

Test ID	ADEC
Date	2/25/20

Module 1			
Variable	Description	Value	Units
	final volume module 1	875.380	cubic feet
	initial volume module 1	802.057	cubic feet
V_{m1}	total gas volume collected (module 1)	73.323	cubic feet
Average ΔH	average delta H over entirety of run	0.03	in water
T_m	average gas meter temperature	68	°F
P_{bar}	barometric pressure	29.5	in Hg
Y	DGM calibration factor	1.003	unitless
K_1	volume corrected to standard conditions	17.64	R/(in Hg)
V_{mstd}	volume gas sampled (corrected to standard conditions)	72.588128	dscf
Total Catch	total catch (raw data)	79.85	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.0011	g/dscf

Module 2			
Variable	Description	Value	Units
	final volume module 2	451.510	cubic feet
	initial volume module 2	383.222	cubic feet
V_{m2}	total gas volume collected (module 2)	68.288	cubic feet
Average ΔH	average delta H over entirety of run	0.03	in water
T_m	average gas meter temperature	67	°F
P_{bar}	barometric pressure	29.5	in Hg
Y	DGM calibration factor	1.003	unitless
K_1	volume corrected to standard conditions	17.64	°F/(in Hg)
V_{mstd}	volume gas sampled (corrected to standard conditions)	67.61849482	dscf
Total Catch	total catch (raw data)	78.465	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.001160407	g/dscf

Ambient			
Variable	Description	Value	Units
	final volume ambient	131.6782	cubic meters
	initial volume ambient	130.4162	cubic meters
V_{m3}	total gas volume collected (ambient)	44.5672	cubic feet
Average ΔH	average delta H over entirety of run	7.08	in water
T_m	average gas meter temperature	66.1	°F
P_{bar}	barometric pressure	29.5	in Hg
Y	DGM calibration factor	1.002	unitless
K_1	volume corrected to standard conditions	17.64	°F/(in Hg)
V_{mstd}	volume gas sampled (corrected to standard conditions)	44.97747977	dscf
Total Catch	total catch (raw data)	0.705	mg
C_3	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.56745E-05	g/dscf

0.075975473

Total Particulate Matter (based on ISS-2 and AS-1 data)			
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.0011302	g/dscf
C_3	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.567E-05	g/dscf
Q_{d1}	average gas flow rate through dilution tunnel	521.10811	dscf/min
B_{d1}	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
V_1	average velocity of gas through dilution tunnel	26.032937	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T_1	average gas temperature in dilution tunnel	533.62767	R
T_{d1}	absolute average gas temperature in dilution tunnel	528	R
P_1	average gas static pressure in dilution tunnel	29.496326	in Hg
P_{d1}	standard absolute pressure	29.92	in Hg
F_p	adjustment factor for center of tunnel pitot tube placement	0.93	unitless
V_{d1av}	average gas velocity after multi point pitot traverse	530	ACFM
V_{d1std}	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	570	ACFM
K_p	pitot tube constant	85.49	$\frac{\text{ft} \cdot \text{lb} / (\text{lb} / \text{ft}^3 \cdot \text{min}^2)}{\text{ft} / \text{s}}$
C_p	pitot tube coefficient	0.99	unitless
ΔP_{pg}	average velocity pressure in dilution tunnel	0.1754167	in H ₂ O
M_1	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
θ	total sampling time	592.00	min
E_1	total particulate emissions	343.83429	g

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