

Test ID	FN5B 19048
Date	1/30/20

Module 1			
Variable	Description	Value	Units
	final volume module 1	632.655	cubic feet
	initial volume module 1	538.125	cubic feet
$V_{col}$	total gas volume collected (module 1)	104.530	cubic feet
Average $\Delta H$	average delta H over entirety of run	0.17	in water
$T_m$	average gas meter temperature	73	°F
$P_{bar}$	barometric pressure	29.95	in Hg
Y	DGM calibration factor	1.007	unitless
$K_c$	volume corrected to standard conditions	17.64	R/(in Hg)
$V_{col,adj}$	volume gas sampled (corrected to standard conditions)	104.460663	dcf
Total Catch	total catch (raw data)	1.81	mg
$C_t$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.7327E-05	g/dscf

Module 2			
Variable	Description	Value	Units
	final volume module 2	1064.840	cubic feet
	initial volume module 2	957.866	cubic feet
$V_{col}$	total gas volume collected (module 2)	106.974	cubic feet
Average $\Delta H$	average delta H over entirety of run	0.17	in water
$T_m$	average gas meter temperature	71	°F
$P_{bar}$	barometric pressure	29.95	in Hg
Y	DGM calibration factor	1.020	unitless
$K_c$	volume corrected to standard conditions	17.64	°F/(in Hg)
$V_{col,adj}$	volume gas sampled (corrected to standard conditions)	108.5681779	dcf
Total Catch	total catch (raw data)	1.695	mg
$C_t$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.56123E-05	g/dscf

Ambient			
Variable	Description	Value	Units
	final volume ambient		cubic meters
	initial volume ambient		cubic meters
$V_{col}$	total gas volume collected (ambient)	0.0000	cubic feet
Average $\Delta H$	average delta H over entirety of run	7.07	in water
$T_m$	average gas meter temperature	0.0	°F
$P_{bar}$	barometric pressure	29.95	in Hg
Y	DGM calibration factor	1.020	unitless
$K_c$	volume corrected to standard conditions	17.64	°F/(in Hg)
$V_{col,adj}$	volume gas sampled (corrected to standard conditions)	0	dcf
Total Catch	total catch (raw data)	0	mg
$C_a$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	#DIV/0!	g/dscf

Total Particulate Matter (based on ISS1 and ISS2)			
$C_t$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.647E-05	g/dscf
$C_a$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	0	g/dscf
$Q_{dil}$	average gas flow rate through dilution tunnel	31.5	dscf/min
$R_{rel}$	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
$v_t$	average velocity of gas through dilution tunnel	#DIV/0!	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
$T_t$	average gas temperature in dilution tunnel	689.435952	R
$T_{std}$	absolute average gas temperature in dilution tunnel	528	R
$P_t$	average gas static pressure in dilution tunnel	29.95	in Hg
$P_{std}$	standard absolute pressure	29.92	in Hg
$F_p$	adjustment factor for center of tunnel pitot tube placement	#DIV/0!	unitless
$V_{col,t}$	average gas velocity after multi point pitot traverse	0	ACFM
$V_{col,t}$	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	0	ACFM
$K_p$	pilot tube constant	85.49	$\frac{ft \cdot sec^2}{lb \cdot in}$ $\frac{m^3}{kg \cdot (ft^2/sec^2)}$
$C_p$	pilot tube coefficient	0.99	unitless
$\Delta P_{pg}$	average velocity pressure in dilution tunnel		in H <sub>2</sub> O
$M_a$	dilution tunnel dry gas MW (assumed)	29	(lb)/(lb-mol)
$\Theta$	total sampling time	420.00	min
$E_t$	total particulate emissions	0.21789417	g