

Test ID	FN5B P514 CA 3
Date	4/14/20

Module 1			
Variable	Description	Value	Units
	final volume module 1	350.950	cubic feet
	initial volume module 1	238.260	cubic feet
$V_{col1}$	total gas volume collected (module 1)	112.690	cubic feet
Average $\Delta H$	average delta H over entirety of run	0.20	in water
$T_m$	average gas meter temperature	71	°F
$P_{bar}$	barometric pressure	29.7	in Hg
Y	DGM calibration factor	1.003	unitless
$K_c$	volume corrected to standard conditions	17.64	R/(in Hg)
$V_{colstd}$	volume gas sampled (corrected to standard conditions)	111.59775	dscf
Total Catch	total catch (raw data)	1.38	mg
$C_t$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.237E-05	g/dscf

Module 2			
Variable	Description	Value	Units
	final volume module 2		cubic feet
	initial volume module 2		cubic feet
$V_{col2}$	total gas volume collected (module 2)		cubic feet
Average $\Delta H$	average delta H over entirety of run		in water
$T_m$	average gas meter temperature	71	°F
$P_{bar}$	barometric pressure	29.7	in Hg
Y	DGM calibration factor	1.003	unitless
$K_c$	volume corrected to standard conditions	17.64	°F/(in Hg)
$V_{colstd}$	volume gas sampled (corrected to standard conditions)		dscf
Total Catch	total catch (raw data)	0	mg
$C_t$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	#DIV/0!	g/dscf

Ambient			
Variable	Description	Value	Units
	final volume ambient	139.2012	cubic meters
	initial volume ambient	138.3318	cubic meters
$V_{col}$	total gas volume collected (ambient)	30.7026	cubic feet
Average $\Delta H$	average delta H over entirety of run	6.14	in water
$T_m$	average gas meter temperature	67.6	°F
$P_{bar}$	barometric pressure	29.7	in Hg
Y	DGM calibration factor	1.002	unitless
$K_c$	volume corrected to standard conditions	17.64	°F/(in Hg)
$V_{colstd}$	volume gas sampled (corrected to standard conditions)	31.03154514	dscf
Total Catch	total catch (raw data)	0	mg
$C_a$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	0	g/dscf

Total Particulate Matter (based on SS-2 and AS-1 data)			
$C_t$	concentration of PM in tunnel gas (dry basis, corrected to standard conditions)	1.237E-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	47.7	dscf/min
$R_{dil}$	water vapor in gas stream (assumed) (proportion by volume)	0.02	unitless
$v_t$	average velocity of gas through dilution tunnel	30.3723	ft/s
A	cross-sectional area of dilution tunnel	0.349	square ft
$T_t$	average gas temperature in dilution tunnel	737.32986	R
$T_{std}$	absolute average gas temperature in dilution tunnel	528	R
$P_t$	average gas static pressure in dilution tunnel	29.696326	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
$V_{col}$	average gas velocity after multi point pitot traverse	530	ACFM
$V_{colstd}$	average gas velocity at center of dilution tunnel calculated after pitot tube traverse	570	ACFM
$K_p$	pilot tube constant	85.49	$\frac{(\text{inches})^2(\text{lb} \cdot \text{mole})}{\text{mole}(\text{in} \cdot \text{Hg})(\text{lb} \cdot \text{mole}) \cdot \text{water}}(10^{-3})$
$C_p$	pilot tube coefficient	0.99	unitless
$\Delta P_{pg}$	average velocity pressure in dilution tunnel	0.1739767	in H <sub>2</sub> O
$M_t$	dilution tunnel dry gas MW (assumed)	29	lb/(lb-mol)
$\Theta$	total sampling time	420.00	min
$E_t$	total particulate emissions	0.2477372	g

Signature \_\_\_\_\_