

Test ID	ADEC
Date	2/27/20

Module 1			
Variable	Description	Value	Units
	final volume module 1	1012.176	cubic feet
	initial volume module 1	940.220	cubic feet
V _{tot1}	total gas volume collected (module 1)	71.956	cubic feet
Average ΔH	average delta H over entirety of run	0.15	in water
T _{in}	average gas meter temperature	68	°F
P _{bar}	barometric pressure	28.9	in Hg
Y	DGM calibration factor	1.003	unitless
K _i	volume corrected to standard conditions	17.64	R/(in Hg)
V _{total}	volume gas sampled (corrected to standard conditions)	69.754194	dscf
Total Catch	total catch (raw data)	71.735	mg
C _i	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.0010284	g/dscf

Module 2			
Variable	Description	Value	Units
	final volume module 2	592.817	cubic feet
	initial volume module 2	513.124	cubic feet
V _{tot2}	total gas volume collected (module 2)	79.693	cubic feet
Average ΔH	average delta H over entirety of run	0.03	in water
T _{in}	average gas meter temperature	68	°F
P _{bar}	barometric pressure	28.9	in Hg
Y	DGM calibration factor	1.003	unitless
K _i	volume corrected to standard conditions	17.64	°F/(in Hg)
V _{total}	volume gas sampled (corrected to standard conditions)	77.16887902	dscf
Total Catch	total catch (raw data)	84.39	mg
C _i	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.001093576	g/dscf

Ambient			
Variable	Description	Value	Units
	final volume ambient	134.2267	cubic meters
	initial volume ambient	132.8086	cubic meters
V _{tot}	total gas volume collected (ambient)	50.0798	cubic feet
Average ΔH	average delta H over entirety of run	6.53	in water
T _{in}	average gas meter temperature	63.1	°F
P _{bar}	barometric pressure	28.9	in Hg
Y	DGM calibration factor	1.002	unitless
K _i	volume corrected to standard conditions	17.64	°F/(in Hg)
V _{total}	volume gas sampled (corrected to standard conditions)	49.74602074	dscf
Total Catch	total catch (raw data)	0.81	mg
C _i	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.62827E-05	g/dscf

0.073916821

Total Particulate Matter (based on ISS-2 and AS-1 data)			
C _i	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0.001061	g/dscf
C _a	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.628E-05	g/dscf
Q _{di}	average gas flow rate through dilution tunnel	516.89394	dscf/min
B _{di}	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
V _i	average velocity of gas through dilution tunnel	26.336856	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T _i	average gas temperature in dilution tunnel	533.1878	R
T _{std}	absolute average gas temperature in dilution tunnel	528	R
P _i	average gas static pressure in dilution tunnel	28.896326	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 _{adv}	average gas velocity after multi point pitot traverse	530	ACFM
V _{total}	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	570	ACFM
K _p	pitot tube constant	85.49	ft/(lb/ft ³)(in Hg)(°R) ^{0.5}
C _p	pitot tube coefficient	0.99	unitless
ΔP _{avg}	average velocity pressure in dilution tunnel	0.1760294	in H ₂ O
M _i	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	673.00	min
E _t	total particulate emissions	363.42063	g

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