Test ID	FNSB 19048
Date	1/21/20

Pre ESP

Variable	Description	Value	Units
	final volume module 1	1053.350	cubic feet
	initial volume module 1	950.044	cubic feet
V_{m1}	total gas volume collected (module 1)	103.306	cubic feet
Average ΔH	average delta H over entirety of run	0.17	in water
T_m	average gas meter temperature	71	°F
P_{bar}	barometric pressure	30.05	in Hg
Y	DGM calibration factor	1.006	unitless
K_1	volume corrected to standard conditions	17.64	R/(in Hg)
V_{mstd}	volume gas sampled (corrected to standard conditions)	103.806775	dscf
Total Catch	total catch (raw data)	2.74	mg
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	2.6443E-05	g/dscf

Post ESP

Variable	Description	Value	Units
	final volume module 2	529.700	cubic feet
	initial volume module 2	422.565	cubic feet
V_{m2}	total gas volume collected (module 2)	107.135	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	30.05	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)	107.2250954	dscf
Total Catch	total catch (raw data)	1.35	mg
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.25437E-05	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	7.10	in water
T_m	average gas meter temperature	0.0	°F
P_{bar}	barometric pressure	30.05	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)		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	2.6443E-05	g/dscf
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions		g/dscf
Q_{std}	average gas flow rate through dilution tunnel	31.49	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	680.648385	R
T_{std}	absolute average gas temperature in dilution tunnel	528	R
P_s	average gas static pressure in dilution tunnel	30.05	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_{stav}	average gas velocity after multi point pitot traverse	0	ACFM
V_{scent}	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_s	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	420.00	min
E_T	total particulate emissions	0.3497346	g

Total Particulate Matter Post ESP

C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions	1.25437E-05	g/dscf
C_s	concentration of PM in tunnel gas (dry basis, corrected to standard conditions		g/dscf
Q_{std}	average gas flow rate through dilution tunnel	31.49	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_{stav}	average gas velocity after multi point pitot traverse	0	ACFM
V_{scent}	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_s	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
Θ	total sampling time	420.00	min
E_T	total particulate emissions	0.165900538	g

Signature Kelli OBrien

Quality Review Kelli OBrien

CONFIDENTIAL - FOR INTERNAL USE ONLY