Test ID	FNSB 19048
Date	1/8/20

Module 1

Variable	Description	Value	Units
	final volume module 1	451.140	cubic feet
	initial volume module 1	348.527	cubic feet
V_{m1}	total gas volume collected (module 1)	102.613	cubic feet
Average ΔH	average delta H over entirety of run	0.15	in water
T_m	average gas meter temperature	71	°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)	100.963477	dscf
Total Catch	total catch (raw data)	1.695	mg
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.6788E-05	g/dscf

Module 2

Variable	Description	Value	Units
	final volume module 2	1041.290	cubic feet
	initial volume module 2	939.770	cubic feet
V_{m2}	total gas volume collected (module 2)	101.520	cubic feet
Average ΔH	average delta H over entirety of run	0.16	in water
T_m	average gas meter temperature	70	°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)	100.0215633	dscf
Total Catch	total catch (raw data)	0.185	mg
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.8496E-06	g/dscf

Ambient

Variable	Description	Value	Units
	final volume ambient		cubic meters
	initial volume ambient		cubic meters
V_{mb}	total gas volume collected (ambient)	0.0000	cubic feet
Average ΔH	average delta H over entirety of run	7.09	in water
T_m	average gas meter temperature	64.4	°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_{mbstd}	volume gas sampled (corrected to standard conditions)	0	dscf
Total Catch	total catch (raw data)	0	mg
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	#DIV/0!	g/dscf

Total Particulate Matter Pre ESP

C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.6788E-05	g/dscf
C_a	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	0	g/dscf
Q_{std}	average gas flow rate through dilution tunnel	31.19	dscf/min
B_{ws}	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
v_s	average velocity of gas through dilution tunnel	0	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T_s	average gas temperature in dilution tunnel	681.007292	R
T_{std}	absolute average gas temperature in dilution tunnel	528	R
P_s	average gas static pressure in dilution tunnel	29.4963259	in Hg
P_{std}	standard absolute pressure	29.92	in Hg
F_p	adjustment factor for center of tunnel pitot tube placement	0.91	unitless
V_{ctrav}	average gas velocity after multi point pitot traverse	321	ACFM
V_{ccent}	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	351	ACFM
K_p	pitot tube constant	85.49	ft/sec[((lb/lb-mole)(in Hg)/(R)(in water))^(1/2)]
C_p	pitot tube coefficient	0.99	unitless
ΔP_{avg}	average velocity pressure in dilution tunnel		in H_2O
M_d	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	420.00	min
E_T	total particulate emissions	0.22	g

Total Particulate Matter Post ESP

C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.8496E-06	g/dscf
C_a	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	0	g/dscf
Q_{std}	average gas flow rate through dilution tunnel	31.19	dscf/min
B_{ws}	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
v_s	average velocity of gas through dilution tunnel	#DIV/0!	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
T_s	average gas temperature in dilution tunnel	#N/A	R
T_{std}	absolute average gas temperature in dilution tunnel	528	R
P_s	average gas static pressure in dilution tunnel	0	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_{ctrav}	average gas velocity after multi point pitot traverse	0	ACFM
V_{ccent}	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	0	ACFM
K_p	pitot tube constant	85.49	ft/sec[((lb/lb-mole)(in Hg)/(R)(in water))^(1/2)]
C_p	pitot tube coefficient	0.99	unitless
ΔP_{avg}	average velocity pressure in dilution tunnel		in H_2O
M_d	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	420.00	min
E_T	total particulate emissions	0.02	g

Signature Kelli O'Brien

Quality Review Kelli O'Brien

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