

Test ID	FN5B 19048
Date	1/23/20

Module 1			
Variable	Description	Value	Units
	final volume module 1	261.945	cubic feet
	initial volume module 1	158.473	cubic feet
V_{col}	total gas volume collected (module 1)	103.472	cubic feet
Average ΔH	average delta H over entirety of run	0.17	in water
T_m	average gas meter temperature	72	°F
P_{bar}	barometric pressure	30	in Hg
Y	DGM calibration factor	1.007	unitless
K_1	volume corrected to standard conditions	17.64	R/(in Hg)
V_{mod}	volume gas sampled (corrected to standard conditions)	103.714826	dscf
Total Catch	total catch (raw data)	1.525	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.4704E-05	g/dscf

Module 2			
Variable	Description	Value	Units
	final volume module 2	741.805	cubic feet
	initial volume module 2	637.247	cubic feet
V_{col}	total gas volume collected (module 2)	104.558	cubic feet
Average ΔH	average delta H over entirety of run	0.16	in water
T_m	average gas meter temperature	72	°F
P_{bar}	barometric pressure	30	in Hg
Y	DGM calibration factor	1.003	unitless
K_1	volume corrected to standard conditions	17.64	°F/(in Hg)
V_{mod}	volume gas sampled (corrected to standard conditions)	104.4711484	dscf
Total Catch	total catch (raw data)	0.07	mg
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	6.70041E-07	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 ΔH	average delta H over entirety of run	7.10	in water
T_m	average gas meter temperature	67.6	°F
P_{bar}	barometric pressure	30	in Hg
Y	DGM calibration factor	1.002	unitless
K_1	volume corrected to standard conditions	17.64	°F/(in Hg)
V_{mod}	volume gas sampled (corrected to standard conditions)	0	dscf
Total Catch	total catch (raw data)	0	mg
C_2	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	#DIV/0!	g/dscf

Pre ESP			
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.4704E-05	g/dscf
C_2	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0	g/dscf
Q_{d1}	average gas flow rate through dilution tunnel	30.19	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	#DIV/0!	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T_1	average gas temperature in dilution tunnel	677.945238	R
T_{col}	absolute average gas temperature in dilution tunnel	528	R
P_1	average gas static pressure in dilution tunnel	30	in Hg
P_{col}	standard absolute pressure	29.92	in Hg
F_p	adjustment factor for center of tunnel pitot tube placement	#DIV/0!	unitless
V_{adv}	average gas velocity after multi point pitot traverse	0	ACFM
V_{corr}	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	0	ACFM
K_p	pilot tube constant	85.49	$\frac{ft^3/(lb)(lb)}{ft^3/(lb)(lb)}$
C_p	pilot tube coefficient	0.99	unitless
ΔP_{pg}	average velocity pressure in dilution tunnel		in H ₂ O
M_k	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	420.00	min
E_1	total particulate emissions	0.18644099	g

Post ESP			
C_1	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	6.70041E-07	g/dscf
C_2	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0	g/dscf
Q_{d1}	average gas flow rate through dilution tunnel	30.19	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	#DIV/0!	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T_1	average gas temperature in dilution tunnel	#N/A	R
T_{col}	absolute average gas temperature in dilution tunnel	528	R
P_1	average gas static pressure in dilution tunnel	0	in Hg
P_{col}	standard absolute pressure	29.92	in Hg
F_p	adjustment factor for center of tunnel pitot tube placement	#DIV/0!	unitless
V_{adv}	average gas velocity after multi point pitot traverse	0	ACFM
V_{corr}	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	0	ACFM
K_p	pilot tube constant	85.49	$\frac{ft^3/(lb)(lb)}{ft^3/(lb)(lb)}$
C_p	pilot tube coefficient	0.99	unitless
ΔP_{pg}	average velocity pressure in dilution tunnel		in H ₂ O
M_k	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	420.00	min
E_1	total particulate emissions	0.008495992	g