

Test ID	ADEC
Date	2/11/20

Module 1			
Variable	Description	Value	Units
	final volume module 1	786.640	cubic feet
	initial volume module 1	719.697	cubic feet
V_{m1}	total gas volume collected (module 1)	66.943	cubic feet
Average ΔH	average delta H over entirety of run	0.03	in water
T_m	average gas meter temperature	66	°F
P_{bar}	barometric pressure	29.7	in Hg
Y	DGM calibration factor	1.007	unitless
K_1	volume corrected to standard conditions	17.64	R/(in Hg)
V_{mstd}	volume gas sampled (corrected to standard conditions)	67.1557117	dsf
Total Catch	total catch (raw data)	17.075	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.00025426	g/dscf

Module 2			
Variable	Description	Value	Units
	final volume module 2	208.380	cubic feet
	initial volume module 2	134.705	cubic feet
V_{m2}	total gas volume collected (module 2)	73.675	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	29.7	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)	73.53416836	dsf
Total Catch	total catch (raw data)	19.395	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.000263755	g/dscf

Ambient			
Variable	Description	Value	Units
	final volume ambient	127.4618	cubic meters
	initial volume ambient	126.2498	cubic meters
V_{m2}	total gas volume collected (ambient)	42.8014	cubic feet
Average ΔH	average delta H over entirety of run	6.11	in water
T_m	average gas meter temperature	67.4	°F
P_{bar}	barometric pressure	29.7	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)	43.273787	dsf
Total Catch	total catch (raw data)	0.035	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	8.08804E-07	g/dscf

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)	0.00025901	g/dscf
C_2	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	8.088E-07	g/dscf
Q_{d1}	average gas flow rate through dilution tunnel	529.900977	dsf/min
B_{d1}	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
V_1	average velocity of gas through dilution tunnel	26.3509499	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T_1	average gas temperature in dilution tunnel	534.785177	R
T_{std}	absolute average gas temperature in dilution tunnel	528	R
P_1	average gas static pressure in dilution tunnel	29.6963259	in Hg
P_{std}	standard absolute pressure	29.92	in Hg
F_p	adjustment factor for center of tunnel pitot tube placement	0.93	unitless
V_{d1w}	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	pilot tube constant	85.49	$\frac{ft \cdot sec^2}{lb \cdot in} \cdot \frac{lb \cdot in}{ft^2 \cdot sec^2} = \frac{lb \cdot in}{ft^2 \cdot sec^2}$
C_p	pilot tube coefficient	0.99	unitless
ΔP_{pg}	average velocity pressure in dilution tunnel	0.18055556	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	80.9972509	g

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