

Desert View Power, Inc. an affiliate of
Greenleaf POWER

rfk/
enclosure

cc: Chief, Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, California 95814

Air Pollution Control Officer
Attn: Mr. David Jones, AQAC Supervisor
SCAQMD File # 100154
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California 91765-4182

Director, Air Management Division
Attn: A-3-3
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105-3901

62-300 Gene Welmas Dr. | Mecca, CA 92254
(760)396-2554

Delta
Air Quality Services, Incorporated

September 13, 2016
R1414221

Mr. Greg Studer
Desert View Power
62-300 Gene Welmas Drive
Mecca, CA 92254-0758

Subject: Quarterly CGA Units 1 and 2

Dear Greg:

This letter presents the results of the Continuous Emission Monitoring System (CEMS) quarterly test audit conducted by Dave Wonderly of Delta Air Quality Services (Delta), an affiliate of Montrose Air Quality Services, LLC (Montrose), on September 6, 2016 Delta was contracted by Desert View Power to perform this audit. The program consists of a Cylinder Gas Audit (CGA) for unit 1 and 2 on the NO_x, CO, SO_2, and O_2 monitors in accordance with 40 CFR Part 60 Appendix F Section 5.1.2.

The CGA comprised of challenging the entire unit CEMS, as close to the tip of the probe as possible, with NBS traceable gases of known concentration. The gases were injected at the probe through previously installed audit ports.

Two audit gases per monitor range were selected according to the requirements of Appendix F. Each monitor was challenged by each of its two gases three separate times. The accuracy was calculated two ways. By the percent difference between the actual known gas concentration and the average value read by the monitor, and the difference in ppm from actual known gas concentration and the average value read by the monitor. Results are shown in the attached tables (Tables 1 and 2).

The results of the CGA demonstrate that the CEMS was operating within the EPA quality assurance specification of either 15% accuracy or 5 ppm difference for all parameters. All data, including gas bottle certifications and monitor response data sheets, are provided as an attachment. If you have any questions or comments, please do not hesitate to call me at 714-279-6777.

Sincerely,

Dave Wonderly
Program Manager

DW/rcr
Attachments

1631 E. St. Andrew Pl • Santa Ana, California 92705 • www.montrose-env.com
Phone (714) 279-6777 • Fax (714) 242-5081

MONTROSE

TABLE 1
CYLINDER GAS AUDIT RESULTS
UNIT 1
DESERT VIEW POWER
SEPTEMBER 6, 2016

Parameter	Accuracy, % of Gas Value	Accuracy Acceptance Criteria	Difference From Gas Value, ppm	Difference Acceptance Criteria	Status*
SO_2 Low Range (mid span)	-3.5%	15%	-0.97	5 ppm	Pass
SO_2 Low range (low span)	-1.7%	15%	-0.20	5 ppm	Pass
NO_x Low range (mid span)	1.3%	15%	0.76	5 ppm	Pass
NO_x Low range(low span)	3.0%	15%	0.75	5 ppm	Pass
CO Low Range (mid span)	-2.8%	15%	-1.58	5 ppm	Pass
CO Low Range (low span)	-7.8%	15%	-1.94	5 ppm	Pass
O_2 (mid span)				N/A	Pass
O_2 (low span)	0.2%	15%	N/A	N/A	Pass
	1.2%	15%	N/A		
SO_2 High Range (mid span)				5 ppm	Pass
SO_2 High Range (low span)	-0.9%	15%	-2.53	5 ppm	Pass
	2.9%	15%	3.64		
NO_x High Range (mid span)				5 ppm	Pass
NO_x High Range (low span)	1.5%	15%	4.02	5 ppm	Pass
	2.4%	15%	2.92		
CO High Range (mid span)				5 ppm	Pass
CO High Range (low span)	-2.2%	15%	-6.12	5 ppm	Pass

* Pass if accuracy less than 15% or within 5 ppm and O_2 accuracy is less than 15%

TABLE 2
CYLINDER GAS AUDIT RESULTS
UNIT 2
DESERT VIEW POWER
SEPTEMBER 6, 2016

Parameter	Accuracy, % of Gas Value	Accuracy Acceptance Criteria	Difference From Gas Value, ppm	Difference Acceptance Criteria	Status*
SO_2 Low Range (mid span)	-11.5%	15%	-3.19	5 ppm	Pass
SO_2 Low range (low span)	-17.4%	15%	-2.12	5 ppm	Pass
NO_x Low range (mid span)	-2.1%	15%	-1.19	5 ppm	Pass
NO_x Low range(low span)	3.6%	15%	0.92	5 ppm	Pass
CO Low Range (mid span)	0.9%	15%	0.49	5 ppm	Pass
CO Low Range (low span)	0.9%	15%	0.22	5 ppm	Pass
O_2 (mid span)				N/A	Pass
O_2 (low span)	0.6%	15%	NA	N/A	Pass
	1.1%	15%	NA		
SO_2 High Range (mid span)				5 ppm	Pass
SO_2 High Range (low span)	-2.1%	15%	-5.86	5 ppm	Pass
	1.3%	15%	1.67		
NO_x High Range (mid span)				5 ppm	Pass
NO_x High Range (low span)	-0.2%	15%	-0.68	5 ppm	Pass
	1.0%	15%	1.24		
CO High Range (mid span)				5 ppm	Pass
CO High Range (low span)	-2.1%	15%	-5.87	5 ppm	Pass

* Pass if accuracy less than 15% or within 5 ppm and O_2 accuracy is less than 15%

CYLINDER GAS AUDIT
WORK SHEET

Client: DESERT VIEW POWER
Location: Mecca

Unit No: 1
Data By: DW

Dat:

Date: 9/6/2016

NORMAL RANGE

	NOx ppm		CO ppm		SO2 ppm		O2 %	
Reference Gas	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2
Concentration	25.3	57.6	25	55.6	12.2	27.8	5.08	9.95
Replicate								
1	25.73	58.51	23.01	54.03	11.34	26.90	5.14	9.97
2	26.12	58.30	23.20	53.96	12.18	26.80	5.15	9.97
3	26.29	58.27	22.96	54.08	12.47	26.78	5.14	9.97
Average	26.05	58.36	23.06	54.02	12.00	26.83	5.14	9.97
Difference, ppm	0.75	0.76	-1.94	-1.58	-0.20	-0.97	n/a	n/a
Accuracy	3.0%	1.3%	-7.8%	-2.8%	-1.7%	-3.5%	1.2%	0.2%

Client: Colmac
Location: Mecca
Date: 9/6/2016

Unit No: 1
Data By: DW

HIGH RANGE

	NOx ppm		CO ppm		SO2 ppm	
Reference Gas	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2
Concentration	124	274	130	274	124	274.0
Replicate						
1	126.44	277.53	124.50	267.39	123.85	269.69
2	126 88	278.13	125.39	268.02	129.50	272.28
3	127.45	278.39	125.66	268.24	129.56	272.44
Average	126.92	278.02	125.18	267.88	127.64	271.47
Difference, ppm	2.92	4.02	-4.82	-6.12	3.64	-2.53
Accuracy	2.4%	1.5%	-3.7%	-2.2%	2.9%	-0 9%

Client: Colmac
Location: Mecca
Date: 9/6/2016

Unit No: 2
Data By: DW

CYLINDER GAS AUDIT
WORK SHEET

NORMAL RANGE

	NOx ppm		CO ppm		SO2 ppm		O2 %	
Reference Gas	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2
Concentration	25.3	57.6	25	55.6	12.2	27.8	5.08	9.95
Replicate								
1	26.11	56.77	25.06	55.99	9.30	24.43	5.13	10.01
2	26.28	55.47	25.45	56.13	10.35	24.56	5.14	10.01
3	26.28	57.00	25.14	56.14	10.59	24.85	5 14	10.01
Average	26.22	56.41	25.22	56.09	10.08	24.61	5.14	10.01
Difference, ppm	0.92	-1.19	0.22	0.49	-2.12	-3.19	n/a	n/a
Accuracy	3.6%	-2.1%	0.9%	0.9%	-17.4%	-11.5%	1.1%	0.6%

Client: Colmac
Location: Mecca
Date: 9/6/2016

Unit No: 2
Data By: DW

HIGH RANGE

	NOx ppm		CO ppm		SO2 ppm	
Reference Gas	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2
Concentration	124	274	130	274	124	274.0
Replicate						
1	124.61	265.75	126.60	259.24	120.65	260.85
2	125.54	276.96	127.13	272.24	126.95	270.80
3	125.58	277.24	127.54	272.91	129.42	272.76
Average	125.24	273.32	127.09	268 13	125.67	268.14
Difference, ppm	1.24	-0.68	-2.91	-5.87	1.67	-5.86
Accuracy	1.0%	-0.2%	-2.2%	-2.1%	1.3%	-2.1%

CYLINDER GAS AUDIT
WORK SHEET

CeDAR 1-Minute Data
'6/2016 8:07 AM thru 9/6/2016 10:06 AM

Timestamp	(Boiler 1) NOx ppm 1-Min	(Boiler 1) SO2 ppm 1-Min	(Boiler 1) CO ppm 1-Min	(Boiler 1) O2% 1-Min	(Boiler 2) NOx ppm 1-Min	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) CO ppm 1-Min	(Boiler 2) O2% 1-Min
9/6/2016 9:02	40.89	8.09	0	8.93	36.57	9.44	0.4	8.26
9/6/2016 9:03	43.38	9.55	0.32	8.74	40.91	10.25	2.08	8.62
9/6/2016 9:04	9.9	3.09	37.18	7.43	8.04	3.07	36.76	7.53
9/6/2016 9:05	0	0.4	23.01	5.14	0	0	25.06	5.13
9/6/2016 9:06	0	0.15	34.97	7.76	0.05	0	35.21	7.76
9/6/2016 9:07	0	0.03	54.03	9.97	0	0	55.99	10.01
9/6/2016 9:08	0	0.05	46.3	8.04	0	0	49.98	8.09
9/6/2016 9:09	0	0.05	23.2	5.15	0	0	25.45	5.14
9/6/2016 9:10	0	0	36.87	8.01	0	0	37.08	8.02
9/6/2016 9:11	0	0	53.96	9.97	0	0	56.13	10.01
9/6/2016 9:12	0	0	39.39	6.99	0	0	43.23	7.03
9/6/2016 9:13	0	0	22.96	5.14	0	0	25.14	5.14
9/6/2016 9:14	0	0	38.68	8.31	0	0	38.84	8.3
9/6/2016 9:15	0	0	54.08	9.97	0	0	56.14	10.01
9/6/2016 9:16	0	3.74	29.96	4.27	0	2.03	34.87	4.3
9/6/2016 9:17	0	10.96	0	0.08	0	8.62	0	0.03
9/6/2016 9:18	0	11.34	0	0.07	0	9.3	0	0.02
9/6/2016 9:19	0	17.56	0	0.14	0	15.14	0	0.11
9/6/2016 9:20	0	26.4	0	0.06	1.02	23.97	0	0.34
9/6/2016 9:21	0	26.9	0	0.06	1.35	24.43	0	0.32
9/6/2016 9:22	0	19.51	0	0.06	0.59	16.94	0	0.1
9/6/2016 9:23	0	12.18	0	0.06	0.01	10.35	0	0.01
9/6/2016 9:24	0	18.03	0	0.06	0.06	15.84	0	0.01
9/6/2016 9:25	0	26.8	0	0.06	0.55	24.56	0	0.15
9/6/2016 9:26	0	21.04	0	0.06	0.42	18.94	0	0.07
9/6/2016 9:27	0	12.47	0	0.05	0.11	10.59	0	0
9/6/2016 9:28	0	17.86	0	0.05	0.1	15.98	0	0
9/6/2016 9:29	0	26.78	0	0.05	0.99	24.85	0	0.19
9/6/2016 9:30	8.9	16.5	0	0.05	11.04	14.57	0	0.09
9/6/2016 9:31	25.73	1.21	0	0.05	26.11	0	0	0
9/6/2016 9:32	36.87	0.57	0	0.05	37.46	0	0	0.16
9/6/2016 9:33	58.51	0.18	0	0.05	56.77	0	0	0.66
9/6/2016 9:34	46.23	0.08	0	0.05	44.52	0	0	0.27
9/6/2016 9:35	26.12	0.06	0	0.04	26.28	0	0	0
9/6/2016 9:36	37.56	0	0	0.04	37.83	0	0	0.21
9/6/2016 9:37	58.3	0	0	0.04	55.47	0	0	2.6
9/6/2016 9:38	46.39	0.03	0	0.04	41.88	0	0	0.55
9/6/2016 9:39	26.29	0.01	0	0.04	26.28	0	0	0
9/6/2016 9:40	37.64	0	0	0.04	38.32	0	0	0.25
9/6/2016 9:41	58.27	0	0	0.04	57	0	0	0.8
9/6/2016 9:42	83.45	53.23	55.81	0.04	83.71	50.23	50.63	0.32
9/6/2016 9:43	125.97	121.36	124.34	0.04	124.29	117.28	126.32	0
9/6/2016 9:44	126.44	123.85	124.5	0.04	124.61	120.65	126.6	0
9/6/2016 9:45	185.88	193.42	192.17	0.05	184.38	187.91	184.11	0.09
9/6/2016 9:46	277.53	269.69	267.39	0.05	265.75	260.85	259.24	0.36
9/6/2016 9:47	221.48	204.81	202.35	0.04	213.05	200.65	210.28	0
9/6/2016 9:48	126.88	129.5	125.39	0.04	125.54	126.95	127.13	0
9/6/2016 9:49	187.21	200.08	194.85	0.05	190.1	197	189.66	0
9/6/2016 9:50	278.13	272.28	268.02	0.05	276.96	270.8	272.24	0
9/6/2016 9:51	219.96	203.46	201.1	0.04	214.25	204.47	211.71	0
9/6/2016 9:52	127.45	129.56	125.66	0.04	125.58	129.42	127.54	0
9/6/2016 9:53	188.86	201.59	195.69	0.04	191.67	200.62	190.87	0
9/6/2016 9:54	278.39	272.44	268.24	0.04	277.24	272.76	272.91	0
9/6/2016 9:55	278.6	274.22	268.67	0.04	277.63	275.06	272.95	0
9/6/2016 9:56	239.34	205.16	202.74	3.15	236.66	217.27	223.36	2.75

Client: DESERT VIEW POWER
Location: Mecca
Date: 9/6/2016

Unit No: Boiler 1&2
Data By: Dave Wonderly

Instrument	NOx ppm Low Range		SO2 ppm Low Range		O2 %		CO ppm Low Range	
Range	100		50		25		100	
Gas Specification	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2
Min	20	50	20	50	4	8	20	50
Max	30	60	30	60	6	12	30	60
Units	% FS	% FS	% FS	% FS	% O2	% O3	% FS	% FS
Gas Requirement	ppm NOx	ppm NOx	ppm SO2	ppm SO2	% O2	% O2	ppm CO	ppm CO
Min	20	50	10	25	4	8	20	50
Max	30	60	15	30	6	12	30	60
Gas Used	25.3	57.6	12.2	27.8	5.06	9.95	25	55.6
% of Range	25%	58%	24%	56%	20%	40%	25%	56%
Status	OK	OK	OK	OK	OK	OK	OK	OK
Cylinder No.	CC358132	CC325587	CC31695	CC99793	SA4726	CC72871	SA4726	CC72871
Ending Pressure	400	800	1400	1400	700	800	700	800
Exp Date	5/10/2016	6/10/2021	6/10/2017	cc99793	6/3/2021	6/5/2021	6/3/2021	6/5/2021

Instrument	NOx ppm High Range		SO2 ppm High Range		CO ppm High Range	
Range	500		500		500	
Gas Specification	Point 1	Point 2	Point 1	Point 2	Point 1	Point 2
Min	20	50	20	50	20	50
Max	30	60	30	60	30	60
Units	% FS	% FS	% FS	% FS	% FS	% FS
Gas Requirement	ppm NOx	ppm NOx	ppm SO2	ppm SO2	ppm CO	ppm CO
Min	100	250	100	250	100	250
Max	150	300	150	300	150	300
Gas Used	124	274	124	274	130	274
% of Range	25%	55%	25%	55%	26%	55%
Status	OK	OK	OK	OK	OK	OK
Cylinder No	CC318251	CC121194	CC318251	CC121194	CC318251	CC121194
Ending Pressure	1500	empty	1500	500	1500	500
Exp Date	6/29/2021	6/13/2021	6/29/2021	6/13/2021	6/29/2021	6/13/2021

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PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel (323) 585-2154 Fax (713) 542-4639
PGVPIC, F22014

DocNumber 000071738

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

PRAXAIR WHSE INDIO CA
64481 CABAZON RD
INDIO CA 92201

Praxair Order Number 26673632
Customer P.O. Number 05125080
Customer Reference Number

Fill Date 9/18/2014
Fill Number EV-[illegible]
Lot Number 1094-[illegible]
Cylinder Size & Type AS CGA 590
Cylinder Volume & Pressure 2050 cuft 1800 PSIG

Certified Concentration:

Expiration Date	9/30/2022	NIST Traceable
Cylinder Number	CC318251	Analytical Uncertainty
130 ppm	CARBON MONOXIDE	± 0.6 %
124 ppm	NITRIC OXIDE	± 0.5 %
124 ppm	SULFUR DIOXIDE	± 0.8 %
Balance	NITROGEN	

NOx = 124 ppm — NOx for Reference Only

Certification Information: Certification Date 9/30/2014 Term 96 Months Expiration Date 9/30/2022
This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG

Analytical Data (Reference Standard, Zero Gas, Co-Gas Calibration)

1. Component CARBON MONOXIDE
   Requested Concentration 125 ppm
   Certified Concentration 130 ppm
   Analytical Method HORIBA VIA-510 NDIR
   Last Multi-point Calibration 9/12/2014

   First Analysis Date 9/22/2014

Z	0	R	148.8	C	130	Conc	130
R	148.8	Z	0	C	130	Conc	130
Z	0	C	130	R	148.8	Conc	130

UOM ppm — Mean Test Assay 130 ppm

   Reference Standard Type GMIS
   Ref Std Cylinder # CC181210
   Ref Std Concentration 149.4 ppm
   Ref Std Traceable to SRM # 1677C
   GMIS Serial # [illegible]
   SRM Cylinder # CC171865

   Second Analysis Date

Z	0	R	0	C	0	Conc	0
R	0	Z	0	C	0	Conc	0
Z	0	C	0	R	0	Conc	0

UOM ppm — Mean Test Assay 0 ppm

2. Component NITRIC OXIDE
   Requested Concentration 125 ppm
   Certified Concentration 124 ppm
   Analytical Method Thermo Electron 42i NO/NO2/NOx
   Last Multi-point Calibration 9/7/2014

   First Analysis Date 9/22/2014

Z	0	R	124.6	C	124.6	Conc	124.6
R	124.6	Z	0	C	124.6	Conc	124.6
Z	0	C	124.6	R	124.6	Conc	124.6

UOM ppm — Mean Test Assay 124.67 ppm

   Reference Standard Type GMIS
   Ref Std Cylinder # SAC0215
   Ref Std Conc 124.4 ppm
   Ref Std Traceable to SRM # 1-2-6
   NIST Serial # 44-7-20
   SRM Cylinder # PF6010

   Second Analysis Date 9/30/2014

Z	0	R	124.5	C	124.5	Conc	124.5
R	124.5	Z	0	C	124	Conc	124
Z	0	C	124.2	R	124.5	Conc	124.2

UOM ppm — Mean Test Assay 124.33 ppm

3. Component SULFUR DIOXIDE
   Requested Concentration 125 ppm
   Certified Concentration 124 ppm
   Analytical Method [illegible]
   Last Multi-point Calibration [illegible]

   First Analysis Date 9/22/2014

Z	0	R	251	C	124	Conc	124
R	251	Z	0	C	124	Conc	124
Z	0	C	251	R	251	Conc	124

UOM ppm — Mean Test Assay 124 ppm

   Reference Standard Type GMIS
   Ref Std Cylinder # CC140811
   Ref Std Conc 251 ppm
   Ref Std Traceable to SRM # 1661g
   NIST Serial # 96-5-13
   SRM Cylinder # FF32507

   Second Analysis Date 9/30/2014

Z	0	R	251	C	124	Conc	124
R	251	Z	0	C	124	Conc	124
Z	0	C	125	R	251	Conc	124

UOM ppm — Mean Test Assay 124.33 ppm

Information contained herein has been prepared at your request by qualified experts using Praxair Specialty Gases, Inc. While we believe the information contained herein is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analysis requested, we make no warranty of merchantability or fitness for any purpose. The information is offered solely for consideration by the recipient of the information at its own discretion. Neither the use of the information nor the fact that it has been offered shall be construed as a recommendation for providing such information.

5700 South Alameda Street
Los Angeles, CA 90058
Tel (323) 585-2154 Fax (714) 542-6689
PGVPID: F22013

DocNumber: 000065561

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE INDIO CA
84481 CABAZON RD
INDIO CA 922010

Praxair Order Number: 24065203
Customer P. O. Number: 04456403
Customer Reference Number:

Fill Date: 6/16/2011
Part Number: EV NPXAC09-AC
Lot Number: 109113600
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure & Volume: 1800 psig 120 cu ft

Certified Concentration:

Expiration Date:		6/29/2021	NIST Traceable
Cylinder Number:		CC121194	Analytical Uncertainty:
274	ppm	CARBON MONOXIDE	± 1 %
274	ppm	NITRIC OXIDE	± 0.5 %
274	ppm	SULFUR DIOXIDE	± 0.9 %
	Balance	NITROGEN	

NOx = 274 ppm NOx for Reference Only

Certification Information: *Certification Date:* 6/29/2013 *Term:* 96 Months *Expiration Date:* 6/29/2021

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Last certified concentration was [CO] = 274 ppm, [NO] = 274 ppm, [SO2] = 274 ppm and [NOx] = 274 ppm on 06/07/2011

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON MONOXIDE

Requested Concentration: 275 ppm
Certified Concentration: 274 ppm
Instrument Used: Horiba VIA-510, S/N 577172043
Analytical Method: NDIR
Last Multipoint Calibration: 6/5/2013

First Analysis Date: Date: 6/29/2013

Z:	0	R:	247.2	C:	274	Conc:	274
R:	247.2	Z:	0	C:	274	Conc:	274
Z:	0	C:	274	R:	247.2	Conc:	274

UOM: ppm Mean Test Assay: 274 ppm

Reference Standard Type: GMIS
Ref Std Cylinder #: CC110115
Ref Std Conc: 247.2 ppm
Ref Std Traceable to SRM #: 2636a
SRM Sample #: 57-9-C
SRM Cylinder #: CLM 004162

Second Analysis Date: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: ppm Mean Test Assay: 0 ppm

2. Component: NITRIC OXIDE

Requested Concentration: 275 ppm
Certified Concentration: 274 ppm
Instrument Used: Thermo Electron 42i S/N 0126024327C
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 6/5/2013

First Analysis Date: Date: 6/29/2013

Z:	0	R:	253	C:	273	Conc:	273
R:	253	Z:	0	C:	273	Conc:	273
Z:	0	C:	273	R:	253	Conc:	273

UOM: ppm Mean Test Assay: 273 ppm

Reference Standard Type: GMIS
Ref Std Cylinder #: CC121759
Ref Std Conc: 253.0 ppm
Ref Std Traceable to SRM #: vs 1609c
SRM Sample #: 43-L-11
SRM Cylinder #: CAL017304

Second Analysis Date: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: ppm Mean Test Assay: 0 ppm

3. Component: SULFUR DIOXIDE

Requested Concentration: 275 ppm
Certified Concentration: 274 ppm
Instrument Used: HORIBA, VIA-510, 56946604
Analytical Method: NDIR11
Last Multipoint Calibration: 6/5/2013

First Analysis Date: Date: 6/29/2013

Z:	0	R:	250	C:	274	Conc:	274
R:	250	Z:	0	C:	274	Conc:	274
Z:	0	C:	274	R:	250	Conc:	274

UOM: ppm Mean Test Assay: 274 ppm

Reference Standard Type: GMIS
Ref Std Cylinder #: CC107920
Ref Std Conc: 250 ppm
Ref Std Traceable to SRM #: vs 1661a
SRM Sample #: 94-H-05
SRM Cylinder #: FF20146

Second Analysis Date: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: ppm Mean Test Assay: 0 ppm

Analyzed by: Nelson Ma

Certified by: Diego Mostanza

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc. arising out of the use of the information contained herein exceed the fees established for providing such information.

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22015

DocNumber: 000079874

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

ner & Order Information:

PRAXAIR WHSE INDIO CA
14481 CABAZON RD
INDIO CA 922010

Praxair Order Number 31160285
Customer P. O. Number. 055183d3
Customer Reference Number

Fill Date: 5/4/2015
Part Number: EV NIS012ME-AS
Lot Number: 109512403
Cylinder Type & Valve: AS CGA 660
Cylinder Pressure & Volume: 2000 psig 140 cu ft

Certified Concentration:

Expiration Date:	5/19/2019		NIST Traceable
Cylinder Number.	CC31695		Analytical Uncertainty:
12.2	ppm	SULFUR DIOXIDE	± 1.1 %
	Balance	NITROGEN	

fication Information: *Certification Date:* 5/19/2015 *Term;* 48 Months *Expiration Date.* 5/19/2019

: cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not this Standard if Pressure is less than 100 PSIG.

lytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

Component SULFUR DIOXIDE

Reference Standard Type GMIS
Ref Std Cylinder # CC35[illegible]
Ref Std Conc 10.02 ppm
Ref Std Traceable to SRM # 1689
SRM Sample # 98 A-26
SRM Cylinder # FF40552

Instrument Used Ametek [illegible] S/N AW-[illegible]
Analytical Method [illegible]
Last Multipoint Calibration 5/[illegible]/2015

First Analysis Data: Date: 5/12/2015

Z:	0	R:	99	C:	121.3	Conc:	12.251
R:	99.2	Z:	0	C:	121.1	Conc:	12.24
Z:	0	C:	121	R:	99.2	Conc:	12.23

UOM: ppm Mean Test Assay: 12.244 ppm

Second Analysis Data Date: 5/19/2015

Z:	0	R:	100.3	C:	120.3	Conc:	12.030
R:	[illegible]	Z:	0	C:	121	Conc:	12.108
Z:	0	C:	120.8	R:	[illegible]	Conc:	12.088

UOM: ppm Mean Test Assay 12.076 ppm

Analyzed by: Nelson M.
Nelson Ma

Certified by: N. Haddad
Nassim Haddad

mation contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical ods employed and is complete to the extent of the specific analysis performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The mation is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the of the information contained herein exceed the fee established for providing such information.

5700 South Alameda Street
Los Angeles, CA 90058
Tel (323) 587-7154 Fax (213) 587-0629
Irvine, CA 92604

DocNumber. 000081865

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE INDIO CA
84481 CABAZON RD
INDIO CA 922010

Praxair Order Number [illegible]
Customer P.O. Number [illegible]
Customer Reference Number

Fill Date [illegible]
Part Number [illegible]
Lot Number [illegible]
Cylinder Size & Outlet [illegible]
Cylinder Pressure & Volume [illegible]

Certified Concentration:

Expiration Date	7/24/2019		NIST Traceable Analytical Uncertainty
Cylinder Number:	CC89793		
27.8	ppm	SULFUR DIOXIDE	1.1 %
	Balance	NITROGEN	

Certification Information: *Certification Date:* 7/24/2015 *Term:* 48 Months *Expiration Date* 7/24/2019

This cylinder was certified according to the 2012 EPA Traceability Protocol Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: *(Re-Reference Standard, Z, Zero Gas, C, Cal. Gas Cylinder)*

Component: SULFUR DIOXIDE

Requested Concentration	27.8 ppm
Certified Concentration	27.8 ppm
Instrument Used	Analyzer 921CL S/N AW-921-C321
Analytical Method	Ultraviolet Absorption
Last Multipoint Calibration	6/25/2015

Reference Standard Type	NIST/EPA
[illegible]	[illegible]
Ref. Std. Conc.	[illegible] ppm
Ref. Std. Traceable to [illegible]	NIST
CRM Cylinder #	[illegible]
NIST Cylinder #	N/A

First Analysis Date: Date: 7/17/2015

Z:	0	R:	409.7	C:	280.9	Conc.	27.821
R:	490.2	Z:	0	C:	280.6	Conc.	27.821
Z:	0	C:	281.1	R:	490	Conc:	27.871

UOM: ppm Mean Test Assay: 27.845 ppm

Second Analysis Date Date: 7/24/2015

Z:	0	R:	[illegible]	C:	[illegible]	Conc:	[illegible]
R:	[illegible]	Z:	0	C:	[illegible]	Conc:	[illegible]
Z:	0	C:	[illegible]	R:	[illegible]	Conc:	[illegible]

UOM: ppm Mean Test Assay: [illegible] ppm

Analyzed by: Nassim Haodad

Certified by: Nelson Ma

formation contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of this information. This information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall [illegible] of the information contained herein exceed the fee established for providing such [illegible]

PRAXAIR

Doc Number

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

PRAXAIR WHSE INTRO CA
8441 CARBON RD
INDIO CA 92201

Certified Concentrations

Expiration Date	6/5/2021		
Cylinder Number	CC72871		Analytical Uncertainty
55.6	ppm	CARBON MONOXIDE	
9.95	%	OXYGEN	
	Balance	NITROGEN	

Certification Information Certification Date 6/5/2019 Term 36 Months Expiration Date

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, Section G1. Do Not Use This Standard if Pressure is less than 100 PSIG

Analytical Data

1 Component CARBON MONOXIDE

First Analysis Data

Mean Test Assay

2 Component OXYGEN

Analysis Data

Mean Test Assay

Second Analysis Data

Mean Test Assay

Analyzed by

Certified by

Harry Ebling

PRAXAIR

Doc Number: 0000[illegible]467

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

PRAXAIR WHSE INDIO CA
84481 CARAZON RD
INDIO CA [illegible]

Certified Concentration:

Expiration Date	6/3/2021	NIST Traceable
Cylinder Number	SA4726	Analytical Uncertainty
25.0 ppm	CARBON MONOXIDE	± [illegible]
5.08 %	OXYGEN	± 1 %
Balance	NITROGEN	

Certification Information Certification Date 6/3/2013 Term 96 Months Expiration Date 6/3/2021

This cylinder was certified according to the 2012 EPA Traceability Protocol Document #EPA-600/R-12/531 using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG

Analytical Data *(Reference Standard [illegible] Gas Candidate)*

1. Component CARBON MONOXIDE

Reference Standard Type: GMIS
Ref Std Expiration: [illegible]
Ref Std Conc: [illegible]
Ref Std Cylinder SRM #: [illegible]
SRM Serial #: [illegible]
SRM Expiration: [illegible]

Reference Concentration: 25 ppm
Standard Uncertainty: [illegible]
Instrument Used: Horiba VIA-510 SN [illegible]
Analytical Method: NDIR
Last Calibration: [illegible]

First Analysis Data						Date 6/3/2013
Z	[illegible]	R	[illegible]	C	[illegible]	Conc [illegible]
R	[illegible]	Z	[illegible]	C	[illegible]	Conc [illegible]
Z	[illegible]	C	[illegible]	R	[illegible]	Conc 25
UOM [illegible]			Mean Test Assay			[illegible] ppm

Second Analysis Data						Date
Z		R		C		Conc
R		Z		C		Conc
Z		C		R		Conc
UOM			Mean Test Assay			

2. Component OXYGEN

Reference Standard Type: GMIS
Ref Std Expiration: [illegible]
Ref Std Conc: [illegible]
Ref Std Cylinder SRM #: [illegible]
SRM Serial #: [illegible]
SRM Expiration: [illegible]

Reference Concentration: 5 %
Standard Uncertainty: [illegible]
Instrument Used: OXYMAT 6
Analytical Method: PARAMAGNETIC
Last Calibration: [illegible]

First Analysis Data						Date [illegible]
Z	[illegible]	R	[illegible]	C	[illegible]	Conc [illegible]
R	[illegible]	Z	[illegible]	C	[illegible]	Conc [illegible]
Z	[illegible]	C	[illegible]	R	[illegible]	Conc 5.08
UOM [illegible]			Mean Test Assay			[illegible] %

Second Analysis Data						Date
Z		R		C		Conc
R		Z		C		Conc
Z		C		R		Conc
UOM			Mean Test Assay			

Analyzed by [illegible]

Certified by [illegible]

[illegible]

PRAXAIR

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Certified Concentration

57.2 ppm	NITRIC OXIDE	
Balance	NITROGEN	

NOx = 57.6 ppm

Expiration Date 8/10/2013 Term 36 Months

This gas was certified according to the 2012 EPA Traceability Protocol Document (EPA-600/R-12/531, May 2012)
Do Not Use the Standard if Pressure is less than 100 PSIG

Nitric Oxide

First Analysis Data Date

Z		P		C		Conc	
R		Z		C		Conc	
Z		C		R		Conc	

Assay Test Assay

Second Analysis Data Date

Z		R		C		Conc	
R		Z		C			
Z		C		R		C	

Year Test Assay

Verified by Nelson Ma

Certified by

ED_013709B_00000028-00016

PRAXAIR

Praxair
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Los Angeles CA 90058
Tel (323) 585-2140 Fax (714) 542-0689
PGVPID: F22015

DocNumber: 000079837

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE INDIO CA
84481 CABAZON RD
INDIO CA 922010

Praxair Order Number: 31160500
Customer P.O. Number: 05518378
Customer Reference Number:

Fill Date: 6/4/2015
Part Number: NI NO23ME-AS
Lot Number: 1U0512417
Cylinder Valve & Outlet: AS CGA 660
Cylinder Pressure & Volume: 2000 psig 140 cu ft

Certified Concentration:

Expiration Date:	5/18/2018		NIST Traceable
Cylinder Number:	CC358132		Analytical Uncertainty.
25.1	ppm	NITRIC OXIDE	± 1 %
	Balance	NITROGEN	

NOx = 25.3 ppm

NOx for Reference Only

Certification Information: *Certification Date:* 5/18/2015 *Term:* 36 Months *Expiration Date:* 5/18/2018

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531 using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG

Analytical Data: (Re-Rel[illegible])

1. Component: NITRIC OXIDE

[illegible]	25 [illegible]
[illegible]	25.1 [illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible] Concentration	[illegible]

Reference Standard Type:	GMIS
Ref. Std Cylinder #:	CC457607
Ref. Std Conc:	25.2 ppm
Ref. Std Traceable to SRM #:	2[illegible]9a
SRM Sample #:	[illegible]-17
SRM Cylinder #:	FF[illegible]

First Analysis Data: Date: [illegible]

Z:		R:	20.2	C:	25.2	Conc:	[illegible]
R:		Z:	0	C:	[illegible]	Conc:	[illegible]
Z:		C:	25.2	R:	20.2	Conc:	[illegible]

UOM: ppm Mean Test Assay: [illegible] ppm

Second Analysis Data: Date: [illegible]

Z:	0	R:	20.2	C:	25.1	Conc:	25.1
R:	20.2	Z:	0	C:	25.1	Conc:	25.1
Z:	0	C:	25.1	R:	20.2	Conc:	25.1

UOM: ppm Mean Test Assay: 25.1 ppm

Analyzed by: Nelson Ma

Certified by: Nassim Haddad

[illegible] qualified experts within Praxair [illegible] Praxair [illegible] shall be liable to any of Praxair [illegible] or assigns of the [illegible] information.