Appendix C.1
General Emissions Calculations

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$MW_{dry} = 0.44 * \% CO_2 + 0.32 * \% O_2 + 0.28 * \% N_2$

$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 - 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$Q = V_s * A_s * 60$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{ppm * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \% O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwb
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft^3/lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

Appendix C.2
Unit 1 Calculations

Appendix C.2.1
Unit 1 Gaseous Calculations

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	1-RA-U1
Date:	3/10/2021
Start Time:	7:46
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	910.8	731.4	179.4
2/H2O	711.1	710.4	0.7
3/Empty	638.4	638.4	0.0
4/S.G.	866.9	857.1	9.8
Rinse		50.0	-50.0
Total			139.9

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	660.100	60	61
		61	62
Stop	698.957	62	64
Total	38.857		61.7

Summary

Sample Volume:	40.153	dscf
H_2O Volume :	6.603	scf
Moisture Content:	14.1	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.10	1.0488	357	73.32
4	0.98	0.9899	358	69.25
3	0.84	0.9165	360	64.19
2	1.00	1.0000	360	70.04
1	0.95	0.9747	358	68.18
5	1.40	1.1832	357	82.72
4	1.20	1.0954	358	76.63
3	0.85	0.9220	359	64.53
2	0.82	0.9055	360	63.42
1	0.80	0.8944	360	62.64
5	0.90	0.9487	357	66.32
4	0.90	0.9487	358	66.36
3	0.94	0.9695	356	67.74
2	0.92	0.9592	357	67.06
1	0.98	0.9899	355	69.12
5	1.00	1.0000	357	69.91
4	1.10	1.0488	358	73.37
3	1.30	1.1402	359	79.81
2	1.00	1.0000	360	70.04
1	1.00	1.0000	358	69.95
5	1.40	1.1832	357	82.72
4	1.20	1.0954	358	76.63
3	1.30	1.1402	359	79.81
2	1.20	1.0954	358	76.63
1	1.00	1.0000	358	69.95
5	1.40	1.1832	357	82.72
4	1.40	1.1832	358	82.77
3	1.30	1.1402	356	79.66
2	1.20	1.0954	358	76.63
1	1.10	1.0488	357	73.32
Average	1.0747	1.0367	357.9	72.51

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	0.01	0.01	0.02	0.01
Pre Test Span Direct	10.87	10.43	41.49	4.61
Pre-test Zero	0.04	0.11	0.06	0.12
Pre-test Span	10.84	10.44	41.21	4.61
0-30 min	9.10	11.60	35.05	0.24
Post Test Zero Direct	0.01	0.03	0.02	0.03
Post Test Span Direct	10.87	10.47	41.46	4.65
Post-test Zero	0.03	0.11	0.04	0.14
Post-test Span	10.84	10.52	41.19	4.64
Average	9.10	11.60	35.05	0.24
Corr. Results	9.04	11.70	35.13	0.12
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.5%	-0.7%	0.2%	0.1%
Pre-Test Zero Bias	0.2%	0.5%	0.1%	1.1%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	0.0%
Post-Test Zero Bias	0.1%	0.4%	0.0%	1.1%
Post-Test Span Bias	-0.2%	0.3%	-0.3%	-0.1%
Zero Drift	-0.1%	0.0%	0.0%	0.2%
Span Drift	0.0%	0.5%	0.0%	0.4%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.040	% dry
	7.764	% wet
CO_2:	11.700	% dry
	10.047	% wet
NO_x:	35.130	ppm dry
	30.169	ppm wet
	23.750	lb/hr
SO_2:	5.9667267	ppm dry
SO2:	5.612	lb/hr
CO:	0.12	ppm dry
	0.10	ppm wet
	0.050	lb/hr
H_2O:	14.1	%
MW:	28.51	lb/lb-mole
Flow:	168,989	wacfm
	94.38	mdscfm
	5662.65	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5662.65	5986.87	-324.21	-5.7%
O_2	% dry	9.04	9.2	-0.12	-1.4%
CO_2	% dry	11.70	11.5	0.16	1.3%
NO_x	ppm dry	35.13	37.1	-1.97	-5.6%
NO_x	ppm @ 3% O_2	53.02	56.1	-3.09	-5.8%
NO_x	lb/hr	23.75	26.66	-2.91	-12.2%
SO_2	ppm dry	5.97	6.21	-0.25	-4.1%
SO_2	ppm @ 3% O_2	9.01	9.40	-0.40	-4.4%
SO_2	lb/hr	5.61	6.198	-0.585	-10.4%
CO	ppm dry	0.12	1.19	-1.07	
CO	ppm @ 3% O_2	0.18	1.82	-1.64	
CO	lb/hr	0.050	0.518	-0.47	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	511.9	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.28	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	2-RA-U1	
Date:	3/10/2021	
Start Time:	9:08	
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	845.9	655.2	190.7
2/H2O	730.0	728.6	1.4
3/Empty	592.9	591.9	1.0
4/S.G.	896.3	881.1	15.2
Rinse		50.0	-50.0
Total			158.3

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	700.100	70	71
		74	76
Stop	743.024	75	78
Total	42.924		74.0

Summary

Sample Volume:	43.332	dscf
H_2O Volume :	7.472	scf
Moisture Content:	14.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.20	1.0954	362	76.92
4	1.00	1.0000	364	70.31
3	0.98	0.9899	365	69.64
2	1.00	1.0000	366	70.39
1	0.96	0.9798	368	69.05
5	1.40	1.1832	368	83.39
4	1.20	1.0954	369	77.25
3	0.92	0.9592	370	67.68
2	0.96	0.9798	368	69.05
1	0.83	0.9110	369	64.25
5	0.94	0.9695	365	68.21
4	0.98	0.9899	369	69.81
3	0.92	0.9592	368	67.60
2	0.93	0.9644	369	68.01
1	1.00	1.0000	368	70.48
5	1.00	1.0000	368	70.48
4	1.10	1.0488	368	73.92
3	1.30	1.1402	369	80.40
2	1.10	1.0488	370	74.01
1	1.20	1.0954	369	77.25
5	1.50	1.2247	368	86.32
4	1.20	1.0954	369	77.25
3	1.30	1.1402	368	80.36
2	1.30	1.1402	369	80.40
1	1.00	1.0000	370	70.56
5	1.40	1.1832	368	83.39
4	1.30	1.1402	369	80.40
3	1.30	1.1402	368	80.36
2	1.20	1.0954	369	77.25
1	1.20	1.0954	368	77.20
Average	1.1141	1.0555	367.9	74.39

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.01	0.03	0.02	0.03
Pre Test Span Direct	10.87	10.47	41.46	4.65
Pre-test Zero	0.03	0.11	0.04	0.14
Pre-test Span	10.84	10.52	41.19	4.64
0-30 min	9.06	11.45	34.11	0.25
Post Test Zero Direct	0.00	-0.03	0.02	-0.01
Post Test Span Direct	10.82	10.23	41.40	4.56
Post-test Zero	0.02	0.03	0.07	0.11
Post-test Span	10.78	10.25	41.13	4.55
Average	9.06	11.45	34.11	0.25
Corr. Results	9.03	11.65	34.22	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.5%	-0.5%	0.2%	0.6%
Pre-Test Zero Bias	0.1%	0.4%	0.0%	1.1%
Pre-Test Span Bias	-0.2%	0.3%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.3%	0.1%	1.2%
Post-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Zero Drift	0.0%	-0.4%	0.0%	-0.3%
Span Drift	-0.3%	-1.4%	-0.1%	-0.9%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.031	% dry
	7.703	% wet
CO_2:	11.648	% dry
	9.935	% wet
NO_x:	34.221	ppm dry
	29.188	ppm wet
	23.286	lb/hr
SO_2:	6.733102	ppm dry
	6.374	lb/hr
CO:	0.13	ppm dry
	0.11	ppm wet
	0.055	lb/hr
H_2O:	14.7	%
MW:	28.43	lb/lb-mole
Flow:	173,350	wacfm
	94.992	mdscfm
	5699.54	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5699.54	5988.87	-289.33	-5.1%
O_2	% dry	9.03	9.2	-0.12	-1.3%
CO_2	% dry	11.65	11.5	0.13	1.1%
NO_x	ppm dry	34.22	36.1	-1.88	-5.5%
NO_x	ppm @ 3% O_2	51.61	54.6	-3.03	-5.9%
NO_x	lb/hr	23.29	25.9	-2.65	-11.4%
SO_2	ppm dry	6.73	6.94	-0.21	-3.1%
SO_2	ppm @ 3% O_2	10.15	10.52	-0.37	-3.6%
SO_2	lb/hr	6.374	6.921	-0.546	-8.6%
CO	ppm dry	0.13	0.32	-0.18	
CO	ppm @ 3% O_2	0.20	0.48	-0.28	
CO	lb/hr	0.055	0.142		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	513.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.77	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	3-RA-U1
Date:	3/10/2021
Start Time:	10:34
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	927.7	737.1	190.6
2/H2O	712.6	711.1	1.5
3/Empty	639.9	639.6	0.3
4/S.G.	877.0	866.9	10.1
Rinse		50.0	-50.0
Total			152.5

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	745.000	73	76
		74	77
Stop	786.418	78	78
Total	41.418		76.0

Summary

Sample Volume:	41.655	dscf
H_2O Volume :	7.198	scf
Moisture Content:	14.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	371	80.48
4	0.99	0.9950	372	70.28
3	0.98	0.9899	373	69.96
2	1.10	1.0488	372	74.08
1	0.97	0.9849	371	69.52
5	1.40	1.1832	370	83.47
4	1.30	1.1402	371	80.48
3	0.94	0.9695	372	68.48
2	0.97	0.9849	371	69.52
1	0.82	0.9055	372	63.96
5	0.96	0.9798	371	69.16
4	0.99	0.9950	372	70.28
3	0.93	0.9644	372	68.11
2	0.92	0.9592	371	67.71
1	1.10	1.0488	372	74.08
5	1.10	1.0488	371	74.03
4	1.20	1.0954	372	77.37
3	1.30	1.1402	371	80.48
2	1.10	1.0488	371	74.03
1	1.20	1.0954	372	77.37
5	1.50	1.2247	372	86.51
4	1.20	1.0954	371	77.33
3	1.30	1.1402	372	80.53
2	1.20	1.0954	371	77.33
1	1.10	1.0488	370	73.99
5	1.40	1.1832	369	83.42
4	1.30	1.1402	370	80.44
3	1.20	1.0954	371	77.33
2	1.20	1.0954	371	77.33
1	1.10	1.0488	370	73.99
Average	1.1297	1.0629	371.2	75.04

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.00	-0.03	0.02	-0.01
Pre Test Span Direct	10.82	10.23	41.40	4.56
Pre-test Zero	0.02	0.03	0.07	0.11
Pre-test Span	10.78	10.25	41.13	4.55
0-30 min	8.84	11.34	39.62	0.17
Post Test Zero Direct	-0.01	-0.03	0.04	-0.06
Post Test Span Direct	10.75	10.04	41.24	4.43
Post-test Zero	0.01	0.04	0.08	0.08
Post-test Span	10.72	10.04	40.88	4.42
Average	8.84	11.34	39.62	0.17
Corr. Results	8.86	11.80	39.91	0.08
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-1.8%	0.1%	-0.4%
Pre-Test Zero Bias	0.1%	0.3%	0.1%	1.2%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.3%	0.0%	1.5%
Post-Test Span Bias	-0.2%	0.0%	-0.4%	-0.1%
Zero Drift	0.0%	0.1%	0.0%	-0.3%
Span Drift	-0.3%	-1.1%	-0.3%	-1.3%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.859	% dry
	7.554	% wet
CO_2:	11.803	% dry
	10.064	% wet
NO_x:	39.905	ppm dry
	34.025	ppm wet
	27.273	lb/hr
SO_2:	7.4129918	ppm dry
	7.049	lb/hr
CO:	0.08	ppm dry
	0.07	ppm wet
	0.033	lb/hr
H_2O:	14.7	%
MW:	28.44	lb/lb-mole
Flow:	174,864	wacfm
	95.41	mdscfm
	5724.72	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5724.72	5089	635.62	11.1%
O_2	% dry	8.86	9.0	-0.13	-1.5%
CO_2	% dry	11.80	11.7	0.14	1.2%
NO_x	ppm dry	39.91	41.6	-1.66	-4.2%
NO_x	ppm @ 3% O_2	59.32	62.1	-2.75	-4.6%
NO_x	lb/hr	27.27	25.33	1.94	7.1%
SO_2	ppm dry	7.41	8.20	-0.78	-10.6%
SO_2	ppm @ 3% O_2	11.02	12.21	-1.19	-10.8%
SO_2	lb/hr	7.049	7.004	0.045	0.6%
CO	ppm dry	0.08	0.77	-0.69	
CO	ppm @ 3% O_2	0.12	1.15	-1.04	
CO	lb/hr	0.033	0.288	-0.26	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	503.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.99	

Appendix C.2.2
Unit 1 Hydrogen Chloride Calculations

HCL
Desert View Power - Unit 1

Test No	1-HCl	2-HCl	3-HCl	Average	Limit
Date	3/5/2021	3/5/2021	3/5/2021		
Start Time	7:20	9:42	12:10		
Stop Time	9:20	11:42	14:10		
Test Information					
Reference Temperature, °F	68	68	68		
Diluent Emissions and Stack Flow Rate					
Moisture Fraction, %	13.1	12.5	13.7	13.1	
O_2, % vol. dry	9.01	9.00	8.92	8.98	
CO_2, % vol. Dry	11.61	11.66	11.72	11.66	
Stack Flow Rate (dscfm)	92,396	93,518	92,706	92,873	
Fuel F_d Factor, dscf/MMBtu @ 68°.....	9,240	9,240	9,240		
Fuel F_d Factor, dscf/MMBtu @ 60°.....	9,100	9,100	9,100		
HCl Emissions					
ppmvw	12.16	10.28	10.07	10.84	
ppmvd	14.00	11.75	11.66	12.47	
lb/hr (as HCl)	7.5	6.3	6.2	6.68	
lb/MMBtu	0.0215	0.0181	0.0178	0.019	**0.022**

Montrose AQS
Run 1 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION

GENERAL

Test:	1-O2/CO2-U1
Date:	3/5/2021
Start Time:	7:20
Station:	Desert View Power
Unit:	Unit 1
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION SAMPLE TRAIN

Barom. Pressure:		psi
	30.28	"Hg
Meter No.	30-WCS	
Meter Y_d:	0.9830	
Meter Pressure:	1.5	iwg
Pstack:	0.53	iwg
Pstack:	30.32	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	898.9	742.1	156.8
2/H2O	722.5	651.6	70.9
3/Empty	666.1	660.2	5.9
4/S.G.	964.0	936.0	28.0
Rinse			0.0
Total			261.6

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	103.200	60	60
		64	62
Stop	184.177	66	63
Total	80.977		62.5

Summary

Sample Volume:	81.689	dscf
H_2O Volume :	12.348	scf
Moisture Content:	13.1	%

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	0.00	0.00
Pre Test Span Direct	10.84	10.39
Pre-test Zero	0.14	0.04
Pre-test Span	10.88	10.32
Average	9.08	11.40
Post Test Zero Direct	0.00	-0.01
Post Test Span Direct	10.87	10.43
Post-test Zero	0.03	0.08
Post-test Span	10.80	10.44
Average	9.08	11.40
Corr. Results	9.01	11.61

Cal Error <2%, Bias <5%; Drift <3%

Calibrtion Error	0.3%	-0.9%
Pre-Test Zero Bias	0.7%	0.2%
Pre-Test Span Bias	0.2%	-0.4%
Post-Test Zero Bias	0.1%	0.5%
Post-Test Span Bias	-0.4%	0.0%
Zero Drift	-0.6%	0.2%
Span Drift	-0.4%	0.6%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	358	79.38
4	0.98	0.9899	359	68.96
3	0.64	0.8000	354	55.56
2	1.00	1.0000	355	69.49
1	0.99	0.9950	352	69.02
5	1.40	1.1832	356	82.27
4	1.00	1.0000	358	69.62
3	0.92	0.9592	357	66.74
2	0.68	0.8246	352	57.20
1	0.66	0.8124	351	56.32
5	0.87	0.9327	353	64.74
4	0.83	0.9110	352	63.19
3	0.80	0.8944	354	62.12
2	0.91	0.9539	355	66.29
1	0.93	0.9644	356	67.06
5	1.40	1.1832	357	82.33
4	1.10	1.0488	358	73.02
3	0.84	0.9165	357	63.77
2	0.82	0.9055	355	62.93
1	0.80	0.8944	354	62.12
5	1.30	1.1402	352	79.09
4	1.10	1.0488	353	72.79
3	1.00	1.0000	354	69.45
2	1.10	1.0488	355	72.88
1	1.00	1.0000	352	69.36
5	1.40	1.1832	353	82.12
4	1.30	1.1402	354	79.18
3	1.30	1.1402	356	79.28
2	1.00	1.0000	357	69.58
1	1.00	1.0000	355	69.49
Average	1.0007	1.0004	354.8	69.51

TEST SUMMARY

O_2:	9.012	% dry
	7.829	% wet
CO_2:	11.610	% dry
	10.086	% wet
H_2O:	13.1	%
MW:	28.61	lb/lb-mole
Flow:	161,992	wacfm
	92.40	mdscfm
	5543.75	kdscfh

Montrose AQS
Run 2 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION

GENERAL

Test:	2-O2/CO2-U1
Date:	3/5/2021
Start Time:	9:42
Station:	Desert View Power
Unit:	Unit 1
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION

SAMPLE TRAIN

Barom. Pressure:		psi
	30.28	"Hg
Meter No.	1 P&M	
Meter Yd:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.53	iwg
Pstack:	30.32	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	991.6	812.9	178.7
2/H2O	807.5	734.2	73.3
3/Empty	588.2	586.7	1.5
4/S.G.	1035.9	1034.5	1.4
Rinse			0.0
Total			254.9

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	490.000	74	76
		77	80
Stop	573.448	81	84
Total	83.448		78.7

Summary

Sample Volume:	83.981	dscf
H2O Volume:	12.031	scf
Moisture Content:	12.5	%
3		

METHOD 3A, 6C, 7E DATA

	O2	CO2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	0.00	-0.01
Pre Test Span Direct	10.87	10.43
Pre-test Zero	0.03	0.08
Pre-test Span	10.80	10.44
Average	8.99	11.38
Post Test Zero Direct	0.00	-0.02
Post Test Span Direct	10.77	10.18
Post-test Zero	0.03	0.08
Post-test Span	10.73	10.19
Average	8.99	11.38
Corr. Results	9.00	11.66

Cal Error <2%, Bias <5%; Drift <3%

Calibrtion Error	0.5%	-0.7%
Pre-Test Zero Bias	0.1%	0.5%
Pre-Test Span Bias	-0.4%	0.0%
Post-Test Zero Bias	0.1%	0.5%
Post-Test Span Bias	-0.2%	0.1%
Zero Drift	0.0%	0.0%
Span Drift	-0.4%	-1.3%

METHOD 2 DATA

Point	dP (in. H2O)	dP^½ (in. H2O)^½	Temp (°F)	Velocity (fps)
5	1.40	1.1832	356	82.16
4	1.20	1.0954	357	76.11
3	1.30	1.1402	358	79.27
2	1.10	1.0488	356	72.83
1	1.00	1.0000	355	69.40
5	1.20	1.0954	354	75.97
4	1.10	1.0488	356	72.83
3	1.00	1.0000	357	69.48
2	1.00	1.0000	358	69.52
1	1.10	1.0488	359	72.96
5	1.30	1.1402	354	79.08
4	1.20	1.0954	355	76.02
3	0.86	0.9274	355	64.36
2	0.84	0.9165	356	63.64
1	0.80	0.8944	356	62.11
5	0.91	0.9539	359	66.36
4	0.84	0.9165	356	63.64
3	0.82	0.9055	358	62.96
2	0.89	0.9434	359	65.63
1	0.91	0.9539	354	66.16
5	1.30	1.1402	352	78.98
4	1.00	1.0000	353	69.31
3	0.98	0.9899	354	68.66
2	0.72	0.8485	355	58.88
1	0.69	0.8307	356	57.68
5	1.40	1.1832	354	82.06
4	0.98	0.9899	355	68.70
3	0.92	0.9592	356	66.60
2	0.99	0.9950	355	69.05
1	0.97	0.9849	356	68.39
Average	1.0154	1.0076	355.8	69.96

TEST SUMMARY

O_2:	9.001	% dry
	7.873	% wet
CO_2:	11.656	% dry
	10.195	% wet
H_2O:	12.5	%
MW:	28.69	lb/lb-mole
Flow:	163,036	wacfm
	93.52	mdscfm
	5611.11	kdscfh

Montrose AQS
Run 3 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION

GENERAL

Test:	3-O2/CO2-U1
Date:	3/5/2021
Start Time:	12:10
Station:	Desert View Power
Unit:	Unit 1
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION

SAMPLE TRAIN

Barom. Pressure:		psi
	30.28	"Hg
Meter No.	1 P&M	
Meter Ca:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.53	iwg
Pstack:	30.32	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	927.6	755.0	172.6
2/H2O	724.4	647.6	76.8
3/Empty	668.9	666.1	2.8
4/S.G.	973.2	950.3	22.9
Rinse			0.0
Total			275.1

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	575.000	86	88
		90	92
Stop	658.337	94	96
Total	83.337		91.0

Summary

Sample Volume:	81.992	dscf
H2O Volume:	12.985	scf
Moisture Content:	13.7	%
3		

METHOD 3A, 6C, 7E DATA

	O2	CO2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	0.00	-0.02
Pre Test Span Direct	10.77	10.18
Pre-test Zero	0.03	0.08
Pre-test Span	10.73	10.19
Average	8.85	11.20
Post Test Zero Direct	-0.01	-0.03
Post Test Span Direct	10.67	10.42
Post-test Zero	0.03	0.06
Post-test Span	10.64	10.00
Average	8.85	11.20
Corr. Results	8.92	11.72

Cal Error <2%, Bias <5%; Drift <3%

Calibrtion Error	-0.1%	-2.0%
Pre-Test Zero Bias	0.1%	0.5%
Pre-Test Span Bias	-0.2%	0.1%
Post-Test Zero Bias	0.2%	0.5%
Post-Test Span Bias	-0.2%	-2.3%
Zero Drift	0.0%	-0.1%
Span Drift	-0.4%	-1.1%

METHOD 2 DATA

Point	dP (in. H2O)	dP (in. H2O)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	356	79.36
4	0.96	0.9798	357	68.24
3	0.90	0.9487	358	66.11
2	0.95	0.9747	357	67.88
1	0.95	0.9747	356	67.84
5	1.40	1.1832	357	82.40
4	0.98	0.9899	358	68.99
3	0.95	0.9747	357	67.88
2	0.77	0.8775	358	61.15
1	0.70	0.8367	358	58.30
5	0.94	0.9695	356	67.48
4	0.85	0.9220	357	64.21
3	0.83	0.9110	355	63.37
2	0.90	0.9487	354	65.95
1	0.89	0.9434	352	65.50
5	1.30	1.1402	353	79.21
4	1.30	1.1402	354	79.26
3	1.00	1.0000	355	69.56
2	0.86	0.9274	356	64.54
1	0.77	0.8775	357	61.11
5	1.30	1.1402	354	79.26
4	1.10	1.0488	355	72.95
3	1.00	1.0000	356	69.60
2	0.98	0.9899	357	68.94
1	1.00	1.0000	354	69.51
5	1.40	1.1832	356	82.35
4	1.40	1.1832	355	82.30
3	1.20	1.0954	357	76.29
2	1.00	1.0000	354	69.51
1	0.98	0.9899	352	68.73
Average	1.0195	1.0097	355.7	70.26

TEST SUMMARY

O_2:	8.922	% dry
	7.702	% wet
CO_2:	11.724	% dry
	10.121	% wet
H_2O:	13.7	%
MW:	28.56	lb/lb-mole
Flow:	163,734	wacfm
	92.71	mdscfm
	5562.34	kdscfh

Appendix C.2.3
Unit 1 Particulate Calculations

EPA METHOD 5 SOURCE TEST

DATA AND WORKSHEET

Client	Desert View Power	Parameter		Full Load
Loaction	Mecca	Fuel		Biomass
Unit	1	Data By		DW
Test Number	1-PM-U1	2-PM-U1	3-PM-U1	Average
Reference Temperature, F	68	68	68	
Test Date	3/12/2021	3/12/2021	3/12/2021	
Sample Train	30-WCS	30-WCS	30-WCS	-
Pitot Factor	0.840	0.840	0.840	-
Meter Calibration Factor	0.983	0.983	0.983	-
Stack Area (sq ft)	38.84	38.84	38.84	-
Sample Time (Min)	120	120	120	120
Barometric Pressure (in Hg)	30.22	30.22	30.22	30.22
Nozzle Diam (in)	0.239	0.239	0.239	0.239
Start/Stop Time	840/1100	1120/1336	1352/1602	-
Stack Pressure (iwg)	0.49	0.49	0.50	0.49
Delta P (iwg)	1.002	0.9759	0.9906	0.9894
Meter Pressure (iwg)	1.757	1.753	1.757	1.756
Stack Temperature (F)	363.0	362.9	362.6	362.8
Meter Temperature (F)	69.5	78.9	73.4	73.9
Meter Volume (acf)	89.125	90.560	90.760	90.148
Liquid Volume (ml)	274.0	283.3	315.3	290.9
Stack O2 (%)	9.12	9.31	9.03	9.2
Stack CO2 (%)	11.60	11.38	11.70	11.6
Standard Sample Volume (SCF)	88.594	88.463	89.568	88.875
Moisture Fraction	0.127	0.131	0.142	0.134
Molecular Weight (wet)	28.66	28.59	28.49	28.58
Stack Gas Velocity (ft/sec)	69.91	69.09	69.72	69.57
Stack Flow Rate (wacfm)	162,912	161,000	162,466	162,126
Stack Flow Rate (dscfm)	92,202	90,718	90,405	91,108
Isokinetic Ratio (%)	99.79	101.27	102.89	101.32
Analysis				
Filter mg	0.90	0.50	2.20	1.20
Probe/Nozzle mg	0.30	2.50	2.40	1.73
Particulate Catch, mg	1.20	3.00	4.60	2.93
Particulate Emissions				
Grain Loading gr/dscf	0.00021	0.00052	0.00079	0.00051
Grain Loading @ 12% CO2	0.00022	0.00055	0.00081	0.00053
Part emission lb/hr	0.165	0.407	0.614	0.395
F-Factor (dscf/MMBtu)	9240	9240	9240	
Emission rate, lb/MMBtu	0.0005	0.0012	0.0018	0.0012

MOBILE EMISSION LABORATORY
CONTINUOUS GASEOUS MEASUREMENTS SUMMARY

Client:	Desert View Power	Condition:	----
Unit:	1	Load:	> 90%
Location:	Mecca	Date	3/12/2021

	O2%	CO2%				
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
	O2%	CO2%				
As Found	10.855	10.434				
Linearity	0.4%	-0.6%			<2%	**Pass**
3/12/2021	O2%	CO2%				
1 -HCL-U1						
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
Pre test Direct Zero	0.00	0.01				
Pre test Direct Span	10.86	10.43				
System Zero	0.00	0.12				
System Span	10.82	10.50				
Average	9.15	11.52				
System Zero	0.00	0.12				
System Span	10.82	10.50				
Post test Direct Zero	-0.01	0.05				
Post test Direct Span	10.85	10.49				
Corrected Conc.	9.12	11.60				
System Bias Check						
Zero Pre-test	0.02%	0.59%			< 5%	**PASS**
Zero Post-test	0.02%	0.59%			< 5%	**PASS**
Span Pre-test	0.20%	-0.29%			< 5%	**PASS**
Span Post-test	0.20%	-0.29%			<5%	**PASS**

3/12/2021	O2%	CO2%				
2-CEM-U1						
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
Pre test Direct Zero	-0.01	0.05				
Pre test Direct Span	10.85	10.49				
System Zero	0.00	0.12				
System Span	10.82	10.50				
Raw concentration	9.34	11.29				
System Zero	0.00	0.12				
System Span	10.81	10.47				
Post test Direct Zero	-0.02	0.05				
Post test Direct Span	10.83	10.46				
Corrected Conc.	9.31	11.38				
System Bias Check						
Zero Pre-test	0.02%	0.59%			< 5%	**PASS**
Zero Post-test	0.01%	0.58%			< 5%	**PASS**
Span Pre-test	0.20%	-0.29%			< 5%	**PASS**
Span Post-test	0.14%	-0.47%			<5%	**PASS**
3/12/2021	O2%	CO2%				
3-CEM-U1						
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
Pre test Direct Zero	-0.02	0.05				
Pre test Direct Span	10.83	10.46				
System Zero	0.00	0.12				
System Span	10.81	10.47				
Raw concentration	9.06	11.57				
System Zero	0.00	0.13				
System Span	10.80	10.46				
Post test Direct Zero	-0.03	0.04				
Post test Direct Span	10.83	10.43				
Corrected Conc.	9.03	11.70				
System Bias Check						
Zero Pre-test	0.01%	0.58%			< 5%	**PASS**
Zero Post-test	0.02%	0.65%			< 5%	**PASS**
Span Pre-test	0.14%	-0.47%			< 5%	**PASS**
Span Post-test	0.11%	-0.53%			<5%	**PASS**

1-PM-U1

	dP	(dP)^.5	dH	Ts	Tm	
5	1.10	1.049	1.9	364	63	63
4	0.98	0.990	1.7	363	64	63
3	0.87	0.933	1.5	364	64	63
2	0.99	0.995	1.7	364	65	64
1	1.00	1.000	1.7	365	65	64
5	1.20	1.095	2.1	363	64	63
4	0.96	0.980	1.6	363	64	63
3	0.99	0.995	1.7	364	65	66
2	0.66	0.812	1.1	364	66	66
1	0.62	0.787	1.1	362	67	67
5	0.96	0.980	1.6	361	68	67
4	0.91	0.954	1.6	362	67	68
3	0.85	0.922	1.5	362	67	68
2	1.00	1.000	1.7	362	69	69
1	1.10	1.049	1.9	362	69	69
5	0.85	0.922	1.5	362	71	70
4	0.83	0.911	1.5	361	71	72
3	0.92	0.959	1.6	363	72	72
2	0.97	0.985	1.7	364	72	73
1	0.99	0.995	1.7	363	73	73
5	1.10	1.049	1.9	363	73	73
4	1.30	1.140	2.3	364	73	73
3	1.20	1.095	2.1	364	74	74
2	1.20	1.095	2.1	364	75	74
1	1.00	1.000	1.8	363	75	74
5	1.00	1.000	1.8	363	75	73
4	1.30	1.140	2.3	363	75	73
3	1.20	1.095	2.1	362	75	74
2	1.20	1.095	2.1	363	76	74
1	1.00	1.000	1.8	362	76	74

Average	1.0016	1.757	363.0	69.5	
		Meter Vol	Imp	Imp	
Delta P (iwg)	1.002	813.500	971.0	725.3	245.7
Meter Pressure (iwg)	1.757	902.625	702.5	694.5	8.0
Stack Temperature (F	362.967	89.125	644.1	643.5	0.6
Meter Temperature (F	69.533		936.1	916.4	19.7
Meter Volume (acf)	89.125				0.0
Liquid Volume (ml)	274.0				274.0

2-PM-U1

	dP	(dP)^.5	dH	Ts	Tm	
5	1.10	1.049	2.0	363	75	76
4	1.20	1.095	2.1	362	76	76
3	1.20	1.095	2.1	363	77	77
2	1.10	1.049	2.0	363	78	79
1	1.00	1.000	1.8	362	80	80
5	1.20	1.095	2.1	363	80	80
4	1.10	1.049	2.0	364	80	80
3	1.20	1.095	2.1	364	81	80
2	1.40	1.183	2.5	363	82	81
1	1.10	1.049	2.0	363	82	81
5	0.91	0.954	1.6	362	82	82
4	0.89	0.943	1.6	363	82	81
3	0.85	0.922	1.5	364	82	81
2	0.80	0.894	1.4	364	83	83
1	0.80	0.894	1.4	363	83	83
5	0.85	0.922	1.5	362	80	80
4	0.83	0.911	1.5	363	80	79
3	0.92	0.959	1.6	362	80	78
2	0.96	0.980	1.7	364	79	78
1	0.99	0.995	1.8	362	79	78
5	1.20	1.095	2.1	362	79	78
4	0.95	0.975	1.7	363	78	78
3	0.93	0.964	1.7	364	78	77
2	0.62	0.787	1.1	364	78	77
1	0.60	0.775	1.1	364	77	76
5	0.96	0.980	1.7	363	77	76
4	0.91	0.954	1.6	362	77	76
3	0.85	0.922	1.5	362	76	76
2	1.00	1.000	1.8	362	76	76
1	1.10	1.049	2.0	362	76	75

Average	0.9759	1.753	362.9	78.9	
		Meter Vol	Imp	Imp	
Delta P (iwg)	0.976	902.950	948.8	752.6	196.2
Meter Pressure (iwg)	1.753	993.510	698.6	635	63.6
Stack Temperature (F	362.900	90.560	663.5	662.4	1.1
Meter Temperature (F	78.850		946.4	924	22.4
Meter Volume (acf)	90.560				0.0
Liquid Volume (ml)	283.3				283.3

3-PM-U1

	dP	(dP)^.5	dH	Ts	Tm	
5	1.00	1.000	1.8	363	74	73
4	1.20	1.095	2.1	362	74	73
3	1.30	1.140	2.3	362	74	73
2	1.10	1.049	2.0	363	75	74
1	1.00	1.000	1.8	364	74	72
5	1.20	1.095	2.1	364	74	73
4	1.10	1.049	2.0	364	74	73
3	1.30	1.140	2.3	363	73	72
2	1.40	1.183	2.5	363	72	72
1	1.00	1.000	1.8	363	72	72
5	1.10	1.049	2.0	362	74	74
4	0.93	0.964	1.7	362	75	75
3	0.89	0.943	1.6	362	76	75
2	0.84	0.917	1.5	363	76	75
1	0.80	0.894	1.4	364	77	77
5	0.86	0.927	1.5	362	76	75
4	0.83	0.911	1.5	362	76	74
3	0.92	0.959	1.6	363	75	74
2	0.97	0.985	1.7	364	75	74
1	0.98	0.990	1.7	364	74	73
5	1.20	1.095	2.1	363	73	73
4	1.00	1.000	1.8	363	73	72
3	0.98	0.990	1.1	362	73	72
2	0.62	0.787	1.1	362	73	71
1	0.65	0.806	1.2	361	73	71
5	0.96	0.980	1.7	362	73	71
4	0.92	0.959	1.6	362	73	71
3	0.90	0.949	1.6	360	73	71
2	1.00	1.000	1.8	361	72	70
1	1.00	1.000	1.8	362	72	70

Average	0.9906	1.757	362.6	73.4	
		Meter Vol	Imp	Imp	
Delta P (iwg)	0.991	993.800	954.8	734.8	220.0
Meter Pressure (iwg)	1.757	1084.56	783.9	711.8	72.1
Stack Temperature (F	362.567	90.760	644.2	644.1	0.1
Meter Temperature (F	73.383		927.9	904.8	23.1
Meter Volume (acf)	90.760				0.0
Liquid Volume (ml)	315.3				315.3

Appendix C.2.4
Unit 1 Hydrocarbon Calculations

SCAQMD 25.3 SOURCE TEST
DATA AND WORKSHEET

Client.....	Desert View Power	Parameter.....	>90%
Loaction.....	Mecca	Fuel.....	Biomass/coke
Unit	Unit 1	Data By.....	DW
Test Number.....	1A-VOC-U2	1B-VOC-U2	Average
Reference Temperature, F.....	68	68	
Test Date.....	3/10/2021	3/10/2021	
Sample Time (Min).....	~60	~60	~60
Barometric Pressure (in Hg).....	30.11	30.11	30.11
Start/Stop Time.....	1034/1126	1034/1126	
Stack O2 (%).....	8.86	8.86	8.9
Stack CO2 (%).....	11.80	11.80	11.8
Stack H2O (%).....	14.7%	14.7%	14.7%
Stack Flow Rate (wacfm).....	174,864	174,864	174,864
Stack Flow Rate (dscfm).....	95,412	95,412	95,412
Laboraotory Results			
TGNMO ppm.....	4.60	4.60	4.60
TGNMO ppm @ 3% O2.....	6.84	6.84	6.84
TGNMO lb/hr.....	1.09	1.09	1.09

Note: Flow rates from Test RATA Run 3

Per Method 25.3 when the difference between the paired canisters is >20% the higher of the two results is used.

Appendix C.2.5
Unit 1 Mercury Calculations

Montrose AQS
Run 1 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	1-O2/CO2-U1	
Date:	3/11/2021	
Start Time:	15:25	
Station:	Desert View Power	
Unit:	Unit 1	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.0	iwg
Pstack:	0.49	iwg
Pstack:	30.17	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	780.7	686.6	94.1
2/H2O	769.2	758.4	10.8
3/Empty	608.4	598.6	9.8
4/S.G.	936.3	910.0	26.3
Rinse			0.0
Total			141.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	953.800	62	63
		62	63
Stop	999.872	62	63
		62	62
Total	46.072		62.4

Summary

Sample Volume:	47.131	dscf
H_2O Volume :	6.655	scf
Moisture Content:	12.4	%

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	-0.02	-0.02
Pre Test Span Direct	10.84	10.42
Pre-test Zero	0.01	0.06
Pre-test Span	10.81	10.42
Average	9.62	10.99
Post Test Zero Direct	-0.02	-0.01
Post Test Span Direct	10.84	10.42
Post-test Zero	0.00	0.05
Post-test Span	10.81	10.42
Average	9.62	10.99
Corr. Results	9.59	11.14
Cal Error <2%, Bias <5%; Drift <3%		
Calibrtion Error	0.3%	-0.8%
Pre-Test Zero Bias	0.1%	0.4%
Pre-Test Span Bias	-0.1%	0.0%
Post-Test Zero Bias	0.1%	0.3%
Post-Test Span Bias	-0.2%	0.0%
Zero Drift	-0.1%	-0.1%
Span Drift	0.0%	0.0%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.00	1.0000	365	70.03
4	1.20	1.0954	366	76.76
3	1.30	1.1402	366	79.89
2	1.30	1.1402	366	79.89
1	1.00	1.0000	366	70.07
5	1.10	1.0488	366	73.49
4	1.10	1.0488	366	73.49
3	1.20	1.0954	366	76.76
2	1.40	1.1832	361	82.65
1	1.10	1.0488	361	73.27
5	1.10	1.0488	367	73.53
4	0.93	0.9644	367	67.61
3	0.88	0.9381	368	65.81
2	0.85	0.9220	368	64.68
1	0.80	0.8944	367	62.71
5	0.85	0.9220	364	64.52
4	0.83	0.9110	364	63.76
3	0.92	0.9592	364	67.13
2	0.97	0.9849	365	68.97
1	0.99	0.9950	365	69.67
5	1.20	1.0954	363	76.62
4	0.95	0.9747	363	68.17
3	0.92	0.9592	363	67.08
2	0.62	0.7874	364	55.10
1	0.60	0.7746	364	54.21
5	0.96	0.9798	365	68.61
4	0.91	0.9539	366	66.84
3	0.85	0.9220	366	64.60
2	1.00	1.0000	366	70.07
1	1.10	1.0488	366	73.49
Average	0.9891	0.9945	365.1	69.65

TEST SUMMARY

O_2:	9.591	% dry
	8.404	% wet
CO_2:	11.139	% dry
	9.761	% wet
H_2O:	12.4	%
MW:	28.66	lb/lb-mole
Flow:	162,311	wacfm
	91.78	mdscfm
	5506.83	kdscfh

Montrose AQS
Run 2 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	2-O2/CO2-U1	
Date:	3/11/2021	
Start Time:	16:50	
Station:	Desert View Power	
Unit:	Unit 1	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.0	iwg
Pstack:	0.49	iwg
Pstack:	30.17	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	859.6	764.6	95.0
2/H2O	759.6	747.9	11.7
3/Empty	650.3	642.3	8.0
4/S.G.	969.8	939.8	30.0
Rinse			0.0
Total			144.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	1.000	58	58
		59	59
Stop	45.122	57	58
		58	59
Total	44.122		58.3

Summary

Sample Volume:	45.496	dscf
H_2O Volume :	6.830	scf
Moisture Content:	13.1	%

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	-0.02	-0.01
Pre Test Span Direct	10.84	10.42
Pre-test Zero	0.00	0.05
Pre-test Span	10.81	10.42
Average	9.24	11.32
Post Test Zero Direct	-0.02	-0.02
Post Test Span Direc	10.84	10.42
Post-test Zero	0.00	0.07
Post-test Span	10.81	10.43
Average	9.24	11.32
Corr. Results	9.22	11.48

Cal Error <2%, Bias <5%; Drift <3%

Calibrtion Error	0.3%	-0.8%
Pre-Test Zero Bias	0.1%	0.3%
Pre-Test Span Bias	-0.2%	0.0%
Post-Test Zero Bias	0.1%	0.4%
Post-Test Span Bias	-0.1%	0.1%
Zero Drift	0.0%	0.1%
Span Drift	0.0%	0.0%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.00	1.0000	361	69.91
4	1.20	1.0954	360	76.54
3	1.20	1.0954	360	76.54
2	1.00	1.0000	359	69.83
1	1.00	1.0000	359	69.83
5	1.10	1.0488	359	73.24
4	1.10	1.0488	358	73.19
3	1.20	1.0954	359	76.49
2	1.30	1.1402	360	79.67
1	1.20	1.0954	361	76.59
5	1.00	1.0000	359	69.83
4	0.94	0.9695	360	67.74
3	0.89	0.9434	361	65.96
2	0.86	0.9274	363	64.92
1	0.82	0.9055	363	63.39
5	0.84	0.9165	361	64.08
4	0.83	0.9110	361	63.70
3	0.94	0.9695	361	67.78
2	0.99	0.9950	360	69.52
1	1.00	1.0000	360	69.87
5	1.20	1.0954	359	76.49
4	0.95	0.9747	358	68.02
3	0.93	0.9644	357	67.26
2	0.63	0.7937	357	55.36
1	0.60	0.7746	358	54.06
5	0.96	0.9798	360	68.46
4	0.91	0.9539	360	66.65
3	0.85	0.9220	360	64.42
2	1.00	1.0000	359	69.83
1	1.10	1.0488	359	73.24
Average	0.9778	0.9888	359.7	69.08

TEST SUMMARY

O_2:	9.216	% dry
	8.013	% wet
CO_2:	11.479	% dry
	9.980	% wet
H_2O:	13.1	%
MW:	28.61	lb/lb-mole
Flow:	160,986	wacfm
	90.92	mdscfm
	5455.26	kdscfh

Montrose AQS
Run 3 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION		
GENERAL		
Test:	3-O2/CO2-U1	
Date:	3/11/2021	
Start Time:	18:10	
Station:	Desert View Power	
Unit:	Unit 1	
Test Condition:	Full Load	
Performed By:	RD	
PRE-TEST INFORMATION		
SAMPLE TRAIN		
Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.0	iwg
Pstack:	0.49	iwg
Pstack:	30.17	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	856.7	758.7	98.0
2/H2O	765.1	752.4	12.7
3/Empty	641.8	637.8	4.0
4/S.G.	1000.8	969.8	31.0
Rinse			0.0
Total			145.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	45.800	56	57
		56	57
Stop	89.872	56	57
		57	51
Total	44.072		55.9

Summary

Sample Volume:	45.653	dscf
H_2O Volume :	6.877	scf
Moisture Content:	13.1	%

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	-0.02	-0.02
Pre Test Span Direct	10.84	10.42
Pre-test Zero	0.00	0.07
Pre-test Span	10.81	10.43
Average	9.05	11.55
Post Test Zero Direct	-0.02	-0.01
Post Test Span Direct	10.85	10.42
Post-test Zero	0.00	0.05
Post-test Span	10.81	10.42
Average	9.05	11.55
Corr. Results	9.02	11.71
Cal Error <2%, Bias <5%; Drift <3%		
Calibrtion Error	0.3%	-0.8%
Pre-Test Zero Bias	0.1%	0.4%
Pre-Test Span Bias	-0.1%	0.1%
Post-Test Zero Bias	0.1%	0.3%
Post-Test Span Bias	-0.2%	0.0%
Zero Drift	0.0%	-0.1%
Span Drift	0.0%	-0.1%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.10	1.0488	361	73.30
4	1.30	1.1402	360	79.64
3	1.20	1.0954	360	76.51
2	1.20	1.0954	363	76.65
1	1.00	1.0000	363	69.98
5	1.20	1.0954	363	76.65
4	1.20	1.0954	363	76.65
3	1.30	1.1402	364	79.83
2	1.40	1.1832	364	82.85
1	1.10	1.0488	363	73.39
5	1.10	1.0488	360	73.26
4	0.92	0.9592	361	67.04
3	0.88	0.9381	360	65.52
2	0.84	0.9165	361	64.06
1	0.79	0.8888	360	62.08
5	0.84	0.9165	359	63.98
4	0.82	0.9055	363	63.37
3	0.92	0.9592	362	67.08
2	0.98	0.9899	362	69.23
1	0.98	0.9899	362	69.23
5	1.20	1.0954	362	76.61
4	0.95	0.9747	363	68.20
3	0.93	0.9644	364	67.52
2	0.62	0.7874	363	55.10
1	0.60	0.7746	362	54.17
5	0.96	0.9798	360	68.44
4	0.91	0.9539	361	66.67
3	0.85	0.9220	362	64.48
2	1.00	1.0000	363	69.98
1	1.10	1.0488	364	73.44
Average	0.9971	0.9985	361.9	69.83

TEST SUMMARY

O_2:	9.018	% dry
	7.837	% wet
CO_2:	11.706	% dry
	10.173	% wet
H_2O:	13.1	%
MW:	28.63	lb/lb-mole
Flow:	162,733	wacfm
	91.62	mdscfm
	5497.22	kdscfh

W0027-0061-RT-2247 570 of 613

			QA/QC Spike Pair				QA/QC Spike Pair				QA/QC Spike Pair		
Test Number	**1-Hg-A**	**1-Hg-B**	**1-Hg-C**	**1-Hg-S**	**2-Hg-A**	**2-Hg-B**	**2-Hg-C**	**2-Hg-S**	**3-Hg-A**	**3-Hg-B**	**3-Hg-C**	**3-Hg-S**	**Average**
Date	Point	Point	Point	Point	Point	Point	Point	Point	Point	Point	Point	Point	
Start Time	15:25	15:25	15:25	15:25	16:50	16:50	16:50	16:50	18:10	18:10	18:10	18:10	
End Time	16:25	16:25	16:25	16:25	17:50	17:50	17:50	17:50	19:10	19:10	19:10	19:10	
Test Type	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	
Spiked	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	
Sorbent ID	OLC160589	OLC137222	OLC149182	OL544313	OLC160643	OLC160707	OLC160571	OLC544358	OLC136861	OLC160585	OLC160653	OLC544362	
Operating Condition	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Sorbent Trap Result													
Average if paired samples, result if single, ug/dsm3		**8.61**		**9.08**		**10.26**		**10.07**		**13.43**		**13.04**	
Sampling Data													
Total volume, dsm3	0.04067	0.04069	0.04106	0.04077	0.04112	0.04109	0.04112	0.04067	0.04127	0.04104	0.04121	0.04094	
Total volume, dscf	1.43618	1.43684	1.44970	1.43963	1.45185	1.45074	1.45179	1.43622	1.45720	1.44915	1.45517	1.44559	
Moisture, %, from Flow test	12.373	12.373	12.373	12.373	13.053	13.053	13.053	13.053	13.092	13.092	13.092	13.092	
Stack O2, %	9.59	9.59	9.59	9.59	9.22	9.22	9.22	9.22	9.02	9.02	9.02	9.02	
Stack CO2, %	11.14	11.14	11.14	11.14	11.48	11.48	11.48	11.48	11.71	11.71	11.71	11.71	
Fuel F_d Factor, dscf/MMBtu @ 68°	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	
Fuel F_d Factor, dscf/MMBtu @ 60°	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	
Flow, dscfm	91,780	91,780	91,780	91,780	90,921	90,921	90,921	90,921	91,620	91,620	91,620	91,620	
Laboratory Data													
ng, Sec 1	346.60	344.40	381.50	352.10	404.30	435.30	404.60	416.00	550.10	545.00	539.00	527.00	
ng, Sec 2	4.49	5.07	6.05	3.32	2.20	1.28	2.60	0.00	6.10	4.60	4.70	1.00	
ng, total	351.09	349.47	387.55	355.42	406.50	436.58	407.20	416.00	556.20	549.60	543.70	528.00	
Spike level, ng				**400**				**400**				**400**	
Spike result ng, Sec 1				752.10				816.00				927.00	
Spike result ng, Sec 2				3.32				0.00				1.00	
Spike result ng, total				755.42				816.00				928.00	
Results													
Total ug/dscm	8.632	8.588	9.439	8.717	9.886	10.626	9.904	10.227	13.477	13.392	13.193	12.897	10.767
Total ug/dscf	0.244	0.243	0.267	0.247	0.280	0.301	0.280	0.290	0.382	0.379	0.374	0.365	0.305
Total lb/hr	2.97E-03	2.95E-03	3.24E-03	2.99E-03	3.36E-03	3.62E-03	3.37E-03	3.48E-03	4.62E-03	4.59E-03	4.52E-03	4.42E-03	3.68E-03
Total lb/MMBtu	9.19E-06	9.15E-06	1.01E-05	9.29E-06	1.02E-05	1.10E-05	1.02E-05	1.05E-05	1.37E-05	1.36E-05	1.34E-05	1.31E-05	1.11E-05
QA/QC													
Spike , ug/dsm3				18.53				20.06				22.67	
Spike , expected, ug/dsm3				9.81				9.83				9.77	
Spike, actual (spike-sample), ug/dsm3				9.09				10.16				9.47	
% recovery				92.6%				103.3%				97.0%	
Breaktrough,on sample, Sec 2, %	1.3%	1.5%	1.6%	0.9%	0.5%	0.3%	0.6%	0.0%	1.1%	0.8%	0.9%	0.2%	
Relative Percent Difference on paired samples		0.3%				3.6%				0.3%			

Note: <10% breakthrough is criteria in most cases
< 10% RPD is criteria for paired trains in most cases
85%-115% average spike recovery is Method 30B criteria
Low sample levels show more variation

Mercury		
ug/dscm	10.767	**MACT Limit**
lb/hr (as Hg)	3.68E-03	
lb/MMBtu	1.11E-05	**5.70E-06**

Mercury by Method 30B
Desert View Power - Unit 1

Test Number	1-Hg-A	1-Hg-B	2-Hg-A	2-Hg-B	3-Hg-A	3-Hg-B	Averages	Limits
Date	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021		
Start Time	15:25	15:25	16:50	16:50	18:10	18:10		
End Time	16:25	16:25	17:50	17:50	19:10	19:10		
Pre-Test Information:								
Fuel F_d Factor, dscf/MMBtu	9,240	9,240	9,240	9,240	9,240	9,240		
Reference Temperature, °F	68	68	68	68	68	68		
Pollutant Emissions:								
Mercury								
Total ug/dscm	8.632	8.588	9.886	10.626	13.477	13.392	10.767	
ug/dscf	0.244	0.243	0.280	0.301	0.382	0.379	0.305	
lb/MMBtu	9.19E-06	9.15E-06	1.02E-05	1.10E-05	1.37E-05	1.36E-05	1.11E-05	**5.70E-06**

Date	Start Time	End Time	Run #	Trap #	Spiked / Unspiked	Start Vol, l	Stop Vol,l	Total Vol,l	Total Vol, m3	Total Vol,ft3	Meter No.	Yd	delta H	Meter Temp	Stack Temp	Trap Temp	Vacuum	P bar	Ref Temp	Vm std, dscm	Vm std, dscf
Point	15:25	16:25	1-Hg-A	OLC160589	Unspiked	5080.875	5121.100	40.225	0.040225	1.4203	20-A	0.99887	0.00	65.3	356.3	301.3	1.0	30.14	68	0.04067	1.43618
Point	15:25	16:25	1-Hg-B	OLC137222	Unspiked	3232.792	3273.007	40.215	0.040215	1.4200	20-B	0.99926	0.00	65.2	356.3	301.3	1.0	30.14	68	0.04069	1.43684
Point	15:25	16:25	1-Hg-C	OLC149182	Unspiked	9479.109	9519.300	40.191	0.040191	1.4191	21-C	0.99888	0.00	60.0	356.3	301.3	1.0	30.14	68	0.04106	1.44970
Point	15:25	16:25	1-Hg-S	OL544313	Spiked	3181.747	3222.013	40.266	0.040266	1.4218	21-S	0.99010	0.00	60.0	356.3	301.3	1.0	30.14	68	0.04077	1.43963
Point	16:50	17:50	2-Hg-A	OLC160643	Unspiked	5122.357	5162.492	40.135	0.040135	1.4172	20-A	0.9989	0.00	58.5	359.0	300.0	1.0	30.14	68	0.04112	1.45185
Point	16:50	17:50	2-Hg-B	OLC160707	Unspiked	3274.611	3314.777	40.166	0.040166	1.4183	20-B	0.9993	0.00	59.5	359.0	300.0	1.0	30.14	68	0.04109	1.45074
Point	16:50	17:50	2-Hg-C	OLC160571	Unspiked	9520.726	9560.859	40.133	0.040133	1.4171	21-C	0.9989	0.00	58.5	359.0	300.0	1.0	30.14	68	0.04112	1.45179
Point	16:50	17:50	2-Hg-S	OLC544358	Spiked	3223.099	3263.231	40.132	0.040132	1.4171	21-S	0.9901	0.00	59.5	359.0	300.0	1.0	30.14	68	0.04067	1.43622
Point	18:10	19:10	3-Hg-A	OLC136861	Unspiked	5163.246	5203.529	40.283	0.040283	1.4224	20-A	0.9989	0.00	58.5	362.0	301.0	1.0	30.14	68	0.04127	1.45720
Point	18:10	19:10	3-Hg-B	OLC160585	Unspiked	3317.735	3357.857	40.122	0.040122	1.4167	20-B	0.9993	0.00	59.5	362.0	301.0	1.0	30.14	68	0.04104	1.44915
Point	18:10	19:10	3-Hg-C	OLC160653	Unspiked	9561.274	9601.384	40.110	0.040110	1.4163	21-C	0.9989	0.00	57.0	362.0	301.0	1.0	30.14	68	0.04121	1.45517
Point	18:10	19:10	3-Hg-S	OLC544362	Spiked	3263.873	3304.150	40.277	0.040277	1.4222	21-S	0.9901	0.00	58.0	362.0	301.0	1.0	30.14	68	0.04094	1.44559

Run: 1-Hg-A 1-Hg-B

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePres Actual A	OrificePres Actual B	StackTempA	StackTempB	Probe Temp A	Probe Temp B	TrapTemp A	TrapTemp B	Dry Gas A	Dry Gas B	Pump Vac A	Pump Vac B	Sample Rate A	Sample Rate B	Notes
	0	10	3:25:00 PM	5080.875	3232.792	n/a	0	0	356	356	300	300	300	300	64	64	1	1	0.7	0.7	
	10	20	3:35:00 PM	5087.589	3239.490	n/a	0	0	356	356	300	300	300	300	65	64	1	1	0.7	0.7	
	20	30	3:45:00 PM	5094.310	3246.190	n/a	0	0	357	357	302	302	302	302	65	65	1	1	0.7	0.7	
	30	40	3:55:00 PM	5101.013	3252.900	n/a	0	0	357	357	302	302	302	302	66	66	1	1	0.7	0.7	
	40	50	4:05:00 PM	5107.725	3259.602	n/a	0	0	356	356	302	302	302	302	66	66	1	1	0.7	0.7	
	50	60	4:15:00 PM	5114.438	3266.301	n/a	0	0	356	356	302	302	302	302	66	66	1	1	0.7	0.7	
	60		4:25:00 PM	5121.100	3273.007																

Run: 1-Hg-C 1-Hg-S

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePres Actual C	OrificePres Actual D	StackTempA	StackTempB	Probe Temp C	Probe Temp D	TrapTemp A	TrapTemp B	Dry Gas C	Dry Gas D	Pump Vac C	Pump Vac D	Sample Rate C	Sample Rate D	Notes
	0	10	3:25:00 PM	9479.109	3181.747	n/a	0	0	356	356	300	300	300	300	61	61	1	1	0.7	0.7	
	10	20	3:35:00 PM	9485.809	3188.512	n/a	0	0	356	356	300	300	300	300	61	61	1	1	0.7	0.7	
	20	30	3:45:00 PM	9492.509	3195.165	n/a	0	0	357	357	302	302	302	302	60	60	1	1	0.7	0.7	
	30	40	3:55:00 PM	9499.209	3001.877	n/a	0	0	357	357	302	302	302	302	60	60	1	1	0.7	0.7	
	40	50	4:05:00 PM	9505.900	3208.591	n/a	0	0	356	356	302	302	302	302	59	59	1	1	0.7	0.7	
	50	60	4:15:00 PM	9512.609	3215.300	n/a	0	0	356	356	302	302	302	302	59	59	1	1	0.7	0.7	
	60		4:25:00 PM	9519.300	3222.013																

Run: 2-Hg-A 2-Hg-B

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePres Actual A	OrificePres Actual B	StackTempA	StackTempB	Probe Temp A	Probe Temp B	TrapTemp A	TrapTemp B	Dry Gas A	Dry Gas B	Pump Vac A	Pump Vac B	Sample Rate A	Sample Rate B	Notes
	0	10	4:50:00 PM	5122.357	3274.611	n/a	0	0	359	359	300	300	300	300	58	59	1	1	0.7	0.7	
	10	20	5:00:00 PM	5129.037	3281.303	n/a	0	0	359	359	300	300	300	300	58	59	1	1	0.7	0.7	
	20	30	5:10:00 PM	5135.725	3287.999	n/a	0	0	359	359	300	300	300	300	58	59	1	1	0.7	0.7	
	30	40	5:20:00 PM	5142.426	3294.615	n/a	0	0	359	359	300	300	300	300	59	60	1	1	0.7	0.7	
	40	50	5:30:00 PM	5149.110	3201.386	n/a	0	0	359	359	300	300	300	300	59	60	1	1	0.7	0.7	
	50	60	5:40:00 PM	5155.883	3308.424	n/a	0	0	359	359	300	300	300	300	59	60	1	1	0.7	0.7	
	60		5:50:00 PM	5162.492	3314.777																

Run: 2-Hg-C 2-Hg-S

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePres Actual C	OrificePres Actual D	StackTempA	StackTempB	Probe Temp C	Probe Temp D	TrapTemp A	TrapTemp B	Dry Gas C	Dry Gas D	Pump Vac C	Pump Vac D	Sample Rate C	Sample Rate D	Notes
	0	10	4:50:00 PM	9520.726	3223.099	n/a	0	0	359	359	300	300	300	300	59	60	1	1	0.7	0.7	
	10	20	5:00:00 PM	9527.410	3229.747	n/a	0	0	359	359	300	300	300	300	59	60	1	1	0.7	0.7	
	20	30	5:10:00 PM	9534.114	3236.475	n/a	0	0	359	359	300	300	300	300	59	60	1	1	0.7	0.7	
	30	40	5:20:00 PM	9540.792	3243.165	n/a	0	0	359	359	300	300	300	300	58	59	1	1	0.7	0.7	
	40	50	5:30:00 PM	9547.881	3249.814	n/a	0	0	359	359	300	300	300	300	58	59	1	1	0.7	0.7	
	50	60	5:40:00 PM	9554.170	3256.443	n/a	0	0	359	359	300	300	300	300	58	59	1	1	0.7	0.7	

	60		5:50:00 PM	9560.859	3263.231																

Run: 3-Hg-A 3-Hg-B

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePres Actual A	OrificePres Actual B	StackTempA	StackTempB	Probe Temp A	Probe Temp B	TrapTemp A	TrapTemp B	Dry Gas A	Dry Gas B	Pump Vac A	Pump Vac B	Sample Rate A	Sample Rate B	Notes
	0	10	6:10:00 PM	5163.246	3317.735	n/a	0	0	362	362	301	301	301	301	59	60	1	1	0.7	0.7	
	10	20	6:20:00 PM	5169.961	3324.420	n/a	0	0	362	362	301	301	301	301	59	60	1	1	0.7	0.7	
	20	30	6:30:00 PM	5176.675	3331.959	n/a	0	0	362	362	301	301	301	301	59	60	1	1	0.7	0.7	
	30	40	6:40:00 PM	5183.387	3337.800	n/a	0	0	362	362	301	301	301	301	58	59	1	1	0.7	0.7	
	40	50	6:50:00 PM	5190.100	3344.423	n/a	0	0	362	362	301	301	301	301	58	59	1	1	0.7	0.7	
	50	60	7:00:00 PM	5196.870	3351.170	n/a	0	0	362	362	301	301	301	301	58	59	1	1	0.7	0.7	
	60		7:10:00 PM	5203.529	3357.857																

Run: 3-Hg-C 3-Hg-S

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePres Actual C	OrificePres Actual D	StackTempA	StackTempB	Probe Temp C	Probe Temp D	TrapTemp A	TrapTemp B	Dry Gas C	Dry Gas D	Pump Vac C	Pump Vac D	Sample Rate C	Sample Rate D	Notes
	0	10	6:10:00 PM	9561.274	3263.873	n/a	0	0	362	362	301	301	301	301	57	58	1	1	0.7	0.7	
	10	20	6:20:00 PM	9567.958	3270.580	n/a	0	0	362	362	301	301	301	301	57	58	1	1	0.7	0.7	
	20	30	6:30:00 PM	9574.544	3277.291	n/a	0	0	362	362	301	301	301	301	57	58	1	1	0.7	0.7	
	30	40	6:40:00 PM	9581.330	3284.009	n/a	0	0	362	362	301	301	301	301	57	58	1	1	0.7	0.7	
	40	50	6:50:00 PM	9588.014	3290.720	n/a	0	0	362	362	301	301	301	301	57	58	1	1	0.7	0.7	
	50	60	7:00:00 PM	9594.699	3297.450	n/a	0	0	362	362	301	301	301	301	57	58	1	1	0.7	0.7	
	60		7:10:00 PM	9601.384	3304.150																

Appendix C.3
Unit 2 Calculations

Appendix C.3.1
Unit 2 Gaseous Calculations

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	1-RA-U2	
Date:	3/8/2021	
Start Time:	8:20	
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	1.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	917.7	732.8	184.9
2/H2O	712.5	710.6	1.9
3/Empty	638.9	638.6	0.3
4/S.G.	917.1	905.2	11.9
Rinse		50.0	-50.0
Total			149.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	450.500	74	75
		73	75
Stop	492.982	78	80
Total	42.482		75.8

Summary

Sample Volume:	42.316	dscf
H_2O Volume :	7.033	scf
Moisture Content:	14.3	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.00	1.0000	328	68.62
4	0.97	0.9849	330	67.67
3	0.95	0.9747	331	67.01
2	0.82	0.9055	332	62.30
1	0.77	0.8775	330	60.29
5	0.98	0.9899	329	67.98
4	0.99	0.9950	330	68.36
3	0.83	0.9110	331	62.64
2	0.80	0.8944	333	61.57
1	0.77	0.8775	332	60.37
5	0.85	0.9220	330	63.35
4	0.85	0.9220	331	63.39
3	0.95	0.9747	333	67.10
2	0.97	0.9849	331	67.71
1	0.99	0.9950	330	68.36
5	1.00	1.0000	329	68.67
4	1.10	1.0488	331	72.11
3	1.20	1.0954	332	75.36
2	1.00	1.0000	332	68.80
1	0.93	0.9644	331	66.30
5	1.40	1.1832	330	81.30
4	1.30	1.1402	331	78.39
3	1.20	1.0954	333	75.41
2	1.30	1.1402	332	78.44
1	1.10	1.0488	331	72.11
5	1.40	1.1832	332	81.40
4	1.30	1.1402	331	78.39
3	1.30	1.1402	333	78.49
2	1.20	1.0954	332	75.36
1	1.10	1.0488	331	72.11
Average	1.0359	1.0178	331.1	69.98

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	0.00	0.00	0.01	0.00
Pre Test Span Direct	10.86	10.41	41.56	4.60
Pre-test Zero	0.01	0.11	0.25	0.10
Pre-test Span	10.83	10.41	41.22	4.58
0-60 min	8.89	11.63	38.26	0.22
Post Test Zero Direct	-0.01	0.00	0.01	-0.02
Post Test Span Direct	10.82	10.38	41.33	4.52
Post-test Zero	0.01	0.13	0.06	0.09
Post-test Span	10.80	10.37	41.10	4.52
Average	8.89	11.63	38.26	0.22
Corr. Results	8.86	11.83	38.39	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibration Error	0.4%	-0.8%	0.3%	0.0%
Pre-Test Zero Bias	0.1%	0.6%	0.3%	1.0%
Pre-Test Span Bias	-0.2%	0.0%	-0.4%	-0.3%
Post-Test Zero Bias	0.1%	0.7%	0.1%	1.2%
Post-Test Span Bias	-0.1%	0.0%	-0.3%	0.0%
Zero Drift	0.0%	0.1%	-0.2%	-0.1%
Span Drift	-0.2%	-0.2%	-0.1%	-0.5%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.859	% dry
CO_2:	11.834	% dry
NO_x:	38.386	ppm dry
	25.885	lb/hr
SO_2:	8.6636472	ppm dry
SO2:	8.128	lb/hr
CO:	0.13	ppm dry
	0.052	lb/hr
H_2O:	14.3	%
MW:	28.50	lb/lb-mole
Flow:	163,079	wacfm
	94.14	mdscfm
	5648.30	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5648.30	5229.95	418.35	7.4%
O_2	% dry	8.86	8.9	0.00	0.0%
CO_2	% dry	11.83	11.6	0.20	1.7%
NO_x	ppm dry	38.39	40.1	-1.68	-4.4%
NO_x	ppm @ 3% O_2	57.06	59.6	-2.49	-4.4%
NO_x	lb/hr	25.89	25.04	0.85	3.3%
SO_2	ppm dry	8.66	9.72	-1.05	-12.2%
SO_2	ppm @ 3% O_2	12.88	14.36	-1.48	-11.5%
SO_2	lb/hr	8.13	8.486	-0.358	-4.4%
CO	ppm dry	0.13	0.00	0.13	
CO	ppm @ 3% O_2	0.19	0.00	0.19	
CO	lb/hr	0.052	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	459.4
Aliquot VOL (ml)	20
Titrant VOL (ml)	3.88

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	2-RA-U2
Date:	3/8/2021
Start Time:	9:35
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d	1.0000	
Meter Pressure:	1.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	804.9	635.7	169.2
2/H2O	747.1	742.3	4.8
3/Empty	595.0	592.0	3.0
4/S.G.	859.0	839.6	19.4
Rinse		50.0	-50.0
Total			146.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	494.000	83	85
		85	88
Stop	537.198	86	87
Total	43.198		85.7

Summary

Sample Volume:	42.254	dscf
H_2O Volume :	6.910	scf
Moisture Content:	14.1	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.00	1.0000	333	68.81
4	0.98	0.9899	334	68.16
3	0.94	0.9695	335	66.79
2	0.83	0.9110	336	62.80
1	0.76	0.8718	333	59.98
5	0.97	0.9849	334	67.81
4	0.95	0.9747	335	67.15
3	0.85	0.9220	336	63.56
2	0.82	0.9055	334	62.35
1	0.78	0.8832	332	60.73
5	0.86	0.9274	332	63.77
4	0.88	0.9381	332	64.50
3	0.94	0.9695	333	66.71
2	0.92	0.9592	334	66.04
1	0.98	0.9899	333	68.11
5	1.00	1.0000	332	68.76
4	1.10	1.0488	334	72.21
3	1.30	1.1402	333	78.45
2	1.00	1.0000	333	68.81
1	0.96	0.9798	331	67.33
5	1.40	1.1832	332	81.36
4	1.20	1.0954	333	75.37
3	1.30	1.1402	334	78.50
2	1.20	1.0954	332	75.33
1	1.00	1.0000	333	68.81
5	1.40	1.1832	331	81.31
4	1.40	1.1832	332	81.36
3	1.30	1.1402	334	78.50
2	0.98	0.9899	331	68.03
1	0.97	0.9849	333	67.77
Average	1.0242	1.0120	333.1	69.64

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.00	0.01	-0.02
Pre Test Span Direct	10.82	10.38	41.33	4.52
Pre-test Zero	0.01	0.13	0.06	0.09
Pre-test Span	10.80	10.37	41.10	4.52
0-60 min	8.83	11.68	38.88	0.22
Post Test Zero Direct	-0.01	0.07	0.02	0.11
Post Test Span Direct	10.82	10.48	41.16	4.54
Post-test Zero	0.01	0.13	0.07	0.08
Post-test Span	10.80	10.44	40.96	4.52
Average	8.83	11.68	38.88	0.22
Corr. Results	8.82	11.87	39.14	0.14
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-1.0%	0.0%	-0.8%
Pre-Test Zero Bias	0.1%	0.7%	0.1%	1.2%
Pre-Test Span Bias	-0.1%	0.0%	-0.3%	0.0%
Post-Test Zero Bias	0.1%	0.3%	0.1%	-0.3%
Post-Test Span Bias	-0.1%	-0.3%	-0.2%	-0.2%
Zero Drift	0.0%	0.0%	0.0%	-0.1%
Span Drift	0.0%	0.4%	-0.2%	-0.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.816	% dry
CO_2:	11.873	% dry
NO_x:	39.136	ppm dry
	26.254	lb/hr
SO_2:	8.592399	ppm dry
	8.020	lb/hr
CO:	0.14	ppm dry
	0.057	lb/hr
H_2O:	14.1	%
MW:	28.53	lb/lb-mole
Flow:	162,287	wacfm
	93.65	mdscfm
	5619.04	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5619.04	5130.45	488.59	8.7%
O_2	% dry	8.82	8.9	-0.13	-1.5%
CO_2	% dry	11.87	11.8	0.07	0.6%
NO_x	ppm dry	39.14	40.6	-1.48	-3.8%
NO_x	ppm @ 3% O_2	57.97	60.8	-2.84	-4.9%
NO_x	lb/hr	26.25	24.9	1.35	5.1%
SO_2	ppm dry	8.59	9.27	-0.67	-7.8%
SO_2	ppm @ 3% O_2	12.73	13.83	-1.10	-8.6%
SO_2	lb/hr	8.020	7.933	0.087	1.1%
CO	ppm dry	0.14	0.11	0.03	
CO	ppm @ 3% O_2	0.20	0.16	0.04	
CO	lb/hr	0.057	0.041		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	422.3
Aliquot VOL (ml)	20
Titrant VOL (ml)	4.18

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	3-RA-U2
Date:	3/8/2021
Start Time:	10:52
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	1.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	905.6	731.7	173.9
2/H2O	724.9	719.8	5.1
3/Empty	640.0	638.9	1.1
4/S.G.	925.6	917.1	8.5
Rinse		50.0	-50.0
Total			138.6

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	538.500	84	85
		85	90
Stop	581.334	87	90
Total	42.834		86.8

Summary

Sample Volume:	41.808	dscf
H_2O Volume :	6.542	scf
Moisture Content:	13.5	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	330	67.55
4	0.96	0.9798	331	67.25
3	0.92	0.9592	332	65.87
2	0.81	0.9000	331	61.77
1	0.75	0.8660	331	59.44
5	0.98	0.9899	332	67.99
4	0.92	0.9592	333	65.92
3	0.83	0.9110	332	62.57
2	0.81	0.9000	334	61.89
1	0.74	0.8602	332	59.08
5	0.87	0.9327	332	64.06
4	0.85	0.9220	331	63.28
3	0.93	0.9644	332	66.23
2	0.91	0.9539	331	65.47
1	0.96	0.9798	332	67.29
5	0.98	0.9899	331	67.94
4	1.10	1.0488	333	72.08
3	1.20	1.0954	332	75.23
2	0.99	0.9950	332	68.33
1	0.95	0.9747	331	66.90
5	1.40	1.1832	332	81.26
4	1.20	1.0954	333	75.28
3	1.20	1.0954	332	75.23
2	1.10	1.0488	331	71.98
1	1.00	1.0000	330	68.59
5	1.20	1.0954	332	75.23
4	1.40	1.1832	331	81.21
3	1.20	1.0954	332	75.23
2	1.30	1.1402	331	78.26
1	1.00	1.0000	330	68.59
Average	1.0070	1.0035	331.6	68.90

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.07	0.02	0.11
Pre Test Span Direct	10.82	10.48	41.16	4.54
Pre-test Zero	0.01	0.13	0.07	0.08
Pre-test Span	10.80	10.44	40.96	4.52
0-60 min	8.84	11.76	39.13	0.20
Post Test Zero Direct	-0.01	0.01	0.02	-0.02
Post Test Span Direct	10.83	10.43	41.21	4.54
Post-test Zero	0.01	0.09	0.06	0.08
Post-test Span	10.80	10.45	40.75	4.52
Average	8.84	11.76	39.13	0.20
Corr. Results	8.82	11.91	39.56	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-0.4%	-0.2%	-0.6%
Pre-Test Zero Bias	0.1%	0.3%	0.1%	-0.3%
Pre-Test Span Bias	-0.1%	-0.3%	-0.2%	-0.2%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Post-Test Span Bias	-0.1%	0.1%	-0.5%	-0.2%
Zero Drift	0.0%	-0.2%	0.0%	0.0%
Span Drift	0.0%	0.1%	-0.2%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.819	% dry
CO_2:	11.914	% dry
NO_x:	39.556	ppm dry
	26.465	lb/hr
SO_2:	8.9189176	ppm dry
	8.302	lb/hr
CO:	0.13	ppm dry
	0.053	lb/hr
H_2O:	13.5	%
MW:	28.60	lb/lb-mole
Flow:	160,567	wacfm
	93.40	mdscfm
	5604.05	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5604.05	5085.67	518.39	9.3%
O_2	% dry	8.82	8.9	-0.12	-1.4%
CO_2	% dry	11.91	11.8	0.11	1.0%
NO_x	ppm dry	39.56	40.9	-1.31	-3.3%
NO_x	ppm @ 3% O_2	58.61	61.1	-2.51	-4.3%
NO_x	lb/hr	26.47	24.8648	1.60	6.0%
SO_2	ppm dry	8.92	10.35	-1.43	-16.0%
SO_2	ppm @ 3% O_2	13.21	15.36	-2.15	-16.3%
SO_2	lb/hr	8.302	8.810	-0.507	-6.1%
CO	ppm dry	0.13	0.58	-0.45	
CO	ppm @ 3% O_2	0.19	0.86	-0.67	
CO	lb/hr	0.053	0.214	-0.16	

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	428.6
Aliquot VOL (ml)	20
Titrant VOL (ml)	4.23

Appendix C.3.2
Unit 2 Hydrogen Chloride Calculations

Desert View Power - Unit 2

Test No	1-HCl	2-HCl	3-HCl	Average	Limit
Date	3/4/2021	3/4/2021	3/4/2021		
Start Time	7:25	9:55	12:25		
Stop Time	9:25	11:55	14:25		
Test Information					
Reference Temperature, °F	68	68	68		
Diluent Emissions and Stack Flow Rate					
Moisture Fraction, %	13.10	13.28	12.91	13.1	
O_2, % vol. dry	8.62	8.70	8.69	8.67	
CO_2, % vol. Dry	12.09	12.01	11.97	12.02	
Stack Flow Rate (dscfm)	92,651	91,402	92,004	91,703	
Fuel F_d Factor, dscf/MMBtu @ 68°.....	9,240	9,240	9,240	9,240	
Fuel F_d Factor, dscf/MMBtu @ 60°.....	9,100	9,100	9,100	9,100	
HCl Emissions					
ppmvw	6.88	11.50	10.81	9.73	
ppmvd	7.92	13.26	12.41	11.20	
lb/hr (as HCl)	4.2	7.0	6.6	6.79	
lb/MMBtu	**0.0118**	**0.0199**	**0.0186**	**0.017**	**0.022**

NOTE: O2/CO2 and stack flow are from PM Test.

Appendix C.3.3
Unit 2 Particulate Calculations

EPA METHOD 5 SOURCE TEST

DATA AND WORKSHEET

Client	Desert View Power	Parameter		Full Load
Loaction	Mecca	Fuel		Biomass
Unit	Unit 2	Data By		DW
Test Number	1-PM-U2	2-PM-U2	3-PM-U2	Average
Reference Temperature, F	68	68	68	
Test Date	3/4/2021	3/4/2021	3/28/2018	
Sample Train	23-WCS	23-WCS	23-WCS	-
Pitot Factor	0.840	0.840	0.840	-
Meter Calibration Factor	1.000	1.000	1.000	-
Stack Area (sq ft)	38.84	38.84	38.84	-
Sample Time (Min)	120	120	120	120
Barometric Pressure (in Hg)	30.26	30.26	30.26	30.26
Nozzle Diam (in)	0.239	0.239	0.239	0.239
Start/Stop Time	725/935	955/1200	1225/1430	-
Stack Pressure (iwg)	0.69	0.69	0.69	0.69
Delta P (iwg)	1.009	0.9807	0.9883	0.9925
Meter Pressure (iwg)	1.550	1.633	1.677	1.620
Stack Temperature (F)	355.2	351.9	353.4	353.5
Meter Temperature (F)	59.4	79.8	85.1	74.7
Meter Volume (acf)	85.013	90.252	91.154	88.806
Liquid Volume (ml)	280.3	290.7	281.5	284.2
Stack O2 (%)	8.62	8.70	8.69	8.7
Stack CO2 (%)	12.09	12.01	11.97	12.0
Standard Sample Volume (SCF)	87.725	89.624	89.649	88.999
Moisture Fraction	0.131	0.133	0.129	0.131
Molecular Weight (wet)	28.67	28.64	28.68	28.66
Stack Gas Velocity (ft/sec)	69.75	68.67	68.95	69.12
Stack Flow Rate (wacfm)	162,543	160,033	160,687	161,088
Stack Flow Rate (dscfm)	92,651	91,402	92,004	92,019
Isokinetic Ratio (%)	98.33	101.83	101.20	100.45
Analysis				
Filter mg	0.00	0.00	0.00	0.00
Probe/Nozzle mg	0.00	2.60	4.30	2.30
Particulate Catch, mg	0.00	2.60	4.30	2.30
Particulate Emissions				
Grain Loading gr/dscf	0.00000	0.00045	0.00074	0.0004
Grain Loading @ 12% CO2	0.00000	0.00045	0.00074	0.0004
Part emission lb/hr	0.000	0.351	0.584	0.311
F-Factor (dscf/MMBtu)	9240	9240	9240	
Emission rate, lb/MMBtu	0.0000	0.0010	0.0017	0.0009

MOBILE EMISSION LABORATORY
CONTINUOUS GASEOUS MEASUREMENTS SUMMARY

Client:	Desert View Power	Condition:	----
Unit:	Unit 2	Load:	> 90%
Location:	Mecca	Date	3/4/2021

	O2%	CO2%				
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
	O2%	CO2%				
As Found	10.826	10.558				
Linearity	0.2%	0.0%			<2%	**Pass**
3/4/2021	O2%	CO2%				
1pm-cem-U2						
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
Pre test Direct Zero	-0.01	0.00				
Pre test Direct Span	10.83	10.56				
System Zero	0.02	0.07				
System Span	10.82	10.58				
Average	8.64	12.01				
System Zero	-0.02	0.02				
System Span	10.79	10.42				
Post test Direct Zero	0.00	0.09				
Post test Direct Span	10.76	10.44				
Corrected Conc.	8.62	12.09				
System Bias Check						
Zero Pre-test	0.08%	0.33%			< 5%	**PASS**
Zero Post-test	-0.10%	0.10%			< 5%	**PASS**
Span Pre-test	0.19%	0.07%			< 5%	**PASS**
Span Post-test	0.06%	-0.69%			<5%	**PASS**
3/4/2021	O2%	CO2%				
2-CEM-U2						
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
Pre test Direct Zero	-0.02	0.02				
Pre test Direct Span	10.79	10.42				
System Zero	0.00	0.09				
System Span	10.76	10.44				
Raw concentration	8.67	11.76				
Raw concentration	8.67	11.76				
System Zero	-0.03	0.01				
System Span	10.74	10.25				
Post test Direct Zero	-0.01	0.09				
Post test Direct Span	10.72	10.27				
Corrected Conc.	8.70	12.01				
System Bias Check						
Zero Pre-test	-0.01%	0.45%			< 5%	**PASS**
Zero Post-test	-0.13%	0.06%			< 5%	**PASS**
Span Pre-test	-0.09%	-0.61%			< 5%	**PASS**
Span Post-test	-0.18%	-1.53%			<5%	**PASS**

3/10/2015	O2%	CO2%				
3-CEM-U2						
Analyzer Range:	20	20				
Span Value:	10.78	10.56				
Pre test Direct Zero	-0.03	0.01				
Pre test Direct Span	10.74	10.25				
System Zero	-0.01	0.09				
System Span	10.72	10.27				
Raw concentration	8.64	11.64				
System Zero	-0.03	0.06				
System Span	10.73	10.29				
Post test Direct Zero	-0.01	0.15				
Post test Direct Span	10.70	10.28				
Corrected Conc.	8.69	11.97				
System Bias Check						
Zero Pre-test	-0.04%	0.44%			< 5%	**PASS**
Zero Post-test	-0.13%	0.32%			< 5%	**PASS**
Span Pre-test	-0.30%	-1.46%			< 5%	**PASS**
Span Post-test	-0.27%	-1.36%			<5%	**PASS**

1-PM-U1

	dP	(dP)^.5	dH	Ts	Tm	
5	0.77	0.877	1.1	358	52	54
4	0.85	0.922	1.2	359	55	57
3	0.96	0.980	1.4	357	60	63
2	0.99	0.995	1.4	355	62	66
1	0.88	0.938	1.3	358	64	67
5	0.95	0.975	1.4	358	63	64
4	1.10	1.049	1.6	359	62	64
3	1.20	1.095	1.8	360	62	63
2	1.10	1.049	1.6	357	61	63
1	0.97	0.985	1.5	355	62	62
5	1.00	1.000	1.5	357	60	60
4	0.95	0.975	1.4	356	59	60
3	0.88	0.938	1.3	358	59	60
2	0.90	0.949	1.4	352	59	60
1	0.83	0.911	1.2	354	58	60
5	1.10	1.049	1.6	354	58	60
4	0.98	0.990	1.5	352	57	60
3	1.00	1.000	1.6	355	57	60
2	0.93	0.964	1.5	352	56	60
1	0.95	0.975	1.5	353	56	59
5	0.98	0.990	1.5	352	56	58
4	1.20	1.095	1.9	355	57	58
3	1.30	1.140	2.1	352	57	58
2	1.20	1.095	1.9	352	57	58
1	1.00	1.000	1.6	353	57	59
5	1.00	1.000	1.6	352	57	59
4	1.10	1.049	1.8	354	57	58
3	1.20	1.095	1.9	355	57	59
2	1.10	1.049	1.8	356	58	60
1	1.00	1.000	1.6	355	57	60
Average		1.0086	1.550	355.2	59.4	

		Meter Vol	Imp	Imp	
Delta P (iwg)	1.009	174.200	998.4	795.9	202.5
Meter Pressure (iwg)	1.550	259.213	891.7	722.5	169.2
Stack Temperature (F	355.167	85.013	587.4	585.9	1.5
Meter Temperature (F	59.350		1031.3	1024.2	7.1
Meter Volume (acf)	85.013			100	-100.0
Liquid Volume (ml)	280.300				280.3

2-PM-U1

	dP	(dP)^.5	dH	Ts	Tm	
5	1.00	1.000	1.6	350	60	60
4	1.10	1.049	1.7	348	65	67
3	1.20	1.095	1.9	347	67	69
2	1.10	1.049	1.7	348	69	70
1	1.00	1.000	1.6	349	71	73
5	0.97	0.985	1.5	350	74	75
4	1.10	1.049	1.9	352	76	77
3	1.30	1.140	2.2	356	77	79
2	1.20	1.095	2.0	355	79	81
1	1.10	1.049	1.9	352	80	83
5	0.94	0.970	1.6	354	80	84
4	0.98	0.990	1.7	351	81	84
3	1.00	1.000	1.7	353	82	85
2	1.10	1.049	1.9	351	82	84
1	0.93	0.964	1.6	352	82	84
5	0.94	0.970	1.6	352	81	84
4	0.88	0.938	1.5	353	80	84
3	0.95	0.975	1.6	351	81	84
2	0.93	0.964	1.6	352	82	85
1	0.86	0.927	1.5	351	83	85
5	0.93	0.964	1.6	352	83	86
4	1.00	1.000	1.7	353	83	86
3	0.94	0.970	1.6	355	83	86
2	0.86	0.927	1.5	352	82	85
1	0.82	0.906	1.4	353	82	84
5	0.94	0.970	1.5	354	82	85
4	0.88	0.938	1.4	355	83	86
3	0.84	0.917	1.3	352	82	85
2	0.90	0.949	1.4	353	83	84
1	0.83	0.911	1.3	352	84	84
Average		0.9807	1.633	351.9	79.8	

		Meter Vol	Imp	Imp	
Delta P (iwg)	0.981	264	946.1	735.8	210.3
Meter Pressure (iwg)	1.633	354.252	735.2	685.5	49.7
Stack Temperature (F	351.933	90.252	644.8	642.2	2.6
Meter Temperature (F	79.783		889.3	861.2	28.1
Meter Volume (acf)	90.252				0.0
Liquid Volume (ml)	290.700				290.7

3-PM-U1

	dP	(dP)^.5	dH	Ts	Tm	
5	0.94	0.970	1.5	352	80	83
4	0.93	0.964	1.5	353	81	82
3	0.97	0.985	1.6	352	80	83
2	0.91	0.954	1.5	351	81	83
1	0.80	0.894	1.3	351	81	83
5	0.98	0.990	1.7	353	81	84
4	1.00	1.000	1.7	358	82	84
3	0.94	0.970	1.6	356	83	86
2	0.92	0.959	1.6	354	82	86
1	0.90	0.949	1.5	353	83	87
5	1.00	1.000	1.7	354	84	85
4	0.96	0.980	1.6	352	84	86
3	0.92	0.959	1.6	353	84	86
2	0.88	0.938	1.5	353	84	87
1	0.83	0.911	1.4	351	84	89
5	1.00	1.000	1.7	353	84	88
4	0.96	0.980	1.6	354	84	87
3	0.94	0.970	1.6	352	85	88
2	0.91	0.954	1.5	353	84	88
1	0.87	0.933	1.5	351	84	88
5	1.10	1.049	1.9	352	85	89
4	1.20	1.095	2.0	351	86	89
3	1.10	1.049	1.9	353	85	89
2	1.00	1.000	1.7	354	85	89
1	0.98	0.990	1.7	352	84	89
5	1.20	1.095	2.0	354	84	88
4	1.10	1.049	1.9	355	84	88
3	1.10	1.049	1.9	356	85	88
2	1.30	1.140	2.2	357	85	89
1	1.10	1.049	1.9	358	86	90
Average		0.9883	1.677	353.4	85.1	

		Meter Vo	Imp	Imp	
Delta P (iwg)	0.988	358	993.2	799.2	194.0
Meter Pressure (iwg)	1.677	449.15	804.5	721.3	83.2
Stack Temperature (I	353.367	91.154	590.6	588.7	1.9
Meter Temperature (F	85.083		1033.7	1031.3	2.4
Meter Volume (acf)	91.154				0.0
Liquid Volume (ml)	281.5				281.5

Appendix C.3.4
Unit 2 Hydrocarbon Calculations

SCAQMD 25.3 SOURCE TEST
DATA AND WORKSHEET

Client.....	Desert View Power	Parameter.....	>90%
Loaction.....	Mecca	Fuel.....	Biomass/coke
Unit	Unit 2	Data By.....	DW
Test Number.....	1A-VOC-U2	1B-VOC-U2	Average
Reference Temperature, F.....	68	68	
Test Date.....	3/8/2021	3/8/2021	
Sample Time (Min).....	~60	~60	~60
Barometric Pressure (in Hg).....	30.14	30.14	30.14
Start/Stop Time.....	935/1035	935/1035	
Stack O2 (%).....	8.82	8.82	8.8
Stack CO2 (%).....	11.87	11.87	11.9
Stack H2O (%).....	14.1%	14.1%	14.1%
Stack Flow Rate (wacfm).....	162,287	162,287	162,287
Stack Flow Rate (dscfm).....	93,651	93,651	93,651
Laboraotory Results			
TGNMO ppm.....	4.79	2.63	4.79
TGNMO ppm @ 3% O2.....	7.10	3.90	7.10
TGNMO lb/hr.....	1.12	0.61	1.12

Note: Flow rates from Test RATA Run 2

Per Method 25.3 when the difference between the paired canisters is >20% the higher of the two results is used.

Appendix C.3.5
Unit 2 Mercury Calculations

Mercury by Method 30B
Desert View Power - Unit 2

	QA/QC Spike Pair				QA/QC Spike Pair				QA/QC Spike Pair				
Test Number	**1-Hg-A**	**1-Hg-B**	**1-Hg-C**	**1-Hg-S**	**2-Hg-A**	**2-Hg-B**	**2-Hg-C**	**2-Hg-S**	**3-Hg-A**	**3-Hg-B**	**3-Hg-C**	**3-Hg-S**	**Average**
Date	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	
Start Time	10:20	10:20	10:20	10:20	11:40	11:40	11:40	11:40	13:15	13:15	13:15	13:15	
End Time	11:20	11:20	11:20	11:20	12:40	12:40	12:40	12:40	14:15	14:15	14:15	14:15	
Test Type	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	Total Hg	
Spiked	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	
Sorbent ID	OLC137227	OLC160774	OLC160581	OLC132337	OLC149000	OLC148880	OLC149014	OLC131609	OLC160618	OLC137166	OLC160765	OLC131647	
Operating Condition	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Sorbent Trap Result													
Average if paired samples, result if single, ug/dsm3		**38.80**		**38.80**		**12.37**		**11.53**		**7.78**		**8.50**	
Sampling Data													
Total volume, dsm3	0.04025	0.03981	0.04032	0.04047	0.04024	0.03975	0.04010	0.04109	0.04030	0.03971	0.04005	0.04031	
Total volume, dscf	1.42113	1.40574	1.42379	1.42890	1.42087	1.40353	1.41599	1.45086	1.42294	1.40211	1.41422	1.42334	
Moisture, from Flow test (Data from HCl)	0.127	0.127	0.127	0.127	0.140	0.140	0.140	0.140	0.119	0.119	0.119	0.119	
Stack O2, %	9.66	9.66	9.66	9.66	9.62	9.62	9.62	9.62	9.72	9.72	9.72	9.72	
Stack CO2, %	11.09	11.09	11.09	11.09	11.08	11.08	11.08	11.08	11.01	11.01	11.01	11.01	
Fuel F_d Factor, dscf/MMBtu @ 68°	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	9,240	
Fuel F_d Factor, dscf/MMBtu @ 60°	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	
Flow, dscfm (Data from HCl)	87,469	87,469	87,469	87,469	89,454	89,454	89,454	89,454	88,235	88,235	88,235	88,235	
Laboratory Data													
ng, Sec 1	1596.00	1496.00	1542.00	1566.00	540.00	440.00	423.40	504.00	340.00	278.00	315.50	360.30	
ng, Sec 2	3.65	11.21	13.82	13.03	7.18	3.24	3.20	6.32	1.20	3.90	5.70	2.00	
ng, total	1599.65	1507.21	1555.82	1579.03	547.18	443.24	426.60	510.32	341.20	281.90	321.20	362.30	
Spike level, ng				**400**				**400**				**400**	
Spike result ng, Sec 1				1966.00				904.00				760.30	
Spike result ng, Sec 2				13.03				6.32				2.00	
Spike result ng, total				1979.03				910.32				762.30	
Results													
Total ug/dscm	39.746	37.859	38.584	39.020	13.598	11.151	10.638	12.420	8.467	7.099	8.020	8.988	19.653
Total ug/dscf	1.126	1.072	1.093	1.105	0.385	0.316	0.301	0.352	0.240	0.201	0.227	0.255	0.557
Total lb/hr	1.30E-02	1.24E-02	1.26E-02	1.28E-02	4.55E-03	3.73E-03	3.56E-03	4.16E-03	2.80E-03	2.34E-03	2.65E-03	2.97E-03	6.47E-03
Total lb/MMBtu	4.26E-05	4.06E-05	4.14E-05	4.18E-05	1.45E-05	1.19E-05	1.14E-05	1.33E-05	9.12E-06	7.65E-06	8.64E-06	9.68E-06	2.11E-05
QA/QC													
Spike , ug/dsm3				48.90				22.15				18.91	
Spike , expected, ug/dsm3				9.88				9.73				9.92	
Spike, actual (spike-sample), ug/dsm3				10.32				11.52				10.89	
% recovery				104.4%				118.3%				109.8%	
Breaktrough,on sample, Sec 2, %	0.2%	0.7%	0.9%	0.8%	1.3%	0.7%	0.8%	1.3%	0.4%	1.4%	1.8%	0.6%	
Relative Percent Difference on paired samples		2.4%		0.6%		4.5%		2.4%		3.0%		6.1%	

Note: <10% breakthrough is criteria in most cases
< 10% RPD is criteria for paired trains in most cases
85%-115% average spike recovery is Method 30B criteria
Low sample levels show more variation

Mercury	
ug/dscm	19.653
lb/hr (as Hg)	6.47E-03
lb/MMBtu	2.11E-05

Montrose AQS
Run 1 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION

GENERAL

Test:	1-O2/CO2-U2
Date:	3/11/2021
Start Time:	10:20
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23 wcs	
Meter Y_d:	1.0000	
Meter Pressure:	2.0	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA

Impingers

#/Matl.	End	Start	Diff.
1/H2O	827.2	734.2	93.0
2/H2O	749.5	740.5	9.0
3/Empty	649.4	639.4	10.0
4/S.G.	938.2	917.8	20.4
Rinse			0.0
Total			132.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	815.050	78	79
		79	80
Stop	858.300	80	80
		81	81
Total	43.250		79.8

Summary

Sample Volume:	42.820	dscf
H_2O Volume :	6.249	scf
Moisture Content:	12.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	320	67.11
4	0.92	0.9592	321	65.40
3	0.91	0.9539	321	65.04
2	0.81	0.9000	322	61.41
1	0.73	0.8544	319	58.18
5	0.93	0.9644	320	65.71
4	0.91	0.9539	320	65.00
3	0.82	0.9055	321	61.74
2	0.79	0.8888	321	60.60
1	0.76	0.8718	319	59.37
5	1.00	1.0000	363	70.00
4	0.93	0.9644	363	67.50
3	0.88	0.9381	359	65.50
2	0.84	0.9165	359	64.00
1	0.80	0.8944	359	62.45
5	0.85	0.9220	361	64.45
4	0.83	0.9110	363	63.77
3	0.92	0.9592	364	67.18
2	0.98	0.9899	364	69.33
1	0.99	0.9950	364	69.69
5	1.20	1.0954	364	76.72
4	0.95	0.9747	364	68.26
3	0.92	0.9592	365	67.22
2	0.61	0.7810	363	54.67
1	0.63	0.7937	363	55.56
5	0.96	0.9798	362	68.54
4	0.91	0.9539	362	66.73
3	0.84	0.9165	360	64.03
2	1.00	1.0000	361	69.91
1	1.10	1.0488	361	73.32
Average	0.8855	0.9410	348.3	65.28

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	0.00	0.00
Pre Test Span Direct	10.84	10.42
Pre-test Zero	0.11	0.06
Pre-test Span	10.87	10.39
Average	9.74	10.90
Post Test Zero Direct	-0.01	-0.03
Post Test Span Direct	10.84	10.38
Post-test Zero	0.00	0.01
Post-test Span	10.85	10.36
Average	9.74	10.90
Corr. Results	9.66	11.09

Cal Error <2%, Bias <5%; Drift <3%

Calibrtion Error	0.3%	-0.7%
Pre-Test Zero Bias	0.6%	0.3%
Pre-Test Span Bias	0.1%	-0.1%
Post-Test Zero Bias	0.0%	0.2%
Post-Test Span Bias	0.1%	-0.1%
Zero Drift	-0.6%	-0.2%
Span Drift	-0.1%	-0.2%

TEST SUMMARY

O_2:	9.661	% dry
	8.431	% wet
CO_2:	11.089	% dry
	9.677	% wet
H_2O:	12.7	%
MW:	28.61	lb/lb-mole
Flow:	152,131	wacfm
	87.47	mdscfm
	5248.13	kdscfh

Montrose AQS
Run 2 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	2-O2/CO2-U2
Date:	3/11/2021
Start Time:	11:40
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23 wcs	
Meter Y_d:	1.0000	
Meter Pressure:	2.0	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	784.3	641.9	142.4
2/H2O	758.4	754.1	4.3
3/Empty	598.6	597.7	0.9
4/S.G.	908.0	896.4	11.6
Rinse			0.0
Total			159.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	858.400	81	83
		83	83
Stop	905.100	82	83
		83	83
Total	46.700		82.6

Summary

Sample Volume:	45.991	dscf
H_2O Volume :	7.514	scf
Moisture Content:	14.0	%

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	-0.01	-0.03
Pre Test Span Direct	10.84	10.38
Pre-test Zero	0.00	0.01
Pre-test Span	10.85	10.36
Average	9.66	10.86
Post Test Zero Direct	-0.02	-0.03
Post Test Span Direc	10.80	10.36
Post-test Zero	0.07	0.02
Post-test Span	10.80	10.33
Average	9.66	10.86
Corr. Results	9.62	11.08
Cal Error <2%, Bias <5%; Drift <3%		
Calibrtion Error	0.3%	-1.0%
Pre-Test Zero Bias	0.0%	0.2%
Pre-Test Span Bias	0.1%	-0.1%
Post-Test Zero Bias	0.4%	0.3%
Post-Test Span Bias	0.0%	-0.1%
Zero Drift	0.4%	0.0%
Span Drift	-0.3%	-0.2%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.96	0.9798	320	66.95
4	0.95	0.9747	321	66.65
3	0.90	0.9487	322	64.91
2	0.82	0.9055	322	61.96
1	0.77	0.8775	322	60.04
5	0.93	0.9644	319	65.86
4	0.81	0.9000	320	61.50
3	0.83	0.9110	321	62.30
2	0.82	0.9055	321	61.92
1	0.78	0.8832	320	60.35
5	1.20	1.0954	361	76.80
4	1.20	1.0954	360	76.75
3	1.30	1.1402	361	79.94
2	1.40	1.1832	362	83.00
1	1.00	1.0000	362	70.15
5	1.00	1.0000	363	70.19
4	0.93	0.9644	363	67.69
3	0.88	0.9381	363	65.85
2	0.85	0.9220	364	64.75
1	0.80	0.8944	364	62.82
5	0.85	0.9220	364	64.75
4	0.84	0.9165	364	64.37
3	0.92	0.9592	361	67.25
2	0.97	0.9849	361	69.05
1	0.99	0.9950	361	69.76
5	0.99	0.9950	362	69.80
4	1.00	1.0000	362	70.15
3	0.85	0.9220	362	64.68
2	0.99	0.9950	360	69.71
1	1.10	1.0488	361	73.53
Average	0.9488	0.9741	348.3	67.78

TEST SUMMARY

O_2:	9.619	% dry
	8.268	% wet
CO_2:	11.084	% dry
	9.527	% wet
H_2O:	14.0	%
MW:	28.45	lb/lb-mole
Flow:	157,958	wacfm
	89.45	mdscfm
	5367.25	kdscfh

Montrose AQS
Run 3 CEMS
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	3-O2/CO2-U2
Date:	3/11/2021
Start Time:	13:15
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23 wcs	
Meter Y_d:	1.0000	
Meter Pressure:	2.0	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	868.0	754.0	114.0
2/H2O	747.9	744.5	3.4
3/Empty	648.3	641.4	6.9
4/S.G.	939.8	930.2	9.6
Rinse			0.0
Total			133.9

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	905.600	80	82
		80	82
Stop	953.100	80	83
		83	83
Total	47.500		81.6

Summary

Sample Volume:	46.865	dscf
H_2O Volume :	6.320	scf
Moisture Content:	11.9	%

METHOD 3A, 6C, 7E DATA

	O_2	CO_2
Analyzer Span	19.15	18.94
Actual Span Value	10.78	10.56
Pre Test Zero Direct	-0.02	-0.03
Pre Test Span Direct	10.80	10.36
Pre-test Zero	0.07	0.02
Pre-test Span	10.80	10.33
Average	9.75	10.76
Post Test Zero Direct	-0.02	-0.02
Post Test Span Direc	10.80	10.36
Post-test Zero	0.06	0.04
Post-test Span	10.83	10.31
Average	9.75	10.76
Corr. Results	9.72	11.01

Cal Error <2%, Bias <5%; Drift <3%

Calibrtion Error	0.1%	-1.1%
Pre-Test Zero Bias	0.4%	0.3%
Pre-Test Span Bias	0.0%	-0.1%
Post-Test Zero Bias	0.4%	0.3%
Post-Test Span Bias	0.2%	-0.3%
Zero Drift	0.0%	0.1%
Span Drift	0.2%	-0.1%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	322	67.09
4	0.95	0.9747	322	66.39
3	0.93	0.9644	323	65.73
2	0.84	0.9165	323	62.47
1	0.76	0.8718	323	59.42
5	0.93	0.9644	321	65.65
4	0.95	0.9747	321	66.35
3	0.83	0.9110	322	62.06
2	0.80	0.8944	322	60.93
1	0.74	0.8602	321	58.56
5	1.00	1.0000	362	69.84
4	0.93	0.9644	362	67.35
3	0.83	0.9110	364	63.70
2	0.85	0.9220	364	64.46
1	0.80	0.8944	364	62.54
5	0.85	0.9220	363	64.43
4	0.83	0.9110	361	63.59
3	0.89	0.9434	362	65.88
2	0.97	0.9849	362	68.78
1	0.99	0.9950	362	69.49
5	1.20	1.0954	360	76.41
4	0.96	0.9798	360	68.34
3	0.93	0.9644	361	67.31
2	0.63	0.7937	361	55.40
1	0.59	0.7681	363	53.68
5	0.96	0.9798	364	68.51
4	0.92	0.9592	364	67.07
3	0.83	0.9110	364	63.70
2	1.00	1.0000	364	69.92
1	1.10	1.0488	365	73.38
Average	0.8877	0.9422	349.1	65.28

TEST SUMMARY

O_2:	9.716	% dry
	8.562	% wet
CO_2:	11.013	% dry
	9.705	% wet
H_2O:	11.9	%
MW:	28.71	lb/lb-mole
Flow:	152,130	wacfm
	88.24	mdscfm
	5294.12	kdscfh

Date	Start Time	End Time	Run #	Trap #	Spiked / Unspiked	Start Vol, l	Stop Vol,l	Total Vol,l	Total Vol, m3	Total Vol,ft3	Meter No.	Yd	delta H	Meter Temp	Stack Temp	Trap Temp	Vacuum	P bar	Ref Temp	Vm std, dscm	Vm std, dscf
3/11/2021	10:20	11:20	1-Hg-A	OLC137227	Unspiked	9346.307	9386.590	40.283	0.040283	1.4224	21-A	0.9989	0.00	71.7	319.0	280.8	1.0	30.14	68	0.04025	1.42113
3/11/2021	10:20	11:20	1-Hg-B	OLC160774	Unspiked	3036.864	3077.064	40.200	0.040200	1.4195	21-B	0.9901	0.00	71.7	319.0	280.8	1.0	30.14	68	0.03981	1.40574
3/11/2021	10:20	11:20	1-Hg-C	OLC160581	Unspiked	4953.190	4993.321	40.131	0.040131	1.4170	20-C	0.9989	0.00	68.7	319.0	280.8	1.0	30.14	68	0.04032	1.42379
3/11/2021	10:20	11:20	1-Hg-S	OLC132337	Spiked	3105.056	3145.328	40.272	0.040272	1.4220	20-S	0.9993	0.00	68.8	319.0	280.8	1.0	30.14	68	0.04047	1.42890
3/11/2021	11:40	12:40	2-Hg-A	OLC149000	Unspiked	9387.415	9427.615	40.200	0.040200	1.4195	21-A	0.9989	0.00	70.7	321.0	300.5	1.0	30.14	68	0.04024	1.42087
3/11/2021	11:40	12:40	2-Hg-B	OLC148880	Unspiked	3077.826	3117.900	40.074	0.040074	1.4150	21-B	0.9901	0.00	70.8	321.0	300.5	1.0	30.14	68	0.03975	1.40353
3/11/2021	11:40	12:40	2-Hg-C	OLC149014	Unspiked	4994.405	5034.530	40.125	0.040125	1.4168	20-C	0.9989	0.00	71.5	321.0	300.5	1.0	30.14	68	0.04010	1.41599
3/11/2021	11:40	12:40	2-Hg-S	OLC131609	Spiked	3146.130	3186.325	40.195	0.040195	1.4193	20-S	0.9993	0.00	59.8	321.0	300.5	1.0	30.14	68	0.04109	1.45086
3/11/2021	13:15	14:15	3-Hg-A	OLC160618	Unspiked	9428.565	9468.950	40.385	0.040385	1.4260	21-A	0.9989	0.00	72.3	322.8	301.0	1.0	30.14	68	0.04030	1.42294
3/11/2021	13:15	14:15	3-Hg-B	OLC137166	Unspiked	3136.734	3176.956	40.222	0.040222	1.4202	21-B	0.9901	0.00	73.3	322.8	301.0	1.0	30.14	68	0.03971	1.40211
3/11/2021	13:15	14:15	3-Hg-C	OLC160765	Unspiked	5035.724	5075.824	40.100	0.040100	1.4159	20-C	0.9989	0.00	71.8	322.8	301.0	1.0	30.14	68	0.04005	1.41422
3/11/2021	13:15	14:15	3-Hg-S	OLC131647	Spiked	3186.907	3227.250	40.343	0.040343	1.4245	20-S	0.9993	0.00	71.8	322.8	301.0	1.0	30.14	68	0.04031	1.42334

Run: 1-Hg-A 1-Hg-B

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePresActual A	OrificePres Actual B	StackTempA	StackTempB	Probe Temp A	Probe Temp B	TrapTemp A	TrapTemp B	Dry Gas A	Dry Gas B	Pump Vac A	Pump Vac B	Sample Rate A	Sample Rate B	Notes
	0	10	10:20:00 AM	9346.307	3036.864	n/a	0	0	319	319	233	233	233	233	70	70	1	1	0.7	0.7	
	10	20	10:30:00 AM	9353.021	3043.564	n/a	0	0	319	319	245	245	245	245	70	70	1	1	0.7	0.7	
	20	30	10:40:00 AM	9359.735	3050.264	n/a	0	0	319	319	300	300	300	300	72	72	1	1	0.7	0.7	
	30	40	10:50:00 AM	9366.449	3056.964	n/a	0	0	319	319	303	303	303	303	72	72	1	1	0.7	0.7	
	40	50	11:00:00 AM	9373.162	3063.665	n/a	0	0	319	319	302	302	302	302	73	73	1	1	0.7	0.7	
	50	60	11:10:00 AM	9379.876	3070.354	n/a	0	0	319	319	302	302	302	302	73	73	1	1	0.7	0.7	
	60		11:20:00 AM	9386.590	3077.064																

Run: 1-Hg-C 1-Hg-S

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePresActual C	OrificePres Actual D	StackTempA	StackTempB	Probe Temp C	Probe Temp D	TrapTemp A	TrapTemp B	Dry Gas C	Dry Gas D	Pump Vac C	Pump Vac D	Sample Rate C	Sample Rate D	Notes
	0	10	10:20:00 AM	4953.190	3105.056	n/a	0	0	319	319	233	233	233	233	68	68	1	1	0.7	0.7	
	10	20	10:30:00 AM	4959.879	3111.760	n/a	0	0	319	319	245	245	245	245	68	68	1	1	0.7	0.7	
	20	30	10:40:00 AM	4966.568	3118.470	n/a	0	0	319	319	300	300	300	300	68	68	1	1	0.7	0.7	
	30	40	10:50:00 AM	4973.257	3125.185	n/a	0	0	319	319	303	303	303	303	69	69	1	1	0.7	0.7	
	40	50	11:00:00 AM	4979.940	3131.900	n/a	0	0	319	319	302	302	302	302	69	70	1	1	0.7	0.7	
	50	60	11:10:00 AM	4986.624	3138.615	n/a	0	0	319	319	302	302	302	302	70	70	1	1	0.7	0.7	
	60		11:20:00 AM	4993.321	3145.328																

Run: 2-Hg-A 2-Hg-B

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePresActual A	OrificePres Actual B	StackTempA	StackTempB	Probe Temp A	Probe Temp B	TrapTemp A	TrapTemp B	Dry Gas A	Dry Gas B	Pump Vac A	Pump Vac B	Sample Rate A	Sample Rate B	Notes
	0	10	11:40:00 AM	9387.415	3077.826	n/a	0	0	321	321	300	300	300	300	70	70	1	1	0.7	0.7	
	10	20	11:50:00 AM	9394.117	3084.519	n/a	0	0	321	321	300	300	300	300	70	70	1	1	0.7	0.7	
	20	30	12:00:00 PM	9400.815	3091.212	n/a	0	0	321	321	300	300	300	300	70	70	1	1	0.7	0.7	
	30	40	12:10:00 PM	9407.517	3097.905	n/a	0	0	321	321	301	301	301	301	70	71	1	1	0.7	0.7	
	40	50	12:20:00 PM	9414.212	3104.944	n/a	0	0	321	321	301	301	301	301	71	71	1	1	0.7	0.7	
	50	60	12:30:00 PM	9420.915	3114.637	n/a	0	0	321	321	301	301	301	301	73	73	1	1	0.7	0.7	
	60		12:40:00 PM	9427.615	3117.900																

Run: 2-Hg-C 2-Hg-S

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePresActual C	OrificePres Actual D	StackTempA	StackTempB	Probe Temp C	Probe Temp D	TrapTemp A	TrapTemp B	Dry Gas C	Dry Gas D	Pump Vac C	Pump Vac D	Sample Rate C	Sample Rate D	Notes
	0	10	11:40:00 AM	4994.405	3146.130	n/a	0	0	321	321	300	300	300	300	71	71	1	1	0.7	0.7	
	10	20	11:50:00 AM	5001.092	3152.820	n/a	0	0	321	321	300	300	300	300	71	1	1	1	0.7	0.7	
	20	30	12:00:00 PM	5007.782	3159.530	n/a	0	0	321	321	300	300	300	300	71	71	1	1	0.7	0.7	
	30	40	12:10:00 PM	5014.465	3166.215	n/a	0	0	321	321	301	301	301	301	72	72	1	1	0.7	0.7	
	40	50	12:20:00 PM	5021.154	3172.925	n/a	0	0	321	321	301	301	301	301	72	72	1	1	0.7	0.7	

W002AS-006514-R-2225
593 of 618

	50	60	12:30:00 PM	5027.843	3179.624	n/a	0	0	321	321	301	301	301	301	72	72	1	1	0.7	0.7	
	60		12:40:00 PM	5034.530	3186.325																

Run: 3-Hg-A 3-Hg-B

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePresActual A	OrificePres Actual B	StackTempA	StackTempB	Probe Temp A	Probe Temp B	TrapTemp A	TrapTemp B	Dry Gas A	Dry Gas B	Pump Vac A	Pump Vac B	Sample Rate A	Sample Rate B	Notes
	0	10	1:15:00 PM	9428.565	3136.734	n/a	0	0	323	323	300	300	300	300	72	73	1	1	0.7	0.7	
	10	20	1:25:00 PM	9435.291	3143.438	n/a	0	0	323	323	300	300	300	300	73	73	1	1	0.7	0.7	
	20	30	1:35:00 PM	9442.026	3150.140	n/a	0	0	323	323	300	300	300	300	73	74	1	1	0.7	0.7	
	30	40	1:45:00 PM	9448.757	3156.845	n/a	0	0	323	323	302	302	302	302	72	74	1	1	0.7	0.7	
	40	50	1:55:00 PM	9455.487	3163.550	n/a	0	0	323	323	302	302	302	302	72	73	1	1	0.7	0.7	
	50	60	2:05:00 PM	9462.218	3170.252	n/a	0	0	322	322	302	302	302	302	72	73	1	1	0.7	0.7	
	60		2:15:00 PM	9468.950	3176.956																

Run: 3-Hg-C 3-Hg-S

Point	BeginTime	EndTime	Clock	GasMeterA	GasMeterB	DeltaP	OrificePresActual C	OrificePres Actual D	StackTempA	StackTempB	Probe Temp C	Probe Temp D	TrapTemp A	TrapTemp B	Dry Gas C	Dry Gas D	Pump Vac C	Pump Vac D	Sample Rate C	Sample Rate D	Notes
	0	10	1:15:00 PM	5035.724	3186.907	n/a	0	0	323	323	300	300	300	300	71	71	1	1	0.7	0.7	
	10	20	1:25:00 PM	5042.407	3193.625	n/a	0	0	323	323	300	300	300	300	72	72	1	1	0.7	0.7	
	20	30	1:35:00 PM	5049.091	3200.350	n/a	0	0	323	323	300	300	300	300	72	72	1	1	0.7	0.7	
	30	40	1:45:00 PM	5055.772	3207.080	n/a	0	0	323	323	302	302	302	302	72	72	1	1	0.7	0.7	
	40	50	1:55:00 PM	5062.560	3213.815	n/a	0	0	323	323	302	302	302	302	72	72	1	1	0.7	0.7	
	50	60	2:05:00 PM	5069.141	3220.555	n/a	0	0	322	322	302	302	302	302	72	72	1	1	0.7	0.7	
	60		2:15:00 PM	5075.824	3227.250																