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AP-42 Section 9.7
Reference 12
Report Sect. 4
Reference 4

ECKLEY ENGINEERING
255 North Fulton Street
Fresno, Ca. 9301
Attn: Bob Eckley

SOURCE EMISSION TESTING
STRATFORD GROWERS
Total Particulate
PM-10 Particulate
November 27 & 28, 1990

Prepared By:

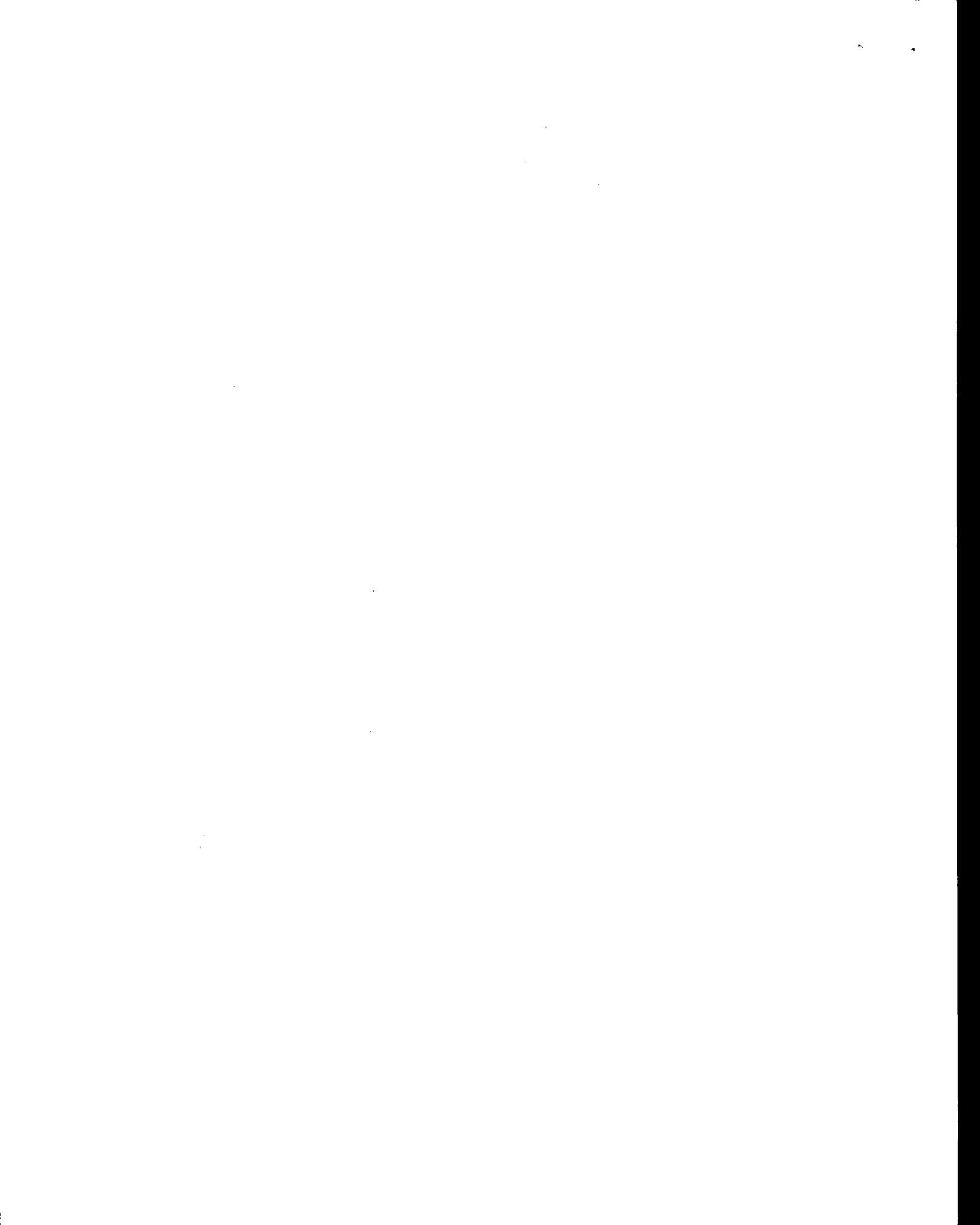
BTC ENVIRONMENTAL, INC.
1536 Eastman Avenue
Ventura, CA 93003

Job Number
5019

Laboratory Report Number
290-188

Test Team Leader
Cameron Doonahoo

Results Verified By:
Tom Porter - Director Air Test Division

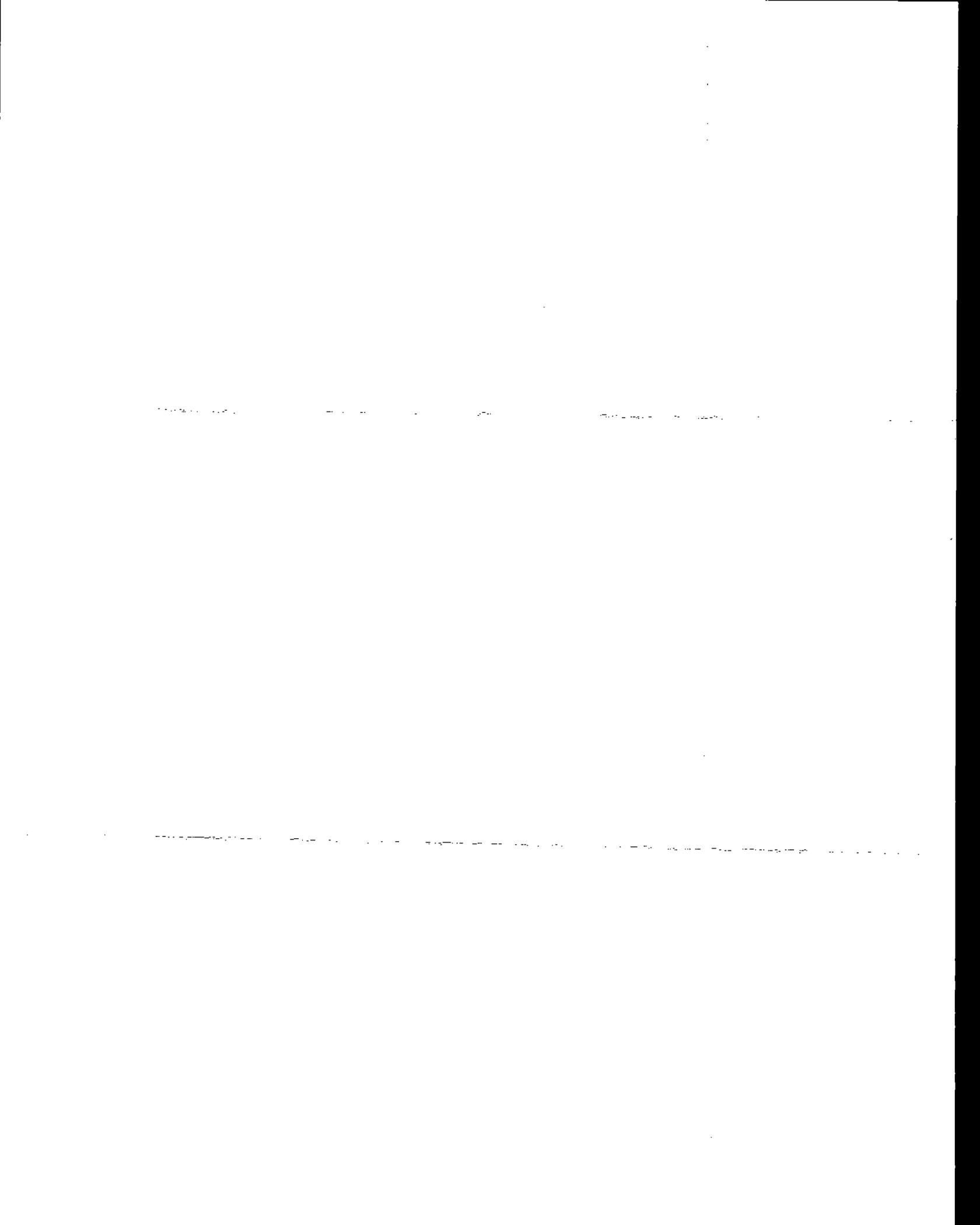


STRATFORD GROWERS, INC.: PRE-MODIFICATION EMISSIONS

EMISSIONS POINT	REFERENCE	TEST DATE	TESTED G/DSCF	TESTED LB/HR	CYCLOPE COLLECTORS [NUMBER & SIZE ("φ")]	BALES/HOUR	SYSTEM [POUNDS/HOUR]	SYSTEM [POUNDS/B]
SUCTION	County Line & CARB	12/90	-	-	3/38	-	-	0.25
#1 DRYING	Stratford	11/90	0.0226	0.99	4/36	13.0	3.96	0.55
#2 DRYING	Stratford	11/90	0.0925	4.21	4/36	21.4	16.84	0.79
OVERFLOW	*(#2 Drying) above	11/90	-	-	2/34	-	-	0.20
NOTES	Stratford	11/90	0.0079	1.32	6/30	12.0	1.32	0.14
NOTE CLNG	Notes (above)	11/90	0.0079	-	2/24	-	-	0.14
LC&BC BSKT	EE Lint Sys.	-	-	-	-	-	-	1.15
TRASH	Stratford	11/90	0.0357	1.52	2/38	12.7	3.04	0.30
FEEDER DUST & MC TRASH	J G Boswell	-	-	-	2/36	-	-	0.53

Calculated pounds per bale before 1991 modifications = 4.1

Original submittal by Eckley Engineering



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Trash

EMISSION SUMMARY

#A TRASH FAN CYCLONE

CONSTITUENT	RUN #1	RUN #2	AVERAGE
Total Particulate			
gr/DSCF	0.0320	0.0393	0.0357
lbs/hr	1.37	1.67	1.52
<i>bales/hr = 12.7</i>			<i>lb/bale = 0.12</i>
PM-10 Particulate			
+10μ(%)	83.2	53.9	68.6
-10μ(%)	16.8	46.1	31.5
+10μ(lbs/hr)	1.14	0.90	1.02
-10μ(lbs/hr)	0.23	0.77	0.50
			<i>lb/bale = .039</i>

#1 DRYING

EMISSION SUMMARY

#1 TRASH FAN CYCLONE

CONSTITUENT	RUN #1	RUN #2	AVERAGE
Total Particulate			
gr/DSCF	0.0144	0.0307	0.0226
lbs/hr	0.64	1.34	0.99
<i>Bales/hr = 13.0</i>			<i>lb/bale = .076</i>
PM-10 Particulate			
+10μ(%)	68.8	62.6	65.7
-10μ(%)	31.2	37.4	34.3
+10μ(lbs/hr)	0.44	0.84	0.64
-10μ(lbs/hr)	0.20	0.50	0.35

lb/bale = .027

#2 Drying

EMISSION SUMMARY

#2 TRASH FAN CYCLONE

CONSTITUENT	RUN #1	RUN #2	AVERAGE
Total Particulate			
gr/DSCF	0.0916	0.0933	0.0925
lbs/hr	4.17	4.25	4.21
Daks/hr = 21.4			lb/bale = 0.197
PM-10 Particulate			
+10μ (%)	59.0	81.9	70.5
-10μ (%)	41.0	18.1	29.6
+10μ (lbs/hr)	2.46	3.48	2.97
-10μ (lbs/hr)	1.71	0.77	1.24
			lb/bale = 0.058

EMISSION SUMMARY

MOTE-FAN CYCLONE

CONSTITUENT	RUN #1	RUN #2	AVERAGE
Total Particulate			
gr/DSCF	0.0088	0.0070	0.0079
lbs/hr	0.24	0.19	0.22
Bales/hr = 12.0			lb/bale = .018
PM-10 Particulate			
+10μ(%)	39.8	70.7	55.3
-10μ(%)	60.2	29.3	44.8
+10μ(lbs/hr)	0.10	0.13	0.11
-10μ(lbs/hr)	0.14	0.06	0.10

lb/bale = .008

INTRODUCTION

On November 27 & 28, 1990, BTC Environmental performed source emission tests for PM-10 particulate matter and total particulate matter on various cyclones located at the Stratford Growers cotton gin. The gin is located at 19813 Madison Avenue in Stratford, California. The cyclones were designated as Motes, #A Trash Fan, #1 Trash Fan and #2 Trash Fan. A candy cane exhaust duct was attached to the cyclone outlet and routed to ground level producing a uniform flow in a vertical position.

The testing was conducted while the plant was operating at normal conditions and production rates.

SAMPLING AND ANALYTICAL PROCEDURES

STACK GAS ANALYSIS: The stack gas were assumed to be ambient air. The O₂ value was 20.9% and the CO₂ value was 0.05%.

STACK GAS VELOCITY: The stack gas velocity was determined using an "S" type pitot tube connected to an inclined draft gauge or a magnehelic gauge.

The stack temperature was determined using a thermocouple and an indicating pyrometer. The proportion of water was determined gravimetrically and the dry molecular weight of the stack gas determined by E.P.A. Method 3, equation 3-2. Stack velocities were calculated using E.P.A. Method 2, equation 2-9; gas volumetric flow rate was determined by equation 2-10.

PARTICULATE EMISSIONS: Particulates were collected using a Lase Model 31 stack sampler system that conforms to E.P.A. requirements for particulate sampling. The system consists of a heated probe, heated filter, and cooled impingers (see E.P.A. Method 5). After the weight of the particulates on the filter and in the probe is determined, the total dissolved solids in the the impingers is determined and added to the particulate weight in order to comply with APCD regulations. Blanks for the DI water and acetone were analyzed and subtracted from the total particulate weight.

PM-10 PARTICULATE EMISSIONS: Sampling was done isokinetically from each stack at the same time that the total particulate sampling was being done. The sampling was done by using a GII cascade impactor. The impactor consists of a nozzle, two (2) stages with slotted filters, a final stage containing a backup filter, heated probe and cooled impingers containing DI water. The nozzle and the two (2) stages represent the +10 μ fraction. The final stage, heated probe and the impingers represent the -10 μ fraction.

The weight from each fraction including the filter weights and the rinses are added together to obtain a total weight. The total weight is divided into the weight obtained from each fraction to obtain the percentage for each fraction. The lb/hr values obtained from the total particulate runs were utilized to obtain the lb/hr for the +10 μ and the -10 μ fractions.

I. INTRODUCTION

LEAK CHECKS: Leak rates were conducted on the sampling train and the pitot tubes before and after each test. The leak check for the sampling train was done at the nozzle. Any leak rate greater than 0.02 cfm was corrected for in the volume calculations.

All calculations for lb/hr were done by using the flow rate of the stack gas. All values were calculated by using standard conditions (60°F & 29.92 in Hg).

If you have any questions concerning this test or if we can be of further assistance, please contact the undersigned at (805) 644-1095.

Respectfully submitted,

BTC Environmental, INC.



Tom Porter

Director-Air Test Division

Copies: 3 Eckley Attn: Bob Eckley

II. WET TEST METHODS DATA SUMMARIES

METHOD 5 FIELD DATA SUMMARY

#A TRASH FAN CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	7.6	7.6
Vm - Gas volume, meter cond., dcf	39.794	37.142
Y - Meter calibration factor	0.987	0.987
Pbar - Barometric pressure, in. Hg	30.21	30.21
Pg - Stack static pressure, in. H2O	30.22	30.22
ΔH - Avg. meter press. diff., in. H2O	1.543	1.574
Tm - Absolute meter temperature, °R	527.2	535.5
Vm(std) - Standard sample gas vol., dscf	39.2440	36.0639
Bws - Water vapor part in gas stream	0.9	1.0
CO2 - Dry concentration, volume %	0.05	0.05
O2 - Dry concentration, volume %	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.747	28.739
Cp - Pitot tube coef., dimensionless	0.843	0.843
Δp - Avg. of sq. roots of each Δp	0.575	0.575
Ts - Absolute stack Temp. °R	542.4	544.8
A - Area of stack, square feet	2.64	2.64
Qstd - Volumetric flow rate, dscfm	4976	4962
An - Area of nozzle, square feet	0.0003547	0.0003547
σ - Sampling time, minutes	60	60
I - Isokinetic variation, percent	99.2	91.4

METHOD 5 FIELD DATA SUMMARY

#1 TRASH FAN CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	<u>8.1</u>	<u>5.0</u>
Vm - Gas volume, meter cond., dcf	<u>34.408</u>	<u>34.027</u>
Y - Meter calibration factor	<u>1.023</u>	<u>1.023</u>
Pbar - Barometric pressure, in. Hg	<u>30.31</u>	<u>30.34</u>
Pg - Stack static pressure, in. H2O	<u>30.31</u>	<u>30.34</u>
ΔH - Avg. meter press. diff., in. H2O	<u>1.210</u>	<u>1.179</u>
Tm - Absolute meter temperature, °R	<u>525.9</u>	<u>536.0</u>
Vm(std) - Standard sample gas vol., dscf	<u>35.3654</u>	<u>34.3471</u>
Bws - Water vapor part in gas stream	<u>1.1</u>	<u>0.7</u>
CO2 - Dry concentration, volume %	<u>0.05</u>	<u>0.05</u>
O2 - Dry concentration, volume %	<u>20.9</u>	<u>20.9</u>
Md - Mol wt. stack gas, dry, g/gmole	<u>28.844</u>	<u>28.844</u>
Ms - Mol wt. stack gas, wet, g/gmole	<u>28.730</u>	<u>28.771</u>
Cp - Pitot tube coef., dimensionless	<u>0.843</u>	<u>0.843</u>
Δp - Avg. of sq. roots of each Δp	<u>0.606</u>	<u>0.601</u>
Ts - Absolute stack Temp. °R	<u>558.1</u>	<u>571.7</u>
A - Area of stack, square feet	<u>2.64</u>	<u>2.64</u>
Qstd - Volumetric flow rate, dscfm	<u>5174</u>	<u>5087</u>
An - Area of nozzle, square feet	<u>0.0003012</u>	<u>0.0003012</u>
θ - Sampling time, minutes	<u>60</u>	<u>60</u>
I - Isokinetic variation, percent	<u>97.6</u>	<u>96.4</u>

METHOD 5 FIELD DATA SUMMARY

#2 TRASH FAN CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	13.9	14.8
Vm - Gas volume, meter cond., dcf	34.065	36.941
Y - Meter calibration factor	1.023	1.023
Pbar - Barometric pressure, in. Hg	30.15	30.15
Pg - Stack static pressure, in. H2O	30.15	30.15
ΔH - Avg. meter press. diff., in. H2O	1.333	1.366
Tm - Absolute meter temperature, °R	563.9	550.9
Vm(std) - Standard sample gas vol., dscf	32.4889	36.0674
Bws - Water vapor part in gas stream	2.0	1.9
CO2 - Dry concentration, volume %	0.05	0.05
O2 - Dry concentration, volume %	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.632	28.641
Cp - Pitot tube coef., dimensionless	0.843	0.843
Δp - Avg. of sq. roots of each Δp	0.642	0.642
Ts - Absolute stack Temp. °R	580.6	581.1
A - Area of stack, square feet	2.64	2.64
Qstd - Volumetric flow rate, dscfm	5314	5317
An - Area of nozzle, square feet	0.0003012	0.0003012
\emptyset - Sampling time, minutes	60	60
I - Isokinetic variation, percent	87.3	96.9

METHOD 5 FIELD DATA SUMMARY

MOTES CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	<u>7.5</u>	<u>6.8</u>
Vm - Gas volume, meter cond., dcf	<u>41.546</u>	<u>41.476</u>
Y - Meter calibration factor	<u>0.969</u>	<u>0.969</u>
Pbar - Barometric pressure, in. Hg	<u>30.12</u>	<u>30.12</u>
Pg - Stack static pressure, in. H2O	<u>30.12</u>	<u>30.12</u>
ΔH - Avg. meter press. diff., in. H2O	<u>1.642</u>	<u>1.669</u>
Tm - Absolute meter temperature, °R	<u>540.5</u>	<u>546.7</u>
Vm(std) - Standard sample gas vol., dscf	<u>39.1261</u>	<u>38.6222</u>
Bws - Water vapor part in gas stream	<u>0.9</u>	<u>0.8</u>
CO2 - Dry concentration, volume %	<u>0.05</u>	<u>0.05</u>
O2 - Dry concentration, volume %	<u>20.9</u>	<u>20.9</u>
Md - Mol wt. stack gas, dry, g/gmole	<u>28.844</u>	<u>28.844</u>
Ms - Mol wt. stack gas, wet, g/gmole	<u>28.748</u>	<u>28.756</u>
Cp - Pitot tube coef., dimensionless	<u>0.843</u>	<u>0.843</u>
Δp - Avg. of sq. roots of each Δp	<u>0.482</u>	<u>0.486</u>
Ts - Absolute stack Temp. °R	<u>534.9</u>	<u>531.4</u>
A - Area of stack, square feet	<u>1.97</u>	<u>1.97</u>
Qstd - Volumetric flow rate, dscfm	<u>3130</u>	<u>3163</u>
An - Area of nozzle, square feet	<u>0.0042460</u>	<u>0.004246</u>
θ - Sampling time, minutes	<u>60</u>	<u>60</u>
I - Isokinetic variation, percent	<u>99.7</u>	<u>97.4</u>

PM-10 FIELD DATA SUMMARY

#A TRASH FAN CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	5.9	9.0
Vm - Gas volume, meter cond., dcf	26.902	25.451
Y - Meter calibration factor	1.023	1.023
Pbar - Barometric pressure, in. Hg	30.21	30.21
Pg - Stack static pressure, in. H2O	30.22	30.22
ΔH - Avg. meter press. diff., in. H2O	1.401	1.425
Tm - Absolute meter temperature, °R	521.3	530.5
Vm(std) - Standard sample gas vol., dscf	27.8156	25.8613
Bws - Water vapor part in gas stream	1.0	1.6
CO2 - Dry concentration, volume %	0.05	0.05
O2 - Dry concentration, volume %	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.738	28.671
Cp - Pitot tube coef., dimensionless	0.843	0.843
Δp - Avg. of sq. roots of each Δp	0.549	0.549
Ts - Absolute stack Temp. °R	543.0	544.4
A - Area of stack, square feet	2.64	2.64
Qstd - Volumetric flow rate, dscfm	4746	4716
An - Area of nozzle, square feet	0.0003547	0.0003547
\emptyset - Sampling time, minutes	42	42
I - Isokinetic variation, percent	101.5	95.0

PM-10 FIELD DATA SUMMARY

#1 TRASH FAN CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	7.1	5.4
Vm - Gas volume, meter cond., dcf	27.352	27.543
Y - Meter calibration factor	0.969	0.969
Pbar - Barometric pressure, in. Hg	30.31	30.22
Pg - Stack static pressure, in. H2O	30.31	30.22
ΔH - Avg. meter press. diff., in. H2O	1.189	1.184
Tm - Absolute meter temperature, °R	524.3	536.5
Vm(std) - Standard sample gas vol., dscf	26.6928	26.1895
Bws - Water vapor part in gas stream	1.2	1.0
CO2 - Dry concentration, volume %	0.05	0.05
O2 - Dry concentration, volume %	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.711	28.741
Cp - Pitot tube coef., dimensionless	0.843	0.843
Δp - Avg. of sq. roots of each Δp	0.602	0.601
Ts - Absolute stack Temp. °R	558.0	571.0
A - Area of stack, square feet	2.64	2.64
Qstd - Volumetric flow rate, dscfm	5126	5071
An - Area of nozzle, square feet	0.0003012	0.0003012
ϕ - Sampling time, minutes	48	48
I - Isokinetic variation, percent	98.1	97.3

PM-10 FIELD DATA SUMMARY

#2 TRASH FAN CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	<u>13.2</u>	<u>13.4</u>
Vm - Gas volume, meter cond., dcf	<u>29.015</u>	<u>28.585</u>
Y - Meter calibration factor	<u>0.969</u>	<u>0.969</u>
Pbar - Barometric pressure, in. Hg	<u>30.15</u>	<u>30.15</u>
Pg - Stack static pressure, in. H2O	<u>30.15</u>	<u>30.15</u>
ΔH - Avg. meter press. diff., in. H2O	<u>1.333</u>	<u>1.355</u>
Tm - Absolute meter temperature, °R	<u>540.2</u>	<u>551.2</u>
Vm(std) - Standard sample gas vol., dscf	<u>27.3464</u>	<u>26.4069</u>
Bws - Water vapor part in gas stream	<u>2.2</u>	<u>2.3</u>
CO2 - Dry concentration, volume %	<u>0.05</u>	<u>0.05</u>
O2 - Dry concentration, volume %	<u>20.9</u>	<u>20.9</u>
Md - Mol wt. stack gas, dry, g/gmole	<u>28.844</u>	<u>28.844</u>
Ms - Mol wt. stack gas, wet, g/gmole	<u>28.606</u>	<u>28.594</u>
Cp - Pitot tube coef., dimensionless	<u>0.843</u>	<u>0.843</u>
Δp - Avg. of sq. roots of each Δp	<u>0.642</u>	<u>0.642</u>
Ts - Absolute stack Temp. °R	<u>581.3</u>	<u>581.1</u>
A - Area of stack, square feet	<u>2.64</u>	<u>2.64</u>
Qstd - Volumetric flow rate, dscfm	<u>5300</u>	<u>5296</u>
An - Area of nozzle, square feet	<u>0.0003012</u>	<u>0.0003012</u>
ϕ - Sampling time, minutes	<u>48</u>	<u>48</u>
I - Isokinetic variation, percent	<u>97.2</u>	<u>93.9</u>

PM-10 FIELD DATA SUMMARY

MOTE CYCLONE

	Run#1	Run#2
Vlc - Volume of water collected, ml	<u>5.8</u>	<u>7.2</u>
Vm - Gas volume, meter cond., dcf	<u>31.170</u>	<u>30.926</u>
Y - Meter calibration factor	<u>1.023</u>	<u>1.023</u>
Pbar - Barometric pressure, in. Hg	<u>30.12</u>	<u>30.12</u>
Pg - Stack static pressure, in. H2O	<u>30.12</u>	<u>30.12</u>
ΔH - Avg. meter press. diff., in. H2O	<u>1.626</u>	<u>1.608</u>
Tm - Absolute meter temperature, °R	<u>536.4</u>	<u>544.2</u>
Vm(std) - Standard sample gas vol., dscf	<u>31.2431</u>	<u>30.5533</u>
Bws - Water vapor part in gas stream	<u>0.9</u>	<u>1.1</u>
CO2 - Dry concentration, volume %	<u>0.05</u>	<u>0.05</u>
O2 - Dry concentration, volume %	<u>20.9</u>	<u>20.9</u>
Md - Mol wt. stack gas, dry, g/gmole	<u>28.844</u>	<u>28.844</u>
Ms - Mol wt. stack gas, wet, g/gmole	<u>28.751</u>	<u>28.726</u>
Cp - Pitot tube coef., dimensionless	<u>0.843</u>	<u>0.843</u>
Δp - Avg. of sq. roots of each Δp	<u>0.481</u>	<u>0.475</u>
Ts - Absolute stack Temp. °R	<u>534.8</u>	<u>531.9</u>
A - Area of stack, square feet	<u>1.97</u>	<u>1.97</u>
Qstd - Volumetric flow rate, dscfm	<u>3124</u>	<u>3085</u>
An - Area of nozzle, square feet	<u>0.0004276</u>	<u>0.0004276</u>
ø - Sampling time, minutes	<u>48</u>	<u>48</u>
I - Isokinetic variation, percent	<u>93.8</u>	<u>92.9</u>

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: Trash Fan A

Date: 11/27/90
 Type: T std = 60 F
 Run: 1-Part

Wlc	Water Condensate Weight	7.6	g		
Vlc	Water Condensate Volume	7.6	ml		
Vm	Metered Sample Gas Volume	39.794	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	39.794	dcf		
Y	Dry Gas Meter Calibration Factor	0.987			
Pbar	Barometric Pressure	30.21	In. Hg		
Pg	Static Pressure	0.2	In. H2O		
Ps	Stack Pressure, Absolute	30.22	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.543	In. H2O		
Tm	Dry Gas Meter Temperature, Average	67.2	deg. F	527.2	deg. R
Vm(std)	Sample Gas Volume	39.2440	dscf		
Vm(wet)	Sample Gas Volume, Wet	39.5975	scf		
Vw(std)	Water Vapor Volume	0.3535	scf		
Bws	Water Content of Stack Gas	0.009		0.9	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.747	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.575	In. H2O		
Ts	Stack Gas Temperature, Average	82.4	deg. F	542.4	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	32.73	ft/sec		
Qa	Actual Flow Rate	5,184	cfm		
Qad	Actual Flow Rate, Dry	5,138	dcfm		
Q(std)	Stack Gas Flow Rate	4,976	dscfm		
An	Nozzle Area	0.0003547	sq ft	0.255	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	99.2	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley

Site: Stratford Gln

Unit: Trash Fan A

Date: 11/27/90

Type: T std = 60 F

Run: 2-Part

Wlc	Water Condensate Weight	7.6	g		
Vlc	Water Condensate Volume	7.6	ml		
Vm	Metered Sample Gas Volume	37.142	dscf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	37.142	dscf		
Y	Dry Gas Meter Calibration Factor	0.987			
Pbar	Barometric Pressure	30.21	In. Hg		
Pg	Static Pressure	0.2	In. H2O		
Ps	Stack Pressure, Absolute	30.22	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.574	In. H2O		
Tm	Dry Gas Meter Temperature, Average	75.5	deg. F	535.5	deg. R
Vm(std)	Sample Gas Volume	36.0639	dscf		
Vm(wet)	Sample Gas Volume, Wet	36.4175	scf		
Vw(std)	Water Vapor Volume	0.3535	scf		
Bws	Water Content of Stack Gas	0.010		1.0	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.739	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.575	In. H2O		
Ts	Stack Gas Temperature, Average	84.8	deg. F	544.8	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	32.81	ft/sec		
Qa	Actual Flow Rate	5,196	cfm		
Qad	Actual Flow Rate, Dry	5,145	dscfm		
Q(std)	Stack Gas Flow Rate	4,962	dscfm		
An	Nozzle Area	0.0003547	sq ft	0.255	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	91.4	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #1 Trash Fan

Date: 11/28/90
 Type: T std = 60 F
 Run: 1-Part

Wlc	Water Condensate Weight	8.1	g		
Vlc	Water Condensate Volume	8.1	ml		
Vm	Metered Sample Gas Volume	34.408	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	34.408	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.31	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.31	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.210	In. H2O		
Tm	Dry Gas Meter Temperature, Average	65.9	deg. F	525.9	deg. R
Vm(std)	Sample Gas Volume	35.3654	dscf		
Vm(wet)	Sample Gas Volume, Wet	35.7421	scf		
Vw(std)	Water Vapor Volume	0.3768	scf		
Bws	Water Content of Stack Gas	0.011		1.1	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.730	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.606	In. H2O		
Ts	Stack Gas Temperature, Average	98.1	deg. F	558.1	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	34.98	ft/sec		
Qa	Actual Flow Rate	5,541	cfm		
Qad	Actual Flow Rate, Dry	5,482	dcfm		
Q(std)	Stack Gas Flow Rate	5,174	dscfm		
An	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	97.6	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #1 Trash Fan

Date: 11/27/90
 Type: T std = 60 F
 Run: 2-Part

Wlc	Water Condensate Weight	5.0	g		
Vlc	Water Condensate Volume	5.0	ml		
Vm	Metered Sample Gas Volume	34.027	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	34.027	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.34	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.34	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.179	In. H2O		
Tm	Dry Gas Meter Temperature, Average	76.0	deg. F	536.0	deg. R
Vm(std)	Sample Gas Volume	34.3471	dscf		
Vm(wet)	Sample Gas Volume, Wet	34.5797	scf		
Vw(std)	Water Vapor Volume	0.2326	scf		
Bws	Water Content of Stack Gas	0.007		0.7	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.771	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.601	In. H2O		
Ts	Stack Gas Temperature, Average	111.7	deg. F	571.7	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	35.05	ft/sec		
Qa	Actual Flow Rate	5.552	cfm		
Qad	Actual Flow Rate, Dry	5.515	dcfm		
Q(std)	Stack Gas Flow Rate	5,087	dscfm		
An	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	96.4	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #2 Trash Fan

Date: 11/28/90
 Type: T std = 60 F
 Run: 1-Part

<i>Wlc</i>	Water Condensate Weight	13.9	g		
<i>Vlc</i>	Water Condensate Volume	13.9	ml		
<i>Vm</i>	Metered Sample Gas Volume	34.065	dscf		
<i>Lp</i>	Avg. Leak Rate	0.000	cf		
<i>Vn</i>	Leak Corrected Sample Gas Volume	34.065	dscf		
<i>Y</i>	Dry Gas Meter Calibration Factor	1.023			
<i>Pbar</i>	Barometric Pressure	30.15	In. Hg		
<i>Pg</i>	Static Pressure	0	In. H ₂ O		
<i>Ps</i>	Stack Pressure, Absolute	30.15	in. Hg		
ΔH	Dry Gas Meter Press. Differential, Average	1.333	In. H ₂ O		
<i>Tm</i>	Dry Gas Meter Temperature, Average	103.9	deg. F	563.9	deg. R
<i>Vm(std)</i>	Sample Gas Volume	32.4889	dscf		
<i>Vm(wet)</i>	Sample Gas Volume, Wet	33.1355	scf		
<i>Vw(std)</i>	Water Vapor Volume	0.6466	scf		
<i>Bws</i>	Water Content of Stack Gas	0.020		2.0	%
<i>CO₂</i>	Carbon Dioxide, Dry	0.1	%		
<i>O₂</i>	Oxygen, Dry	20.9	%		
<i>N₂</i>	Nitrogen, Dry	79.1	%		
<i>Md</i>	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
<i>Ms</i>	Molecular Wt. of Stack Gas, Wet	28.632	lb/lb mole		
<i>Cp</i>	Pitot Calibration Factor	0.843			
ΔP	Velocity Head, Average Square Root	0.642	In. H ₂ O		
<i>Ts</i>	Stack Gas Temperature, Average	120.6	deg. F	580.6	deg. R
<i>As</i>	Area of Stack	2.64	sq ft	22.0	in. dia.
<i>Vs</i>	Stack Gas Velocity	37.91	ft/sec		
<i>Qa</i>	Actual Flow Rate	6,005	cfm		
<i>Qad</i>	Actual Flow Rate, Dry	5,887	dscfm		
<i>Q(std)</i>	Stack Gas Flow Rate	5,314	dscfm		
<i>An</i>	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
<i>Theta</i>	Sampling Time	60	min.		
<i>I</i>	Isokinetics	87.3	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #2 Trash Fan

Date: 11/28/90
 Type: T std = 60 F
 Run: 2-Part

Wlc	Water Condensate Weight	14.8	g		
Vlc	Water Condensate Volume	14.8	ml		
Vm	Metered Sample Gas Volume	36.941	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	36.941	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.15	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.15	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.366	In. H2O		
Tm	Dry Gas Meter Temperature, Average	90.9	deg. F	550.9	deg. R
Vm(std)	Sample Gas Volume	36.0674	dscf		
Vm(wet)	Sample Gas Volume, Wet	36.7558	scf		
Vw(std)	Water Vapor Volume	0.6885	scf		
Bws	Water Content of Stack Gas	0.019		1.9	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.641	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.642	In. H2O		
Ts	Stack Gas Temperature, Average	121.1	deg. F	581.1	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	37.94	ft/sec		
Qa	Actual Flow Rate	6,010	cfm		
Qad	Actual Flow Rate, Dry	5,897	dcfm		
Q(std)	Stack Gas Flow Rate	5,317	dscfm		
An	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	96.9	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: Motes

Date: 11/27/90
 Type: T std = 60 F
 Run: 1-Part

<i>Wlc</i>	Water Condensate Weight	7.5	g		
<i>Vlc</i>	Water Condensate Volume	7.5	ml		
<i>Vm</i>	Metered Sample Gas Volume	41.546	dcf		
<i>Lp</i>	Avg. Leak Rate	0.000	cf		
<i>Vn</i>	Leak Corrected Sample Gas Volume	41.546	dcf		
<i>Y</i>	Dry Gas Meter Calibration Factor	0.969			
<i>Pbar</i>	Barometric Pressure	30.12	In. Hg		
<i>Pg</i>	Static Pressure	0	In. H2O		
<i>Ps</i>	Stack Pressure, Absolute	30.12	In. Hg		
ΔH	Dry Gas Meter Press. Differential, Average	1.642	In. H2O		
<i>Tm</i>	Dry Gas Meter Temperature, Average	80.5	deg. F	540.5	deg. R
<i>Vm(std)</i>	Sample Gas Volume	39.1261	dscf		
<i>Vm(wet)</i>	Sample Gas Volume, Wet	39.4750	scf		
<i>Vw(std)</i>	Water Vapor Volume	0.3489	scf		
<i>Bws</i>	Water Content of Stack Gas	0.009		0.9	%
<i>CO2</i>	Carbon Dioxide, Dry	0.1	%		
<i>O2</i>	Oxygen, Dry	20.9	%		
<i>N2</i>	Nitrogen, Dry	79.1	%		
<i>Md</i>	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
<i>Ms</i>	Molecular Wt. of Stack Gas, Wet	28.748	lb/lb mole		
<i>Cp</i>	Pitot Calibration Factor	0.843			
ΔP	Velocity Head, Average Square Root	0.482	In. H2O		
<i>Ts</i>	Stack Gas Temperature, Average	74.9	deg. F	534.9	deg. R
<i>As</i>	Area of Stack	1.97	sq ft	19.0	in. dia.
<i>Vs</i>	Stack Gas Velocity	27.31	ft/sec		
<i>Qa</i>	Actual Flow Rate	3,227	cfm		
<i>Qad</i>	Actual Flow Rate, Dry	3,198	dcfm		
<i>Q(std)</i>	Stack Gas Flow Rate	3,130	dscfm		
<i>An</i>	Nozzle Area	0.0004246	sq ft	0.279	in. dia.
<i>Theta</i>	Sampling Time	60	min.		
<i>I</i>	Isokinetics	99.7	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: Motes

Date: 11/27/90
 Type: T std = 60 F
 Run: 2-Part

Wlc	Water Condensate Weight	6.8	g		
Vlc	Water Condensate Volume	6.8	ml		
Vm	Metered Sample Gas Volume	41.476	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	41.476	dcf		
Y	Dry Gas Meter Calibration Factor	0.969			
Pbar	Barometric Pressure	30.12	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.12	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.669	In. H2O		
Tm	Dry Gas Meter Temperature, Average	86.7	deg. F	546.7	deg. R
Vm(std)	Sample Gas Volume	38.6222	dscf		
Vm(wet)	Sample Gas Volume, Wet	38.9385	scf		
Vw(std)	Water Vapor Volume	0.3163	scf		
Bws	Water Content of Stack Gas	0.008		0.8	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.756	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.486	In. H2O		
Ts	Stack Gas Temperature, Average	71.4	deg. F	531.4	deg. R
As	Area of Stack	1.97	sq. ft	19.0	in. dia.
Vs	Stack Gas Velocity	27.40	ft/sec		
Qa	Actual Flow Rate	3,237	cfm		
Qad	Actual Flow Rate, Dry	3,211	dcfm		
Q(std)	Stack Gas Flow Rate	3,163	dscfm		
An	Nozzle Area	0.0004246	sq ft	0.279	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	97.4	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: A Trash Fan

Date: 11/27/90
 Type: T std = 60 F
 Run: 1-PM10

Wlc	Water Condensate Weight	5.9	g		
Vlc	Water Condensate Volume	5.9	ml		
Vm	Metered Sample Gas Volume	26.902	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	26.902	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.21	In. Hg		
Pg	Static Pressure	0.2	In. H2O		
Ps	Stack Pressure, Absolute	30.22	in. Hg		
Δ H	Dry Gas Meter Pressure Differential, Average	1.401	In. H2O		
Tm	Dry Gas Meter Temperature, Average	61.3	deg. F	521.3	deg. R
Vm(std)	Sample Gas Volume	27.8156	dscf		
Vm(wet)	Sample Gas Volume, Wet	28.0901	scf		
Vw(std)	Water Vapor Volume	0.2745	scf		
Bws	Water Content of Stack Gas	0.010		1.0	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.738	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.549	In. H2O		
Ts	Stack Gas Temperature, Average	83.0	deg. F	543.0	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	31.28	ft/sec		
Qa	Actual Flow Rate	4,954	cfm		
Qad	Actual Flow Rate, Dry	4,906	dcfm		
Q(std)	Stack Gas Flow Rate	4,746	dscfm		
An	Nozzle Area	0.0003547	sq ft	0.255	in. dia.
Theta	Sampling Time	42	min.		
I	Isokinetics	101.5	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: A Trash Fan

Date: 11/27/90
 Type: T std = 60 F
 Run: 2-PM10

Wlc	Water Condensate Weight	9.0	g		
Vlc	Water Condensate Volume	9.0	ml		
Vm	Metered Sample Gas Volume	25.451	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	25.451	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.21	In. Hg		
Pg	Static Pressure	0.2	In. H2O		
Ps	Stack Pressure, Absolute	30.22	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.425	In. H2O		
Tm	Dry Gas Meter Temperature, Average	70.5	deg. F	530.5	deg. R
Vm(std)	Sample Gas Volume	25.8613	dscf		
Vm(wet)	Sample Gas Volume, Wet	26.2800	scf		
Vw(std)	Water Vapor Volume	0.4187	scf		
Bws	Water Content of Stack Gas	0.016		1.6	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.671	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.549	In. H2O		
Ts	Stack Gas Temperature, Average	84.4	deg. F	544.4	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	31.36	ft/sec		
Qa	Actual Flow Rate	4,966	cfm		
Qad	Actual Flow Rate, Dry	4,887	dcfm		
Q(std)	Stack Gas Flow Rate	4,716	dscfm		
An	Nozzle Area	0.0003547	sq ft	0.255	in. dia.
Theta	Sampling Time	42	min.		
I	Isokinetics	95.0	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #1 Trash Fan

Date: 11/28/90
 Type: T std = 60 F
 Run: 1-PM10

Wlc	Water Condensate Weight	7.1	g		
Vlc	Water Condensate Volume	7.1	ml		
Vm	Metered Sample Gas Volume	27.352	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	27.352	dcf		
Y	Dry Gas Meter Calibration Factor	0.969			
Pbar	Barometric Pressure	30.31	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	30.31	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.189	in. H2O		
Tm	Dry Gas Meter Temperature, Average	64.3	deg. F	524.3	deg. R
Vm(std)	Sample Gas Volume	26.6928	dscf		
Vm(wet)	Sample Gas Volume, Wet	27.0231	scf		
Vw(std)	Water Vapor Volume	0.3303	scf		
Bws	Water Content of Stack Gas	0.012		1.2	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.711	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.602	in. H2O		
Ts	Stack Gas Temperature, Average	98.0	deg. F	558.0	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	34.70	ft/sec		
Qa	Actual Flow Rate	5,497	cfm		
Qad	Actual Flow Rate, Dry	5,430	dcfm		
Q(std)	Stack Gas Flow Rate	5,126	dscfm		
An	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
Theta	Sampling Time	48	min.		
I	Isokinetics	98.1	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #1 Trash Fan

Date: 11/28/90
 Type: T std = 60 F
 Run: 2-PM10

<i>Wlc</i>	Water Condensate Weight	5.4	g		
<i>Vlc</i>	Water Condensate Volume	5.4	ml		
<i>Vm</i>	Metered Sample Gas Volume	27.543	dcf		
<i>Lp</i>	Avg. Leak Rate	0.000	cf		
<i>Vn</i>	Leak Corrected Sample Gas Volume	27.543	dcf		
<i>Y</i>	Dry Gas Meter Calibration Factor	0.969			
<i>Pbar</i>	Barometric Pressure	30.22	In. Hg		
<i>Pg</i>	Static Pressure	0	In. H2O		
<i>Ps</i>	Stack Pressure, Absolute	30.22	in. Hg		
ΔH	Dry Gas Meter Press. Differential, Average	1.184	In. H2O		
<i>Tm</i>	Dry Gas Meter Temperature, Average	76.5	deg. F	536.5	deg. R
<i>Vm(std)</i>	Sample Gas Volume	26.1895	dscf		
<i>Vm(wet)</i>	Sample Gas Volume, Wet	26.4407	scf		
<i>Vw(std)</i>	Water Vapor Volume	0.2512	scf		
<i>Bws</i>	Water Content of Stack Gas	0.010		1.0	%
<i>CO2</i>	Carbon Dioxide, Dry	0.1	%		
<i>O2</i>	Oxygen, Dry	20.9	%		
<i>N2</i>	Nitrogen, Dry	79.1	%		
<i>Md</i>	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
<i>Ms</i>	Molecular Wt. of Stack Gas, Wet	28.741	lb/lb mole		
<i>Cp</i>	Pitot Calibration Factor	0.843			
ΔP	Velocity Head, Average Square Root	0.601	In. H2O		
<i>Ts</i>	Stack Gas Temperature, Average	111.0	deg. F	571.0	deg. R
<i>As</i>	Area of Stack	2.64	sq ft	22.0	in. dia.
<i>Vs</i>	Stack Gas Velocity	35.14	ft/sec		
<i>Qa</i>	Actual Flow Rate	5,566	cfm		
<i>Qad</i>	Actual Flow Rate, Dry	5,513	dcfm		
<i>Q(std)</i>	Stack Gas Flow Rate	5,071	dscfm		
<i>An</i>	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
<i>Theta</i>	Sampling Time	48	min.		
<i>I</i>	Isokinetics	97.3	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: **Stratford/Eckley**
 Site: **Stratford Gln**
 Unit: **#2 Trash Fan**

Date: **11/28/90**
 Type: **T std = 60 F**
 Run: **1-PM10**

Wlc	Water Condensate Weight	13.2	g		
Vlc	Water Condensate Volume	13.2	ml		
Vm	Metered Sample Gas Volume	29.015	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	29.015	dcf		
Y	Dry Gas Meter Calibration Factor	0.969			
Pbar	Barometric Pressure	30.15	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.15	In. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.333	In. H2O		
Tm	Dry Gas Meter Temperature, Average	80.2	deg. F	540.2	deg. R
Vm(std)	Sample Gas Volume	27.3464	dscf		
Vm(wet)	Sample Gas Volume, Wet	27.9604	scf		
Vw(std)	Water Vapor Volume	0.6140	scf		
Bws	Water Content of Stack Gas	0.022		2.2	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.606	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.642	In. H2O		
Ts	Stack Gas Temperature, Average	121.3	deg. F	581.3	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	37.95	ft/sec		
Qa	Actual Flow Rate	6,011	cfm		
Qad	Actual Flow Rate, Dry	5,879	dcfm		
Q(std)	Stack Gas Flow Rate	5,300	dscfm		
An	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
Theta	Sampling Time	48	min.		
I	Isokinetics	97.2	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: #2 Trash Fan

Date: 11/28/90
 Type: T std = 60 F
 Run: 2-PM10

Wlc	Water Condensate Weight	13.4	g		
Vlc	Water Condensate Volume	13.4	ml		
Vm	Metered Sample Gas Volume	28.585	dscf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	28.585	dscf		
Y	Dry Gas Meter Calibration Factor	0.969			
Pbar	Barometric Pressure	30.15	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.15	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.355	In. H2O		
Tm	Dry Gas Meter Temperature, Average	91.2	deg. F	551.2	deg. R
Vm(std)	Sample Gas Volume	26.4069	dscf		
Vm(wet)	Sample Gas Volume, Wet	27.0302	scf		
Vw(std)	Water Vapor Volume	0.6233	scf		
Bws	Water Content of Stack Gas	0.023		2.3	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.594	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.642	In. H2O		
Ts	Stack Gas Temperature, Average	121.1	deg. F	581.1	deg. R
As	Area of Stack	2.64	sq ft	22.0	in. dia.
Vs	Stack Gas Velocity	37.95	ft/sec		
Qa	Actual Flow Rate	6,011	cfm		
Qad	Actual Flow Rate, Dry	5,873	dscfm		
Q(std)	Stack Gas Flow Rate	5,296	dscfm		
An	Nozzle Area	0.0003012	sq ft	0.235	in. dia.
Theta	Sampling Time	48	min.		
I	Isokinetics	93.9	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: Stratford/Eckley
 Site: Stratford Gln
 Unit: Moat

Date: 11/27/90
 Type: T std = 60 F
 Run: 1-PM10

Wlc	Water Condensate Weight	5.8	g		
Vlc	Water Condensate Volume	5.8	ml		
Vm	Metered Sample Gas Volume	31.170	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	31.170	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.12	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.12	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.626	In. H2O		
Tm	Dry Gas Meter Temperature, Average	76.4	deg. F	536.4	deg. R
Vm(std)	Sample Gas Volume	31.2431	dscf		
Vm(wet)	Sample Gas Volume, Wet	31.5129	scf		
Vw(std)	Water Vapor Volume	0.2698	scf		
Bws	Water Content of Stack Gas	0.009		0.9	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.751	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.481	In. H2O		
Ts	Stack Gas Temperature, Average	74.8	deg. F	534.8	deg. R
As	Area of Stack	1.97	sq ft	19.0	in. dia.
Vs	Stack Gas Velocity	27.25	ft/sec		
Qa	Actual Flow Rate	3,219	cfm		
Qad	Actual Flow Rate, Dry	3,191	dcfm		
Q(std)	Stack Gas Flow Rate	3,124	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	in. dia.
Theta	Sampling Time	48	min.		
I	Isokinetics	93.8	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: **Stratford/Eckley**
 Site: **Stratford Gln**
 Unit: **Moat**

Date: **11/27/90**
 Type: **T std = 60 F**
 Run: **2-PM10**

Wlc	Water Condensate Weight	7.2	g		
Vlc	Water Condensate Volume	7.2	ml		
Vm	Metered Sample Gas Volume	30.926	dcf		
Lp	Avg. Leak Rate	0.000	cf		
Vn	Leak Corrected Sample Gas Volume	30.926	dcf		
Y	Dry Gas Meter Calibration Factor	1.023			
Pbar	Barometric Pressure	30.12	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	30.12	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.608	In. H2O		
Tm	Dry Gas Meter Temperature, Average	84.2	deg. F	544.2	deg. R
Vm(std)	Sample Gas Volume	30.5533	dscf		
Vm(wet)	Sample Gas Volume, Wet	30.8883	scf		
Vw(std)	Water Vapor Volume	0.3349	scf		
Bws	Water Content of Stack Gas	0.011		1.1	%
CO2	Carbon Dioxide, Dry	0.1	%		
O2	Oxygen, Dry	20.9	%		
N2	Nitrogen, Dry	79.1	%		
Md	Molecular Wt. of Stack Gas, Dry	28.844	lb/lb mole		
Ms	Molecular Wt. of Stack Gas, Wet	28.726	lb/lb mole		
Cp	Pitot Calibration Factor	0.843			
Δ P	Velocity Head, Average Square Root	0.475	In. H2O		
Ts	Stack Gas Temperature, Average	71.9	deg. F	531.9	deg. R
As	Area of Stack	1.97	sq ft	19.0	in. dia.
Vs	Stack Gas Velocity	26.82	ft/sec		
Qa	Actual Flow Rate	3,169	cfm		
Qad	Actual Flow Rate, Dry	3,134	dcfm		
Q(std)	Stack Gas Flow Rate	3,085	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	in. dia.
Theta	Sampling Time	48	min.		
I	Isokinetics	92.9	%		

III. WET TEST METHODS CALCULATIONS

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: Trash Fan A

Date: 11/27/90
Type: T std = 60 F
Run: 1-Part

Total Particulate

Ws	Total Particulate Weight	0.0815	g
Cs	Total Particulate Emissions	0.0320	grain/dscf
CFs	Particulate Flow Rate	1.37	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: Trash Fan A

Date: 11/27/90
Type: T std = 60 F
Run: 2-Part

Total Particulate

Ws	Total Particulate Weight	0.0919	g
Cs	Total Particulate Emissions	0.0393	grain/dscf
CFs	Particulate Flow Rate	1.67	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: #1 Trash Fan

Date: 11/28/90
Type: T std = 60 F
Run: 1-Part

Total Particulate

Ws	Total Particulate Weight	0.0331	g
Cs	Total Particulate Emissions	0.0144	grain/dscf
CFs	Particulate Flow Rate	0.64	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: #1 Trash Fan

Date: 11/27/90
Type: T std = 60 F
Run: 2-Part

Total Particulate

Ws	Total Particulate Weight	0.0684	g
Cs	Total Particulate Emissions	0.0307	grain/dscf
CFs	Particulate Flow Rate	1.34	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: #2 Trash Fan

Date: 11/28/90
Type: T std = 60 F
Run: 1-Part

Total Particulate

Ws	Total Particulate Weight	0.1928	g
Cs	Total Particulate Emissions	0.0916	grain/dscf
CFs	Particulate Flow Rate	4.17	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: #2 Trash Fan

Date: 11/28/90
Type: T std = 60 F
Run: 2-Part

Total Particulate

Ws	Total Particulate Weight	0.2182	g
Cs	Total Particulate Emissions	0.0933	grain/dscf
CFs	Particulate Flow Rate	4.25	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gln
Unit: Motes

Date: 11/27/90
Type: T std = 60 F
Run: 1-Part

Total Particulate

Ws	Total Particulate Weight	0.0223	g
Cs	Total Particulate Emissions	0.0088	grain/dscf
CFs	Particulate Flow Rate	0.24	lb/hr

BTC Environmental, Inc. - 1989

CALCULATED EMISSION RESULTS

Client: Stratford/Eckley
Site: Stratford Gin
Unit: Motes

Date: 11/27/90
Type: T std = 60 F
Run: 2-Part

Total Particulate

Ws	Total Particulate Weight	0.0176	g
Cs	Total Particulate Emissions	0.0070	grain/dscf
CFs	Particulate Flow Rate	0.19	lb/hr

BTC Environmental, Inc. - 1989

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Date : <u>11/28/90</u>
Site : <u>Stratford Gln</u>	Job # : <u>5019</u>
Unit : <u>Trash A</u>	Lab # : <u>290-188</u>
Run : <u>1</u>	

BLANKS

Acetone	Volume: <u>100</u> ml
Gross: <u>73.2865</u> gms.	Tare: <u>73.2842</u> gms. Residue: <u>0.0023</u> gms.
DI Water	Volume: <u>100</u> ml
Gross: <u>71.7775</u> gms.	Tare: <u>71.7764</u> gms. Residue: <u>0.0011</u> gms.

WEIGHTS & VOLUMES

Filter	Gross: <u>0.0884</u> gms.	Tare: <u>0.0866</u> gms.	Net: <u>0.0018</u> gms.
Filter	Gross: <u>0.0938</u> gms.	Tare: <u>0.0910</u> gms.	Net: <u>0.0028</u> gms.

+10 μ Rinse -

Acetone:	<u>75</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0017</u> gms.
DI Water:	<u>100</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0011</u> gms.
Gross:	<u>67.9308</u> gms.	Tare: <u>67.8952</u> gms.	Net: <u>0.0356</u> gms.

+10μ Total Weight = 0.0374 gms.

Filter	Gross: <u>0.1211</u> gms.	Tare: <u>0.1119</u> gms.	Net: <u>0.0092</u> gms.
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-10 μ Rinse

DI Water:	<u>225</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0025</u> gms.
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
Total:	<u>275</u> ml	Aliquot: <u>275</u> ml	
Gross:	<u>67.6318</u> gms.	Tare: <u>67.6262</u> gms.	Net: <u>0.0020</u> gms.

-10μ Total Weight = 0.0075 gms.

Total Weight = 0.0449 gms.

+ 10 μ	<u>0.8319</u> %
- 10 μ	<u>0.1681</u> %

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Date : <u>11/28/90</u>
Site : <u>Stratford Gin</u>	Job # : <u>5019</u>
Unit : <u>Trash A</u>	Lab # : <u>290-188</u>
Run : <u>2</u>	

BLANKS

Acetone	Gross: <u>73.2865</u> gms.	Tare: <u>73.2842</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0023</u> gms.
DI Water	Gross: <u>71.7775</u> gms.	Tare: <u>71.7764</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0011</u> gms.

WEIGHTS & VOLUMES

Filter	Gross: <u>0.0915</u> gms.	Tare: <u>0.0900</u> gms.	Net: <u>0.0015</u> gms.
Filter	Gross: <u>0.0902</u> gms.	Tare: <u>0.0892</u> gms.	Net: <u>0.0010</u> gms.
+10 μ Rinse -			
Acetone:	<u>100</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0023</u> gms.
DI Water:	<u>125</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0014</u> gms.
Gross:	<u>68.5036</u> gms.	Tare: <u>68.4462</u> gms.	Net: <u>0.0574</u> gms.
	+10μ Total Weight	=	<u>0.0562</u> gms.
Filter	Gross: <u>0.1624</u> gms.	Tare: <u>0.1118</u> gms.	Net: <u>0.0506</u> gms.
-10 μ Rinse			
DI Water:	<u>200</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0022</u> gms.
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
Total:	<u>250</u> ml	Aliquot: <u>250</u> ml	
Gross:	<u>66.3317</u> gms.	Tare: <u>66.3275</u> gms.	Net: <u>0.0008</u> gms.
	-10μ Total Weight	=	<u>0.0481</u> gms.
	Total Weight	=	<u>0.1043</u> gms.
	+ 10 μ		<u>0.5389</u> %
	- 10 μ		<u>0.4611</u> %

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Date : <u>11/27/90</u>
Site : <u>Stratford Gin</u>	Job # : <u>5019</u>
Unit : <u>Trash Fan</u>	Lab # : <u>290-188</u>
Run : <u>1</u>	

BLANKS

Acetone	Gross: <u>73.2865</u> gms.	Tare: <u>73.2842</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0023</u> gms.
DI Water	Gross: <u>71.7775</u> gms.	Tare: <u>71.7764</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0011</u> gms.

WEIGHTS & VOLUMES

Filter	Gross: <u>0.0914</u> gms.	Tare: <u>0.0896</u> gms.	Net: <u>0.0018</u> gms.
Filter	Gross: <u>0.0891</u> gms.	Tare: <u>0.0885</u> gms.	Net: <u>0.0006</u> gms.

+10 μ Rinse -			
Acetone:	<u>100</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0023</u> gms.
DI Water:	<u>100</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0011</u> gms.
Gross:	<u>67.2122</u> gms.	Tare: <u>67.1931</u> gms.	Net: <u>0.0191</u> gms.

+10μ Total Weight = 0.0181 gms.

Filter	Gross: <u>0.1210</u> gms.	Tare: <u>0.1109</u> gms.	Net: <u>0.0101</u> gms.
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-10 μ Rinse			
DI Water:	<u>250</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0028</u> gms.
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
Total:	<u>300</u> ml	Aliquot: <u>300</u> ml	
Gross:	<u>73.7084</u> gms.	Tare: <u>73.7025</u> gms.	Net: <u>0.0020</u> gms.

-10μ Total Weight = 0.0082 gms.

Total Weight = 0.0263 gms.

+ 10 μ	<u>0.6882</u> %
- 10 μ	<u>0.3118</u> %

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Date : <u>11/27/90</u>
Site : <u>Stratford Gln</u>	Job # : <u>5019</u>
Unit : <u>Trash Fan</u>	Lab # : <u>290-188</u>
Run : <u>2</u>	

BLANKS

Acetone	Gross: <u>73.2865</u> gms.	Tare: <u>73.2842</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0023</u> gms.
DI Water	Gross: <u>71.7775</u> gms.	Tare: <u>71.7764</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0011</u> gms.

WEIGHTS & VOLUMES

Filter	Gross: <u>0.0898</u> gms.	Tare: <u>0.0884</u> gms.	Net: <u>0.0014</u> gms.
Filter	Gross: <u>0.0890</u> gms.	Tare: <u>0.0874</u> gms.	Net: <u>0.0016</u> gms.

+10 μ Rinse -

Acetone:	<u>100</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0023</u> gms.
DI Water:	<u>100</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0011</u> gms.
Gross:	<u>68.5929</u> gms.	Tare: <u>68.5712</u> gms.	Net: <u>0.0217</u> gms.

+10μ Total Weight = 0.0213 gms.

Filter	Gross: <u>0.1284</u> gms.	Tare: <u>0.1108</u> gms.	Net: <u>0.0176</u> gms.
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-10 μ Rinse

DI Water:	<u>350</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0039</u> gms.
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
Total:	<u>400</u> ml	Aliquot: <u>400</u> ml	
Gross:	<u>71.3735</u> gms.	Tare: <u>71.3684</u> gms.	Net: <u>0.0001</u> gms.

-10μ Total Weight = 0.0127 gms.

Total Weight = 0.0340 gms.

+ 10 μ	<u>0.6265</u> %
- 10 μ	<u>0.3735</u> %

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Date : <u>11/28/90</u>
Site : <u>Stratford Gin</u>	Job # : <u>5019</u>
Unit : <u>Trash B</u>	Lab # : <u>290-188</u>
Run : <u>2</u>	

BLANKS

Acetone	Gross: <u>73.2865</u> gms.	Tare: <u>73.2842</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0023</u> gms.
DI Water	Gross: <u>71.7775</u> gms.	Tare: <u>71.7764</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0011</u> gms.

WEIGHTS & VOLUMES

Filter	Gross: <u>0.0910</u> gms.	Tare: <u>0.0894</u> gms.	Net: <u>0.0016</u> gms.
Filter	Gross: <u>0.0901</u> gms.	Tare: <u>0.0883</u> gms.	Net: <u>0.0018</u> gms.
+10 μ Rinse -			
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
DI Water:	<u>150</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0017</u> gms.
Gross:	<u>68.9742</u> gms.	Tare: <u>68.8272</u> gms.	Net: <u>0.1470</u> gms.
	+10μ Total Weight	=	<u>0.1476</u> gms.
Filter	Gross: <u>0.1450</u> gms.	Tare: <u>0.1112</u> gms.	Net: <u>0.0338</u> gms.
-10 μ Rinse			
DI Water:	<u>350</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0039</u> gms.
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
Total:	<u>400</u> ml	Aliquot: <u>400</u> ml	
Gross:	<u>67.8733</u> gms.	Tare: <u>67.8644</u> gms.	Net: <u>0.0039</u> gms.
	-10μ Total Weight	=	<u>0.0327</u> gms.
	Total Weight	=	<u>0.1803</u> gms.
	+ 10 μ		<u>0.8186</u> %
	- 10 μ		<u>0.1814</u> %

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : Stratford/Eckley Date : 11/27/90
 Site : Stratford Gin Job #: 5019
 Unit : Motes Lab #: 290-188
 Run : 1

BLANKS

Acetone Volume: 100 ml
 Gross: 73.2865 gms. Tare: 73.2842 gms. Residue: 0.0023 gms.

DI Water Volume: 100 ml
 Gross: 71.7775 gms. Tare: 71.7764 gms. Residue: 0.0011 gms.

WEIGHTS & VOLUMES

Filter Gross: 0.0870 gms. Tare: 0.0867 gms. Net: 0.0003 gms.
 Filter Gross: 0.0874 gms. Tare: 0.0869 gms. Net: 0.0005 gms.

+10 μ Rinse -
 Acetone: 100 ml * 2E-05 gms./ml = Net: -0.0023 gms.
 DI Water: 100 ml * 1E-05 gms./ml = Net: -0.0011 gms.
 Gross: 70.1179 gms. Tare: 70.1079 gms. Net: 0.0100 gms.

+10μ Total Weight = 0.0074 gms.

Filter Gross: 0.1226 gms. Tare: 0.1110 gms. Net: 0.0116 gms.

-10 μ Rinse
 DI Water: 150 ml * 1E-05 gms./ml = Net: -0.0017 gms.
 Acetone: 50 ml * 2E-05 gms./ml = Net: -0.0012 gms.
 Total: 200 ml Aliquot: 200 ml
 Gross: 70.5720 gms. Tare: 70.5668 gms. Net: 0.0024 gms.

-10μ Total Weight = 0.0112 gms.

Total Weight = 0.0186 gms.

+ 10 μ 0.3978 %
 - 10 μ 0.6022 %

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Date : <u>11/27/90</u>
Site : <u>Stratford Gin</u>	Job # : <u>5019</u>
Unit : <u>Motes</u>	Lab # : <u>290-188</u>
Run : <u>2</u>	

BLANKS

Acetone	Gross: <u>73.2865</u> gms.	Tare: <u>73.2842</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0023</u> gms.
DI Water	Gross: <u>71.7775</u> gms.	Tare: <u>71.7764</u> gms.	Volume: <u>100</u> ml	Residue: <u>0.0011</u> gms.

WEIGHTS & VOLUMES

Filter	Gross: <u>0.0876</u> gms.	Tare: <u>0.0872</u> gms.	Net: <u>0.0004</u> gms.
Filter	Gross: <u>0.0868</u> gms.	Tare: <u>0.0866</u> gms.	Net: <u>0.0002</u> gms.
+10 μ Rinse -			
Acetone:	<u>100</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0023</u> gms.
DI Water:	<u>150</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0017</u> gms.
Gross:	<u>66.3766</u> gms.	Tare: <u>66.3677</u> gms.	Net: <u>0.0089</u> gms.
	+10μ Total Weight	=	<u>0.0055</u> gms.
Filter	Gross: <u>0.1166</u> gms.	Tare: <u>0.1106</u> gms.	Net: <u>0.0060</u> gms.
-10 μ Rinse			
DI Water:	<u>200</u> ml * <u>1E-05</u> gms./ml	=	Net: <u>-0.0022</u> gms.
Acetone:	<u>50</u> ml * <u>2E-05</u> gms./ml	=	Net: <u>-0.0012</u> gms.
Total:	<u>250</u> ml	Aliquot: <u>250</u> ml	
Gross:	<u>66.6555</u> gms.	Tare: <u>66.6525</u> gms.	Net: <u>-0.0004</u> gms.
	-10μ Total Weight	=	<u>0.0023</u> gms.
	Total Weight	=	<u>0.0078</u> gms.
	+ 10 μ		<u>0.7070</u> %
	- 10 μ		<u>0.2930</u> %

**BTC ENVIRONMENTAL
EPA methods 2, 3, 4, 5, 6, 8**

CONSTANTS & CONVERSIONS

Tstd = 60, 68, or 70 °F	1 in. Hg = 13.6 in. H ₂ O
Pstd = 29.92 in. Hg	1 lb = 453.6 g
R = 21.85(in. Hg-cu ft/lb mole-°R)	1 lb = 7000 grain
Dw = 0.9982(g/ml)	1 g = 15.432 grain
MW(H ₂ O) = 18.0 lb/lb mole	1 mg = 0.001 g
MW(Sulfur) = 32.03 lb/lb mole	1 hr = 60 min.
M(H ₂ SO ₄) = 98.08 lb/lb mole	1 part/vol X = 1*10 ⁶ ppmv X
MW(SO ₂) = 64.06 lb/lb mole	1 bbl = 42 gal
K(H ₂ SO ₄) = 0.5 mg-g mole/g-meq	M = 1000
K(SO ₂) = 0.5 mg-g mole/g-meq	La = 0.02 cfm
Kp = 85.49(ft/sec(sqrt{lb/lb mole-in.Hg/°R-in. H ₂ O}))	
Kw,[cu ft/g-°R] = R / (453.6*MW(H ₂ O)*Pstd)	
Kf,[scf-ppm/lb mole] = R * (Tstd+460) * (1*10 ⁶) / Pstd	

INTERMEDIATE CALCULATIONS

$$F_{[scf/MMBtu]} = F \text{ Factor} * (Tstd + 460) / 528$$

$$P_h[\text{in. Hg}] = Pbar + (\Delta H / 13.6)$$

$$N_2[\%] = 100 - (O_2\% + CO_2\%)$$

$$V_{lc}[\text{ml}] = W_w / D_w$$

$$Q_a[\text{cfm}] = 60 * V_s * A_s$$

$$Q_{ad}[\text{dcfm}] = Q_a * (1 - B_{ws})$$

CFR 40 - EPA EQUATIONS

eq. 2-8 $T[°R] = T[°F] + 460$

eq. 2-6 $P_s[\text{in. Hg}] = Pbar + (P_g / 13.6)$

eq. 5-3 $B_{ws}[\%] = V_w(\text{std}) / \{ V_w(\text{std}) + V_m(\text{std}) \}$

eq. 3-2 $M_d[\text{lb/lb-mole}] = 0.44 * CO_2\% + 0.32 * O_2\% + 0.28 * (N_2\% + CO\%)$

eq. 2-5 $M_s[\text{lb/lb mol}] = M_d * (1 - B_{ws}) + (MW(H_2O) * B_{ws})$

eq. 5-2 $V_w(\text{std}), [\text{scf}] = W_w * K_w * (Tstd + 460)$

eq. 5-1 $V_n[\text{cf}] = V_m - ((L_p - L_a) * \theta)$

eq. 5-1 $V_m(\text{std}), [\text{sdscf}] = V_m * Y * ((Tstd + 460) / (T_m + 460)) * P_h / Pstd$

eq. 2-9 $V_s[\text{ft./sec.}] = K_p * C_p * (\Delta P * (T_s + 460)) / (P_s * M_s)^{0.5}$

eq. 2-10 $Q_{std}, [\text{dscfm}] = Q_{ad} * (Tstd + 460) * P_s / ((T_s + 460) * Pstd)$

eq. 5-8 $I_s[\%] = 100 * (T_s + 460) * V_m(\text{std}) * Pstd / (60 * V_s * \theta * A_n * P_s * (1 - B_{ws}) * (Tstd + 460))$

eq. 5-6 $C_x[\text{grain/dscf}] = W_x, g * 15.432 / V_m(\text{std})$

eq. 8-2,3 $W_x[\text{mg}] = (V_t - V_{tb}) * N(\text{std}) * (V_{soln} / V_{alq}) * MW_x * K_x$

$C_x[\text{grain/dscf}] = W_x, mg * 0.001 * 15.432 / V_m(\text{std})$

$CW_x[\text{grain/scf}] = C_x * (1 - B_{ws})$

$CC_x[\text{grain/dscf @ 12\% CO}_2] = C_x * 12.0 / CO_2\%$

$CWC_x[\text{grain/scf @ 12\% CO}_2] = CC_x$

$CP_x[\text{ppmv dry}] = C_x * K_f / (MW_x * 7000)$

$CPC_x[\text{ppmv @ N\% O}_2] = CP_x * ((20.9 - N\%) / (20.9 - O_2\%))$

$CF_x[\text{lb/hr}] = C_x * Q(\text{std}) * 60 / 7000$

$CE_x[\text{lb/MMBtu}] = F * (C_x / 7000) * (20.9 / (20.9 - O_2\%))$

$CB_x[\text{lb/bbl}] = CE_x * (\text{Fuel Btu/MM}) * (\text{Fuel lb/gal}) * 42$

$CEs_x[\text{lb S/MMBtu}] = CE_x * (MW(S) / MW_x)$

Where x represents, Particulate, Sulfuric Acid, Sulfate, or Sulfur Dioxide respectively.

V. LABORATORY ANALYSIS

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Trash Fan A

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 5

Pryo#: T-1
 Nozzle#: 0.255
 Pitot#: 0.8428

Imp. #1:

gross	614.5
tare	614.5
final	0.0

Imp. #2:

gross	636.0
tare	635.1
final	0.9

Imp. #3:

gross	489.0
tare	488.6
final	0.4

Imp. #4:

gross	615.0
tare	608.7
final	6.3

Total 7.6

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-2

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0
-------	-------

 ml
 Imp #1

finsh	150.0
-------	-------

 ml
 Amount Gained: 0.0 ml

Sample Vol:

start	150.0
-------	-------

 ml
 Imp #2

finsh	150.9
-------	-------

 ml
 Amount Gained: 0.9 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Trash Fan A

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 10

Pryo#: T-1
 Nozzle#: 0.255
 Pitot#: 0.8428

Imp. #1:

gross	610.4
tare	610.6
final	<u>-0.2</u>

Imp. #2:

gross	609.5
tare	608.8
final	<u>0.7</u>

Imp. #3:

gross	490.8
tare	490.3
final	<u>0.5</u>

Imp. #4:

gross	600.3
tare	593.7
final	<u>6.6</u>

Total 7.6

Probe blank - ml
 Probe rinse 200 ml

Solution blank DI
 Solution blank Acetone

Filter No: D-3
 Filter Tare wt.

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp #1	finsh	149.8	ml

 Amount Gained: -0.2 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	150.7	ml

 Amount Gained: 0.7 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: #1 Trash Fan

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 5

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	631.0
tare	631.0
final	0.0

Imp. #2:

gross	634.5
tare	634.0
final	0.5

Imp. #3:

gross	490.0
tare	489.3
final	0.7

Imp. #4:

gross	629.1
tare	622.2
final	6.9

Total 8.1

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-6

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp#1	finsh	150.0	ml

 Amount Gained: 0.0 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	150.5	ml

 Amount Gained: 0.5 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: #1 Trash Fan

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 10

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	607.2
tare	606.0
final	<u>1.2</u>

Imp. #2:

gross	592.4
tare	592.1
final	<u>0.3</u>

Imp. #3:

gross	491.9
tare	491.4
final	<u>0.5</u>

Imp. #4:

gross	610.5
tare	607.5
final	<u>3.0</u>

Total 5.0

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-7

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp#1	finsh	151.2	ml

 Amount Gained: 1.2 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	150.3	ml

 Amount Gained: 0.3 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit : #2 Trash Fan

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 5

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	612.3
tare	604.2
final	8.1

Imp. #2:

gross	600.2
tare	598.4
final	1.8

Imp. #3:

gross	492.3
tare	491.5
final	0.8

Imp. #4:

gross	613.6
tare	610.4
final	3.2

Total 13.9

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-8

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0
-------	-------

 ml
 Imp #1

finsh	158.1
-------	-------

 ml
 Amount Gained: 8.1 ml

Sample Vol:

start	150.0
-------	-------

 ml
 Imp #2

finsh	151.8
-------	-------

 ml
 Amount Gained: 1.8 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: #2 Trash Fan

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 10

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	599.0
tare	589.0
final	<u>10.0</u>

Imp. #2:

gross	608.6
tare	607.5
final	<u>1.1</u>

Imp. #3:

gross	481.0
tare	480.8
final	<u>0.2</u>

Imp. #4:

gross	632.5
tare	629.0
final	<u>3.5</u>

Total 14.8

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-9

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	
Imp #1	finsh	160.0

 ml
 Amount Gained: 10.0 ml

Sample Vol:

start	150.0	
Imp #2	finsh	151.1

 ml
 Amount Gained: 1.1 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Motes

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 5

Pryo#: T-1
 Nozzle#: 0.279
 Pitot#: 0.8428

Imp. #1:

gross	600.9
tare	601.2
final	-0.3

Imp. #2:

gross	628.6
tare	628.3
final	0.3

Imp. #3:

gross	489.3
tare	489.0
final	0.3

Imp. #4:

gross	622.2
tare	615.0
final	7.2

Total 7.5

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-3

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp #1	finsh	149.7	ml

 Amount Gained: -0.3 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	150.3	ml

 Amount Gained: 0.3 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Motes

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: 5
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 10

Pryo#: T-1
 Nozzle#: 0.279
 Pitot#: 0.8428

Imp. #1:

gross	585.0
tare	585.8
final	<u>-0.8</u>

Imp. #2:

gross	618.0
tare	618.3
final	<u>-0.3</u>

Imp. #3:

gross	491.5
tare	490.8
final	<u>0.7</u>

Imp. #4:

gross	607.5
tare	600.3
final	<u>7.2</u>

Total 6.8

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

D-5

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	
Imp #1	finsh	149.2

 ml
 Amount Gained: -0.8 ml

Sample Vol:

start	150.0	
Imp #2	finsh	149.7

 ml
 Amount Gained: -0.3 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Trash Fan A

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 3

Pryo#: T-1
 Nozzle#: 0.311
 Pitot#: 0.8428

Imp. #1:

gross	585.5
tare	585.0
final	<u>0.5</u>

Imp. #2:

gross	617.5
tare	616.8
final	<u>0.7</u>

Imp. #3:

gross	454.5
tare	454.3
final	<u>0.2</u>

Imp. #4:

gross	592.8
tare	588.3
final	<u>4.5</u>

Total 5.9

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

L,X1,X2

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	
Imp #1	finsh	150.5

 ml
 Amount Gained: 0.5 ml

Sample Vol:

start	150.0	
Imp #2	finsh	150.7

 ml
 Amount Gained: 0.7 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Trash Fan A

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 6

Pryo#: T-1
 Nozzle#: 0.255
 Pitot#: 0.8428

Imp. #1:

gross	627.4
tare	626.5
final	<u>0.9</u>

Imp. #2:

gross	620.4
tare	618.1
final	<u>2.3</u>

Imp. #3:

gross	480.5
tare	479.6
final	<u>0.9</u>

Imp. #4:

gross	616.0
tare	611.1
final	<u>4.9</u>

Total 9.0

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

K,X3,X4

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml
Imp #1	finsh	150.9

 Amount Gained: 0.5 ml

Sample Vol:

start	150.0	ml
Imp #2	finsh	152.3

 Amount Gained: 2.3 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gln
 Unit: #1 Trash

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 3

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	566.6
tare	566.6
final	0.0

Imp. #2:

gross	587.0
tare	586.5
final	0.5

Imp. #3:

gross	455.4
tare	454.9
final	0.5

Imp. #4:

gross	604.1
tare	598.0
final	6.1

Total 7.1

Probe blank - ml
 Probe rinse 200 ml

Solution blank DI
 Solution blank Acetone

Filter No: M,X9,X10
 Filter Tare wt.

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp#1	finsh	150.0	ml

 Amount Gained: 0.0 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	150.5	ml

 Amount Gained: 0.5 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckfey
 Site : Stratford Gin
 Unit: #1 Trash

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 9

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	612.6
tare	611.8
final	<u>0.8</u>

Imp. #2:

gross	620.1
tare	619.2
final	<u>0.9</u>

Imp. #3:

gross	481.0
tare	480.8
final	<u>0.2</u>

Imp. #4:

gross	629.5
tare	626.0
final	<u>3.5</u>

Total 5.4

Probe blank - ml
 Probe rinse 200 ml

Solution blank DI
 Solution blank Acetone

Filter No: Y,X11,X12
 Filter Tare wt.

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp #1	finsh	150.8	ml

 Amount Gained: 0.8 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	150.9	ml

 Amount Gained: 0.9 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: #2 Trash

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 3

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	587.0
tare	579.9
final	<u>7.1</u>

Imp. #2:

gross	590.5
tare	588.9
final	<u>1.6</u>

Imp. #3:

gross	456.0
tare	455.4
final	<u>0.6</u>

Imp. #4:

gross	608.0
tare	604.1
final	<u>3.9</u>

Total 13.2

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

V,X13,X14

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp#1	finsh	157.1	ml

 Amount Gained: 7.1 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	151.6	ml

 Amount Gained: 1.6 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: #2 Trash

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: D
 Cold box#: 9

Pryo#: T-1
 Nozzle#: 0.235
 Pitot#: 0.8428

Imp. #1:

gross	602.0
tare	598.9
final	3.1

Imp. #2:

gross	612.5
tare	605.7
final	6.8

Imp. #3:

gross	433.0
tare	432.8
final	0.2

Imp. #4:

gross	623.7
tare	620.4
final	3.3

Total 13.4

Probe blank - ml
 Probe rinse 200 ml

Solution blank DI
 Solution blank Acetone

Filter No: O,X15,X16
 Filter Tare wt.

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	ml	
Imp #1	finsh	153.1	ml

 Amount Gained: 3.1 ml

Sample Vol:

start	150.0	ml	
Imp #2	finsh	156.8	ml

 Amount Gained: 6.8 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Moat

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 1
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 3

Pryo#: T-1
 Nozzle#: 0.28
 Pitot#: 0.8428

Imp. #1:

gross	564.0
tare	564.0
final	0.0

Imp. #2:

gross	604.8
tare	604.6
final	0.2

Imp. #3:

gross	454.9
tare	454.5
final	0.4

Imp. #4:

gross	598.0
tare	592.8
final	5.2

Total 5.8

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

P,X5,X6

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	
Imp #1	finsh	150.0

 ml
 Amount Gained: 0.0 ml

Sample Vol:

start	150.0	
Imp #2	finsh	150.2

 ml
 Amount Gained: 0.2 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

Run Set Up Sheet

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit: Moat

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

Method#: PM-10
 Run#: 2
 Hot box#: -

Probe#: 2
 Stack box#: E
 Cold box#: 9

Pryo#: T-1
 Nozzle#: 0.28
 Pitot#: 0.8428

Imp. #1:

gross	612.8
tare	613.5
final	-0.7

Imp. #2:

gross	626.6
tare	626.4
final	0.2

Imp. #3:

gross	480.8
tare	479.6
final	1.2

Imp. #4:

gross	626.5
tare	620.0
final	6.5

Total 7.2

Probe blank

-

 ml
 Probe rinse

200

 ml

Solution blank

DI

 Solution blank

Acetone

Filter No:

Q,X7,X8

 Filter Tare wt.

--

	#	date
Solution Container		
Solution Container		

Sample Vol:

start	150.0	
Imp#1	finsh	149.3

 ml
 Amount Gained: -0.3 ml

Sample Vol:

start	150.0	
Imp #2	finsh	150.2

 ml
 Amount Gained: 0.2 ml

Total Vol #1 #2 & Rinse 400.0 ml

Comments: _____

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : Stratford/Eckley
 Site : Stratford Gln
 Unit : Trash A

Run #: 1
 Box #: -
 Filter #: D-6

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

SOLUTION BLANKS

Acetone -	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Volume: <u>100</u> ml	Residue: <u>0.0023</u> g
DI Water -	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Volume: <u>100</u> ml	Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

A : Filter Catch -
 Gross: 0.4438 g Tare: 0.4202 g Net: 0.0236 g

C : Probe Catch -
 Acetone: 100 ml * 2.3E-05 g/ml -0.0023 g
 DI Water: 100 ml * 1.1E-05 g/ml -0.0011 g
 Gross: 71.0002 g Tare: 70.9452 g 0.0550 g
 Net: 0.0516 g

E : Impinger Catch -
 DI Water: 350 ml * 1.1E-05 g/ml -0.0039 g
 Total: 350 ml Aliquot: 350 ml
 Gross: 67.0482 g Tare: 67.0380 g 0.0102 g
 Net: 0.0063 g

Total Particulate Weight, (A+C+E) = 0.0815 g

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Run #: <u>2</u>	Date : <u>11/28/90</u>
Site : <u>Stratford Gln</u>	Box #: <u>-</u>	Job #: <u>5019</u>
Unit : <u>Trash A</u>	Filter #: <u>D-7</u>	Lab #: <u>290-188</u>

SOLUTION BLANKS

Acetone -	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Volume: <u>100</u> ml	Residue: <u>0.0023</u> g
DI Water -	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Volume: <u>100</u> ml	Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

A : Filter Catch -	Gross: <u>0.4700</u> g	Tare: <u>0.4225</u> g	Net: <u>0.0475</u> g
C : Probe Catch -	Acetone: <u>100</u> ml * <u>2.3E-05</u> g/ml		<u>-0.0023</u> g
	DI Water: <u>125</u> ml * <u>1.1E-05</u> g/ml		<u>-0.0014</u> g
	Gross: <u>67.5499</u> g	Tare: <u>67.5068</u> g	<u>0.0431</u> g
			Net: <u>0.0394</u> g
E : Impinger Catch -	DI Water: <u>250</u> ml * <u>1.1E-05</u> g/ml		<u>-0.0028</u> g
	Total: <u>250</u> ml	Aliquot: <u>250</u> ml	
	Gross: <u>67.9595</u> g	Tare: <u>67.9518</u> g	<u>0.0077</u> g
			Net: <u>0.0049</u> g
Total Particulate Weight, (A+C+E)			= <u>0.0919</u> g

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PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Run # : <u>1</u>	Date : <u>11/27/90</u>
Site : <u>Stratford Gin</u>	Box # : <u>-</u>	Job # : <u>5019</u>
Unit : <u>Trash Fan</u>	Filter # : <u>D-2</u>	Lab # : <u>290-188</u>

SOLUTION BLANKS

Acetone -	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Volume: <u>100</u> ml	Residue: <u>0.0023</u> g
DI Water -	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Volume: <u>100</u> ml	Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

A : Filter Catch -

Gross: <u>0.4276</u> g	Tare: <u>0.4120</u> g	Net: <u>0.0156</u> g
------------------------	-----------------------	----------------------

C : Probe Catch -

Acetone: <u>100</u> ml * <u>2.3E-05</u> g/ml	<u>-0.0023</u> g
DI Water: <u>100</u> ml * <u>1.1E-05</u> g/ml	<u>-0.0011</u> g
Gross: <u>70.0268</u> g	Tare: <u>70.0083</u> g
	<u>0.0185</u> g
	Net: <u>0.0151</u> g

E : Impinger Catch -

DI Water: <u>300</u> ml * <u>1.1E-05</u> g/ml	<u>-0.0033</u> g
Total: <u>300</u> ml	Aliquot: <u>300</u> ml
Gross: <u>72.3430</u> g	Tare: <u>72.3394</u> g
	<u>0.0036</u> g
	Net: <u>0.0003</u> g

Total Particulate Weight, (A+C+E) = 0.0310 g

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : Stratford/Eckley
Site : Stratford Gln
Unit : Trash Fan

Run #: 2
Box #: -
Filter #: D-3

Date : 11/27/90
Job #: 5019
Lab #: 290-188

SOLUTION BLANKS

Acetone -			Volume: <u>100</u> ml
Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Residue: <u>0.0023</u> g	
DI Water -			Volume: <u>100</u> ml
Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Residue: <u>0.0011</u> g	

WEIGHTS & VOLUMES

A : Filter Catch -
Gross: 0.4689 g Tare: 0.4158 g Net: 0.0531 g

C : Probe Catch -
Acetone: 100 ml * 2.3E-05 g/ml -0.0023 g
DI Water: 100 ml * 1.1E-05 g/ml -0.0011 g
Gross: 65.2214 g Tare: 65.2036 g 0.0178 g
Net: 0.0144 g

E : Impinger Catch -
DI Water: 250 ml * 1.1E-05 g/ml -0.0028 g
Total: 250 ml Aliquot: 250 ml
Gross: 67.1340 g Tare: 67.1303 g 0.0037 g
Net: 0.0009 g

Total Particulate Weight, (A+C+E) = 0.0684 g

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : Stratford/Eckley
 Site : Stratford Gin
 Unit : Trash B

Run #: 1
 Box #: -
 Filter #: D-8

Date : 11/28/90
 Job #: 5019
 Lab #: 290-188

SOLUTION BLANKS

Acetone -			Volume: <u>100</u> ml
	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Residue: <u>0.0023</u> g
DI Water -			Volume: <u>100</u> ml
	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

A : Filter Catch -
 Gross: 0.4702 g Tare: 0.4186 g Net: 0.0516 g

C : Probe Catch -

Acetone:	<u>50</u> ml	* <u>2.3E-05</u> g/ml	<u>-0.0012</u> g
DI Water:	<u>50</u> ml	* <u>1.1E-05</u> g/ml	<u>-0.0006</u> g
Gross:	<u>69.2408</u> g	Tare: <u>69.0982</u> g	<u>0.1426</u> g
			Net: <u>0.1409</u> g

E : Impinger Catch -

DI Water:	<u>300</u> ml	* <u>1.1E-05</u> g/ml	<u>-0.0033</u> g
Total:	<u>300</u> ml	Allquot: <u>300</u> ml	
Gross:	<u>68.2014</u> g	Tare: <u>68.1978</u> g	<u>0.0036</u> g
			Net: <u>0.0003</u> g

Total Particulate Weight, (A+C+E) = 0.1928 g

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PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : <u>Stratford/Eckley</u>	Run # : <u>2</u>	Date : <u>11/28/90</u>
Site : <u>Stratford Gin</u>	Box # : <u>-</u>	Job # : <u>5019</u>
Unit : <u>Trash B</u>	Filter # : <u>D-9</u>	Lab # : <u>290-188</u>

SOLUTION BLANKS

Acetone -	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Volume: <u>100</u> ml
			Residue: <u>0.0023</u> g
DI Water -	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Volume: <u>100</u> ml
			Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

A : Filter Catch -	Gross: <u>0.4793</u> g	Tare: <u>0.4208</u> g	Net: <u>0.0585</u> g
C : Probe Catch -			
Acetone: <u>100</u> ml	* <u>2.3E-05</u> g/ml		<u>-0.0023</u> g
DI Water: <u>100</u> ml	* <u>1.1E-05</u> g/ml		<u>-0.0011</u> g
Gross: <u>70.3348</u> g	Tare: <u>70.1739</u> g		<u>0.1609</u> g
			Net: <u>0.1575</u> g
E : Impinger Catch -			
DI Water: <u>200</u> ml	* <u>1.1E-05</u> g/ml		<u>-0.0022</u> g
Total: <u>200</u> ml	Aliquot: <u>200</u> ml		
Gross: <u>65.7286</u> g	Tare: <u>65.7242</u> g		<u>0.0044</u> g
			Net: <u>0.0022</u> g
Total Particulate Weight, (A+C+E)			= <u>0.2182</u> g

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : Stratford/Eckley
 Site : Stratford Gln
 Unit : Moat

Run #: 1
 Box #: -
 Filter #: D-4

Date : 11/27/90
 Job #: 5019
 Lab #: 290-188

SOLUTION BLANKS

Acetone -	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Volume: <u>100</u> ml	Residue: <u>0.0023</u> g
DI Water -	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Volume: <u>100</u> ml	Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

A : Filter Catch -
 Gross: 0.4349 g Tare: 0.4195 g Net: 0.0154 g

C : Probe Catch -
 Acetone: 100 ml * 2.3E-05 g/ml -0.0023 g
 DI Water: 100 ml * 1.1E-05 g/ml -0.0011 g
 Gross: 65.4029 g Tare: 65.3932 g 0.0097 g
 Net: 0.0063 g

E : Impinger Catch -
 DI Water: 300 ml * 1.1E-05 g/ml -0.0033 g
 Total: 300 ml Aliquot: 300 ml
 Gross: 70.4050 g Tare: 70.4011 g 0.0039 g
 Net: 0.0006 g

Total Particulate Weight, (A+C+E) = 0.0223 g

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PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : Stratford/Eckley
Site : Stratford Gin
Unit : Moat

Run #: 2
Box #: -
Filter #: D-5

Date : 11/27/90
Job #: 5019
Lab #: 290-188

SOLUTION BLANKS

Acetone -	Gross: <u>73.2865</u> g	Tare: <u>73.2842</u> g	Volume: <u>100</u> ml	Residue: <u>0.0023</u> g
DI Water -	Gross: <u>71.7775</u> g	Tare: <u>71.7764</u> g	Volume: <u>100</u> ml	Residue: <u>0.0011</u> g

WEIGHTS & VOLUMES

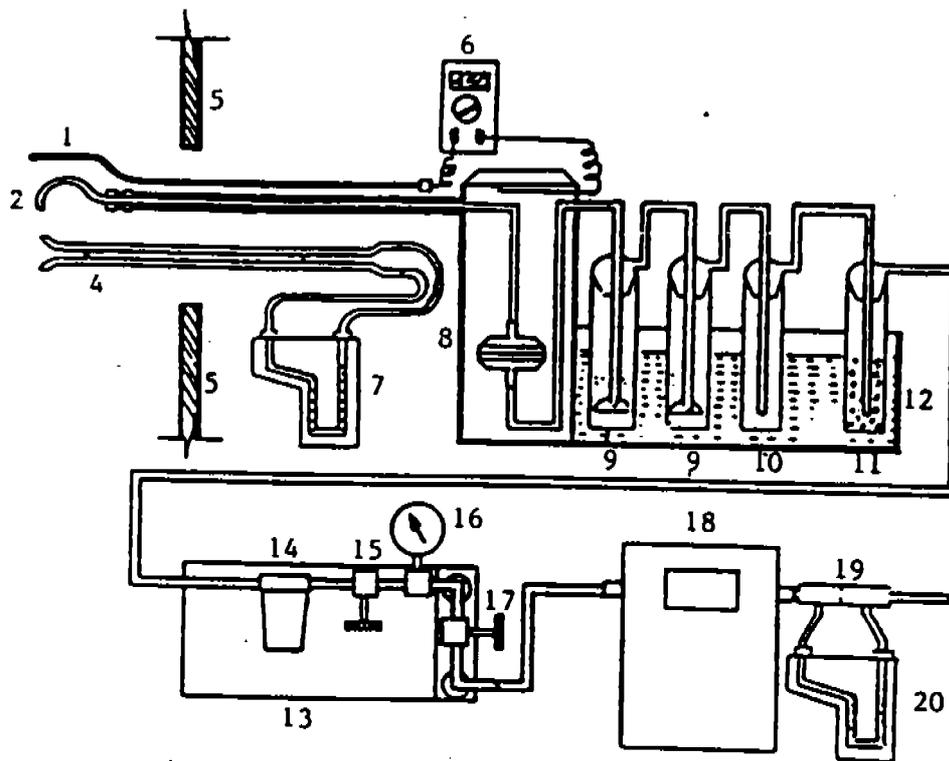
A : Filter Catch -
Gross: 0.4285 g Tare: 0.4200 g Net: 0.0085 g

C : Probe Catch -
Acetone: 100 ml * 2.3E-05 g/ml -0.0023 g
DI Water: 100 ml * 1.1E-05 g/ml -0.0011 g
Gross: 67.9618 g Tare: 67.9526 g 0.0092 g
Net: 0.0058 g

E : Impinger Catch -
DI Water: 300 ml * 1.1E-05 g/ml -0.0033 g
Total: 300 ml Aliquot: 300 ml
Gross: 65.7816 g Tare: 65.7750 g 0.0066 g
Net: 0.0033 g

Total Particulate Weight, (A+C+E) = 0.0176 g

VI. METHODOLOGY

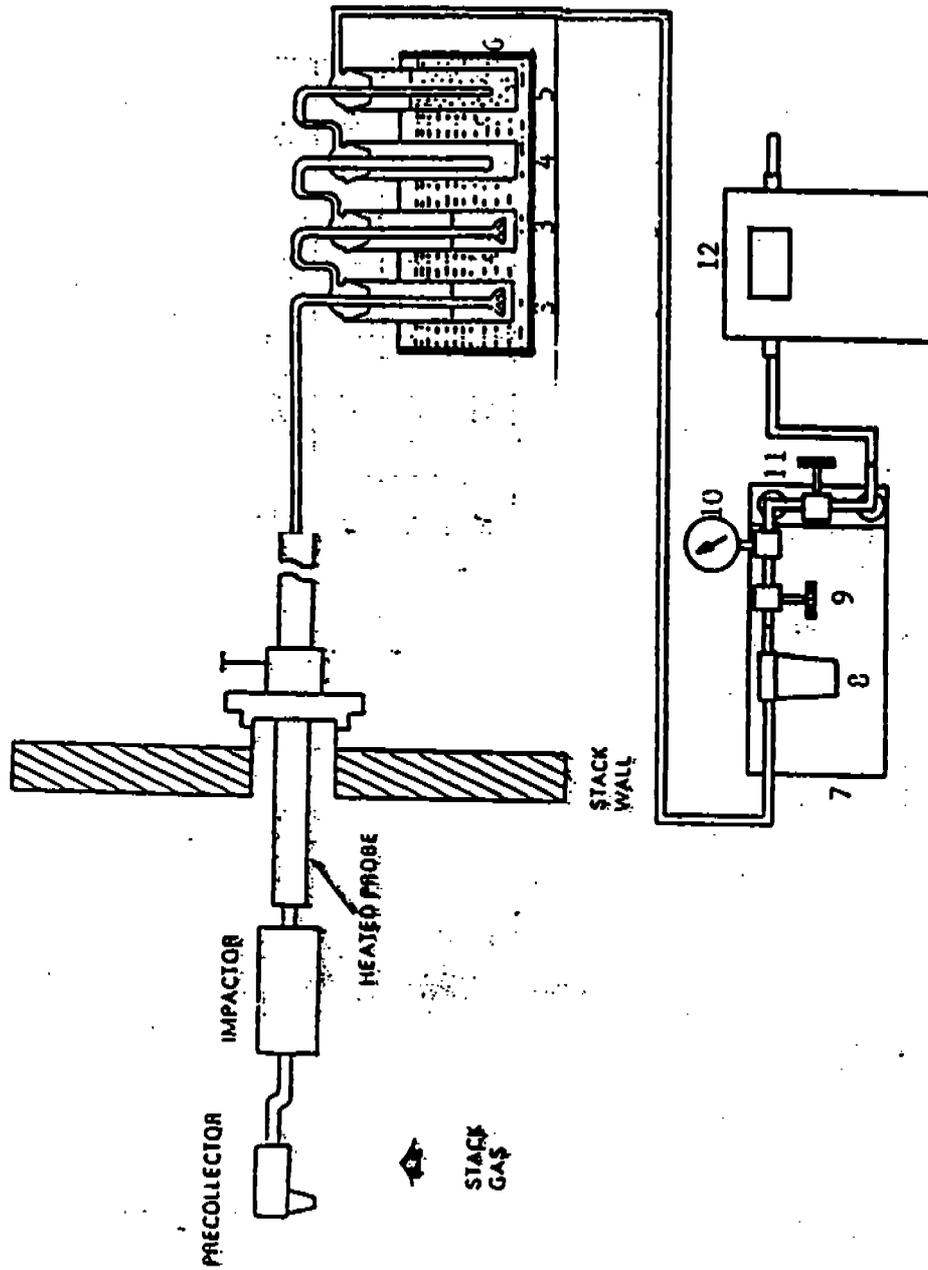


- | | |
|---|---|
| 1. Temperature Sensor | 11. Bubbler with Silica Gel |
| 2. Nozzle | 12. Ice Bath |
| 3. Glass lined Stainless Steel Probe-Heated | 13. Sealed Pump (Leak Free) |
| 4. S-type Pitot Tube | 14. Filter for Pump |
| 5. Stack Wall | 15. Metering Valve |
| 6. Temperature Sensor Meter | 16. Vacuum Gauge |
| 7. Pitot Tube Inclined Manometer | 17. By-pass Valve |
| 8. Heated Box with Filter | 18. Temperature Compensated Dry Gas Meter |
| 9. Impinger with 100 ml H ₂ O | 19. Orifice |
| 10. Empty Bubbler | 20. Orifice Inclined Manometer |

Figure 5.2-1

Particulate Sampling Train Set-up with
Heated Probe and Heated Filter

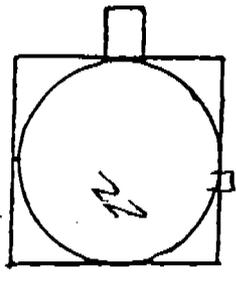
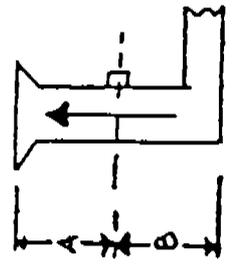
PM-10 PARTICULATE SAMPLING TRAIN



- | | |
|---|---|
| 1. Stack Wall | 8. Filter for Pump |
| 2. Probe | 9. Metering Valve |
| 3. Impinger with 100 ml of H ₂ O | 10. Vacuum Gauge |
| 4. Empty Bubbler | 11. Bypass Valve |
| 5. Bubbler with Silica Gel | 12. Temperature Compensated Dry Gas Meter |
| 6. Ice Bath | |
| 7. Sealed Pump (Leak Free) | |

VII. RAW DATA

PLANT: Saklar
 LOCATION: STANFORD
 COUNTY: PLUM
 UNIT: 1003A
 DATE: 11/27/90
 RUN NO/METHOD: 9/15
 COLD BOX NO.: 10
 METER BOX NO.: D
 METER FACTOR: 51685
 PITOT #/FACTOR: 42/51425
 PYROMETER #: 41
 MAGNEHELIC FACTOR: ΔP m = 1.003 ΔH, 2.52



FILTER NO. D-3
 AMBIENT TEMP.: 51
 BARMETRIC PRESS., IN. HG.: 30.21
 ASSUMED MOISTURE: 0.005
 HEATER BOX SETTING: 6
 PROBE LENGTH, FT.: 6
 NOZZLE DIAMETER, IN.: 2.255
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: ...
 SAMPLE BOX TEMP., (F): ...
 STATIC PRESSURE: 4.2 *H2O
 OFFSET: ... in. PORT DIA.: ... in. (M / F)

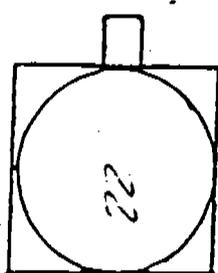
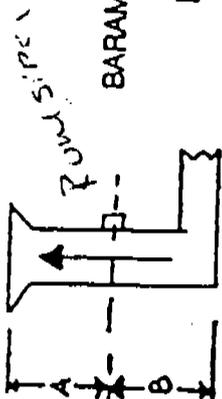
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
1	10			0	84	.35	1.59	748.910	61	68	5		
2	10			5	84	.3	1.40	751.1	76	64	5		
3	10			10	84	.35	1.64	754.1	74	65	5		
4	10			15	85	.40	1.81	757.1	83	64	5		
5	10			20	84	.35	1.66	761.3	85	69	5		
6	10			25	84	.35	1.66	764.3	86	64	5		
7	10			30	84	.3	1.43	768.1	87	68	5		
8	10			35	85	.4	1.91	771.6	86	68	7		
9	10			40	85	.4	1.90	774.4	89	61	7		
10	10			45	86	.35	1.67	777.5	89	71	7		
11	10			50	86	.35	1.19	783.2	90	71	7		
12	10			55	86	.2	.95	794.1	91	72	7		
13	10			60	86	.2	.95	796.1	91	72	7		
AVERAGE		20.9	0.05	110	84.8		1.574	751.92	75.5				

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = 1.17 BOTTOM ΔP = 3.11
 ΔP = 1.17 ΔP = 3.11
 AFTER: TOP ΔP = 2.1 BOTTOM ΔP = 1.19
 ΔP = 2.1 ΔP = 1.19

SAMPLE TRAIN LEAK:
 BEFORE = 0.004 CFM @ 10 IN. HG.
 AFTER = 0.003 CFM @ 10 IN. HG.

COMMENTS: PURGE

PLANT: Sakay
 LOCATION: Star Road
 COUNTY: Palawan
 UNIT: #11005 H.S.P.
 DATE: 11/28/90
 RUN NO./METHOD: 1/5
 COLD BOX NO.: 5
 METER BOX NO.: 7
 METER FACTOR: 1.0231
 PITOT #/FACTOR: 12 .8428
 PYROMETER #: 17
 MAGNETIC FACTOR: AP 14-15 1.0088 H 995



FILTER NO. 50 D-6
 AMBIENT TEMP.: 50
 BAROMETRIC PRESS., IN. HG.: 30.31
 ASSUMED MOISTURE: 0.03
 HEATER BOX SETTING: 6
 PROBE LENGTH, FT.: 5
 NOZZLE DIAMETER, IN.: 2.35
 PROBE HEATER SETTING: 2
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 0 "H₂O
 OFFSET: 0 in. PORT DIA.: 3 in. (M/F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN. (4.0)	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	97.5	.24		.75	788.513	98	46	2	
2				2.5	96	.37		1.16	789.17	52	40		
3				5	97	.40		1.27	791.0	56	48		
4				7.5	97	.39		1.25	792.5	60	46		
5				10	97	.42		1.37	793.9	64	50		
6				12.5	97	.40		1.30	795.5	71	52		
7				15	97	.44		1.44	796.9	71	53		
8				17.5	97	.42		1.36	798.4	73	54		
9				20	97	.40		1.32	799.8	75	56		
10				22.5	98	.37		1.22	801.5	77	57		
11				25	99	.36		1.18	802.8	77	59	3	
12				27.5	99	.32		1.05	804.2	78	61		
				30		.30			805.6				
AVERAGE													

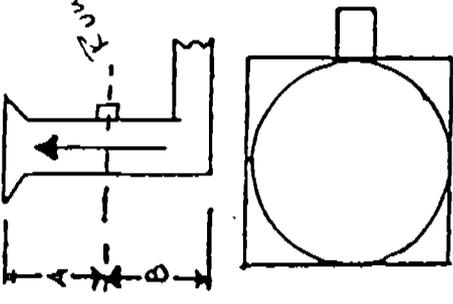
PITOT LEAK CHECK:
 BEFORE: TOP ΔP = 3.3 BOTTOM ΔP = 2.7
 ΔP = 5.7 ΔP = 2.7
 AFTER: TOP ΔP = 1.8 BOTTOM ΔP = 3.9
 ΔP = 1.4 ΔP = 3.9

SAMPLE TRAIN LEAK:
 BEFORE: CRM@ 10 IN. HG.
 AFTER: CRM@ 7 IN. HG.

COMMENTS: _____
 PURGE _____

PLANT: Edley
 LOCATION: Substn
 COUNTY: Rocky
 UNIT: 1710-8500
 DATE: 11/20/90
 RUN NO/METHOD: 5/1
 COLD BOX NO.: 5
 METER BOX NO.:
 METER FACTOR:
 PITOT #/FACTOR:
 PYROMETER #:
 MAGNETIC FACTOR: ΔP ΔH

FILTER NO.:
 AMBIENT TEMP.:
 BARAMETRIC PRESS., IN. HG.:
 ASSUMED MOISTURE:
 HEATER BOX SETTING:
 PROBE LENGTH, FT.:
 NOZZLE DIAMETER, IN.:
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PRESSURE: *H2O
 OFFSET: in. PORT DIA.: in. (M / F)

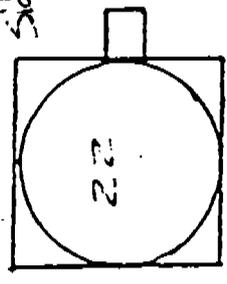
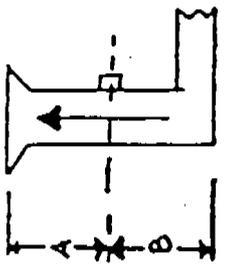


TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	99	31		1.0	805.6	64	63		
2				2.5	99	38		1.23	804.9	70	63		
3				5	99	40		1.31	808.3	73	64		
4				7.5	99	40		1.31	809.8	76	62		
5				10	99	37		1.22	811.5	77	64		
6				12.5	99	38		1.05	812.6	79	64		
7				15	99	41		1.36	813.9	80	64		
8				17.5	99	40		1.33	815.4	81	66		
9				20	99	39		1.30	819.8	82	68		
10				22.5	99	37		1.23	818.4	82	69		
11				25	99	33		1.10	819.8	83	69		
12				27.5	100	21		.70	821.9	83	70		
				30					822.9				
AVERAGE		20.0	0.05	60	99		0.606	1.110	819.08	83.9			

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK:
 CRM@ _____ IN. HG.
 CRM@ _____ IN. HG.
 COMMENTS: _____ PURGE _____

83

PLANT: Sibley
 LOCATION: STANFORD
 COUNTY: KINGS
 UNIT: #1 TRUSS
 DATE: 11/28/40
 RUN NO/METHOD: 2-15
 COLD BOX NO.: 10
 METER BOX NO.: 85
 METER FACTOR: 1.0231
 PITOT #/FACTOR: 2/0.8825
 PYROMETER #: 11
 MAGNETIC FACTOR: ΔP 1.205 ΔH 0.975



FILTER NO. P-7
 AMBIENT TEMP.: 55
 BARAMETRIC PRESS., IN. HG.: 30.34
 ASSUMED MOISTURE: 5
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0
 NOZZLE DIAMETER, IN.: 2.36
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 6
 STATIC PRESSURE: 0 "H2O
 OFFSET: 1 in. PORT DIA.: 1 in. (M / F)

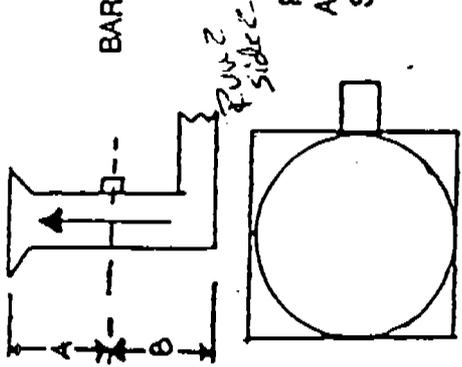
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	108	0.27	0.52	0.76	824.45	68	68		
2				2.5	109	0.24	0.49	0.92	825.41	69	62		
3				3	109	0.32	0.57	1.02	826.7	71	63		
4				7.5	110	0.35	0.59	1.12	827.8	73	64		
5				10	109	0.38	0.62	1.22	829.3	76	65		
6				12.5	110	0.40	0.63	1.29	830.7	78	66		
7				15	110	0.41	0.64	1.35	832.2	80	67		
8				17.5	111	0.42	0.65	1.36	833.9	80	68		
9				20	112	0.44	0.66	1.30	835.6	82	68		
10				22.5	111	0.46	0.68	1.31	836.8	84	68		
11				25	111	0.48	0.69	1.24	838.2	85	69		
12				27.5	111	0.55	0.74	1.15	839.7	86	71		
				30					841.2				
AVERAGE													

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = 1.75 BOTTOM ΔP = 3.1
 ΔP = 1.75 ΔP = 3.1
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 ΔP = _____ ΔP = _____

SAMPLE TRAIN LEAK:
 BEFORE = 0.000 CRM@ _____ IN. HG.
 AFTER = _____ CRM@ _____ IN. HG.
 COMMENTS: _____ PURGE _____

84

PLANT: 2d. City
 LOCATION: 300 S. Grand
 COUNTY: PLUM
 UNIT: 1 Thermal Gen.
 DATE: 11/25/40
 RUN NO./METHOD: 572 27/5 SLAT
 COLD BOX NO.: 110
 METER BOX NO.: _____
 METER FACTOR: _____
 PITOT #/FACTOR: _____
 PYROMETER #: _____
 MAGNETIC FACTOR: ΔP _____ ΔH _____



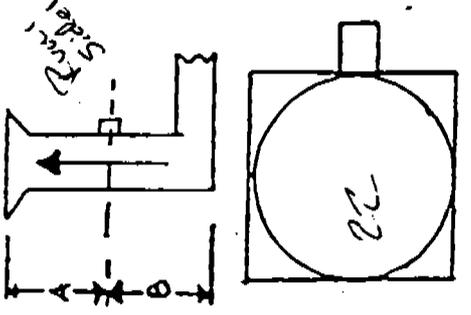
FILTER NO. _____
 AMBIENT TEMP.: _____
 BAROMETRIC PRESS., IN. HG.: _____
 ASSUMED MOISTURE: _____
 HEATER BOX SETTING: _____
 PROBE LENGTH, FT.: _____
 NOZZLE DIAMETER, IN.: _____
 PROBE HEATER SETTING: _____
 APPROX. WIND VEL., MPH: _____
 SAMPLE BOX TEMP., (F): _____
 STATIC PRESSURE: _____ in. H₂O
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O ₂ (%)	CO ₂ (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H ₂ O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H ₂ O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				25.0	111	.31		1.02	841.2	87	71		
2				2.5	112	.38		1.25	842.9	87	72		
3				5	112	.40		1.31	843.9	88	72		
4				7.5	112	.40		1.31	845.3	89	73		
5				10	113	.37		1.21	846.7	89	73		
6				12.5	113	.38		1.25	848.2	90	73		
7				15	114	.41		1.30	849.7	89	73		
8				18.5	114	.40		1.31	851.2	90	73		
9				20	114	.39		1.28	852.6	90	73		
10				22.5	114	.37		1.23	853.2	91	74		
11				25	115	.33		1.08	855.5	91	74		
12				27.5	115	.21		.69	856.7	90	74		
				30					858.1				
AVERAGE		20.9	0.05	60	111.7		0.601	1.179	846.7	76.0			

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 COMMENTS: _____
 SAMPLE TRAIN LEAK:
 BEFORE: CRM@ _____ IN. HG.
 AFTER: CRM@ _____ IN. HG.

58

PLANT: 2006
 LOCATION: UNIT 2
 COUNTY: CLATSOP
 UNIT: 2 TIGARD FWH
 DATE: 11/25/80
 RUN NO./METHOD: 1/5
 COLD BOX NO.: 810
 METER BOX NO.: 2
 METER FACTOR: 1.0231
 PITOT #/FACTOR: 2 / 5425
 PYROMETER #: TI
 MAGNETIC FACTOR: ΔP 1.025 ΔH 0.94



FILTER NO.: D-6
 AMBIENT TEMP.: 65
 BAROMETRIC PRESS., IN. HG.: 30.6
 ASSUMED MOISTURE: 5%
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 5
 NOZZLE DIAMETER, IN.: 2.35
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 0 *H2O
 OFFSET: 0 in. PORT DIA.: 0 in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	121	.43		1.33	857.5	64	64		
2				2.5	122	.46		1.43	859.9	68	64		
3				5.0	122	.46		1.43	861.4	69	64		
4				7.5	122	.47		1.47	862.7	72	64		
5				10	122	.48		1.52	862.9	76	65		
6				12.5	121	.47		1.33	861.5	78	66		
7				15	121	.42		1.34	865.9	80	67		
8				18.5	121	.41		1.31	867.4	82	68		
9				20	121	.41		1.32	868.8	84	69		
10				22.5	120	.40		1.36	870.3	87	70		
11				25	120	.40		1.30	871.9	89	71		
12				27.5	120	.32		1.04	873.1	90	72		
30									874.9				
AVERAGE													

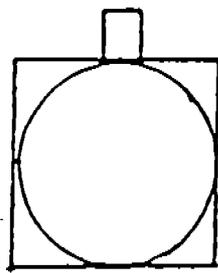
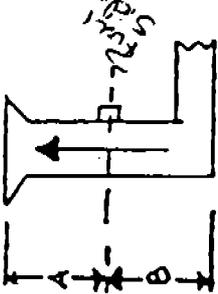
PTOT LEAK CHECK:
 BEFORE: TOP ΔP = 3.1 BOTTOM ΔP = 1.3
 ΔP = 3.14 ΔP = 1.3
 AFTER: TOP ΔP = 2.5 BOTTOM ΔP = 3.7
 ΔP = 2.5 ΔP = 3.7

SAMPLE TRAIN LEAK:
 BEFORE = 0.005 CRM@ 7 IN. HG.
 AFTER = 0.008 CRM@ 10 IN. HG.

COMMENTS: PURGE

PLANT: Calby
 LOCATION: STANBRO
 COUNTY: Kent
 UNIT: #2 (100)
 DATE: 11/29/90
 RUN NO./METHOD: 115 Spitzer
 COLD BOX NO.: 810
 METER BOX NO.:
 METER FACTOR:
 PITOT #/FACTOR:
 PYROMETER #:
 MAGNEHELIC FACTOR: ΔP ΔH

FILTER NO.:
 AMBIENT TEMP.:
 BARAMETRIC PRESS., IN. HG.:
 ASSUMED MOISTURE:
 HEATER BOX SETTING:
 PROBE LENGTH, FT.:
 NOZZLE DIAMETER, IN.:
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PREASURE: $^{\circ}H_2O$
 OFFSET: in. PORT DIA.: in. (M / F)

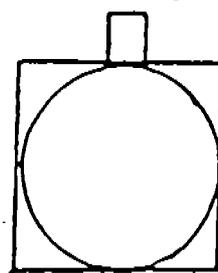
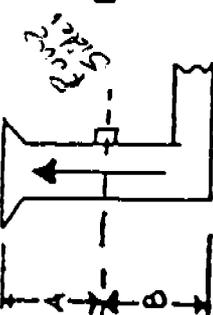


TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm)	OUTLET (Tm)		
1				6	119	.31		1.01	874.9	91	74		
2				2.5	127	.33		1.07	876.2	93	76		
3				5	122	.36		1.17	877.5	93	76		
4				7.5	121	.38		1.21	876.8	94	77		
5				10	121	.40		1.31	880.2	95	77		
6				12.5	121	.41		1.35	881.7	96	78		
7				15	121	.42		1.38	883.2	96	78		
8				17.5	121	.42		1.38	884.7	97	79		
9				20	121	.43		1.47	886.2	98	79		
10				22.5	118	.45		1.49	887.7	98	80		
11				25	117	.45		1.50	888.3	99	81		
12				27.5	116	.45		1.50	890.9	100	81		
	ZERO			30					892.400				
	SPAN												
AVERAGE		10.9	0.05	40	120.4		0.647	1.374	874.065				

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____

SAMPLE TRAIN LEAK:
 BEFORE: CRM@ _____ IN. HG.
 AFTER: CRM@ _____ IN. HG.
 COMMENTS: PURGE _____

PLANT: Sidley
 LOCATION: Stewart
 COUNTY: Knox
 UNIT: Truett
 DATE: 1/28/80
 RUN NO/METHOD: 87 810
 COLD BOX NO.: 810
 METER BOX NO.: 10231
 METER FACTOR: #2 8428
 PITOT #/FACTOR: T1
 PYROMETER #: T1
 MAGNETIC FACTOR: ΔP/ΔCO2 ΔHe99



FILTER NO. D-9
 AMBIENT TEMP.: 65
 BARAMETRIC PRESS., IN. HG.: 30.15
 ASSUMED MOISTURE: 0.5%
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0
 NOZZLE DIAMETER, IN.: 2.35
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 6
 STATIC PRESSURE: 0 *H2O
 OFFSET: 0 in. PORT DIA.: 0 in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm)	OUTLET (Tm)		
1				0	117	.43	1.58	1.48	873.731	80	80		
2				2.5	119	.46		1.45	875.6	82	80		
3				5	120	.45		1.45	877.2	84	80		
4				7.5	122	.46		1.44	878.8	87	80		
5				10	122	.48		1.55	900.3	90	81		
6				12.5	121	.45		1.47	901.9	92	81		
7				15	122	.42		1.37	903.5	94	82		
8				17.5	121	.42		1.38	904.9	95	82		
9				20	122	.40		1.31	906.6	96	83		
10				22.5	122	.42		1.36	908.1	98	83		
11				25	122	.40		1.32	909.5	99	84		
12				27.5	122	.32		1.02	911.0	100	85		
	ZERO SPAN			30					912.5				

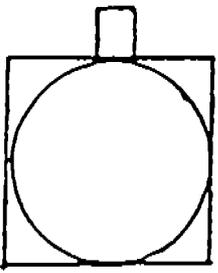
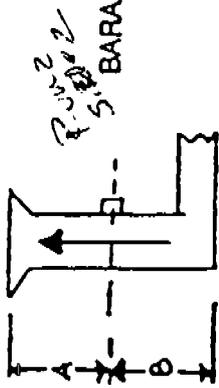
PITOT LEAK CHECK:
 BEFORE: TOP ΔP = 3.1
 ΔP = 3.1
 AFTER: TOP ΔP = 2.8
 ΔP = 2.8

BOTTOM ΔP = 4.4
 ΔP = 4.4
 BOTTOM ΔP = 3.9
 ΔP = 3.9

SAMPLE TRAIN LEAK:
 BEFORE = 0.004 IN. HG.
 AFTER = 0.007 IN. HG.

COMMENTS: PURGE

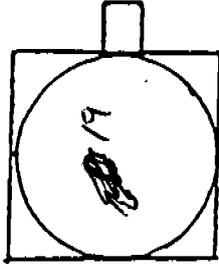
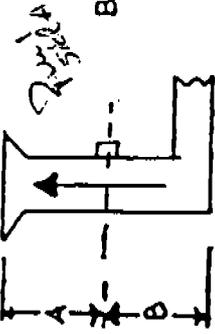
PLANT: Salt Lake
 LOCATION: STEAKHOUSE
 COUNTY: KANE
 UNIT: #2 Fresh
 DATE: 11/25/90
 RUN NO/METHOD: 2/5 Street
 COLD BOX NO.: 10810
 METER BOX NO.: 1
 METER FACTOR: 1.023
 PITOT #/FACTOR: 42 : 8428
 PYROMETER #: 11
 MAGNEHELIC FACTOR: ΔP₂ ΔH



FILTER NO. _____
 AMBIENT TEMP.: _____
 BARAMETRIC PRESS., IN. HG.: _____
 ASSUMED MOISTURE: _____
 HEATER BOX SETTING: _____
 PROBE LENGTH, FT.: _____
 NOZZLE DIAMETER, IN.: _____
 PROBE HEATER SETTING: _____
 APPROX. WIND VEL., MPH: _____
 SAMPLE BOX TEMP., (F): _____
 STATIC PREASURE: _____
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GASMETER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	121	.45		1.49	912.5	100	85		
2				2.5	122	.46		1.52	913.8	101	86		
3				5	122	.44		1.45	915.9	101	86		
4				7.5	121	.43		1.43	916.8	103	87		
5				10	126	.42		1.40	918.7	104	87		
6				12.5	121	.41		1.36	920.4	104	88		
7				15	121	.40		1.33	921.9	104	88		
8				18.5	121	.43		1.40	923.5	104	88		
9				20	121	.38		1.29	925.1	104	88		
10				22.5	121	.36		1.20	926.5	104	88		
11				25	122	.33		1.10	927.9	104	88		
12				27.5	121	.31		1.03	929.3	105	89		
				30					935.572				
AVERAGE			0.05	60	121		0.1647	1.366	36.94	90.9			
PTOT LEAK CHECK:													
BEFORE:						TOP ΔP = _____		BOTTOM ΔP = _____		SAMPLE TRAIN LEAK:		IN. HG. _____	
AFTER:						TOP ΔP = _____		BOTTOM ΔP = _____		CFM @ _____		IN. HG. _____	
COMMENTS: _____													

PLANT: Edley
 LOCATION: Star Road
 COUNTY: P. Way
 UNIT: Moses
 DATE: 11/27/90
 RUN NO/METHOD: 1/5
 COLD BOX NO.: 5
 METER BOX NO.: D
 METER FACTOR: 0.7665
 PITOT #/FACTOR: 2, 84125
 PYROMETER #: 71
 MAGNETIC FACTOR: AP 100% ΔH 0.62



FILTER NO. D-4
 AMBIENT TEMP.: 70
 BAROMETRIC PRESS., IN. HG.: 30.12
 ASSUMED MOISTURE: 0.5%
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0
 NOZZLE DIAMETER, IN.: 2.79
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 0.00 *H2O
 OFFSET: 0 in. PORT DIA.: 0 in. (M / F)

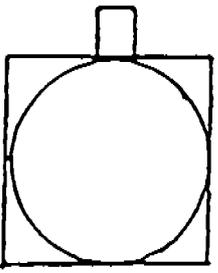
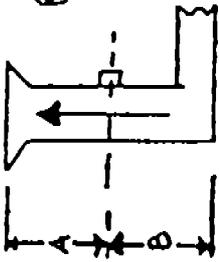
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				2	75	0.13	0.13	6.53, 6.1	787.262	6.1	6.1		
2				2.5	76	0.14	0.14	6.194	790.0	6.7	6.5		
3				5	78	0.22	0.22	1.50	790	7.4	6.9		
4				7.5	75	0.25	0.25	1.71	792.0	7.6	6.8		
5				10	75	0.27	0.27	1.86	793.8	8.0	6.9		
6				12.5	74	0.29	0.29	2.01	795.7	8.2	6.9		
7				15	75	0.26	0.26	1.79	797.8	8.5	9.0		
8				17.5	74	0.26	0.26	1.81	799.5	8.6	9.1		
9				20	75	0.24	0.24	1.67	801.3	8.7	9.1		
10				22.5	75	0.24	0.24	1.68	802.9	8.9	9.2		
11				25	75	0.22	0.22	1.54	804.7	9.0	9.3		
12				27.5	75	0.21	0.21	1.47	806.4	9.1	9.3		
	ZERO SPAN			30					807.0				
AVERAGE													

PITOT LEAK CHECK: BEFORE: TOP ΔP = 5.4 BOTTOM ΔP = 3.8
 ΔP = 3.4 ΔP = 3.8
 AFTER: TOP ΔP = 2.7 BOTTOM ΔP = 2.3
 ΔP = 2.7 ΔP = 2.3

SAMPLE TRAIN LEAK: BEFORE = 0.000 CFM @ 10 IN. HG.
 AFTER = 0.004 CFM @ 10 IN. HG.

COMMENTS: _____ PURGE _____

PLANT: Zehle
 LOCATION: SESTON
 COUNTY: King
 UNIT: MOIS
 DATE: _____
 RUN NO. METHOD: 1/5
 COLD BOX NO.: _____
 METER BOX NO.: _____
 METER FACTOR: _____
 PITOT #/FACTOR: _____
 PYROMETER #: _____
 MAGNETIC FACTOR: ΔP ΔH



FILTER NO. _____
 AMBIENT TEMP.: _____
 BARAMETRIC PRESS., IN. HG.: _____
 ASSUMED MOISTURE: _____
 HEATER BOX SETTING: _____
 PROBE LENGTH, FT.: _____
 NOZZLE DIAMETER, IN.: _____
 PROBE HEATER SETTING: _____
 APPROX. WIND VEL., MPH: _____
 SAMPLE BOX TEMP., (F): _____
 STATIC PRESSURE: _____
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)

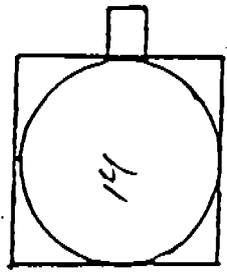
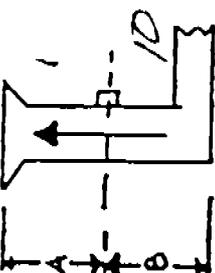
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
				0	75	.15		1.05	800.0	91	75		
				2.5	75	.26		1.40	809.4	92	76		
				4	74	.21		1.48	810.9	92	76		
				9.5	75	.25		1.76	812.0	94	77		
				10	75	.25		1.76	814.4	94	77		
				12.5	75	.25		1.77	815.9	95	78		
				12.5	75	.26		1.84	817.8	95	79		
				14.5	75	.28		1.98	819.7	96	79		
				20	75	.27		1.91	821.6	96	79		
				22.5	75	.26		1.84	823.4	96	79		
				26	75	.26		1.84	825.5	96	79		
				23.5	75	.25		1.77	827.1	97	80		
				30					828.808				
AVERAGE		20.9	0.05	60	74.9		0.982	1.692	41546	95.8	80.5		

PITOT LEAK CHECK:
 BEFORE: TOP ΔP= _____ BOTTOM ΔP= _____
 ΔP= _____ ΔP= _____
 AFTER: TOP ΔP= _____ BOTTOM ΔP= _____
 ΔP= _____ ΔP= _____

SAMPLE TRAIN LEAK:
 CRM@ _____ IN. HG.
 CRM@ _____ IN. HG.

COMMENTS: _____ PURGE _____

PLANT: Exxon
 LOCATION: Stoughton
 COUNTY: Kings
 UNIT: 1400es
 DATE: 11/27/90
 RUN NO/METHOD: 215
 COLD BOX NO.: 10
 METER BOX NO.: D
 METER FACTOR: 1.7685
 PITOT #/FACTOR: 22 82125
 PYROMETER #: 11
 MAGNEHELIC FACTOR: $\Delta P \#1028 \Delta H \#1028$



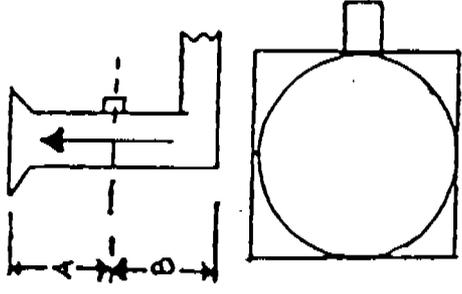
FILTER NO. D-5
 AMBIENT TEMP.: 58
 BAROMETRIC PRESS., IN. HG.: 30.12
 ASSUMED MOISTURE: 5%
 HEATER BOX SETTING:
 PROBE LENGTH, FT. 2.79
 NOZZLE DIAMETER, IN.: 1.279
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PRESSURE: 0 *H2O
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
				0	74	.16		1.076	82.7	69			
				2.5	73	.13		1.25	83.2	76			
				5	73	.22		1.51	83.6	78			
				2.5	73	.25		1.73	83.4	78			
				10	72	.26		1.68	83.6	80			
				12.5	73	.26		1.83	83.4	81			
				15	73	.27		1.83	83.9	91			
				17.5	73	.29		2.0	84.1	93			
				20	72	.29		2.0	84.2	95			
				22.5	72	.27		1.92	84.6	96			
				25	72	.26		1.85	84.6	97			
				27.5	71	.25		1.79	84.4	97			
	ZERO SPAN			30					850.1				
AVERAGE													

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = 2.7 BOTTOM ΔP = 3.2
 AFTER: TOP ΔP = 2.7 ΔP = 3.2
 TOP ΔP = 3.1 BOTTOM ΔP = 4.1
 ΔP = 3.1 ΔP = 4.1

SAMPLE TRAIN LEAK:
 BEFORE = 0.007 CRMG
 AFTER = 0.024 CRMG
 COMMENTS: _____
 PURGE _____

PLANT: _____
 LOCATION: _____
 COUNTY: _____
 UNIT: North
 DATE: _____
 RUN NO/METHOD: _____
 COLD BOX NO.: 2
 METER BOX NO.: _____
 METER FACTOR: _____
 PITOT #/ FACTOR: _____
 PYROMETER #: _____
 MAGNETIC FACTOR: ΔP _____ ΔH _____

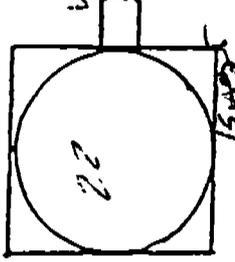
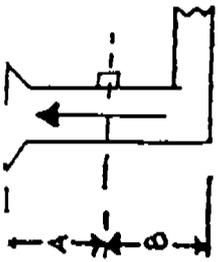


FILTER NO.: _____
 AMBIENT TEMP.: _____
 BAROMETRIC PRESS., IN. HG.: _____
 ASSUMED MOISTURE: _____
 HEATER BOX SETTING: _____
 PROBE LENGTH, FT.: _____
 NOZZLE DIAMETER, IN.: _____
 PROBE HEATER SETTING: _____
 APPROX. WIND VEL., MPH: _____
 SAMPLE BOX TEMP., (F): _____
 STATIC PRESSURE: _____ *H2O
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
				0	71	21	2.1	1.50	850.1	92	90		
				2.5	71	22	2.2	1.52	851.8	98	82		
				3	71	23	2.3	1.29	853.4	99	83		
				7.5	71	24	2.4	1.86	855.2	99	83		
				10	71	26	2.6	1.87	856.9	100	83		
				13.5	71	28	2.8	2.01	858.8	100	83		
				15	70	25	2.5	2.09	860.6	100	83		
				17.5	70	27	2.7	1.94	862.7	100	83		
				20	70	23	2.3	1.80	864.5	101	83		
				22.5	69	22	2.2	1.59	866.5	101	85		
				25	69	15	1.5	1.08	868.5	102	84		
				27.5	69	12	1.2	.87	869.9	102	86		
				30					871.2	102			
AVERAGE		20.9	0.05	60	70.4			0.486	91.976	86.7			

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK:
 CRM@ _____ IN. HG.
 CRM@ _____ IN. HG.
 COMMENTS: _____
 PURGE _____

PLANT: Scholar
 LOCATION: 5th Ave
 COUNTY: Clark
 UNIT: Truck Stop
 DATE: 11/27/90
 RUN NO/METHOD: 1 / P.M.I.O.
 COLD BOX NO.: 3
 METER BOX NO.: E
 METER FACTOR: 1.0231
 PITOT #/ FACTOR: #2 .5425
 PYROMETER #: #1
 MAGNEHELIC FACTOR: AP 11-15 1.235 ΔH V 0.975



FILTER NO. F 1 X-1 Mod XE
 AMBIENT TEMP.: 53
 BAROMETRIC PRESS., IN. HG.: 30.21
 ASSUMED MOISTURE: 0.05
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0
 NOZZLE DIAMETER, IN.: 0.25
 PROBE HEATER SETTING: 0.25
 APPROX. WIND VEL., MPH: 0.2
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 1.2 "H₂O
 OFFSET: 0 in. PORT DIA.: in. (M / F)

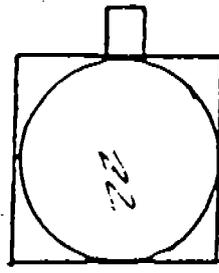
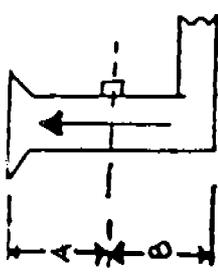
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
1	✓			0	82	.25		1.11	672.250	69	49		
2	✓			3.5	81	.30		1.35	674.2	55	44		
3	✓			2.0	82	.35		1.56	677.3	57	30	4	
4	✓			10.5	83	.35		1.59	679.4	61	52		
5	✓			14.0	83	.30		1.38	681.7	66	57		
6	✓			17.5	84	.25		1.15	683.5	70	54		
17	✓			1	82	.33		1.62	685.8	71	54		
28	✓			21.5	82	.41		1.87	688.0	75	59	12	
39	✓			28.	82	.35		1.64	690.4	76	60	8	
46	✓			31.5	83	.3		1.41	692.9	77	60		
54	✓			35	87	.25		1.18	695.0	77	60		
69	✓			35.5	87	.2		.95	697.0	77	60		
69	✓			42	87	.2		1.40	697.152	77	60		
AVERAGE		20.1	0.65	42	83.0		0.549		76.902	61.3			

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = BOTTOM ΔP =
 AFTER: TOP ΔP = BOTTOM ΔP =

SAMPLE TRAIN LEAK:
 BEFORE = 0.004 CFM @ 20 IN. HG.
 AFTER = 0.012 CFM @ 12 IN. HG.

COMMENTS: PURGE

PLANT: 5066
 LOCATION: STAFF
 COUNTY: ROSS
 UNIT: TRUSS A
 DATE: 11/27/90
 RUN NO/METHOD: 2 / PWB
 COLD BOX NO.: 6
 METER BOX NO.: 2
 METER FACTOR: 1.023
 PITOT #/FACTOR: 42 / 84125
 PYROMETER #: 1
 MAGNEHELIC FACTOR: ΔP 11865 ΔH 0.975

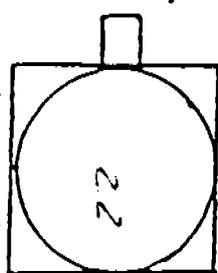
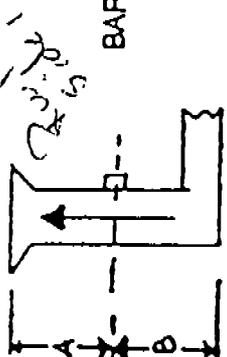


FILTER NO. K, X 3, X4
 AMBIENT TEMP.: 59
 BARAMETRIC PRESS., IN. HG.: 30.21
 ASSUMED MOISTURE: .05
 HEATER BOX SETTING: 6
 PROBE LENGTH, FT.: 5
 NOZZLE DIAMETER, IN.: 2.55
 PROBE HEATER SETTING: 6
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 4.2 "H2O
 OFFSET: 0 in. PORT DIA.: in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	84	.2		.71	699.547	61	60	3	
2				3.5	84	.25		1.14	701.5	63	66	1	
3				2.0	84	.3		1.38	703.5	64	61		
4				10.5	84	.25		1.62	705.5	73	67	3	
5				14.0	85	.4		1.86	707.6	75	62	6	
6				17.5	85	.35		1.64	710.1	77	62		
1				21.0	85	.25		1.18	712.9	79	64		
2				24.5	84	.20		1.41	714.5	80	65		
3				28.0	84	.35		1.66	716.6	84	65		
4				31.5	84	.35		1.65	718.7	82	75		
5				35.0	85	.30		1.42	720.9	83	75		
6				38.5	85	.25		1.18	723.3	84	70		
				42					725.000				
AVERAGE			70.9	0.05	84.4		0.549	1.415	251.87		70.5		

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = BOTTOM ΔP =
 AFTER: TOP ΔP = BOTTOM ΔP =
 COMMENTS: PURGE
 SAMPLE TRAIN LEAK:
 BEFORE = 2.017 IN. HG.
 AFTER = 2.014 IN. HG.

PLANT: 216
 LOCATION: STEEL
 COUNTY: IND
 UNIT: #1
 DATE: 11/28/10
 RUN NO/METHOD: 1/P
 COLD BOX NO.: 3
 METER BOX NO.: D
 METER FACTOR: 1.05
 PITOT #/FACTOR: 12/5425
 PYROMETER #: 71
 MAGNETIC FACTOR: AP



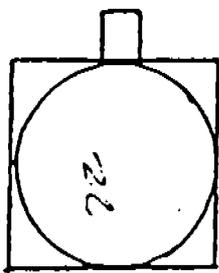
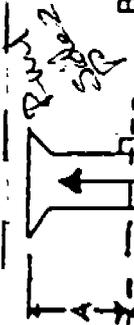
FILTER NO. 60
 AMBIENT TEMP.: 47.8
 BAROMETRIC PRESS., IN. HG.: 30.31
 ASSUMED MOISTURE: 5%
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0
 NOZZLE DIAMETER, IN.: 0.250
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 0 *H2O
 OFFSET: 0 in. PORT DIA.: 0 in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN:SEC	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				20	95	.21		0.60	872.268	48	45	2	
2				22	96	.33		1.04	873.3	51	46		
3				4	96	.37		1.17	874.4	55	47		
4				6	97	.39		1.24	875.4	59	47	3	
5				8	97	.40		1.31	876.6	69	50	4	
6				10	97	.41		1.33	877.9	67	50		
7				12	97	.38		1.23	879.9	68	50	3	
8				14	97	.32		1.20		61	51		
9				16	97	.40		1.31	881.1	73	52		
10				18	98	.40		1.31	882.3	74	55		
11				20	98	.38		1.25	883.5	76	56		
12				22	99	.31		1.01	884.7	75	57		
24				24				1.85	885.7				
AVERAGE													

PITOT LEAK CHECK: BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK: BEFORE CRM@ _____ IN. HG. AFTER CRM@ _____ IN. HG.
 COMMENTS: _____ PURGE _____

96

PLANT: Exxon
 LOCATION: Starbuck
 COUNTY: King
 UNIT: #1 TUNNEL
 DATE: 11/25/70
 RUN NO./METHOD: 1/P-10 90022
 COLD BOX NO.: 5
 METER BOX NO.:
 METER FACTOR:
 PITOT #/FACTOR:
 PYROMETER #:
 MAGNEHELIC FACTOR: ΔP ΔH



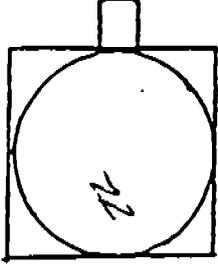
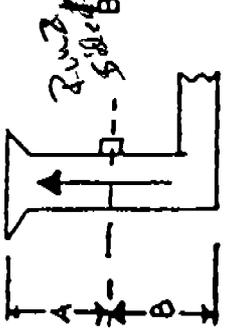
FILTER NO.:
 AMBIENT TEMP.:
 BAROMETRIC PRESS., IN. HG.:
 ASSUMED MOISTURE:
 HEATER BOX SETTING:
 PROBE LENGTH, FT.:
 NOZZLE DIAMETER, IN.:
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PRESSURE: ΔH
 OFFSET: in. PORT DIA.: in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	99	.24		1.77	855.7	62	63		
2				2	99	.29		.93	806.9	66	62		
3				4	99	.32		1.04	801.6	71	62		
4				6	99	.35		1.15	838.7	73	63		
5				8	99	.38		1.25	887.8	77	62		
6				10	99	.40		1.32	811.1	79	63		
7				12	99	.41		1.36	872.3	81	63		
8				14	99	.42		1.40	813.7	82	64		
9				16	99	.44		1.46	874.8	85	65		
10				18	99	.40		1.34	846.1	85	66		
11				20	99	.38		1.27	877.2	86	67		
12				22	99	.36		1.20	818.5	86	68		
13				24					899.620				
AVERAGE		10.9	0.05	46	98.0		0.602	1.189	27.357	66	63		

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 COMMENTS: _____
 SAMPLE TRAIN LEAK:
 CRMG _____ IN. HG.
 CRMG _____ IN. HG.

76

PLANT: Exxon
 LOCATION: 6155 Rte
 COUNTY: King
 UNIT: #1 Tower Fan
 DATE: 11/25/90
 RUN NO. METHOD: 2/P
 COLD BOX NO.: 9
 METER BOX NO.: D
 METER FACTOR: .9685
 PITOT #/FACTOR: #8425 #2
 PYROMETER #: #11
 MAGNETIC FACTOR: ΔP ΔH



FILTER NO. _____
 AMBIENT TEMP.: 60
 BAREMETRIC PRESS., IN. HG.: 30.22
 ASSUMED MOISTURE: 5%
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 65
 NOZZLE DIAMETER, IN.: .285
 PROBE HEATER SETTING: 6
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): _____
 STATIC PRESSURE: 0 *H2O
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN. (10.0)	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
1				2	105	.21		.66	901.400	69	63		
2				4	108	.33		1.04	902	63	62		
3				6	109	.37		1.18	903.3	71	65		
4				8	109	.46		1.28	904.5	73	64		
5				10	110	.41		1.32	905.7	75	64		
6				12	110	.38		1.23	906.9	77	65		
7				14	110	.37		1.20	908.2	79	66		
8				16	110	.40		1.30	909.2	81	67		
9				18	111	.40		1.31	910.3	82	68		
10				20	112	.38		1.24	911.6	84	68		
11				22	111	.31		1.02	912.6	85	68		
12				24	111	.31			913.9	87	68		
13									915.1				
AVERAGE													

PITOT LEAK CHECK:
 BEFORE: TOP ΔP= _____ BOTTOM ΔP= _____
 AFTER: TOP ΔP= _____ BOTTOM ΔP= _____

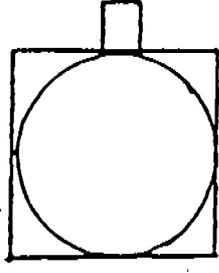
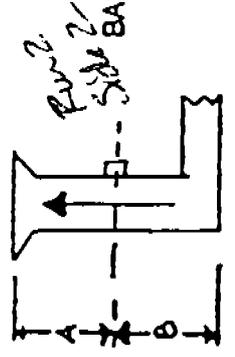
SAMPLE TRAIN LEAK:
 BEFORE: 0.0077 IN. HG. CRM@ 7
 AFTER: _____ IN. HG. CRM@ _____

COMMENTS: _____ PURGE _____

98

PLANT: Sibley
 LOCATION: Southwood
 COUNTY: King
 UNIT: #1 Turbine
 DATE: 1/25/00
 RUN NO. METHOD: 2/P-40
 COLD BOX NO.: 19
 METER BOX NO.:
 METER FACTOR:
 PITOT #/ FACTOR:
 PYROMETER #:
 MAGNEHELIC FACTOR: ΔP ΔH

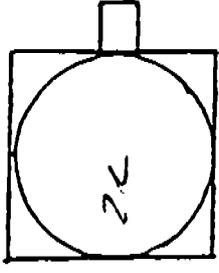
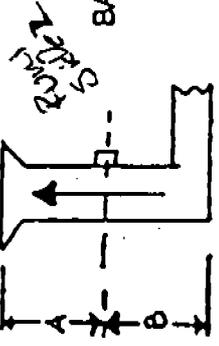
FILTER NO.:
 AMBIENT TEMP.:
 BARAMETRIC PRESS., IN. HG.:
 ASSUMED MOISTURE:
 HEATER BOX SETTING:
 PROBE LENGTH, FT.:
 NOZZLE DIAMETER, IN.:
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PRESSURE: H₂O
 OFFSET: in. PORT DIA.: in. (M / F)



TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	111	.35		1.15	915.1	87	69		
2				2	111	.38		1.25	916.7	88	72		
3				7	111	.40		1.32	917.1	89	72		
4				8	111	.41		1.45	918.1	89	72		
5				8	111	.42		1.39	919.6	90	73		
6				10	112	.41		1.35	920.9	91	73		
7				12	112	.40		1.82	922.1	91	75		
8				14	113	.38		1.25	923.4	92	74		
9				16	113	.35		1.16	924.4	92	74		
10				18	113	.32		1.06	925.7	92	75		
11				20	114	.29		.95	926.0	92	76		
12				22	114	.28		.79	927.8	92	76		
13				24					928.9				
AVERAGE		20.9	0.05	46	111.0		0.601	1.189	925.93	76.5			

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK:
 BEFORE: CRM@ _____ IN. HG.
 AFTER: CRM@ _____ IN. HG.
 COMMENTS: PURGE _____

PLANT: Sally
 LOCATION: 51st Road
 COUNTY: King
 UNIT: #2 (rough)
 DATE: 11/28/70
 RUN NO./METHOD: 1 Pm 10
 COLD BOX NO.: 3
 METER BOX NO.: D
 METER FACTOR: 96.55
 PITOT #/FACTOR: 5/8428
 PYROMETER #: 11
 MAGNETIC FACTOR: ΔP 1.028 ΔH 252

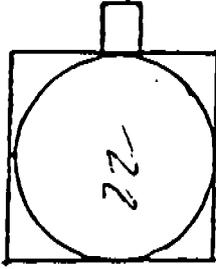
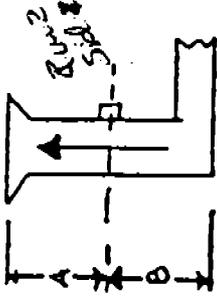


FILTER NO. 65
 AMBIENT TEMP.: 30.15
 BARAMETRIC PRESS. IN. HG.: 5
 ASSUMED MOISTURE: 0
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0.235
 NOZZLE DIAMETER, IN.: 0
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL. MPH: 0
 SAMPLE BOX TEMP. (F): ?
 STATIC PRESSURE: ? "H2O
 OFFSET: ? in. PORT DIA.: ? in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				10	121	45		1.39	929.110	69	69		
2				7	121	45		1.34	930.4	69	65		
3				7	122	45		1.41	931.6	70	66		
4				6	122	43		1.35	932.6	73	66		
5				8	123	42		1.32	934.0	73	66		
6				10	123	42		1.33	935.0	74	67		
7				12	121	41		1.27	936.4	82	68		
8				14	120	40		1.29	937.6	84	68		
9				16	121	38		1.23	938.9	87	70		
10				18	121	36		1.16	940.1	88	71		
11				20	121	33		1.07	941.2	89	72		
12				22	120	31		1.01	942.4	91	73		
13				24					943.9				
AVERAGE	ZERO SPAN												

PITOT LEAK CHECK: BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK: BEFORE = 0.003 IN. HG. AFTER = 0.004 IN. HG.
 COMMENTS: _____

PLANT: Seabury
 LOCATION: Sturford
 COUNTY: King
 UNIT: #2 Tank
 DATE: 11/28/90
 RUN NO/METHOD: 2/PW10
 COLD BOX NO.:
 METER BOX NO.: D
 METER FACTOR: .9685
 PITOT #/FACTOR: #2 .5428
 PYROMETER #: Y7
 MAGNETIC FACTOR: AP/DOOR ΔH .952

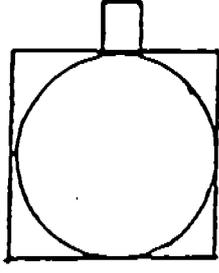
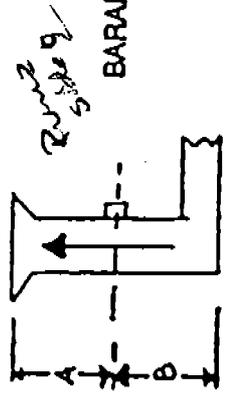


FILTER NO. 0
 AMBIENT TEMP.: 65
 BAROMETRIC PRESS., IN. HG.: 30.15
 ASSUMED MOISTURE: 3
 HEATER BOX SETTING: 0
 PROBE LENGTH, FT.: 0.5
 NOZZLE DIAMETER, IN.: 0.1235
 PROBE HEATER SETTING: 0
 APPROX. WIND VEL., MPH: 0
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 10 "H₂O
 OFFSET: in. PORT DIA.: in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O ₂ (%)	CO ₂ (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H ₂ O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H ₂ O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1	117			0	119	.45		1.53	960.15	77	77		
2				2	119	.45		1.44	961.6	79	79		
3				4	120	.45		1.44	962.7	82	80		
4				6	121	.43		1.35	964.0	85	81		
5				8	123	.42		1.35	965.0	88	82		
6				10	122	.42		1.36	965.3	89	83		
7				12	121	.40		1.33	966.4	90	84		
8				14	121	.38		1.30	967.7	91	85		
9				16	122	.38		1.24	968.0	93	86		
10				18	121	.38		1.15	970.2	95	87		
11				20	122	.33		1.08	971.4	95	87		
12				22	122	.31		1.01	972.5	96	88		
2A				2A					973.6				
AVERAGE													

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK:
 BEFORE = 0.000 IN. HG.
 AFTER = 0.033 IN. HG.
 COMMENTS: _____ PURGE _____

PLANT: Zephyr
 LOCATION: Stantard
 COUNTY: Kiowa
 UNIT: 27 Wash
 DATE: 11/28/80
 RUN NO/METHOD: 2 / PWD
 COLD BOX NO.:
 METER BOX NO.:
 METER FACTOR:
 PITOT #/FACTOR:
 PYROMETER #:
 MAGNETIC FACTOR: ΔP ΔH



FILTER NO.:
 AMBIENT TEMP.:
 BAREMETRIC PRESS., IN. HG.:
 ASSUMED MOISTURE:
 HEATER BOX SETTING:
 PROBE LENGTH, FT.:
 NOZZLE DIAMETER, IN.:
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PRESSURE: "H2O
 OFFSET: in. PORT DIA.: in. (M / F)

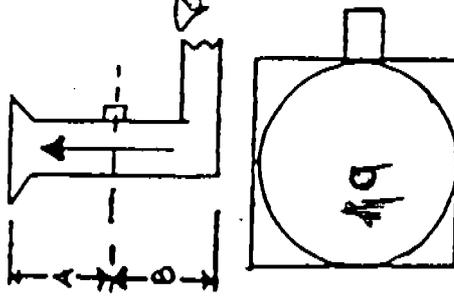
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (Tm)		
1				6	122	.43		1.41	973.6	97	88		
2				2	122	.46		1.52	974.8	99	89		
3				4	122	.46		1.52	976.1	100	90		
4				5	122	.47		1.55	977.5	100	90		
5				3	122	.48		1.59	979.1	101	91		
6				10	122	.42		1.38	980.0	102	92		
7				12	121	.42		1.39	981.4	102	92		
8				14	121	.41		1.36	982.7	103	93		
9				16	121	.41		1.36	983.8	103	93		
10				18	120	.42		1.40	985.2	103	93		
11				20	121	.40		1.33	986.4	104	94		
12				22	120	.32		1.07	987.7	104	94		
	ZERO SPAN			24					988.700				
AVERAGE		20.9	0.05	48	121.1			1.375	988.585	91.2			

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 COMMENTS: _____

SAMPLE TRAIN LEAK:
 BEFORE: _____ IN. HG.
 AFTER: _____ IN. HG.
 COMMENTS: _____

PLANT: Edley
 LOCATION: Edley
 COUNTY: Knox
 UNIT: MORIS
 DATE: 11/27/90
 RUN NO/METHOD: 1/1 PMA43
 COLD BOX NO.: 3
 METER BOX NO.: E 1.0231
 METER FACTOR: ↓
 PITOT #/FACTOR: 72 .8428
 PYROMETER #: 71
 MAGNEHELIC FACTOR: ΔP 1.005 mV ΔH .995 mg

FILTER NO.: _____
 AMBIENT TEMP.: 60
 BARAMETRIC PRESS., IN. HG.: 30.12
 ASSUMED MOISTURE: 0.5
 HEATER BOX SETTING: 57
 PROBE LENGTH, FT.: 5
 NOZZLE DIAMETER, IN.: #4 280
 PROBE HEATER SETTING: _____
 APPROX. WIND VEL., MPH: _____
 SAMPLE BOX TEMP., (F): _____
 STATIC PRESSURE: + .000 *H2O
 OFFSET: _____ in. PORT DIA.: _____ in. (M / F)



TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. 24S (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	75	0.15		1.0	725.558	62	62		
2				2	75	.2		1.34	726.6	65	62	3	
3				4	76	.21		1.41	727.5	69	61		
4				6	75	.23		1.70	729.1	75	62		
5				8	75	.25		1.77	730.8	76	63		
6				10	75	.26		1.21	731.4	77	63		
7				12	76	.28		1.77	733.1	79	65		
8				14	75	.28		1.93	734.3	80	66		
9				16	74	.2627		1.875	735.8	83	67		
10				18	76	.25		1.80	737.2	84	68		
11				20	74	.26		1.81	738.5	85	69		
12				22	75	.24		1.67	739.1	86	70		
AVERAGE				24					741.2	84			

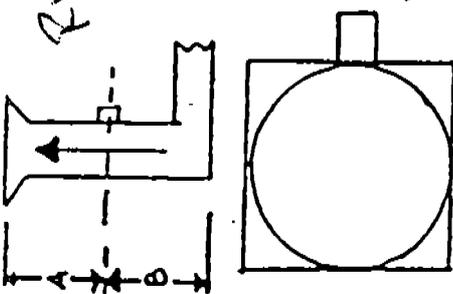
PITOT LEAK CHECK:
 BEFORE: TOP ΔP= _____ ΔP= _____ BOTTOM ΔP= _____
 AFTER: TOP ΔP= _____ ΔP= _____ BOTTOM ΔP= _____

SAMPLE TRAIN LEAK:
 BEFORE= 2.006 CFM @ 1.0 IN. HG.
 AFTER= 2.007 CFM @ 1.3 IN. HG.

COMMENTS: _____ PURGE _____

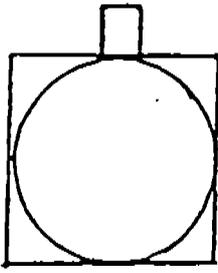
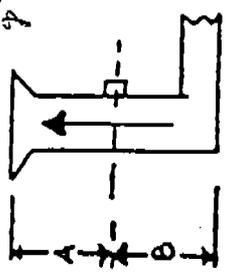
PLANT: Edgely
 LOCATION: STEWART
 COUNTY: F.P.R.
 UNIT: NOTES
 DATE: 1/17/10
 RUN NO. METHOD: 1/P10
 COLD BOX NO.:
 METER BOX NO.:
 METER FACTOR:
 PITOT # FACTOR:
 PYROMETER #:
 MAGNETIC FACTOR: ΔP ΔH

FILTER NO.:
 AMBIENT TEMP.:
 BAROMETRIC PRESS., IN. HG.:
 ASSUMED MOISTURE:
 HEATER BOX SETTING:
 PROBE LENGTH, FT.:
 NOZZLE DIAMETER, IN.:
 PROBE HEATER SETTING:
 APPROX. WIND VEL., MPH:
 SAMPLE BOX TEMP., (F):
 STATIC PRESSURE: "H2O
 OFFSET: in. PORT DIA.: in. (M / F)



TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	ΔP			INLET (Tm),	OUTLET (Tm)		
1				0	75	.13		.88	741.2	76	72		
2				2	75	.14		.76	742.3	80	73		
3				4	75	.22		1.52	743.4	84	74		
4				6	75	.25		1.74	744.5	87	75		
5				8	74	.27		1.84	746.9	89	76		
6				10	75	.29		2.00	747.2	90	77		
7				12	75	.28		1.96	748.6	90	77		
8				14	75	.26		1.82	750.1	91	78		
9				16	75	.24		1.82	751.5	91	78		
10				18	75	.24		1.68	752.9	91	79		
11				20	74	.22		1.55	754.3	92	79		
12				22	73	.21		1.48	755.3	92	79		
13				24					756.7		79		
AVERAGE		20.9	0.05	48	74.8		0.481	1.626	311.70	76.4			
PITOT LEAK CHECK:													
BEFORE: TOP ΔP= _____ BOTTOM ΔP= _____													
AFTER: TOP ΔP= _____ BOTTOM ΔP= _____													
SAMPLE TRAIN LEAK: CFM@ _____ IN. HG. CFM@ _____ IN. HG.													
COMMENTS: _____ PURGE _____													

PLANT: 2066
 LOCATION: ST. LOUIS
 COUNTY: KIRK
 UNIT: MOIST
 DATE: 11/27/95
 RUN NO/METHOD: 2 / PM70
 COLD BOX NO.: 2
 METER BOX NO.: 2
 METER FACTOR: 6023
 PITOT #/FACTOR: #2, 8428
 PYROMETER #: 71
 MAGNETIC FACTOR: ΔP/DOS ΔH OFS

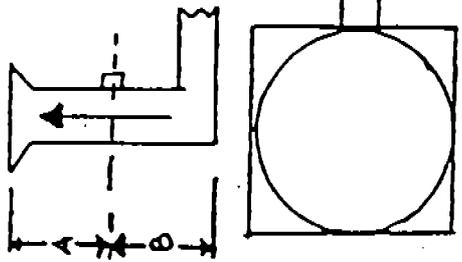


FILTER NO. 3012
 AMBIENT TEMP.: 58
 BARAMETRIC PRESS., IN. HG.: 30.12
 ASSUMED MOISTURE: 0.5
 HEATER BOX SETTING: 4
 PROBE LENGTH, FT.: 4
 NOZZLE DIAMETER, IN.: 3.80
 PROBE HEATER SETTING: 4
 APPROX. WIND VEL., MPH: 4
 SAMPLE BOX TEMP., (F): 0
 STATIC PRESSURE: 0 "H2O
 OFFSET: 0 in. PORT DIA.: 0 in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	√ΔP			INLET (Tm),	OUTLET (TM)		
1				0	79	.13		-58	156.947	71	71		
2				2	73	.14		.93	759.0	71	71		
3				4	73	.22		1.50	759.1	73	71		
4				6	73	.25		1.71	760.2	76	72		
5				8	73	.27		1.86	761.5	79	73		
6				10	73	.29		2.02	762.9	84	74		
7				12	73	.28		1.93	764.3	86	75		
8				14	73	.26		1.82	765.7	87	76		
9				16	72	.24		1.69	767.1	89	77		
10				18	72	.25		1.76	768.6	90	78		
11				20	72	.23		1.63	769.8	92	79		
12				22	72	.22		1.55	771.0	92	79		
24				24					772.3				
AVERAGE													

PITOT LEAK CHECK:
 BEFORE: TOP ΔP = _____ BOTTOM ΔP = _____
 AFTER: TOP ΔP = _____ BOTTOM ΔP = _____
 SAMPLE TRAIN LEAK:
 BEFORE: CFM@ _____ IN. HG. 10
 AFTER: CFM@ _____ IN. HG. 8
 COMMENTS: _____ PURGE _____

PLANT: _____ FILTER NO.: _____
 LOCATION: _____ AMBIENT TEMP.: _____
 COUNTY: _____ BAROMETRIC PRESS., IN. HG.: _____
 UNIT: ftiles ASSUMED MOISTURE: _____
 DATE: _____ HEATER BOX SETTING: _____
 RUN NO. / METHOD: 2 / S10018 PROBE LENGTH, FT.: _____
 COLD BOX NO.: _____ NOZZLE DIAMETER, IN.: _____
 METER BOX NO.: _____ PROBE HEATER SETTING: _____
 METER FACTOR: _____ APPROX. WIND VEL., MPH: _____
 PITOT # / FACTOR: _____ SAMPLE BOX TEMP., (F): _____
 PYROMETER #: _____ STATIC PRESSURE: _____
 MAGNETIC FACTOR: ΔP _____ OFFSET: _____ in. PORT DIA.: _____ in. (M / F)



TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY IN. H2O		PRESSURE DIFF. ORIFICE METER (ΔH) IN. H2O	DRY GAS SAMPLE VOLUME (VM), FT.	GAS SAMPLE TEMP. @ DRY GAS METER		PUMP VACUUM IN. HG.	TEMP. LAST IMPINGER (F)
						ΔP	$\sqrt{\Delta P}$			INLET (Tm), (Tm)	OUTLET (Tm)		
1				72		.15		1.06	772.3	94	80		
2				72		.15		1.06	772.4	95	81		
3				71		.20		1.42	774.5	94	82		
4				71		.24		1.71	775.3	95	83		
5				71		.25		1.79	777.0	97	84		
6				71		.26		1.86	778.3	97	84		
7				71		.28		2.00	779.7	97	84		
8				71		.26		1.86	781.2	98	84		
9				71		.25		1.79	782.5	98	84		
10				70		.24		1.79	783.9	98	84		
11				70		.24		1.51	785.3	98	84		
12				70		.20		1.43	786.6	98	84		
AVERAGE		20.9	0.05	71.9					787.873				
PITOT LEAK CHECK: BEFORE: _____ IN. HG. AFTER: _____ IN. HG. TOP ΔP = _____ BOTTOM ΔP = _____ AFTER: TOP ΔP = _____ BOTTOM ΔP = _____ COMMENTS: _____ PURGE _____													

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VIII. QUALITY ASSURANCE

DRY GAS METER CALIBRATION

Date: 10/3/90

Unit: D

Ambient Conditions

Temp: 78 F/C

Baro: 29.86 in.Hg

ORIFICE MANOMETER SETTING D,H	GASVOL WET TEST METER V,w	GASVOL DRY GAS METER Vb,	wet test tw	Temperature				Y	DH@Y
				Dry IN	Dry Out	Ave f	Time e min		
				TD, IN	Tdo,	Td,			
0.5	5	743.814	74	78	73	79.75	13.53	0.9681	2.0535
		738.600	74	91	77				
1.0	5	749.390	74	93	80	89.75	9.88	0.9527	2.1501
		744.000	74	102	84				
1.5	5	754.906	74	105	86	96.25	7.97	0.9789	2.0742
		749.605	74	107	87				
2.0	5	760.540	74	107	87	98.25	7.03	0.9741	2.1440
		755.200	74	110	89				
								0.968	2.105

Calibration by: SALLY

Meter Factor: 0.9685

Reviewed by: _____

Delta H: 2.1055

Equations:

$$Y = (V_w \cdot P_b) \cdot (T_d + 460) / (V_d \cdot T - V_d \cdot b) + (D_e \cdot H / 13.6) \cdot (((W_t + w_t) / 2) + 460)$$

$$D_e \cdot H = (0.0317 \cdot D_e) \cdot (((((W_t + w_t) / 2) + 460) \cdot e) / V_w)^2 / ((P_b \cdot (T_d + 460))$$

DRY GAS METER CALIBRATION

Date: 10/3/90

Unit: E

Ambient Conditions

Temp: 76 F/C

Baro: 29.86 in.Hg

ORIFICE MANOMETER SETTING D,H	GASVOL WET TEST METER V,w	GASVOL DRY GAS METER Vb,	wet test tw	Temperature				Y	DH@Y
				Dry IN	Dry Out	Ave f	Time e min		
				TD, IN	Tdo,	Td,			
0.5	5	207.685	72	77	70	79.75	14.3	0.9587	2.2767
		202.400	72	94	78				
1.0	6	213.415	72	96	80	91.25	10.13	1.1669	1.5537
		208.100	72	105	84				
1.5	5	219.035	72	104	86	97.75	8.43	0.9790	2.2970
		213.700	72	112	89				
2.0	5	224.920	73	112	90	103.00	7.41	0.9879	2.3531
		219.600	73	117	93				
								1.023	2.12

Calibration by: SALLY

Meter Factor: 1.0231

Reviewed by: _____

Delta H: 2.1201

Equations:

$$Y = (V_w \cdot P_b) \cdot (T_d + 460) / (V_d \cdot T - V_{db} \cdot T) + (\Delta H / 13.6) \cdot (((W_t + w_t) / 2) + 460)$$

$$\Delta H = (0.0317 \cdot \Delta e) \cdot (((((W_T + W_t) / 2) + 460) \cdot e) / V_w)^2 / ((P_b \cdot (T_d + 460))$$

PITOT TUBE CALIBRATION RECORD

Date: 7/5/89

Unit: #2-5'

Ambient Condition

Temp: 83 F/C

Baro: 30.04 in. Hg

Run No.	AP In.H2O Standard	AP IN. H2O Type "S"		Cp (S)	
		A	B	A	B
1	0.25	0.34	0.33	0.8489	0.8617
2	0.49	0.68	0.69	0.8404	0.8343
3	0.93	1.31	1.3	0.8341	0.8373
Average =				0.8411	0.8444
Average Both Side =				0.8428	

Calibrated by: RTR
 Reviewed by: CDD

Cp(a)-Cp(b) = 0.003

Sa	Sb
0.007	0.015

THERMO COUPLE CALIBRATION

Date: 11/20/90

Unit: T-1

Point	* Standard Temperature <i>Tstd</i>		Pyrometer Temperature <i>Tpyr</i>		Error % ** $(Tstd - Tpyr) / Tstd$
	deg. F		deg. F		
1 Ambient	69.8		70.8		0.19%
2 Ice	32.0		32.8		0.16%
3 Boil	213.4		214.0		0.09%
4 Oil					0.00%

Std. Corr. Factor 0.986

Calibration by: RTR

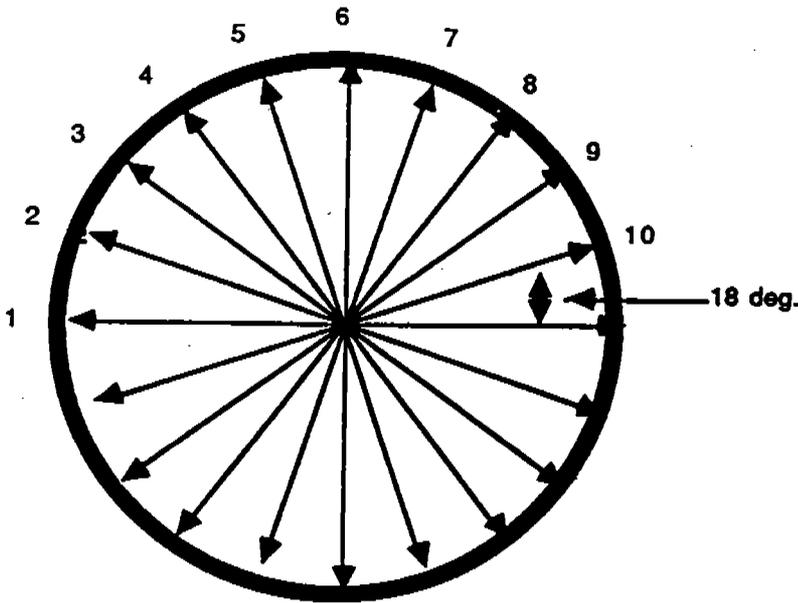
* Standard ID: LABCRAFT #227-694

Reviewed by: _____

* * in deg. K

Nozzle Calibration

Nozzle I.D. #1 1/28



Points	
1	<u>0.280</u>
2	<u>0.280</u>
3	<u>0.280</u>
4	<u>0.279</u>
5	<u>0.278</u>
6	<u>0.279</u>
7	<u>0.280</u>
8	<u>0.281</u>
9	<u> </u>
10	<u> </u>

Average Nozzle Diameter = 0.280

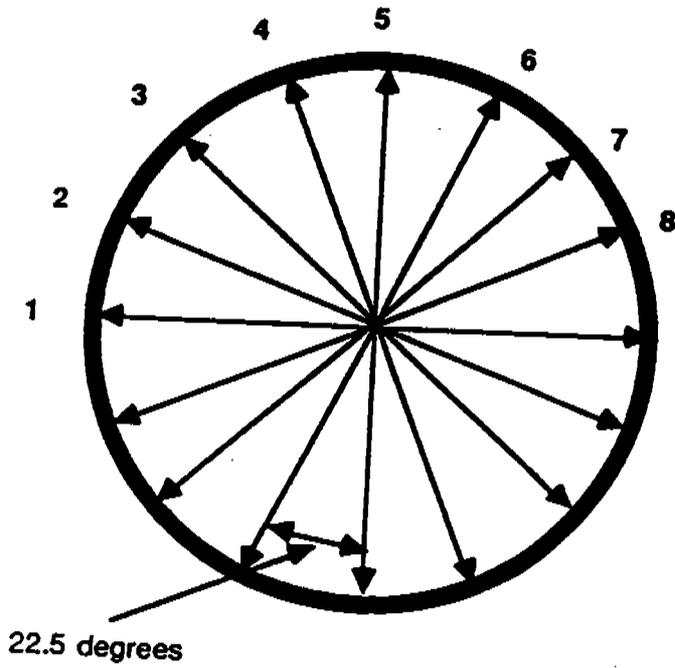
Analyst RTR

Date 7/11/89

Nozzle Calibration

Nozzle I.D. : 28

Date : 7/28/90



Points
1 - <u>0.280</u>
2 - <u>0.280</u>
3 - <u>0.280</u>
4 - <u>0.278</u>
5 - <u>0.278</u>
6 - <u>0.279</u>
7 - <u>0.280</u>
8 - <u>0.280</u>

Average Nozzle Diameter = 0.279

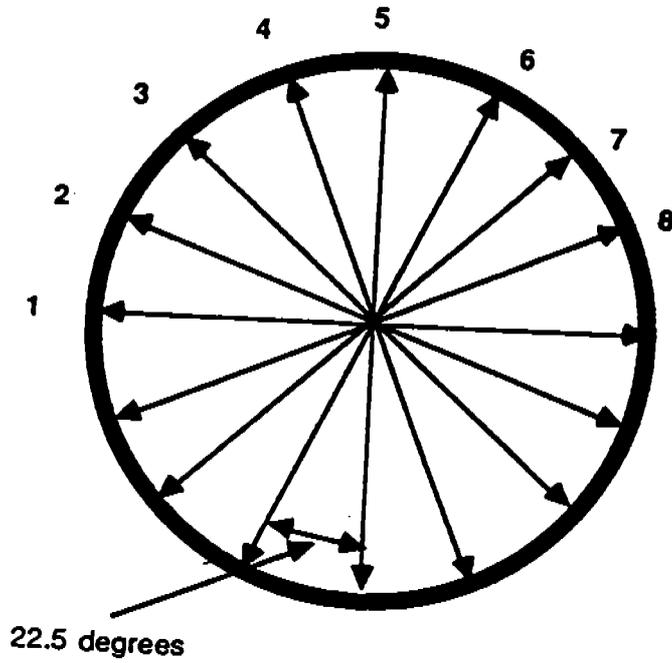
Analyst : RTR

Reviewed :

Nozzle Calibration

Nozzle I.D. : # 25

Date : 7/28/90



Points

- | | |
|-----|--------------|
| 1 - | <u>0.254</u> |
| 2 - | <u>0.256</u> |
| 3 - | <u>0.256</u> |
| 4 - | <u>0.257</u> |
| 5 - | <u>0.254</u> |
| 6 - | <u>0.254</u> |
| 7 - | <u>0.258</u> |
| 8 - | <u>0.256</u> |

Average Nozzle Diameter = 0.255

Analyst : CDD

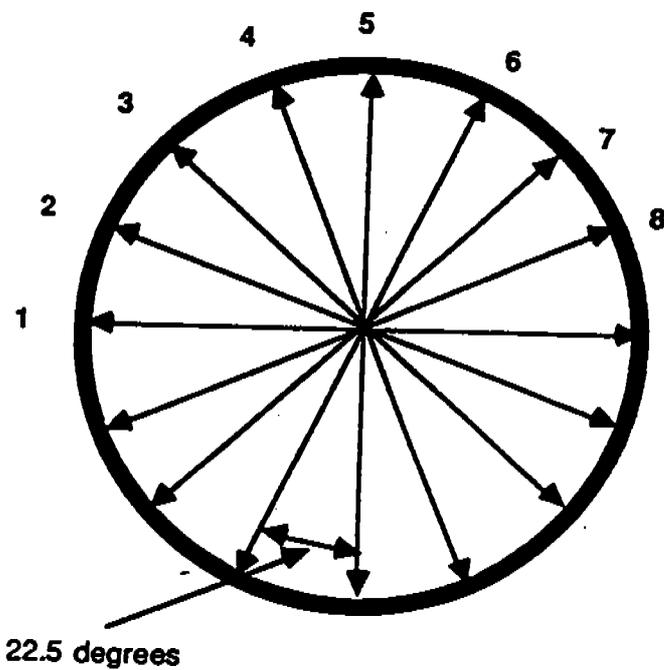
Reviewed : MRP

BTC Environmental, Inc. - 1989

Nozzle Calibration

Nozzle I.D. : #24

Date : 7/28/90



Points	
1 -	<u>0.234</u>
2 -	<u>0.233</u>
3 -	<u>0.235</u>
4 -	<u>0.235</u>
5 -	<u>0.237</u>
6 -	<u>0.238</u>
7 -	<u>0.236</u>
8 -	<u>0.235</u>

Average Nozzle Diameter = 0.235

Analyst : RTR

Reviewed :

MAGNEHELIC CALIBRATION

DATE: 7/27/90
 GAGE ID # M-11
 RANGE 0-1.0 in. H2O

SCHEDULED CALIBRATION:
 SEMI-ANNUAL
 BI-MONTHLY
 OTHER

REFERENCE ID # DWYER 0-10 MANO

LEAK CHECK:

System:	† Set @ 10 in. H2O	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS in. H2O	vacuum in. P F	pressure in. P F

Point	Incline Delta P <i>Pinc</i>	Magnehelic Delta P <i>Pmag</i>	% Deviation $(Pinc - Pmag) / Pinc \times 100$
1	0.200	0.20	0.000%
	0.200	0.19	5.000%
	0.200	0.20	0.000%
average	0.200	0.20	** 1.667%
2	0.400	0.40	0.000%
	0.400	0.40	0.000%
	0.400	0.40	0.000%
average	0.400	0.40	** 0.000%
3	0.600	0.60	0.000%
	0.600	0.60	0.000%
	0.600	0.60	0.000%
average	0.600	0.60	** 0.000%
4	0.800	0.80	0.000%
	0.800	0.80	0.000%
	0.800	0.80	0.000%
average	0.800	0.80	** 0.000%
5	1.000	1.00	0.000%
	1.000	1.00	0.000%
	1.000	1.00	0.000%
average	1.000	1.00	** 0.000%

STANDARD CORRECTION FACTOR
 AVERAGE DEVIATION
 STANDARD DEVIATION
 95% CONFIDENCE INTERVAL
 PRECISION(within +/- 3%)

1.003
0.003
0.012
0.031
-1.00

† If pressure or vacuum decreases by more than 1 in. in 5 minutes then remove from service.
 †† If pressure or vacuum decreases by more than 5% in 5 minutes then remove from service.
 ** These values must be within +/- 5% before the magnehelic can be put into operation.

Calibration by: RTR

Reviewed by: _____

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MAGNEHELIC CALIBRATION

DATE: 8/23/89
 GAGE ID # M-2
 RANGE 0-2 in. H2O

SCHEDULED CALIBRATION:
 SEMI-ANNUAL
 BI-MONTHLY
 OTHER

REFERENCE ID # #424 0-10

LEAK CHECK:

System:	† Set @ 10 in. H2O	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS in. H2O	vacuum in. P F	pressure in. P F

Point	Incline Delta P <i>Pinc</i>	Magnehelic Delta P <i>Pmag</i>	% Deviation $(Pinc - Pmag) / Pinc \times 100$
1	0.400	0.41	2.500%
	0.400	0.41	2.500%
	0.400	0.41	2.500%
average	0.400	0.41	** 2.500%
2	0.800	0.80	0.000%
	0.800	0.80	0.000%
	0.800	0.80	0.000%
average	0.800	0.80	** 0.000%
3	1.200	1.20	0.000%
	1.200	1.20	0.000%
	1.200	1.20	0.000%
average	1.200	1.20	** 0.000%
4	1.600	1.60	0.000%
	1.600	1.60	0.000%
	1.600	1.60	0.000%
average	1.600	1.60	** 0.000%
5	2.000	2.00	0.000%
	2.000	2.00	0.000%
	2.000	2.00	0.000%
average	2.000	2.00	** 0.000%

STANDARD CORRECTION FACTOR
 AVERAGE DEVIATION
 STANDARD DEVIATION
 95% CONFIDENCE INTERVAL
 PRECISION(within +/- 3%)

0.995
0.005
0.010
0.025
-0.99

† If pressure or vacuum decreases by more than 1 in. in 5 minutes then remove from service.
 †† If pressure or vacuum decreases by more than 5% in 5 minutes then remove from service.
 ** These values must be within +/- 5% before the magnehelic can be put into operation.

Calibration by: RTR

Reviewed by: CDD

MAGNEHELIC CALIBRATION

DATE: 7/27/90
 GAGE ID # M-12
 RANGE 0-2 in. H2O

SCHEDULED CALIBRATION:
 SEMI ANNUAL
 BI-MONTHLY
 OTHER

REFERENCE
 ID # 0-10 DWYER MANO

LEAK CHECK :

System:	† Set @ 10 in. H2O	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS in. H2O	vacuum in. P F	pressure in. P F

Point	Incline Delta P Pinc	Magnehelic Delta P Pmag	% Deviation (Pinc-Pmag)/Pinc x 100
1	0.400	0.45	12.500%
	0.400	0.45	12.500%
	0.400	0.45	12.500%
average	0.40	0.45	** 12.500%
2	0.800	0.85	6.250%
	0.800	0.85	6.250%
	0.800	0.85	6.250%
average	0.80	0.85	** 6.250%
3	1.200	1.23	2.500%
	1.200	1.23	2.500%
	1.200	1.24	3.333%
average	1.20	1.23	** 2.778%
4	1.600	1.62	1.250%
	1.600	1.63	1.875%
	1.600	1.64	2.500%
average	1.60	1.63	** 1.875%
5	2.000	2.05	2.500%
	2.000	2.05	2.500%
	2.000	2.05	2.500%
average	2.00	2.05	** 2.500%

STANDARD CORRECTION FACTOR
 AVERAGE DEVIATION
 STANDARD DEVIATION
 95% CONFIDENCE INTERVAL
 PRECISION(within +/- 3%)

0.952
0.052
0.040
0.099
-0.90

† If pressure or vacuum decreases by more than 1 in. in 5 minutes then remove from service.
 †† If pressure or vacuum decreases by more than 5% in 5 minutes then remove from service.
 ** These values must be within +/- 5% before the magnehelic can be put into operation.

Calibration by: RTR

Reviewed by: _____

MAGNEHELIC CALIBRATION

DATE: 7/27/90
 GAGE ID # M-7
 RANGE 0-5 in. H2O

SCHEDULED CALIBRATION:
 SEMI ANNUAL
 BI-MONTHLY
 OTHER

REFERENCE ID # 0-10 DWYER MANO

LEAK CHECK:

System:	† Set @ 10 in. H2O	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS in. H2O	vacuum in. P F	pressure in. P F

Point	Incline Delta P Pinc	Magnehelic Delta P Pmag	% Deviation (Pinc-Pmag)/Pinc x 100
1	1.000	0.95	5.000%
	1.000	0.95	5.000%
	1.000	0.95	5.000%
average	1.00	0.95	** 5.000%
2	2.000	2.05	2.500%
	2.000	2.00	0.000%
	2.000	2.00	0.000%
average	2.00	2.02	** 0.833%
3	3.000	3.05	1.667%
	3.000	3.05	1.667%
	3.000	3.05	1.667%
average	3.00	3.05	** 1.667%
4	4.000	4.00	0.000%
	4.000	4.00	0.000%
	4.000	4.00	0.000%
average	4.00	4.00	** 0.000%
5	5.000	4.95	1.000%
	5.000	4.95	1.000%
	5.000	4.95	1.000%
average	5.00	4.95	** 1.000%

STANDARD CORRECTION FACTOR
 AVERAGE DEVIATION
 STANDARD DEVIATION
 95% CONFIDENCE INTERVAL
 PRECISION(within +/- 3%)

1.008
0.017
0.018
0.045
-0.99

† If pressure or vacuum decreases by more than 1 in. in 5 minutes then remove from service.
 †† If pressure or vacuum decreases by more than 5% in 5 minutes then remove from service.
 ** These values must be within +/- 5% before the magnehelic can be put into operation.

Calibration by: RTR

Reviewed by: _____



BIOMATERIALS
INCORPORATED

1536 Eastman Avenue
Ventura, CA 93003
(805) 644-1095

Bill to Company:

Address:

CHAIN OF CUSTODY RECORD

Phone #: () - () - ()

Contact:

PROJ. NO.	PROJECT NAME	NO.	DATE	TIME	BY	BY	SAMPLE I.D.	NO. OF CONTAINERS	REMARKS	CHECK IF RUSH
AD-189	Rickley / STARFOED	49	11/27				Notes from Probe (200ml)			
		50					" " Imps (300ml)			
		51					" " Filter (D-4)			
		52					" " PMID-10 (200ml)			
		53					" " PMID-10 (200 ml)			
		54					" " Filter (X-5, X6, P)			
		55					Notes from 2 Probe (200ml)			
		56					" " Imps (300ml)			
		57					" " PMID-10 (150ml)			
		58					" " PMID-10 (250ml)			
		59					" " Filter (D-5)			
		60					" " Filter (X7, X8, 9)			
		61					Notes from 1 Probe (200ml)			
		62					" " Imps (300 ml)			
		63					" " Filter (D-2)			

Gross wt. for filter
MAYERS

The undersigned hereby acknowledges having received a copy of the Fee Schedule/General Information and Conditions, the provisions of which are a part of this agreement.

Relinquished by: (Signature) <i>Sally Walker</i>	Date/Time 12/19/00	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
NAME		ADDRESS	
PHONE NO.		PHONE NO.	

WHITE COPY _____ CANARY COPY _____ PINK COPY _____

CHAIN OF CUSTODY RECORD

B 10

Address:

Phone #: Contact:

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS	REMARKS	CHECK IF RUSH
A0-188		ECCLEY / STRAT FOLD				
SAMPLERS: (Signature)						
NO.	DATE	TIME	GRS	SAMPLE I.D.		
64	11/27			Trash Fan Run #1 PM10-ID (200ml)	X	
65				" " PM10-ID (300ml)	X	
66				" " Filter (21, 22, 23)	X	
67				" Run #2 Probe (100ml)	X	
68				" " Imps (250ml)	X	
69				" " Filter (D-3)	X	
70				" " PM10-ID (200ml)	X	
71				" " PM10-ID (400ml)	X	
72				" " Filter (X3, X4)	X	
73	11/28			ATPASH Run #1 Probe (200ml)	X	
74				" " Imps (350ml)	X	
75				" " Filter (D-4)	X	
76				" " PM10-ID (175 ml)	X	
77				" " PM10-ID (275 ml)	X	
78				" " Filter (X9, X10, m)	X	

GRS ALT. TOTAL TEST 1/10

The undersigned hereby acknowledges having received a copy of the Fee Schedule/General Information and Conditions, the provisions of which are a part of this agreement.

Relinquished by: (Signature) <i>Sam Walker</i>	Date/Time 12/3/90 1100	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
NAME ADDRESS		PHONE NO.	



1536 Eastman Avenue
Ventura, CA 93003
(805) 644-1095

CHAIN OF CUSTODY RECORD

Address: _____
Phone #: _____ Contact: _____

PROJ. NO.	PROJECT NAME	NO.	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	REMARKS	CHECK IF RUSH	ANALYSIS	
											DATE/TIME	RECEIVED BY (SIGNATURE)
A0-188	KUKLEY/STRATFORD	79	11/28				STRASH Run #2 Probe (225 ml)					X
		80					n n Imps (250 ml)					X
		81					n n Filter (D-7)				X	
		82					n n PM10+10 (225 ml)				X	
		83					n n PM10-10 (250 ml)				X	
		84					n n Filter (X11,12,1)				X	
		85					STRASH Run #1 Probe (100 ml)				X	
		86					n n Imps (300 ml)				X	
		87					n n Filter (D-8)				X	
		88					n n PM10+10 (125 ml)				X	
		89					n n PM10-10 (200 ml)				X	
		90					n n Filter (X13,14,1)				X	
		91					STRASH Run #2 Probe (200 ml)				X	
		92					n n Imps (200 ml)				X	
		93					n n Filter (D-9)				X	

The undersigned hereby acknowledges having received a copy of the Fee Schedule/General Information and Conditions, the provisions of which are a part of this agreement.

Relinquished by: (Signature) <i>Sally Walker</i>	Date/Time 12/3/90 11:00	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
NAME		ADDRESS	
PHONE NO.		PHONE NO.	

WHITE COPY _____ CANARY COPY _____ PINK COPY _____

